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1857
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Hop samples **AND MORE**

IN THE STUDIO

Thomas Gold

Rips apart **THREE** of his biggest hits
PLUS His beat construction masterclass



FutureMusic®

Issue 224
Making the future since 1992

Technique and technology for making music

THE BASS ISSUE

Give your tracks the weight and
size to dominate the dancefloor

SUMMING MIXER SUPERTEST

Find the best analogue solution for **YOUR** studio

REVIEWED INSIDE: Spectrasonics Trilian
Mackie Onyx 1220i, Akai LPD and LPK
Yamaha DTX-Multi 12 **AND MORE**

New Skills = New Music

UNMISSABLE Max/MSP, Drum Synthesis & Mastering Tutorials

Jori Hulkkonen

The Finnish Techno godfather talks gear

PLUS King of bouncy beats & bootlegs Bart B More LIVE!



**ABLETON
UPDATE!**

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mean for your music?



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Welcome

Bass Invasion



Hmm. Been wanting to use that heading for a while... Likewise we've been wanting to produce the definitive guide to making a great bottom end for some time too. Things move fast in dance music but the enduring passion for bass shows no sign of diminishing. However, there are plenty of tricks to use and a mountain of options to

consider before you simply reach for that low EQ. And if you're not using the latest skills then you can be certain that your contemporaries will be. Hopefully our Bass feature on page 34 will ensure your tracks will sound louder and prouder than your rival's.

Continuing the bass theme we've the review of Spectrasonics excellent Trilian bass plug-in on page 96 and not one, but two prime exponents of the art letting us into their studios. Don't miss exclusive access to Thomas Gold on page 44 and Jori Hulkkonen on page 58.

We've the usual lavish rack of tutorials throughout the mag, aimed at putting you where you want to be, and a round up of the latest summing mixers designed to introduce you to a great way to get a new sound. You might not know you need one, but after reading the feature on page 76 we think you'll start saving.

Just room to point out that we've the latest kit from the 2010 NAMM show starting on page 8 too! Now go get it.

Daniel

Daniel Griffiths, Editor
daniel.griffiths@futurenet.co.uk

EXPERT CONTRIBUTORS THIS MONTH...

Bruce Aisher
artist, producer



Bruce takes on the elusive force of the perfect bass this month, with an epic feature on getting low. Get your bottom end sounding big, bold and beautiful, without the muddy soup we all dread. It all starts on page 34.

Stuart Bruce
producer, engineer



Summing your stems in the analogue world is a perfect way to achieve separation and warmth in your mix. But where do you begin? Stuart does the math and recommends the summing mixer for you. From page 76.

Greg Scarth
music scientist



Greg gets his hands extra dirty this month as he digs in to two important studio topics in this month's Knowledge Base features as well as heading to the incredible facilities at Motor Museum studios in Liverpool.

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From **p58** Take a peek inside the studio of Finland's father of ultra-slick Techno.

Jori Hulkkonen



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FMDVD

Issue 224 | March 2010 | UK Edition

INSIDE STORY



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



This month's highlight was a first time trip for me to the home of Minimal - Berlin. It wasn't, however, just about being in this famous city and checking out views from rooftop bars, it was also about getting in the studio with Thomas Gold and having the privilege of checking out his newly completed studio. This place was something else, with two production rooms, a vocal booth and all the facilities you need, you could easily stay in the studio for days on end. Perfect!

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



DVD HIGHLIGHTS

From the Vaults: Abusive Treatment

999 This month's retro selection offers you the finest selection of messed up sounds that are guaranteed to add character

The Bass Issue

Struggling with low frequencies? Check out these audio examples to help you get to grips with your bottom end

Max/MSP Patches



In the third and final part, we create a MIDI mapping patch for VSTs and controllers

Knowledge Base

This month's *Knowledge Base* audio examples help you understand basic mastering and drum synthesis

PLUS OUR SPECIAL BONUS SAMPLES COURTESY OF

Sounds/To/Sample

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!

SAMPLESTAR ELECTRIKS



"New from *Sounds to Sample* comes Samplestar's Elektrik5. Spanning Progressive, Electro, Indie-Dance and plugging the gaps between, Elektrik5 features 700+ floor-filling euphoric melodies, slick synths and enough wobble to make you fall off your chair."

FATLOUD BLACK&GOLD



"The first pack in FatLoud's new 'XL' series features more than 2GB of fresh, custom-programmed, professionally mixed and mastered samples for Hip Hop, R&B, Pop and Urban music producers."

SOUNDS TO SAMPLE TWISTED VOCALS OF ODISSI



"Tackling the perennial problem of finding credible Dance vocals head-on comes acclaimed Lot 49 vocalist Odissi, with this 303MB sample pack loaded with twisted Electro-infused vocals, adlibs, spoken-word lines and more."

EVAN PAZNER VINTAGE BREAKS VOL.1



"380 all-new gritty and authentic live lo-fi beats and breaks performed on a 1960's Ludwig kit for the ultimate Breaks, D'n'B and Dubstep workouts."

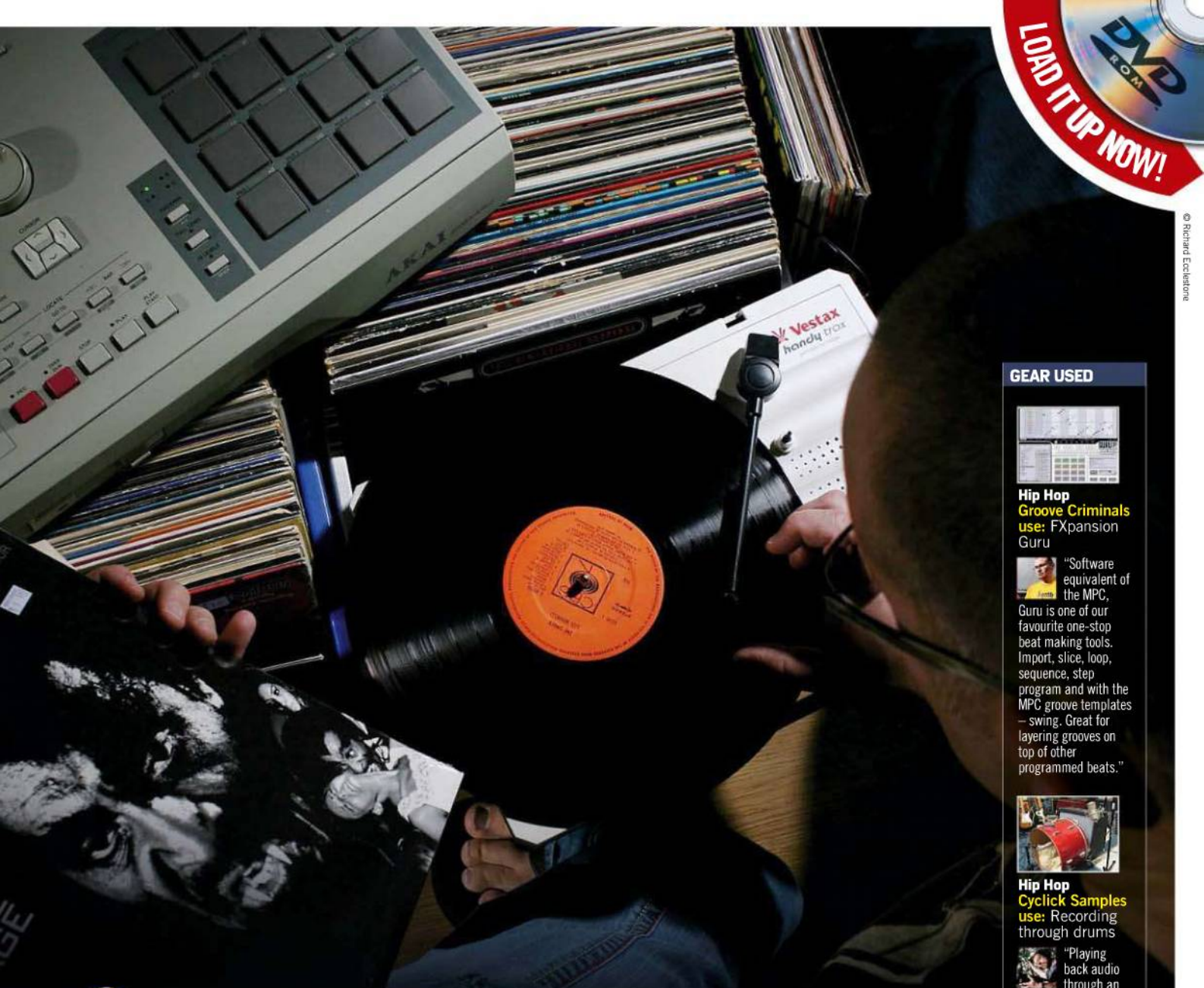
Sample Techniques

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 usable...



Akai MPC 2000

The Akai MPC range still continues to be a cornerstone of Hip Hop production, giving a hands-on programming interface and (in) famous swing. As well as the programming tricks up it's sleeve, there's also something defiantly 'beefy' sounding about MPC samples. Whether it's the A/D converters, sample resolution or some sneaky compression going on under the hood, we don't care, it just sounds chunky. So to that end, we sampled all of the drum hits into the MPC 2000 and then back out into Sony SoundForge for some Akai goodness.



THE MAKING OF YOUR UNIQUE FM SAMPLES...

Hip Hop, Don't Stop

From West Coast to East End, get that sound...

This month we have gone Hip Hop crazy with both our sample makers getting in on the action. To make sure that we had a wide range of Hip Hop sounds and we covered the ever-growing number of umbrella genres, we split the collections into two different areas.

Cyclick Samples took the UK angle and went for the Bashment/Hip Hop sound of labels such as Big Dada, creating Roots Manuva-style sounds and grooves. Meanwhile, The Groove Criminals headed across the pond to add a distinctly American edge to their sample collection. We caught up with The Groove Criminals

at their crib to get the lowdown on how they went about creating these special sounds.

"Hip Hop is all about the beats, so we used a variety of sources, both hardware and software, to build up our rhythmic loops. As well as sampling and sequencing drum sounds in the Akai MPC 2000, we also used it to sequence MIDI gear.

"On the software front, we used the standard Cubase drum grid, Native Instrument's Battery as well as [FXpansion's] Guru to get make sure we had our beats spot on.

"As well as plenty of drum loops for you to choose from, we also put

together a large collection of single drum hits for you to make your own beats with – all run through the beloved MPC 2000 for extra authenticity and thump."

**1,000
samples**

Bottom beats

"As this was the Bass issue, we raided the Moog Little Phatty for some sub low-end as well as some loops created from various synths, both software and hardware.

"We also put together some single hits, stabs and one-off FX by stacking some chords and re-sampling, often with a reduced sampling rate to emulate those old school samplers like the E-mu SP-1200."

GEAR USED



**Hip Hop
Groove Criminals
use:** FXpansion
Guru

"Software equivalent of the MPC, Guru is one of our favourite one-stop beat making tools. Import, slice, loop, sequence, step program and with the MPC groove templates – swing. Great for layering grooves on top of other programmed beats."



