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IN THE STUDIO

DJ Dan

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rip apart his tracks on DVD!



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Welcome

Play to Win



Rather than whingeing about the loudness war and praying that everyone will start making quieter tracks so that yours can finally stand out, we at *FM* would rather do something about it. On page 34 there's the definitive, state-of-the-art guide to using today's tech to make your tracks as presentable as possible. We guarantee that the

tricks you'll learn will make even your strongest tracks sound – frankly – better. Don't miss it.

This month's *TWO In The Studio* features are with DJ Dan, the US producer and DJ responsible for mixes for Lady Gaga and Black Eyed Peas, and D'n'B/Rock crossover gods Pendulum. Learn their studio secrets in the mag and – as ever – see them in action on video on our DVD.

Meanwhile this month's top review comes not from a synth or plug-in maker but our friends at Apple. Like it or not, the iPad and its power for making music must not be ignored. We review the hardware and its top music apps with some surprising findings on page 78.

Just space to once again demand that you to check out our (amazing) YouTube channel at youtube.com/futuremusicmagazine and follow futuremusicmag on Twitter for your regular hit of music-making insight. Plus check out page 11 for the first news of our Producer Sessions Live event coming in September 2010. Cheers!

Daniel

Daniel Griffiths, Editor
daniel.griffiths@futurenet.com

EXPERT CONTRIBUTORS THIS MONTH...

Bruce Aisher
artist, producer



The knotty issue of playing the loudness game to win was graped by Bruce Aisher this month. Skilled in the art of making tracks jump out and slap the face, Bruce shows you how to win the war from page 34.

Greg Scarth
music scientist



Greg managed to resist taking a hammer and round-nosed pliers to our office iPad just long enough to deliver the definitive musician's review for Apple's latest hardware. It's good news on page 78 and it looks like the best is still to come.

Jono Buchanan
artist, producer



Jono falls in love with Allen & Heath's ZED 10FX and UAD's stunning Manley Massive Passive this month. And while enjoying the World Cup why not use Jono's World Cup song *Believe* as your accompaniment? tinyurl.com/yd32mgx

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mammoth live show

FutureMusic

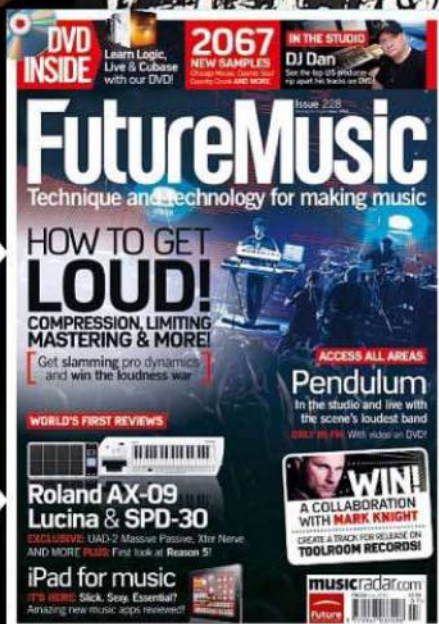
Technique and technology for making music

Technique

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Exclusives

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lowdown on all the
latest studio kit



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FMDVD

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INSIDE STORY



DVD Editor Will Seelig's inside track on the making of *FM's* DVD



This month's highlight was very much a musical one. Recording this issue's *In the Studio With DJ Dan* was a great chance to find out how some classic tracks were created. Getting the inside info on two very seminal Electro-Funk tracks and hearing some truly unbelievable talkbox from the masters of the sound was a great experience. Once you have seen the video, I'm sure you will agree.

Enjoy the FM DVD? Want to see your favourite artist on video? Then email us at fmdvd@futurenet.co.uk



DVD HIGHLIGHTS

How To Get Loud

The loudness war is one of the most controversial challenges facing producers. Listen to our audio examples to help you win the battle and the war!

From the Vaults: Country Crunk

900 This month, we mix it up with the strangest musical combination of sample kits we've ever created!

Icon Masterclass



The first in a new six-part production series where House hero D. Ramirez takes you step-by-step through the creation of a track

Knowledge Base: Chiptunes

This month's *FM* showcases the virtues of classic computer game soundtrack synths

PLUS OUR SPECIAL BONUS SAMPLES COURTESY OF

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200+ demo sounds for you to use and enjoy. If you like what's here then bag the full collections from soundstosample.com. They're instantly downloadable online!

RIEMANN KOLLEKTION 5 – TECH-HOUSE BEATS



"Cementing their unrivaled reputation for forward-thinking sample products, Riemann

Kollektion enlist the services of Cocoon's Shlomi Aber for the latest in their Tech-House series. The library features a massive 600mb+ of Florian Meindl and Aber's signature beats, bass and tops."

S2S DEEP HOUSE SYNTHS & STABS



"Smokey synths, floating stabs and classic lo-fi progressions feature in this pack

stacked with 370+ loops and sounds. With sound sources from raw Juno-106 waveforms through lush FM synthesis, this huge pack includes 250 one-shot stabs in a variety of chords."

HY2ROGEN – KICK FREE TOPS



"An essential companion to his best-selling synth collections, Hy2rogen

returns with more dancefloor essentials – 100 slinky, sleazy kick-free loops at 128bpm, ideal for Tech-House, Minimal and Progressive House production."

SAMPLESTAR – DEEPELODICTECH



"From its underground roots to its rapid ascension as the Dance genre du jour of 2010,

Deep House is ruling the global dancefloor once again. SampleStar return with 800+MB of deep and moody Tech-House synths, melodic basslines, beats, ethereal effected vocals, FX and music loops."

Sample Techniques

Each month, our sample creators work tirelessly to bring you original content for use in your music. As always, they go that extra step to make sure that the samples are both unique and useable...



808/909 Mix 'n' Match

"The early Chicago House records used a mixture of now classic drum machines including the (in)famous TR-808 and 909.

"Rather than stick with a well worn set of samples from each we tried to mix it up a little using various drum machines that either carry 808/909 samples or emulate those machines sound creation. On the sample side the Roland R8M's now highly rated electronic card carries some of the punchiest 808 sounds we've heard, while the Quasimidi Technox has a more standard set.

"On the emulation side we rinned the trusty old Drumstation as well as enjoying giving our Jomox XBase09 a run out. Of course, we also sprinkled in a heavy selection sampled from the 808 we had in the studio a couple of years back."



LOAD IT UP NOW!

© Richard Ecclesstone

GEAR USED



Chicago House
Groove Criminals
use: E-mu
Classic Keys

"Brother to the popular Vintage Keys module, it's a great place to start off looking for those old school bass and synth sounds. Of course at nearly 15 years old, it's now a bit of a classic itself."



Cosmic Soul
Cyclick Samples
use: ART ProVLA
valve compressor

"The ProVLA is a highly regarded 'budget' compressor that uses a Vactrol (opto-isolator) based levelling amplifier topology to great effect. Relatively transparent at 'everyday' settings, but capable of some brutal levelling without breaking up or ruining the bass response. Best on vocals, drums and basses. Highly upgradable too (op amps, valves, adding transformers, etc)."



THE MAKING OF YOUR UNIQUE FM SAMPLES...

Jack Your Body

Re-creating that classic jackin' Chicago House sound

This month's samples have once again two very different flavours. Groove Criminals looked back to the drum machine and synth driven sound of Chicago House.

Alternatively, we have a vision of the future from Cyclick samples who's suitably titled Cosmic Soul collection takes on the sounds of Flying Lotus and other exponents of the futuristic Glitchy Hip Hop Los Angeles vibes.

This collection (and Groove Criminals' too) has a great selection of multi-sampled instruments lovingly programmed into NI Kontakt format to add to your library. To get a better idea of what Groove Criminals were

creating this month *FM* caught up with Hoodee in between his heavy sample making schedule at his gear laden sample bunker. "Revisiting some of these classic Chicago 'jackin' House tracks reminded us of how heavily rhythmic they were, with some little more than drums and bass.

"To get things as authentic as possible, we used a mixture of samples and drum machines to capture the 808/909 grooves (see the *Sample Techniques* column to the right). Inspired by these analogue drum sounds we also included some grooves and a hefty Battery kit taken straight from our Jomox Xbase09

drum machine. With full-analogue kicks and snares (the hats, cymbals, rimshots and claps are all samples) and a truly awesome step sequencer, it's a bit of a modern classic."

1,000 samples

(Low) Down Town

"Bass wise we stuck to some classic chunky synth tones from various hardware sources including the Roland Juno-60 and E-mu Classic Keys, while sorting out five of the most authentic into Kontakt kits for you to use and abuse.

"The Juno-60 also provided the arp kit for those *Your Love* arpeggiated moments."

Filter

news | people | opinion | technology | events



Kong

Use this MPC-style rack to bash out synthesized beats and more.

Neptune

New in Record 1.5 is a fantastic looking vocal processing rack. Get the heavy auto-tuned sound or simply tweak those bum notes. Plus, you can add real time harmonies with the unit's built in vocal synth. Yowser.

Highlights this issue...

Starr Labs 10 An incredible boutique guitar style controller as used by our hard-hitting cover stars, Pendulum.

Win! Win! 12 Enter this and you could go in the studio with Mark Knight and share the royalties on a full release on Toolroom!

Classic Album 18 This month's *Classic Album* re-visits The Orb's debut *Adventures Beyond the Ultraworld*.

Studiofile 22 We head north to visit Manchester's Restrike Studios and to talk about their dedication to tape.

On the Radar 26 Detroit Techno legend Carl Craig talks about his recent Red Bull Music Academy live project.



Reason 5 & Record 1.5 Are Coming!

It's that time again. Time for Propellerhead Software to announce new and improved versions of their two famous flagship products

They've been anticipated for a while, but as the NAMM and Musik Messe shows in Frankfurt passed by we'd began to wonder where the next Reason (or Record) update would be coming from. But then pow! The countdown timer on the Propellerhead site kicked into action and rumours of Reason for iPad started brewing. But, for us producers it was even better news, bigger and badder versions of Reason and Record – awesome!

So what's new? Well, starting with Reason, there's a heap of new features, including a completely overhauled REX player. Dr OctoRex is Propellerhead's replacement for their much-loved REX player, but it's now capable of simultaneously playing

eight separate REX loops. Plus, users can now get even more creative with their loops with the ability to manipulate individual REX Slices more than ever before. Using the new Slice Edit mode, it's now possible to get visual editing of each slice and control filter frequency, pan, pitch and reverse of individual slices.

Stepping up the drum features, is the new Kong Drum Designer, where you can manipulate your sounds with a choice of drum synthesis, sampling, REX loops, physical modelling and custom-made effect modules utilising the 16 pads. Interestingly, Reason have also updated their sample players to become live recording samplers. Now with a single click, users have the ability to record samples and tweak them using the built in editor. So it's now possible to

record your guitar, vocals or other acoustic parts straight into Reason for quick and easy use alongside your electronic tracks. That's worth an upgrade alone, we reckon.

Another feature added to both Reason 5 and Record 1.5 is the clever-looking arrangement tool. This feature is called Blocks and is Reason's way of humanising a sequencer to work in verse, chorus, intro, outro elements and then let you piece together these blocks into arrangements later. So, for instance, create an intro in Block Mode, label that block and then enter Song Mode to start arranging. You can even change the contents of the blocks in Song Mode to create fills and extra changes as needed. But as Propellerheads point out, there's no need to stick to either Block Mode or

Song Mode as you can easily switch between them and any changes made in Block Mode will instantly appear to those blocks in Song Mode.

Meanwhile on Record 1.5 there's the new vocal processing rack, Neptune. This new rack enables not only pitch correction, but a powerful voice synthesizer too. Set a vocal running and Neptune will happily subtly fix the dud notes in your vocal take or add that omnipresent robotic tuning effect. Plus, hook up your MIDI controller keyboard and you can create synthesized vocal harmonies in real time. Also, if you need to change the entire pitch of a vocal, the Neptune rack also acts as an audio transposer, to change the key of your parts easily.

Wrapping up are a bunch of fixes and updates to both the Reason and Record engines such as multi-core optimisation and expanded Factory Sound Banks, to keep things fresh. **FM**

PRICING AND AVAILABILITY

Both programs are available by the end of summer 2010 with a Reason 5 Upgrade from any version at £88 and the Record 1.5 upgrade being free. Reason 5 will be £265 and Record will be in the shops at £235. But, anyone who purchases Reason, Record today will get an upgrade to the new versions free of charge. For more details, on all the upgrade options visit soundtech.co.uk/propellerhead



zTar-dust!

It's not a keyboard, it's not a guitar and it's not even a keytar. So what is it? We find out...

After interviewing Pendulum (see p60) and seeing their use of an interesting controller, we took it upon ourselves to track down inventor and owner Harvey Starr to find out more about these fantastic-looking guitar-shaped MIDI controllers.

FM: Tell us about why you developed the zTar?

Harvey Starr: "I built my first prototype in 1978 to drive a Minimoog and an Oberheim 4-voice synth. MIDI came along in 1982 and I revised the system for MIDI instead of the CV/Gate control for an analogue synth. When MIDI pitch-tracking guitars finally came around I wanted to bring to the market a robust, reliable MIDI guitar that doesn't suffer from the usual glitches and delays associated with MIDI Guitar.

"We wanted to add features that are not found in guitars at all such as full polyphony on each string, complete flexibility with tunings, drum mapping and other programmable performance

options. With the the zTar, you can play two-hand harmonies that you don't hear either from a guitar or a piano, and being able to snap out little drum parts and bass parts together in the same setup. Fun!

"In the standard zTar we're processing 160 inputs for pressure and velocity in about two milliseconds. It's powered via MIDI Phantom Power, USB or optional battery pack. Our own wireless MIDI is also an option, embedded into the zTar or on a belt or on a guitar strap."

Who are they aimed at?

"We're mostly aimed at guitarists, though keyboardists, percussionists, and electronic musicians often like the idea of a portable guitar-like keyboard too. The Z6S is our most popular model and is the most guitar-like."

Why are they so expensive?

"The instruments are high-quality, hand-built to order with the customer's option-list which involves careful hand assembly. While our volume is low, the

hardware and software still have all the same development costs as if we were a large company. Unlike a guitar, we have embedded hardware and software to support."

What makes these so special above regular MIDI controllers?

"For me the attraction of the zTar is the ability to play 10-note chords, harmonies you can't reach on a guitar, and to play lines at a speed that's beyond most people's guitar technique, without the hardware getting confused or lagging.

"Plus, the wide variety of added input sensor hardware allows assigning eight different MIDI messages to each pad or pot. This can be used for a nearly endless variety of control setups such as huge crossfades, complex modulation, sequences/loops and step-sequence playback, a variety of strumming and tapping modes – 32 programmable fingerboard Zones accept independent tunings and other parameters."

How much are they?

"We only sell from our factory directly but distributors are welcome! The prices vary from \$995 to \$10k+ depending on the model and the options."

WANT TO KNOW MORE?

Get knee-deep in the specs and possibilities at starrlabs.com



Juno How to Edit?

If you're a lucky owner of the classic Juno-106 synth from Roland, it's worth checking out this handy VST and AU editor from reKon Audio.

The VST-AU JUNO-106 Editor is a real-time MIDI synth programmer in software, with a sexy GUI, that gives Juno-106 owners full control of every parameter and patch on their precious 106 synthesizer.

Use the editor to create patches and manage, view and edit them on the computer itself without the hassle of manual dumps. VST-AU JUNO-106 Editor is priced at \$70 and is available for Mac and PC from: rekonaudio.com



Roger's LinnStrument

Roger Linn is one of the godfathers of modern musical equipment and continues to develop interesting and groundbreaking instruments. Recently he revealed plans that he'd been working on a completely new touchscreen instrument with a multi-touchscreen, pressure-sensitive, high-resolution USB surface, built by a company called TouchCo, which now have unfortunately been bought out, and Roger Linn is looking to find an alternative way of keeping the project alive.

It's definitely worth heading over to Linn's site and checking out this instrument as Linn demonstrates it's ability to recognise simultaneous X (pitch), Y (timbre) and Z/pressure (expression). It's really quite impressive. Fingers crossed this ends up on the production line sometime in the future! rogerlinndesign.com

Future Music presents...

PRODUCER SESSIONS LIVE

Come to *Future Music's* live event. Meet stars. Learn loads. Make even better music

2 010 is a big year for shows. We're giving our support to the massive London Music Show in October this year (see page 16 for more) but we're also running our very own, rather more intimate gig live from London. And we want you to come along.

Our friends at the SAE school in London are turning over their entire flagship studio facility in Shoreditch, London to us on September 25th and 26th. That's a weekend so there's no excuse. Producer Sessions Live is your chance to learn from the pros and get hands on with the latest and greatest music making gear.

The teams from *Future Music* and sister mag *Computer Music* will be there, overseeing two days of tutorials, gear demos and essential advice for up-and-coming producers.

There's gear from the world's hottest manufacturers lined up over five floors for you to try out. But the

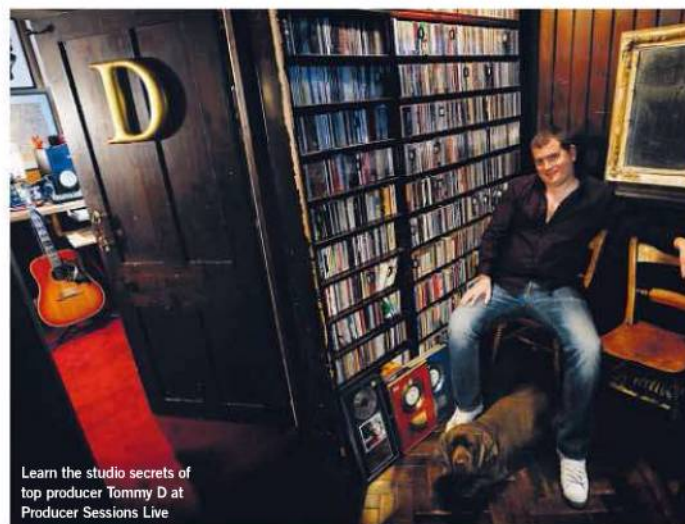
highlight of the show is a line-up of star producers and world-class demonstrators who'll be showing how the hits were made in a series of lectures. So far, we've arranged classes from the awesome Freemasons, Danny Byrd, Dave Spoon, London Elektricity and Tommy D with a host of other production stars TBC.

They'll be showing you how they made their hits live on stage and answering your production questions in intimate hour-long sessions. (Calm down at the back).

Entry is at the bargain price of £8 for each day, with each Producer Session you'd like to attend costing just £4. Space is very limited so make sure you get in there early!

WANT TO KNOW MORE?

Head to producersessionslive.com for all the details and follow [prodsessionlive](https://twitter.com/prodsessionlive) on Twitter for the latest additions and announcements as they happen.



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CO-PRODUCE A TRACK WITH Mark Knight!

In a landmark competition, *Toolroom Records* together with *Beatport* and *Future Music Magazine*, are giving one lucky winner the chance of a lifetime

Still looking for your big break? Now's your chance to prove yourself with a career-launching mega-contest. Mark Knight and Toolroom Records have teamed up with Beatport and *Future Music Magazine* to launch a fresh and exciting 'co-production' competition – the first of its kind.

The competition will give up-and-coming producers the chance to work with one of the industry's leading artists and Toolroom Records head honcho, Mark Knight. And the track you make will earn you 50% of publishing and an equal share

of sales royalties. Plus, you'll get your name next to Mark Knight's on the record, of course.

"The ethos of Toolroom has been one of finding and nurturing new talent," explains Knight, "We're looking for the stars of the future right now, so this co-production competition makes perfect sense. With the eight-bar loop I've provided, I've put down the backbone of the track with enough scope for interpretation. What I'm looking for is clever use of the parts, creative sound design, with any new parts included, and a good arrangement". When we asked for a few clues on what Knight was looking for in a

winning track, he told us, "Look at the record and see if you can squeeze another 10 percent out of it. Is it the best record it can possibly be? And, the final bench-mark – would you draw for this record, without hesitation, in every set you play? If so, it's finished. Over to you guys..."

Here's how the competition works:

Follow twitter.com/djmarkknight to keep up to date with the compo and how to download the eight-bar loop from Beatport and one MIDI part from Toolroom's online store. Make your track, then upload it labelled 'Mark Knight Competition' to his SoundCloud at soundcloud.com/markknight by the 15th July. No un-cleared samples can be used (full T&Cs relating to the competition can be found on djmarkknight.com).

The winning track, as chosen by Toolroom, will be announced on July 19th and released in physical format as an exclusive track on Mark Knight's forthcoming *Toolroom Knights* CD (out Oct 2010) and will be available via all digital platforms.

Plus – thanks to SCV London – there's a pair of superb new Focal CMS 40 monitors worth over £600 in the prize bag too! Good luck!

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EXCLUSIVELY ON THE FUTURE MUSIC DVD

Masters at Work on DVD

FM favourite D.Ramirez returns for a series of brand new tutorials

Grab this month's DVD and stick it in your computer NOW, because you'd be mad to miss the first part of a series of Icon Materclass video tutorials from superstar DJ and producer, D.Ramirez. In association with the fantastic Icon collective,

Future Music will be running his videos over the next six months.

On the first part of the series, Ramirez explains how to make a perfect Logic template as he begins his project of creating a track titled, *Sub Atomic Life*. Watch how he pre-labels tracks, sets fader levels

and pre-prepares inserts sends and channels strips to increase workflow. He also explains how to lay down the bones of a club banger with quick loops in Stylus RMX and some of his other favourite tools.

Plus, he'll explain how importing a ghost track (a finished track that

you know works on the dance floor) can help guide you with your arrangements and speed up productivity. And there's part two on the FM DVD next month!

Hurrah! More info on Icon Collective and what they offer can be found at learn2produce.com



Technicolour Sound by Fostex

The PM0.4 was released back in 2005 so Fostex have given the range a revamped design and a lick of various paints. Now titled the PM0.4n



range they claim to offer a high efficiency bi-amplified driver with 18W of power for both the LF and HF drivers. These colourful compacts can be easily wall mounted so they could be useful for 5.1 set-ups too. These cute little speakers can be yours for just £175 a pair. Review next issue. scvlondon.co.uk



XILS Communication

Based on XILS-labs original recreation of the incredible EMS VCS3 synth, this new LE version is a staggering bargain at just 30Euros. It's based on the full feature set of the original release of XILS 3 that retails at 149Euros but minus the added features in the 1.1.0 version

(including two new envelopes, LFO, S&H, sequencer editing, new matrix connections). The LE version doesn't require the purchase of a dongle and is simply protected by a serial number. This is a limited edition, so we recommend you get head over to xils-lab.com while you can!

Stand and Deliver

Unity Audio announce some serious monitor stands, offering high quality isolation

Unity Audio have released these very serious speaker stands with a very serious name. Titled the Monolith, these towering stands are available in three and single leg configurations, both built from a heavy gauge 5mm powder coated steel.

Unity Audio explain that they have designed and built their own monitor stands because they felt that other current speaker stands on the market just were not up to the job for professional applications. They told us, "the principle behind a good stand is to provide a solid base for the speaker so that energy is not lost through unnecessary movement – so that the speaker's energy is projected forward to the listener."

"Also, if your control room has a resonant floor, the Monolith decouples the speaker from the floor, again reducing energy loss."

Serious stuff, and at a serious price. If you're in the market for some top-of-the-line stands or if your room is struggling with speaker placement then head over to unityaudio.co.uk where you can nab a single leg version for £217 each and a three leg version for £346 each.



THE LITTLE VILLAIN GROWS UP

"THE ADDED SAMPLE MEMORY AND KEYBOARD REALLY PLACE THIS WITH THE BIG BOYS." - FUTURE MUSIC 211



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London Music Show 2010

The biggest music show in the UK is now in the safest hands in the business. Do not miss it

Doing anything on the 8th to the 10th of October? We certainly are. We'll be at the UK's premier music

show, now being run by Future Publishing, the folk that make *Future Music*, *Computer Music*, *Guitarist*, *Rhythm*, *MusicRadar.com* and countless more music brands.

The 2009 show attracted over 22,000 musicians, engineers and producers from every ability level and musical genre. And with us running

the show we're all set to bust that figure wide open.

The big news is that *Future Music* and *Computer Music* will be running our very own Sound and Recording Technology Zone. There'll be presentations on stage across all three days of the show, aimed at giving *FM* readers the knowledge they love, from tutorials on your first loop-based production to advanced mastering techniques for pros. And keep your eyes peeled for celebrity guests too.

Meanwhile over in the *Guitarist* Zone you can expect the staff of *Guitarist*, *Total Guitar* and *Guitar Techniques* to be doing likewise. And drummers get their own section, hosted by *Rhythm* magazine. Plus we've got the industry's finest manufacturers on board with hundreds of exhibitors demonstrating thousands of products.

The show all kicks off on Friday the 8th October at 10am, running until 6pm, while on Saturday the 9th

and Sunday the 10th the show runs from 10am til 5pm.

It's all taking place at London's immaculate ExCel exhibition centre nestling in their famous docklands.

Tickets go on sale soon so check out londonmusicshow.com to register your interest. See you there!

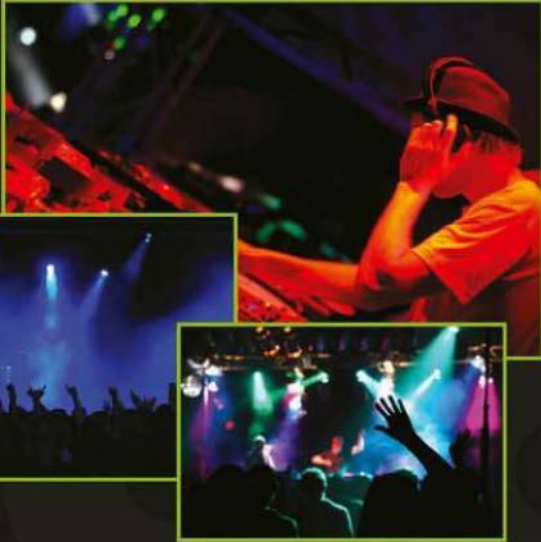
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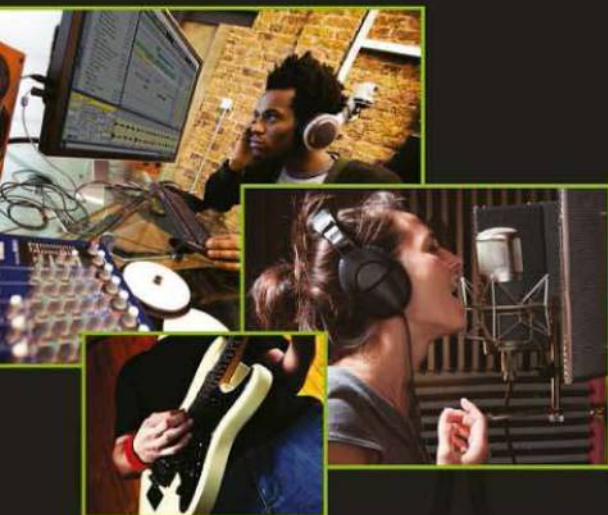


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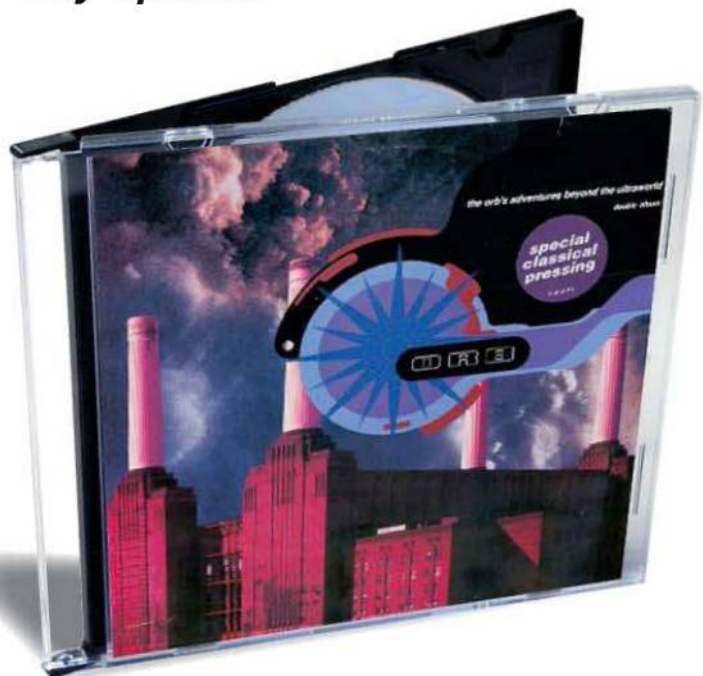
THE
CLASSIC
ALBUM



The Orb's Adventures Beyond the Ultraworld

Big Life, 1991

Representing the birth of many a genre, and one of the world's finest Electronic groups. This album is still one hell of a trip, finds **Roy Spencer**



Imagine the scene: you're weaving your way through the studio. Strips of 1/4-inch tape hang from the ceiling, nailed up

to resemble vines in some freaky jungle. A smoke machine bellows out a thick belch, as swirling patterns on decorative rugs reveal themselves through a pulsating light show provided by the blink of strobes. Several Buddha statues hold a cheery fixed grin as you pass. The soundtrack to this visual mindfuck is a wash of Ambient noises, subtle Funk loops, movie dialogue and African thumb pianos. The band is all off their nuts. It is The Orb.

"The studio manager completely lost it," says chief merry prankster and Orb head honcho, Alex Paterson. "We were putting together this debut album and we'd hired the place out for two weeks. He'd just left us to it at that point. When he'd come back in the first thing he saw after he made his way through the jungle was the mixing desk, which we'd wrapped up in tape to look like a huge Easter bonnet with a massive bow."

Needless to say the watchword for this project was 'fun'. It was also total immersion. "I was working as the A&R guy for E.G. Records at the time," says Paterson. "Basically I did most of the album on my two weeks holiday. We camped up in studio 24/7. We had two engineers. One would sleep while the other worked."

This was Berwick Street Studios in SoHo, London. Principal location, of around five others, that provided the main command centre for The Orb's journey to the Ultraworld.

This is a journey into sound...

Earth was the starting point of an album that began with talk of the cricket smacks of "leather on willow" and *Little Fluffy Clouds*, before taking the listener past the *Forth Dimension*, left at the *Supernova at the End of the Universe*, and onto an audience with the *Huge Ever-Growing Pulsating Brain that Rules from the Centre of the Ultraworld*.

A number of firsts were achieved along the way. It was the first Dance music concept album. It was the first Ambient House album. And, with its blend of crisp drum loops and moody melodies, it was arguably the first Trip-Hop album.

The melting pot of ideas, narrative drive and mad juxtaposition of

samples was first touched upon in Paterson's epic *Chill Out* sets at Paul Oakenfold's Land of Oz nights. "I was the first person to do an Ambient room at a Dance night," says Paterson. "There'd be multiple turntables, tape machines, DATs and visuals. It was the start of what I'd do as The Orb on this album."

Originally forming the group with KLF legend, Jimmy Cauty, Paterson translated these sets into the sprawling melon twister of a track that was *Huge Ever-Growing Pulsating Brain*... BBC radio seer John Peel, of course, caught a whiff of this Electronic gumbo and commissioned the pair for one of his career-making Peel Sessions.

The flush of Youth

Shortly after, friendships changed. Paterson brought lifelong friend Martin 'Youth' Glover, a partner in his other job, as manager of the record label WAU. The two shift-working engineers who ensured the right buttons were pressed were Kris Weston and Andy Falconer.

"We'd built a philosophy through the early stuff, like the John Peel sessions," says Paterson. "I didn't want to copy what anyone else was doing, but in essence, I ended up copying lots of different things, but somehow made it my own, too. With ...*Ultraworld* it was a labyrinth. Mainly because I didn't wanna bore anyone." The album went on to be hailed as a masterpiece, and drew comparisons with the thick Dub pressure sounds of Reggae architects like Lee Perry, and the minimal poetry of producers like Brian Eno.

...*Ultraworld* was finally reissued on CD (with remixes) in 2006, but on a limited run of 50,000 which would then be deleted after 24 hours. It sold out within the week, causing the album to go Gold. Indecently, the colour of the Sun. Which you may catch a glimpse of from your spaceship window, as you hit about track three.

Track by track with Alex Paterson

Little Fluffy Clouds

"I actually started that track off with a Soul II Soul drum rhythm from their *Back to Life* single. But it didn't work.

LIKE IT? TRY THESE...



Steve Hillage Rainbow Dome Musick

Shimmering Electronica, favoured by Paterson in his Ambient DJ sets, leading to a chance meeting with Hillage, and a collaboration.

ADD THESE TO YOUR PLAYLIST:
Garden of Paradise; Four Ever
Rainbow



808 State Newbuild

Progressive Dance by a few guys called 'Bob State' by one festival MC. Paterson actually went to Manchester to try for their publishing when A&R-ing, but made friends instead.

ADD THESE TO YOUR PLAYLIST:
Headhunters; E Talk



Manuel Gottsching E2-E4

Paterson calls him "a guitar hero from the German Kraut scene that sprouted from things like Kraftwerk and that malarky." Nuff said.

ADD THESE TO YOUR PLAYLIST:
Quiet Nervousness; Queen a Pawn



Pink Floyd Wish You Were Here

The Orb have sampled their music, copied their artwork, parodied song titles, and even shared a bassist.

ADD THESE TO YOUR PLAYLIST:
Have A Cigar; Shine On You Crazy



The Orb U.F.Orb

Paterson follows up his debut with this, and it hits number one in the UK album charts.

ADD THESE TO YOUR PLAYLIST:
Blue Room; Towers of Dub

In the Studio with... Alex Patterson

"The first album was recorded mainly at Berwick Street in London [aka Play Studios]. It was owned by one of the blokes in The Wombles. We also used Marcus Studios in Fulham.

"The engineers helped. I only had a small idea of what a mixing desk was in those days. I think it was a 48-track SSL back then.

"There wasn't a lot of technology involved. They weren't equipped for samples and turntables back then. I remember one session we recorded

everything in mono and had to go back and re-do it. I think we were a little bit stoned, I have to own up.

"*Huge Ever-Growing...* was recorded at Jimmy's Trancentral studios. We then re-edited it and added some front bits and mad Ambient pieces, which we then made into the album version.

"It was our first time in the Do Not Erase studio in London, too. The studio also had a waterphone, a metal acoustic instrument that actually had water inside it, so when you played it it had



this ambient whale music type of tone. I remember we used it on *Spanish Castles...* This is where future Orb collaborator Andy Hughes

was found. He acted like a consultant for us, showing us what to use and how to plug it in. I used to do a lot of field recordings to get sounds. With stereo stuff, one mic would be underwater, the other on the top to get a different feel to a normal pan.

"A lot of the silly samples, good drum breaks and vocals I'd been collecting for years. I'd had my whole life to get them. I was 30 when I did this. Up to that point I had loads and loads of ideas up my sleeve."

I'll leave it to The Farm and people like that to do. So I dipped into my record collection and pulled out a very odd record that my older brother used to play for me when I was in my early years, sampled the drums off it and played around with them to make them more 'Dancey'. We wrote it first in Wandsworth where Youth and I were living. We had half a studio in each of our bedrooms.

"The track came together because of a bit of rivalry. It was the first track after *Huge Ever-Growing...* the last one after Jimmy Cauty left. Jimmy and Youth were in a band, Killing Joke, before, so Youth wanted to do

"I got the vocals from a Gospel radio show in New York. It was my 30th, and ended up on me own in a club, and they're playing *A Huge Ever-Growing Pulsating Brain...* it was a really odd moment. The next morning I'm feeling groggy, turned the radio on and found this bloke talking about God and 'sweet wine'."

Supernova at the End of the Universe

"This is at the end of side one – you flip it over and you get the Dance version. Both done with legends Steve Hillage and Miquette Giraudy. I met Steve when I was doing my little DJ

Ambient pieces of music that I whacked loads of Hip Hop loops over. It's what people would eventually term Trip Hop. No one ever mentions that when they talk about us.

"I was taking Miquette's keyboard and Steve's guitar and making this modern Ambient, with explosions and supernovas everywhere.

"I did meet some kids that said they used to put speakers under their bed and play this album and have the best sex ever. I've never fallen asleep with this album on speakers under the bed. I've fallen asleep in clubs under DJ decks before, but never having sex. I do remember a bloke

coming up to me and saying that this album saved his holiday!

"He was having a shit time, bought this and his whole holiday was much better. I've met the weirdest people."

“They said they used to put speakers under their bed, play this album and have the best sex ever”

one better than his old mucka. And then this set the bar for the album."

Earth (Gaia)

"It started out as a remix. But it got so far removed that it became an Orb track in its own right. The remix would have been for *Hotel California*, by the Eagles [laughs]. I think we'll leave it at that.

"The whole album was an adventure, a journey from the Fluffy Clouds of Earth, out of the planet's orbit, bugging off to find the Ultraworld. It moves in stages as you turn over the records. It was all vinyl then. It was a concept album. It's funny what weed does to you.

sessions at the Land of Oz night. Steve comes up to me, staring at the setup I had of three decks, a couple of tape machines and a DAT player, all going at the same time, and tells me I'm playing his record. I looked at him, then at all the decks going round, and asked him 'which one?'. We introduced each other and he said he wanted to make a record.

"It inspired him to get back into music after people turned on him because he represented the old school. I'm proud of that moment."

Back Side of the Moon

"Continuing on...we went to the studio to create these two ethereal,

Spanish Castles in Space

"This was done with Jake Le Mesurier, the son of the guy from Dad's Army and Carry On's Hattie Jaques. Wonderful man. He had a dry, droll sense of humour and he was the life of the party. He sadly passed away shortly after this album. He basically wrote this song. He really liked the idea of The Orb and we got together to do this track in Sitges, near Barcelona.

"We mixed it back home with Andy Falconer, because Kris was a bit too wild for this track. I wanted Ambient, not a thumper mix. It's a

lovely track, and sadly the last thing Jake made. It's a little window into him. It's not a sad record, but the memory is sad.

"He was someone we all looked up to, to make us laugh and take the edge off. These are my overriding emotions when thinking about that particular track."

Perpetual Dawn

"That was my Reggae head coming out. It's a very happy, skanky tune, as authentically as we could do as white guys. Big Life eventually put a chorus on it, but for me it was a Roots tune, and leave it alone. But they wanted a Pop hook.

"We were making *Towers of Dub*, which went on the follow up album, at the same time. But we didn't put it on as we already had *Perpetual Dawn*. *Plateau* from the *Orbus Terrarum* album should have actually been on the second album as well.

"I'm a huge Reggae fan. I get asked to play a lot of Reggae sets, in exotic places if I'm lucky, with Lee 'Scratch' Perry and people like that. We actually played a set with him in some festival in Mexico City for one night and he put us up for a week."

Into the Fourth Dimension

"The strings are from Vivaldi's *Four Seasons*. It's not the kind of thing that's been done in clubs before, but I think it works. I literally played the

Falconer. Like I said, I had two engineers on this album, and I gave them a track each to work on.

"I wouldn't say it's the Achilles' heel of the album, but is the track that's the least spoken about."

Outlands

"This features my little Swiss friend, Thomas Fehlmann, who's in the current line up of The Orb. And it's another track of samples. I bet you can guess what, but you can guess all you like, I won't let you know.

"I still reckon that this is the best tune we play out live, it's pretty awesome. We still do it. I chuck in a really mad Disco loop now that works well. It's probably my favourite track on the album.

"When we played in the early days, we'd have a DAT running as the mixes, and then be putting them through filters and I'd be putting more samples over the top, and more drum loops. Live, as a DJ, I'd be playing bits of the record out, as acetate, over the top. Pressing your own one-off bits of vinyl with all the bits on was the best £40 you could spend back then."

Star 6 & 7 8 9

"It's very Pink Floyd-esque, on that level. It's got a summer vibe, so why not have a bee in it? It gets everyone, that. I'll be honest, most people remember it as the tune with the bee, not the one with the African thumb

The Future of the Orb

"There are so many projects in the future. I've never given up, and I've never gone 'oh fuck it, I've had enough'. There's too much fight left in me. I feel it's only the beginning half the time. I've got a lot up my sleeve at the moment.

"But what can I tell you about? I did hear a rumour that The Orb are planning on doing an album with a certain aforementioned Dub legend. I can't see anything bad coming out

of that. My main Swiss Orb collaborator Thomas Fehlmann's new studio is on the Polish border. So I'll be doing stuff there for that. It's got flats above it, so it's nice and self-contained.

"There is also a huge rumour that The Orb are planning on releasing an album with a certain member of one of the world's biggest Prog Rock bands at the end of this year, but I've been told not to talk about it. I don't know why. But

hopefully this bloke from this colourful band and ourselves will have something out in a short while after people have read this. It has been recorded, so it's not too far away. I'm also doing music to a small film, for a potential arts showing, *Electricity and Ghosts*, inside Battersea Power Station in October. I think I've told you enough now though [laughs].

"We have things planned for 2012, which is pretty bizarre."



Battersea Power Station, referenced in The Orb's art and a clue to future collaborations

the day. I've known Hugh for 35 years, he's still doing his thing. His hero is Jimi Hendrix – maybe he could grab Tom's thumb piano and burn it at an Ambient night [laughs]."

A Huge Ever-Growing Pulsating Brain that Rules from the Centre of the Ultraworld

"That's a leg-end in its own right. It's called the 'live mix', but we always chucked stuff in live with any Jimmy Cauty stuff. And this was the last thing he did as The Orb. It was done at our real infant stage. It was the

third tune we'd done, ever. The other two are pale in comparison to this, as *Huge Ever-Growing...* just became what we wanted to be. It also launched us as The Orb. John Peel picked up on it straightaway and gave us a Peel Session.

"We used a Pink Floyd *Wish You Were Here* sample on the Peel Session version. They even cleared it for us. Mainly because we had another musician on the track *Spanish Castles...*, Guy Pratt.

"He worked as a bassist for Floyd after Roger Walters, so helped us clear the sample." **FM**

WANT TO KNOW MORE?

For upcoming gigs and releases, and for more on their future projects, visit The Orb's MySpace at myspace.com/orbisms

It launched us as The Orb. John Peel picked up on it straightaway and gave us a Peel Session

record straight in and it fits like a glove. We were mixing *Dance* with Classical before Opus III had their *It's a Fine Day* track. Ooh, painful. I'm glad I didn't pursue that route too much. The engineer on this is Andy

piano. They just go, 'that tune with the bee is amazing'.

"The thumb piano is played by Tom Green. He's a lovely man. Hugh Vickers is in there too. Just part of my old Brixton posse really, from back in

NEED TO KNOW

Five essential facts about...

The Orb and Alex Paterson

1 Big Life picked up *Dance* act Blue Pearl from Paterson's WAU label. A clause meant they also had to take another act. They chose The Orb.

2 Paterson credits himself with taking Ambient from Middle Class "cheese 'n' wine parties" and giving it street cred.

3 "In '88 we called our remixes 'Orbital mixes'. Then suddenly this band called Orbital comes up, which confused everybody," says Paterson.

4 Paterson went to Big Life demanding a triple album. As a concession, they offered him a double instead, which he sneakily wanted in the first place.

5 The nicked line "little fluffy clouds" from a promo interview with singer Rickie Lee Jones caused some legal issues. "It was settled out of court" Paterson says.

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ALL YOU NEED TO KNOW

A few essential bits of information about...

Restrike Studios, Manchester, UK



ADDRESS

Unit 8, Wilsons Park,
Monsall Road,
Manchester,
M40 8WN

WHO RUNS IT?

Cormac Donnelly, Owner

WEBSITE

restrikestudios.co.uk

TELEPHONE:

+44 (0)777 2831 703

Situated on a small industrial estate on the outskirts of Manchester city centre, Restrike Studios

has been used as a recording facility for over ten years but became a fully fledged commercial studio four years ago when it was taken over by studio owner Cormac Donnelly. He welcomes us in and leads us straight through to the large live room, which he fine-tuned over a two-month DIY renovation period when he bought the space. "The live room is one of our best features," he tells us.