**Hip Hop
Cyclick Samples
use:** Recording
through drums

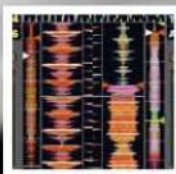
"Playing back audio through an amp/speaker combo through a drum to capture the unique sonic imprint of the shell/skin resonances can really alter the character of any instrument. By tuning the kick drum, one can accentuate notes within a line, or frequencies within a loop, so that the speaker sets off a resonance in the drum. Dampening the drum will then determine the length of the note. To control the mix of the drum resonance one can also place a mic outside the drum to capture a less coloured signal."

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Misa Digital Guitar

What looks like a guitar,
feels like a guitar but
plays and sounds like
anything you want...?



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Introducing the Misa Digital Guitar: an amazing combination of radical thinking, guitar styling and some rather flash

touchscreen technology. The result is a whole new style of MIDI controller that we predict will be cropping in videos and festival stages very soon.

To find out more, we spoke to the enigmatic Michael Z about his bold new creation.

FM: What's the idea behind the Misa Digital Guitar?

Michael Z: "It's something I have dreamed of ever since I was a kid, although I admit the functionality side of it wasn't ironed out until now. I love all kinds of music from Pantera to Pink Floyd, but my favourite music is electronic, bands like Daft Punk and Boards of Canada. I wanted to

see that sort of music performed live, by a real band with digital drums and digital keyboards etc – but there were no digital guitars. Now that's not completely true, digital guitars do exist. There are MIDI controllers that fit on to existing guitars but MIDI pickups have high latency and are not accurate. These instruments, miss the point of modern music because they limit control to plucking strings."

So how does it work?

"You 'fret' notes with the buttons on the neck then if you tap on the left side of the screen you play a note with an effect parameter knob turned more to the left and if you tap to the right side of the screen the note is played with the knob turned to the right. Similarly with the top and bottom of the screen. Since there are

two axes – X and Y – you can control two parameters at once.

"You assign these parameters to CCs – volume, filters, whatever you want. On my YouTube video [address below] I have the X-axis set to a 'digitaliser filter' and the Y-axis set to note velocity. So, when I tap at the top of the screen there is a soft mute sound and as I tap further to my right, the sound becomes more distorted. There's no strumming and then moving a knob – it's single touch only."

What kind of technology is at play on the Misa?

"The guitar itself runs Linux in the background but it's also MIDI compatible – the Linux side is just for the brains of the guitar so you don't need a Linux PC! As long as you plug

it in to a MIDI compatible sound module it will work as a controller. It doesn't have any onboard sounds of its own."

What about the glowing orb in the centre of the touchscreen?

"That's another controller that lets you control another two settings – the difference is you have to drag this blob to make it work. In the video I used it as a pitch whammy.

"So all in all, four parameters are at your immediate disposal. It's probably more than enough but if you ever wanted more, you just have to modify my source code!" **FM**

WANT TO KNOW MORE?

You can check out Micheal's YouTube video at tinyurl.com/yfy7f6y and further details at misadigital.com

Live From NAMM 2010

Fresh from the biggest gear show in the world

Once a year musicians and manufacturers descend on Anaheim, California, USA to see what's hot in the world of gear.

This year's show, which ran from January 14th to 17th 2010, was the usual brash, noisy affair but we at *FM* found the bash slightly light on innovation in the hi-tech arena. While Ableton's announcement of The Bridge showed a company thinking on

its feet, their competitors played it safe with familiar products. Sonar 8.5 looked great, likewise the new 64-bit Logic 9.1, but as to it making things any easier or sounding any better, we were left pretty much unmoved.

Nonetheless, you'll find our hottest picks from the thousands of new products NAMM had to offer scattered over our *Filter* section this month. Keep reading and start saving now.



Akai Surprise With New APC20

An APC40 but half the size and half the price

We love it when this happens. Akai's APC20 represents modern market forces at their finest: if someone makes a smaller, lighter version of your best-selling Ableton Live controller you'd best follow suit. Sharpish.

Which gives us the Akai APC20 – quite literally half an APC40 for half as much – and a direct rival to Novations Launchpad, which we love. OK, so at £179 it's £30 more expensive than the Launchpad, but the APC20 boasts a bank of proper slider controllers and dedicated function buttons in addition to an unchanged grid that made the APC40

such a must buy. Personally we'd have preferred rotaries instead of faders on our APC20 (given that they're most likely going to be used as effects sends and who ever complained about turning something down with a knob?) but these faders are still a definite one-up.

You can map them to any function with a quick button press so – if you're nimble of finger – you can twiddle just as much, just as fast as an APC40. The only problem with the '20 is who's going to buy a '40?

WANT TO KNOW MORE?

Check out the full 'so what's missing' specs for the APC20 at akaipro.com



Nord Piano 88

Here's a strikingly scarlet-faced keyboard that caught our eye while wandering around the NAMM show. Aimed primarily at the gigging musician, the latest Nord is an 88-key weighted hammer-action stage

piano with an identical feel to their flagship models. Stuffed inside are six high quality piano types including Grand, Upright, EP Tines, EP Reeds, Clavinet & Harpsichord, with each category able to contain several

variations. Plus, using the Nord Sound Manager application, each piano in the keyboard is exchangeable by uploading new model types that are freely available as downloads. There's all the other benefits of the classic Nord sound including a clever modulation section for those lush funky electric piano

sounds, plus Nord's exceptional EQ and amp modelling. Seems like this could be a great option for those looking for the quality of Nord's flagship models without requiring all the extra fuss and details.

No word on availability yet – keep checking clavia.se for more information.

Highly Origin-al

Regular readers will know how much we love Arturia's Origin – the outrageous, £2,000+ hardware rendering of their finest soft synth brains.

While the desktop version may have been rather specialist there's no denying the sheer 'look at me' presence of the new keyboard version.

Featuring the same synth internals and incredibly flexible sound structure

(combine oscillators and filters from the MiniMoog, Jupiter 8, ARP, CS-80 into impossible never-before-heard combinations) the keyboard version adds a premium 61-note keyboard with velocity and aftertouch AND an amazing ribbon controller.

We can testify as to the keyboard's feel (very like the high-quality depth of a Virus TI2) and the ribbon controller above it was ideal for dragging a casual

fingertip across to produce amazing polyphonic glissandos and slides.

The highlight has to be that control panel though. We're slightly concerned about the usability of reaching up from playing in order to tweak a slightly rocky, near vertical bank of tightly packed knobs, but map what you want to that ribbon and you'll be rocking. But look how cool it is! Tilt the panel for standing or sitting and fold it flat onto the keyboard for storage or transport. Full review soon. arturia.com



Bridging the Gap

Ableton and Serato's mysterious collaboration finally sees daylight

When Ableton and Serato announced they were working on a product together in 2009, everybody speculated at what it might be. But nobody expected it to be quite as brilliant as what they

eventually produced. Meet The Bridge. Combining the slightly ridged performance aspects of Ableton with the wiki-wah scratch mentality of Serato seems like it should have been mission impossible, but the boffins at both camps have somehow managed

it. The first and much simpler implementation of this technology is being able to non-destructively record your Serato sets in Ableton. How? Using certain pieces of certified controller hardware (Rane, ITCH controllers, etc) all crossfader

movements and other controller actions are captured within Ableton as automation data, allowing users to tweak their live performances afterwards and create flawless mixes.

The other more interesting use of The Bridge is the ability for owners of both Live and Serato to place Ableton clips directly into the Serato interface. This gives you the majority of the basic controls of Ableton without having to switch between Ableton and Serato. Users can load an entire Ableton project onto one deck in Serato and use time-coded vinyl to take control of Ableton's transport section, plus control pitch and looping of Ableton projects within Serato too. There's also the option of playing back Ableton sets within Serato's new Ableton player, freeing up both Serato decks enabling traditional turntablists to drop sync'd loops and bits from Ableton over their regular DJ set. It's certainly further blurring the line between the standard track-to-track DJ.

Users will need a full copy of Ableton and Serato to use The Bridge, but for current owners of both software, the possibilities just became exciting. All in all, this is all pretty remarkable stuff and artist reactions from existing Serato endorsees seem to be amazingly positive. The bridge will be free to anyone who owns both Ableton Live 8 or Suite 8 and Serato Scratch Live or Itch Hardware. No word on a release date yet so keep your eyes on both ableton.com/thebridge or serato.com/thebridge for an update.

WANT TO KNOW MORE?

Head on over to ableton.com/thebridge for continuous updates on The Bridge.



Clip Scratching

Scratch Live's master output using time-coded vinyl

Live in Serato

Load your Live set directly into Serato's interface

Kaoss' Pro Hands-On

Wouldn't that look cool next to your Kaoss Pad?



We've loved our Korg Kaossilator for a couple of years now and finally the format

is getting a Pro upgrade and becoming slightly less plastic too.

The new studio and live take on the cute yellow original packs enhanced brains into a larger, more giggable Kaoss Pad-style enclosure.

The demo we were treated to at NAMM revealed the new Pro to be "like four Kaossilators", each with an enhanced set of 200 new presets, complete with wider, more powerful composition and filter-tweaking fun, via a larger, backlit touchpad.

It looks superb next to the (identically sized) Kaoss Pad and – with a little practice – it's possible to jam and perform entire tracks with a great visual element, switching between the four separate synths and drum banks with the big buttons at the bottom and jamming away on the big pad in the centre. Can't wait to review this next issue!

WANT TO KNOW MORE?

Head to korg.com for more info and the full technical lowdown.



Akai iPK25

Pretty much exactly what we asked for

With more and more music apps making waves on the iPhone and iPod Touch it's

just a shame that there's no way to effectively get at them with 'proper' keys... Well, we moaned, and they answered! The Akai iPK is a keyboard for your 'Pod 'n' 'Phone!

The keyboard may be rather 'toy piano' but the unit itself is pleasingly sturdy with a gaping slot ready to receive and house your 'Pod. Slide it in and make connection and you're away.

Power to the keyboard will charge your 'Pod and the stereo audio outs are ready to for your mixer or interface.

It even comes with its own dedicated synth (which will be a free Apps Store download to owners) which we enjoyed in early unfinished basic bleepy form.

Once the full multi-oscillator, sequencer and filter spec is in place however, the combo will surely make an ideal backpack partner.

WANT TO KNOW MORE?

Feast your eyes on the iPK and soft synth combo at akaipro.com

Mellotron Finally Goes Digital

You probably know the Mellotron but what about the Chamberlain?... This less known rival 'borrowed' the Mellotron's design but has a different set of sounds. And now, access to both libraries has become even easier thanks to the first digital Mellotron!

Top notch 24-bit sampling has allowed Mellotron to distil the sounds

of both machines into a box that's... pretty much the same size as a Mellotron but without the bulky stand/rear that housed the tapes.

Sound selection is a breeze via two hi-res displays and in our tests the sound was indistinguishable from the highly-prized tape-based originals. No RRP as yet. mellotron.com



Cakewalk Do Keyboards?

Roland? Edirol? Cakewalk? What's going on?

The world of Roland, Edirol and Cakewalk has always been one of friendly collaboration with all three owned by the same company but allowed to 'do their own thing' in a way that... has baffled punter and industry alike.

However, at the NAMM show things became a little clearer... albeit by becoming a bit more confusing first.

NAMM 2010 was the place to witness the new

range of Cakewalk A-Series keyboards, obviously 'ideal for use with Sonar' but also excellent USB keyboards in their own right. Mainly by being minor tweaks to Edirol's excellent (and rave *FM* reviewed) range of PCR keyboards. The new keyboards boast a new set of fingertip percussion pads. Likewise watch out for a Cakewalk's FA66 audio interface which – once again – is basically Edirol's excellent FA66

with a new sticker on it.

So what's going on? Well, all things 'computer music' are to be branded Cakewalk and all things 'music hardware' are now Roland, while the Edirol brand will focus on their video and broadcast industry devices. So watch out for Roland rebrands of Edirol's excellent (and world favourite) R-09 and R-44 audio recorders soon. Check specs at roland.com and cakewalk.com



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Rhodes) with outstanding sound quality, action and feel. The ModernBeats Hip Hop bank comes with more than 1200 samples and 30 MIDI loops, all dedicated to Hip Hop production and made by Los Angeles based Hip Hop masters. Four products bundled in one box. Four tools for the next generation of Hip Hop legends to pursue their passion.

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X-Patch Gives Mini Matrix

Can't afford their superb Matrix console? Got space for a sleek 1U rack? Stop crying into your wallet and check out SSL's latest and greatest

This simple looking silver-faced SSL hides some mighty power behind its simple 1U rack space.

Titled the SSL X-Patch, this Ethernet connected unit is ready to take care of all your hardware and software patching needs.

Developed from the same groundbreaking technology used inside SSL's lovely Matrix console, X-Patch provides a

16x16 analogue routing matrix that can be Ethernet controlled remotely from a standard computer. This allows set up, configuration and preset storage and helps the modern digital studio incorporate some lovely analogue processing into any modern production studio environment. SSL are also pitching this rack as a useful tool for guitarists who play live with a lot of pedals. This will definitely be a

luxury product when it goes on sale, but if you find yourself constantly patching masses of analogue outboard, then this is definitely worth looking at to increase productivity and workflow. Plus, up to six units can be connected, making this a great solution for the modern commercial studio.

X-Patch will be available Spring 2010 priced around the £700 mark. solid-state-logic.com



Korg Sound On Sound

Genuinely much better than you could have hoped

Just space for an update on the Korg SOS recorder. We mentioned it last month, but having had a try on it, we've got to say how great it is, offering infinite tracks of overdub with a drum machine and effects too.

Best of all, when you plug it into your DAW you get every one of your takes ready to be pulled onto tracks and comped. It's almost easier to sing into these and comp later than record in your DAW! Check out the details at korg.com



Mopho Gets Keys

It's the SCI Pro One for the next generation

Lurking unobtrusively at the back of the Dave Smith Instruments stand was their new DSI Mopho Keys.

It's the Mopho monosynth we know and love, encased in a new, wooden end-cheeked cabinet. At the front there's a cute two-and-a-half octave keyboard and the whole unit is pleasingly lightweight and portable.

Architecture-wise, the synth is exactly the same as it's all analogue

desktop module brother but the extra real estate afforded by the new case means that there are now a whole host of dedicated controls beyond the four assignables of the original.

Now you can reach out and touch your LFO and full ADSR and still tweak your filters like crazy!

WANT TO KNOW MORE?

Check out Dave Smith's finest at davesmithinstruments.com



Phat One

Moog's bass in your face

We've teased you with early images of the Moog Taurus pedals in the past, but now

we've gone 'foot-on' with the beast!

The new Taurus features all the power of the original unit still revered for its earth shattering bass.

Originally introduced to allow guitarists and keyboard players to play bass with their feet, the new machine now cleverly ops for MIDI or USB

control should you prefer. Phew. The sound is incredible with two bass-friendly VCO's and an all analogue signal path while the all-new MIDI options allow you to sync the new arpeggiator or have program control of every parameter.

It looked superb at NAMM and to make the experience all the more enjoyable, they even hoisted a set up to waist level to allow passing punters to bang out basslines with their hands. Now that could catch on.

WANT TO KNOW MORE?

Head to moog.com or check out the *Future Music* review coming soon!

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"Inflator is so sweet.. wow!"

"Trans-Mod is the most significant achievement in audio fidelity, since EQ and compression!"

"Oxford Reverb is sonically stunning - never heard anything so natural sounding"

"The Limiter is my desert island plug-in, if I could choose just one!"

"SuprEsser is incredible, I can get vocals way out in the mix without poking someone in the eye with sibilance!"

www.sonnoxplugins.com

**Oxford
Plugins**

Teenage Kicks!

The OP-1 is really here. And it's really working

One of delights at last years Frankfurt Music Messe (back in March 2009) was the unveiling

of Teenage Engineering's OP-1 synthesizer. It was small, it was gorgeous, it was... an empty case and a bold list of specs that included four types of synthesis, a sampler and (huh?) an FM radio...

At NAMM the OP-1 came alive with the first steps at the OP-1's synth, sampler and innovative sequencer there to be demoed.

We particularly enjoyed the 'tape-based' sequencer allowing you to play, rewind and loop phrases with the incredibly sharp OLED screen depicting spools winding back and forth. It looks great and gives you a great cue as to what's going on.

Synthesis-wise only the simple 'Pulse' subtractive synth was in

place, sounding rather bleepy and basic but the team assure us that the FM, Physical Modelling and more are still on the way.

The sampler allowed us to grab rough and ready chunks and that colour display keeps everything as user friendly and obvious with the colours used mapping directly to the four coloured knobs.

So. How much and when? As a brilliant parting shot the team had even built in a menu screen that allowed them to wind both 'price' and 'date' back and forth with the assignable controllers! From what we saw the OP-1 will be available '2010 or 2011' and will cost '\$800 to \$1000'. We know which we'd prefer.

WANT TO KNOW MORE?

Head to teenageengineering.com for the OP-1's full (intriguing) story.



Real Kit Plays Virtual Drums

Now why didn't they think of this sooner?

Everyone knows the benefits of playing virtual drums: You can bang away and not rouse the neighbours. Plus you can enjoy killer drum sounds far in excess of price of the kit. The problem with digital kits is one of pure aesthetics: If you're the drummer in Anthrax you don't want to look like you've just stepped on stage for Spandau Ballet.

The solution is a stunningly simple one, and drum giants Pearl

have cracked the problem bigstyle with their e-Pro Live kit.

It's an authentic, wooden-shelled Pearl kit, that, with proper skins, is up there with any of Pearl's premium products. However, use the supplied drum heads and new Red Box brain and it's a virtual kit as silent and deadily as equivalent sci-fi models from Roland and Yamaha. Check them out at pearldrums.com

Peavey and Muse Unveil the MuseBox

Smaller and smarter: It's your studio plugs to go

Muse Research's Receptor is THE highly regarded softsynth hardware housing used by

countless bands across the globe. (Be sure to check out our Depeche Mode live feature next issue for proof!) Well, at NAMM they've made the technology even more affordable and portable via the new MuseBox, produced in co-operation with hardware giants Peavey.

The MuseBox is a half unit wide, two unit high box that can be loaded with your favourite softsynths then

dependably slung in the back of a tour van or backpack for month-in month-out reliability.

The MuseMachine software environment will safely house thousands of VSTs and the box even comes with Peavey's excellent ReValver (and a set of keyboard sounds) ready to go. We've yet to see which plugs fit inside without a fight but confidence is high. More soon.

WANT TO KNOW MORE?

It's yours for \$1,199. Full specs at museresearch.com





Win Zombie Nation's MPC!

Now why don't more artists do this?

Now here's a brilliant idea. Rather than gracefully retiring his trusty Akai MPC4000

to the great loft in the sky, Zombie Nation is auctioning his online for charity! Yes, get a top MPC with celebrity heritage AND do your bit to help the rainforest too.

"This MPC has travelled with me to many countries and seen a lot of clubs. It's also the machine I made my last album, *Zombielicious* on," he tells us. "It's modded with an DOM 4GB disc and comes with an additional hard disk, CD ROM and the eight output option. It's still covered in my gig stickers including one that says 'HD up', which means 'Head up, don't look at the display like a nerd!'"

Reason for sale? "I switched to the MPC 1000 recently, simply because it weighs 12 kilos less, which makes my life a lot easier!"

But this 4000 works great and is the most advanced hardware sampler ever built."

So why the charity auction? "I wanted it to go to someone who appreciates the story of this machine which gave me a lot of great moments. The final auction price will be donated to WWF for rainforest conservation project in memory of Daniel Hansson - founder of Elektron Music Machines - who was a big supporter of the WWF. Remember: Paper has two sides so print double sided!"

"The highest bidder will receive a copy of the proof of donation of the full amount as well as a signed photo of me and the MPC plus a list of all the dates and clubs this MPC travelled with me."

The auction goes live on the 1st of March and you can find the page here: mpc4000.zombienation.com Be sure to let us know if you win!

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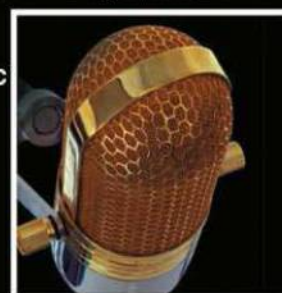
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FC Kahuna Machine Says Yes

City Rockers, 2002

Take a pinch of early bleep-based beats, stir in the fear of guitars and simmer next to a crack den. Now that's a tasty burger, says **Roy Spencer**



Inspired by the early Warp Records blueprint, and the mood set by the crack dealers either side of their studio, two ex-Big Beaters made an Electronic album of Acid House, post-ecstasy ballads and futuristic Disco that was a million beers away from the messy pub basement bashes that, literally, made their names.

Known to all of club land as the boys behind the Big Kahuna Burger nights, Jon Nowell and Dan Ormondroyd were the men of the moment. It made perfect sense for a record label to chuck money at them to grill up a tasty album.

"We were handed a label because of all the press our club had," says Dan Ormondroyd. "We managed to

turn around to the distribution company and tell them we needed a studio, that they would pay for, and some equipment, that they would pay for. And sometime later they would get a record. They just said 'yeah', which is probably why they don't exist any more [laughs]."

A change of DJ residency to Headstart at Turnmills heralded a change in style, quality and taste. Gone were the poppers and gnarly 303s of Big Beat. In their place were the stylistic palettes of minimal, Electronic records.

//xhead

The vinyl they sought out would inform the sound of their debut album, *Machine Says Yes*.

"We wanted to make a record that Warp could have made, but that Slam or Weatherall would play now," says Dan. The first sessions took place in King's Cross in a space shared by Pulp, Elastica and album contributors, Super Furry Animals. "It was just this little circus, but good fun," says Dan.