The first part of the rebuild was to ensure the room sounded just right, so Cormac set about researching the best techniques. "I read a whole ton of stuff on acoustics, including F Alton Everest's books and a load of shorter articles." The only problem was none of the experts seemed to agree on how to tackle the room. In the end, his solution to all the conflicting advice was to try and see how the space really sounded on tape before changing too much. "I did a

test recording and it sounded great. It's a bouncy space but as long as you're not trying to get consistent tone at six or seven metres away you're alright."

Control room

The control room is dominated by the giant Quested Q215 speakers, bought from a studio in London and transported with one in the back of a friend's estate car and one strapped to the roof. "We ended up having to knock out a partition wall just to fit the main monitors in. It might have been a bit excessive but it had to be done. The room's maybe too small for them but they're great speakers." Most mixing is done on the Yamaha HS80Ms. "I ended up testing six or seven different pairs of monitors and these just sounded the truest.

"My budget was considerably more and they were one of the cheaper options that I looked at but they work so well. They also have that iconic NS10 look to them." The power of iconic design should never

Quested Q215

"These are great to listen to but I think everyone's moved away from mixing on main monitors."

DDA DMR12

"There's a rumour this desk was bought by Chesney Hawkes shortly after *The One And Only* but he never installed it because he never had another hit!"





Yamaha HS80M

"I tested Genelecs, Adams, Dynaudios and loads of others but these just sounded right. Music sounds exactly the way that I want it to sound on these."

Focusrite Voicebox

"This is fairly old now but it's a brilliant pre-amp and it's got everything you need in one handy package. It's all I ever really use for vocals. Top stuff."

Joe Meek SC2.2

"When I bought this I thought I'd been ripped off. It weighs nothing. I used to use it to hammer overhead mics but I'll sometimes use it on a mix now."

Mackie Onyx

"This expands the number of inputs but more importantly the first two channels are impedance-variable so I can use ribbon mics on them. It actually makes a difference to almost any mic."

INTRODUCING...



Cormac Donnelly
Owner/Manager



Roland RE-201

"I found this one in Japan. Including shipping it was still cheaper than any you could find over here. If the place was on fire, this is what I would grab."



Otari MTR900 mkII

"The downsides of recording to tape are minimal as long as you keep it maintained. We've got a load of single-use reels of tape and we don't charge extra for it."



Neumann KM184

"These ruined my plans. I wanted a pair of AKG 414s and some 451s but then I came across these and it threw everything else completely out of the window."

T-Bone Ribbon

"These are just cheap rebadged Chinese mics but if you get lucky with them in the right situation they can be great for vocals, guitar amps or overheads."

Brauner Phantom

"The Phantom C is my main vocal mic. For some singers I'll go with a valve or a ribbon but I don't think I've ever had a vocalist I couldn't have used this on."

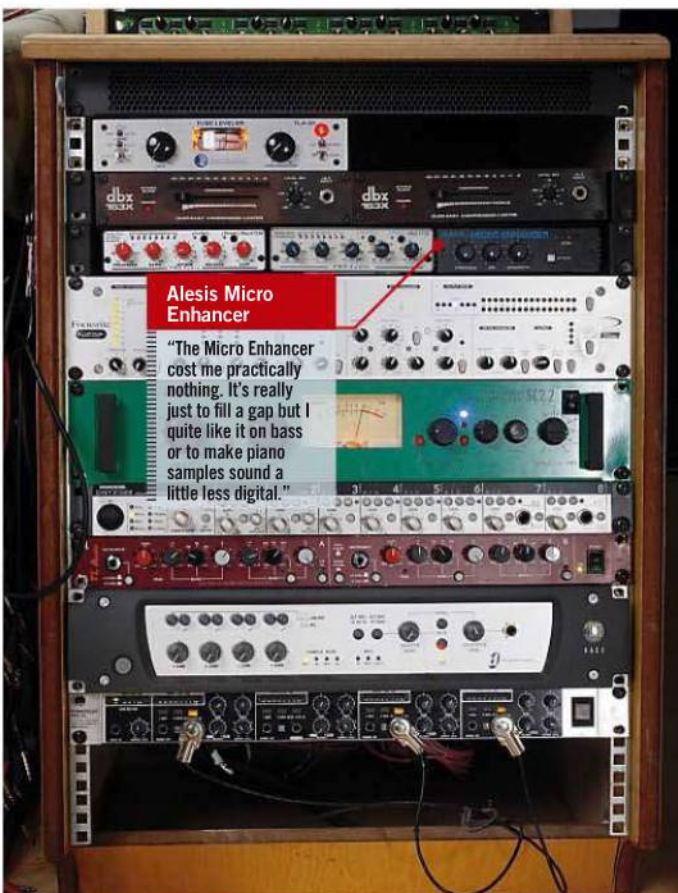
Shure-ly not?

As we browse Restrike's mic collection, we spot one unusual omission. Every studio we've ever visited has had at least one Shure microphone, but Cormac owns up to what he describes as a completely irrational hatred of the company's mics following a session in which he struggled to find a good snare sound with an SM57. "It's hard to justify but I ended up blaming the 57 and I went off them straight away."

Instead, the collection is made up of high-end choices from the likes of Brauner and Neumann plus solid workhorses from Sennheiser, Audio-Technica and AKG. A couple of unusual budget mics provide extra options for specific requirements. Pulling a few mics off the shelf, Cormac shows off his favourites.

Sennheiser MD441

"This sounds great on snares, the only problem is it's massive, so there aren't many drum kits you can get it into without annoying the drummer."



be underestimated when it comes to setting the vibe of a studio. For final mix checking, Cormac's grotboxes are a pair of JBL's tiny Control 1s with an interesting modification: "They were a present from my mate who helped me build the studio. He purposefully blew the tweeters for me straight away. If you've got bass in those and you can still hear the hi-hat, then your mix is definitely good."

The mixing console is a DDA DMR12 which Cormac acquired through a broker. "I got lucky with the desk. A studio happened to be closing down in London when I was looking for gear so we jumped in a van and drove down. The preamps aren't particularly exciting but they've got decent headroom and they've never let me down. The EQ is really nice."

The DDA's incredibly flexible routing helps to integrate the PC-based Pro Tools setup with the tape machine. "The desk was definitely built with the tape machine

ridiculously low price and he went for it. That changed the focus of the studio a bit. Rather than a digital studio it became a 24-track two-inch analogue-based studio with Pro Tools as a mixing environment. The tape machine wasn't part of my plan but when I got it, it changed my whole outlook." The commitment to tape-based recording is a big part of Restrike's approach. Cormac loves Pro Tools as an editing and mixing environment but the tape-based approach to tracking is one of the major attractions of Restrike.

Outboard

Without much space for outboard, the selection has gradually been whittled down to the essentials. Most notably, there are compressors for every occasion. Cormac talks us through some of them: "The Summit TLA is great for vocals and acoustic guitars. It's got a 12AX7 valve in the input stage just to give it a bit of harmonic

The Space Echo was probably the only thing that was definitely on my list

distortion on the way in. The DBX 163s are really simple but effective compressors. I generally use them for bass, and the DI input is really handy for overdubs too." Proudly sitting on display is

a seriously clean Roland RE-201 Space Echo. "The Space Echo was probably the only thing that was definitely on my list. I admit it possibly doesn't work in every situation but it's got such great visual appeal and it sounds fantastic."

Studio for sale

With some regret, Cormac tells us that Restrike is currently for sale. With a baby on the way and much of his time taken up by lecturing at Manchester's Futureworks Media School, he can no longer commit as many hours to the studio as he'd like.

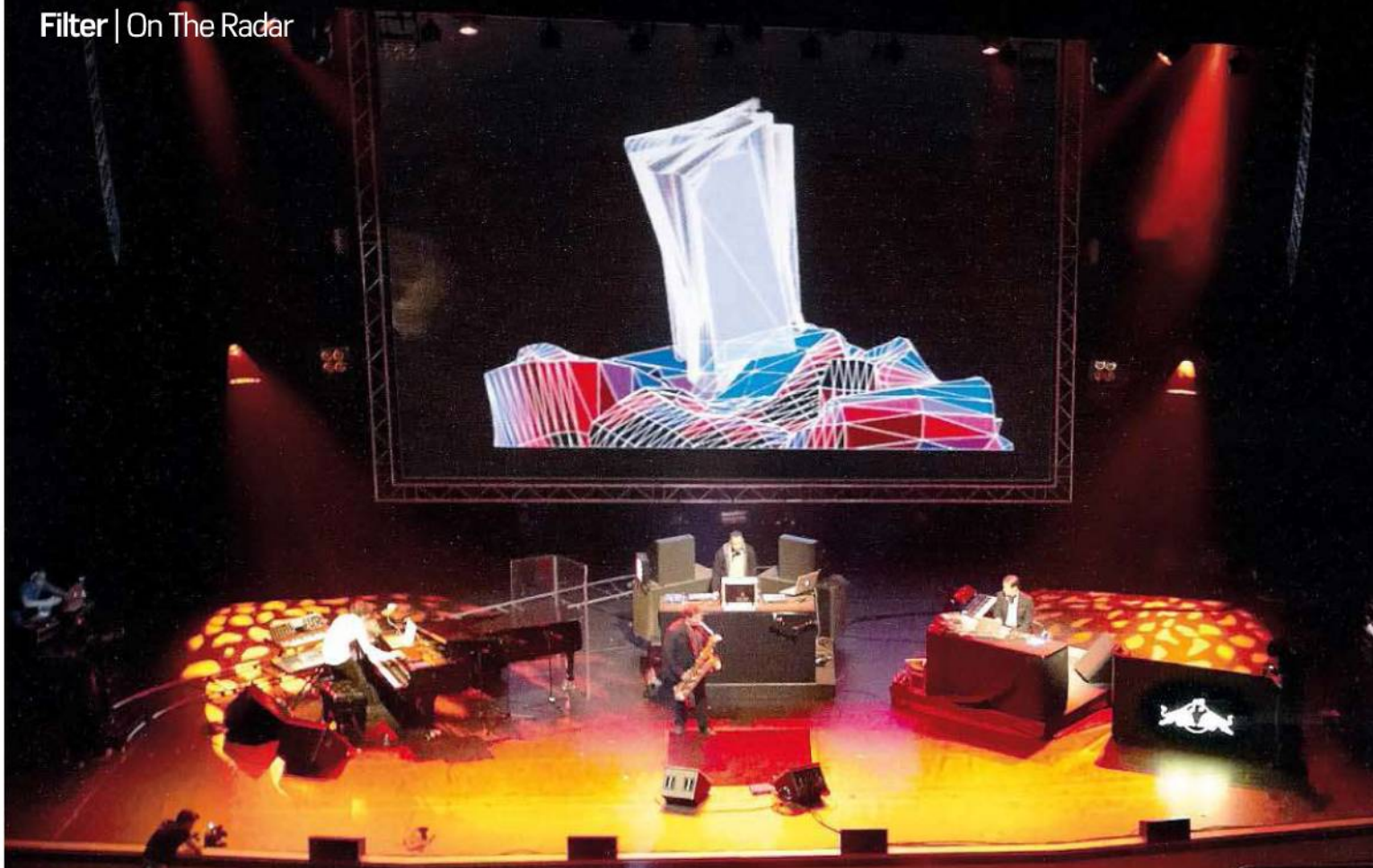
With so many studios closing, Cormac tells us he hopes someone can take over the whole package so that Restrike can continue to operate. If you're interested, drop him a line to discuss the terms. **FM**

Straight to tape

Thanks to one lucky break, Restrike has ended up focusing heavily on tape-based recording, an idea which Cormac initially ruled out thanks to budget constraints. "The guy I got the desk from had the Otari tape machine sat in the corner but I knew I couldn't afford it," he says. "But because he was struggling to sell everything he asked me to make an offer, so I named what I thought was a

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ON THE RADAR

Carl Craig

FM talks tech with Techno legend Carl Craig in the aftermath of his blistering Red Bull Music Academy show at London's Royal Festival Hall

The phrase, 'needs no introduction' is over-used, but certainly applies perfectly to doyen of the Detroit Techno scene, Carl Craig. Formerly Derrick May's chief assistant at Transmat Records, Craig's DJ skills and production wizardry are writ large over a sizeable back catalogue that includes eponymous releases as well as a raft of aliases such as Psyche, BFC and the Innerzone Orchestra, as well as his influential Planet-E Communications label.

Ever-inventive and far-sighted, Carl Craig has long been seen as one of the earliest incorporators of other musical genres into Techno and he continues to push the parameters with live performances that incorporate live instrumentation

and a free-form approach to augment the electronics. With that in mind, *FM* spoke with Craig to get an insight into the live mindset of a bona-fide Dance music legend.

FM: Was there a lot of preparation involved for your Festival Hall performance?

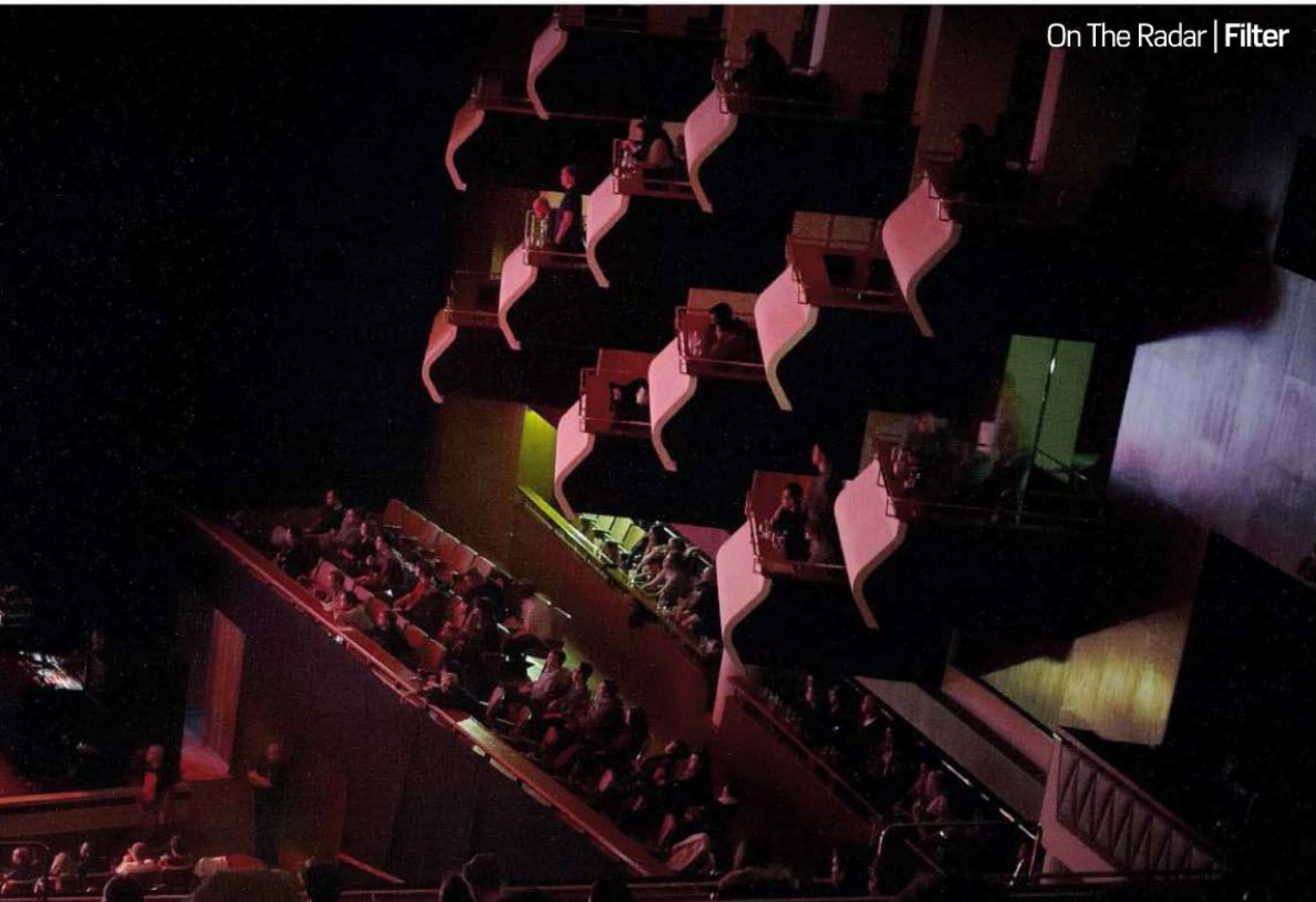
Carl Craig: "Moritz [Von Oswald], Francesco [Tristano] and I previously did a show in Felinio, Italy, with a sax player, a percussionist and another person on electronics and that show was very ambient. We were learning as we went along as our rehearsal time was two days in the venue, as we all have very intense schedules. The next date was in the Opera House in Bologna, which had never had

Electronic music in it throughout its 400 year history. Effectively, our preparation is the actual dates that we do.

"We have a run-through to get the technology right and vibe off each other – we call what we do 'moments'. One of us might pull up an idea and the rest of us just roll with that vibe."

You've always had a reputation as someone who likes to experiment with what the technology allows you to do in a live context.

"I liked to take that perspective as a DJ too as I never play the same set...there are certain standards that I'll play but I feel it's necessary to always keep things fresh. I'm not a scratcher so I don't have the



includes modules from Sherman and Livewire. I use a Euphonix MC Mix to control Ableton and that's pretty much the story."

What attracted you to Maschine for your live rig?

"When NI showed it to me for the first time I thought it was gonna kill the MPC. Then I started messing around with it a little more and I found some of the restrictions and issues I had with it... however, I read the manual and all those issues went away. Now, with the new update, which allows me to import MPC programs, the potential of what can be done with Maschine is incredible.

"It's basically what I've always wanted to see the MPC becoming, which is a sampler, sequencer and a synthesizer. It's got extensive synth parameters and when you really get into the sequencer and what it can do, it's amazing. What I really love about it is how you can duplicate or append the bars on the fly, which you can't do with the MPC3000. I think Maschine may well be NI's best software...because it's got hardware with it."

Ableton certainly isn't as static as some other software...has it opened things up for you to improvise live?

"Definitely, although the only issue I have with Ableton right now is that they changed some things in the newest update and I don't have any idea how to do them now. I didn't find out until the actual day of the Festival Hall show! The thing you should never do before a show is upgrade the software... and don't use beta versions either, when it's important to do a good job live. I don't think it's for the software developers to improvise when they

update things, it should be up to us to improvise with their software."

Prior to Ableton, what were you taking out live for your sequencing needs?

"When I would do Paperclip or Innerzone Orchestra shows in the past, I always used an Akai MPC3000 and hardware synths so Ableton has completely revolutionised the concept of what I can do because I can have so many more pieces of gear inside this bit of software.

"I always say that back in the '80s I wanted a Fairlight and now I've got the Fairlight plus three different Minimoogs, Korg MS20s and everything I could want all in this tiny computer. The first time I met Glenn Gregory of Heaven 17 I was excited to ask him if they had a Fairlight and he said, 'yeah, we use it as the DX7 stand!' [laughs]. I thought that was sacrilege then and, you know, it's just the same thing now when you put the computer on top of a turntable at a gig... It's sacrilege."

Have you indulged your love of all things Fairlight by buying one of the new Fairlight CMI's?

"When I heard they were bringing it back out, I sent a feeler out to them saying I was interested but he sent back the price and I shut the door on it! I'm a huge fan of Fairlights but I'd rather spend \$5,000 getting a vintage one for my sampler collection than spend, like, \$12,000 on something I couldn't even take out on tour with me." **FM**

WANT TO KNOW MORE?

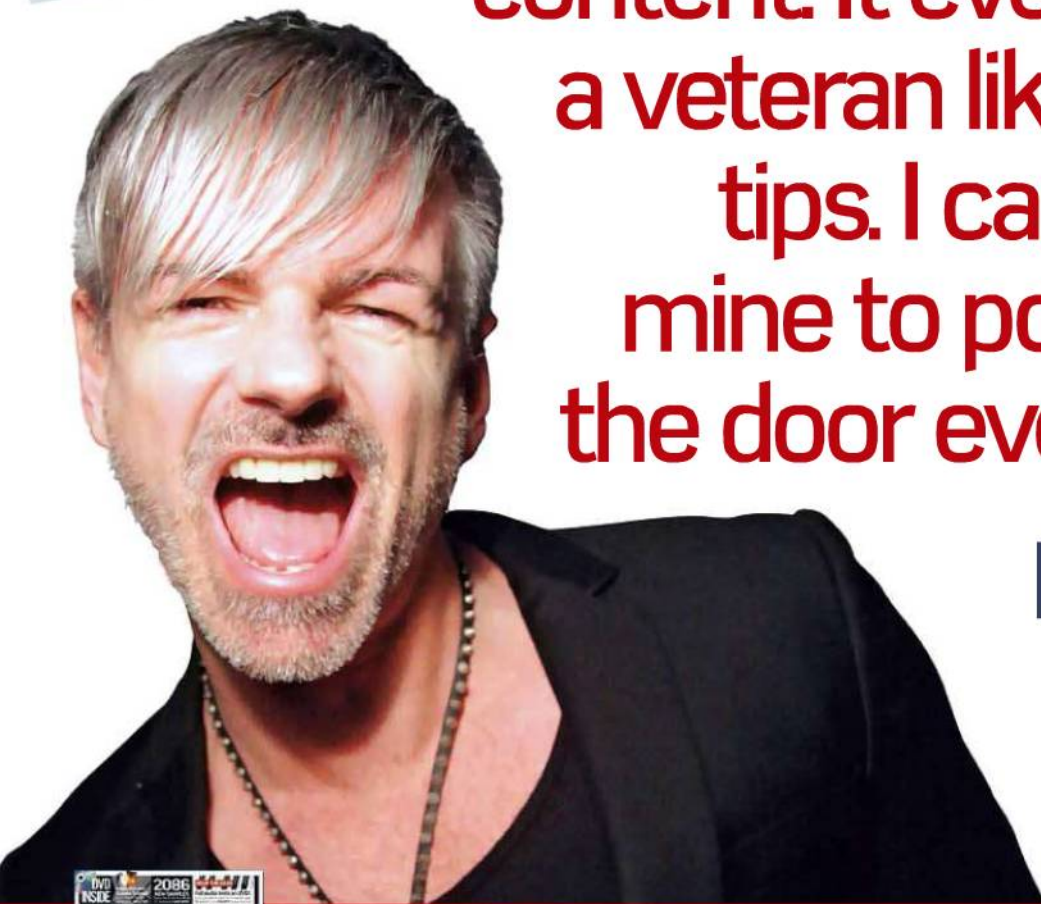
For more information on Carl Craig's projects and his label's artists, visit: planet-e.net

improvisational skill but as a studio guy and a mixer, you know, I understand how things work.

"That whole process of mixing records is still improvisational for me because of adding effects to things and everything is based totally on feel as opposed to thinking 'OK...on Bar 161 I'm gonna add some filter to this and a big reverb at Bar 200'. I do what I feel and that's the only way I can feel comfortable being creative...it has to just flow."

Can you talk us through your technology setup for the Festival Hall gig?

"My setup is Ableton with Native Instruments Maschine...the new 1.5 update makes it even better and I really like it a lot. I use a modular system that



FM always has excellent content. It even teaches a veteran like me new tips. I can't wait for mine to pop through the door every month

D. Ramirez
Artist and Producer



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Albums



If it's hot, it's here. Welcome to this month's new releases, all lovingly rated by the *FM* review crew

Album Of The Month



Goldfrapp Head First

Mute



Back with a whole new synth outlook, Goldfrapp's Alison Goldfrapp and Will Gregory have bathed themselves in unicorn's milk and dried their hair with the romantic breeze

of 1986. It's possibly the most retro synth-tastic album we've had in for a while.

Singles such as *Rocket* and *Alive* are jam packed with hooks you feel like you've heard a million times, but the Frappsters present these black and white riffs in glorious Technicolour, giving them a new lease of life. There's the synth sounds from Berlin's *Take My Breath Away*, the cheeky vibe of Starship's *Nothing's Gonna Stop Us Now* and bags of other nods to past Pop hits. As usual, synth and production god, Will Gregory has put together a perfectly mixed album and chosen pure gold sounds. Alison delivers heartfelt, sincere vocals and although it could be dismissed as just pop music, this is Pop music in its purest form.

I will say, perhaps controversially, that Goldfrapp have always been at their best when creating upbeat, more glitzy Pop and this album is evidence of that. Sure, this will be classed as cheesy by some people, but it's well produced, cleverly constructed and has a lasting listen well beyond many recent records. It's a lighter direction for Goldfrapp, and maybe it's because it's summer, but I love it. **Chris Barker**

ADD THESE TO YOUR PLAYLIST:

Rocket, Alive, I Wanna Life, Head First

9/10



Crystal Castles

Crystal Castles

Fiction



The second eponymous long-player from Toronto Electro duo Crystal Castles is one of the most hotly anticipated albums of the year, with an internet leak forcing an early release. Fans of their 2008 debut will be pleased to find that all the stylistic elements of that album – chiptune bleeps, screamo vox and a cohesive Electro aesthetic – remain intact, but the group's sound has also developed significantly. Most notably, the album's many softer moments apparently owe a significant

debt to '90s Rave and Italo-Disco sounds, offering a mellow counterpoint to the more abrasive tracks.

For those craving the dark, brooding aggression of their first releases, the lightness of single *Celestica* is offset by the Electro Punk of *Doe Deer*, which comes across like essence of *Alice Practice*, boiled down to a 97-second aural assault.

The range of contrast works incredibly well, and the juxtaposition of aggressive and mellow elements on tracks like *I Am Made Of Chalk* creates the album's most compelling moments. **Greg Scarth**

ADD THESE TO YOUR PLAYLIST:

Celestica; *Doe Deer*; *I Am Made Of Chalk*

8/10

Rusko

O.M.G!

Mad Decent



Leeds-born Chris Mercer aka Rusko has become one of the biggest names in Dubstep. The new album kicks off to a wobbly start and not in a good way. The single, *Woo Boost* is Dubstep cliché, with 'that' mid/bass sound poking annoyingly all the way through. Once track one is over though, it begins to get quite good, with a gorgeous mixture of Two-Step, Dubstep, Dub and Reggae influences caked on each track. Talkboxes, vocoders and retro synth sounds all fuse with innovative rhythms

and what shouldn't really work, actually does.

There are plenty of great tracks on this album and it's only when Rusko clings to the clichés of Rave and the wobbly obvious basslines do things become a bit dull. Hidden funk lurks in each track with Rusko using the syncopated DJ style cuts between the breaks, synth and vocal snippets brilliantly. Overall it's a great album and fans won't be disappointed. If you think you already know Rusko and the sound of Dubstep this album will prove you wrong. Definitely check the playlist suggestions. **Chris Barker**

ADD THESE TO YOUR PLAYLIST:

Hold On; *Ravers Spesh*; *Feels So Real*; *Got Da Groove*; *Oy, My Mouth*

8/10

It's On Our iPods



Holy Ghost!

Static On The Wire EP

DFA Records

The Ghosties have been gaining cool point after cool point since their stamp on the scene with the excellent *Hold On*, remixing a

host of big names and churning out foot-tapping 12" singles. Although not a full album, *Static On The Wire* is the closest we've got to a long player from the New York duo. The EP drips with synths and the production glistens throughout – think of any other DFA act and you'll get an idea of the tight live-band-on-the-dancefloor sound.

Holy Ghost! stroll confidently from a Disco past, with tight drums, syncopated basslines and falsetto vocals but there's definitely more of a classic verse-chorus-verse approach than their label-mates.

The title track is pure Pop – think Phoenix covering *Thriller*-era Michael Jackson, or vice-versa – while *I Will Come Back* will warm even the most apprehensive dancefloor. What actually stands out most from *Static on the Wire* is the songwriting – strip away the analogue effects, synths and production and these songs will easily hold their own – a nod to the talent of the sacred ghouls. This is not another Disco pastiche for the sake of flippant hipsters worldwide – Holy Ghost! will continue to impress long after the next 'nu' genre rolls around. **Declan McGlynn**

ADD THESE TO YOUR PLAYLIST:

Static on the Wire; *I Will Come Back*; *Say My Name*

9/10

Tiësto The Magikal Journey: The Hits Collection 1998-2008

Nebula Music



Trance demi-god Tiësto, has gone all collaboration crazy over the last few years with Pop stars, genre-hopping producers and even crossover bands all getting a touch of the Dutch. This could have possibly left a huge chunk of his loyal fanbase wondering what the hell he's up to. If you're missing the euphoric Trance hit that Tiësto used to deliver so well, then this double CD greatest hits collection is probably the answer.

Classics such as *Adagio For Strings* and *Dance4Life* are all packed on here, plus a stack of remixes from producers such as Laidback Luke, Hardwell, Sean Tyas and a few re-rubs from Tiësto himself. It's a solid collection and a timely reminder that despite the king of Trance taking some time off to try and turn himself into the Dutch David Guetta, he's still standing on some of the biggest anthems in Trance.

Worth a look if you're a Trance newbie, or if you're a fan, the remixes make this a cracking package.

Chris Barker

ADD THESE TO YOUR PLAYLIST:

Suburban Train, (Sean Tyas Dirty Mix); *Adagio For Strings*; *Flight 643* (Laidback Luke 2010 Rework)

8/10

Flying Lotus Cosmogramma

Warp Records



2008's Los Angeles established Flying Lotus, aka Steven Ellison, as one of the most ambitious producers in the Electronic music scene.

Safely ensconced on Warp Records, the spiritual home of avant-garde Electronica, Ellison has created an experimental masterpiece which takes in elements of Hip Hop, IDM and Jazz to fantastic effect.

Cosmogramma's mix of acoustic instruments, electronic sounds and samples is impossible to categorise, consistently inventive and deeply engaging. The album's Jazz credentials are reinforced by the appearance of Ellison's cousin, saxophonist Ravi Coltrane (son of John and Alice) on *Arkestry* and *Do The Astral Plane*. Elsewhere, Thom Yorke contributes vocals to the mellow mid-tempo shuffle of *...And The World Laughs With You*, which breaks down beautifully from synth riffs and bleeps to fading echoes.

A number of shorter tracks maintain the momentum and

Rebekah Raff's harp motifs tie everything together, making it hard to pick highlights from an album which maintains such a high standard from start to finish. **Greg Scarth**

ADD THESE TO YOUR PLAYLIST:

Satelliiiiiiiiitee; *...And The World Laughs With You*; *Do The Astral Plane*

9/10

Shy Child Liquid Love

Wall of Sound



Shy Child are most easily pigeonholed in the Electro Synth Pop bracket, but this, their fourth album, is much more heavily influenced by the unfashionable synth-led Pop Rock of the decade. Retro but still forward-thinking, *Liquid Love* is a clear developmental step for the Shy Child sound and their sincere, old-fashioned song writing ensures that they never come across as a blatant pastiche.

With a production style that brings to mind the likes of Tears for Fears and Fleetwood Mac at times, *Liquid Love* certainly proves that the duo haven't lost their knack for layering synths to perfection and cramming each track with as many hooks as humanly possible. The mid-tempo Disco Funk of *The Beatles* and *ESP* is reminiscent of the homage Phoenix do so well, exhibiting a timeless Pop simplicity.

The album never quite achieves greatness but there are plenty of moments to savour all the way through to closer *Dark Destiny*, which ends the album on a down-tempo

note, all reverb-drenched snare drums and synth vocal lines. **Greg Scarth**

ADD THESE TO YOUR PLAYLIST:

Disconnected; *The Beatles*; *Dark Destiny*

7/10

Thieves Like Us Again and Again

Shelflife



With a single on über-cool French label Kitsuné, Thieves Like Us looked all set to become the next big thing back in 2007 but never quite captured the mainstream imagination with last year's debut *Play Music* LP. The group's second album sees the Paris-based Scando-American trio pick up where they left off, with a collection of dark Pop songs that draw on influences from Hip Hop to the Hacienda via Berlin-era Bowie.

This time around, the filtered French House sound that worked so well on *Drugs In My Body* takes a back seat, with the 1980s Manchester scene heavily informing the overall aesthetic. Comparisons with Factory Records bands are inevitable, from the New Order Disco of *One Night With You* to the A Certain Ratio-style Funk basslines of *The Walk and Lover Lover*, but the Thieves Like Us sound remains fresh and contemporary throughout.

Greg Scarth

ADD THESE TO YOUR PLAYLIST:

Never Known Love; *One Night With You*; *Forget Me Not*

8/10

Tesla Boy Modern Thrills

Mullet Records



If you thought that Russian Pop music demanded two teenage faux-lesbians

and a wet school-shirt, then think again. Tesla Boy are the coolest thing to come out of Russia since the battle of Stalingrad. Clichés aside, this album is perfect Synth Pop, easily compared to bands like Zoot Woman and Phoenix, but with a slither more straight-up commercialism.

Unlike other acts which introduce the retro aspects into fairly modern, Indie-sounding tracks, Tesla Boy are straight down the line retro, with no heavy stutter effects, auto tuning or crushing production – it's just all down to classic songwriting and quality synth sounds. There's a fantastic balance across the whole album with enough melancholy in singer Anton Sevidov's voice to tame even the most glitteringly upbeat EuroPop backing.

The album is nothing new in terms of concept, especially when you start hearing elements of Wham, Pet Shop Boys, Erasure and more scattered though. But classic songwriting, tight production and warm synth stabs never go out of fashion in the FM office. A brilliant album that goes way beyond an ironic nod to the past.

Chris Barker

ADD THESE TO YOUR PLAYLIST:

Electric Lady; *Thinking Of You*; *Synthetic Prince*; *Make Believe*; *Ballroom*

9/10

Compilations

PICK OF THE MONTH

Various

Five Years Of Dirtybird

Dirtybird



Since it began, Claude VonStroke's Dirtybird label has been putting out

some of the finest Techno and booty-infused Dance music around. This triple CD celebrates their fifth birthday by serving up the The Past, The Present and The Future of the label. All the biggest tracks are here including *Who's Afraid Of Detroit?*, *Stoopit* and *The Whistler* unmixed and DJ friendly! Boom! **Chris Barker**

Toolroom Knights Mixed By Tocadisco and Chris Lake

Toolroom Records



Still set on world domination, the Toolroom camp has delivered another

mix CD packed with the superstars of the club scene. Disc one see's Tocadisco get all mixed up with an eclectic, driving set of the latest bangers including Cirez D, Seb Leger and Zoo Brazil to name a few. Disc two provides a more hands in the air vibe and see's Chris Lake delivering an equally huge mainroom mix, making this another rock solid Toolroom mix.

Chris Barker

Various Milky Disco 3

Lo Recordings



Following up the cosmic *Milky Disco 2*, it's another

spaced out Disco tracks. CD1 is an unmixed selection of melting astral nuggets, while CD two's mix combines these into a non-stop Balearic orgy. Late night beach party, anyone? **Chris Barker**

James Holden DJ Kicks

!K7 Records



Back with a new haircut, Holden explores a

droned-out, Proggy and very cosmic take on the mix CD. This certainly won't be for everyone and describing it as experimental doesn't really do it justice. It's mixed in such a flawless way that it's like listening to one deep, progressive concert.

Chris Barker

Retro Respect



Virgo Radical

Originally released in 1989, and largely overlooked, *Virgo* spiralled into the underground where it's been passed around ever since, hailed by some as the greatest House album ever made.

The first and only LP made by Chicago duo Merwyn Sanders and Eric Lewis, *Virgo* was somewhat of a lost treasure until re-released by Rush Hour earlier this year. A perfect example of soulful Chicago House and timeless melodies.

Declan McGlynn



HOW TO GET LOUD!

AND WIN THE LOUDNESS WAR

Achieving loudness to compete with professional tracks while maintaining dynamic range is an art in itself, but with more and more limiting occurring in clubs and the charts, how can you maintain dynamic integrity? **Bruce Aisher** shows you how...

Over the last ten years there has been a war going on that has remained invisible to all but a small band of audiophiles and producers like you and me. Interestingly though, this is a war that, despite its apparent invisibility to many in terms of

press coverage, is audible to anyone with a radio, who buys a CD or purchases a download. This is the so-called 'Loudness War' and it's becoming prevalent in all forms of broadcast, recording and production of music. Even the most casual of music listener is now 'enjoying' music that has had

the dynamic life strangled out of it. So what are we to do?

THE EXPERT

Bruce Aisher
artist,
producer



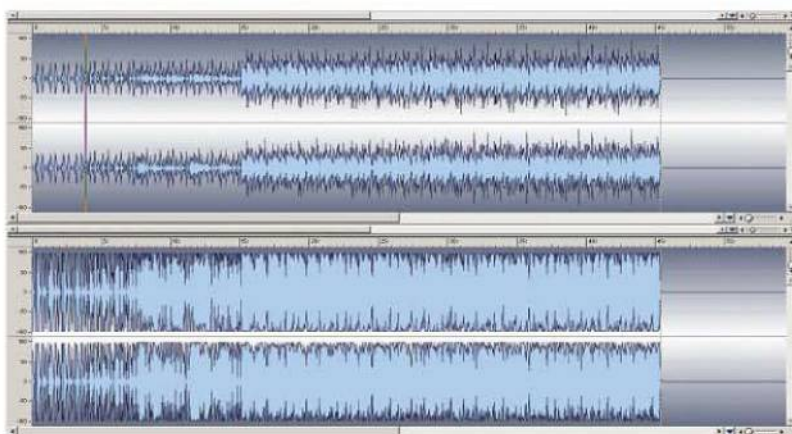
When he's not writing mammoth features, Bruce makes slamming Electro and House as Gutterstylz, as well as producing Indie Electronics Suicide Sports Club. Head to Beatport to hear his own take on the loudness war.

Range wars

The first option is to wring our hands and moan about it. Demand that everyone simultaneously stop using hard mastering limiting and claim that if good old-fashioned dynamic recording was good enough for Steeley Dan then it's certainly good enough for most of the jumped-up so-called 'music' that today's pesky youngsters like to bounce around to...

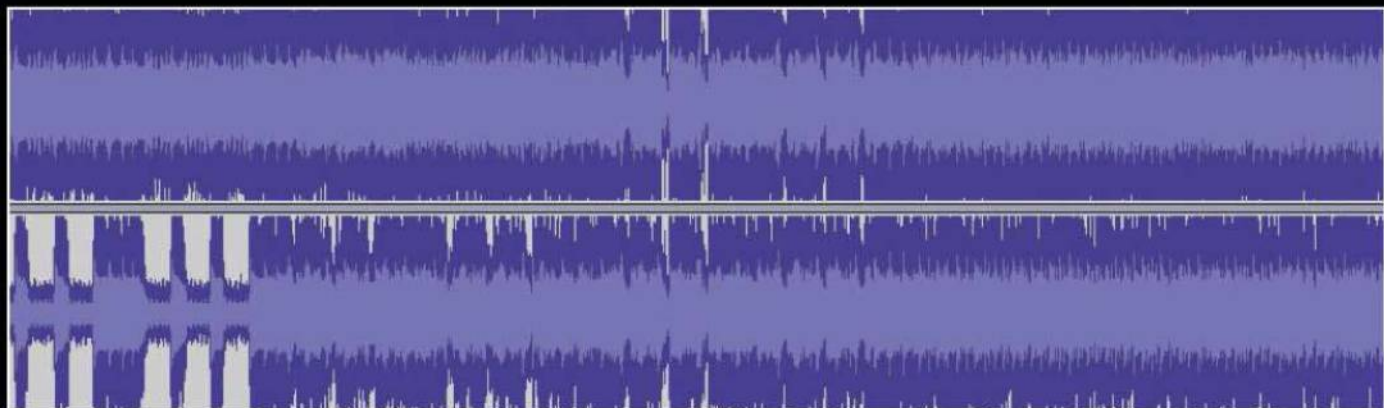
Alternatively, we need to get real. Sure, the artificial mangling of acoustic and dynamics-rich recordings is clearly a no-no but if you're making that 'music that youngsters bounce around to' you need to make your tracks as loud, punchy and in-your-face as the competition. That's what this feature is all about: making the most of dynamics and winning the loudness war.

So, leaving aside the technicalities for a moment – and let's pretend that we are a



Inibh et lumsan ulputpat nulputatem quam, sequi tem verci

Waveform Woes 01



Metallica, My Apocalypse

Released in 2008 from the album *Death Magnetic*, *My Apocalypse* caused controversy in some circles due to the extreme peak limiting exhibited on its CD release version. Mastering engineer Ted Jensen is alleged to attribute it to extreme processing at the mixing stage (by production legend Rick Rubin). The ITU (International Telecommunication Union) has a standardised system for loudness measurement confirms that the album is one of the loudest ever produced.

Interestingly, the Guitar Hero versions of the album are from a less compressed – some argue better – master, which only served to heat-up the debate.



LOUD!

music consumer, rather than producer – in what guise does this war exhibit itself?

If you peruse any online music store and audition a range of tracks from different albums, artists and eras you will notice that some will sound louder than others. Although there may be differences between genres, you will notice that modern-day Pop productions jump out of the speakers more readily, and that in order to maintain a similar listening level for each, plenty of volume control action will be required (if you are using iTunes for this, ensure that 'Sound Check' is disabled, otherwise you will get false results). This trend for ever-great perceived volume has been the loudness war, but as we shall discover it is quite possibly a war that can never truly be won and winning over 'hearts and minds' is a fruitless pursuit.

What is loudness?

The key point in all this, is that we are talking about perceived loudness, not peak level. Take a look at the *Peak and RMS*

Using EQ to Achieve More Punch and Power

Assuming you have done your best to mix a track with plenty of space and a sympathetic spread of frequencies, there might still be some room for enhancement before moving to overall dynamic control. This is where a master buss EQ might be useful. Before embarking on a dose of EQ tweaking, you should be aware of a few basic rules. Boosting

frequencies is more noticeable than cutting them, and is usually best applied in a broad manner rather than selecting a narrow band on which to work. If your mix lacks bass, instead of boosting the low end how about cutting the high end? That way you're not introducing the colour of that particular EQ's gain stage, which may be undesirable.

In terms of specific frequencies to boost or cut we need to turn to the world of subjective timbre. If your mix sounds thin then you will need to address the frequencies from about 70-550Hz, however too much boost between 300-800Hz might lead to boxiness.

Added warmth can be achieved by dipping between 3-7kHz, but this

can remove brightness if overdone. Probably the best place to start is to remove extreme low end below about 40Hz, and perhaps apply a scoop around about 250Hz. Edginess can be added in by boosting around 4-5kHz.



> Nine examples of the EQ treatments discussed, on varied sources.

FREQUENCY RESPONSE CHARACTER



Space is the Place

Silence in your track is one of the most important aspects in maintaining an impacting perceived volume level

Given the prominence of self-proclaimed 'miracle' mastering plug-in suites and loudness maximisers, it's easy to forget that the source material plays the most important part in all of this. No amount of multi-band-über-compression or equalisation can turn a drab track, mixed with no flair into the hit of tomorrow. This means that you should start with the basics when addressing shortcomings.

Even before you start mixing a track, the placement and choice of instruments and sounds will have a massive impact on the final result.

Space – the stuff that isn't there – is almost as important as the music itself. In fact the gaps between notes determine how effective any overall compression will be, and how much you can get away with. Moments of silence will cause compressors

and limiters to retrigger once the signal returns, assuming your attack and release times are shorter than the gaps in sound.

This provides punch and perceived loudness more effectively than constantly driving your limiter. This also extends to the way in which elements are spread throughout the frequency spectrum. Choose the right sounds that sit in their own sonic space and don't tread on other

areas of the mix. Many a mix can be tightened-up by tweaking the existing sounds, something that should be relatively easy in the plug-in realm. Take the time to revisit basslines and synths, and explore how the amplitude and filter envelopes might be adjusted for more punch.

Sometimes just shortening the release stage will do the trick. This is also the time to check that the timing of notes isn't

sloppy. A classic and highly versatile production trick is to use a compressor in sidechain input mode to momentarily push heavier elements out of the way and increase impact. Let's take a look at achieving that effect.



> Lots of sidechain compression examples for you to check-out, including sidechained reverb and triggering sustained synth notes.



1 Let's start with basics and apply a compressor to a mix buss or group channel. This allows us to easily route different channels through the effect. The compressor should now be configured to trigger its gain reduction using a separate input. The classic treatment for Dance tracks is to use the kick drum as an external trigger and to route bass, synth or pad elements to the compressor. With the kick being so important, this means that each time the kick plays it will push down the level of other elements routed through the effect.



2 Remember though that you can use this effect with all genres, and not just using a kick drum to trigger the dynamic squashing. You could try using the snare channel to trigger a level change in a full-on percussion loop (seen in the screenshot above). This is something that works well in Electro-influenced genres where a full and fat snare is a particularly essential component. Remember, there's nothing stopping you routing both the kick and snare to the sidechain.



3 Something that works on a more subliminal level is the use of sidechain compression to achieve ducking delay and reverb effects. In this example the channel features a synth riff that needs to sound punchy and dry when playing, but requires some ambience to fit into the mix as it ends. Routing the channel (via an effect send) to a long-decaying reverb treatment, then applying a compressor after the reverb (to push the level down when the synth is playing), it is possible to create more space in your mix.

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Peak and RMS Explained

As we have mentioned already, when it comes to measuring loudness, which after all is about perception, it is a tricky beast to nail down.

Our perceived loudness of a sound or mix, depends on how long we have been listening and overall frequency content among other things. The peak level meters in most DAWs generally do a good job of

showing audio activity, and flag-up potential clipping/distortion problems, but they don't indicate loudness. To attempt to quantify loudness, we need to take a look at average level – the peak level averaged over a given time frame.

The problem here is that there are numerous ways to calculate that average. Thankfully it is generally

agreed that the RMS (Root Mean Square) calculation method provides the best results. Running two different tracks with very different peak levels through an RMS-capable meter allows you to make informed choices about their relative loudness, regardless of musical style.

Another useful concept here is that of the Crest Factor – the peak-to-RMS

ratio. The lower the Crest Factor, the more likely an audio source has been heavily compressed.

To get a sense of how far to push any mix-buss or master section dynamic processing, you should pay attention to the RMS level of one of your tracks and compare it to that of a similarly-styled commercial counterpart that you like the dynamics of.

overall signal to be boosted (using a simple gain increase) right up to the maximum available peak (see the *Headroom* box at the bottom of this page).

Clearly, the audio is being reshaped (distorted) in some way – peaks are rounded or chopped during the limiting process – and while very short distortions are difficult for the ear to perceive, the further this process is pushed into the realms of completely flattened peaks, the more unsatisfactory the result. This brickwalling or crushed-to-death clipping leads to tracks that are tiring to listen to, especially when heard on the radio, where further processing is used.

While punchiness is a good thing if handled well, and can make a track really stand out, whether in the car, club or at home, pushing it too far can result in a lack of authority and blandness.

The blame game

So who has been driving this pushing of the envelope? Clearly mastering engineers have a part to play in this, as they are the ones sitting at the controls of the last part in the music production chain.

But to merely blame mastering engineers would be unfair, as they generally have to do what their clients (the record companies) request in terms of dynamic tweaking, and might have a hard time convincing an A&R person that the next *Girls Aloud* album should have a greater dynamic range to 'allow the tracks to breathe'.

There are a number of arguments as to why music should be squeezed to maximise loudness, mostly based around the idea that if a track sounds quieter next to the competition, sales will suffer. The fact that we increasingly live in a single song (as opposed to album collection) culture is often mentioned, as is the need to 'sound big on the radio'. Neither of these is particularly convincing, especially given that radio stations have so many tricks of their own to max out the loudness. In fact research conducted by two radio processing gurus and published by mastering legend Bob Katz has proven that 'hotter' mixes passed



Explained box above, for more detail on this. In a nutshell though, we need to be aware of the fact that the human hearing mechanism – that includes the processing required by our brains – determines the loudness not by its highest peak, but by a short-term average. If we take our selection of listening tracks and pass them through a level meter, you will see that the peak levels often remain reasonably consistent between tracks, but that those that sound 'louder' spend more time in the top range of the scale. By manipulating an audio signal in a number of ways we can fool the listener into thinking that it is louder, although this can be to the detriment of the original's sonic character if pushed too far.

Manic compression

So what is happening in our louder modern tracks? Critics describe the worst examples as being squashed, and this refers to the

restriction of the dynamic range (to boost perceived loudness) by using some form of compression. This compression usually takes the form of a Limiter (generally, a compressor with a ratio higher than 10:1) which works by reigning-in spurious peaks over a given level, and then allowing the

Headroom

Headroom is defined as the level permitted for peaks above the nominal level. The nominal level being the average or RMS level (see the *Peak and RMS* box above) at which an audio device is specified to operate. The idea of choosing a nominal level comes from the days of

analogue signal chains – a wide range of kit could work together with a guarantee that the working range of any internal amplifiers was not maxed-out. It is worth bearing in mind that digital meters are not always entirely accurate, and this might cause problems with

transient detail. This also assumes that no further processing might occur – as soon as tweaking takes place on a 'hot' digital signal, peaks once again begin to clip. Noise is not generally an issue with digital systems, but it is worth getting a healthy level when recording or

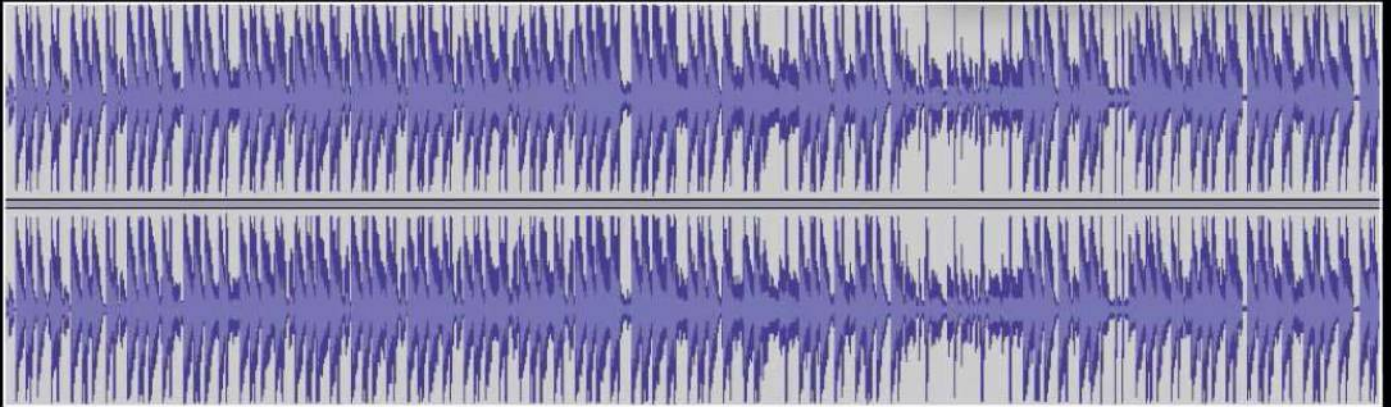
bouncing a final mix to a DAW. 24-bit offers clear advantages over 16-bit here, as it's possible to leave a wide amount of headroom (26dB or more) with negligible impact.



> A clip with progressively less headroom.

Waveform Woes 02

© Corbis



Black Eyed Peas, Boom Boom Pow

Although producing music in a very different vein to Metallica, global superstars Black Eyed Peas have also come in for flak from the 'Loudness Police' for releasing tracks that push the boundaries of dynamic taste too a little far. Interestingly, because BEP are seen predominantly as a Pop band (perhaps with a less overtly audiophile fanbase) their mixes don't lead to large-scale petitions.

This track is interesting in that it has more inherent space than the Metallica example, so its average level fluctuates somewhat, but still remains at the louder end of the spectrum.



LOUD!

Making Waves



Audio clips demonstrating increasing amounts of limiting in action, from none to extreme

If a plug-in knows what is about to happen in level terms then pre-emptive action can be taken. When applied to limiting, this leads to greater possible degrees of squashing without noticeable distortion. Now anyone at home can mix a track and run it through a plug-in to make it sound louder and 'better'. This is not a criticism of plug-ins, rather the way in which

they are applied. In terms of how much to squash your own mixes depends on genre and you should compare to similar commercial tracks – there is no right answer here. Just remember that the idea is to present your tracks to best effect, not just to make them sound loud. **FM**

For further information on dynamics, Bob Katz' *Mastering Audio – The Art and the Science* (Focal Press) comes highly recommended. digido.com

Mastering Processors Explained

However, if you are on a tight schedule, mixing with full master-style plug-in chain can

EQ->Compression->Limiting
->Dither->

Compressors also come in different styles, and each plug-in will have its own range of controls. A standard broadband compressor works across all frequencies equally. This can work well in many cases, but if you want experiment with greater levels of compression

Limiting should be applied after all other dynamic processing, and is aimed at maximising the final level (as opposed to compression, which is also used for dynamic shaping). If you are producing a mix for CD or commercial download then you will probably

Specialist tools, such as those for spacial management are sometimes used at various stages of the chain, as are sonic maximisers, but these all have their own 'magic' way of interacting with the audio. Use your ears to determine if the result is better or worse, and try to avoid the temptation to use only factory presets.



Try adjusting the bandwidth of EQ frequencies, but keep boosts broad if possible.

Compressor Ratio

Compression doesn't have to be heavy-handed. The ratio determines how much compression occurs when the threshold is reached.

Compressor Threshold

Pushing the threshold down introduces compression on lower level areas of the mix.

Compressor Attack and Release

Use these to shape the way compression is applied. Slower attacks allow transients to breathe.

Limiter Auto Release

If enabled this adapts the release time to the program material, and tends to deliver more transparent results.

EQ types

Explore the options by switching between peaking, shelving and filter settings.



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Creating a Slamming Master Chain

Though having your tracks mastered professionally is ideal, you can achieve solid results with your built-in plugs

Like any professional mastering engineer, getting to know your kit is essential for good results, as is comparing your track with others.

So far we have talked about compressors and EQs almost as kinds of generic processes, but as in the analogue world, different designs result in widely varying results.

Here's my master chain: first up is a Pultec-Pro EQ that provides the coloured sound of the Pultec MEQ-5 and EQP-1A equalisers. Next, I go with the 4K Buss Compressor that emulates the console dynamics from the famous SSL 4000 G+ mixing desk, although this is sometimes replaced with the FATSO Sr Analog Tape Simulator & Compressor for a wider range of 'warmifying' options.

These are followed by the Precision Equaliser and Precision Limiter for uncoloured tonal tweaking and dynamic control.

Although all premium priced plug-ins, there are plenty of more modest alternatives, and don't discount your DAWs built-ins.



> Audio examples of before and after our mastering signal chain treatment



1 EQ – A good starting-point here is to ensure that there are no extreme low frequencies present. Use a high-pass filter to get rid of anything below about 30 or 40Hz. This might sound counter-intuitive but it clears the way for the ability to achieve greater perceived loudness with compression and limiting. Sweet spots vary but try exploring 2-5kHz and 250-600Hz and see how tweaking these change the overall sound.



3 Transient designer – For more extreme manipulation of the transients, you might consider turning to a transient designer plug-in. This was a concept originally put into practise by SPL, but is now available in a number plug-ins, including Logic's Enveloper and the Cubase Envelope Shaper. Unlike a compressor, the attack and sustain/release controls directly enhance or inhibit their respective components.



5 Limiting – This is the process that has had more to do with loudness than any other. Most limiters have a small range of controls. Push the input level control up to achieve more limiting, and use your ears (and a decent RMS-equipped meter) to keep things in check. The release control is often used in Auto mode to track the dynamics of a mix. Pushing limiting too far leads to peak chopping – a generally undesirable thing.



2 Compression – Start with a simple broadband compressor and set it for a 2:1 ratio with a medium to fast attack and moderate release. Now bring the threshold down until you get about 4-6dB of compression. Next tweak the release. Try and get the compressor to apply gain reduction with a rhythmic flow that follows the groove. The compressor here is a great way to add punch, especially if the attack is adjusted to maximise transient detail.



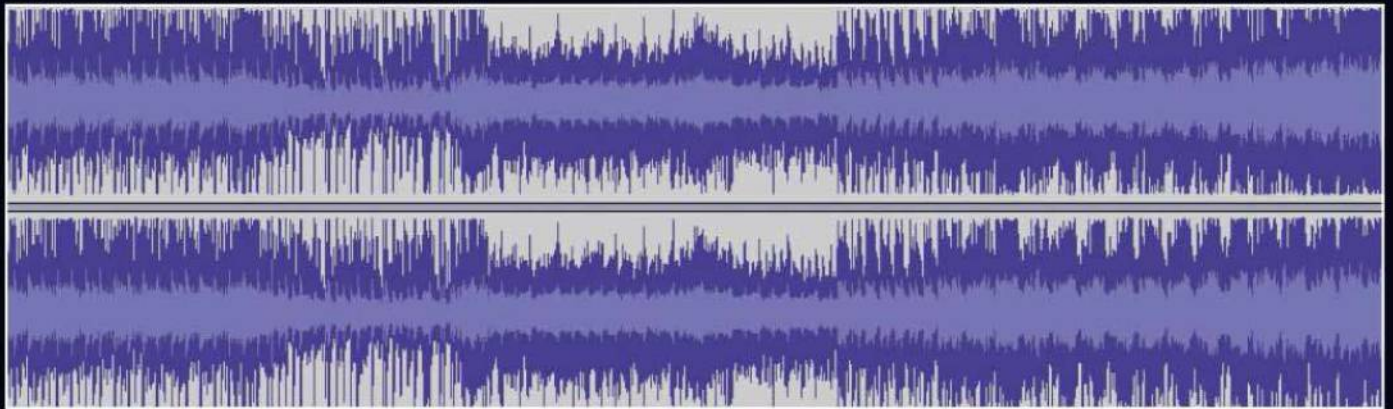
4 Spatial enhancement – Here we are using a stereo enhancer to increase the width of the mix. This technique mixes elements from one half of the stereo field to the other in anti-phase (and vice-versa). Usefully, a stereo processor, such as this one from Sonalksis in the screenshot above, also provides a way of removing low frequency stereo information that can not be detected. This may defocus the mix, and mess with low-end punch.



6 Dither – the least glamorous part of any mastering chain, but of particular importance if your music features a wide dynamic range. Dithering is the process of adding a tiny amount of noise back into a digital system in order to randomise quantisation errors. In basic terms, this improves low-level signals such as reverb and piano decay tails when converting from a higher bit depth.

Waveform Woes 03

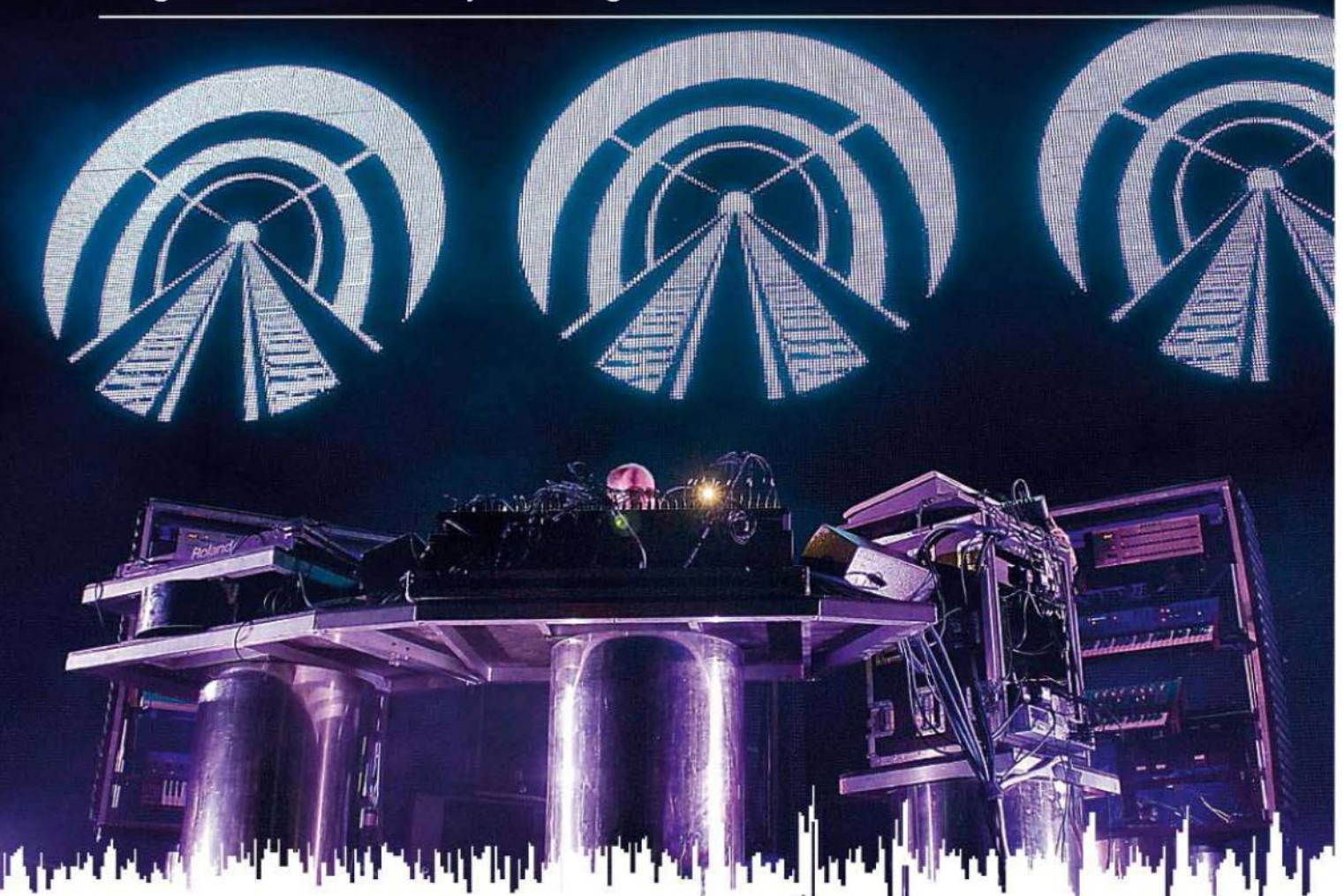
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Chemical Brothers, Hey Boy, Hey Girl

The Chemical Brothers are well-known for pumped-up big-sounding tunes, but *Hey Boy Hey Girl* has an average level that sits below the two previous examples. One effect of this is that it is easier to get a sense of dynamics between sections, but it also means that there is more rhythmic integrity and the track is far less tiring to listen to than other more 'pumped up' tracks.

While it certainly doesn't sit at the quiet end of the spectrum, it doesn't trade loudness for impact and good sonics and that's why it sounds great.



LOUD!

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IN THE STUDIO WITH...

Dan

With a twenty year career behind him, he's already one of the USA's most successful DJs. **Chris Barker** headed to Hollywood to talk about his new album and the mammoth production processes involved in creating it...

Starting his DJ career in the early '90s Rave scene on the west coast of America, DJ Dan has built up a reputation as one of the best party-starting DJs in the world. He's become a master of the mix CD and a DJ who easily spins a multitude of different genres into one set. Among others he's recently remixed projects for Lady Gaga

and Black Eyed Peas and is set to take the summer of 2010 by storm. His new album, *Future Retro* is a hybrid of new tracks and covers spanning different genres that represent DJ Dan's rich musical influences. One of the many collaborators who worked with Dan on the record includes Überzone and we were lucky enough to be invited to his synth-packed studio.

The first track they worked on together was a recreation of Roger and Zapp's *More Bounce To*

The Ounce, featuring some of the original vocalists. The second, Midnight Star's classic *Operator* featuring American Idol's Blake Lewis.

FM: Why make an artist album now? And why do covers?

DJ Dan: "I've been DJing for twenty years and people have been asking for an artist album for a while. I think the general public can sometimes get confused between a mix album and an artist album, especially when you start dropping a few of your own original tracks in the mix. So, I decided for this artist album I would pay tribute to the tracks that have made me what I am today.

"There are tracks like Midnight Star's *Operator* and Roger and Zapp's *More Bounce To The Ounce*. The idea was that once they were recreated we would have this palette of sounds that we could then remix ourselves or have anyone else remix them and reinterpret them."

Were there tracks that you wanted to do but weren't able to?

"Yeah, I mean there were tracks where the publishing was going to be so complicated that we just decided not to go there. Some tracks we looked at already had samples within them, so they were already splitting the publishing four ways. Working with Überzone was great and it was amazing that he was able to call in favours from the original vocalists on *More Bounce To The Ounce*. Zapp were really amazing and supportive with the whole thing. I think we tastefully produced it and just gave the original funky sound a bit more punch.

"Überzone is an amazing engineer and you can really hear the amount of time spent on the drums and the individual sounds."

Do you think the album will mean DJs in different genres who maybe previously didn't play your tracks, will start playing them?

"Yeah, hopefully. It's got super chunky Electro, plus more Funky and Rave stuff on there. The tempos range from 105bpm upwards so it's pretty eclectic. It's half new tracks and half covers on the album.

Through DJing in San Francisco, I went through Acid, House, Breaks and Electro and even really hard Techno at times.

"On the new album there are all of those influences so it's really diverse. We thought when doing this that we might be stepping into dangerous territory as it's probably not what people would expect from me."

Do you think it's only possible to diversify like that because you've been in the business for 20 years?

"Yes, I'm sure there will be people that have never heard the original of *More Bounce* or *Operator* and question why I've done such a cheesy track. But Überzone and I learnt so much by recreating these tracks and we now have such a huge arsenal of parts for remixing."

How complicated is making an album when you're not producing alone? You must have to do a lot of deal-making for collaborations and so on?

"Yeah there was a lot of that because I had to consider who was right for each track. Dave Aude is an amazing engineer and of course he's already here in LA so he recorded a lot of the vocals for tracks such as *Let Me Love You For Tonight*, *Make My Body Rock* and *Fascinated* – but as far as who finished producing the tracks with me it started to get a bit tricky. For instance, I did a version of the track *Where's Your Child* by Bam Bam, but we knew that we wanted to work with Fukkk Off for the production of that.

"There are probably about six people that I worked with on this album and it does mean that the sound of the record isn't necessarily consistent from track to track, but it wasn't really ever going to be. There would have been no way that I could have worked on tracks like *Operator* and *More Bounce* while doing the more vocal House stuff with Dave Aude."

So how long has it all taken?

"It's honestly taken about two years and I've really learned a lot from making this record. In fact, I could say it's been the biggest education in music



Roland MKS-30 Planet S & MKS-50 synths

"These are cool versatile synths and can be found relatively cheaply considering the amount of power that they offer."



Akai MPD32

"This is the control surface I use for Battery or BPM as I'm a drummer and I really need something tactile that I can pound on. I use it a lot live too."



I think our job as DJs is to present new music, delivering something different rather than playing the most popular tracks

"I've had making this record. I've always been a very instrumental-based DJ and producer and never worked with too many vocals. But doing this album with all the vocals and choosing producers to work with all over the world made it a much longer process."

So did you do a lot of travelling to studios?

"I went to Toronto when I worked with Hitarus and the track that Thomas Gold engineered we did remotely as we did with Fukkk Off."

So even though you're working with others in the studio, technology must have made a massive difference to you since you started?

"Yeah, I mean at home I use Traktor for my DJ mixes and I've used it to play out a few times too, but what I've found is that there are so many clubs ready for Serato and not Traktor.

"So I'd have to turn up with a million cables and try and get set up after the other DJ, which was a bit of a pain. So, I'm using CDs when I play out just for ease when touring."

And do you make quick ideas and edits of tracks?

"Right now I'm working with a friend who knows Ableton and I'm using that more and more by sampling parts of my record collection and sketching out ideas that way.

"For me the basis of really strong House music has always been based around these really crunchy Disco loops and samples. That's one thing I've always loved about Arman Van Helden as you can always hear those really good drum loops or crunchy samples in his tracks."

Is sampling relevant on the new album?

"Well I set myself the task of not being able to sample, so anything that was sampled, we would recreate all the parts. It made it a different working

DJ Dan collaborator
Überzone (left) is a
master of Cubase

The Überzone Guide to Offline Processing in Cubase

We asked Überzone to reveal one of his tips for Cubase users: "One powerful tool is the ability to apply offline processing to either a single audio event or every repeated version in the arrangement. This is useful if you're working on an older machine or need to keep CPU free on DSP cards."

1



Plug-in List

"I'm using a dry snare drum that I'm going to add some compression and reverb to. Alt-right-click on the audio event that you wish to process and navigate to the plug-in list. This will bring up all your plug-ins."

2



Compression Settings

"Select a compressor plug-in and a box will open with the option to preview the sound. This will loop the selected audio part and let you choose a suitable compression setting. Apply this setting and decide whether you want to apply this to all parts or just this instance of the audio."

3



Offline Processing

"Repeat this process for a reverb and then apply it to the same part. Now you've got two printed processes. Unlike bouncing, the neat thing about offline processing is that you can alt-right-click on the part, navigate to audio and select offline process history and reveal all of your actions."

4



Processing History

"You can then right-click and modify any of these processes if you change your mind. So for instance, right-click on the reverb in your offline history and click modify and increase the wet/dry setting and hit apply."

process for me because there's something about sampling that really resonates with me and excites me. Sampling reminds me of why I got into Dance music in the mid-80s."

And the sampled Disco sound is back in vogue right now...

"It is and it's interesting because I was really big into the Disco House thing in '98 and recently I've been playing the big, ten-thousand capacity parties and pulling these old tracks out again. In fact, the

old stuff that [DJ] Sneak was doing and French filtered House is the main thing I've been transferring from vinyl to digital. It seems like Dance music went so dry, sterile and dark that tracks like Duck Sauce's *Anyway* have really brought it back to that melodic sound.

"I remember playing Duck Sauce at Burning Man Festival after a Techy Electro track and it just totally lit up the crowd. There's so much colour in the production of the Disco stuff because of the horns, real drum loops and real instruments."

We're in Überzone's studio today but what's your own studio like?

"It's pretty straightforward and based around Ableton Live with Mike Balance as my engineer. All my records are in the studio so I can jump up and find loops that we can sample and recreate them."

Do you think long term you might start using Ableton in the DJ booth?

"I've heard people play on Ableton and I think it's amazing, especially now there are all the new

controllers for it. When you hear tracks with loops driving them underneath and then those loops continue to the next track it's really amazing and I think that's where it's going. You can't fight technology, it was the same for vinyl vs CD."

There's so much colour in the production of the Disco stuff because of the horns, real drum loops and real instruments



How do you feel about piracy? Dance music has always existed on slightly dodgy legal terms, with bootlegs, white labels and sampling...

"Yeah, it's a difficult one, because you do get producers who use samples without clearing them and then get all precious about it being their track for publishing and piracy. DJs have to realise that our tracks are tools to get us gigs, I think it's a compliment if people really love it, even if they get it for free. But, there is time, effort and money gone into making these records and it's only fair that all the people involved are compensated correctly."

Maybe it's easier for you to say that, coming from a more DJ background, but there are lots of producers now who are having to DJ to be able to afford to produce...

"Yes it's easier for me to say, but I've seen a lot of people use the internet very cleverly to market themselves and use blogs to their benefit. Yes I wish there was a way that everyone could get properly paid for what they do, of course. But you can't fight the way this has been going for the last few years. Some of the artists that got exposed for free via the blogs, previously might have had to wait six months to wait for their vinyl to be pressed up.

"I've had people in the past wait a year for the record to be pressed and released. In that time, they've changed their sound and people are confused about what they might play if they book them to DJ."

That's true. Speaking of that, your new album is very eclectic!

"[Laughs] Yeah! You know what? It's all over the board but it's my history and I just wanted to cover the entire spectrum of my tastes. I really want this album to pay tribute to where I am from and I hope people enjoy my interpretations of it. I'm excited for people to hear *More Bounce*."

Can you see yourself working with Hip Hop acts?

"There are a few urban artists I'd love to work with. Missy Elliot is amazing because you know exactly



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"This is one of my favourite all-time vocoders and it has that cool Roland chorus sound."

Sequential Circuits Pro-One

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Roland TR-606

"This doesn't really get used that much, but it was used a lot on the early singles I did, so I kind of keep it around for that."

Roland Jupiter-8

"Very beautiful strings, great warm bass and just a super classic synth to me."

Roland Jupiter-6

"This is my favourite polyphonic synth ever. When I play this it just speaks to me – the types of sounds it generates, the way that the multi-mode filter works and the wobbly and techy sound you can get is so nice."



ON THE DVD Re-create Classic Tracks

1



Operator

DJ Dan and Überzone take you through how they faithfully re-created the classic Midnight Star track *Operator*.

2



More Bounce

In this video DJ Dan breaks down the process of re-creating the Roger and Zapp track *More Bounce to the Ounce*.

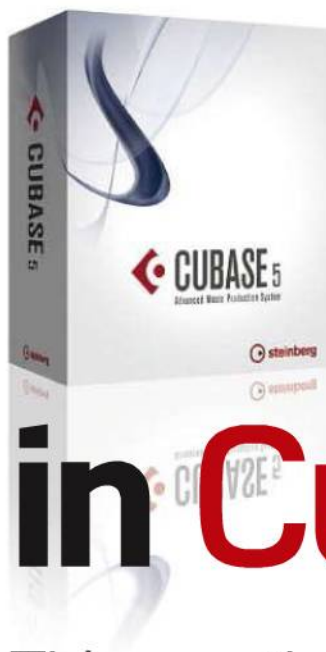
3



Power Tip

Producer Überzone shows Cubase users how to utilise Offline Processing – a useful feature some users miss.

CUBASE ESSENTIALS



Final Mix Processing in Cubase 5

This month, **Bruce Aisher** delves into the world of mix stems and post-production tweaks, where he'll explore full mix processing, editing and automation for track maximisation and to address those 'inspirational dip' blues. Read on...

Sometimes it's so easy to get carried away with the smaller details of a track that you lose focus on the bigger picture, and this is going to be the starting point for this month's tips. People often ask me whether

they should master their own material – in a completely ideal world the answer is no. But what's interesting about this, given this month's perspective, is that mastering is a process that focuses on the whole – not the small questions. Mastering engineers cannot

THE EXPERT

Bruce Aisher,
producer,
engineer



Bruce has been using Cubase since its arrival on the Atari ST in 1989. He's grown up alongside his favourite piece of software, sharing the ups (and downs) of the professional music world. They're now inseparable.

get hung up on individual channel EQ or compression considerations (good or bad), and have only what is put in front of them with which to do their job – this usually takes the form of a 24-bit stereo audio file.

On the flip side of this is the mix engineer, producer and artist – often the same thing in this DAW-based egalitarian world – who can make fine adjustments to every single channel or even note. The issue here is that if you get into a creative rut in a 'mega-multi-track project' it is sometimes difficult to dig your way out.

Stemming power

There are a number of choices here – one of which is to start again(!). But what about taking what you already have and making it simpler by dealing with groups of mix elements at the same time. One possibility is to take each set of channels – all the drums for example – and route them to a Group channel/buss for extra wholesale processing. This makes overall level balancing easier as well and can work in many instances, but doesn't get around



Mixing down stems of related tracks can help keep your project and mind clutter-free



A collection of effects plugs for creative stem processing in Cubase

perhaps one of the best and worst things about using a DAW – unlimited undo. The ability to undo every minute tweak is sometimes the enemy of creativity, so why not have the courage of your convictions and commit. My proposal here, is to save your project (just to be safe), and then export large subsets of channels in your mix to a set of new audio files.

As an example you might choose drums, bass, guitars, synth leads, pads, FX, lead vocals and backing vocals. Make sure you disable any overall mix processing when exporting, as it will give more flexibility later.

Breaking it down

Once you have these eight elements (or less, depending on what you chose to combine), these should be imported into a fresh and new project – make sure you make a note of the tempo before doing this. The advantage now is that any decisions regarding the overall track arrangement or broader level and processing issues are narrowed-down and far easier to carry out. Yes – your options are restricted, but that is exactly what's required in times of crisis. As a knock-on effect, it also makes experimentation with clever edits and spot processing much easier to achieve (see the *Post-mix Edits* box).

An extreme example of this form of processing is when it is reduced to just one stereo track. I've been in situations where a remix is required, but there are no original mix elements available (no – really!), so the only option here is to go down the bootleg route and split the original into separate frequency bands. The *Multi-band Compression* box tells how to do this easily using one of C5s built-in plug-ins.

Given that this month's tips started as a way of exiting a creative hole, I also managed to take a look at a nifty tool called Catanya as part of a discussion on the Cubase. Happy tweaking. **FM**

CUBASE ESSENTIALS NEXT ISSUE

For more Cubase tips and techniques make sure you pick up the next issue of *Future Music*. **FM229** on sale 12th of July

Creating Mix Stems

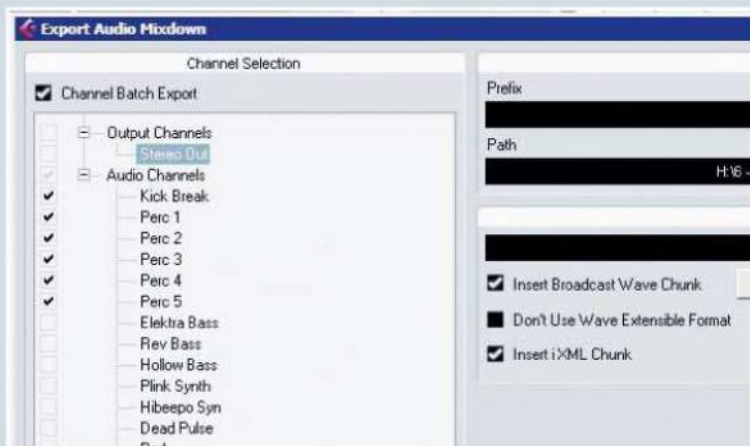
Producing mix 'stems', using the Cubase Export Audio Mixdown and Channel Batch Export



1 In the professional music world, there will inevitably come a point when you will need to produce mix stems, whether for your own use (as described earlier) or for another mixer/remixer. Stems are groups of channels mixed together and exported as one.



2 Producing mix stems is simply a matter of muting those elements not required for each group of channels. To make a drum stem, mute everything other than the drum tracks (whether audio or VSTi-based). Disable any main mix buss processing but leave all FX and group channels intact.



3 An alternative might be to use the Channel Batch Export in the Export Audio Mixdown menu, but be aware that any send FX will be applied separately and not added to each track individually. This is sometimes the route to go when providing a project for someone else to mix.

Multi-band Mix Processing

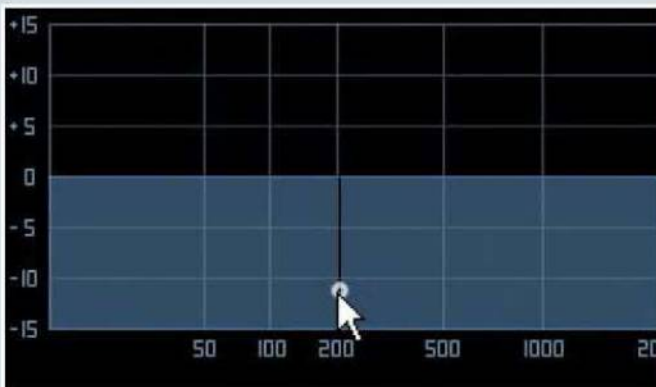
The Cubase 5 Multi-band Compressor plug-in can be used as a rather nifty four-way filter to achieve some very useful track splitting



1 If you are called to remix a finished stereo mix file, then anything that gives you a little more to play with is going to be useful. One obvious way of splitting things up is by using a filter of some kind, and the C5 multi-band compressor as part of the factory dynamics bundle is the perfect candidate.



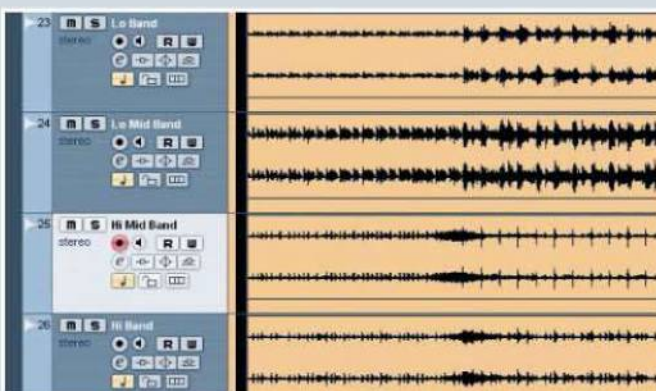
2 The great thing about this plug-in is that each of the four bands can be soloed and the compression can be completely bypassed. Start by adding the plug-in as an insert across your chosen track. Next, bypass all of the bands (the button next to the 'B' below each band's graph).



3 At this stage you might wish to tweak the separation frequency of the bands in the band editor section (at the top of the plug-in window). Try starting with 200Hz, 2kHz and 7.5kHz, but these can be adjusted to suit the track later, although there is no 'perfect' setting here.



4 Now for the important part. Solo the low frequency band – press the 'S' button – set the left and right locators, navigate to the File menu and Export the resulting mix to a new 24-bit audio file (and track). Then do the same thing for each frequency band in turn. You should now have four new audio tracks.



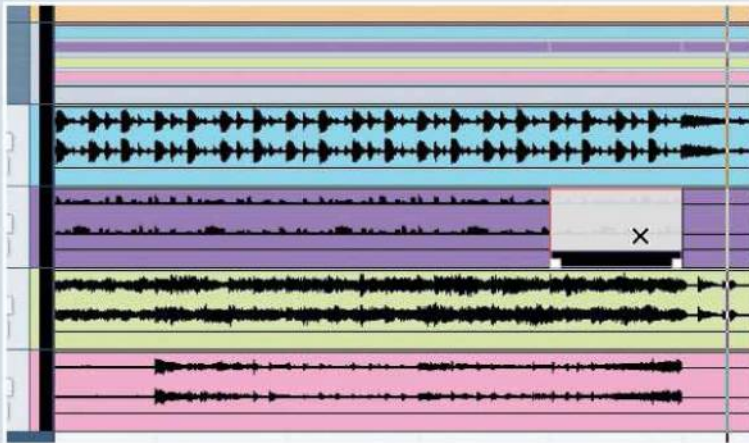
5 The great thing with all of this is that if you play the four new tracks together, you should hear the original mix. The next step is to get stuck in with some crafty editing. The critical point here is not to get too hung-up on rules, especially those relating to phase coherence.



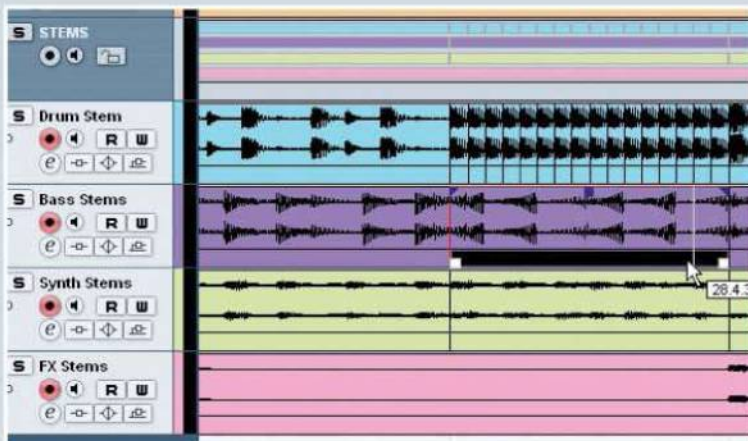
6 This splitting-up of the tracks enables you to apply processing more selectively. For example, you could apply a Phaser on the hi-mid frequencies, delay on the low-mid and compression on the low frequencies without interfering with the top end. This treatment is also a great starting-point for mash-ups.

Post-mix Edits

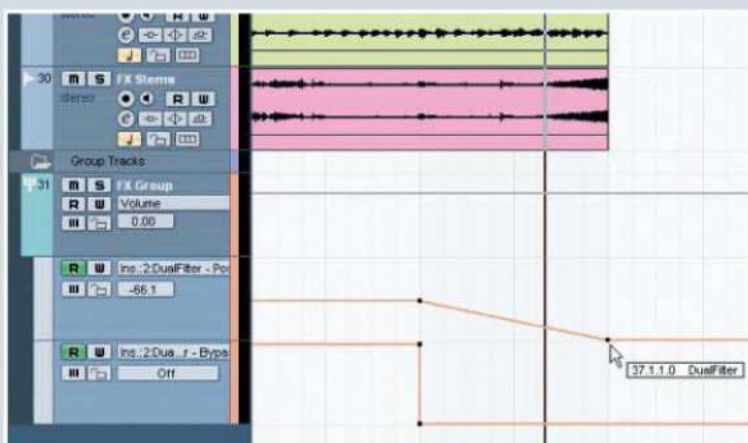
There are some useful editing tricks that can be made on mix stems for 'finessing' your track



1 Exporting your Cubase Project to a small group of stems makes for easy post-mix editing. You might want to start by experimenting with dropping bass elements for one-bar at the end of a musical section to build anticipation for what's about to come.



2 Sticking to end-of-section bars, how about chopping the drum and bass stems into 16ths and rearranging them. Try choosing a drum slice with a snare in, and then copying for the full bar to get instant fills. Why not reverse a whole bar of synth stems?



3 With only a few mix stems to deal with, selective automation effects become a lot easier. You could try routing all musical elements apart from the drums to a Group channel and applying an automated filter sweep.



ON THE DVD

Check out a Cubase Project of all these techniques in action, using loops (kindly provided by SampleMagic from their SM12 Progressive House DVD). You'll find individual tracks, stems and a multi-band filter export with which to experiment.

Arpeggiators

Arpeggiators are one of my favourite tools for moments of musical pondering, and C5 is well specified in this respect. Arpatche 5 is a MIDI effect (best used on a MIDI Insert) that takes care of simple arpeggiation tasks, and is easy to use. Controls are kept to a minimum and determine the pattern (Play Order), speed (Step Size), length and range of generated notes (Key Range).

For more complicated tasks you might turn to Arpatche SX that has a 'Classic' mode that is much like Arpatche 5, but with more parameters, and 'Sequence' mode that allows you to create your own arpeggio patterns by dragging MIDI parts from the main Project page. Although flexible, Arpatche SX is not the most user-friendly of MIDI-plug-ins, and although capable of great results, tends to remain unused by many.

If you want to explore the world of arpeggiation in C5 then remember that it isn't just for creating 'obvious' synth lines. How about feeding an arp into a drum module such as Groove Agent ONE. Yes – it could sound like a drummer falling down the stairs, but it can sometimes produce unpredictable and wondrous results.

Another interesting trick is to feed one arpeggiator into another. Best results are achieved if the first arp in the chain plays at a slower speed (has a greater Step Size), than the second.

This brings us to Catanya, a so-called 'advanced VSTi Pattern Arpeggiator' with 1,200 built-in patterns. 7Aliens, the company behind Catanya clearly saw the possible interest in producing an arpeggiation tool that was capable of something more than the classic up/down patterns, but within an interface that remains clear and easy to use. It is also possible to create your own patterns. Unlike the C5 arps, it is provided as a MIDI generating VSTi (and its output can be easily recorded to a MIDI track). For a configuration guide, take a look at Zaliens.com. Catanya is Windows only and costs 45 Euros.

Advanced Arp

Catanya from 7Aliens offers more detailed arpeggiation options



The Science Behind Metering

Are you dazed by decibels? Struggling with spectrograms? **Greg Scarth** gives an introduction to the complex world of metering...

Modern audio gear and software comes loaded with meters to try and give visual indications of signal levels and a host of other information. The problem is that a lot of us don't really understand exactly what our meters mean and what they're trying to tell us. There are dozens of ways that understanding how to interpret meter readings can help you, so in this month's *Knowledge Base* we're going to take a closer look at decibels, then examine some of the various meters, dials, gauges and indicators in more detail, to help you understand how they all work and how they might be able to help you in your productions.