After the space underwent some refurbishment, FC Kahuna moved to Streatham, where the neighbours plied their trade in hard street drugs. "It was this bloke Seggs' studio," says Dan. "He used to be in The Ruts, and he played bass on *Block Rockin' Beats*. It was his council flat, with a crack dealer either side of us.

"Sometimes you were scared shitless about leaving your equipment, or they'd be bullets all over the floor outside. We did the rest of the album there and it took about 18 months."

The moody vibe, sense of danger and squalor made for a suitably creative mood. Unfortunately neither of them knew how to work any of the equipment the label had furnished them with.

"We sat and read all the manuals for about two weeks," says Dan. "The first thing we made was *Hayling* and it turned out to be the biggest thing we ever did."

Mix it up

From then on they were cooking, with a little help from an extra chef. "We had a friend called Jon Collyer (JC) who would do the mixing," says Dan. "I was really prepared for him to go 'drums need changing, that needs changing...' but he went 'sounds great'."

"From then there was definitely a sense of purpose to the tracks. We wanted to make an album that was a piece of music that did something from start to finish, and reflected the music we loved, but at the same time being our own thing. I think we achieved that."

Track by track with Dan Ormondroyd

Fear of Guitars

"The Super Furry's were rehearsing next door. We were huge fans, so we just asked singer, Gruff Rhys, to do some vocals.

"We took the track down to Orinoco Studios (now Miloco) in London into the little Toy Shop room they had there and Gruff did this insane stuff about a woman in a lighthouse who ran out of food and hallucinated her fingers were fish fingers [laughs]. We weren't sure if it was the best or worst thing we'd ever heard. He phoned up the next day and said 'I think we went too far.'"

"We cut it all up and got down to two bits we liked and put some guitars across it with some library record samples. Gruff was about to tour the *Rings Around the World* album but managed to jump on a train and lay some more vocals down. He picked out melodies from the track and sang harmonies to them. It was a brilliant day."

Glitterball

"We wanted to something like a Disco version of a Warp record. But it had to be a bit more up, and have moments. We wanted to have a big record with this one.

"The majority of the track is based on three samples from an old Psychedelic Sixties song. The bit at the start that sounds like a pigeon is just a guitar through some filters.

"A lot of stuff is sample-based. Our thing was to take organic sounds and make them sound like they came from machines.

"I remember when it came out and we'd got a DJ reaction sheet back and this guy said 'these guys obviously know *Space Disco* [Universal Robot Band], the Disco classic from the late '70s, as it's a total rip-off.' We'd never heard it! I picked up the record one day, I had

LIKE IT? TRY THESE...



The Beta Band

"*Fear of Guitars* was inspired by this band," says Dan. "The way their records went off in stupid directions and just stopped and turned into something different."



Super Furry Animals

"We were huge fans of this album, and it was great to get to work with Gruff," says Dan.



LFO

"These early Warp records still sound amazing now," says Dan. "This was the music we wanted to make."



Primal Scream

"Anyone that made Electronic music after this came out was indebted somehow to how that record ran its course," says Dan.



Alter Ego

"12" classic that the inspired the Kahuna boys no end. "It was all drum machines and minimal Electro," says Dan.

Dan Ormondroyd Today

"It's just me in the band now. I've done some stuff with JC and I've been doing remixing since we stopped touring."

"I've worked with Sunshine Underground. They're a Rock band but they want to bring a Dance element to their tracks, so I did five tunes with them."

"I also did a remix of Noah and the Whale's *5 Years Time*, just because I love the song. The band really liked it. There's been a small 12" run. Prins Thomas and

Aeroplane and cool people like that were digging it."

"I did one with Florence and the Machine recently – I actually did all her demos that got her signed about two years ago as well. I recorded it in my split studio/bedroom. It's not all in one room (that'd be a fucking nightmare). It was mental. She's so loud. She sings louder than the drum kit! I'd never really done bands or artists before, and then I did loads of them at the same time."

"I've just worked with this great underground band, Boxer Rebellion, a club instrumental thing. They have a single out now and they're blogging the remixes, so check them out."

"I've also been working on a follow up to *Machine Says Yes*. I've got about 15 tracks that I think are great ideas but just need finishing. I want the tracks to be me and now. The idea about a second album is to not think too much about it...but that's just not in my nature."

Ormondroyd worked with Florence before she was signed



© Getty Images

to get it, and the groove seems totally nicked! Even the drums are balanced in a really similar way. It's pretty mental."

Machine Says Yes

"We started with a riff off our Oberheim Matrix 1000 over a slow beat, then we added loads of drum machine samples and different sounds over it. The mixing took about three days and the process was just endless."

"We sometimes mixed a track twice and did loads of different edits...that was why we called *Microcuts* Microcuts, because it was

Yes. It was kind of a continuation of that when it goes into the Acidy bit towards the end."

"We took the basic version to the crack den in Streatham and added some samples to it. If you listen to it the groove is all over the fucking shop because we added so many things in so many different places. Inevitably, if you're gonna take things onto different computers and try and match them up it's gonna be loose. That's why that sounds a bit funny."

"When we came to mastering the record that's the one we had the most trouble with. The mid-ranges were just so intense. Luckily we had

beer and told her to do it in an American accent."

"We started to mix this track and it didn't have anything going on it, really. So I was throwing samples on it. We had this one bit of a guitar that we tried to make sound extreme. Using the Auto Filter on Logic, which we did the majority of the album on. Once we mucked around with the filter we triggered it in such away that it had some movement to it."

"I wrote the vocals...one of my masterpiece lyrical gems [laughs]."

Bleep Freak

"After we signed I went on holiday with the money, like 'fuck your album!' [laughs]. But the label needed one more song two days before the album was to be cut, so when I got back I

We took the basic version to the crack den in Streatham and added some samples to it

taking that re-editing to the final degree. The timing would be all over the place on them."

"We had a problem on the vocals on this one. It felt like it was missing something. It still does to me. We ended up doing it four or five times. The label insisted that it was the big single, because it was structured the most like a Pop song."

"They kept making us do it again to sound posher, but we couldn't. Our sound was lo-fi and we just liked it that way."

Growler

"It was us just trying to do a Danny Tenaglia version of *Machine Says*

Mike Marsh from The Exchange [renowned London-based mastering studio] doing the mastering and it was like he'd just come in and done the mix. He totally sucked the mid-range in such a lovely way. He just nailed it."

Nothing Is Wrong

"This features Betty Butterfly-Barbido on vocals. Not her real name... she's this crazy-assed girl from Scotland who came down the Big Kahuna Burger all the time."

"We wanted a really vibey record with lyrics about falling out of a club in a bad mood, hating yourself for being there. So we gave her loads of

did this on my MPC 2000 in 48-hours with really bad jetlag."

"It sort of came together out of a weird part of my mind. The following day I was in the Strongroom Studio, where our label City Rockers had an office, and we needed the track mixed so I told them to make sure it was in a decent room with someone who knew what they were doing to mix it."

"When I got there it was a kid who didn't know what the fuck he was doing. Like some YTS [Youth Training Scheme] thing. I ended up doing it all, including the vocal. It was the first track I'd ever mixed! A real baptism of fire."

Hayling

"We got Hafdis Huld down to do the vocals, and we'd never met her. But her manager used to do our record label. We gave her two tracks, and she had some ideas for them.

"With *Hayling* I had an idea exactly what I wanted to happen. Something short and like a mantra, unlike a conventional song. We didn't want a verse/chorus, but we didn't tell her that. She came in and sung her first line and we stopped her. That was all we needed [laughs]. She might have had loads of stuff.

"The thing was, it was recorded in this crack estate and we had this sound, and an SM58 mic in this room with a rough and big sound in it. Every time we tried to do the vocal somewhere else in a posher studio it didn't work. The crack house vibe worked. The crappy mic in a really rough environment related to the lo-fi vibe we were going for."

Mindset To Cycle

"We needed it to explode so we added a bassline. The bass player was Si Jones from The Verve. We were totally poverty stricken so couldn't afford session musicians, but Jon used to live next-door to him. And he was free in the days and didn't want paying so we got him in, which was amazing.

"He did bass on the original *Fear of Guitars* and *North Pole*



In The Studio with FC Kahuna

"I think the record sounds like it does is because of the kit we used. The stuff no one else would touch, as it was frowned upon, unpopular or not well known. But it was all we had.

"We had a Nord rack at the time and an Oberheim Matrix 1000 with an external controller and a 1,000 presets. The majority of stuff, synths and that, went through

that. We also had a Korg MonoPoly, a Roland SH-101, and a Juno-106. We had a Korg MS-20 at the time as well, which I've still got.

"We used a TC Fireworks processor. It was a handy piece of kit. You could control MIDI effects and have little triggers on each key, and put any chain of effects on it. It's really good and really

personal. We also had a huge Korg Z1, one of those fucking massive things. It had these arpeggiators on it and one was really nice.

"We got the MIDI information off the keyboard and chopped it up and pitched it so it worked with the riffs running through it. We always did loads of takes. I took them home on DAT and

made loads of notes. Because we were thinking that we might have to do some live stuff I had an MPC 2000 at home, which was a sketch pad for me at the time.

"One day I spent 15 hours going through samples and taking the bits of records that sounded like bits of chaos. We tried structure our songs, but it never fucking worked."

Happy Hardcore. Anyway, one of the tracks we played was a version of *Mindset To Cycle* with me singing 'forget the past, shake your ass' – just really terrible lyrics."

Microcuts

"JC, who mixed the album, and had

cut off the album. It's lo-fi like an early '80s Trax record.

"This was a great track to play live as it was a lot more open to interpretation in the moment when you played it. When we went live, I had loads of stuff on the MPC and triggered stuff through the desk and a TC Fireworks processor.

"Then we would pitch it through delays and trigger effects on the tail end. We played around and

experimented. Certain tracks off of this album we never played out – like *Growler*, for whatever reason."

North Pole Transmission

"It changed so much as a track. To start with, it was more of a Hip Hoppy thing, which was the last

thing I wanted to do. One of those downbeat tracks, like a Zero 7 type of thing – no disrespect to them.

"We took a lot of those elements out, but forgot about some percussive elements that we layered over the drum loops. So, it still has rim shots in the mix that were meant to compliment the drumbeat, which we should have got rid of.

"The vocal in this track is from Eileen Rose. It's a lovely Psychedelic ballad. It's territory that was kind of first explored on Primal Scream's *Screamadelica*. This is our early morning ecstasy record.

"I think the reason this album holds up is because it was one of the last records to really explore that area that Primal Scream started." **FM**

WANT TO KNOW MORE?

Check out FC Kahuna's MySpace page for new remixes and releases from Dan: myspace.com/fckahuna

“Every time we tried to do the vocal somewhere else in a posher studio it didn't work”

Transmission. He just did loads of bass takes and we layered it up with different types of bass to get our bass sounds.