What is a decibel?

The hardest part about metering is getting to grips with exactly what a decibel is. In fact, many highly experienced engineers and producers struggle with the scientific definitions. A decibel is most accurately described as a logarithmic method for measuring the magnitude of a signal relative to a given reference level. Only when we

know what the reference point is does the decibel measurement take on any real meaning. As such, there are a number of different signals that can be measured using decibels, although for audio purposes we're mainly interested in acoustic sound signals and (analogue) electronic sound signals.

Part of the reason why so many people find this confusing is that most of the time, we foolishly insist on referring to each of these different measurements simply as 'a decibel' and abbreviating them all to 'dB' rather than specifying what the reference point is. The result is that we often have to infer the reference point from the context. There are three main areas where you'll find decibels used for audio measurements, and the context should give you a clue about which type is being used.

Probably the most common everyday use of decibels is as a measurement of the level of intensity of an acoustic sound. This is more accurately termed dB(SPL), and is referenced to sound pressure level in air, where 0dB(SPL) equates to 20 micropascals (μPa), the lowest pressure (and therefore

quietest sound) which can be perceived by the human ear.

For electrical audio signals, the most common scales used to measure level are dBu (the professional standard) and dBV (more common in consumer equipment). dBu is referenced to a signal with a root mean square magnitude of 0.775 Volts (RMS is essentially a method of calculating the average magnitude of a wave with positive and negative elements), while dBV is referenced to 1V RMS. If you're working exclusively with professional equipment then you can just about forget that dBV exist and concentrate on dBu. The only caveat is that you should pay attention to capital letters – dBu was originally known as dBv and is occasionally still referred to in this way by Americans. dBv is exactly the same as dBu. We warned that decibels can be confusing!

Decibel meters on hardware and in software are usually used to display dBFS or dBVU, measurements of the level of a signal relative to a defined maximum (in digital equipment this is the point just before clipping occurs, whereas in analogue equipment it refers to the highest level before the signal starts to degrade). In digital equipment, 0dBFS is the highest possible signal level. Attempting to push a signal beyond this level will instantly result in the waveform becoming squared off at the peaks. On professional audio equipment, 0dBFS is usually set at +4dBu.

Commercial equipment tends to use -10dBV as the 0dBFS reference point. Analogue equipment tends to use dBVU (referenced in Volume Units) in a similar way to dBFS, where 0dBVU is the nominal maximum signal level. The Volume Unit is a hangover from the days of analogue radio broadcasting and tape recorders, where OVU was the highest allowable signal level. Whether you're working with digital or analogue, any signal above 0dBFS or 0dBVU is usually very bad news in terms of sound quality.

Captain's log

One of the most important things to remember about all of these measurements is that the decibel scale is logarithmic. As such, a 100dB signal doesn't have twice the power or amplitude of a 50dB signal and isn't perceived to be twice as loud (power, amplitude and perceived volume are related but not directly proportional). The base-10 logarithmic scale used by decibel measurements means that a 3dB increase in signal level equates to doubling the signal's power, while a 6dB increase equates to doubling the signal's amplitude.

However, the human ear's response is also logarithmic, so it takes a level increase of approximately 10dB for the signal's



Understanding dBs and metering terminology will help you avoid nasty digital clipping

volume to be perceived as twice as high. Bear in mind also that this is true no matter whether you start at 10dB or 100dB, so 20dB(SPL) is perceived to be twice as loud as 10dB, while 110dB is twice as loud as 100dB. Small numbers on the decibel scale can relate to significant perceived level changes, so always be suspicious of anyone who uses phrases like, "it's only a few dBs"!

VU and PPM

A very specific type of level meter known as a VU meter was commonly found on hardware in the analogue era. VU is sometimes erroneously used to refer to any mechanical signal level meter, but the VU metering system is just as clearly defined as the various decibel scales. VU meters display the average level of the signal, with the meter taking 300 milliseconds to rise from zero to its full level when a signal of OVU amplitude is applied. Since the VU meter is so slow to respond, it isn't useful for monitoring peak levels but should be used to monitor overall averages or average perceived loudness. Many VU meters feature an integrated peak level LED indicator to aid peak detection. Take note that some level meters in hardware and software exhibit pseudo-VU style damped readings without truly following the VU specification.

Care should be taken whenever you're unsure whether a true 300ms integration time is being used. Peak programme meters (PPMs) are similar mechanical meters but with a much shorter 5ms integration time in order to display audible peaks in signal level. Unlike VUs, which fall as quickly as they rise, PPMs typically take between 1.5 and 3 seconds to fall back 20 to 26dB after they

“It's a common mistake to push the faders up and use a peak limiter plug-in”

hit a peak (the fallback time varies by country). This allows peaks to be held by the meter, making it easier to read their level.

Peak indicators

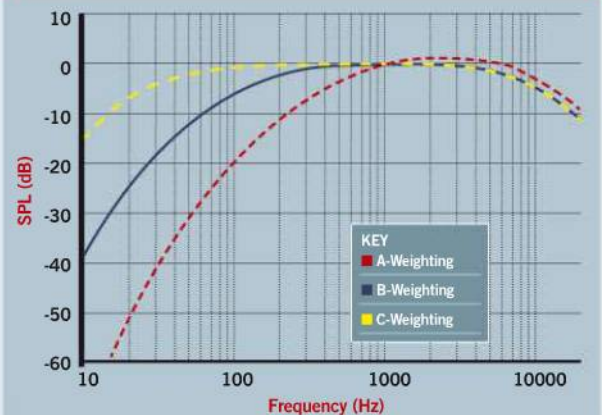
Let's take a closer look at peak indicators, those tiny red LEDs that tell us a signal is too hot for our gear. On analogue equipment, it's not the end of the world to see the peak LED flicker momentarily every now and again (pushing into the red might even result in pleasant analogue distortion) but on digital equipment it should be avoided at all

Sound Pressure Levels

One of the most common everyday uses of decibels is as a way of measuring sound pressure levels. dB(SPL) is the measurement which most people use to refer to how loud a sound is. To make matters slightly more confusing, SPL measurements are sometimes made using weightings designed to replicate the response of the human ear. A-frequency-weighting is the most common system, based on the equal loudness contours (see last month's *Psychoacoustics KB*), while C-weighting is more commonly used to measure peak sound pressure.

SPL meters usually also have a speed setting for adjusting how quickly the meter responds to changes in level. The S (slow) setting usually uses a 1s integration time, while the F (fast) setting uses 125ms and the I (impulse) setting uses 35ms. Note that sound pressure levels measured with A-frequency-weighting and C-frequency-weighting are sometimes (erroneously) referred to as measurements of dBA and dBC. In the studio, the most important use

A-, B- AND C-WEIGHTING FUNCTIONS



for an SPL meter is to measure your monitoring level. Prolonged exposure to high sound pressure levels not only leads to fatigue, it can also cause serious long-term damage to your hearing. As a result, it's advisable to determine your preferred monitoring level and stick to it, avoiding the temptation to push the master level

control up. Typically your monitoring level should be calibrated with a pink noise reference signal (at 0dBFS) and the SPL meter in your listening position set to C-weighting, slow response. We'd recommend picking a level somewhere between 80 and 90 dB(SPL), although some find that even lower levels suit them better.

costs, especially when recording. In the days of analogue tape, it was desirable to use up every last bit of headroom in order to maximise the signal-to-noise ratio and dynamic range of the recording. However, this practice is no longer necessary with digital equipment, due to higher dynamic range and improved SNR. Furthermore, exceeding 0dB results in the painful and highly undesirable sound of digital clipping.

At best, that means another take to fix the problem. At worst, you've ruined the recording and won't get another chance.

Although many recording engineers will have their own slightly higher or lower preferences, we'd advise you to try and hit a peak level of around -15 to -12dBFS when recording to a 24-bit digital format. Leaving this much headroom should minimise the chances of clipping while giving you dynamic range and SNR far in excess of analogue tape. Even when mixing in your DAW, remember to keep your levels down. It's a common mistake to push all the faders up and then use a peak limiter plug-in on the master buss to bring the output level back down to 0dBFS without realising you're harming your signal.

Aim to leave headroom in every single step of the signal chain (including between

effects plug-ins) and you'll ensure that no damage is being done.

Advanced metering

Every DAW will include basic metering functions on channel strips, in the mixer section or as a utility plug-in, but if you want to take your metering to the next level, there are a number of more advanced ways to visualise your sound signals, most of which involve measuring multiple variables.

Metering starts to get a little more interesting when we measure another variable alongside the amplitude of the signal and the most common way of doing this is to measure frequency. For example, a spectrum analyser displays the individual levels of a number of frequency bands in order to show their relative amplitudes. Oscilloscopes measure amplitude and time in order to give a visual representation of the waveform you route into them. Spectrograms add a time element to the spectrum analyser principle, plotting three variables simultaneously in order to show how the spectral composition of a signal develops. These meters are incredibly powerful tools and a thorough understanding of how to use them will pay dividends in the long run. **FM**

KNOWLEDGE BASE NEXT ISSUE

Stay tuned to *Knowledge Base* for more unmissable studio wisdom and industry insight. **FM229** on sale 12th July

In The Studio With | Pendulum

Pendulum

IN THE STUDIO WITH...

From hardcore D'n'B roots to stadium rockers supreme, Pendulum's rocky road to glory has embraced technology at every turn. **Danny Scott** catches up with Rob Swire to talk *Immersion* and world domination...

One of the unwritten rules of music journalism is that you can usually tell how many albums a band is selling by the size of the record company retinue that turns up to interviews. No doubt DJ Food – aka Kevin Foakes

– and Ninja Tune won't mind me telling you that we conducted much of his *FM* interview in a south London kitchen, accompanied only by his missus and a baby who simply refused to go to sleep.

Somewhere towards the other end of the scale is Pendulum. Over the past five years or so, this Aussie-born, London-based Drum 'n' Bass / Electronic Rock act have quietly gone about their business, signing a juicy deal with the massive Warner Bros and picking up enough fans to sell over a million copies of the 2005 debut, *Hold Your Colour*, and the 2008 follow-up, *In Silico* –

number two in the UK album chart, top ten in Australia and top 20 in the US Electronic chart.

Meanwhile, their stunning stage show turned them into one of the world's most sought after festival bands. The likes of Glastonbury, T In The Park and Radio 1's Big Weekend have all fallen to the might of the Pendulum onslaught and, this summer, the band's across-the-board appeal is highlighted by appearances at the heavy metal shindig, Sonisphere – second on the bill to Iron Maiden – as well as a guest spot at the Prodigy's huge Milton Keynes bash. It's no surprise that they're now trading superlatives as 'the world's most exciting live act'.

So, back to the original point... the Pendulum retinue. A couple of band members, a four-man film crew, a couple of photographers, several people from the record company, some very nice people sitting on the stairs, *FM* and a cat called Judas. That's an awful lot of people for a quick

chat about software samplers. Strangely though, there is no sign of the man we've come to see, Rob Swire, Pendulum's frontman, producer and spokesperson. And when he does eventually turn up, you get the feeling that he's not that comfortable with a house full of people.

For a man who's performed in front of 50,000 people, he seems decidedly awkward whenever a camera is pointed at him and quickly moves away if there's any danger of him becoming the centre of attention. The first time he relaxes is when he plonks himself down in a quiet corner of the studio and fires up the Mac.

FM: Hi Rob. Sorry for the invasion.

Rob Swire: "I don't really like this whole side of being in a band. I'd much rather be playing music or spending a few days in here. Personally, I think that's exactly the reason why Pendulum have got as big as we have. We don't really care about being famous or being the centre of the music press' attention... we just like playing music. Hopefully, the people who are into us appreciate that. We're not celebrities. Don't get me wrong – it's nice that people want to write about us, but I want it to be on our terms. What I like about that article [he gestures towards a recent magazine's front cover] is that, a couple of years ago, I got pissed off with the attitude of Dance music and we told it to go and fuck itself. But Dance music is still interested in us. We fought and we won!"

It's interesting the way you blur the distinction between Rock and Electronic. Between Metal and Drum 'n' Bass...

"You do have to be very careful if you try and consciously sit between two distinct sounds. If you're in the studio, making an album and you say,

'OK, this track is for the Dance audience and this one's for the Rock audience', you run the risk that, in the end, no one listens.

"And I can honestly say we have never done that. When we made *Hold Your Colour*, we had no intention of being a 'live' band. We were just a bunch of guys in the studio with our computers, listening to a lot of Drum 'n' Bass – Fresh, Bad Company, Konflikt, Ed Rush – as well as stuff like Marilyn Manson and The Prodigy.

"But after *Hold Your Colour* came out, people started saying, 'Hey, that really sounds like a live band'. I couldn't see it at all. I put the album on and it sounded like Electronic music to me. To start with, I actually got annoyed by those comments. I didn't want to sound like a live band. Did the album sound like a band because it was produced badly? I thought I'd done something wrong."

But you soon changed things around.

"After a while, I calmed down a bit and started thinking, 'Live band, eh? Interesting. I wonder how we could make that work'. You've got remember that this is five years ago. A lot of the equipment we now take for granted – things like the Muse Receptor that we use live now – was only just appearing on the market.

"I didn't want to just throw a few guitar chords over the top of a bunch of backing tracks running from a laptop. I wanted to make it a proper live band playing electronic music. Once we'd got that as our starting point, the sound of the second album, *In Silico*, came about very naturally."

That's when things started to fly for you, yet it irked the hell out of your Drum 'n' Bass fans.

"*Vault*, appeared on the *Kingz Of The Rollers* EP so Drum 'n' Bass was important to us. I mean, that's the reason we moved to England. We wanted to be closer to that whole scene. But, musically, you can't just stay in one place. You have to grow."

So, how did you feel when your fans, the Drum 'n' Bass-heads started have a pop at you for being 'too Rock' and 'too commercial'?

We do a pretty good job of getting a dirty sound without worrying about tape warmth. That's what Waves plug-ins are for

"I didn't feel anything. We were just making the album we wanted to make. Personally, I feel that if any scene – whether it's Rock or Dance or Drum 'n' Bass or whatever – starts getting too insular, it doesn't grow and it doesn't develop. I didn't want to live in the past. Lots of people have bought our album and lots more people are talking about Drum 'n' Bass. Let's face it that wouldn't have happened if we were still on an indie, staying 'true to our roots' and selling 10,000 copies. We made *In Silico* to take us a step further on from *Hold Your*



© Amanda Thomas

Pendulum Live

Let's face it, the idea of a live band playing Electronic music is nothing new. The likes of Underworld, Leftfield, the Chems, the Prodigy, of course, and even Drum 'n' Bass names like Roni Size and Goldie have all taken to the live stage. But in this post-download age, Swire reckons that playing live is now more important than ever.

"I can't imagine what it's like being a music producer and just sitting in your studio and releasing

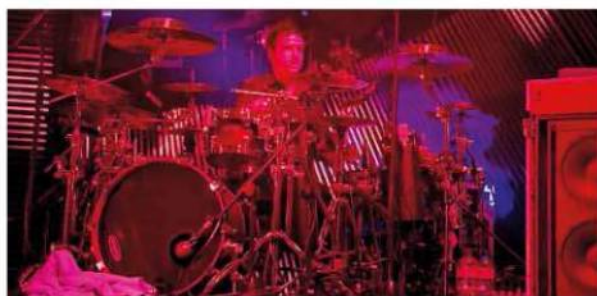
tracks. The live show has been huge for us. It's how people got to know about us. It's why they went out and bought the albums. Pendulum would not be the band we are if we didn't play live shows.

"The Muse Receptor has become an integral part of the live setup. We've got five of those on stage, plus more here in the studio. Basically, they allow you to take anything from the studio and put it in front of a live audience without it feeling like

you're just playing along to backing tracks. And then there's Digidesign's Venue mixing system.

"That baby has changed the whole way we think about playing live and mixing the live show. Now, we're able to record a sound check, stand in front of the PA and actually mix ourselves playing live.

"It means that, as a band, we know what people are listening to. We know if it sounds shit and we can do something about it."



guy and doing a lot of the recording in this garish, purple bedroom. Not exactly what you'd call glamorous... I remember when the guy from Atlantic Records came over to sign us and he wanted to see where we'd recorded all this

music that he liked. He knocked on the door and said, 'Wow, so this is where all the magic happens, is it?' He wanted to know where the vocal booth was and we pointed to the broom cupboard."

Colour and we've made *Immersion* to take us a step further from *In Silico*. What's the point of making a new album that sounds like your last one? Total waste of time."

And things have developed so far that you're making the new album in your studio at home?

"I started working on the album almost as soon as *In Silico* was released in May 2008. The first part of that two years' worth of recording and writing was in Barnet. We were renting a house off this Turkish

We were expecting lots of D'n'B-style Akai samplers around the place...

"I guess a lot of the early guys would have started off with hardware samplers, but, by the time I started making Drum 'n' Bass, everything could be more or less done on the computer. I'm not saying



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those first soft samplers were any good, but it meant I got used to having everything on board.

"It was GigaStudio in the late-90s that really kicked it off for me. I was working on a huge tower PC and used to carry the damn thing around when I was playing gigs. I would travel on public transport with my PC and a monitor. That's dedication for you!"

"Very soon, it became obvious that, in the very near future, all the sounds I needed would be generated by software. That was great, really, 'cause it meant that I didn't have to spend hundreds and hundreds of dollars on expensive, hard-to-get and very temperamental old analogue keyboards or huge vintage sound modules. Software seemed like the obvious route."

Ah but what about the warmth of a two-inch tape, the glow of a valve pre...

"What a load of bollocks! Personally, I think tape saturation sounds like shit! Why would you want your music to sound like that? I actually like the sound of digital music. Yes, I know you can analyse all the harmonics and explain tape warmth in a very scientific way, but I still don't think it's all it's cracked up to be. We do a pretty good job of getting a dirty sound without worrying about tape warmth. That's what Waves plug-ins are for."

[At this point, Swire loads the track *Salt In The Wounds* on his Mac Pro. It's got 167 tracks, with almost 50 of drums... Check the DVD for more.]

"When I first started making Drum 'n' Bass music, I suppose – like most people – I would always start with the drums. It would either be a loop or a nice snare/kick drum combination. These days, things have changed. We might start with a lead line or a vocal idea or maybe even guitars."

"Obviously, the drum track is still massively important. If they aren't sounding good – and, by that, I mean really smacking you around the head – I find it difficult to concentrate on a track. If the drums haven't got that power, it seems to throw off all the other stuff. That's why I was never a fan of Goldie's *Inner City Life*-period. I used to listen to some of that and think, 'C'mon, guys... just give me a beat. Stop messing around with all that swirly shit and give me a groove!'"

That's a lot of drums going on there. What's your main source of drum sounds?

"In terms of loops and drum sounds, I've never really been one of those people that goes around car boot sales looking for old vinyl to sample. When I first started out, I would buy, borrow and download as many sample and loop collections as I could get my hands on. Over the years, I've catalogued all that, stacked it into folders and I know I can delve in there and get more or less anything I need."

"Generally, the drums are layered. OK, there might be the odd time when I use a single snare hit, but that's becoming increasingly rare. The thing about working on computer is that you can be as layered or as simple as you want to be. The

drums on *Salt In The Wounds* are made up of loops, single hits and recorded material from our drummer, Kevin [Sawka]. We only add that after the song is in a relatively finished state. If you start adding live stuff before you've got a fairly definite blueprint, you can end up wasting a lot of time."

Tell us about the settings you're using.

"As far as EQ is concerned, Pendulum drums work around 80-100Hz for the kick and 175-200Hz for the snare. I am fairly strict about that. If a sound or a loop isn't working in those areas, then I get rid of it and start again with something else. As a producer, you need a mental picture of everything and where it should be. If the drums aren't in their place, that means they're occupying space that should be reserved for something else."

With bass like that, your monitors are crucial too.

"When that bottom-end is so important, you obviously need monitors that are up to the job. I've been through a few sets. Things like Mackie 824s and a set of Excel 301s. To be honest, though, it's never been the bottom end that's the problem. The bass on the Mackie's is great, it's the mids and the tops. I've got a set of K&H O300s in here now and the three-way split makes those mids and tops a lot more defined."

You're famous for your lead lines. I hope you don't mind me saying, but they're rather... 'nice'.

"Yeah, it's quite mad in that tracks like *Slam* and *Proper* when I put a lead line in to a song, and people listen to it they say 'oh I like that catchy tune' and I'm like it's not supposed to be catchy it's meant to sound like the fucking apocalypse!"

"I use Reaktor, ImpOscar and Albino for lead sounds mainly. Layer them up. It's all to fill in each others gaps both frequency range wise and in the stereo field. What I tend to do is make the lead sound much too annoying and distorted, and then back it off until it sounds right."

And your basslines?

A lot of basslines comes from [Native Instruments] FM8 or [Cakewalk] Z3ta but but we'll use anything as long as it has the right waveforms, that won't interfere with the kicks."

Do you prefer your increasingly massive and important tours or do you still prefer studio work.

"I guess that playing live is a whole different thing... a whole different side to life. You couldn't live your normal life like that, though, could you? When you're on stage, the music sort of leads the way. It's loud and it's powerful. Here, in the studio, it's different. I actually find recording is often quite a relaxing and thoughtful process. We don't even turn the volume up that loud. Despite what people might think when they see us live, Pendulum are a really good band to have as neighbours!" **FM**

WANT TO KNOW MORE?

Pendulum's new album *Immersion* is out now. Check out pendulum.com for all the latest on their upcoming übergigs.

Pendulum Vs Prodigy?

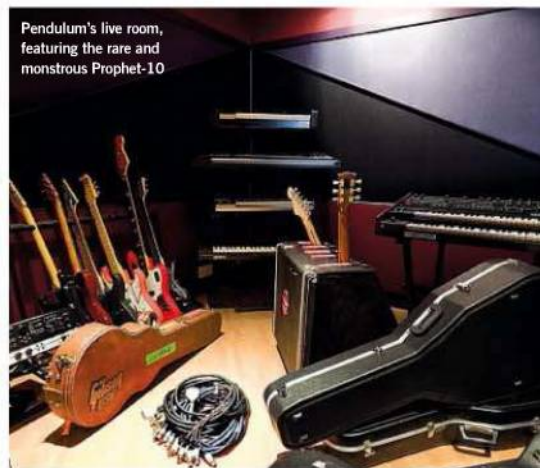
With their buzzsaw leads, rolling breaks and thrilling live shows, it's easy to see why some sections of the music press have compared Pendulum to Essex's finest, the Prodigy. But it's a comparison that annoys the hell out of Rob Swire – and Liam Howlett too.

"I'm sorry, but I really don't see it. If you're going to compare two bands and say they are the same just because they have a good live show, then you're going to be lumping hundreds of completely different bands into the same box. If you actually sat down and played a Prodigy album and a Pendulum album back to back, you will immediately hear the differences. Even from the most basic point of view, we're more of a 'band' thing. All that shit was really getting on my nerves... and Liam's, too."

"So we decided to collaborate – we put together a track called *Immunize* for the new album. We didn't make a big deal about it though. We just sent a few e-mails back and forth and then got stuck in to some definite ideas here in the studio. It was a real pleasure to work with him. I mean... we've all grown up listening to the Prodigy."

"What we both hope, though, is that this will stop people talking about all these pointless comparisons. Both bands make Electronic music with a Rock element. We can't get away from that. But we are different bands."

Pendulum's live room, featuring the rare and monstrous Prophet-10





ON THE DVD: Rob Swire Production Secrets

1



Drums

Rob explains the process of slicing and EQing Pendulum's ultra complex drum tracks and treatments.

2



Bass

The secrets behind Pendulum's distinctive sub-bass and using the right monitors to hear it.

3



Lead Lines

Rob layers up three different sounds from three different synths and explains how he makes Pendulum's famous leads.

4



Live Instruments

Rob talks about the signal path chain for recording the live band in his new home studio.

5



Production

How Rob produces the band, from recording at home, mixing as you go, through to the mastering process.

6



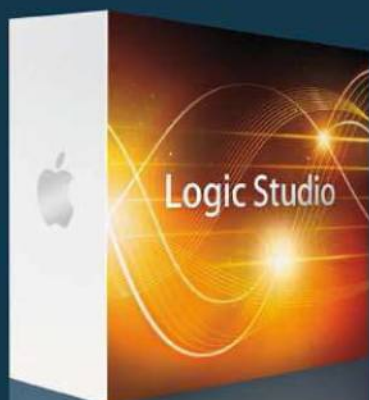
Live Performance

Rob explains how you get a live band to play a track that consists of 167 audio tracks... And how he uses his StarrLabs Ztar MIDI controller.



Rob's home studio setup, featuring apocalyptic Rockwool vibes

LOGIC ESSENTIALS



Program Better Beats in Logic 9

This month is dedicated to squeezing every drop of creativity out of your programming. From interesting velocity treatments to effects processing, **Jono Buchanan** lifts the lid on a plethora of tricks to get you grooving

Creative velocity

1 The Pencil Tool in the Piano Roll editor is great for drawing notes into a grid while you're programming beats. But by default, it will create notes of equal velocity every time a new event is created and, for certain styles with busy patterns, this can soon leave your drum sounds

grating predictably and heavily on the listener. You can, of course, use the Velocity Tool to drag velocities up and down but if you want a graphical read-out of the edits you make, clicking the HyperDraw button in the bottom left-hand corner of the Piano Roll display gives you much better visual feedback. This page is also great if you want

THE EXPERT

Jono Buchanan
composer,
producer



You know that Cheryl Cole song that goes 'If I got you, I don't need no parachute'? She was actually singing about Jono's relationship with Logic.

to create velocity 'rolls' for quick flurries of notes. Simply select the Pencil Tool and create a ramp for moments like this.

Pretty soon your track will sound a good deal more dynamic.

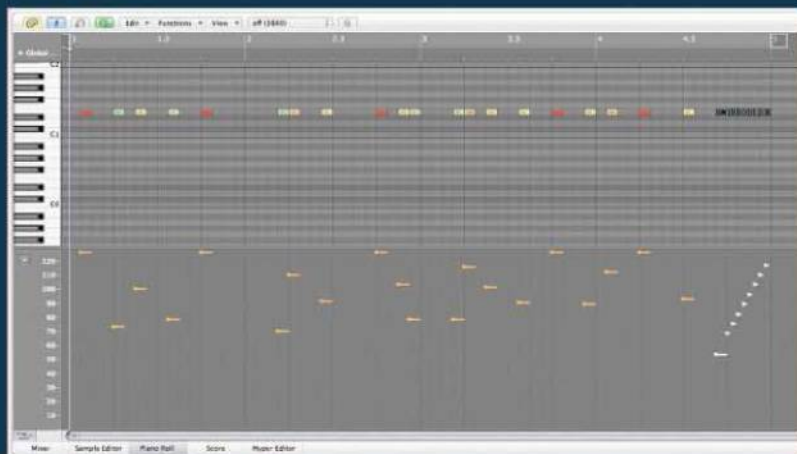


ON THE DVD

> Bring 'drawn' drum patterns to life with velocity. Simple but very effective.

Ultrabeat snare variation

2 One of the greatest things about Ultrabeat is how easy it is to vary the length of the hits you program, with this being particularly useful if you want to shape or vary the length of a snare, for example. On the DVD, I've programmed a basic Ultrabeat drum pattern and have then automated the decay tail of the snare to create constant variation in how long each hit lasts. After that, I've set up a tempo-sync'd LFO with a random output and I've routed this to control a range of parameters – the pitch of oscillators 1 and 2, the cutoff frequency of the filter, plus the cutoff of the noise generator module and the 'grit'



Varying velocity is a classic way to achieve more dynamic programming

Varied Velocity

Some creative routing results in velocity controlling different parameters



Velocity Routing

3 When I ask my students what velocity controls, they inevitably answer "volume". Not surprising and often they're right, as velocity sensitivity is the best way we can use our keyboards to control the volume at which our notes play. However,

velocity is simply a control mechanism, just like any other MIDI controller, with 128 steps of operation and when you switch off its control of volume and focus it on other parameters instead, good things can happen. On the DVD, I've prepared a very basic track and I've quickly created a snare pattern with varied

velocity strokes. To start with, these reflect the volume but I can bypass this effect in the main output section and instead, turn to the router to set velocity loose on other parameters.

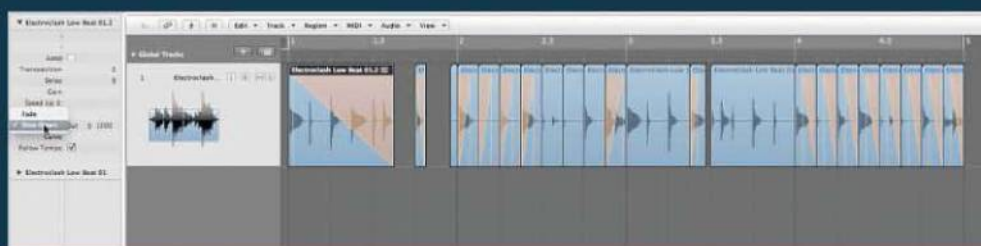
So, in subsequent play-throughs, you can hear velocity control pitch, cutoff frequency and filter drive and pretty soon, I've got a part which is

acting differently to a regular snare. Add some delay and the results are interesting. Why not try this yourself?



ON THE DVD

> **Velocity to... volume?** Well usually, but good things happen when this relationship is broken up from time to time.



parameter in the noise generator too. As each hit plays, these parameters consequently all vary 'as one' (as they're all affected by the same LFO), meaning that my snare quickly becomes quite a strange, sci-fi noise. Were I to program another new snare

Try automating speed ups and slow downs for more interesting groove variations

over the top, this one could become a weird and wonderful texture underneath.



ON THE DVD

> **Ultrabeat Snare Variation** – keep your snare sounds 'on the move' in Ultrabeat with

automation and LFO routings. Of course, this can be applied to other sounds too.

Speed up/slow down

4 One of Logic 9's features is capacity to substitute its real-time fade ins and outs for speed up or slow down envelopes instead. On the left-hand side, any audio region has been able to produce a real-time fade in or out for some time but these parameters can be toggled to access changes of speed information instead.

Once selected, simply add a value in milliseconds to any audio region and it will immediately produce DJ-style changes in speed. These can be applied to whole

phrases (and sound great on mix bounces) or to individual hits, which is where they become useful to drum programmers.

On the DVD, I've imported a loop from Logic's library and I've gone to work on individual hits, trying out different effects to see what works. It's a process of trial and error but this is another way to keep loops interesting and varied.



ON THE DVD

> **Speed up/slow down:** Program individual hits or whole bars with speed up or down information to make hits less predictable.

Separate drum sounds to individual tracks

5 If you find a drum kit you like, it's easy to program a whole beat pattern for a common set of sounds and sometimes this works a treat. More often than not, though, if you start using effects,



what works for one hit in your loop won't work for another. On the DVD, I've got exactly this problem. I'm using the same kit for kick, snare, hats and percussion and I don't want to use the same EQ, reverb and compression settings on each one.

However, it'll be painstaking to set up new tracks and set the same instrument again to separate my sounds. Fortunately, this is where the Duplicate Track button comes into its own. Very quickly, I can set

If your drum sampler of choice doesn't provide multiple-outs, try duplicating the track and using 'Invert Selection' for quick separation

Extending Samples

6 If you're using fixed-length samples as your weapons of choice when programming beats, there's seemingly no easy way to lengthen a hit as, after all, the sample's length will dictate how long a sound sticks around.

However, Enverb is a special plug-in which allows you to shape a

reverb tail for a sound including, crucially, a 'Hold' setting which allows a short sound to become more of a block, thereby lasting much longer.

The Sustain setting dictates the level of this section, while Hold sets the time over which the reverb will sound, so you can tailor this specifically to your track to have a sound last for a ¼ note or 1/8th note, or any other length you like.

The Mix dial sets how much Enverb effect will be heard relative to the dry original sample, so this is potentially a great way to add a little extra presence to sounds which are being dominated by other timbres in your mix.



ON THE DVD

> **Enverb** – adding presence to drum sounds dominated by others in your mix.



Hold On

Use Enverb's Hold function to extend a sample's length

up multiple copies of the same instrument and effects, while the Edit – Invert Selection command makes it easy to leave a single instrument on each channel. Now I can process individual sounds at will.



ON THE DVD

> **Duplicating tracks** lets you tailor plug-in chains to each sound within your drum programming – not just one effects chain for a whole kit.

Shuffle quantise

7 As we saw earlier, one of the disadvantages of programming notes into the Piano Roll display using the Pencil Tool is that by default all notes will be drawn at the same velocity. Another drawback is that they'll also be drawn into a fixed grid – effectively with a quantise value of 1/16, in other words.

You can, of course, increase or decrease the grid size but almost regardless of what value you choose, the notes you program will still suffer from a fixed rigidity. The way around this is, if you want some extra groove, is to select one of Logic's 'Swing' quantise values. These take the second of two notes of any resolution and shift it late, so that, for instance, '16B' takes the second semiquaver of any combination of two notes and shifts it a touch late, whereas '16C' moves the same note later still and so on and so forth.

Plenty of musical styles 'require' a certain level of swing, so it's worth experimenting with which swing values you prefer in your own tracks. This is a great and simple way to get your groove on.



ON THE DVD

> **Quantise Swing** – get your beats grooving, particularly if you've drawn them in.

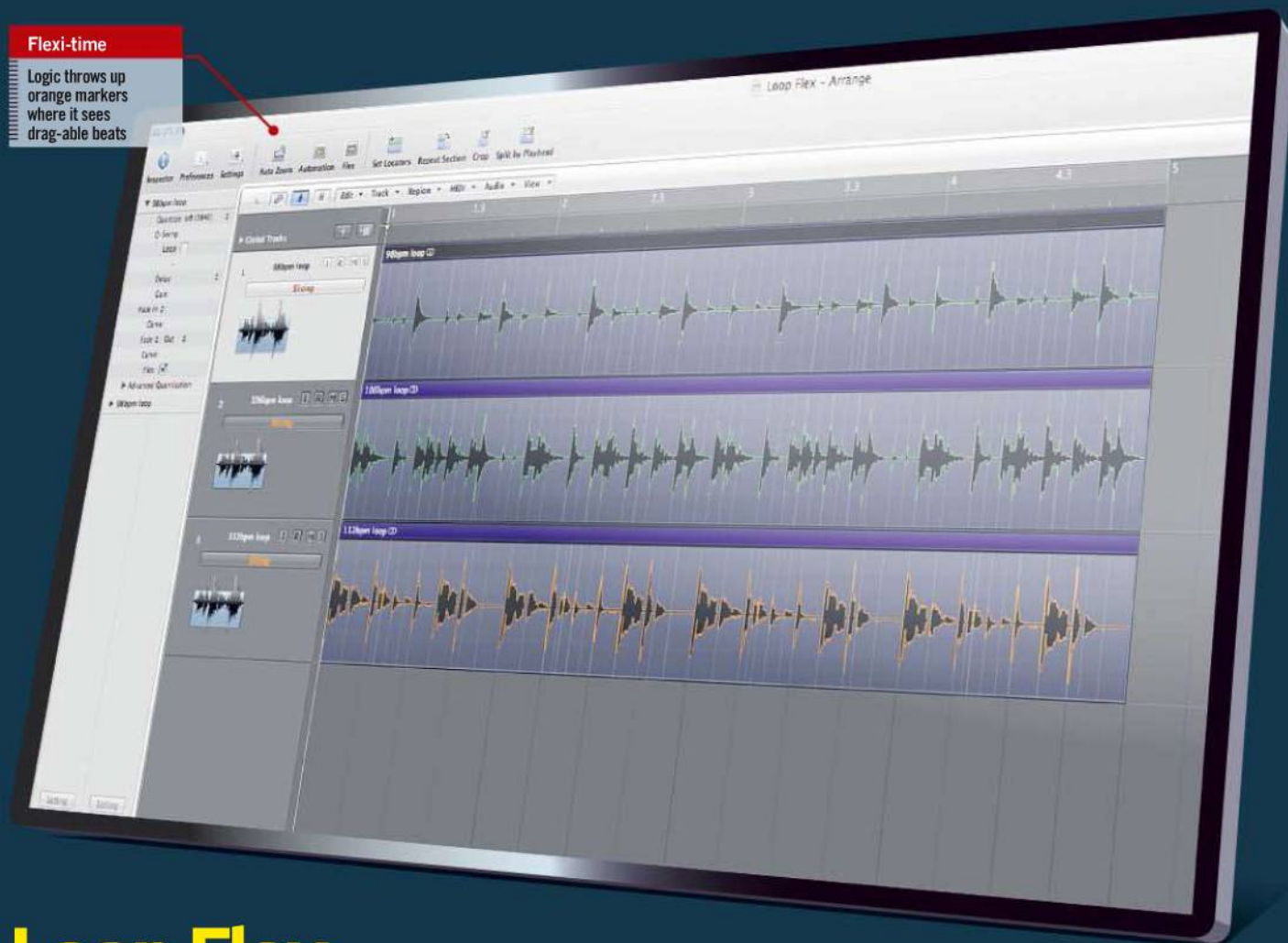
White noise grit

8 If you're working with loops, there's always that sense that other producers have access to the same sounds as you, whether you choose to use Logic's own library of loops, or whether you drag in loops from third-party software like Guru or Stylus RMX. It's nice to personalise loops, either by chopping them up, or by combining hits from different loops to create your own hybrids.

Sometimes though, it's better still just to add extra hits to important beats, either by doubling up kick drums for extra weight, or adding extra snares to create punch. If you want to add grit to snare hits, one trick is to add some white noise underneath each hit and the advantage of using Logic's ES P for this is that you can control the length of each note, as well as being able to control both the volume and filter envelopes of every

Flexi-time

Logic throws up orange markers where it sees drag-able beats



Loop Flex

9 One of the great advantages of Logic 9's Flex Time is that incorporating loops of different lengths is child's play, yet it still staggers me how often I see people stretching loops to make them fit into a new tempo, so hopefully this video

will encourage you to abandon those time-stretch tools forever if this is your creative aim. I've imported three loops with different tempi on the DVD and you can see that they don't match the target tempo of my track at all. To get them to fit, though, all I have to do is to select the 'Slicing' option from within the Flex menu

and, as soon as I have, the loops all snap instantly to match the tempo of my choice. Remember, 'orange' regions show that the content is being stretched to last longer (i.e. the original loop was too short for the current tempo), whereas 'green' regions were too long and are being shortened. Once the loops are Flexed,

you're free to change the tempo to anything you like and the loops will change speeds with you.



> **Loop Flex** – you don't need time-stretch tools for loops of varying lengths – Flex Mode will do all of this for you!

note you add. You can also dial in some overdrive to make the sound dirtier.



> **White Noise Grit** – personalise your loops.

Flex stretch snares

10 Another great way to personalise loops is to isolate individual hits and to use Flex mode to stretch them to produce weird and wonderful lo-fi results. On the DVD, I've imported one of Logic's own loops that features some isolated snare hits. Once again, I've Flexed the loop using 'Slicing' mode and then I've created my own Flex



Use Flex markers to stretch hits and beats to oblivion

markers around hits I want to work on. I've started by dragging any content to the right of the snare even further right to create a gap, and then I've moved the Flex marker at the end of the snare hit to the right, to fill this space. The result is a stretched and weird and wonderful snare.



> **Stretch Snares** – super-stretched hits.

NEXT ISSUE

Join Jono next month as he lifts the lid on yet more Logic tricks and treats. *FM229* on sale 12th July

A Brief History of Chiptune

We all take videogame music for granted, but way back in the '80s, things weren't quite so simple. **Greg Scarth** takes a look at the world of chiptune

Music in modern videogames is likely to be a collection of licensed commercial tracks or CD-quality recordings of original music. This is a world apart from the home computers of the 1980s, when reproducing high-resolution PCM recordings was out of the question. These classic consoles were stretched to their limits running the games themselves, never mind trying to get them to play back recordings of music at the same time.

As a result, music had to be synthesized in real-time, using very basic synthesis

engines built into the hardware. The distinctive sounds which games consoles and home computers produced have become popular again as a result of their retro appeal and 21st century nostalgia.

Chiptune and chip-style sounds in popular music are now more accessible and mainstream than ever. This month, we'll take a look at how the scene developed and how you can get the sound.

Video nasty

The home computers and video game consoles of the 1980s relied on real-time

synthesis chips to create sound effects and music. Some machines such as the Commodore 64 (1982) and Atari ST (1985) used dedicated synthesizer chips while others such as Nintendo's NES (1985) created sounds directly from the console's main processor, and the differences in sound chips were responsible for differences in sonic characteristics between consoles.

The sound of chip music was heavily influenced by the distinctive tones and timbres of the hardware, but it was also directly affected by the limitations of the technology. Authentic drum and percussion sounds, for example, were particularly difficult to recreate and so, were often imitated using very short tones, pulses and bursts of noise. Furthermore, with only a few voices to play with it was necessary to program patterns which made efficient use of the limited polyphony. Stylistic touches such as trills and arpeggios also contributed heavily to 1980s chip music developing a very distinctive futuristic Electro Pop sound.

SID vicious

Perhaps the most famous chips of all are the SID (Sound Interface Device) integrated circuit used in the Commodore 64. Developed in 1981 by Pennsylvania semiconductor company MOS Technology, the SID was a remarkably powerful single-chip digitally controlled synthesizer, even by modern standards. With three independent oscillators each capable of producing sawtooth, triangle, pulse and noise waves, the SID chip provides basic three-voice polyphony.

A multi-mode filter, three separate amplitude envelopes and individual ring modulators for each oscillator allow the chip to create a surprisingly wide variety of sounds, although everything ends up sounding distinctly 8-bit and computerised. In later years, SID programmers even figured out methods to allow the chip to reproduce digital samples. The results are unmistakably retro and have recently enjoyed a resurgence in popularity as producers have realised how they can add a hint of '80s flavour to their tracks.

Engineer Bob Yannes, who headed the development team, went on to found Ensoniq and the SID became a legend in chip music.

The demoscene

One of the more esoteric music scenes which developed from early computer synthesis methods was the demoscene which emerged in the early 1980s, initially very closely associated with video game piracy. Teams would produce cracked copies of games and then add their own intros to the program code, essentially bragging about

DIY SID Synths

Programming chiptunes from scratch might be a step too far for the vast majority of us, but there's still a way you can get your hands dirty and create some truly authentic chip-based music without breaking the bank. The Commodore 64's legendary SID chips have become incredibly popular on the DIY synth scene and a number of designs have

been created which use the SID as the basis for fully-featured synth modules. With C64s still cheap and easily available on the second-hand market, it's possible to turn a car boot sale bargain into a powerful tool.

These DIY SID synths are essentially very similar to the much more expensive Elektron Sidstation module. More complex versions like

the MIDIbox MB-6582 incorporate up to eight chips for incredible versatility.

The strength of support for the SID chip means there's plenty of info on the web and a number of forums to guide you through the process, all the way from soldering to playing. The uCApps website (ucapps.de) and MIDIbox blog (midibox.org) are your first ports of call for more information.

Sidstation

Now discontinued, Elektron's Sidstation became a classic box



their cracking abilities. These so-called crack intros (or cracktros) not only showing off the programmers' talents for creating cutting-edge animated graphics, but featured soundtracks created to demonstrate their audio programming skills. From here, the demoscene also moved down a more legitimate legal path, with programmers creating demos for no other reason than to showcase their abilities and create music.

Towards the end of the 1980s, home computer equipment had reached a level of maturity which meant that it was now capable of running basic music software. Before DAWs, soft synths and audio editors, the world of computer music was ruled by trackers, rudimentary software sequencers which allowed users to create music by entering notes in step-time. The market was limited somewhat by the fact that most trackers used very unfriendly GUIs which required the user to enter numerical values representing note information.

Early examples, such as Rock Monitor on the C64, used the computer's internal synthesis chip to create the sounds themselves, but Ultimate SoundTracker, released on the Commodore Amiga in 1987, set the standard for later software, allowing users to piece together (short) digital audio samples and play them back at different rates or loop them to create basic virtual instruments. Patterns and samples could then be saved together as a complete song

Trackers can be seen as a direct predecessor of the modern DAW

(typically as a MOD file, hence why the tracker music community is also sometimes referred to as the MOD scene). Not only were trackers largely responsible for the popularity of the demoscene, but they can be seen as a direct predecessor of the modern DAW.

Although the vertical scrolling timeline and numerical data entry system have largely been abandoned, it's clear to see a link between these early examples of audio software and the sequencers and audio editors we use now.

Although there remain strong divisions between different sections of the modern chiptune and demoscenes the community continues to develop, with software such as Little Sound DJ for the Gameboy DS (littlesounddj.com) offering new alternatives



to the classic Amiga, Atari and C64 programs. The MOD/demoscene rose to prominence in 2007 when it emerged that Timbaland's production on the Nelly Furtado single *Do It* was apparently heavily influenced by a demo created by Finnish musician Janne Suni, also known as Tempest. The original track, *Acidjazzed Evening* was an Amiga MOD file created in 2000 and later remixed for the C64 SID by Norwegian demoscener GRG. Media coverage of the ensuing legal wranglings helped to advertise the community spirit of the demoscene.

Soft chips

Although it's the most authentic solution to creating chip-based music, the idea of programming a 30 year-old games console probably isn't everyone's idea of fun. Thankfully, there are a handful of great options for adding authentic chip sounds to your music. Most of the solutions revolve around the C64's SID chip, which offers the most versatility of all the classic hardware.

The most simple, rough-round-the-edges method is to find yourself a C64 and use software to control the SID, giving you direct access to all of its features. The MSSIAH cartridge and software from 8-bit Ventures (8bitventures.com) offers a very straightforward solution for hooking your C64 up via MIDI and taking control of the SID. It's even possible to control the chip over MIDI via a number of MSSIAH virtual synth plug-ins that will run in your DAW.

A slightly more convenient answer might be to find yourself an Elektron Sidstation.

Back in 1999, before the Machinedrum and Monomachine, the Swedish company launched itself with this SID-based synth with full MIDI control, arpeggiators and on-board effects. The only problem is that the Sidstation was discontinued in 2006 so if you want one now, you'll need to scour the second-hand market and be prepared to spend £500-600.

While these hardware solutions are the most authentic way of getting the true sound of classic games consoles, the quickest and easiest way of getting started with chip sounds is to use a software emulation. Plogue's excellent Chipsounds (plogue.com), released last year, is the most comprehensive virtual chip synth we know, and offers realistic recreations of nine different chip types. For a very basic alternative, you could also try Sam's Chip32 plug-in, available as a free download for Windows and Mac (geocities.jp/sam_kb).

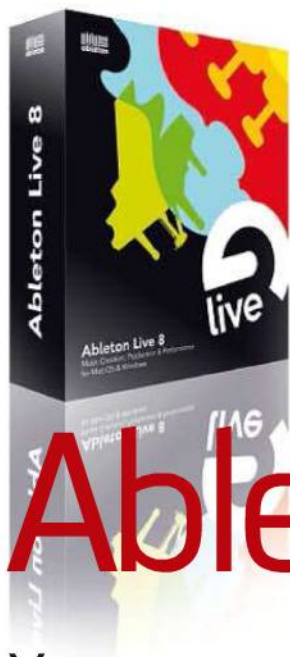
Now that every video game has a commercially licensed CD-quality soundtrack, it seems a bit of a shame that the days of lovingly programmed chip-based soundtracks are behind us. Thankfully, the sound of chip music lives on with SID-based synths and software emulations.

Even in the days of much more powerful hardware and software, it looks like the bleep of the chip is here to stay. **FM**

KNOWLEDGE BASE NEXT ISSUE

Stay tuned to *Knowledge Base* – next month we'll tackle the ins and outs of timecode. **FM229** on sale 12th July

ABLETON LIVE ESSENTIALS



Wireless Syncing in Ableton Live 8

You can use ReWire to sync Live with apps like Logic and Reason on the same computer, but what about multiple machines? You can do it with MIDI cables and interfaces, but why not try it over a WiFi network? **Martin Delaney** goes ad-hoc...

A lot of people like to DJ with their computers. Some of them use Native Instruments' Traktor, or Serato's Scratch and some of them use Ableton Live. Gradually, people have realised that they don't have to choose just one of these programs – maybe this

follows on from the announced (but still unavailable) collaboration between Ableton and Serato, The Bridge. Traktor users might feel that, instead of moving over to Serato, they could sync their fave DJ program with Live. It makes sense – Live's the king of real-time audio editing and stretching, has

THE EXPERT

Martin Delaney
performer,
educator,
producer



Martin, aka mindlobster, has produced Live training material for MacProVideo and PC Publishing, and has personally taught Live to musicians, DJs, kids, and prisoners. He also designed the Kenton Killamix Mini MIDI controller and is one of the UK's first certified Ableton Live trainers.

great performance-friendly audio and MIDI effects, and has a unique combination of structured timeline playback and grid-based jamming/improvisation.

Traktor uses a more typical dj-software-trying-to-look-like-dj-hardware layout, with ridiculous amounts of MIDI mapping (to the point where you can navigate and load songs from a playlist using a joystick), performance oriented audio effects of its own, and the ability to save up to 32 loops within a song for later recall – I wish Live could do this. Live's Loop Brace works OK, but frankly, for live performance, the Traktor way is better (Traktor also doesn't create those horrible disk-space-sucking WAV files when you load MP3s).

In sync

There are some basic sync setups that you can use, depending on your wants/needs/ budget: run both apps on the same computer, sync two computers through MIDI cables and interfaces or the one we're doing here – sync two computers through a wireless MIDI network.



Traktor and Live have a lot to offer to performers and adventurous DJs – they make a great combination



You could end up jamming with the person standing next to you on stage, or in another club in another country

Using two computers lightens the CPU load, makes it easier to see what's going on by spreading the interface(s) across two screens, and makes it more practical for two people to jam together. This is a Mac-only tutorial – sorry. It can be done with Windows, but there isn't enough space here to cover that as well. The fact is, it's easier in OS X because it's built-in, there's no need to cruise the web looking for third-party MIDI utilities. In Part 2, next time round, we'll be looking at those other sync setup options, so be patient and hang on if you're not a Mac user.

If there's no WiFi network at the studio or gig, you can create a computer-to-computer network. This means you can use your wireless sync setup anywhere – and it also puts you in charge of access.

Air traffic control

If you can't see a WiFi icon in your finder menu bar, go to System Preferences/Network and check 'Show AirPort status in menu bar'. Quit System Preferences, then click on the WiFi icon in the Menu Bar, and choose Turn AirPort On, then choose Create Network. Name your network. You'll see that you can add a password to it if you want to. You should see the bars in the WiFi icon turn black to indicate signal strength. Go to your other computer and log on to the new network and you're done. Get this going, and you could end up jamming with the person standing next to you, or in another club in another country! **FM**

LIVE ESSENTIALS NEXT ISSUE

Make sure you pick up *Future Music* next month for more on syncing Live across two machines. **FM229** on sale 12th July

How to Sync Live with... Live

Take an Ableton Live-crazed MacBook-fuelled power trip and run two of everything!



1 Set up the MIDI wireless network in our six-step tutorial first (page 75). After that everything's pretty straightforward. Choose a 'master' computer, and launch Live. Open Preferences, and under the MIDI Sync tab, choose your MIDI Network session as a MIDI Output Sync destination.



2 Launch Live on the other computer, open Preferences and in the MIDI tab choose your MIDI Network session as a MIDI Input Sync source. Close Preferences. You'll see an EXT button's appeared at the top left of the Live screen. Click on this and it'll go yellow.



3 Now when you click play, or hit the spacebar, or trigger a clip on the first computer, playback will begin on the second one, and everything will be in sync. Change tempo on the first computer, and the second one will follow right along. Sweet!

How to Sync Live with Traktor

Create what is possibly the ultimate DJ setup – run Live and Traktor together



ON THE DVD

A QuickTime movie showing the techniques in on these pages in action. You can download the Traktor demo from native-instruments.com.



1 Make sure you've set up the MIDI network in our six-step tutorial first. Choose a 'master' computer, and launch Traktor on it. Open Traktor's Preferences, and under the Controller manager tab, choose your MIDI Network session as the Out-Port, then close Preferences.



2 At the top left of the Traktor screen, click on the metronome icon to view the Master Clock Panel. Click on the Master Clock Auto button, then click on the Master Clock Start button. Close Traktor's Preferences and open Live on the second computer.



3 Go into Live's Preferences, and under the MIDI Sync tab, choose your MIDI Network session as the MIDI Sync source, then close Preferences. Now click the Master Clock Sync button above Traktor's Master Clock Start button, and Live will run in sync with Traktor!

Adding Hardware

Once you get through the basics of setting up sync, you'll start to realise the awesome possibilities that await, like syncing more than two computers, or syncing computers online instead of next to each other, or routing audio between computers (more on that next month) or – finding nutso ways to integrate your MIDI controllers.

Traktor and Live both support multiple MIDI controllers, so you could surround yourself with walls of knobs, faders and still-trendy-ish blue LEDs if you wanted to. Even if you keep it basic, you'll get huge amounts of control. Live's MIDI learn makes MIDI control assignments a breeze, even during a gig, while Traktor's, which is a lot more involved – lets you map everything to anything, to the point where you shouldn't have to touch the computer or mouse at all during your performance.

Two control

The obvious way to start is with dedicated controllers for each application. With a Live-Traktor setup, you could use the Novation Launchpad or Akai APC20/40 for Live, and the NI Kontrol X1 for Traktor, with a Live/Live setup you could use the Launchpad plus APC, or a couple of APCs.

If there are two of you jamming, this is obviously the way to go. If you're working two computers on your own (greedy), and you're good at remembering presets, you could go the other way and use one controller that is reaching both applications, with presets for each. I reckon it'll be less of a headache, and visually clearer to stick with separate, dedicated, controllers though. More serious tech heads could use a device with a configurable interface, like the iPhone/iPad, or Lemur, where controls for both applications could sit next to each other on the same screen.

You should also spend some time playing around with the Live routings options in Audio MIDI Setup – they'll let you route a controller or any input, like a MIDI keyboard for example, to any computer (and any program) in the MIDI network.

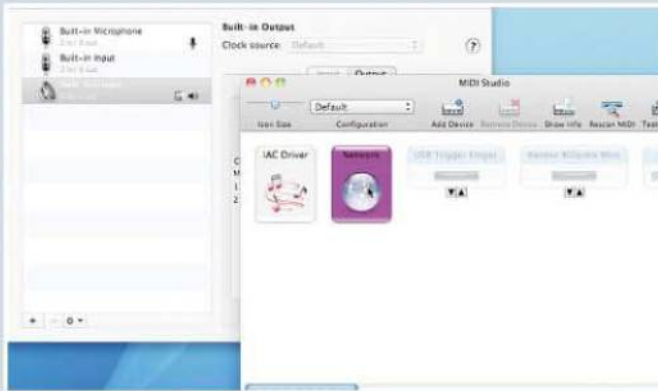
Dual Control

NI's Kontrol X1 and Akai's APC-series make a great pair

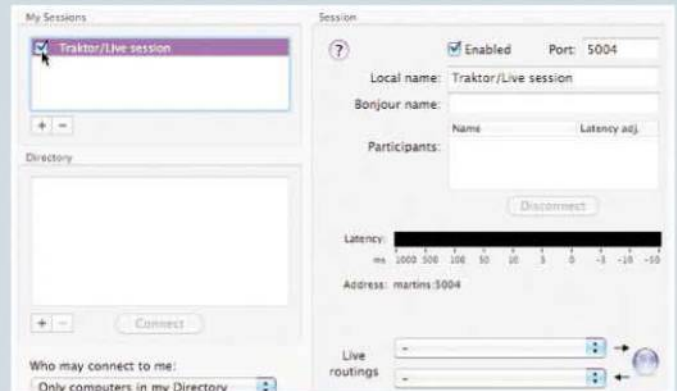


Set up a MIDI Wi-Fi Network

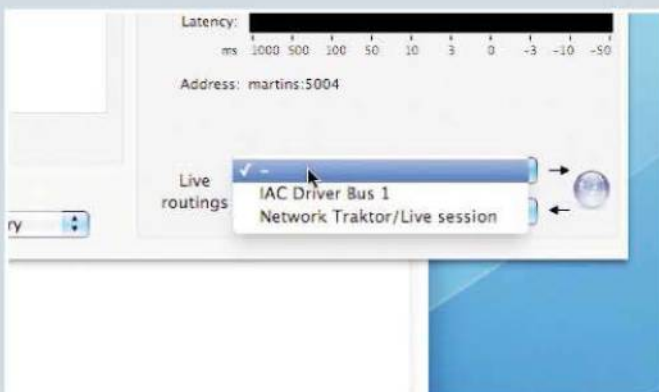
Mac OS X makes it surprisingly easy to sync music apps running on each – and no clunky cables needed!



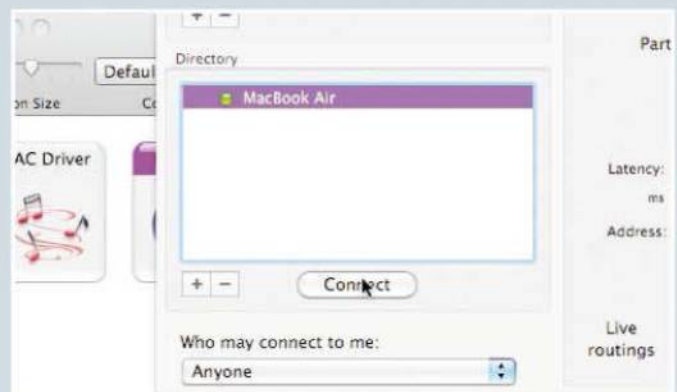
1 Connect both Macs to the same Wi-Fi network – a permanent one, or a computer-to-computer (ad hoc) one you set up yourself. On the first computer, launch Audio MIDI Setup – it's in the Utilities folder – then, from the Window menu, choose Show MIDI Window, and double-click the Network icon.



2 This'll bring up the MIDI Network Setup window. Go to the My Sessions window at the top left, and click the '+' sign to create a new one. Click on it and rename it something useful (you can create several sessions if you need to). Tick the box next to the session to enable it.



3 As you do that, you'll see the window on the right update. At the bottom left, you can restrict access to your MIDI Network, so nobody butts in without an invite (or without bringing beer). The Live routing options on the right are useful for re-directing MIDI inputs and outputs.



4 Launch Audio MIDI Setup on the second Mac, and go to the MIDI Network Setup window again. If the Gods of wi-fi are smiling on you (and why wouldn't they be?), your first computer's name should be visible in the Directory list at the lower left. Click on it and then Connect.



5 You don't need to do anything to save these setups. Next time you want to use it, open Audio MIDI Setup again on each computer, choose the session you want to use, and you're off. Live and Traktor both recall their last MIDI settings, so you don't even have to save templates for these.



6 From now on, whenever you launch any MIDI-friendly application, you'll be able to select your MIDI Network as a MIDI source or target. One important thing to remember is that there's no real 'Master' and 'Slave' at this point, like with ReWire – you'll set up sync priorities at the level of whatever programs you're using.

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Latest Release

A GUY CALLED GERALD DEEP TECHNO SESSIONS

Deep Techno Sessions is a collection of atmospheres, ambient loops, chord progressions and Progressive Drum samples created by Gerald himself for future producers who mix Detroit, Berlin and Retro- Progressive influences to shape tomorrow's sounds.

Specifically you will find 7 Ambient Loops, 30 Deep atmospheres, 12 Transitional Fx, 63 Deep Bass Loops, 127 Club Ready Drum loops, 45 Inspirational Music Loops, 59 Single Bass Tones, 220 Single Drum samples, 32 Techno Instrument Sounds, and 19 Miscellaneous FX.



Best Sellers



Progressive House
& Future Tech



Lucio Aquilina
Deep House Sounds



Tech House &
Deep Minimal



Minimal Undergr'd
Techno Vol 2



Rise
Push Button Bang



Disco Strings

Featured Products



Artist Series Download Packs



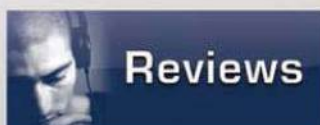
Sounds and inspiration from some of the world's best known music producers and artists directly to your desktop.



Loopmasters Sample Boutique

Loopmasters are proud to bring you some of the best collections of sounds and samples in multiple formats from some of the most cutting edge labels and producers on the planet. Visit our website today and experience a new way of buying royalty free sounds, samples and patches to inspire your productions!

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- Tech articles and industry knowledge
- Cutting edge labels
- Artist sample collections
- Search by label, genre or format



Featured Labels



WAV : REX2 : ACID : REASON REFILLS : LIVE PRESETS : APPLE LOOPS : AKAI MULTITRACKS : HALION : MPC : EMU : EXS : RMX : SFZ : MAC / PC

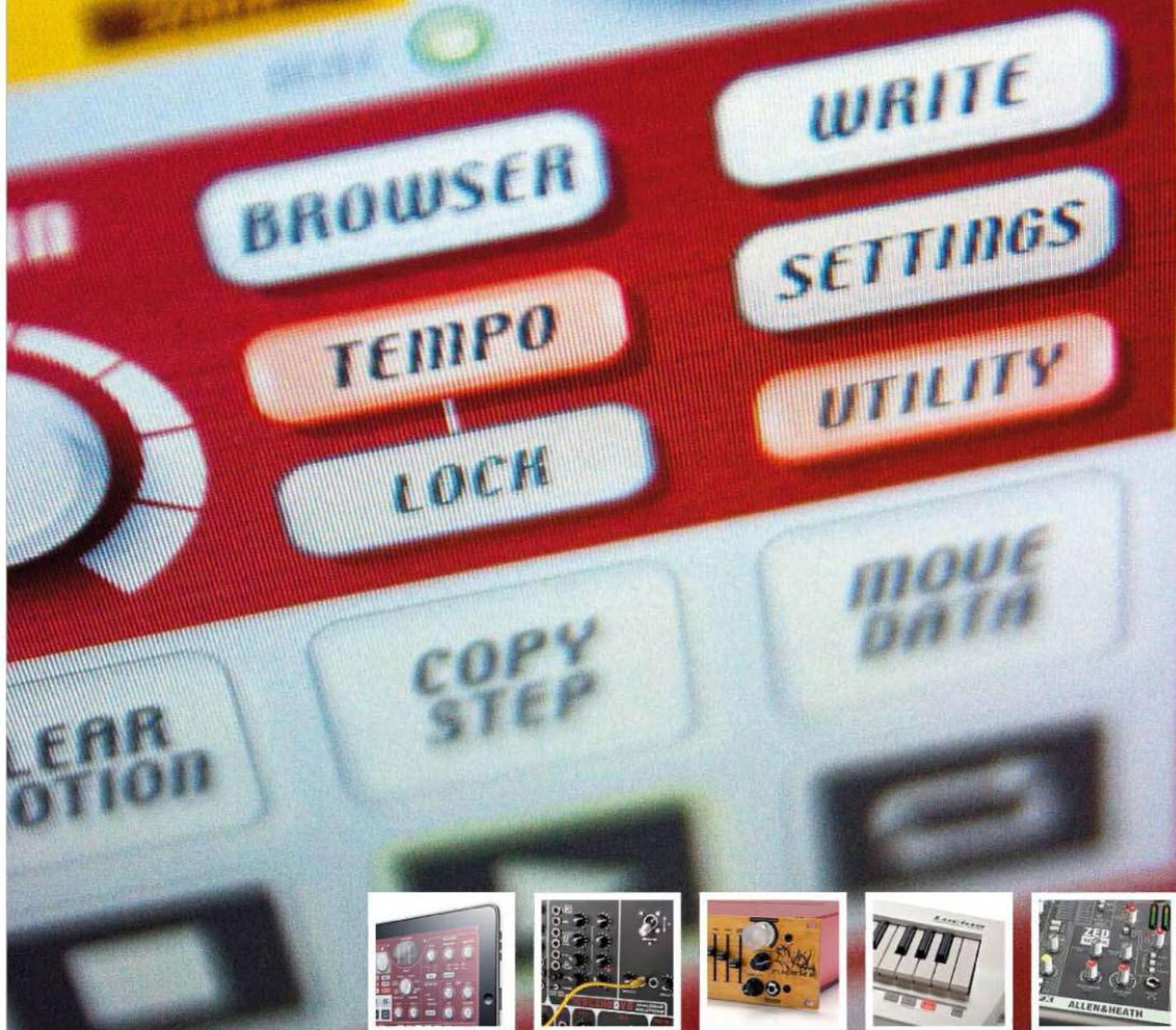
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Reviews

The month's studio essentials
on the *FM* test bench...



Highlights this issue...



Apple iPad
78 It's here at last and is already groaning with a wealth of amazing music software. Check it out!



Analogue Solutions Tereshkova
82 It's the amazing suitcase modular synth with heaps of flexibility.



Evol Audio Fucifier
86 Compression, distortion, filter and EQ in one box. It's the ultimate boutique sound mangler.



Roland AX-09 Lucina
88 After the AX-Synth comes the latest keytar from Roland.



Allen & Heath ZED 10FX
94 Could this be the best budget and portable way to integrate your hardware into your digital rig?



WHAT IS IT?

Multi-touch tablet computer and multimedia player

CONTACT

Who: Apple UK
Tel: +44 (0)800 048 0408
Web: apple.com

HIGHLIGHTS

- 1 9.7-inch multi-touch LCD screen
- 2 16GB, 32GB or 64GB flash storage drive
- 3 Wi-fi connectivity as standard, optional 3G



Apple iPad

from £429

Apple's touchscreen tablet finally arrives in the UK.
Greg Scarth gets his hands on one of the first models

Unless you've been deliberately avoiding it you can't have missed the hype surrounding the launch of Apple's iPad. And on May 28th the UK finally got its collective hands on Apple's long-awaited tablet computer. We've got hold of a 16GB WiFi model to put through its paces. We know its

media and gaming skills but what does it offer us musicians and producers?

Sights and sounds

The first thing you notice about the iPad is its outstanding build quality. The case feels tough while remaining light and easily portable. I wouldn't want to throw it straight into a bag without a case to

protect the glass screen, but it certainly feels very solid.

I found the LED-backlit screen exceptionally clear and the multi-touch easily tracks ten separate finger gestures at once (in fact, the iPad actually responds to eleven simultaneous gestures). The accelerometer ensures that the screen remains upright, but the orientation can also be locked using a sliding switch.

Firing up some music apps, the iPad's sound quality is impressive, with plenty of power for a unit of this size and bass response easily on a par with a MacBook. The one flaw is that Apple have made the strange decision to position the iPad's two speakers adjacent to each other by the dock connector, meaning that the sound output is effectively mixed to mono. This is most likely a space-saving measure, but true stereo speakers would have been much better. As such, you'll need to plug in a pair of headphones or speakers to get the best results and

thankfully the 3.5mm audio output has a low noise floor and clean digital to analogue conversion.

Endangered Lemur?

The wide variety of music apps already available for the iPad make it useable straight out of the box. As a multi-touch controller running TouchOSC (reviewed over the page) the iPad is fantastic, offering most of the functionality of a dedicated device like Stantum's JazzMutant Lemur or Dexter for just a fraction of the cost. TouchOSC alone could just be the killer app necessary to win over electronic musicians. At less than a third of the price of the Dexter, no multi-touch controller comes close to the iPad in terms of value for money, versatility and power. As far as it being a 'Lemur-killer', if you excuse the hyperbole, it's yet to be seen how the iPad survives in the beer-soaked, reckless arena of live performance, so no conclusions can be drawn as yet.

Apps like TouchOSC rely on WiFi connections and having heard reports from the US of crippling unreliable reception I feared the worst, but over the course of a couple of weeks testing

The iPad version of TouchOSC could just be the killer app necessary to win over electronic musicians

in a number of locations, I didn't experience any problems. Whether it's as a result of the wireless card or (as I suspect) the iPad's version of Safari, web browsing is also lightning fast, with pages loading quicker than they do on my MacBook Pro. And even with WiFi on, battery life was even better than the claimed 10 hours. After leaving videos playing for 10 hours, I was amazed to see that the iPad still displayed 12% battery life remaining.

The downsides

Apple sceptics have already picked fault with the device's specifications, citing its 1GHz processor, 256MB RAM and relatively small storage space as major weaknesses. The iPad is less powerful than a MacBook and more expensive than a Windows netbook, but for me these downsides are outweighed by the stunning multi-touch screen and the unit's ease of use.

Even the unit's major bugbear – the lack of multi-tasking allowing you to run

Flash Bang Wallop

Much has been made of the iPad's lack of Flash support, an omission that appears seriously problematic for a device that is otherwise a dream for web browsing. For most of us, accessing music and video content through Flash is a

necessity. Apple CEO Steve Jobs' main gripe is that Flash is unstable. Despite its ubiquity, there's little doubt that it's a temperamental, resource-hungry format. However, I suspect Apple's reasoning also has something to do with their

general distaste for proprietary web content formats (or at least proprietary formats owned by other companies).

The omission of Flash from the iPhone and iPad is a sign of Apple's aggressive attitude towards speeding up the extinction of unwanted technology. Let's not forget that most pundits thought Jobs was crazy not to include a floppy disk drive in the iMac.

YouTube and Vimeo have both begun trials of HTML5 – an open-source Flash alternative. Time will tell if this turns out to be the first sign of Apple getting their way.



a groovebox app while checking your mail – is being fixed in a forthcoming OS4 upgrade. As to then whether you'll be able to run a synth app *on top that*

said I predict all kinds of add-ons via that 30-pin connector and enough MIDI interfaces, old skool synth editors, clones of retro gear and drum machines

and innovative
new music apps to
keep anyone
knee-deep in
inspiration.

For most of us, the iPad might not be cheap enough to justify its

purchase but as more and more music-making apps become available I expect the device to gather a significant following and become more essential among forward-thinking music makers.

The real value of the iPad ultimately comes from the apps. For now the jury's out, but I've bought one and I hope the software developers repay my faith in the hardware. I can't wait to see where the technology goes from here. **FM**

Should you buy one?

And the success of the iPad for musicians depends almost entirely on what developers can bring to the table. And for me, the most exciting question isn't what it can do on its own, but how it can improve our existing technology. The iPad can be anything from a fun hand-held synth to a capable multi-track DAW, but it really comes alive when you're given the chance to use it with the rest of your studio gear. The iPad could turn out to be one of the best multi-functional studio tools on the market. It's just a shame that simple, user-friendly basics such as a USB port are missing, making any kind of 'easy' integration that little more hassle. That

FutureMusic VERDICT

Category	Score (out of 10)
BUILD	10
VALUE	8
EASE OF USE	10
VERSATILITY	9
RESULTS	10

The first mainstream tablet computer offers an unparalleled hands-on user experience.

SPECS

1GHz Apple A4 processor
16GB, 32GB or 64GB
flash drive
256MB RAM
9.7-inch 1024x768 pixel
LED-backlit multi-touch
LCD screen
Built-in microphone, mono
speaker and 3.5mm stereo
output jack
Wi-fi, Bluetooth,
accelerometer, ambient
light sensor and digital
compass on all models.
Optional 3G with contract

Prices from: £429 (16GB
Wi-Fi model) to £699 (64GB
3G model)

Dimensions:
243 x 190 x 13mm
Weight:
0.73kg

ALTERNATIVES



HP Slate

around £450 TBC

The iPad's TBC PC rival has a faster processor, more RAM, a USB port, an SD card slot and a camera. The trade-offs include a smaller screen with lower resolution and shorter battery life.

hp.com/slate



Asus Eee PC 701

£219

Asus's Eee range of subnotebooks has sparked a craze for tiny laptops. Though with a 7-inch screen, slow processor and not much RAM things can get tiresome.

eeeepc.asus.com

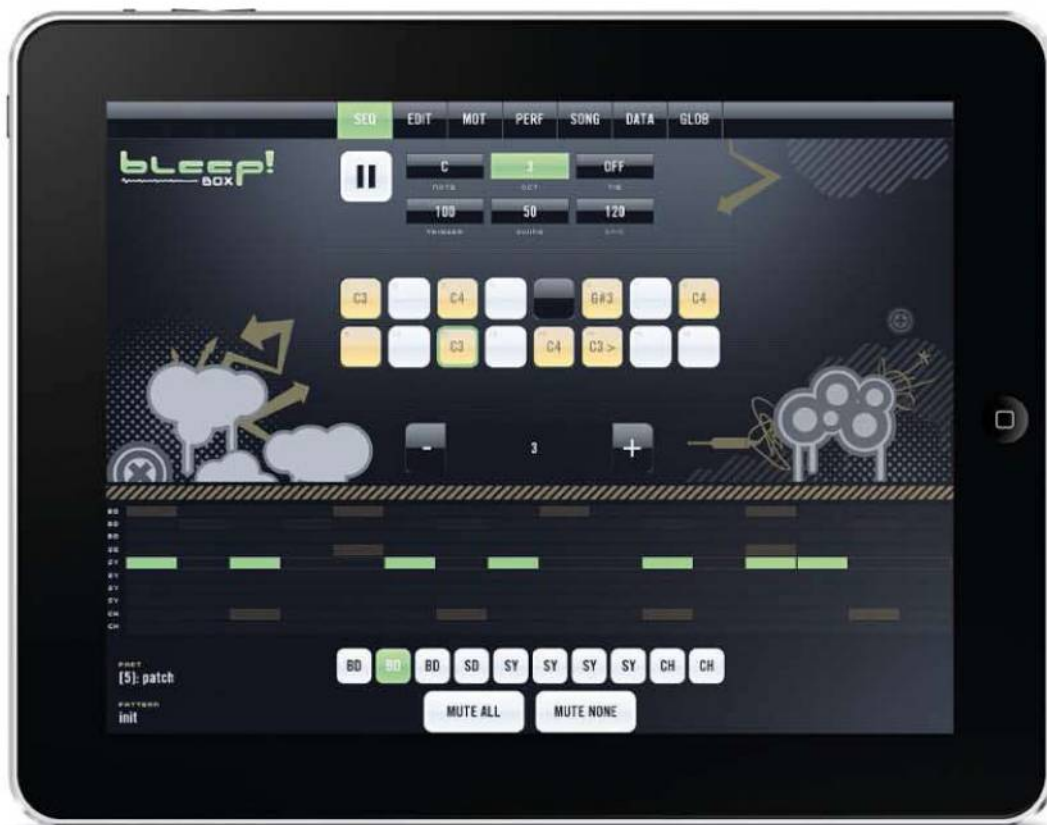


Apple iPhone

Free with contract

Many of the apps developed for the iPad should trickle down to the iPhone and vice versa. Rumour has it you can even use it to make phone calls.

apple.com/uk/iphone



White Noise Audio bleep!BOX | £5.99

An old favourite from the iPhone, bleep!BOX for iPad shows how the larger touch screen really

increases its potential. Based around the classic step sequencer format, bleep!BOX synthesises all parts on

the fly, meaning you can edit everything in real time and hear the results immediately. Program patterns, string them together to create songs and automate up to 50 synthesis parameters as you go, then export your tracks as WAV files. The

emulations of classic TR808 and 909 drum sounds plus squelchy synth basslines make bleep!BOX especially fun for creating classic Techno and Acid House.

9/10



Korg iElectrube | £5.99

Korg's first step into the app world is a resounding success. With 64 preset patterns to try out and 32 basic templates to build on, it takes no time at all to start putting together your own grooves, adding variations and automating parameters as you go. There are only a few downsides.

Most notably, the effect section is somewhat limited and the tube saturation feature sounds very harsh. Lack of tempo syncing is an inevitable downside but the ability to export your patterns as WAVs means you can still work them into your productions. iElectrube is great fun, but with further development it could become a serious tool. Definitely one to watch.

9/10



Hexler TouchOSC | £2.99

Already updated from the original iPhone version, TouchOSC is the iPad's secret weapon. A multi-touch controller that transmits information over WiFi using the OpenSound Control protocol, this app might just persuade you that you need to buy an iPad. With dedicated multi-touch controllers such as Stanton's JazzMutant Lemur and Dexter running into thousands of pounds, TouchOSC is a cheap option but it's certainly not a poor imitation.

It takes a bit of setting up (you'll have to use other software such as OSCulator or Pure Data to feed the OSC messages into your music software), but the result is a fantastic hands-on controller experience that can be customised to suit your requirements. Overall, TouchOSC is a little complex to get started with but absolutely worth the effort.

9/10



SkyLight Hex OSC Full | £9.49

With a handful of built-in synth sounds, Hex OSC is a fun little toy in its own right, but it really comes into its own when transmitting note information via OSC. Use the generalised keyboard (hexagonal keys laid out in a repeating pattern) to take control of your synths and you'll soon discover the appeal of the unusual design. Interesting, but a little on the expensive side for a somewhat specialist app.

6/10



Alexander Zolotov SunVox | £1.19

A proper tracker complete with vertical-scrolling display and numerical note entry, SunVox is a great bargain if you're looking for a taste of the old skool. Built-in synthesizers and effects can be linked in a modular fashion, allowing all sorts of crazy sounds to be created, or WAV files and FastTracker XI extended instruments can be loaded into the sampler so you can bring your own sounds straight into your tracks. Retro fun.

7/10



Propellerhead ReBirth | £3.99

The original version of ReBirth for Mac and PC is as close to a legendary piece of software as you can get. This iPhone version brings all of this to your pocket, but unfortunately the cramped interface makes it a real pain to navigate and see exactly what settings you're tweaking.

The iPad's ability to scale iPhone apps improves things significantly, allowing you to see what's going on more clearly (albeit with very fuzzy graphics).

ReBirth still sounds good and it's great fun to have all this power in your hands but other apps such as Technobox and DB-303 already offer similar features with more friendly interfaces.

5/10

Sonnox ENHANCE

The Sonnox Enhance Collection features three easy-to-use, incredibly powerful plug-ins to give your mix the punch to be heard above the rest.



The Oxford Inflator

Want your vocals to cut through the mix? Need to add extra warmth and presence to a guitar or bass? Inflator is a powerful plug-in that brings a real authority to your mix, and simply makes everything sound 'fatter'.

"Inflator enhances a mix with warmth that far exceeds any of the other plug-ins I have used."

"Amazing!"

"Results are stunning"



The Oxford Transient Modulator

Got a snare that's not sounding snappy enough? Toughen up your drum sounds using TransMod without the artefacts of compression. Significantly increase or reduce the transient detail in drums, bass or any other tracks.

"This is the Auto-Tune of the drum world!"

"The most significant achievement in fidelity since EQ and compression."



The Oxford Limiter

Want your mixes to sound as loud as they do on the radio? Whether you're aggressively driving an additional 18dB into it or just gently limiting, the Oxford Limiter is a transparent processor that will keep your panning, transient detail and every aspect of your mix exceptionally well defined.

"Wow, this thing sounds amazing! Everything just comes alive.."

"This has to be my desert island plug-in, if I could choose just one."

Try free demos today, and hear how much better your mixes can sound.

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Four essential Oxford plug-ins at 30% off individual prices!

Contains:
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www.sonnoxplugins.com

**Oxford
Plugins**

Analogue Solutions Tereshkova | £1,820

In Soviet Russia, modular synthesizer patches you!
Greg Scarth blasts into orbit with Tereshkova...



WHAT IS IT?

Semi-modular analogue suitcase synth

CONTACT

Who: Analogue Solutions
Tel: +44 (0)1384 35 36 94
Web: analogue-solutions.com

HIGHLIGHTS

- 1 Three-oscillator semi-modular analogue monosynth
- 2 Korg MS20-style multi-mode filter
- 3 MIDI-to-CV converter and built-in eight-step sequencer

On the surface, Analogue Solutions' new Tereshkova appears very similar to the Vostok suitcase synth

which arrived on the scene back in 2003. However, the Vostok has seen significant development since that original version, and the Tereshkova builds upon the latest version with an additional LFO and two more VCAs. The suitcase design might make comparisons inevitable, but be under no illusions that the Tereshkova is a Synthi clone. This is an original synth with a sound all of its own.

The Tereshkova follows a semi-modular design, built into a surprisingly light steel suitcase with a removable lid. Connections are made

via 3.5mm mini-jacks and the case has been designed so you can close the lid with the patch leads in place. Handy if you need to make a swift getaway half way through programming a sound, although we dread to think what customs would make of the Communist styling if you tried to carry this synth as hand luggage.

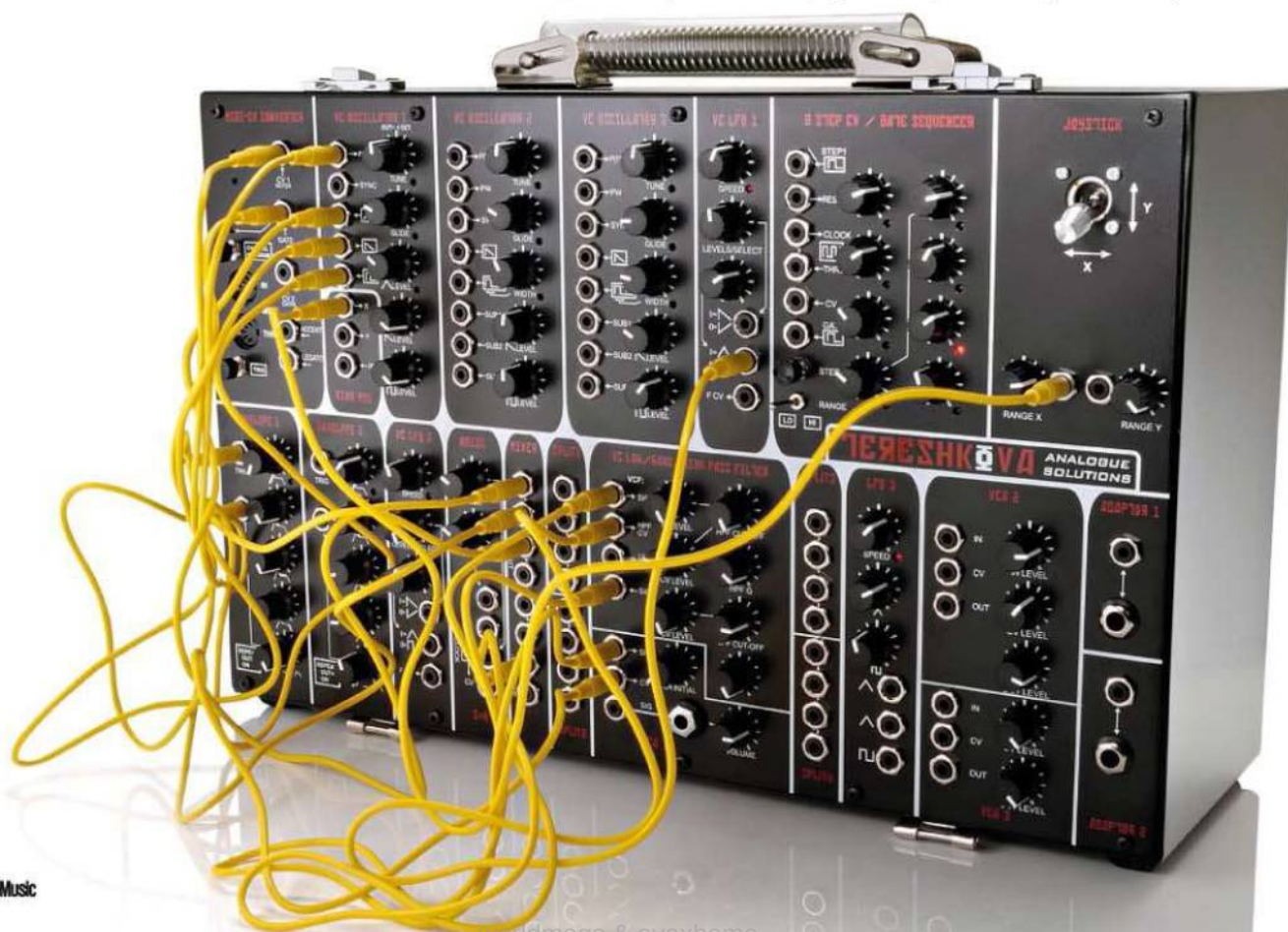
Sound patch

Firing the Tereshkova up, I put together a basic patch to get a feel of things. My first impression is that MIDI-to-CV conversion is a little on the basic side. With only one controller CV output, you're restricted to either modwheel or velocity. There's also no pitch bend or aftertouch, which is in keeping with

the vintage aesthetic but limits your potential range of expression. A couple of extra outputs for the pitch CV and note on/off gate signals would also be nice here, given how much blank space there is on the panel.

It's no problem to split the signals up, but it uses up sets of multiples which could otherwise take care of something else. For a synth of this complexity, I'd also like to have seen a MIDI clock to gate converter for tempo-synced modulation.

VCO1 offers triangle, sawtooth and square outputs, while VCOs 2 and 3 ditch the triangle and offer pulse outputs with a pulse width modulation CV input for lovely creamy PWM sounds. VCOs 2 and 3 each offer three sub oscillator outputs: one, two and three octaves down from the pulse wave respectively. Once tuned, the oscillators are stable and the tracking remains consistent across a broad range of frequencies, but the lack of separate coarse and fine tuning knobs means you need the delicate fingers of a safe cracker to get all three singing in harmony. The absence of range switches on VCO2 and 3 means that if you want to jump up an octave (or down with triangle or sawtooth waves) you'll have to dial it in manually with the pitch control. The tuning knob on VCO1 can be pulled out to drop an octave but you'll inevitably knock the



tuning out as you do so. A separate switch would be preferable.

The filter section is claimed to be based on the Korg MS20's 12dB/oct multi-mode VCF but to my ears it's not as harsh. The high-pass and low-pass sections are in series so they can be used simultaneously to create a bandpass effect but this means there are no separate outputs for the two sections. Cranking the Q control up to maximum allows both filter sections to be pushed into self-oscillation. It's a nice versatile unit but with three oscillators to play with I kept finding myself wishing I had another filter so I could really get some freaky sounds going. On the plus side, CV modulation of the filter cutoff is effective and nicely adjustable, offering some seriously nasty effects when modulated with audio rate signals.

Complex patches

The versatility of the synth means that your options for sound design are incredibly varied. Two of the three LFOs can have their speed modulated by a CV signal, while the level knobs also function as pull switches to invert the sawtooth signal or switch between triangle and square waves. The output of the envelope generators can be adjusted or inverted, and there's also a repeat option to make the envelope loop. In addition to the ring modulator

You Sunk My Battleship



The Tereshkova has a twin brother in the form of the Vostok, also updated for 2010 and worth considering as an alternative option.

The Vostok sacrifices two of the Tereshkova's VCAs, an LFO and two sets of multiples in order to make room for a pin matrix and a VU meter. The matrix routing

system, used by classics such as the EMS Synthi range and the ETI 4600, allows a number of signals to be routed to any destination simply by inserting a connecting pin on the matrix grid.

The legendary ARP 2500 featured a similar system using switches rather than pins. The main advantage of the

matrix system is that complex routings can be achieved quickly and easily without creating a confusing mess of patch cables. Whether it's worth sacrificing the Tereshkova's extra LFO and VCAs for the matrix is debatable but the simplicity of the pin matrix system is definitely worth considering.

in favour of a more fully featured MIDI-to-CV converter.

For me, the only major question about the Tereshkova is whether the

par with building a similar system from modules and there's no doubting the convenience of the very well built suitcase format. With a whopping 96

patch points, it's as flexible as a Soviet gymnast but if you prefer the simplicity of the pin matrix routing system, the Vostok may just have the

edge. For me the Tereshkova's extra LFO and VCAs make it the winner.

I could happily spend a very long time tweaking sounds on this ultra-portable beauty. **FM**

With a whopping 96 patch points, Analogue Solutions' Tereshkova is as flexible as a Soviet gymnast

and sample and hold circuits, the glide controls built into each of the oscillators also offer a neat way of creating interesting effects – adding a tiny hint of glide to one of a pair of otherwise identical oscillators creates a momentary detuning each time you trigger a new note. The joystick controller is also a fun tool, allowing for great control of the filter. On a related note, I was a little disappointed to see that the VU signal meter, located below the joystick on the Vostok, has been omitted from the Tereshkova.