"There were five or six versions of this. The other day Jon was checking an old gig of ours on YouTube, it's fucking atrocious. It sounds like

a hand in producing some of the tracks, hated this [laughs]. He literally demanded for it to be taken off the album, as he felt the drums and production weren't as clean as they were elsewhere.

"A lot of Housey DJs like Tom Middleton said it was their favourite

NEED TO KNOW

Five essential facts about...

Machine Says Yes

1 "I don't think the UK tracklisting is as successful as the US one. It just builds a lot better."

2 "On *Bleep Freak*, I couldn't say my 'R's in the vocals, so every 'R' is overdubbed with Jon saying it!"

3 "Jon switched careers a few years ago. He's masterminding some macrobiotic raw desserts now."

4 "We used to set the gear up and marvel at any sound that came out of it. That lasted about a year."

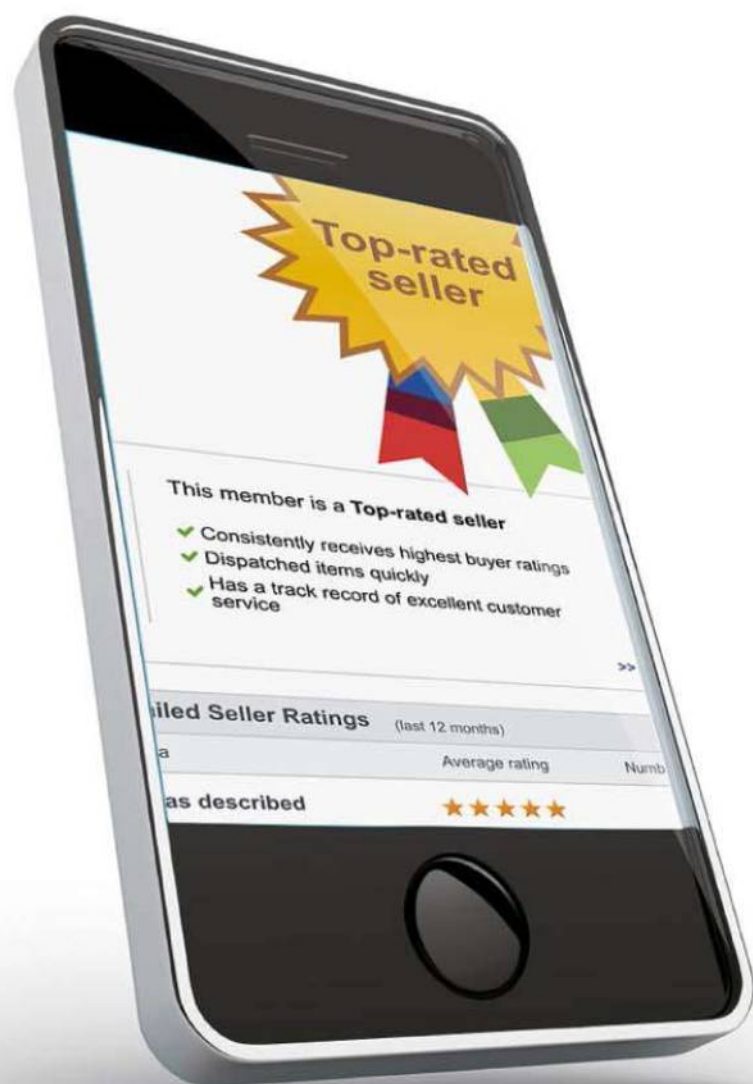
5 "Me and Jon spent our formative clubbing years at The Warehouse nights in Leeds."

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A few essential bits of information about...

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WHO RUNS IT?

Mike Crossey, Producer

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miloco.co.uk

TELEPHONE:

+44 (0)20 7232 0008

Walking into Liverpool's Motor Museum, the first thing that strikes you

is how unusual the building is.

Producer and studio manager Mike Crossey fills us in on its history: "It used to be a bus depot, then about 25 years ago it was made into a car museum. Shortly after that it was made into a recording studio by a Greek guy called Hambi Haralambous, which is why it's got a Greek feel to it. It was later taken over by Andy McCluskey from OMD. He still owns the building and works in one of the rooms."

McCluskey has been resident in the building for nearly a decade but Crossey only took on the studio lease last spring, recruiting his assistant engineer Oliver Buchanan in London and moving up to Liverpool the next day, lured by the outstanding facilities on offer. "The studio's got quite a lot of history to it because two of the biggest bands of the last two generations recorded their first singles

here. Oasis did *Supersonic* here and the Arctic Monkeys recorded their first single here too. It seems to be a bit of a lucky charm."

Rooms within a room

The unique setup of the Motor Museum houses three live rooms, offering a variety of sounds when recording. "We've got a pretty neutral all-purpose middle live room. It used to be carpeted but it was a little too dead for my taste so we re-worked it to give it a livelier sound. The other room is solid stone, really explosive and fantastic for drums. The booth gives us a really nice option to blend between a drier kit sound and a more Bonham-esque sound."

The fully-stocked microphone cupboard houses everything you could possibly want, from boutique ribbon mics to classic condensers and bread and butter dynamics. Crossey offers a great piece of advice for home recording on a budget: "The Shure SM7s are real workhorses and in terms of value for money they're

ATC T16s

"I really liked these when I heard them in Alan Moulder and Flood's Assault and Battery studio. They're detailed for hearing exactly what compression's doing to the signal."



Tannoy Little Gold

"These sound like really nice hi-fi monitors for me. Acoustic music and more gentle tracks sound really good on them."

Pioneer SR-202W Reverb

"We've just got this and we haven't got the right cables for it yet. Apparently the Beastie Boys used it a lot. I can't wait to hear it."

INTRODUCING...



L-R

Oliver Buchanan
Assistant Engineer
Mike Crossey
Producer



Moog Minimoog

"The Moog is mainly used for fucking stuff up! We run the bass or guitars into it and use the filter to get crazy sounds."



Boutique Guitar Goodies

The Motor Museum is heaven on earth for guitar nuts, with the cupboards crammed full of the finest guitars, basses, amps and effects money can buy. "We've got a really big collection of guitar amps," Mike tells us. "A lot of them are owned by Alan Wills, a friend of mine who runs Deltasonic Records. The WEM

Westminster's great for a Rolling Stones Rock'n'Roll sound and the 1964 Ampeg flitop is about as good as it gets for bass. For recording guitars we use a Little Labs PCP distro box which lets you run multiple amps with different pedals and a routing matrix. It allows you to audition lots of different amps and

blend them together. "We've got a 1972 Fender Telecaster Custom, the Keith Richards guitar. We've been waiting for a Tele as good as this one for two or three years. We find when bands come in they don't tend to use their own guitars or amps." Somehow it doesn't surprise us! When pressed to choose his favourite amp, Mike

picks out the Silvertone 1485, a budget 1960s model featuring a 120-watt head and 6x10 cabinet. "The Silvertone is probably my favourite. Jack White uses it as his main amp and it took him five years to find his. If you're lucky enough to find one, it's outrageous. It only does one thing but it does it very well."



Foxx Tone Machine

"This thing is like a mental distortion fuzz thing with an octave on it. We just did an album with Blood Red Shoes and we doubled a lot of parts down an octave to make up for the lack of bass player."

EHX Hog

"We get a lot of use out of this. It can do so much, like a full guitar synthesizer. Rather than getting keyboards out to make pads we'll get the guitar player to freeze a chord and then run it out to multiple amps in the live room."



Fender Precision Bass

"This is Andy McCluskey's. He bought it in 1982 and forgot about it. It's in the first thousand guitars that Fender ever made and I found it when I was clearing out rubbish under the stairs. Now it's insured for about forty grand..."

Fender Rhodes Stage 73

"This is a really good example of a Rhodes. We like to have lots of things for musicians to play with and get inspired by. We've also got a Magnatone combo amp for it to get the classic Stevie Wonder sound."

great. A lot of the time with rock bands they'll beat all the really high-end mics for vocals. If you're recording at home and you don't want to hear too much of the room, they're great."

The well-equipped control room was also a big part of the appeal to Crossey: "The acoustic treatment was done by Roger D'Arcy of Acoustics & Architecture before I took over. Knowing that the room sounds so good was one of the things that allowed me to move up here from London." Mike went half-way round the world to find the exact console he wanted, a 32-channel Neve 8232. "It came from a radio studio in South Africa so it was barely used," he tells us. "To me the 82 series has a really nice sound to it, a little better than a VR. It's got a really nice sweetening EQ and the routing's nice and

max it out and it's no stress at all to work at 96kHz even with lots of tracks. I didn't used to think it was so important and pretty much worked at 96kHz just because I could, but recently I've found that there's a bit more openness and plug-ins sound better at 96kHz."

Tale of the tape

Even with such a high-end digital recording setup, just about everything in the Motor Museum starts off with good old tape. "I record to two-inch tape every session," Mike tells us.

"I think you get a lot more out of a tracking session when you record to tape and it makes you work the band hard and get it right. It forces you into good engineering practice – with digital you can have your level anywhere and it'll sound OK but tape forces you to think about things like

gain structure. I tend to run on tape for the first half of a session, until we start running out of tracks. Inevitably you'll run out with only 24 tracks so we'll transfer to Pro Tools and work from there.

"I'm not

Tape sounds better when you are mixing, plus I find EQ goes further

flexible. We use it in conjunction with the Thermionic Culture Fat Bustard so we have plenty of channels. I'm a bit of a Thermionic nut. Sometimes I use it as a drum sub-mixer when I mix. The bass cut in conjunction with the bass lift lets you get an illusion of a big bottom end without it actually being there."

Monitoring is taken care of by a wide selection of nearfields, led by the faithful Yamaha NS10s. Mike's choices were based on thorough research: "I worked in London for a few years and I pretty much just unashamedly robbed ideas for monitoring from my favourite control rooms! I used to do some mixing in Metropolis Studio E and they had a Bryston 3B driving their NS10s. The first time I worked in there I thought the NS10s sounded a lot bigger and had a lot more low end than anywhere else so I actually went into their amp room and found the exact model – the 3B NPB – and scoured eBay until I found one. To me it's the best amp for NS-10s." Digital recording is handled by the studio's 48-in, 48-out Pro Tools HD5 rig. "It's pretty hard to

anti-Pro Tools at all but when I first started working in studios it didn't sound good. That was back with Pro Tools 888 on a NuBus Mac and it was clear as night and day that tape sounded better. I avoided Pro Tools until HD came out but I still just have a real attachment to the tape sound. Everything's got a bit of glue on it. It sounds better when you're mixing, plus I find that a little bit of EQ goes further when things are recorded on tape. Everyone's using the same Pro Tools converters and plug-ins so everything is starting to sound similar. If you record to tape, it adds character and gives it a bit more of a sonic signature."

Located in a unique and interesting space, the Motor Museum is packed full of outstanding equipment and run by experienced, knowledgeable staff. It's no surprise that it continues to attract big names from all over the country. **FM**

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ON
THE
RADAR

Bart B More

Last year saw him join the Dutch House dynasty and 2010 looks set to propel him into the DJ A-list. We take five with Bart B More...