The eight-step sequencer provides a quick method of creating patterns, but whether the sequencer is an efficient use of the front panel space is another matter – I suspect many potential buyers would happily lose it

sections which have replaced the Vostok's pin matrix are quite right. The extra features certainly improve the synth's scope but for me three oscillators, three LFOs and three VCAs with only one filter section and one mixer seems just a little unbalanced.

Modular might

Semi-modular synths offer a great deal of flexibility but the balance of features is crucial to their success.

Ultimately it comes down to personal preference and the Tereshkova probably gets things just about right for most people, offering a huge number of options and creating highly useable results despite my reservations about the specification. The price may initially seem high but it's roughly on a

FutureMusic VERDICT

BUILD

VALUE

EASE OF USE

VERSATILITY

RESULTS

A serious amount of analogue goodness crammed into a highly portable format.

SPECS

MIDI to CV converter. Eight-step CV/gate sequencer, three voltage-controlled oscillators, one multi-mode filter, two envelope generators, three VCAs, three LFOs (two of which are voltage-controlled), noise generator with slew control and sample and hold, ring modulator, joystick controller, 1/8- to 1/4-inch adapters, four sets of multiples, mixer section.

Dimensions:

274 x 440 x 188mm

Weight:

9.5kg

ALTERNATIVES



EMS Synthi AVCS3

£1,600/£1,800

In theory, two Synthi models are still in production. In practice, you might be better off looking for a used model on eBay rather than spending a decade on the waiting list.

ems-synthi.demon.co.uk



Buchla 200e Electric Music Box System 1

\$11,650

It may not be cheap but the modern version of the legendary 200e sure is a thing of beauty. MIDI preset management and half a century of analogue heritage. A bargain at just under £8,000!

buchla.com



Future Retro XS

£899

There aren't many options for modern portable analogue synths, but Future Retro's magnificent semi-modular XS just about fits the bill.

future-retro.com

SPECS

PC: Windows XP and Vista, VST, RTAS (Pro Tools 7 or later)

Mac: OSX 10.3.9, AU, VST, RTAS (Pro Tools 7 or later)

Oscillators: Two aliasing-free morphing oscillators: from triangle to pulse, through saw

Filter: Four-poles low-pass self oscillating

Envelopes: Two ADSR

LFO: Two MIDI sync with sine, square, ramp, saw and nose shapes
Sample and Hold

Sequencer: One 128 steps polyphonic sequencer

Arpeggiator: Up, Down, Octaves

Effect: Chorus and delay

Modes: Mono/Unison/Poly

Polyphony: 16 voices
Full MIDI control of all parameters

Copy protection: Synchrosoft or iLok



XILS-Lab PolyKB | €149

Marc '01' lays his hands on a synth so rare it just had to be emulated in software



WHAT IS IT?

A soft synth modelled on the RSF Poly Kobol

CONTACT

Who: XILS-lab
Web: xils-lab.com

HIGHLIGHTS

- 1 Continuous waveform sweeping
- 2 Polyphonic sequencer
- 3 Delightful unison spread and poly-panning

XILS-lab are fairly new on the software scene, but have already garnered praise for their emulation of the classic EMS VCS3. For their next trick, they've hunted down one of the rarest analogue poly synths known to mankind in the form of the RSF Poly Kobol. Around 30 of these beasts were made between 1979 and 1982 so chances of comparing the softy to the real thing are slim. For the most part, the PolyKB is faithful to the original spec and follows the classic subtractive architecture consisting of two oscillators, low-pass filter, dual oscillators and envelopes, mod matrix and polyphonic sequencer.

Side cheeks

As we have come to expect, the layout has been meticulously copied right down to the shade of the wood panelling and side cheeks. When it first loads, the GUI is enormous, too big in fact for most laptops so you will probably need to reduce the GUI size in the options menu and reload the plug-in so it fits.

The synth is split in two main sections with the knobs up top and the keyboard below. The synth parameters are on the right, the modulation section in the middle and the sequencer/arpeggiator over on the left – just like the hardware.

There are two LFOs sharing the same spot on the panel, which might cause some initial confusion. To switch between them, you will need to click on the heading and the controls will swap over. They offer four waveforms along with S+H and can be free running, synced to tempo and key re-triggered.

All modulation sources are applied in the same way. The choice of destinations are limited to VCO pitch, waveform shape and filter cutoff and the amount is applied to all of the selected routings. Tucked behind what looks like a metal plate concealing what was the cassette storage mechanism are the stereo space and sequencer modules. The stereo positioner allows you to place each voice in the 2D plane, not only from left-to-right, but also in distance from the virtual microphones.

Future retro

I found the sequencer easy to record, but a bit fiddly for editing, as the small work area is quite restrictive. You can't edit the note pitch manually and the manual doesn't inform you of what the different colours represent.

As this is an emulation of vintage gear, the sound definitely favours the old school vibes, as shown off throughout the banks of presets. There are plenty of lush pads, screaming sync leads and weird radiophonic style effects. The raw sound of the oscillators is thick and present, while the low-pass filter is smooth and will self oscillate and scream when pushed with the drive. The analogue PWM might have been a unique feature for a true analogue poly but in today's digital studio it's just another nice sound design option. A huge sound with a huge GUI – a true recreation. **FM**

FutureMusic VERDICT

STABILITY



VALUE



EASE OF USE



VERSATILITY



RESULTS



A lush sounding recreation of the Poly Kobol – great tones with the benefits of MIDI and automation.

THE NEXT EPISODE.



MASCHINE is the next episode in professional beat production. It combines the hands-on feel and sequencing of classic grooveboxes with advanced sampling, effects, and seamless DAW integration. New features include 6GB of production-ready sounds, MPC library import, 16 Levels, and vintage MPC60/SP 1200* character – over 50 enhancements in all. MASCHINE continues to evolve so you can focus on creating the perfect beat.

www.native-instruments.com/maschine



*MPC60 is a trademark of Akai Professional, LLC. SP 1200 is a trademark of E-mu Systems, Inc. Trademarks used only to identify the equipment whose sound was modeled and does not imply an official endorsement.

NI NATIVE INSTRUMENTS

THE FUTURE OF SOUND

worldmags & avaxhome

Evol Fucifier

£1,996

Evil is at the heart of this boutique sound shaper.
Robbie Stamp checks if the Devil is truly in the detail



WHAT IS IT?

Mono distortion synthesizer and sound shaper

CONTACT

Who: Funky Junk Ltd
Tel: +44 (0)207 281 447
Web: evolaudio.com

HIGHLIGHTS

- 1 More distortion than you could ever want
- 2 Speaker output for amping/re-amping
- 3 Great sounding inductor-based EQ

The Evol Audio Fucifier will undoubtedly divide opinion with regard to its appearance as well as its sound. The

branded wooden faceplate and the large multicoloured LED backlit gain knobs scream 'I'm different' and the manual, with its parchment paper, bloodstains and gothic font, rams this point home – this is after all the 'Bloodmaster' edition of the Fucifier. So what the hell is it? Evol Audio describes it as a "distortion synthesizer and sound shaper", and hopefully below, I can flesh out what this actually means.

The Fucifier may look fussy with more than a hint of DIY, but it is well (hand-) made and uses top quality components, from the light ring relay buttons (section bypasses) to the Cinemag output transformer. Each stage has a dedicated gain control (clear acrylic backlit with coloured LEDs to indicate signal level) which dwarves the other knobs, a few of which are a little hard to access as a result.

Gain staging is the central principle of this unit and these knobs really help fine tuning and are easy spin back when things get out of control – there's more than enough gain here to flatten mixer

channels and fry monitors/ears. The five EQ slider controls are also a great design decision, as knobs would have made the final tone shaping less user-friendly.

Vintage dirt

By "distortion synthesizer" Evol Audio mean multiple signal distortion stages linked in series and parallel interspersed with a couple of sound shaping tools – a resonant crossover filter with LFO/envelope modulation and a five-band

EQ. At the front end is a mic/line/instrument preamp, followed by a switchable Vintage Preamp (using germanium transistors) with tape saturation simulation controls.

Despite the emphasis on distortion the first preamp is excellent possessing great low frequency extension, a smooth mid/high response and plenty of clean gain. Though the user can overdrive this input stage to great effect the following Vintage Preamp has a little more scope for distortion. Using germanium transistors (see the *Distortion Types* box below) there are two modes (Clean/Dirty) that offer a good degree of harmonic and dynamic distortion.

The beating heart of the Fucifier is the Filter Distortion, made up of the filter section and the dual high/low frequency distortion channels. The filter splits the incoming signal into high-pass and low-pass bands at the crossover frequency set with the Filter Freq knob.

The two filter bands are passed on to their respective distortion channels (High and Low) where the real distortion work happens, though the whole filter can be bypassed so the two distortion channels receive the same signal. The

Distortion Types

The dual distortion channel at the heart of the Fucifier utilises four essential electronic building blocks: FET transistor, LED, silicon diode and germanium diode. Each channel has six Type selections, with the High channel offering LED, silicon, germanium and three combination pairings, while the Low channel allows FET, LED, silicon, two combination

pairings and 'Off' so it can be used as a 'clean' signal path. FETs, LEDs, silicon diodes and germanium diodes all produce a 'clipping' distortion above a certain threshold, squaring of the waveform and generating those harmonic distortions we know and love.

They all differ in their distortion characteristic with FETs behaving similarly to valves with a

gentle onset of distortion before becoming wildly non-linear, producing all manner of different bars and splutters.

The differing distortion characteristics of these elements are sometimes hard to tell apart with small levels of distortion applied through the Fucifier, but when severely overdriven, their personalities start to reveal themselves.





filter resonance control easily ranges into self-oscillation and in combination with the three simple LFO and envelope modulation controls (Mod Rate, Mod Amount and Envelope Amount) the filter can deliver both smooth evolving motion and insane sweeping wobbliness. This simple filter section has a deep reach without losing level and provides an impressive sound

creating a real sucking dynamic – sounds unbelievable on drums. The two channels are balanced via the LF/HF Blend control, which when the filter is 'in' effectively balances between the two split frequency bands.

With the Filter Bypass button engaged this blend control balances the two distortions, with the Low channel having an 'Off' setting for mixing a 'dry'

outputs, which really ramps up the processing potential, and a speaker output which can drive a 4-16 cabinet. This makes for a superb re-amping tool as well as a standalone guitar/bass/keyboard amp with plenty of power – I rarely got it above 12:00.

Niche, not nice

The Fucifier is undoubtedly a niche product, as its appearance indicates, and as such it commands a high price. At just under £2,000 buyers will have to be certain they are getting a tool that

The filter can deliver both smooth evolving motion and insane sweeping wobbliness

shaping range for the distortion channels to work on, though it has its own dedicated gain control in case you want to distort the filter as well (highly recommended!).

Spits and roars

The two central distortion channels each have a large backlit Gain knob for initial drive and a Distortion knob for the amount of effect derived from the distortion component(s), which are selected by a rotary six-way Type switch (see the *Distortion Types* box).

These channels can stay (perversely) clean at their lowest setting, but by the end of the dials the distortion is such that attack transients become quieter than the sustain portions of the audio

signal with a distorted one. The High channel also has a Symmetry control for biasing the distortion to one side of the wave to create particularly foul break-up, which is too much fun to not dial in occasionally.

It also has a switch to change the type of filter input it receives (high-pass, band-pass or both) really expanding the upper frequency possibilities, especially at extreme settings. The range of distortion, especially in combination with the filter, is staggering, ranging from clips and spits through crackling roars into total fuzzed out annihilation. Though distortion is by its nature an ugly effect, the results one can garner, especially from simple synth sounds, can be remarkably beautiful.

After all this distortion and signal abuse the Inductor EQ is a welcome addition indeed and I must admit its sheer quality has taken me by surprise. With low, mid, high and two shelving bands the tone shaping scope available is expansive, effective and most pleasing. The distortion-induced high frequency harshness can easily be tempered without losing its teeth, while the low end can be pumped up to edifyingly fat proportions (synth bass sounds to die for).

The balanced transformer isolated output is not the only way out from the Fucifier as there are two ¼" TS jacks for individual distortion channels

SPECS

Inputs: Line In and Mic In via two balanced XLRs at rear, Instrument In via ¼" TS at front

Outputs: Line Out via balanced/transformer isolated XLR at rear, 2x unbalanced ¼" TS at rear, speaker output via ¼" TS at front

Preamp: Discrete with switchable 'Vintage' germanium transistor preamp section

EQ: Inductor-based five band with Lo/Hi Shelving and three centre bands

High Freq Filter types: High-pass, band-pass and combined high-pass/band-pass

Filter Controls: Gain, frequency (crossover), resonance, LFO rate, LFO amount, envelope amount

Dimensions:

483 x 385 x 89mm

Weight:

9.1kg

ALTERNATIVES



Thermionic Culture Culture Vulture

£1,299

The 2U valve distortion beast that surely kicked off this whole high-end signal path plus distortion trend. Not a 'sound shaper', just a distortion monster of epic proportions in stereo.

thermioniculture.com



Sherman Filterbank Mk2

£675

A modern classic and an awesome sound shaping tool. You can buy three of these for one Fucifier, but it is less distortion biased, does not have standalone preamping capabilities and can't drive a loud speaker.

sherman.be



Thermionic Culture Rooster

£1,874

An alternative to the Fucifier does not exist, but if you want top quality preamping, superb EQ and some hefty distortion then the Rooster is unbeatable. It also has two channels.

thermioniculture.com

FutureMusic VERDICT

BUILD



VALUE



EASE OF USE



VERSATILITY



RESULTS



The oddest outboard produces the most inspiring sound at a price that will keep the faint-of-heart away.



Roland Lucina

AX-09 | from £549

Following on from the launch of the AX-Synth comes its slimmed down sibling the Lucina. **Dan 'JD73' Goldman** straps it on. Again!



WHAT IS IT?

Compact keytar with a wide range of sounds and USB connectivity, plus WAV/AIFF/MP3 playback

CONTACT

Who: Roland
Tel: +44 (0)1792 702701
Web: roland.co.uk

HIGHLIGHTS

- 1** Compact and easy to use
- 2** A good range of useable sounds onboard
- 3** USB sound file playback

PRICING

White Version
£549

Black Version
£599

SPECS

Maximum Polyphony:
128 Voices
Tones: 150
Controllers: D-Beam
Controller, Modulation Bar,
Ribbon Controller
Connectors: Output Jacks
(L (MONO), R) (¼-inch
phone type), Phones Jack,
EXT In Jack (stereo mini
type), Foot pedal Jack
(assignable)
Dimensions
832 x 245 x 95mm
Weight
3.7 kg

Roland has been busy lately and their latest is a slimmed down version of their AX-Synth. The Lucina can be run on mains or battery power and has plenty onboard in terms of sounds and features. Nice work.

One thing's for sure, this is a unique looking keyboard. It's space age and is toy-like but professional at the same time, with a good measure of home keyboard feel thrown in too. Not since the Jupiter-4 have I seen controls below the keyboard either!

Build-quality is similar to its more expensive brother (though still pretty plasticky) and the off-white case looks a little uninspiring, though for a little more outlay, there is a black version available that looks more serious. Yes, you have to pay £50 for that 'black sparkle' privilege.

Mod problems

The Lucina (also named the AX-09) is nicely balanced once strapped on, though accessing some performance controls involves a big readjustment of hand position. For example, if you have

your hand clasped around the modulation bar/handle and want to use the D-beam, or any of its selectors (for filter/pitch/assignable duties), you'll need to let go and move your hand into a completely different position.

Another issue with the Lucina (and that I also had with the AX-synth) is the height of the mod bar. It really gets in the way of the ribbon controller below it (used for pitch-bending) which is a pain for those with smaller hands. It's workable, but still not ideal.

To the right of the mod bar are octave/transpose switches, while underneath the keyboard lie all the patch selection buttons (six banks, 144 sounds and six special tones), covering pretty much every staple sound you might want for most styles of music. There's also a small red numeric display to denote which patch is selected within each bank and a facility to store favourite patches for quick recall.

The controls generally work well in this position and don't get in the way of the keyboard when playing, plus there's a lock button to prevent

accidental patch switching. More importantly, the 37-note keyboard itself has a nice feel, is fast to play standing and not too stiffly sprung.

Sound stage

Sound-wise, the quality is generally good, though some of the sounds are swamped in delay and reverb. Effect level (plus attack/release/cutoff and resonance parameters) can be adjusted using the shift-tone buttons. Standout sounds include the woodwind, brass samples, synth pads and strings, plus there are some good organs, pianos and electric pianos too and a good range of bread and butter leads, basses and guitar sounds, all with a very digital sound.

The Lucina is a suitable first and fun purchase for any aspiring keyboardist, though it's also professional enough to use on stage in a more serious capacity, either using its onboard sounds or MIDI'd to a sound source of choice. Also, the MP3/WAV/AIFF USB playback functionality, and MP3 player input are very slick.

All in all, the Lucina is a decent little board that covers a lot of bases in a portable and easy to use package. We can imagine newcomers and pros being equally enchanted but £549 for a fun keytar is pushing things a bit for both potential markets.

It works good, looks good and sounds good but it's no bargain. **FM**

FutureMusic VERDICT

Category	Score (out of 10)
BUILD	8
VALUE	8
EASE OF USE	8
VERSATILITY	8
RESULTS	8

The Lucina sounds good, is compact but is expensive for a rather niche product.



The Saffire Range

THE ONLY INTERFACES WITH FOCUSRITE PRES

At the heart of any good interface are great mic-pres. Focusrite have been designing mic-pres for 25 years. It's what we do. We design the best mic-pres and interfaces in the business. Focusrite - The Interface Company.



LIQUID Saffire 56

Our flagship interface combines Liquid technology with Saffire PRO firewire interfacing to deliver a host of authentic pre-amp flavours, seamless software integration, a vast i/o count with excellent routing flexibility and future-proof, rock-solid driver stability.

- + Two Liquid Pre-amps, each allowing you to choose from ten classic emulations
- + Total I/O count of 28 Inputs and 28 Outputs, including 8 Focusrite pre-amps
- + Professional 24 bit / 192kHz digital conversion, with JET PLL Jitter elimination



Saffire Mix Control - powerful and intuitive software control that features throughout the PRO range.



Saffire PRO 40

The Focusrite Saffire PRO 40 has eight Focusrite mic-pres, eight line inputs, and a host of digital i/o. There are also two discrete headphone buses, a dedicated stereo output and a pair of unique 'loopback' inputs.

- + Eight Focusrite mic-pres, based on a 25-year pre-amp legacy
- + Professional 24 bit / 96kHz digital conversion, with JET PLL Jitter elimination
- + ZeRO-latency intuitive DSP Mixer/Router with quick one-click set-ups



Saffire PRO 24

Two Focusrite mic-pres, based on an unparalleled pre-amp legacy
With an ADAT input, Saffire PRO 24 provides a vast i/o count for the money
Xcite+ bundle features 1 gig of loops, Ableton Live 7 Lite, and more.



Saffire PRO 24 DSP

VRM - simulate different monitors and rooms, just using your headphones
Two Focusrite mic-pres, delivering extremely low noise and distortion.
Onboard DSP-powered, latency-free EQ, Compression and Reverb



Saffire 6 USB

Two Focusrite mic-pres capture every subtle nuance of your sound
Features four phono outputs and flexible monitoring for laptop DJs
The best sounding, best performing interface in its class

**WHAT IS IT?**

Drum sampler with built-in sequencer and effects

CONTACT

Who: Xfer Records
Web: xferrecords.com

HIGHLIGHTS

- 1 Virtual drum sampler with built-in effect algorithms, filters and LFOs
- 2 Internal step sequencer
- 3 2GB sample library



Xfer Nerve | \$199

A brand new drum sampler always causes a stir in the *FM* office. **Greg Scarth** gets nervous

Nerve is the first software release from artist and Xfer Records owner Steve Duda. Although Duda was

previously involved in the development of FXpansion's popular GURU plug-in, this Mac and PC plug is an entirely new product, created from the ground up, with a fairly unique GUI.

As one half of BSOD with Deadmau5, Steve has already put Nerve through its paces in the studio and for live performances. We couldn't wait to give it a go.

Pads and patterns

The main editing pages of the Nerve interface don't stray too far from normal sampler setups. Samples are allocated to 16 pads and load practically instantly. The arrows either side of the Load button allow you to skip through samples quickly to load different sounds from the same folder.

File loading is also background threaded so there are no interruptions to playback even when loading a new sample. This is such a useful feature that it's hard to believe some drum

plug-ins still don't include it, but Nerve handles it perfectly without any glitches or pauses as you audition your samples.

With such powerful editing and processing features, the Nerve plug-in really rewards the time and effort you put into tweaking and manipulating your own drum samples, but if you're after instant results you won't be disappointed with the presets on offer. The 2GB sample library includes hits and loops created by artists and sound designers such as Dom Kane and Sample Magic.

Once you've loaded your samples, playback can be triggered via MIDI or using the plug-in's internal step sequencer. The sequencer alone makes Nerve a powerful drum programming tool, allowing you to enter patterns in step time or play live and record note information directly into sequencer, with each beat quantising to the nearest step as you play. Patterns can be chained together to create song sequences and

each pad can run its own pattern chain, including different length patterns. The power of the sequencer not only makes Nerve great for programming beats, it also offers plenty of options for live control. Almost every parameter can be controlled via MIDI CC or note value, and the sequencer will also send MIDI notes so you can control other instruments with your patterns.

Sample processing

In addition to the sequencing functions, Nerve really excels when it comes to manipulating samples. Although there are no basic utility effects like compression or reverb, the Precalc and LFO pages offer a number of options for twisting and tweaking your sounds. Each pad's individual LFO can be assigned to a number of parameters including filter settings (again each pad has its own multi-mode filter), pitch, pan and level, while the Precalc page allows you to apply eighteen DSP algorithms, the majority of which were developed specifically for Nerve.

The Precalc algorithms process sounds so quickly that they almost appear to be working in real-time, but it's important to bear in mind that these

The Precalc Section

The pre-calculated effects are probably the most impressive feature of Nerve, offering options not seen anywhere else. The algorithms include all the basics like timestretch, pitch shift, bend and bitcrushing, but I found the resynthesis features to be particularly exciting, offering a number of

functions which analyse the shape of your waveform around the zero crossings and then re-shape the wave while retaining its frequency and amplitude. It might be hard to understand when put into words, but to make things easier to follow the effects of all the Precalc features are

also instantly visible as the waveform of your sample changes to reflect the processing you've applied. Adjust, for example, the PWM parameter and you'll see the pulse width of the waveform change instantly while the frequency and amplitude of the sample remain the same.



sound, the pre-calculated effects can be rendered to a new WAV file.

Loop and repeat

Samples can be played back in one-shot or loop mode, with the latter effectively splitting the selected pad up into 16 parts, each of which can be

little less predictable and even follows the swing settings of your sequence.

Attention to detail

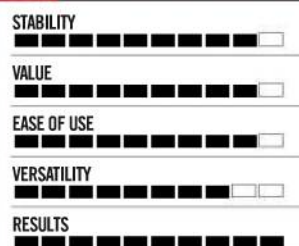
For a version 1.0 release, I'm seriously impressed by Nerve. While it won't offer you much if you're looking for realistic, acoustic drum programming, it's a

stable, feature-packed plug-in that offers some distinctly original features.

Given that Xfer are offering free updates for life and Duda is very

keen to listen to suggestions from users, development looks likely to be a fast-moving process. In fact, in the time it took me to write this review Steve had already released the version 1.01 update, adding a batch of new features. The attention to detail in Nerve is outstanding and it only looks set to improve. Frankly, I can't wait to see what Xfer come up with next. **FM**

FutureMusic VERDICT



Nerve's unique and exciting features put it on a par with any drum sampler on the market.

SPECS

VST/AU, Windows VST, Multi-out capability, 16 sample pads, Loads WAV, AIFF, REX, RX2 and AKAI SND files

Minimum requirements:
PC: Windows XP or later, 4GB free hard disk space, 512MB RAM, VST or Audio Unit compatible host

Mac: OS 10.4 or later, 4GB free hard disk space, 512MB RAM, VST or Audio Unit compatible host

ALTERNATIVES



NI Battery 3

179 Euros

Working out slightly more expensive than Nerve, Battery is the market leader in the drum sampler field but has no sequencer.

native-instruments.com



FXpansion GURU

£129

Roughly the same price as Nerve, GURU can also run as a standalone app and includes built-in effects.

fxpansion.com



NI Maschine

529 Euros

NI's hardware and software hybrid might be pricey but it's a seriously powerful tool with hands-on appeal.

native-instruments.com

It's an effective, efficient system that offers plenty of creative scope, and all effects are non-destructive

effects are intended to be used for processing samples before you trigger them. Although it's possible to adjust the Precalc parameters on the fly, it's not recommended and can lead to nasty digital artefacts and glitches.

However, because the effects are pre-calculated they don't add to the CPU load during playback and they can't be automated from your DAW.

It's an effective, efficient system that offers plenty of creative scope, and all the effects are non-destructive so if you don't like what you've done you can just reset the sliders and start again. If you do want to commit to a particular

triggered individually. Loop mode currently has no auto-slice function, but adjusting slice points is as simple as clicking on a waveform. Nerve also has the ability to import slice points from REX files and can extract the timing and level information from a loop so they can be applied to your patterns or stored as swing presets.

The final major feature of Nerve is the Repeater bar, a built-in Beat Repeat-style stutter effect that can be applied to individual pads. Rather than using buffer delay, the Repeater changes the play point of the sequencer. As a result, the sound is a



Nerve's LFO section can get your sound moving very quickly

Echo AudioFire

Pre8 | £579

Echo have a growing reputation for producing great-sounding interfaces. **Jono Buchanan** feels the heat from the AudioFire Pre8...

WHAT IS IT?

A high-quality audio interface with eight 'brilliant' mic preamps

CONTACT

Who: Hand in Hand
Distribution
Tel: +44 (0)1752 696633
Web: echoaudio.com

HIGHLIGHTS

- 1 Great sounding pres
- 2 Tons of I/O including several digital options
- 3 AudioFire Console app a useful configuration/metering tool

SPECS

Hardware

2 Mic/Line/Instrument Inputs, Mic phase, Impedance, Pad, Hi-Pass buttons, Input Trim with 4-level LED meters, Individual phantom power, 1/4" Balanced Line inputs (TRS), 1/4" channel inserts, 6 Mic/Line inputs, 8 x 1/4" line outputs, S/PDIF I/O at 24-bit/96 kHz, ADAT I/O, MIDI I/O, Sync via Word, ADAT, or S/PDIF, 2 Stereo headphone outputs

Software

Software console controls mixing and monitoring. Supports all major pro audio software, SIF 2.0 (Gigastudio w/ low latency MIDI) (32-bit Windows XP, Vista & Windows 7 only), CoreAudio & CoreMIDI

The market for audio interfaces is incredibly competitive, as several companies now have fully-featured units which

manage to pack seriously impressive feature sets into boxes whose prices won't frighten your bank manager.

Due to the 'visibility' of their rivals, Echo Digital Audio isn't perhaps the first name which springs to mind for those considering an interface purchase, yet this Californian firm has a proud pedigree and their latest interface, the AudioFire Pre8 combines their established interface know-how with a set of their 'brilliant' mic preamps. Can it live up to its billing?

Hardware essentials

The package bundles a now familiar format – the hardware interface itself and a dedicated piece of software to help configure its assorted ins and outs, which we'll get to shortly. The hardware is a robust, 1U rackmountable affair with two switchable mic/line/instrument inputs on the far-left of the front panel.

Next to these are their extended controls, with gain dials and additional buttons to control or select phantom power, phase inversion, low impedance, DI, pad and bass roll-off below 80Hz. To the right of these you'll find gain knobs for inputs three to



The AudioFire Console lets you keep an eye on metering as well configure routings

eight with a global phantom power switch for these to their right.

Two headphone outputs feature on the far right-hand side alongside the main output, while the back panel completes the physical I/O – with mic/line inputs for channels three to eight, eight ¼" jack outputs, channel inserts for inputs one and two, plus In and Out ports for MIDI, S/PDIF, ADAT and Word Clock. Twin FireWire 400 ports and the power inlet complete the feature set.

The AudioFire Pre8 can record audio at specs up to 96kHz at 24-bit (selected via software) and through the FireWire connection, recording latency is impressively low.

Burnin' up

I plugged the AudioFire directly into my Mac to discover that installation was driver free – Logic found the interface immediately and was only too happy to do business. However, the

bundled CD did contain the AudioFire Console which helps configure settings and provide visual feedback during use and this application can simply be dragged across to your hard drive to run alongside your DAW whenever you like. Separate tabs are provided for analogue and digital connections, so setting up the interface the way you want is child's play. In terms of sound quality, particular note must go to the celebrated mic pres which certainly live up to their reputation.

They're clear and rich and as there's so much I/O, I'd happily use this interface as a hub and trust the inputs to accurately transfer the sound of my hardware synths to my computer without need for further processing.

Fire fighter

Those who have been following Echo's product line closely will be aware that Echo already has a line of AudioFire interfaces, but the addition of the 'Pre' in the title here reveals all, as the first in what may well become a line of much more flexible, hands-on interfaces. The addition of eight high-quality mic pres is welcome, as is the array of digital I/O options featured as standard, which propels the interface's standing up a fair few rungs of the ladder.

When it comes to middle-market interfaces, it's a certainly a hugely competitive market, but Echo's AudioFire Pre8 more than stands its ground among the competition. **FM**

FutureMusic **VERDICT**

BUILD



	VALUE
--	-------



EASE OF USE



VERSATILITY



RESULTS



A very high-quality interface from Echo Audio – heavy on I/O and mic pre quality.



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PC

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Allen & Heath

ZED-10FX | £293

Featuring rugged construction, flexible I/O and comprehensive effects, Allen & Heath's ZED-10FX sounds like a winner. **Jono Buchanan** checks it out...



WHAT IS IT?

A compact but flexible mixer and audio interface combo providing a hub for your studio, or flexible live sound control

CONTACT

Who: Allen & Heath
Tel: +44 (0)1326 372070
Web: allen-heath.com

HIGHLIGHTS

- 1 Flexible routing options
- 2 Onboard effects and IK Multimedia X-Gear tie-up
- 3 Built like a tank

UK-based Allen & Heath have a proud pedigree as builders of high-quality mixing consoles, with

products aimed at both top-flight studio and at venues requiring front-of-house live sound control.

The subject of this review is the ZED-10FX console, which boasts USB audio connectivity and an onboard FX suite, to complement its capabilities as a studio router and compact live sound console.

Crucially, the construction design matches A&H's larger format mixers, with individually-mounted circuits for each stage, rather than one flat panel,

which yields a rugged, tough construction that will suit studio and live sound applications alike.

Looking around

The ZED-10FX's top panel provides all the physical inputs and controls, with just the power inlet and on/off button housed at the back. The first four channels are mono, with the first two intended for mic or line sources and channels three and four set up for mic or guitar/Hi-Z instrument sources.

All four channels feature gain and level controls, a high-pass filter with a slope at 100Hz, flexible and open-sounding three-band EQ with

sweepable mid-range between 120Hz and 4kHz, sends to the auxiliary and onboard FX buss, a solo button and an extra button to route the signal to a 'record' buss, which is a bonus output allowing you to record a live show, for example.

There's a global 48V phantom power supply for the four mic pres which give a warm and open, transparent sound. There are then two stereo source inputs with shorter channel strips – there's no mid EQ or high-pass filter on these channels but that makes sense in the context for which they're intended.

These stereo inputs are flexible though – as well as the expected 1/4" jack inputs, RCA phono inputs are offered on the first pair, while the second stereo input can receive an additional 'Playback' stereo signal or, by default, route the USB audio input into the mixer at this stage.

Despite the compact nature of the console, its potential flexibility is impressive – check the *Your Flexible Friend* box to see just how it could be configured for live use, in particular.

Master section

The mixer's master section gives the best indicator of just how adaptable this little mixer can be. There are separate controls for the master output level and Playback buss (where any



M-Audio Oxygen

49 | £135

M-Audio's old-school MIDI keyboard range gets revamped. **Greg Scarth** takes a deep breath...



ON THE DVD

WHAT IS IT?

49-key MIDI controller keyboard with assignable knobs and sliders

CONTACT

Who: M-Audio
Tel: +44 (0)1753 659 590
Web: maudio.co.uk

HIGHLIGHTS

- 1** 49-key velocity-sensitive USB MIDI controller
- 2** DirectLink mode for simple DAW compatibility
- 3** 8 assignable knobs, 9 assignable sliders

SPECS

Connections: MIDI over USB, ¼" socket for foot pedal control

Dimensions:

737 x 239 x 94mm

Weight:

2.9kg

M-Audio's consistently popular range of controller keyboards has been updated for 2010 with

the introduction of the third generation of the Oxygen series. Although the Oxygen falls towards the budget end of the M-Audio range, the feature set make it a highly attractive prospect. Let's take a look at what's on offer.

All rounder

Rather than try and focus on one area, the Oxygen combines a little bit of everything in a neat unit. The combination of controller keyboard, eight 270-degree sweep rotary pots, nine sliders and dedicated transport controls make this an incredibly useful all-round package which should appeal to anyone looking for more hands-on control of software. The plastic case is lightweight at just under 3kg but certainly sturdy enough for studio use and should even stand up to light live performance work. The Oxygen is also available in 25- and 61-key versions and a quick glance at the connections round the back reveals that this version

of the Oxygen can only send MIDI information over USB.

The omission of the DIN connections makes the third generation Oxygen less suited to controlling MIDI hardware and, as such, one would assume that M-Audio intend it to be used primarily as a DAW controller. The new DirectLink feature reinforces that idea, automatically mapping the sliders, rotaries and transport controls to features in most major DAWs and a handful of popular plug-ins.

Key breeze

The Oxygen's keyboard itself is relatively basic but acceptable at this price level, with responsive velocity sensitivity and a lightweight, synth-style feel. Those seeking more advanced features such as a weighted key action or aftertouch should look elsewhere in the M-Audio range but at this price level the Oxygen competes well with its rivals in terms of features and build quality. The keyboard feels tough and well built, but the keys still feel light and easy to play. The pitch and modulation controls, previously situated to the left of the

keyboard, have now been moved to the top of the unit, which may not be to everyone's taste. Placement aside, the wheels are nicely damped, smooth and quiet in operation.

DirectLink is instantly compatible with Logic, GarageBand, Cubase, Pro Tools, Live and Reason. Simply install the software for your chosen DAW and the Oxygen will automatically map itself, making it even easier for you to take control of your software. I tested the Oxygen with Logic and GarageBand and found that DirectLink did a good job of mapping the keyboard's controls to each DAW's mixer features but I still had to do a bit of work to assign controls to more advanced features I wanted to use. Once set up to my taste, the rotary controls and sliders all felt solid and accurate in use.

Breathe it in

Overall, the Oxygen is a great all-round DAW controller and deserves checking out if you're in the market for a cheap but fully featured USB keyboard.

Although the new DirectLink mode is nothing particularly groundbreaking, anything that makes the setup process run more smoothly has to be applauded. In terms of further improvements, I can't help but feel there's enough space on the Oxygen's front panel to squeeze in a set of pads. Perhaps that's one for the M-Audio designers to consider for the next update... **FM**

FutureMusic **VERDICT**

BUILD



VALUE



EASE OF USE



VERSATILITY



RESULTS



An excellent budget MIDI controller keyboard range that continues to improve. Ideal for beginners.



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WHAT IS IT?

A step sequencer application that neatly expands on the basics, with MIDI and CV features, parameter modulation, AU support and ReWire

CONTACT

Who: Five12
Tel: +1 505 506 3730
Web: five12.com

HIGHLIGHTS

- 1 Step sequencing fun that stands alone or ReWires to your favourite DAW
- 2 New in 2.3 – built-in support for Novation's Launchpad controller
- 3 Completely real-time input makes Numerology a great live performance tool



Five12 Numerology

2.3 | £85

Old is the new new, again. 70s-style step sequencing lives on in Numerology. **Martin Delaney** steps forward

Back in the '70s, step sequencers (Moog's 960 is the one that usually gets mentioned) were the only way of programming electronic music – entering notes as the sequencer cycled round (usually) eight steps.

Nowadays we've got way more sophisticated 'sequencers' in DAWs like Logic and Cubase, but the step sequencer lives on, in drum machines, boutique hardware and software like ReBirth (now on iPhone, bizarrely) and Arturia's Moog Modular V.

Numerology, first released in 2004, is a modular system with different

sequencers for different jobs, like Drum Seq for beats, MonoNote for monophonic parts and PolyNote and Chord Seq for...well, you figure it out. Other modules contain fun stuff like a sampler, LFOs, Envelopes, CV Mixers, and MIDI generators.

Numerology hosts Audio Unit instruments and effects, completing the self-contained programming and performance environment. MIDI learn is supported, so it'll work with any MIDI controller, but version 2.3's big news is support for Novation's Launchpad, promising a deeper hands-on feel than is possible with other devices (see the

That Launchpad Thing box on the next page for more info).

The Numerology application folder contains HTML documentation and a few example projects, mostly of an experimental nature, but I'd like to see more varied examples, a PDF manual, and some ready-to-load audio content, especially drum kits.

Familiar interface

Ableton Live users will feel right at home with Numerology's interface. At the top of the screen you'll find transport and sync controls, and view buttons. A browser-type area on the left manages modules, Audio Units and presets. The main project screen shows either the rack, timeline, or the mixer.

Instead of 'tracks', Numerology uses stacks – groups of vertically arranged sequencer modules and AU instruments or effects. Stacks live in the rack, and can be renamed, reordered and colour-coded. Up to eight Aux stacks are available for effects use (the master track doesn't host effects, but you can handle that using the Auxes, too).

Audio and MIDI routing can be configured separately for each stack,

though you can't record audio into Numerology – which is fair enough, given the concept of the software. It doesn't take long to get started.

Drag in a sequencer module, then an AU instrument, then an AU effect. Hit the spacebar to start playback, draw in some notes, and explore the other parameters than can be sequenced – like Gate, Groove, Step Length and Velocity. You don't have to know what you're doing at this point, just play around until it sounds good!

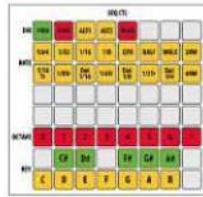
Strangely, Numerology doesn't have undo via cmd-Z, which drove me nuts after a while. You can change pattern lengths and direction, shift events in a sequence left or right, or force notes to conform to specific scales. When you get a combination you like, hit the 'snap' button to create an instant preset – switch presets by clicking them, or mapping them to MIDI or QWERTY. Presets are quantised to whatever value you select on the mixer page, so you can switch seamlessly in a live set.

With just a few stacks, you can build complex and ever-changing patterns, but it doesn't end there – ctrl/right-click on any control to choose 'Add modulation', and create a new LFO or

That Launchpad Thing

The major selling point of Numerology 2.3 is the Novation Launchpad support. This is true integration – no other applications need to run in the background to make it happen.

Numerology can't share the Launchpad with another application, but if you've got two Launchpads, you can use one with Numerology and the other with Ableton Live. The Launchpad can trigger presets, and control any sequencer module, with sequences up to 32 steps long, up to



16 stacks, and up to four sequencers per stack – there's also a mixer page with a start/stop button.

Each module in a stack appears as a coloured button at the top left of the Launchpad, with different colours for each type of module (like amber for ChordSeq, and red for MonoNote). Push

one of these buttons to begin editing the parameters for that module. With so many layers of control available, there's a lot to remember, so there are sticker templates (with a cheeky Five12 logo to paste over the Ableton one) and cheat sheets to download from the website.

The pairing of Numerology and Launchpad feels very hardware-like, and other than Live itself, Numerology is the definitely the best match for the Launchpad.

The full range of modules are located under the Advanced Library tab – if you don't want the automatic routing that occurs when you load a module, you can do it manually – hit the 'tab' key to flip the rack over, and start dragging those little cables around, just like in Reason.

earlier, but you don't have to think about that unless you want to.

You build arrangements by dragging patterns onto the Timeline, but editing is limited. There's no MIDI export either, and no way to capture real-time performances within Numerology (though there's a record-to-disk function

on the Mixer page). All this might leave you feeling restricted using Numerology as a standalone app – luckily, it ReWires to other DAWs. Don't

confuse Numerology with brainiac apps like Max for Live. Sure, you can go routing-crazy with it, but this is a fun machine that's easy to use, and does some unique things that you can use in studio or performance scenarios. It plays nice with other apps, and the Launchpad integration is too much fun. If you want it to feel any more hardware than this, buy some hardware! **FM**

Presets are quantised to whatever value you select, so you can switch seamlessly in a live set

Envelope module that automatically links to that control, adding more evolving layers to the sequencing – I don't want to overdo the Ableton Live comparisons, but this is more like using clip envelopes in Live than anything else (one smart difference is that Numerology accepts more than one AU instrument in a stack).

The hard road

Numerology will sit at the heart of a hardware system, sending MIDI or CV messages to hardware synths (CV would have to go via Expert Sleepers' Silent Way plug-in, and a compatible audio interface). In fact, CV modules are used throughout Numerology's stacks, for functions like the LFO I mentioned



Enjoying a close audio/MIDI relationship with Ableton Live

SPECS

Mac only: Mac OS X required – 10.4.11 or later, PPC G4 at 1GHz or better.

Download-only from five12.com

ALTERNATIVES



Propellerhead Reason

£258

As well as synths, samplers, effects and a 'regular' sequencer, Reason offers the Matrix Analog Pattern Sequencer. A more expensive alternative, but it does more.

propellerheads.se



Ableton/Cycling 74 Max for Live

£211

Max for Live includes a very effective step sequencer. Of course, Live is also required, or buy the standalone version of Max/MSP instead.

ableton.com



Future Retro Orb

£367

You could always go hardware: this one has a unique circular interface, aluminium chassis, 256 patterns, MIDI In/Out, CV out. See also Analog Solutions' Oberkorn.

future-retro.com

FutureMusic VERDICT

STABILITY



VALUE



EASE OF USE



VERSATILITY



RESULTS



Numerology produces great results and the Launchpad integration makes it a killer live tool.

SPECS

Type: Large diaphragm cardioid condenser
 Transducer: Electrostatic
 Diaphragm diameter: 25mm
 Polar Pattern: Cardioid
 Low Cut Filter: None
 Attenuation: None
 Frequency Response: 20Hz - 20kHz
 Dynamic Range: 128dB
 Max SPL (0.5% THD @1kHz): 134dB
 Power source: +48v Phantom power
 Dimensions: 190 x 75 x 35mm
 Weight: 531g



JZ V47 Condenser Microphone | £1,130

Same number, different letter. *Trevor Curwen* wonders how close JZ's mic is to a Neumann classic

WHAT IS IT?

A cardioid pattern large diaphragm condenser

CONTACT

Who: JZ mics
 Tel: +37 (0)1672 46648
 Web: jzmics.com

HIGHLIGHTS

- 1 Sound quality
- 2 Ingenious mounting/shockmounting method
- 3 Very low self-noise

JZ Microphones was established in Latvia in 2007, producing microphones designed by Juris Zarins, their most well-known design to date being the Black Hole – a multi-pattern condenser mic remarkable for its unique mounting system which clamps into a rectangular hole in the mic's body.

An unusual mounting style is also a feature of the JZ V47, the first mic in the company's Vintage series, which also includes the recently-launched V67 and the forthcoming V12.

The Neu camp

The more astute of you may have probably already picked up where JZ are coming from with the use of those numbers – the Vintage series are based

on classic mics and the V47 aims to give users the type of sound that they would expect from a vintage Neumann U47 model. Juris Zarins tells us "because we are running out of vintage mics, our company will offer excellent choice for every engineer to make recordings with a vintage feel."

Unlike an original U47, the V47 features no valve or transformer but JZ say that advancements in transistors and circuitry since the middle of the last century when the U47 was new, plus other improvements, like the double diaphragm capsule created with the JZ patented 'Golden Drops' sputtering technology, allows them to achieve the same sonic character.

Looking not unlike a large hip flask, the V47 comes in a neat foam-lined

wooden case with magnetic fastening. There is no separate suspension cradle as the mounting mechanism is integral to the mic's body. This consists of a swivelling ball and socket joint that allows the mic to be positioned at several shallow angles to the vertical, a knurled ring tightening up the joint once you have set the exact angle.

There is no need for further shockmounting as there's a built-in system isolating the whole grille and capsule assembly from the solid section that holds the electronics, so, with no encumbrance from a bulky suspension cradle, close placement is a doddle.

Vintage vibes

The V47 features a cardioid pickup pattern and has no extras in the shape of hi-pass filters or pads. It can handle SPLs up to 134dB and is extremely quiet in operation. In recording a male vocal, the V47 was notable for a very clear, detailed and natural sound.

While a lot of mics designed primarily for vocals these days will have a built-in enhanced high frequency response, the V47's frequency plot is more or less flat with just a hint of a rise between 2kHz and 7kHz so it doesn't have that extra sizzle. What you get is an accurate but not over-hyped top end, plenty of upper mid-range presence and a nice warm bottom end – especially so when up close, as the proximity effect is quite pronounced, which we found useful for a fatter sound when close-micing a small guitar combo. Overall, when used on a variety of sound sources, the V47 accurately reproduced what we were hearing in the room.

As for the U47 comparison, even though vintage U47s can differ sonically due to their condition, there is a perceived U47 sound and the V47 has a similar character. However, it really should be judged in its own right and, on that basis, it is a very fine microphone indeed. **FM**

FutureMusic	VERDICT
BUILD	☐
VALUE	☐
EASE OF USE	☐
VERSATILITY	☐
RESULTS	☐
Definitely worth checking out if you want sonic accuracy with a vintage flavour.	

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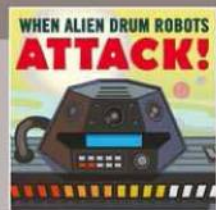
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Roland Octapad SPD-30 | £629

Will Roland's next-level pad controller make you want to hit it with your rhythm stick? **Chris Barker** flops out his stick bag in anticipation...



WHAT IS IT?

An electronic drum and percussion tool, with external triggers, looping and MIDI over USB

CONTACT

Who: Roland (UK) Ltd
Tel: +44 (0)1792 702701
Web: roland.co.uk

HIGHLIGHTS

- 1 Fantastic pads with no crosstalk
- 2 Mostly great, usable sounds with brilliant looping options
- 3 Massively expandable using extra pads sequencer

Following the recent tradition of the current output of Roland, they're again looking to their prestigious past for a product and rejuvenating it for today's market. Now it's time to find out if the bells and whistles on the new 2010 Octapad really make it a must-have performance and studio tool.

Beat designer

The look hasn't changed much since it's first airing in '89 but it's been given a more modern feel and is super robust with thick rubber pads ready for a bashing. Around the back there's a heap of connection options, with MIDI over USB, regular MIDI I/O and USB memory stick input. There are also external trigger inputs for ride, snare, hi-hat input, kick and a separate hi-hat

control and footswitch, enabling you to expand the SPD-30 into a compact electronic drum kit.

The first disappointment comes in the lack of sounds. At this price I was really hoping for more than 50 kits to

choose from. That said, there are plenty of fantastic offerings here, with only a few bizarre preset choices such as TechnoWahScape, proving again that Roland can still err on 'flashy' rather than 'useful'.

Picking up some sticks and getting busy with the SPD is a real pleasure. It's so utterly playable and no matter how hard you begin hitting it, it never gave any crosstalk between pads or felt like it was going to suffer any damage.

Editing kits

Digging deep into the machine was simple, but it did mean taking a trip to the manual. The interface itself only makes sense after a good read so it's by no means, naturally intuitive. You have to hold down keys, or press multiple keys at once to attain different operations. Once in the editing mode, you simply hit a pad to select it and use two rotary encoders to change the tuning, muffling, tone colour, pitch

Expanding the SPD-30

Adding extra pedals, footswitches and triggers turns the SPD-30 into an extremely powerful electronic percussion instrument, plus it makes it much more comfortable to play complicated kick drums and hi-hat patterns when you add pedals. Each of the five

rear trigger inputs are dual layer enabling assignment of sounds to the skin and rim of a trigger for example. Even though the trigger inputs are labelled kick, snare etc, there's no reason why two kick drum pedals couldn't be connected in the kick and snare inputs.

There's heaps of tweakability with the external pads and their sensitivity, so you can avoid accidental re-triggering. There's also plenty of custom settings for adding hi-hat pedals, with support for the V-Drum VH-11 or FD-8 hi-hat standards.



SPECS

System Requirements

UAD-2 Card

PC: Microsoft Windows XP (Home, Professional, or x64 Edition), or Windows, Vista (x86 or x64)

Mac: OS X 10.4.x or 10.5.x

All Platforms: Available PCIe x1/x4/x8/x16 slot for UAD-2 card, 256MB RAM (512MB recommended), 200MB hard drive space, 1024 x 768 or higher resolution monitor. Compatible VST, RTAS, or Audio Units plug-in host application software



UAD-2 Manley Massive Passive Stereo EQ | \$299

UAD model another classic. *Jono Buchanan* finds out if they've met their match in the Massive Passive



WHAT IS IT?

A software version of the Manley Massive Passive EQ bringing a legendary and complex EQ to the UAD-2 platform

CONTACT

Who: Source Distribution
Tel: +44 (0)20 8962 5080
Web: uaudio.com

HIGHLIGHTS

- 1 Phenomenal modelling and sound
- 2 Flexible and sophisticated operation mode
- 3 Suitable as an insert or buss EQ

There's little doubt that UAD's move to version two of its hardware has unlocked some serious processing power –

you only have to look at the accuracy and quality of the company's most recent additions to know that their recreations of classic hardware are only improving.

That said, when it comes to modelling, there's hardware and then there's hardware. The legendary Manley Massive Passive EQ is the latest classic UAD has 'replicated' and it's reportedly proved their greatest challenge yet. Due to the problems posed by the internal architecture of the hardware Massive Passive, which gets its name from its unique use of only resistors, inductors and capacitors to shape sound, the question is: can UAD do it again?

Passive aggressive

The Massive Passive EQ functions unlike most other EQs in several ways. Firstly, whereas most tend to offer boost or cut by either turning to the right of centre for gain increase, or to the left for

decrease, Massive Passive is different. It offers 0-20dB of cut or boost via the same dial, with a boost (green) or cut (red) button above selecting whether you're enhancing or reducing volume of a chosen frequency.

What's also unique about this EQ is that the four frequency bands overlap, so while the second band covers 82Hz to 3.9kHz, the third operates between 220Hz and 10kHz, for example. This might initially seem baffling but actually it's incredibly flexible, as below the gain boost/reduce dials, you'll find both bandwidth and frequency dials to focus the range of any given frequency band and hone in on specific ones respectively. At the very top, you can select shelf or bell shapes for each individual band, so it's pretty clear this is an EQ with flexibility at its core.

Introducing the bands

The overlapping bands mean that you can use Massive Passive for some radical tone shaping, by dropping the volume of a specific offending frequency in the middle of a larger

group of others being boosted, without the usual 'holes' more regular EQs tend to create in these circumstances. It's also a sumptuous EQ to use on sounds that need less radical treatments – with its clarity and air on vocal parts and the warmth of the modelled tube distortion particularly noteworthy.

The UAD Massive Passive actually bundles as two plug-ins – one intended for insert treatments and the other as a mastering tool. The latter offers optimised settings specifically for mastering, with more appropriate gain and bandwidth capabilities and honed options for the centrally-placed low and high-pass filter controls.

Summing up

The UAD platform goes from strength to strength, evidenced not only by the exceptional sonics of this plug-in but by Manley's own endorsement of it. It's a winning formula – by recreating the performance and sound of classic gear of this type, UAD introduce a new range of users to Manley and strengthen their own reputation in the process.

None of this will matter to you – but the sound of the plug-in will. And to put it bluntly, if you don't love it, you need your ears tested. **FM**

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VALUE



EASE OF USE



VERSATILITY



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Mini Reviews

The latest musical bits and pieces racked and rated



Hercules 2.1 XPS 40 Slim | £50

hercules.com

Better known for their feature-rich, good value DJ controllers, Hercules are also pumping out a few sets of 2.1, 5.1 and other speaker solutions. These compact little

speakers consist of a sub, two slender satellites and a break-out volume controller which includes a 3.5mm line input and 3.5mm headphone output. They do deliver an impressive punch for their size, although

similarly to most compact 2.1 systems, they suffer heavily in the mid-range and deliver a farty bass sound when the sub is pushed too hard. But, considering the price (and the fact that these are found under £30 online) means they are a simple, good looking solution to add some meaty sonics to your laptop, MP3 player or TV but would be hard to recommend them for producing.

Chris Barker

6/10



Sennheiser IE-6 | £127

sennheiser.com

Audio legends Sennheiser are no strangers to high-quality nor high-fidelity so it comes with no surprise that their IE6 in-ear headphones impress from the get-go. Cruising comfortably within Sennheiser's 'Professional Portable' range, the IE6s are bright without being harsh and, once they're settled in your ear canal, provide a rounded bass response. Expensive, but eminent.

Declan McGlynn

8/10

3M MPro 150 | £349

3m.com

A couple of years ago, the idea of a pocket projector was the stuff of nerd giggles (even if they misheard you), but an implosion in technology lead to an explosion in popularity. 3M throw their hat in the ring with the MPro 150, a tiny projector about the size of a glasses case. Once you get over the initial wow factor (it's sleek, bright and kind of novelty, in a good way), there are some practical issues.

It is a bit noisy, the built-in speakers are thin at best and it won't play back videos with a higher resolution of 720 x 486 when loaded onto its 1GB internal storage (it also has a microSD slot, with a 2GB card included). However, over VGA to a laptop it performs well, stretching beyond the 50" it boasts, albeit slightly blurry. Below 50" though, it's impressive how bright the bulb is for such a tiny unit – travelling DJs will love this for movies at the hotel.

It's a luxury price point, and it's not perfect, but it's impressive, fun and downright cool. *Declan McGlynn*

8/10



Elemental Studio Percussion | £65

timespace.com



Whether it's a simple shaker part or a frenzied bongo solo, percussion samples are a great way of adding interest and variation to your tracks. As anyone who's tried to record them will also tell you, they can be surprisingly difficult to get right. Big Fish have the solution in the form of this huge sample pack.

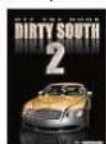
With tempos from 80bpm all the way up to a raucous 240bpm, there's something to fit most styles of music. However, even if you can't find a loop to fit your track, you'll find a comprehensive set of individual hits that are sampled at low, medium and high velocity so you can build your own patterns from scratch in your favourite soft sampler. This sample pack comes highly recommended.

Greg Scarth

9/10

Off The Hook Hip Hop: Dirty South 2 | £65

timespace.com



Fresh from the ever-reliable Big Fish Audio comes this collection of 41 construction kits, each broken down into their constituent parts plus multi-track drum loops and individual hits.

Samples are provided in 24-bit Acidized WAV, REX and Apple Loops formats and with a total of 4.27GB of content (1.73GB of WAVs) including 50 bonus drum loops and 185 bonus hits there's no shortage of material on offer.

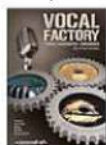
The Southern Hip Hop sound has grown a little stale recently but if you still want to sound like Lil' Wayne or TI, this is as good a place as any to start.

Greg Scarth

7/10

Vocal Factory | £100

timespace.com



Vocal Factory combines two of Zero G's previous releases, Vocal Foundry (which retails at £79.95) and Vocal Forge (£114.95) along with a new collection of Indian voice samples.

The 4GB of sounds are supplied in Acidized WAV format, along with nearly 1,000 Kontakt, EXS24 and NN-XT instrument patches for good measure. As usual with vocal sample packs, any user's opinion on the material in this package will largely depend on how closely it fits their specific needs.

With so many different styles included, we'd recommend you try before buying, but the quality is top notch.

Greg Scarth

8/10

Dubstep Constructions Vol 2 | £15

producerloops.com



For the bargain price of fifteen quid, this pack contains ten construction kits which offer a versatile selection of beats, synths and FX to get you started in the world of Dubstep. Available in Apple Loops, Acidized WAV, REX or Reason Refill formats, the 24-bit samples are all of a very high quality.

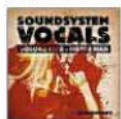
The loops tend toward the darker end of wobble and jump-up Dubstep, with things getting a little formulaic at times, but there's plenty here to work into your tracks. It's a shame there aren't any individual hits for you to build your own beats from but even so this pack offers great value for money.

Greg Scarth

7/10

SoundSystem Vocals Vol. 2 – Horseman (Dubdrops) | £18

loopmasters.com



Coming from the same crew behind the impressive Drumdrops in Dub (Dubdrops), volume two offers up the second batch of vocals samples from Horseman.

560MB of AIFFs give you just under 600 samples, half of which have been produced using 'vintage-style tape echoes and compression'. The other half is dry versions for your tweaking pleasure. 14 sample patches for the usual suspects tops off the very reasonably priced package.

Aimed at those with a leaning towards the one note skank, this pack will deliver the goods for anyone looking to inject a hint of soundclash into the mix. Take it straight from the horse's mouth – 'Gwan selector!'.

Roger Watson

8/10

Essential Minimal Techno by Loopmasters | £20

loopmasters.com



Danmad (aka Dan Mardan) has produced a sizable collection of samples in seven construction kits (125 – 128bpm), in each kit the beats have been cut into kicks, hats, claps and snares as well as full versions to allow you to get the most out of them. Bass, synth and FX are also covered as well as single hits and 40 'bonus loops' comprising of hats, kicks, tops and more.

Definitely on the lighter end of the spectrum this pack does what it says on the tin, as well as supplying a decent pallet of sounds that can be used outside the Minimal Techno arena – in particular the synth parts.

Roger Watson

7/10

Mini Reviews | Reviews

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Q&A

Our panel of experts answer your music-making questions, from hardware issues to software ideas, with tips and tricks along the way

MIDI for iPhone Part 2

Philip Sawyer asks:

Q I remember a few months ago that someone asked about using their MIDI keyboard to control their iPhone apps and you said that the only options were Akai's iPK25 and Ion's iDiscover. However, I recently saw a new product from Line 6 called the MIDI Mobilizer, which appears to be a MIDI interface for the iPhone that comes with standard MIDI ports.

So, maybe the question needs asking again: will this enable me to

play my iPhone synths using my existing MIDI keyboard controller?

Mark Gyver replies:

A Line 6 has indeed introduced the MIDI Mobilizer since I answered the previous question but, unfortunately, it might not be the solution you're looking for.

What this is is a neat little hardware device that slots into your iPhone/iPod Touch's dock connector. It comes with a pair of MIDI-to-mini-jack leads, with the MIDI ends going into your keyboard (or other hardware) and the mini-jacks going into the interface to facilitate the transfer of In and Out signals.

Problem solved, you might think... but just hold on a second. Although the MIDI Mobilizer does enable you to get MIDI data in and out of your iPhone – and, thanks to its companion MIDI Memo app, to back-up MIDI settings/data and record/playback ideas – it doesn't provide out of the box compatibility with other apps. Here's the official word from Line 6's website: '[Compatibility] is technically possible, but would require software updates to each application in order to communicate with MIDI Mobilizer. Additionally, the developer of the application would need to become a Line 6 MIDI Mobilizer developer in order to be given the development tools, and allow Line 6 to publish their MIDI Mobilizer-enabled version (currently, all applications for a hardware accessory must come from the same publisher).'

This means that, as things stand, the MIDI Mobilizer won't let you just plug in and play your iPhone synths, which is a bit of a bummer. However, some developers have already begun to provide support for the MIDI Mobilizer – Audiofile Engineering's



THE EXPERTS

Mark Gyver
computer
music expert



With 15 years of music production experience, Mark knows everything (and more) about the current and classic software market.

Doug Kraul
technology author



Doug Kraul is an electronics and computer industry innovator, who has designed analogue modular synthesizers and MIDI devices.

Dan Goldman
artist/producer



Aka JD73, Dan is a session keyboardist, producer and remixer, specialising in vintage gear, mixing and production techniques.

To send in your queries you can email us at futuremusic@futurenet.co.uk and we'll pass them on to the relevant expert. Or write to **Future Music Q&A, 30 Monmouth Street, Bath BA1 2BW**

new MIDI Surface app uses it to send and receive MIDI. Time will tell whether other developers follow suit.

Why do I have two VST folders on my Mac?

Chris King asks:

Q I found two different VST folders on my MacBook Pro's hard drive, one at Library/Audio/Plug-ins/VST and the other at /Volumes/Users/Chris/Library/Audio/Plug-ins/VST. Which one should I use for plug-ins I manually install?

Doug Kraul replies:

A An OS X computer can have multiple user accounts. Multiuser support means that many computer resources, such as plug-ins, can be set up to be used by all users, or just a particular user. OS X has its own rules about where to store shared resources, and where those private to a user are placed.

Generally speaking, anything placed in the Library folder is a computer-wide resource available to all users. Items placed in /Volumes/Users/<user_name>/Library are private to that user. Most plug-in installers use the system-wide location. However, you can manually move most plug-ins to your private folder as long as you have administrator privileges.

One handy use is to gather all your trial plug-ins in one place, making them easier to keep track of and prune as necessary.

Vintage music computers

Michael Toye asks:

Q I was rummaging through my dad's cupboard and uncovered an old '80s IBM PC and a small box with MIDI connections on it labelled 'Roland MPU-401'. Dad said it was part of his old MIDI sequencer setup. What is the MPU-401?

Doug Kraul replies:

A The MPU-401 was one of the first computer MIDI interfaces. It was specifically designed to work with the original 'IBM PC', what we call a 'PC' today. The MPU-401 is an 'intelligent interface', meaning it handles much of the MIDI work for the computer, reducing the software sequencer's work load while providing crisp timing even when the sequencer runs on a slow 'ancient' computer.

Carrying monitoring to gigs can be a pain – are headphones (as used by Thomas Dolby here) a suitable alternative?



PA or In-Ear Monitoring?

Ray Hobbs asks:

Q I'm getting sick of lugging my JBL PA system around for gigs to amplify my keyboards, so have been thinking about switching to in-ear monitors. Do you think in-ears are a good alternative, or should I just get a more portable PA system?

Dan Goldman replies:

A The experience of using a high-quality stereo PA system for personal monitoring is often a great experience in terms of sound but the carrying and the space required in

your vehicle can be a real pain. From my experience, using a high-quality PA enables you to really hear the full range of your keyboards frequency spectrum/dynamic range while hearing everything in stereo can be a much more involving experience.

Having a speaker either side of you makes you feel like you're actually inside the music, and it's nice to actually feel the speakers moving air too, particularly with bass sounds. Also, having your own PA means you can get a more consistent sound from gig to gig.

Switching to in-ear monitoring is a great alternative to a PA system but you get what you pay for, so be prepared to stump up the cash for a decent system (transmitter and in-ear headphones). It's amazing what a full and high quality sound in-ears can produce (though if you want to feel big subs you may need to get a sub speaker). The clarity can be stunning, and of course in-ear systems and headphones are super-portable.

Wired and wireless systems are available, though wired systems perhaps have the edge in sound

quality. Many touring bands use them now too. There are a couple of things to watch out for though.

Firstly, keep your volume in check to avoid hearing damage (some systems have a built in limiter). Also, you'll need to spend more time getting your monitor mix right and it's also wise to put a couple of ambient mics at the front of the stage to capture crowd noise/room ambience as sometimes you can lose a lot of the atmosphere on a gig when wearing in-ears monitors.

These small issues aside, when you bare in mind the portability and the excellent sound, in-ear systems really are a great alternative to PAs. I recommend trying a few systems out to see if in-ears work for you.

Internally the MPU-401 offered eight independent MIDI 'tracks' whose timing was completely handled by hardware. This may seem like a meagre amount of tracks, but each one can contain all sixteen MIDI channels. So up to 128 hardware-assisted tracks are possible. The hardware features, and the MPU-401's stature as one of the first MIDI interfaces for an 'IBM compatible', made it a defacto standard – most PC music software at that time required an MPU-401.

Ironically the MPU-401's special 'smart' features fostered its eventual slip to irrelevancy. Many of the software sequencers used the MPU-401's simpler 'UART mode' as the smart features sometimes overly restricted the sequencer's design. The UART mode was very easy to replicate with inexpensive hardware and the original SoundBlaster did just that. As the SoundBlaster gained in popularity most PC music software switched completely away from the MPU-401 compatibility requirement. But is the MPU-401 useful today?



MPC Legacy

The MPC is still very popular for live sequencing

That would depend on whether you are interested in 'vintage' music software. Windows was not really in the picture back in the '80s, so you will be looking for DOS music software. Sequencer Plus, by Voyetra, was one of the finest sequencers of its day. Lesser-known Textures, created by musician Roger Powell, offered a workflow that in many ways anticipated Roger Linn's Akai MPC60. There are also early versions

of Cakewalk, plus numerous synthesizer patch editors and/or librarians programs. If your dad's computer still works, you might find this an interesting and useful journey!

MPC for me?

Simon Leblanc asks:

Q Hi guys. It seems pretty much everything revolves around computers these days and I see so many

people using Ableton Live both in the studio and for live. Thing is, I'm a real believer in hardware and I'm scared about carting my expensive MacBook Pro round with me. What I'm wondering is what you would recommend as a great alternative to the laptop? I want to mainly trigger beats, break stuff up and down etc.

Any recommendations? I'm currently thinking about the new MPC models as they seem to fit the bill in terms of price and reliability from what I've heard.

Dan Goldman replies:

A I'd definitely put an Akai MPC1000 at the top of your list. I'm currently using one for my live show without a drummer and it's opened up a whole new world of possibilities. The MPCs are really solid, portable and reliable and, above all, easy to use live. The other great thing about using a sequencer such as an MPC is that you're not staring at a computer screen all the time, which can easily distract and stop you engaging with an audience as much.

Hardware Hookup

Jessica Veed asks:

Q I've added a few hardware synths to my rig – an E-mu 5000 Ultra sampler, a DX7, and a Moog Little Phatty. I recently picked up a Yamaha RM1x sequencer to MIDI sequence them. But the RM1x only has one MIDI output so how should I connect things up?

Doug Kraul replies:

A MIDI is a 'point to point' system, meaning that each MIDI input and output can connect to only one MIDI device. Many MIDI devices offer a THRU output you can connect to a second device. You use MIDI THRU

connections to 'chain' together MIDI devices to share the same MIDI output data. The MIDI signal available on a THRU output is delayed by musically insignificant amount. Delay accumulates each time the MIDI signal passes through a device. However it would take a lot of devices in

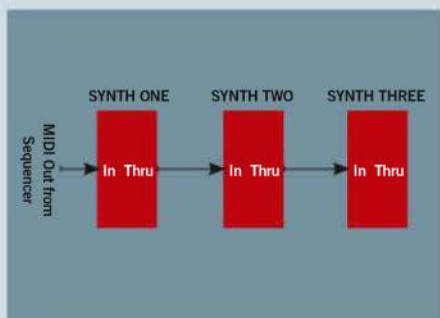
the chain before your timing is materially affected.

So why do you sometimes see advice against using MIDI THRU? The reason is the infamous 'software THRU'. Some synths and sound modules economise by sharing a single MIDI socket for output and THRU. This THRU is not a real electrical copy. Instead it is a software replication of the input forwarded to the output. This typically introduces perceptible delays from just a single device in the chain,

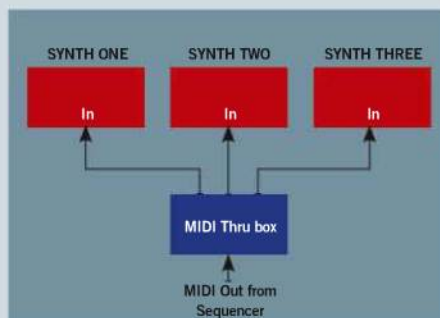
which gave all MIDI THRU's a bad name.

The bottom line is that for most small setups, the built-in MIDI THRU connections do the job. A THRU box is a nice addition because it allows you to have one of the synths turned off without affecting the entire setup. So its worth considering a THRU box, but not because MIDI THRU's cause 'bad timing'.

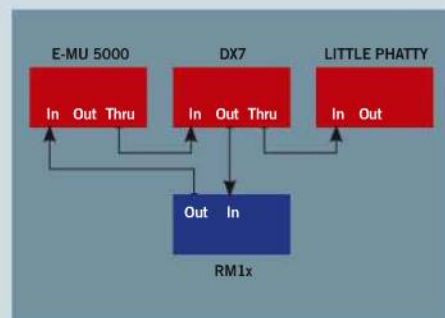
Let's look at both options, and a recommended way to connect your kit.



1 Each synth or sound module's MIDI THRU output is used to forward the same signal to the next device. Each time the MIDI signal passes through a device a short delay is added. Even with a half dozen devices, the delay is inconsequential unless a device uses a software THRU.



2 Here, three MIDI devices receive the same MIDI signal from the MIDI THRU box. It adds a slight delay (the same as a single synth's THRU connection) but all devices experience the same delay so timing remains aligned. The extra cost is the THRU box and one cable.



3 Use MIDI THRU's to save cost and complexity without fear of timing issues. Device order is unimportant except the Little Phatty must be last in the chain, as it lacks a THRU port. Otherwise, change the order if it simplifies the cabling or improves physical layout.



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Hip Hop Bass

Kelvin Bishop asks:

Q I've been producing Hip Hop tracks for a while and I've decided that I need a new synth to help me get the big, deep bass sounds.

The ones I have just don't seem to be cutting it – could you recommend any specific instrument plug-ins that will help me?

Mark Gyver replies:

A Without knowing which synths you already own, it's a little difficult to answer your question, but I'll assume that what you're looking for is a synth that's specifically designed for bass. The biggest hitter for bass sounds is probably

Spectrasonics' Trilian, which comes with a whopping 34GB sample library that covers just about every bass tone imaginable. What's more, it's surprisingly easy to use.

The only question marks are whether you really need/want a soundbank of that size, and whether you're prepared to pay £215 for the privilege of owning it.

A more practical option might be Rob Pape's SubBoomBass, as its name suggests, is

specifically designed to produce the types of seriously heavy low-end tones that Hip Hop producers love.

It's based on the engine used to power Pape's acclaimed Predator synth, and comes with a good range of presets.

What's more, it costs just £89 so, given that SubBoomBass is focused specifically on the genre you're working in, I'd say it could be the synth you're looking for.



Is the iPad's Camera Kit the key to USB audio?

Mark Gyver replies:

A Good news, Felix: it does appear that the iPad will work with some USB audio interfaces. Now, I should say that I haven't tested this myself, but Audio Damage's Chris Randall – a man who knows about these things – recently reported the situation as he sees it on his Analog Industries blog (bit.ly/cweHeA).

I'll give you a summary of his findings here: the first thing you'll need is the iPad Camera Connection Kit, an adapter that slots into the iPad's dock connector and gives you a USB port on the other end. Next, you'll need to ensure that the interface you plan to use is class-compliant (i.e. it'll work without any additional drivers) and supportive of USB 1.0 (as opposed to just USB 2.0), which many are. Finally, if the interface requires more than 200ma of power then it'll need to have its own power supply (which, given the iPad's portability, isn't very desirable).

Then there are the inevitable compatibility issues. If the app you're running uses CoreAudio – Apple's API for dealing with sound – then its outputs/inputs should automatically match up to those on your interface. If, however, it uses OpenAL (a cross-platform API) the sound will only go to the iPad's internal speakers and headphone output. Just to confuse the issue further, Chris Randall says that Korg's iElectrube, which he thinks uses CoreAudio, currently crashes on startup if you have an audio interface plugged in.

So that's the situation as I type. I suspect someone will quickly produce a compatibility chart for interfaces and apps, though. Google should be your friend in this regard.



Bass Invader

Rob Pape's SubBoomBass: the name tells you everything.

To start off I'd sample up beats from your studio tracks and bob them in the MPC or you could just drag and drop any 16-bit WAV files straight from your computer into the MPC via the USB connection and then onto a compact flash card (I've got a 4GB card which holds loads of samples). Also make sure you've got the RAM maxed out as well so you can hold as many samples in the MPC's memory as possible. Loading times are super quick with the compact flash cards and they're cheap too.

You'll also be glad to know that the MPC can also trigger sequences and beats much as Ableton can (but obviously in a more stripped down manner) and the track mute and next

seq modes are a godsend. Track mute gives you a view of all the tracks within a sequence (say for example you may have a track for kick, snr, hats, percussion respectively) and each track can be muted/unmuted with a simple press of the corresponding pad on screen (the tracks names are laid out in a grid corresponding to each pad on the front of the MPC). This mode allows you to quickly drop in and out elements of your beats or samples to change up grooves on the fly and you can also mute/un-mute and solo all the tracks with just a button press.

On top of this there is the next sequence mode which allows quick changing between different

sequences via the pads, bringing variation to your grooves and while keeping your audience interested too.

iPad USB audio interfaces?

Felix Anderson asks:

Q I'm currently umming and ahing about buying an iPad. One thing I've heard that could swing it for me is that the device is compatible with USB audio interfaces – I've looked on Apple's website for information about this but I can't seem to find any. Do you know if this is the case? As far as I know, the iPad doesn't have any USB ports on it, so I'm a bit confused.

Logic Tape Emulation

Q **Sara Stanton asks:** I'm a long-time user of Logic on Mac and I'm really frustrated by the lack of a bundled tape machine emulation plug-in. Surely, in this day and age, it's not too much to ask for in a program of this level? I've been resorting to rolling off highs to get closer to the sound but it's not really getting there. I can't afford to buy any more plugs so I was wondering if you have any tips for a tapey sound?

A **Dan Goldman replies:** I recently discovered that the Tape Delay Plug-in in Logic can act as a very authentic tape machine emulation plug-in, so you'll be glad to know that you don't need to spend any extra cash. Here's a six-step walkthrough to get you the sound you're after.



1 Bring up any audio material that you'd like to process and insert the tape delay plug-in on that channel. The material could be a single hit, mono or stereo drum bounces or even a whole mix. Most often, I use the plug-in to smooth out spiky or bright drum/vocal tracks to give them a softer sound.



2 Next, switch off the 'sync' button so that the plug-in is no longer synced to Logic's tempo. This makes the plug-in behave more like an old-school tape machine. As we don't want to actually use the delay part of the plug-in, set the delay time to 0 so that we are just using the virtual tape heads and tape.



3 We don't want any of the dry signal coming through, (we just want the sound coming from the 'tape heads') make sure you move the dry signal slider to 0.



4 Now set the wet signal slider to full, so that we are just hearing what's coming off the virtual tape heads. Immediately you should hear a big difference when comparing the processed signal to the unprocessed sound. Use the bypass button to compare the two sounds.



5 To enrich the signal with more harmonic movement, experiment with the Feedback slider. This can help bring out desirable overtones in the sound. You can also get some really wild distorted effects setting this slider at higher levels.



6 Finally, experiment with the low cut/high cut slider to remove or add frequencies to the sound, or add flutter to the signal for an even more tapey sound using the Flutter Rate and Intensity sliders. You can also use the LFO to add pitch fluctuations for chorus like effects. **FM**



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Demos



Are you unsigned, under-appreciated and looking for your first break? Get your tracks right on track!

Demo Of The Month



SELECTED KIT

Hardware

- > PC (2.8MHz Intel Quadcore)
- > Behringer UMX49 Keys
- > Samson Rubicon R5a monitors

Software

- > Sonar PE 8.0
- > VSampler 3
- > Waves Gold 5 plug-ins
- > Polyblit
- > Crystal, Z3ta+
- > TAL Bassline

FAVOURITE GEAR

- > "Sonar, VS3 & Waves, but I can't underestimate the value of some great free plug-ins too."



Sentimental (Original Mix) Vapourlance

Contact: myspace.com/vapourlance



Bosh! Rather in keeping with this month's LOUD feature, this one. It's another window-rattling,

impossible-to-ignore bit of Electronica from down-under. As you might say: Good day! Err...

It's all in the nice and tight compression and limiting used here. It's all 'right there' and every new element striking out fills a gap left by sucking out its rivals. The bass is upfront without grabbing a huge chunk of the frequency range and the hi-hats politely fizz around without ever

sounding shrill. The result is plenty of space, a mix that remains clear even when it's going for it and a gorgeous warm and full sound to the entire track.

Love the delay on the bouncy bass and the gorgeous spot effects and buzzy sweeps that compliment without ever dominating. We're suckers for those long reverb tails.

And it's always nice to hear a track that can interject a new musical phrase without sounding shoe-horned in. The switch at 2:40 is perfectly timed, playing on the familiar riffs but taking the track to another place.

Top work. Looking forward to hearing lots more from you.

The Artist



Name:

Chris Jeffery

Where:

Perth, Western Australia

My track: "A Prog

House track which explores a sense drama created by contrasting a colder, dark emotion with more joyous optimism. Something we all go through in life. The arpeggio provides the link between the two."

Which bit of this track are you most proud of?

"I'm very happy with mood & drama overall. I love the moments created by the transitions into the chorus and back into the verses. The arpeggio's 3/4 loop is hypnotic, the kick drop & snare fills rock and the slide into bass to start is nice."

If we were to give you £5,000 for gear what would you spend it on?

"New plug-ins, hi-end ones with character or to emulate the classic studio hardware and some serious soft synths (Arturia, NI FM8, DCam Synth Squad)."

What are you working on now?

"Trying to finish the first few tracks of my 'more personal' Electronica-plus-vocals project (Impulse Remedy) and a new Vapourlance track."

The Best of the Rest...

Ecliptik Dark-i

darki@eircom.net



This has a really great, full sound. Up loud its a real punchy dance track that'd be at home on any dancefloor.

"The bass and melody sitting on top of each other after the build up is my favourite part," says Mr Dark-i Daire Gleeson. "It took a lot of tweaking EQs and rewriting to get them sitting right." It works really nicely though. If we were to think of a word to describe this track it's 'stern'.

This is firm but fair Trance at its most textbook. We certainly wouldn't want to be living next door while you fine tuned that superb kick drum!

"If I had £5,000 I'd go for Event Opal Monitors, an M-Audio Axiom Pro 49, the Brainworx bx_digital and the rest on room acoustics. Right now I'm

using a quad-core PC, Novation Supernova II synth, Behringer 3031a Truth monitors, Korg Nano pad, M-Audio Delta Audiophile 192 and Ultrasonic Pro 2500 headphones. On the software side I use Sonar 8.5, Nexus, NI Battery 3, iZotope Ozone 4." That's a cool bunch of kit and we can certainly hear the Supernova in there - it's a great synth for Trance. "Currently I have three tracks ready for the final touch, a deep and dark

Tech Trance number and the other two would be of a similar style to *Ecliptik*." Send them over!

What U Do 2 Me Sugarghost

soundcloud.com/gav6367



We love a nice loose feel but you've got to watch your timing. This funky workout just gets a little too slack at times and

that rather boxy snare drum isn't quite the toppy, excitement provider it should be. And watch the levels on your guitars too. You're a little high and dry and middley there but the tune is solid and the playing sweet.

"I'm most pleased with my Minimoog leads towards the end of the track," says its maker Gavin Hughes. Bang on. It's a great sound. But what other kit are you using? "I'm using an Access Virus TI Polar, Minimoog Voyager, Roland Juno-106, Roland SH-09, Roland SPD-11, Mackie 1604 VLZ, KRK Rokkit 6 and Yamaha SG2000 guitar." That's quite an array of kit! "My favourite kit is the Virus TI Polar," says Gavin. "It's the heart of my studio and really is the 'Total Integration' they talk about".

Second Intention

Chris Grace

myspace.com/chrisgrace88



If you want to get ahead, get a hook and the sound of two paving slabs being rubbed together is an usual and ear-grabbing hook as we've ever

heard. "I'd call this a futuristic Sci-Fi funky sound with a twist of Techno and a monstrous growling bassline," says Chris Grace. "I'm most proud of the bassline as I have never heard anything like it before." Yes, but how did you get it? "It's actually the sound of my own voice. I used a sample of my voice, put it into the Simpler instrument in Ableton then lowered it down to two octaves, lowered some semi tones and then began to draw in some MIDI notes. I duplicated it for a nice sub bass and lowered it down another octave. I then put a filter onto it so it would blend nicely with the bass." Yes! Proof that you can build a track around a great sound.

Death or Glory

The Explorers

myspace.com/explorersmusic



Nice to have a bit of guitar Pop among the stern Electro of FM's demo zone. Love the mix of acoustic sounds (is that a... zither?) some funky guitar plucking and a soundscape pad that's obviously the creation of some amped



SELECTED KIT

Hardware

- > Apple Mac G5
- > M-Audio Key Controller
- > M-Audio Soundcard
- > Alesis MK1
- > Tascam US2400 MIDI Controller

Software

- > Logic Pro 7
- > Kontakt 3
- > ReCycle

FAVOURITE GEAR

- > "We love our Tascam controller, it gives you a hands on feel to make everything much quicker."

This Is House

HouseMasterGenerals

Contact: myspace.com/housemastergenerals

We like the happy vibe here. All thanks to Kevin Garvey, Tim Manning and Roni Williams on excellent vocals. "We describe this track as funky Tribal, Soulful House with a tight groove," they say.

They're certainly right there. There's plenty going on but it chugs along very sweetly. "We like the piano break and are particularly proud of the percussion. And – of course – the vocals are great," they tell us.

We've got no problems with those vocals. Lot's of

passion and a perfect match to the thudding Tribal beats. Proof that with a nice long feedback delay and decent set of lungs any track can be instantly energised!

Jury is still out on the *Strings of Life* piano stab chords (clever '90s reference or late use of a House cliché?) but they certainly keep the track bubbling along. Not too sure about the bass either. On a couple of systems and headphones we tried it had the tendency to disappear into the warm soup of your beats.

Slick track though. Keep them coming. Cheers.

Hot Pick



SELECTED KIT

Hardware

- > PC laptop
- > Roland SH-201
- > Korg padKontrol
- > Line 6 DL4
- > TC Konnekt 48

Software

- > Ableton Live 8
- > NI Massive
- > NI Kontakt
- > Absynth 5
- > Arturia 2600V
- > TC Konnekt Reverb
- > Sound Toys Echoboy
- > D16 Decimort

FAVOURITE GEAR

- > "I love what Massive can do. It's been my go-to synth for ages. I can get ideas down quickly. Then Arturia's ARP2600 V synth would be my next favourite piece!"



Seque

Ghost

Contact: myspace.com/gh_st

W hoa, Nelly. What just happened? This track is big like the moon yet claustrophobic like snug trunks. Listening to *Ghost* loud on 'phones, it's like the sound is coming from the centre of your head moving outwards rather than the other way round... is there a plug-in for that?

"The sound you're hearing is an Absynth 5 patch with a nice low end with the resonators effect pretty high," explains the genius behind it, Martin Peralta. "There's two large samples of

cave spaces and a large train station atmosphere sample which all added up to give me that nice full texture. On top of that I then added some odd metallic blip sounds from a Massive patch and there's a lot of long compressed reverb to the sparse one shot drum hits and most of the percussion." Wow. It's an amazing trick. On a big system this places you perfectly amid the soundscape – it's so wide it's scary.

Musically we're not to everyone's tastes here but as a bit of art this shows you know your studio inside and out.



The Artist



Names:
Martin Peralta
Where:
Sydney, Australia
This track: "I'd describe it as Cinematic Sci-Fi Dubstep."

Which part of the track are you most proud of?

"I'm actually most happy with the speed of which I wrote the song. It only took me two days which is much better than the weeks I usually spend. Sonically I would say I'm most proud of the atmosphere the track has. It's a lot of layered sounds."

If we were to give you £5,000 for gear what would you spend it on?

"That's a lot of Australian dollars... Otto Biscuit, Korg Wavedrum, Dave Smith Prophet '08, Great River ME-1NV, an API 2500 and a new PC... probably too much?"

What are you working on right now?

"I'm finishing my first album. I have dreamt up this crazy story which I've converted into an imaginary movie which I'm writing music for."

up studio tech. "We've tried to for a sound that's almost has a 'mirage' feel to it," says Jez Dennis and Rob Bannister. "It's very dry and desolate. I like the fact that we didn't use a snare drum in this track. Just shows that as long as the song comes across well and sounds right you don't need to stick to the rules!"

We love the tune and arrangement here but would like to hear a mix with less of the (flanged?) pad and a bit less ambient effects and general 'spaceyness'. Love the backing vocals, koto and glimmers of strings. We're thinking Empire of the Sun here... just make sure your clever pad isn't all that people will remember about your track.

Easy Does It Severane

soundcloud.com/severane



"I'd describe this track as blissful and calming." We love how you can hear the compressor keeping reigns on this track. There's so much inherent tension in its tight squidding and bleeping it feels like a tiny bomb about to go off. Lovely hi-hats too.

"For me the best bit is probably the bass which has a long attack on the filter envelope. And also the breath samples which give the tune a more natural sound," says Mir Severane Damien O'Leary. "The bass sound was created using two saw wave oscillators and a noise generator in Subtractor." Nice work.

It's the bubbling gated, square wave chords and their work alongside the hi-hats that we like and that's

another great kick drum! "I need some decent monitors, some sound treatment for my room, a few decent mics and preamps, some MIDI controllers and a Logic or Pro Tools rig. My favourite bit of kit right now is my laptop – an old but still working – Philips X54. It allows me to take my projects with me wherever I go.

There's so much love and potential in this track. You can hear that you've nurtured every tweak and sound and we can happily imagine sitting through a whole album of similar tunes. Superb.

You Are Babym BaBym

myspace.com/analoggangster



Time for a bit of music and complexity. This is bright and sparkling, upfront Latin House is the work of Jerome Meunier. "That's French," he tells us.

"I was listening to *Tricky* by Steve Angello, *Step By Step* by LaidBack Luke and *Leave The World Behind* from the Swedes and I started trying building a strong house beat. As for the bass I was playing around with Nexus II for some melodies, and it ended up being this latino piano melody. Then everything followed, starting with the voice addressed to my girlfriend Rachel, some arp with Sylenth1 and the song was done in an afternoon." We love it when a plan comes together!

It's a great clash of styles and tune and a real exciting ride that while being a clear homage to the acts you mention, has a charm that's all its own. Aces! **FM**

Hot Pick



SELECTED KIT

- Hardware
- > PC QuadCore2
- > NI Kore 2 controller
- > M-Audio Project Mix I/O

Software

- > Cubase 5
- > NI Kore 2
- > Pro-53
- > Sugar Bytes Artillery2
- > Sugar Bytes Effectrix

FAVOURITE GEAR

- > "Artillery2. I use it with every track I produce in the studio and now I'm creating my own templates for live performances. Easy to use, truly endless possibilities, allows to create very complex rhythmical structures without too much digging into software."



Blup Edwiq

Contact: hello@edwiq.com

Time for some frantic madness. Your Nan is going to love this one. The intention is to shock and provoke here and the stereo drop 20 seconds in is a real eye-opener.

It's an ear battering pretty much from the off with acres of filters and sounds pushed to the brink of unpleasantness before being snapped back to muddy sub. As such it's rather difficult to get a handle on and appears to come and go when you listen at high levels. Perhaps one or two more consistent elements such as the kick would help keep this

focussed and present when the mayhem ensues.

"My favourite part is the driving bassline," says the track's maker Eduard Lukyanov. "It's just two notes pitch-bended on three semitones up and down with the reversed ending to create wobbly effect."

Most of all it's the track's tendency to get too topky and abrasive that – paradoxically – takes the edge off the mix. At its peaks it's too bright and nasty. The demonic drive of the track however is excellent and it's easy to imagine this driving everyone barmy at the end of a night. Kickin'.