At 2009's Amsterdam Dance Event, we were luckily enough to run into Bart B More, the rising producer, DJ and purveyor of bass that has become one of Holland's hottest producers. A protégé of Laidback Luke's world-famous forum, B More was noticed for his groovy Baltimore-style beats and cheeky hooks that slammed on dancefloors. We grabbed him for a chat before his set with Seamus Haji for MN2S that evening.

FM: You got your break because of Laidback Luke?

BBM: "Yeah, sort of, I used to hang around on [Laidback] Luke's forum and Luke and a load of the other guys would give advice on production and everyone would talk on there. I started DJing first but it wasn't long before I was making my first attempts at production.

"I was using [Syntrillium] Cool Edit to cut and paste bits of tracks together at first, before moving on to Reason. Then, at the start of last year, I finally

made the move over to Logic and have been producing all of my latest stuff with that."

So all the tracks we know you for were mostly created in Reason?

"Yeah, I would do audio cuts in Cool Edit then cut and paste them together either again in Cool Edit or using the Reason Sampler."

How are you finding Logic a year on?

"Well it doesn't look as fun as Reason but it's very easy to use and the fact that I can use plug-ins and audio within Logic has made it really inspiring."

Are you completely in the box?

"Yeah, just my computer, software and a set of Alesis M1 monitors."

You're a good example of not needing a lot of expensive equipment to make music then?

"Yeah I guess so, I might upgrade the monitors at

some point but I'm quite happy working in software and plug-ins. I'm really into the Gforce stuff and Rob Papen's stuff but I have loads of plug-in synths too.

"I like getting new ideas from new plug-ins as I'll often get inspired by a single synth sound and it can become the basis for a new track."

So you're not trained in making music in any way?

"No, I just started myself and went from there. I would always recommend going in to other people's studios and collaborating, because you learn all the different ways that people work. There are so many different methods, that it's really useful to experience different approaches."

Were you a fan of Laidback Luke before he picked up your tracks?

"Well, back then, he was the only DJ in Holland that played the same kind of sound as me, so he began playing my tracks and I started to get talked about. It's really cool, because now Luke is probably one of Holland's most famous DJs.

"I was really struggling to get my tracks released though, so I started my own label and tried to build up my network that way."

How did you do that?

"As I got more and more DJ gigs I would meet more big name DJs and I could add them to the mailing list so they would hopefully support my new tracks, if I sent them on, and it just kind of built from there."



Let's talk about all of the bootlegs on the blogs – the Dutch guys seem to do loads of these cheeky commercial edits.

"I think it's because House music became so popular in Holland that the main parties would have nearly as many people coming just because it was popular rather than coming for the music alone. This was especially true of the more 'upper-class' crowd.

"So these bootlegs were just a way of dropping fragments of bits they recognise in with the House vibe that is our sound."

They seem to be a good way to get your name out there too.

"They start out as just edits to play in the club, but Luke for example has had loads of tracks that started off as bootlegs and ended up with them signed and released. I had one recently on Strictly Rhythm from a bootleg I did with Reel 2 Reel's, *I Like To Move It*."

How are things developing for you, how is your sound progressing?

"I have a lot of tracks that are about 90% done but I'm not sure if I'm going to be doing an album or not yet. I'm just taking it as it comes really. I just want to release cool music and not think about whether it's 'this' sound or 'that' sound, y'know. I just want to filter good music through my label so eventually people will know if it's been released with me then it's a quality record.

"I'm not sure why, but my direction is going a bit heavier. Definitely with my DJ sets and mixes but also with my music."

What's your tip for getting that jacking bounce?

"Well, obviously a lot of swing, but also pushing audio samples slightly backwards or forwards 'til the groove is just right. This is true for all the stabs and any other parts too. I'm a really big fan of lazy beats so I always lean on those claps and snares till the groove is just right."

What about remixing? Any tips?

"I only remix tracks that I think I can put my own spin on. For example, I had an offer of remixing Shinichi Osawa's cover of the Chemical Brothers *Star Guitar*, but I loved the original record so much that I turned it down.

"It was a really cool track that Shinichi did, but I really felt that I couldn't mess with it because of the original version."

And what exiting things are coming up for you?

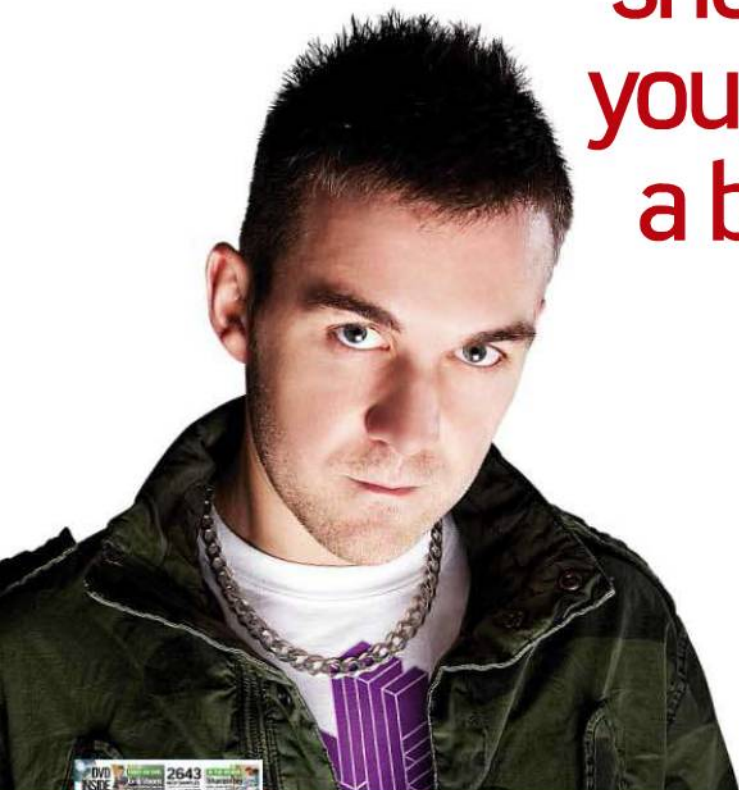
"Well, I'm getting a lot of collaboration offers, including a lot from Hip Hop names like Kelis, Flo Rida and Example. It's not confirmed what's happening yet but I'm really excited about the possibility of a Kelis project." **FM**

WANT TO KNOW MORE?

For upcoming tour dates, latest news and for info on upcoming releases, take a trip to Bart B More's official website at: bartbmore.com

If you're serious about music production, *Future Music* should ALWAYS be in your kit list. It was like a bible to me when I was starting out!

Funkagenda
Artist and Producer



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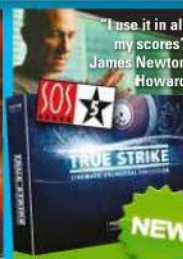
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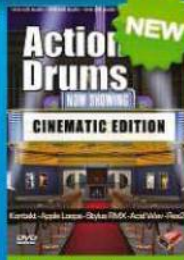
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Albums



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



jj No.3

Sincerely Yours



Gothenburg's jj earned themselves instant hipster acclaim with last Summer's *Ecstasy* single, a paean to pharmaceuticals which chewed up the groove of Lil Wayne's *Lollipop* and spat it out with a unique Indie-Electonica twist. This, their second album,

bears some resemblance to the Summery sound of debut LP *jj n° 2*, but as the seasons have shifted so has jj's mood. Tempos have slowed and the big beats of old have been carefully replaced with softer shuffling rhythms.

First single *Let Go* sets the scene for the melancholic themes to come: "All I have left is my soul/Fall left me with this winter so cold/Take me away like an overdose of heroin/Baby we were born for fun." Elsewhere, album-opener *My Life* is a stunning piano-led interpretation of Lil Wayne's chorus on The Game's single of the same name, re-contextualising Weezy's existential gangsta-angst from the perspective of a softly-spoken Swedish girl: "Dear Lord, you took so many of my

people/I'm just wondering why you haven't taken my life/What the hell am I doing right?"

Meantime the mid-tempo grooves of *You Know* and *Voi Parlate, Io Gioco*, offer a looping, guitar-led counterpoint to the softer tracks.

It would be easy to draw comparisons with label owners The Tough Alliance and fellow Swedes The Knife (new album reviewed over the page) but that would understate the originality and simple effectiveness of jj's sound. This is an album to be cherished. **Greg Scarth**

ADD THESE TO YOUR PLAYLIST:

Let Go, Voi Parlate, Io Gioco, You Know

9/10



Efterklang Magic Chairs

4AD



Copenhagen-based Efterklang follow up well-received albums *Under Giant Trees* and *Parades*, both released in 2007.

Magic Chairs continues Efterklang's development, and willingness to give each album a different vibe while retaining the band's core ideology of performing brittle but affecting songs. This time round, Efterklang have taken a more straightforward approach, adopting tracks replicated from their live set up. Back in the studio, orchestral flourishes were added, with producer Gareth

Jones (Depeche Mode, Nick Cave, Grizzly Bear) invited to mix. The result is a more song-based record than we have previously heard from Efterklang, with most of the electronics stripped out.

One, perhaps subconscious, influence appears to be unmistakable, showcased by tracks such as *Alike*, and in particular the excellent *I Was Playing Drums*, which elicit a strong comparison to Radiohead – their strident piano chords tinkering alongside weaving orchestral parts, gritty double-bass and heartfelt vocals. **Danny Turner**

ADD THESE TO YOUR PLAYLIST:
Harmonics, I Was Playing Drums, The Soft Beating

8/10

Basement Jaxx Zephyr

XL



Originally intended for inclusion on last year's *Scars* release, the nine full tracks on the *Zephyr* EP bear very little resemblance to the album which brought us hits like *Raindrops* and *Feelings Gone* and Jaxx in general.

Rather than stick to their tried-and-tested Dance Pop formula, the Basement Jaxx boys mix mellow synths with obscure percussion instruments, classical guitars, ambient passages and vocal fragments to create something very different.

At times, *Zephyr* gives the impression that Felix and

Simon were more interested in the meandering soundscapes than the songs, leading to a sense that some parts are only really half-finished. On tracks like *Peace of Mind* and album closer *Ascension*, the traditional song structure holds together just enough to offer a satisfying slice of wonky Ambient Pop.

The somewhat radical departure of *Zephyr* seems likely to alienate as many Basement Jaxx fans as it will please, but as a change of direction, it offers an interesting counterpoint to the group's usual sound.

Greg Scarth

ADD THESE TO YOUR PLAYLIST:
Peace of Mind, Walking in the Clouds, Ascension

6/10

It's On Our iPods



The Knife Tomorrow, In A Year

Rabid Records

Let's cut to the chase: *Tomorrow, In A Year* is one hell of a leap in sound from *Silent Shout* and *Deep Cuts*. The double-album

sees The Knife collaborating with Berlin-based musicians Mt. Sims and Planningtorock to create an opera based on Charles Darwin's *On The Origin of Species*. Yeah. We know. So if you're expecting synth-led Electro Pop songs like *Heartbeats*, you're in the wrong place. In fact, the first seven minutes consist of nothing more than ambient soundscapes.