Unsigned and Unloved? Get Your Tracks on These Pages!

If you're an amateur music maker wanting to take the next step up then we want to help. Broadcast your music via the *FM* DVD and bravely subject your work to our expert advice!



1 Non pros please!

Are you unsigned, non MCPS or PRS registered and making music that you think could be something special? Then our *Demos* pages are for you. We're here to help and want to broadcast your work to *FM* readers around the world! If you're already making money and living the dream then thanks, but no thanks. Everyone else should head to futuremusic.co.uk our virtual home and blog site where you'll find regular input from the *FM* team.



2 Look for the SoundCloud DropBox

We're big fans of SoundCloud, the online audio sharing service that let's you effortlessly pass around your audio to your friends or collaborators. SoundCloud lets you audition the audio in your drop box without the need to download it first – it plays in your browser with a click – making it the fastest and easiest way to get at audio files ever. Check out soundcloud.com to get your own SoundCloud box. Ours is on the right, just below the advert.



3 Click on the box and upload

Click on *FutureMusic's* SoundCloud DropBox then click on the big 'Choose files' button and upload your very BEST work. We haven't the time to wade through 12 tracks to get to the good ones! They need to be MP3s please. AND YOU MUST take the time to add a description – your name, address, band name, track name please – and give us your email address too! Include your track name and band name in any correspondence please!



4 Start work on that bio...

If your track is selected to be featured in the magazine we'll email you and ask you a whole bunch of questions such as your favourite gear, how you got your sound, you know – all the things you see us ask people! We're always up against one deadline or another here at *FM* so a rapid concise and easily understood reply to our questions is appreciated. Make sure you put your real name, artist name and track name on all correspondence!

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Swissonic MDR-4

Mobile digital audio recorder

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€ 89.- **€ 76.-**

o. code 226599

Tascam DR-07

Mobile digital audio recorder

Record and play MP3 (up to 320Kb/s) and WAV files (up to 24bit), 44.1/48kHz, built-in stereo mic, analog automatic level input control, analog limiter, stereo in for external mic, stereo line input, headphone and line-out (3.5mm TRS mini jack), USB 2.0, powered by AA size alkaline or NiMH batteries, incl. 2 GB SD card and windshield.

€ 148.- **€ 127.-**

order code 223287

Zoom H2 UK

Mobile MP3/WAV recorder

1-point stereo mic design, MS stereo technique, built-in USB interface with audio interface function, WAV 96/48/44.1kHz and MP3 up to 320kbps VBR, headphone out, time stamp function, uses SD-cards (up to 4GB), perfect for interviews, podcasts, meetings and live recordings, USB cable, stand, mic-stand adapter, windscreens, UK power supply and 512MB SD card included.

€ 167.- **€ 143.-**

o. code 213436

Olympus LS-10

Portable WAV/MP3/WMA stereo recorder

24bit/96 kHz, 2 built-in mics with 3 characteristics (normal, wide, zoom), built-in 16mm stereo speaker, 2GB internal flash memory, SD card slot, 3.5mm mini jack stereo mic in, 3.5mm mini jack stereo line in, 3.5mm mini jack headphone out, low cut switch, aluminium body, USB, incl. Cubase LE, carrying bag, remote control, USB cable, audio cable, wind screen and 2 AA batteries, dimensions: 13,15 x 4,8 x 2,24cm, weight: 165g.

€ 235.- **€ 201.-**

order code 205458

Edirol R-09 HR 4GB SD Card Bundle

24bit/96kHz MP3/WAV recorder

Up to 320 kbps MP3 playback and recording, recording on SD or SDHC card (up to 8 Gbyte), built-in stereo condenser mic, OLED display, USB 2.0, stereo mic in, stereo line in, stereo headphone out, incl. power supply, 512MB SD card, USB cable, Cakewalk Pyro AudioCreator LE, wireless remote controller and a small table mounting plate. Bundle incl. 4GB SD card.

€ 279.- **€ 239.-**

o. code 207377

Zoom H4 N UK

Digital recorder

Perfect for interviews, podcasts, meetings and live recordings, 24bit/96kHz, mp3 up to 320kbps, two built-in stereo microphones switchable between 90° and 120°, requires 24V or 48V phantom power, USB port, includes 1GB SD Card, windscreens, UK power supply, mic clip adaptor, USB cable, bag and Cubase LE4.

€ 322.- **€ 275.-**

order code 228789

Olympus LS-11

Digital recorder

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€ 339.- **€ 290.-**

order code 234496

Zoom R16

USB audio interface and DAW controller

16-track playback and 8-track record, 24bit/48kHz PCM recording, internal stereo condenser mic, battery or USB, 8x mic ins (2x with 48V phantom power), 2x outs, 8x balanced XLR/74" jack connections, internal FX, Mackie Control emulation via USB, for Win XP/Vista and Mac OS, includes Steinberg Cubase LE4 and 1GB SD Card (Supports SDHC Cards up to 32GB).

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Tascam DR-100 Set

Portable digital recorder

Record and play mp3 (up to 320kbps) and wav files (up to 24bit/96kHz) on SD/SDHC card, 4x integrated condenser microphones, 2x XLR mic inputs with 48V phantom power, automatic analogue level input control with limiter, stereo line input, headphone out, line out (3.5mm stereo mini-jack), USB-2.0 connection, powered via AA batteries (alkaline or NiMH). Includes 2GB SD card, BP-L2 battery, CS-DR-100 bag and windshield.

€ 399.- **€ 341.-**

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Korg D3200

Digital multitrack recorder

16-track simultaneous recording, 32-track playback @ 48kHz/44.1kHz (16bit), 12/16 with 24bit, max 272 tracks (incl. virtual tracks), 16/24bit format, MMC, MTC and MIDI CLOCK, Session Drums drum computer, tempo map, sync track, internal CD recorder, USB 2.0 port, 64bit internal signal processing (max 690bit), 8x mic preamps & 12x 1/4" TRS plugs, 1x Hi-Z input, SPDIF I/O (optical).

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Native Instruments Traktor Kontrol X1

USB bus-powered DJ controller

Instant recognition by Traktor, software controlled backlit buttons, fits perfectly alongside a standard club mixer, super-intuitive loop and cue control section, 8 knobs and 8 buttons, push encoders, expandable (connect two X1s to control four decks), incl. Traktor LE, Kore2 Player (incl. selection library) and MIDI templates for controlling other DJ and performance software.

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Pioneer CDJ-400

MP3 single CD player

With ID3 tag & CD text, MIDI controlled via USB, jog wheel, scratch jog FX, ±6/10/16% pitch control, master tempo control, reverse play function, shock-proof memory, hot loop & beat loop for 10 cue/loop points per disc (maximum).

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o. code 139321

suitable flightcase € 83.- **€ 80.-**
order code 206436

Pioneer CDJ-900

Professional single CD player

Compatible with MP3, AAC, WAV, AIFF and Tonium Pacemaker Data, 24bit/48kHz sound card as well as HID and MIDI control by USB, Wolfson DAC processor, quantized beat loop, slip mode, quick return scratch, advanced auto beat loop, plays audio from CD, CD-R, CD-RW or USB, frequency range: 4Hz - 20kHz, includes Rekordbox music database management software.

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Allen & Heath XONE:92

Pro DJ mixer

6x inputs, 2x aux sends, 2x stereo mix outputs, booth output, record output, 4-band EQ, VCA fader, Penny & Giles active crossfader, VCF filter with resonance (low-pass to high-pass, band-pass, notch filter, all-pass), talkover, 2x headphone outputs.

€ 1155.- **€ 988.-**

order code 167984

Pioneer DJM 800

Professional 4-channel DJ club mixer

Cross fader assignment, fader start, 3-band EQ (-26dB - +6dB), talk over (-20dB), peak level meter, rotary pots for master output, dimensions WHD: 32 x 38,1 x 10,8cm, weight: 7,5kg.

€ 1299.- **€ 1111.-**

order code 191080

suitable flightcase € 83.- **€ 80.-**
order code 193933

Phonic AM440D

Mixer

4 mono mic/line channels with 3-band EQ and low-cut, 48V phantom power, 4 stereo channels, 1 aux, internal effects processor with 100 presets, 2 track I/O, headphone out, balanced master out, incl. external power supply.

€ 79.- **€ 68.-**

o. code 196368

Phonic AM442D 4 stereo, 2 aux. € 149.- **€ 127.-**
order code 196399

Soundcraft EFX 8

8-channel mixing desk

8x mono inputs, 2x stereo inputs, inserts on all channels, 1x FX send, 1x aux send (pre/post), 48V phantom power, solo/mute switch, integrated Lexicon FX with 32 presets, peak LEDs on all channels, integrated power supply. Dimensions: 33 x 9,1 x 36,2cm. Weight: 4,6kg. Optional rackmount available.

€ 268.- **€ 229.-**

order code 118879

Behringer Xenyx X2222 USB

22-channel mixer

8 mic ins, 48V phantom power, internal 24bit effects processor, 16 presets, built-in USB audio interface, 4 stereo ins, 3-band EQ with parametric mids, 3 aux, peak LED and mute per channel, 2-track I/O, XLR main outs, 2 subgroups, internal power supply, weight: 4,78kg, incl. 19" rack/dit, energyX72.5 Compact music production software for Windows XP, Vista (32bit), Mac OS X and Linux.

€ 269.- **€ 247.-**

o. code 243138

Alesis MultiMix 16 FireWire

16ch. mixer with FireWire interface

8 mic/line ins, 4 balanced stereo line ins, 3-band EQ per channel, 2 aux send/returns, 100 280bit FX programs, headphone out. FireWire interface: 18 ins, 2 outs, 24bit/48kHz, ASIO/WDM drivers for Win XP SP2, Core Audio drivers for Mac OS X, incl. Cubase LE.

€ 398.- **€ 340.-**

order code 186079

Mackie 1642 VLZ3

Compact 16-channel mixer

8x mono mic/line channels, 2x mic/line stereo channels, 2x stereo channels, 4x subgroups, 4x aux (2x pre/post switchable), XDR2 mic preamps, 60mm faders, 3-band parametric EQ (mono channels), 4-band EQ (stereo channels), 48V phantom power. Dimensions: 42,5 x 13,1 x 42,1cm (WxDxH). Weight: 8,3kg.

€ 511.- **€ 437.-**

order code 112362

Mackie 1604 VLZ3

16-channel mixing desk

16x mono mic/line XLR/jack ins, 4x stereo aux returns, 6x aux sends, 16x channel inserts, 8x direct outs, 3-band EQ with parametric mids, 18dB low cut filter, PFL, XDR mic preamps, 48V phantom power, internal power supply, 4 subgroups, master insert, balanced jack outputs, includes rack kit. Dimensions: 44,5 x 12,9 x 44cm (HxWxD).

€ 759.- **€ 649.-**

order code 112364

Allen & Heath WZ1 16:2 DX

16-channel mixer

16x mono ins with insert/direct out, pad, 100Hz HP and 4-Band-EQ with parametric mids, switchable 48V phantom power, 6x aux, 2x stereo aux returns, PFL, mute, phones, master insert and outs, mono out, A/B out, 2x Digitech FX processors, MIDI input, internal power supply.

€ 939.- **€ 803.-**

order code 132316

suitable flightcase € 179.- **€ 153.-**
order code 161855

Presonus Studioline 16.4.2

16-channel digital mixer

Built-in 32x18 FireWire audio interface, "Fat-Channel" processing with 4-band EQ, compressors, limiters and gates, 16 inputs, 6 auxiliary mixes, 4 subgroups, 16 Class A XMAX mic preamps, 44,1kHz and 48kHz sample frequency, 2 master DSP effects, talkback, dimensions WHD: 43,7 x 17,5 x 56,8cm.

€ 2169.- **€ 1854.-**

order code 225534

Yamaha 01V96 VCM

Digital mixing console

24bit/96kHz, 24 analog inputs, 12x mic inputs, expandable to 40 channels, includes ADAT interface, 4 FX processors, parametric EQ, includes Studio Manager software.

€ 2368.- **€ 2025.-**

order code 161112

suitable flightcase € 188.- **€ 161.-**
order code 199056

Yamaha 1M8 - 32 Set

32-channel mixer

32 mono inputs, direct outs on each channel, 4 stereo line jack inputs, 4 stereo aux returns, 8 aux sends, 32 inserts, 4-band EQ, low cut filter, 4 matrix, USB audio I/O, weight: 44,5kg, includes Cubase A4 and cable. Bundle includes Yamaha PW8 power supply.

€ 2549.- **€ 2179.-**

order code 244878

www.thomann.de

Telephone Hotline: +49 9546 9223-55

Fax: +49 9546 9223-24

The Thomann services

- 30-day money back guarantee
- free shipping to the UK and Ireland on orders above £159

Miditech Midistart 3 USB

MIDI keyboard
49 full-size touch sensitive keys, pitch bend and modulation wheels, USB port for direct connection to Mac/PC, MIDI out, includes USB cable and Magix Sampled SE PC software. Finish: Silver



order code 116317

€55.-
£47.-

M-Audio Axiom Pro 61

61 key MIDI/USB-keyboard
Aftertouch, HyperControl Technology, LCD display, 9 sliders, 8 rotary encoders, 8 trigger pads, 6 transport buttons, pitch bend and modulation wheels, 50 memory locations, MIDI I/O.



order code 226657

€439.-
£375.-

Axiom Pro 49

49 keys

order code 226655

€369.-
£315.-

Novation Launchpad

Ableton Live/MIDI controller

Bi-directional communication, 64-button grid with colour-synced status feedback, scene control switchable to control volume, sends, muting and more, up to 6 units may be operated simultaneously, USB bus-powered, large rubber grips, automap-enabled, includes Ableton Live 8 Launchpad version. Weight: 0.76kg



order code 236641

€166.-
£142.-

Akai APC 20

Ableton Live USB controller

Exclusive bi-directional communication between the APC 20 and Ableton Live (no mapping required), USB plug-and-play, 40 triggers, 1 rotary control knob, 8 channel faders, 1 bus fader, compatible with PC and Mac, includes Ableton Live Lite Akai APC 20 edition.



order code 243147

€185.-
£158.-

Akai APC 40

Ableton Live DAW controller

USB plug-and-play, 40 triggers, 16 rotary control knobs with LED, 8 channel fader, 1 bus fader and 1 cross fader, 2 footswitch connections for tap tempo, tempo pump, record enable, solo/cue function, for PC/Mac, incl. Ableton Live Lite Akai APC40 Edition.



order code 223229

€398.-
£340.-

Native Instruments Audio 2 DJ

Compact DJ audio interface

24bit/96kHz, USB 2.0, 2 stereo line/headphone outs, 1 LED each channel, low latency ASIO/Core Audio/DirectSound drivers, includes 2 jack to RCA cables, Traktor Pro demo version, Kore player, Kore soundpack free choice, Guitar Rig Go, for Windows XP/Vista and Mac OS X 10.4 or higher.



order code 235147

€98.-
£84.-

Tascam US-122MK2

24bit USB 2.0 audio MIDI interface

Supports 2 ins and outs, 2 XLR mic ins with 48V phantom power, enhanced highgrade mic preamps, 2 analog line ins (1 switchable for Hi-Z guitar, bass in), MIDI I/O, 24bit/96kHz, latency-free monitoring with switchable mono function, USB 2.0, USB Bus powered, aluminium sidepanels, incl. Cubase LE4.



order code 235648

€129.-
£110.-

M-Audio Fast Track Pro

USB audio interface

4x4 24bit/44.1kHz, in stereo up to 24bit/96kHz, USB powered, 2 mic/instrument preamps with switchable phantom power, 2 inserts, 2 balanced line outs, 4 additional RCA outs, S/PDIF coaxial I/O, S/PDIF out even for AC-3/DTS surround sound, MIDI I/O, compatible with both Mac and PC.



order code 184360

€139.-
£119.-

Focusrite Saffire 6 USB

USB audio interface

2 preamps with 48V phantom power, Hi-Z instrument input with -10dB pad, 24bit/48kHz, MIDI I/O, headphone output, 105dB, noise (mic in): THD+N = 0.0025%, 2 combo ins for mic/line/instrument, 4 analogue outs, includes Focusrite plug-in suite, Xcite+ bundle and USB cable, for Mac OS X or Windows, weight: 1kg.



order code 236371

€159.-
£136.-

Cakewalk UA-25 EX CW

USB audio interface

2 channels, 24bit/96kHz AD/DA, mic/guitar/line ins, 48V phantom power, USB powered, integrated limiter and analogue compressor, ground lift, headphone out, MIDI I/O, direct monitoring, compatible with Windows (XP/Vista) and Mac OS X 10.3.9 and higher.



order code 235896

€185.-
£158.-

Native Instruments Audio 4 DJ

Compact DJ audio interface

24bit/96kHz, 4 switchable 12dB line/phone inputs, 4 hi-gain outputs, headphone output, low latency ASIO/Core Audio/DirectSound drivers, 8 LEDs, includes Traktor 3 LE and Kore Player with 600MB soundpack, USB 2.0, for Windows XP and Mac OS X (10.4), dimensions: HWD: 10.1 x 12.1 x 4.2cm, weight: 511g



order code 223057

€195.-
£167.-

M-Audio Fast Track Ultra

USB 2.0 audio interface

24bit/192kHz, 6x analogue inputs & outputs, 2x digital inputs & outputs (S/PDIF), 4 internal preamps, 2 inserts, MIDI I/O, headphone out.



order code 139990

€245.-
£209.-

Presonus Firestudio Project

FireWire audio interface

24bit/96kHz, 8 XMAX Class A mic preamps, 8 analog mic/line ins, 2 instrument ins, 8 analog line outs, S/PDIF digital I/O, MIDI I/O, balanced send/return, zero latency monitoring with FireControl mixer/router, headphone output, 8 input level meters, includes recording software Presonus Studio One Artist, 19"/1U.



order code 199889

€389.-
£333.-

M-Audio ProFire 2626

24bit/192kHz FireWire audio interface

26 analog/digital I/O, ideal for project studios, 8 preamps with Octane™ technology, flexible on-board DSP mixer, user-assignable master volume knob, standalone operation, critically acclaimed jitter elimination, Pro Tools M-Powered compatible, 8 analog mic/line jack in with phantom, 2 instrument ins, 8 analog outs, 2 ADAT I/O's.



order code 207107

€399.-
£341.-

Apogee Duet

FireWire audio interface

24bit/96kHz, 2 channels, Firewire 400 I/O, breakout cable with 2x XLR mic ins, 2x 1/4" jack instrument ins, 2x 1/4" jack monitor outs, multi-segment LED display input and output levels, multi-function controller knob, headphone out, Maestro software for advanced control and low latency mixing, compatible with any Core Audio compliant audio application, compatible with Mac OS X Core Audio.



order code 122312

€409.-
£350.-

Focusrite Saffire PRO 40

24bit/96k FireWire audio interface

20 I/Os, 8 mic preamps, 8 analog I/Os (2 mic/line/instr. combo XLR, 6 mic/line combo XLR, ADAT I/O, 2 S/PDIF I/Os, 2 monitor outs, monitor switch, 2 separate headphone buses, MIDI I/O, zero-latency DSP mixer/router, incl. plugin suite, 19", 1RU, internal power supply, weight: 3kg.



order code 219725

€422.-
£361.-

MOTU Ultralite MKIII Hybrid

FireWire and USB audio interface

24bit/192kHz, 2 mic/instrument ins, 6 bal. ins and 10 outs (1/4" TRS), 48V phantom power, S/PDIF I/O, headphone out, CueMix FX, internal DSP, LCD display, suitable for use as a standalone mixer, compatible with Windows and Mac, supports WDM, ASIO and Core Audio, incl. AudioDesk software for Mac.



order code 239141

€468.-
£400.-

RME Fireface UC

USB audio interface

36 channels, 24bit/192kHz AD/DA converter, 48V phantom power, 18x simultaneous I/O, instrument input, 8x analog I/O, ADAT I/O, S/PDIF I/O, 2x MIDI I/O, WordClock, intelligent clock control, SyncCheck, SyncAlign, SteadyClock, DiGiCheck and TotalMix. Dimensions: 9.5"/1U



order code 229395

€859.-
£734.-

RME Fireface 800

FireWire audio interface

Analogue technology of the ADI-8 converters, mic technology of QuadMic and OctaMic, 4x mic ins (XLR & jack), 8x analog ins & outs, headphone out, 2x ADAT I/O, S/PDIF I/O, Wordclock I/O, MIDI I/O, separate instrument in, 2x FireWire 800 plus 1x FireWire 400 connector, includes TotalMix mixing software.



order code 171210

€1169.-
£999.-

Digidesign Digi 003 Rack Factory Compl.

FireWire Audio/MIDI workstation

18 audio I/O-channels, 24bit/96kHz, 8 analogue I/Os, 4 mic preamps, 8 optical ADAT channels, 2 optical S/PDIF channels, MIDI I/O (1x in, 2x out), BNC Wordclock, 2 headphone outputs, includes ProTools LE8 + Complete Production Toolkit.



order code 224913

€2069.-
£1769.-

the t.bone SC440 USB

USB condenser studio microphone

USB connection for direct access to Mac and PC (doesn't work with Windows Vista!), cardioid polar pattern, frequency range 20Hz to 18kHz, incl. plastic case



order code 197603

€55.-
£47.-

Rode NT1-A Complete Vocal Recording Solution

Large diaphragm microphone

20Hz-20kHz, 100Ω impedance, 132dB dynamic range, 137dB max SPL, includes SM6 deluxe shockmount, 6m cable and Peter Freeman 'Studio Secrets' tutorial DVD.



order code 235937

€179.-
£153.-

Sennheiser MD421 U-2

Dynamic microphone

Cardioid polar pattern, 5 step bass filter, includes clamp.



order code 128331

€279.-
£239.-

Rode NT5-MP

Condenser microphone stereo bundle

2 matched small diaphragm condenser microphones, 0.5" gold sputtered capsule, cardioid, 20Hz-20kHz, excellent for drum overheads, acoustic guitar and stereo live recordings. Including plastic case, microphone clips and wind screens.



order code 154595

€285.-
£244.-

Neumann TLM 102

Large diaphragm condenser microphone

Cardioid pattern, 20Hz-20kHz, 50Ω impedance, 128dB-A equivalent noise level, 144dB max SPL for THD 0.5%, nickel finish, includes SG2 stand mount swivel. Weight: 260g.



order code 237768

€539.-
£461.-

ART Tube MP

Tube microphone preamp

Hand selected 12AX7A tube, limiter, +48V phantom power, phase reverse, XLR and jack I/O, perfect for hard disc recording or as a tube DI.



order code 191529

€87.-
£32.-

SPL GoldMike 9844

2-channel valve preamp

Discrete Class A solid state, 48V phantom power, phase reverse, pad function, flair presence enhancement, very clear and warm sound. Dimensions: 19"/2U



order code 123370

€425.-
£363.-

Universal Audio 710 Twin-Fifty Bundle

1-channel mic/line/DI preamp

Dual path 310V class A valve & transimpedance solid state preamp, +70dB gain, 48V phantom power, -15dB pad, phase invert, 75Hz low cut filter. Bundle includes UAD-2 Solo PCIe DSP card, VST and AU support, LiveTrack™ low-latency live monitoring/recording mode, Mix Essentials II (1176SE Limiting Amplifier Emulation, RealVerb Pro, CS-1 Channel Strip, P-Track EQP-1A EQ Emulation).



order code 244200

€679.-
£581.-

Behringer ADA8000

8-channel AD/DA converter

8x mic preamps with phantom power, 24bit AD/DA, 44.1 & 48kHz, Wordclock or ADAT sync, ADAT I/O, ADAT in can be routed to line outs, mic and line in/outs are routed to ADAT out, excellent expansion for DD3216 or any interface/mixer with ADAT I/O.



order code 164573

€185.-
£158.-

tc electronic Voice Live 2

Vocal multieffect pedal

Up to 8 voices or 4 doubled harmonies, reverb, tap delay, megaphone and distortion, compressor, De-esser and EQ, MIDI or MP3, LCD display, XLR, line in, aux in, headphone output, S/PDIF I/O coax, backup and audio streaming, dimensions: 35 x 7.6 x 21.6cm, weight: 2.3kg.



order code 225557

€755.-
£646.-

ESI nEar04 Classic

Active 4" studio monitors

Magnetically shielded, bi-amped, 20W bass + 20W treble, balanced/unbalanced 1/4" jack inputs. Dimensions: 20.6 x 13.6 x 14.9cm. Pair price!



order code 232799

€95.-
£81.-

KRK RP5 Rokit G2

Active studio monitor

75W, 5" + 1" speaker, frequency response: 53Hz - 20kHz, magnetically shielded, dimensions HWD: 27.6 x 18.5 x 25cm, weight: 6.3kg. Unit price!



order code 213024

KRK RP8 Rokit G2

8" / 1", 140W.

order code 213090

€139.-
£119.-

€235.-
£201.-

ESI nEar08 Classic

Active 8" studio bi-amp monitors

2-way bookshelf monitors, magnetic shielded, LF amplifier power: 70W, HF amplifier power: 70W, frequency response: 40Hz - 24kHz, 1 balanced input XLR, 1 balanced/unbalanced input TRS, dimensions HWD: 35.8 x 25.5 x 32.2cm, weight: 10kg/unit. Pair price!



order code 222139

€215.-
£184.-

Adam A7 Special Edition

Active nearfield studio monitor

Finish: black piano lacquer, 6.5" Rohacell / kevlar sandwich woofer, A.R.T. tweeter, frequency range 46Hz to 35kHz, 100W (sin), 150W (rms), XLR and RCA input, dimensions: 18 x 33 x 28cm, weight: 8kg. Unit price.



Gear Chart

Are you giving your music a fresh kick? In the market for new kit? Finally putting together that dream set up? Then you'll need *FM's* exclusive guide to all our favourite gear

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Hardware Synths



Dave Smith Instruments Tetra | £552

Review FM219 Super Mopho meets cut-down Prophet '08 in this fantastic analogue polyphonic synth.



Dave Smith Instruments Prophet 08 | £1,499

Review FM194 A beast of analogue power. Warm, fat and wooden-ended – what more do you want?



Clavia Nord Wave | £1,395

Review FM196 If you liked the Nord Lead you'll love the Wave. It's more versatile and sounds fantastic.



Moog Taurus 3 | £2042

Review FM226 With more lows than an Eastenders omnibus, this beast will blow your socks off. Modern features make this a dream to use.



Roland Gaia SH-01 | £579

Review FM227 No menus with hands-on controls all over. Despite the rosey presets, Roland are starting to get back to what they do best.

Soft Synths



FXpansion D.CAM Synth Squad | £179

Review FM217 A powerful synth collection from FXpansion, favoured by Electro House heroes.



Rob Papen SubBoomBass | £89

Review FM215 Another superb synth from Rob Papen that caters for all your bass-in-your-face needs.



Spectrasonics Trilian | £215

Review FM224 A long-awaited update to the monster of all bass software. An instant classic.



XILS Labs Poly KB | €149

Review FM238 A lush sounding recreation of the classic and rare. Poly Kobl. Great tones with the benefits of MIDI and automation.



u-he Zebra 2.1 | \$199

Review FM183 Subtractive and analogue synthesis with an ultra-phat sound. Ideal for shaking ground and wrecking speakers. In a good way.

MIDI Controllers



Novation LaunchPad | £149

Review FM220 Great features at an amazing price make this Ableton controller a performance dream.



Akai APC20 | £170

Review FM227 A more compact, better-value version of Akai's Ableton front end. Robust build and great features make this very gig-worthy.



Livid Instruments Block | £349

Review FM223 Built out of wood and metal, the Block is a great alternative to the more mainstream controllers.



Native Instruments Kontrol X1 | €199

Review FM223 An intuitive, well-built controller at a great price. If you're a Traktor user, try this.



Vestax VCM-600 | £649

Review FM216 A fantastic way to control Ableton Live. Vestax deliver a well built, fun and feature packed DJ style performance controller.

How Our Chart Works

We've fought, bitched, whinged and racked-up all our favourite gear that's available today into our Gear Chart. If it makes an appearance on these pages, then it's well worth a look. We've appraised the hardware in terms of its price point, performance and usability, along with the fond memories and sheer joy factor of cranking it up for the first time. We're not saying that keyboard number six is 'better' than keyboard number seven, for example. We're saying that you should have a think about the music you want to make, read our recommendations below, and check out the gear that sounds cool. Each month we'll be updating our charts with new finds and introducing new lists to keep things fresh. Special mention to the Digital Audio Workstation bit at the back, which should help you nail your ideal recording solution. We out.

The FM Awards

Editor's choice. If you see this little flag tagged on to one of our reviews it's impressed us above and beyond the usual excellence.

Platinum. Buy these. Unless you've got a perfectly good alternative or produce your music on comb and paper.

Value. A special chapeau to bits of gear that deliver the goods without breaking the bank. Value awards mean great gear at even better prices.

The Charts This Month...

120	Hardware Synths	From two-octave upstarts to two-grand monsters
120	Soft Synths	Our pick of sound-producing software
120	MIDI Controllers	The best performance and studio controllers in town
122	Monitors	Record, mix and master with confidence
122	Keyboard Controllers	Everything you need from portables to studio staples
122	Audio Interfaces	Get audio into your computer with quality and style
122	Effects and Mangers	Warp your sound and break new ground
124	Performance Samplers	Take control of your audio live and direct
124	High-end Audio Plug-ins	Treat yourself to the best that money can buy
124	Field Recorders	Record your band or go searching for found sound
124	Microphones	The best mics around for everyone's budget
125	eBay Classic Retro Finds	Keep an eye out for our suggested list of nostalgic love
125	Ways To Stand Out	Dare to be different and reap the rewards
125	Digital Audio Workstations	Which DAW is best for the music you want to make?

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Waldorf Blofeld Keys | £699

Review FM211 A huge amount of exciting presets and solid good looks make for a killer all-round synth.



Korg microKorg XL | £439

Review FM210 This fresh update of everyone's favourite mini-synth gives a new engine and a great vocoder.



MFB Kraftzwerk | £580

Reviewed FM219 German-built modular synthesis on a budget. Prepare to get addicted to analogue with this flexible patch-happy synth.



Doepfer Dark Energy | £398

Review FM223 A good introduction to modular analogue synths, in a lovely wooden-edged box. Nice!



Korg microStation | £528

Review FM227 A mini-keyed workstation that delivers on quality while still being fun. Works well both on-stage and in the studio..



Spectrasonics Omnisphere | £299

Review FM207 Great sounding, flexible and unique, this is truly a powerhouse of sound design.



U-he Ace Synth | £69

Review FM227 At such a low price, you can't go wrong with this software modular synth. Patches are clear and crisp and it's all very fun to use.



Waldorf Largo | £175

Review FM217 Waldorf take their Blofeld sound and technology and create a powerful and unique soft synth. Check it out.



Arturia Jupiter 8V | £150

Review FM189 One of the definitive, all-time great polysynths is now a plug that delivers thunderous bass as powerful as its searing leads.



Lennar Digital Sylenth1 | £139

Review FM208 This simple-to-use, Virus-like synth comes packed with a great set of presets.



Novation Nocturn | £69

Review FM199 Once you integrate this Automapping wonder into your studio, you'll wonder how you lived without it.



Akai APC40 | £400

Review FM215 Although there's still a few things that could be addressed, this is still the best option for performing with Ableton Live.



Akai LPD8 & LPK25 | £45 each

Review FM224 A better keyboard design and build than its rivals. Shame about the short throw rotaries.



Korg nanos | from £36

Review FM209 The keyboard let's the series down, but these portable controllers are still a bargain. They're bundled with great software, too.



Behringer BCF-2000 | £140

Review FM153 Eight 100mm motorised faders for such a low price, this is still a great controller.

Gear Chart

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Monitors



Event Opal | £2,498

Review FM215 Easily the best active monitors you can get for this price. Our reviewer bought a pair and the rest of the FM team want a pair too!



Focal JM Labs Twin 6 BE | £829 each

Review FM206 These are some of the best sounding speakers we've ever heard. Worth every penny.



Genelec 8040 | £1,000

Review FM181 Genelecs are always a favourite with FM and most of our experts use them so it's no surprise that we love these.



Samson Rubicon R5A | £235

Review FM181 Trustworthy for reference monitoring but priced at an unbelievable level. Get some in.



Acoustic Energy AE22 | £899

Review FM201 For accurate mixing, these are one of the best sets we've used. Very highly recommended.

Keyboard Controllers



M-Audio Axiom Pro 49 | £318

Review FM216 Our reviewer found this to be the most tightly integrated DAW controller ever.



Novation Nocturn 25 | £190

Review FM221 A well-rounded well-priced controller that does plenty of great work with Automap 3.3.



Korg Kontrol 49 | £319

Review FM160 Great keys and pads, and its looks and build elevate this above the competition. But there are easier to set up controllers out there.



Akai MPK49 | £299

Review FM197 A well made deck that's the control section from the legendary MPC with 49 keys strapped to the front. Sleek.



CME VX5 | £499

Review FM192 It's built like a tank and adds some awesome motorised faders into the mix. An excellent professional choice.

Audio Interfaces



M-Audio ProFire | £359

Review FM202 A brilliant interface that includes the great Octane Mic Pres, making it a superb recording solution at an amazing price.



MOTU Traveler | £795

Review FM177 Came out on top in our FireWire group test. Enough outs and ins for any project studio and still portable too. A real all-rounder.



Apogee Duet | £329

Review FM200 Getting the quality Apogee sound on the move is now easier than ever thanks to this tiny silver wonder.



RME Fireface UC | £746

Review FM219 Robust reliability, rock-solid build quality and the trusted RME sound. Plus it's now on a lovely USB connection.



Metric Halo ULN-2 DSP | £1,279

Review FM206 Great sound, onboard DSP and some of the best pres we've ever heard inside an interface.

Effects Plug-ins and Sound Manglers



Rodec / Sherman Restyler | £649

Review FM219 A live filter that sounds good enough for the studio. Missing MIDI, but worth a look.



Moog MoogerFooger MIDI MuRF | £419

Review FM220 The old MuRF filters combine with the attractive features of MIDI and software patch editing.



Peavey ReValver MkIII | £179

Review FM208 This amp-modelling software let's you delve deep into the amps circuits for true soft-modding.



NEW ENTRY

Evol Fucifier | £1,996

Review FM228 The oddest outboard we've reviewed produces the most inspiring sound at a price that will keep the faint-of-heart away.



Electro-Harmonix Voice Box | £160

Review FM213 Give this a decent input and it will output robot voices or perfect harmonies with ease.

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**PMC DB1S-AII** | £2,056

Review FM225 You get what you pay for with these monitors. Adding a PMC sub will help you feel the real bottom end though.

**KRK Rokit RP5 G2** | £270

Review FM205 These are so nice to work with our reviewer bought a set for his own studio. Great value monitors with a great punch.

**Adam A5 Studio Monitors** | £499

Review FM209 Though they're at the budget end of the Adam range, these compact near-fields still deliver.

**APS IO Active Monitors** | £919

Review FM216 These provide an honest listening experience that could threaten the big boys.

**Focal Professional CMS65** | £1,230

Review FM215 The natural and detailed sound of Focal, delivered in a compact and affordable package.

**NEW ENTRY****M-Audio Oxygen 49** | £228

Review FM189 An excellent budget controller range that continues to improve. Ideal for beginners.

**Novation 49SL Compact** | £269

Review FM193 The stripped-down alternative to a full-size SL. Cheaper, but still packed with unique features.

**Akai MPK88** | £600

Review FM226 A few minor issues considering the high price, but a great weighted hammer action keyboard redeems this controller.

**M-Audio Mid Air 25** | £199

Review FM181 Not only can you sling it in a bag, but you can also stride to the front of the stage thanks to its wireless power too.

**Korg microKontrol** | £275

Review FM143 Great build quality and looks and while its reduced-sized keys are an acquired taste, it's certainly more portable as a result.

**NEW ENTRY****Echo Audiofire Pre8** | £579

Review FM228 A very high-quality interface from Echo Audio – heavy on I/O and mic pre quality.

**Mackie 1220i** | £799

Review FM224 This hybrid mixer and interface covers all recording bases in a neat package, with the added benefit of Pro Tools compatibility.

**Focusrite Saffire 6 USB** | £163

Review FM225 A fantastic interface for the studio or for anyone looking to get into digital DJing or Ableton Live

**Presonus FireStudio Mobile** | £269

Review FM224 Not the cheapest mobile interface, but great I/O make it worth a look.

**Steinberg C12** | £226

Review FM222 A tidy package that works well as an introduction to the DAW recording environment. But, lack of MIDI let's it down.

**Boss SL-20 Slicer** | £175

Review FM205 There are many ways of chopping up audio, but this convenient stomper will work both live and in the studio.

**OTO Biscuit** | £529

Review FM225 Gorgeous design details and fantastic for anyone who fancies a bit of lo-fi 8-bit computer game crunch in their music.

**TC Helicon VoiceTone Synth** | £225

Review FM221 A few teething problems, but this is still a fantastic hardware vocoding and tuning tool.

**Audioease Speakerphone 2** | £400

Review FM217 This creative and comprehensive speaker emulator adds air to your sounds and mixes.

**Avid Digidesign Eleven Rack** | £789

Review FM222 It's a guitar processor that makes re-amping a breeze. Plus it's a Pro Tools interface to boot!

Gear Chart

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Performance Samplers



Korg microSampler | £436

Review FM219 Easy to use sampling with some clever extras. Another micro-dominator from Korg.



Akai MPC 5000 | £1,549

Review FM203 The 5000 isn't perfect, but it's without a doubt the best pad-ridden studio-in-a-box on the market. Check it out.



Roland SP-555 | £410

Review FM195 The latest in Roland's line is packed with features. A durable and flexible partner for the loop experimentalist.



Roland SP-404SX | £289

Review FM220 This new update tweaks the original SP-404 but lacks anything really special, so it doesn't climb any places in our chart.



Electrix Repeater | £649

Review FM117 Used by our current fave Imogen Heap for building whole tracks, this discontinued unit still has a healthy second hand market.

High-end Audio Plug-ins



Celemony Melodyne Editor | £319

Review FM222 A plug-in that has the potential to change music production forever. A killer tool for every genre.



Lexicon Native Reverb Bundle | £1,174

Review FM225 The motherload of all reverbs brings the original digital algorithms straight to your DAW.



Pro Audio DSP DSM | £200

Review FM226 An incredible multi-dimensional EQ and dynamics processor that works magic!



UAD 4K SSL Plug-ins | from \$199

Review FM215 Brilliantly modded pieces of SSL goodness that are begging to be on your UAD card..



Brainworx BX Digital | €398

Review FM200 There's no other plug-in quite like BX's top of the line mastering tool – incredible software.

Field Recorders



Tascam HD-P2 | £729

Review FM186 Built to last and definitely the pro's choice. A multitude of formats and mic settings and superlative sound too.



Roland R-09HR | £259

Review FM204 This flagship recorder will produce crystal clear, 24-bit 96kHz recordings, all from the palm of your hand.



M-Audio MicroTrack II | £229

Review FM202 Not only does this new version look better, but it's also cheaper. A superb update.



Yamaha PocketTrak | £260

Review FM202 This ultra-compact 2GB recorder is a really useful weapon in your recording arsenal.



Edirol R-44 | £499

Review FM205 Record four tracks simultaneously via its quality pre-amps. If you need the flexibility it does the lot and more besides.

Microphones



Newmann Retro NR47 | £999

Review FM225 Despite the choice of name, this mic definitely delivers the classic sound. Bargain.



sE X1 and Project Reflexion Filter Bundle | £169

Review FM223 Unbelievable value for a robust recording solution.



Blue Bottle Rocket Stage One | £600

Review FM222 Interchangeable capsules make this great sounding mic even more of a must-buy.



Sontronics Saturn | £699

Review FM227 It looks drop-dead gorgeous and has a flexible airy sound that suits many different recording situations.



AKG C214 | £450

Review FM205 As part of the classic AKG family, this mic sets itself up nicely to be a recording bargain that holds its own around the studio.

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Gear Chart

1

2

3

4

5

eBay Classic Retro Finds



Roland HS-60 | £250

Released 1984 Same guts as the Juno-106 but the ugly built-in speakers mean it's often overlooked.



Korg EX800 | £100

Released 1984 This rack-mount version of the Poly800 has a similar sound to the Roland Juno but with the added bonus of a sequencer.



Yamaha MK-100 | £30

Released 1983 Bargain analogue style workstation that has limited synthesis options but a great programmable drum computer.



Yamaha TX7 | £80

Released 1983 With DX7s back in vogue, get your hands on the true hardware sound at a fraction of the price with this desktop module.



Sequential Circuits Multi-Trak | £250

Released 1984 Easier to program than a Six Trak with a better sequencer – a gem find.

Ways To Stand Out



NEW ENTRY

Apple iPad | from £429

Review FM228 The first mainstream tablet offers an unparalleled hands-on user experience that's great for making music.



Snyderphonics Manta | £398

Review FM218 Space-age-style control with incredible good looks and amazing control possibilities.



Yamaha Tenori-on | £599

Review FM193 The amazing lights-in-a-frame synth 'n' sequencer that'll test the way you think about music. Grab one while stocks last.



Jazz Mutant Lemur | £1,799

Review FM166 Techni-coloured touchscreen controller. Why not put a camera on it feeding a projector?



Percussa Audio Cubes | 399 Euros

Review FM207 Expensive, but one of the ultimate ways to stand out when performing electronic music.

Digital Audio Workstations

Best all-in-one solution



Logic Studio | £399

Review FM218

The home studio regular and all-in-one studio package goes V9.1 adding 64bit support – if your Mac can handle it.

Best features include:

- > Incredible time-stretching with Flex Audio technology.
- > New amp designer and pedal board options for guitarists.
- > The best and biggest range of 'built-in' plugs and synths of our favourite DAWs.

Good and bad:

Fantastic Flex Audio rasies Logic's appeal even further and despite that stealthy price increase to £399 it remains a bit of a bargain all told.

Best combo of ease and power



Cubase 5 | £499

Review FM212

Cubase 5 sees Steinberg lower the price and raise the plug-in and feature list. VariAudio, Batch Export and new effects plug-ins all come bundled with 5.

Best features include:

- > The new VariAudio Melodyne-style pitch editor.
- > Plenty of built-in plugs to get you creating professional tracks from the moment you install the software.

Good and bad:

Although Cubase is playing catchup in terms of both bundled content and price, it's can't be argued that it's only getting better. Loyal Cubase users rejoice – Cubase 5 is a winner.

Best for recording audio



Pro Tools 8 | £319

Review FM210

The industry standard DAW gets a fresh modern update with a brand new GUI, enhanced MIDI editing capabilities, and a heap of new instruments and plug-ins.

Best features include:

- > For mixing, recording, processing and editing audio there isn't anything easier to use or more stable and reliable.
- > Now that it's MIDI is finally up to scratch, it's a great choice.

Good and bad:

Great performance and stability with tempting upgrade offers to a HD system. Well-conceived though limited plug-ins.

Best for jamming and creating



Ableton Live 8 | £315

Review FM214

Bigger and better than ever. If you like chucking loops together and experimenting then this is for you. Flexible and creative, it'll spark ideas you wouldn't otherwise have.

Best features include:

- > Instantly beat-match any audio and trigger samples in time. DJs can use this instead of decks.
- > Flexible routing and modulation options let you mess and mangle.

Good and bad:

It's a dream for mixing and messing. It's getting a little costly (thanks to that bulging library content) but the cheaper versions remain a bargain and a real studio essential.

Best bangs for your bucks



Sonar 8 | £349

Review FM207

Updated from the much loved Sonar 7, this new version adds even more features and amazingly puts less pressure on your CPU due to a streamlining of it's core. It's a firm favourite with PC-based producers.

Best features include:

- > Beatscape – a fantastic slicing and warping groove-based beat and drum machine.
- > The TS-64 Transient Shaper is a simple but brilliant plug-in addition.

Good and bad:

A continuous effort to streamline and an incredible amount of features make Sonar 8 a great choice DAW on PC.

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