Once it stops yanking your chain and develops into more conventional songs, vocal duties are shared with mezzo-soprano Kristina Wahlin and members of the Hotel Pro Forma theatre company. The operatic

vocalists' enunciation means that referral to the booklet is essential to decipher the lyrics, which are packed with (gulp) unlikely references to biology and ornithology.

The production moves a bit closer to The Knife of old with *Colouring of Pigeons*, an eleven-minute opus. Tracks like *The Height of Summer* stick to a similar formula, combining synth-led backings with operatic vocals.

Beyond the initial shock of the operatic sound, *Tomorrow, In A Year* is a challenging album but ultimately still has a lot to offer.

Greg Scarth

ADD THESE TO YOUR PLAYLIST:
Colouring of Pigeons, Seeds, The Height of Summer

7/10

Danton Eeprom Yes Is More

InFine Music



With a stash of remixes and 12" singles released on a stash of labels, Eeprom's debut album was a formality.

The French producer immediately takes the opportunity to pay homage to a hero on the opening *Thanks For Nothing* – an enjoyable rip-off of David Bowie's *Fashion*. The radiant keyboard notations and edgy, jangling electric guitars are all in the place, while Eeprom delivers an acerbic, deadpan vocal.

The remainder of *Yes Is More* is not quite so Pop-oriented, honing in on the dark corners of elusive clubbing dens. Sometimes this works well, as on the percussive and soulful *Give Me Pain*, yet other times Eeprom struggles to rise above the ordinary.

The artist's reinterpretation of the Sister Sledge classic, *Lost In Music*, was a mistake. Removing the original's funky guitars in favour of melodic keys and banal Dance beats and the blend of male and female vocals is pretty feeble.

Going into this project, I'm not sure Eeprom has thought holistically. The album is well made, well produced and some bold decisions have been made – Eeprom rarely takes the obvious route – yet he fails to stamp his mark in any particular direction. *Yes Is More* is enjoyable in small doses, but no more than that.

Danny Turner

ADD THESE TO YOUR PLAYLIST:

Give Me Pain, Thanks For Nothing, The Feminine Man (feat. Chloe)

6/10

Husky Rescue Ship of Light

Catskills



Finnish five-piece Husky Rescue return with their third studio album. *Country Falls* (2004) was a superb debut – a mesmerising blend of Folk, Electronica and Downtempo, followed by *Ghost Is Not Real* (2007), treading similar boards, albeit slightly self-indulgent.

Ship of Light is a mixture of lightweight, unwinding tunes, rich with carefully plucked guitars and comatose percussion, plus the occasional rocky effort thrown in. Six years down the line, and it would be true to say that Husky Rescue has not ventured very far. The songs carry that same blend of acoustic Rock, Pop and subtle electronics, while Reeta-Leena Korhola offers her gently persuasive vocal.

When *Time Was On Their Side* is the only track that really harks back to

the leftfield ambiguity that flavoured Husky Rescue's original work, with its hypnotic guitar chords strumming against sturdy beats, deformed percussion and warped vocals.

The twinkling, melodic *Beautiful My Monster* almost threatens to pull the record up by its bootstraps at the death, but overall it's a real struggle to find anything on *Ship of Light* that betters what we've already heard from Husky Rescue before.

The record is mildly pleasant, but simply not adventurous enough.

Danny Turner

ADD THESE TO YOUR PLAYLIST:

Beautiful My Monster, Fast Lane, When Time Was On Their Side

6/10

Nitzer Ebb Industrial Complex

Major Records



For those that were barely out of nappies when Nitzer Ebb released their last album (*Big Hit*, 1995), the Chelmsford band signed to Mute Records in 1986, successfully distilling elements of Electro Pop, Techno and Industrial genres – their sound characterised by bone-crushing beats and powerful yet simple rhythms.

The band reached a peak in the early nineties, taken under the wing of the then-massive Depeche Mode with whom they toured Europe. Although Nitzer's last known album had somewhat departed from their familiar aggressive form of 'Electronic Body Music', *Industrial Complex*

makes no bones about returning to the band's austere roots.

A steady collection of tracks are on offer, rarely outstaying their welcome in duration yet highly focused on strong songwriting, jarring guitars and pounding electronic beats. Comparisons can certainly be drawn not only to their past, but Depeche Mode circa 1986.

Even the melodies are somewhat similar, united by Nitzer's trademark beefy, sequenced basslines and Douglas McCarthy's resilient vocal take delivery.

Fans of the original Nitzer Ebb will be delighted with this comeback release, even if it doesn't necessarily better anything the group has done before. Industrial Complex does, however, maintain a solid consistency throughout, while delivering a raft of marching, brooding power plays.

Danny Turner

ADD THESE TO YOUR PLAYLIST:

Hit You Back, I Am Undone, Promises

8/10

Ulrich Schnauss Missing Deadlines (Selected Remixes)

Rocket Girl Records



Ulrich Schnauss has somewhat disappeared from my particular affections of late, compared to his status among fans of the genre a few years back.

Any connoisseur of Electronic music could not help but be overjoyed by his debut, *Far Away Trains Passing By*, but since then the musician has slowly entrenched himself and his

work and releases in the Dream Pop/Shoegaze sub-culture.

This is celebrated on *Missing Deadlines* – a compilation of Ulrich Schnauss remixes. Most of the artists on view are not immediately recognisable, and there are few surprises as Schnauss restructures other artists' songs in fairly predictable fashion, bathing the originals with lashings of flange, echo and reverb.

Virtually every mix carries the German's relatively unique trademark carpet of thick distortion, beneath which lies a bed of drenched, oscillating synth patterns, dampened beats and ethereal vocals.

Thankfully, I have it on good authority that this rather insular production approach is coming to an end, as Schnauss has decided to return to a more stripped back sound for his next album, which will definitely be something we can all look forward to.

Missing Deadlines summarises the artist's more recent past well, and while his technique has not taken the direction I had particularly hoped, there's still a thoroughly decent clutch of mixes on show. For those, meanwhile, who remain entwined in the psychedelic introspection of that genre they call Shoegaze, you'll be in seventh heaven with this release. We're looking forward to his next one, either way. **Danny Turner**
ADD THESE TO YOUR PLAYLIST:
Howling Bells, Setting Sun, Lunz (Roedelius & Tim Story), Lunz, Mojave 3, Bluebird of Happiness

7/10

Compilations

PICK OF THE MONTH

Work It Baby 10th Anniversary Various

Work It Baby Records



Kris Menace's prolific label turns ten with a bang with this double-CD

portfolio. Featuring slamming dancefloor hits from the likes of Fred Falke, Lifelike and Menace himself, it's hard to fault this collection, much like the label itself. Quality stuff to start the party. **Declan McGlynn**

10 Years of Soul Heaven Mixed by Louie Vega Get Together

Ministry Of Sound



Compiled and mixed by Louie Vega, the

headphone stick master, this triple-CD set serves up a mixture of classic soulful House and today's deeper Soulful progressive equivalents.

If you enjoy your Dance music vocal, funky and deep then this is a great set of mixes. **Chris Barker**

LateNightTales The Cinematic Orchestra

LateNightTales



The masters of drama unveil a beautiful mixture of classic songwriting and sonic soundscapes.

With enchantingly impressive music from Imogen Heap, Thom Yorke, Nick Drake, Björk, Sebastian Tellier and more, this is a fabulously grandiose and indulgent mix that you'll immerse every part of yourself into. Fantastic.

Daniel Griffiths

Renaissance The Mix Collection Gui Boratto

Renaissance



Straddling the genres of deep dark Techno with a lighter ambient

pads and Disco grooves, this double-CD mix is an absolute pleasure. Loaded with tracks from Boratto himself, both CDs are jammed with exclusive edits and remixes. Melodic, funky and deep, this is not a mix you should miss.

Chris Barker

Retro Respect



LCD Soundsystem LCD Soundsystem

DFA Records

LCD surfaced from the underground with their self-titled double-CD debut – opening the door for Dance and Indie crossovers worldwide. In the UK in particular, bands like Franz Ferdinand, Kaiser Chiefs and Friendly Fires pranced into commercial success with a sound that nodded to LCDs and developed on their synth-laden, syncopated grooves. A debut that still glows fresh, five years on.

Declan McGlynn



FUNKTION ONE

THE BASS ISSUE

Everyone loves it but only the experts ever truly master it. What's the secret behind killer bass and why does it move the crowd? **Bruce Aisher** explains how to get your hands on today's premium big bottom end...

Let's start with the basics – what is bass? And why is it so damned important? Regardless of style, bass is an almost subliminal building block in today's music.

In raw terms, a combination of melody, harmony and rhythm are the simplest way of defining any music. But, nudging tightly into both harmony and rhythm, is the bass part: an element that has the ability to alter the perception of both.

In simple songwriting terms, the bass part is derived from the chordal/harmonic element and is not defined in terms of its timbre – the shape of the sound – just the notes required. Of course bass takes on a whole extra dimension once music production comes into play, and even more so in relation to popular music styles. So much so that the style and sound of a bass part and its interaction with other elements is the defining characteristic of whole genres.

Getting freq-y

In simple frequency terms, bass represents the lower portion of the frequency scale, right down to what we can barely hear. Even then, you'll certainly be able to feel it. Musical bass sits in a sparsely populated area of the frequency spectrum, often only shared with the drums elements such as the kick or low-end tom-based percussion. The reason that there are generally so few elements interacting

in this space in music is that it is very easy for them to clash. Even when notes apart in tonal terms, bass notes do not mix well. This is easily exemplified by bashing a few notes on a piano. Play two notes simultaneously a semitone apart (say C and D) at different octaves. The further up the keyboard you go, the better (or at least more acceptable) they will sound. This is often important in relation to note density



Real or virtual, Squarepusher loves all forms of bass

(and groove), so keep this in mind for later when we look at basslines in more detail.

These days, music makers have a wider range of tools than ever before

devastating effect and avoiding the flabby pitfalls an out-of-control bottom end will produce. That's what this feature is all about.

Types of bass

Although on a basic level, bass, as described earlier, merely refers to the lower end of the frequency spectrum. This doesn't really

give us enough to go on in production and mixing terms. All bass sounds – apart from those derived from a stark and simple sine wave – are made up of a collection of frequencies with the fundamental (the note that you perceive as its pitch) as the loudest. The way these additional frequencies interact and evolve gives each sound its own



character be it upright, electric or synth bass. Changes to these additional elements and the fundamental over time also give shape to the sound – fast attack, slow release and so on.

Any type of processing plays with these parameters, by cutting or boosting existing parts of the sound. This assumes of course, that you are

reasonably near to the right bass sound in the first place, but – anyone who's dialled through countless options and still been left wanting – the perfect bass can prove elusive.

Bass hunting

To get the bass you need, it's worth being aware of the parameters in the average live recording signal chain.

There are tried-and-tested tools you can use to maximise your bass

for pushing the boundaries of good taste with respect to bass. This includes an ever-expanding universe of plug-ins utilising innovative new processing techniques, as well as emulations of old-school analogue hardware. Despite this apparent minefield, there are some tried-and-tested tools and techniques that you can use to maximise your bass to

Equalisation: To Cut, Boost or Scoop?

Handle with care. The world of bass equalisation can be a powerful ally or a dangerous enemy...

One of the first things people will turn to when wanting to maximise their bass is the trusty EQ control – usually with a hefty dose of low frequency boost.

But before you do the same, make sure you know what you are doing, and as discussed earlier, make sure you get the bass right at the source as much as possible. Secondly, remember that EQ will only act on frequencies that are there already – it doesn't 'add new content' – although there are

techniques for this as well.

Let's take a look at the bottom of our frequency range and some of the EQ tips we can employ. Below 40Hz there is little in the way of truly audible bass – although you might feel it – so you might consider applying a roll-off of some kind.

This sounds counterintuitive, but can help when the time comes to compress the overall mix. Remember that you can always add more (sub)bass back if required, but it's worth giving it

a go. Rather than focussing on just the bass end, you should consider the mix as a whole.

You might try removing the low frequency content from other tracks to make more space for the low frequency elements in your bass or kick. Although be careful you don't go too far, as it can sound unnatural and detrimental to your track's presence if used in a heavy-handed manner.

As always, switch the EQ in and out while tweaking and keep

an ear on what you are really doing to the sound.

Finally, remember that not all EQs are the same, and this applies to plug-ins as much as outboard hardware.

Different designs will have a different sound. This reaches its natural peak with 'vintage' kit that whether in its original form, or recreated as a plug-in, will bring it's own quirks to the table.

These are often in the form of subtle distortions that add warmth or character through

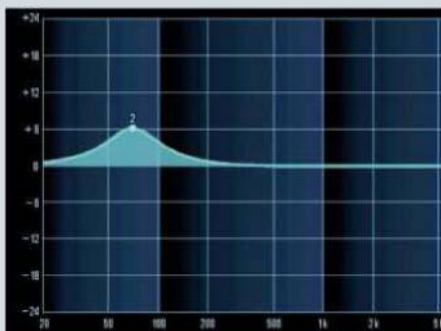
even or odd harmonics that are added to the signal.

A good example of this is the UAD Pultec Pro plug-in that, even when set with all controls flat, will add bass presence – much like it's much more expensive 'real' counterpart.

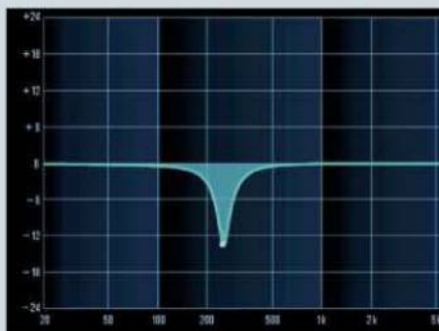


ON THE DVD

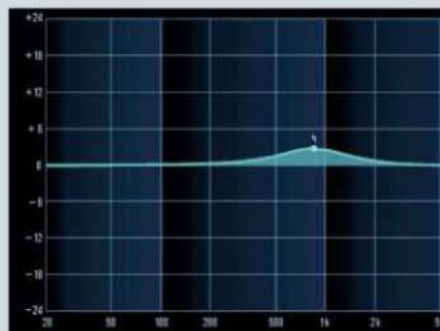
> Bass EQ examples: A set of before and afters. Listen to the effects of EQ on a selection of bass sounds.



1 Between about 40 and 100Hz, any EQ will be working on the fundamental frequency of many bass parts. If you feel the need apply some boost here, make sure you keep it broad, i.e. keep the part your moving up a nice fat finger of EQ. Only select narrow frequencies if have particular problems with individual notes, and in any case, cut rather than boost.



2 Feeling a bit flabby down there? A useful trick for separating the bass-end from the rest of the mix, giving a noticeable definition, is to try an EQ scoop somewhere between 200-300Hz. This will also allow you to get away with more compression later in the mix.



3 Tonal shaping can be achieved above your EQ scoop. Boosting between 800Hz and 1.2kHz is useful for bringing out higher harmonics. Remember that bringing out these can subliminally boost the bass' overall presence without muddying the mix.

Playback: The Moment Of Truth

Your environment is the key in constructing your bass

However good your monitors, they are not a closed system and they interact with the room and objects in it in numerous ways. The most important of these, in bass terms, is the way in which different frequencies will be boosted or cut depending on the dimensions of the room. Unless you are working in an acoustically well-designed studio these resonant frequencies (caused by clustered room modes) will be an issue, and means that it is easy to overcompensate with EQ only to find that your mix sounds unnatural elsewhere.

You'll boost bass because you can't hear it, or you'll leave for the gig with a rocking track in your computer only to find it sound like the PA just died. The only way to improve this potential problem is to consider some serious low-end

acoustic treatment. Simple rolls of insulation foam in the corners of your room will soak up 'fake bass': standing waves that bounce back and double up to boost it's warmth and presence. Even shoving a sofa or bed behind your mixing position will work wonders for making sure your bass isn't artificially expanded.

Adding a sub-woofer to your monitor pair can also result in more accurate mixes. A sub may have the apparent effect of simply 'turning up your bass' but what it's actually doing is revealing the bass that's already inside the track. If switching on your sub sends your track bass-mental then you've got frequencies in there that are exhibiting all the problems we outlined earlier. Time for spot of 'back to the drawing

board' remixing. A simpler solution is to simply roll off any and all of your tracks that feature bass. Pull down any EQ curve to zero to stop any sub bass making it to your speakers.

The chances are you won't hear any effect on your track at all and

– when played on a system that would have otherwise revealed your unwanted visitors – you'll come through in identical fashion.

An increasingly popular solution to the problem of rogue bass are room correction systems such as IK's ARC System. This system

listens to your room and introduces an EQ element over your final mix buss that will boost or cut to take into account what it heard in your room during the sampling/testing process.

The result is – in theory – any room, no matter how reflective or bass crazy, can be made to sound entirely neutral.

In the absence of any of these solutions, you can't go far wrong in simply making sure you check your mixes on a lot of different systems (good and bad) in different rooms, with headphones and in the car etc.

If all else fails (i.e., you're not being invited to listen to your tracks at Ministry Of Sound and you haven't just come into a couple of grand for a brand new set of monitors) then simply listen to plenty of tracks in a similar style to the one you are mixing, before and during the mix and note how those tracks sound and move on your gear and speakers. This will allow you to keep a sense of perspective.



The IK ARC Room Correction System utilises software and a calibrated microphone to attempt to rectify problematic monitor/room issues



Incredible gear means nothing unless it's cased in the right acoustic environment

To start with, we have the bass guitar itself (including strings and pickups), to which we add amp, cabinet, microphones and the microphone pre-amp. Of course we shouldn't

elements that make bass what and where it is in the mix.

Synths or samples for bass production perhaps offer more flexibility, and allow you to try

different sounds in the context of a full mix far more easily – especially in this world of virtual instruments. If you are programming your bass

A bassline's strongest element is often the gaps between the notes

discount the playing style used, and the room within which this is all recorded. And this is all before we even get to mix, process and tweak the recording. Any one of these can alter the sound dramatically, especially if you end up using multiple microphones and a DI (usually a good idea in terms of flexibility) that might be combined in numerous ways at the mix stage. Acoustic bass is a generally simpler affair, relying mainly on mic placement. It's the interplay of these

sounds from scratch – or even just trying to track down a decent preset – remember that the bass has to fit well within the context of a given style or genre, but that this might have implications of what you can do with other elements in a track. For example, a bassline consisting of long notes with few gaps playing an unfiltered sawtooth-based synth sound will fill up large areas of a mix (due to its rich harmonic content) – not necessarily a bad thing in the right context. Shortening the notes



Adding a sub lets you hear the sub bass that's hidden in your track

might give more space in the mix, and open up the groove possibilities.

A bassline's strongest element – and the part that makes people want to dance – is often the gaps between the actual notes. 'Filling' a track with bass is missing an opportunity for some genuine funk and ebb and flow to your track. In the world of bass and basslines less can indeed be more.

Sweeping up

The next step might be to filter the sound or use a spare envelope on your

synth. A killer technique is to sweep the filter cutoff over the duration of each note. This gives a rich attack portion (the initial hit of the note) then a duller release. The advantage here is a line with all the melody and rhythmic impact, but with much more mix space. Pushing a swept bassline louder in the mix gives you more bass benefit without increased 'mud' – something that can overpower tracks and reduce them to woolly soup if you get too enthusiastic with frequency-laden bass sounds.

Compression: To Squash Or Not?

We hear a lot about compression in the world of bass. But what is it doing, and why should we do it? While there are some general pointers for areas to explore in relation to EQ (see box on page 36) compression can be very much a 'just use your ears' exercise. Recommended compression parameters vary enormously depending on the

source material and playing style but the important thing to remember is that compression isn't just about squashing the dynamics and making the bass sound loud – it's also about shaping a sound.

Ratio

Try placing a compressor on your bass track and starting with a

ratio of 2:1 or 4:1 with moderate Attack and Release times. Now slowly bring down the threshold until you register about 4dB of Gain Reduction – you may have to pull up the Gain Makeup quite a bit as well.

Bass attack

You can now tweak the Attack and Release controls to suit the playing style. For speedier parts, try making both of these faster – adjusting the Attack control is a good way to emphasise or subdue the initial moments of each note, and the Release control should allow the compressor to recover between each of the notes.

So far, we have only discussed standard compression, but there are a few variants that may be worth exploring. Parallel compression (sometimes called Upward or 'New York' compression) allows you to add body to a sound (or whole mix) by combining a heavily compressed version of a track (with fast Attack, medium Release and low Threshold) with an unprocessed version. Rather than squashing the loudest peaks, this effectively boosts the lower level elements, and is more transparent than full-on conventional compression.

Some compressors like the UA Precision Buss Compressor have

this facility built-in. Some of you may have experimented with Multiband Compression, but in terms of compression for bass only, its uses are limited. A recent addition to the compression armoury – the Pro Audio DSP Dynamic Sound Mapper – is effectively an infinite band compressor and can deliver some interesting results on various types of bass, but without the complexity of the setup of 'standard' multiband types.



ON THE DVD

> You'll find a set of bass compression examples in all its varied flavours.



Get Warm

Like some types of EQ, compressors may also add favourable non-linearities to the signal – warmth, to you and me

Parallel Processing

The UA Buss Compressor has a mix control to facilitate parallel compression



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Sine of the times

Consider the sine wave bass patch. This is perhaps the definitive bass sound. There's no harmonics, just pure sub bass. Next time you're feeling your trousers flapping next to a PA rig, it's the sine wave that's doing it. Sines can be unruly and wreak havoc, often being the one element that sounds great at home but sounds terrible played out.

The source of the problem is that, the purer the sound harmonically, the harder it is to use EQ and compression. This is because there is very little other than the fundamental note's pitch with which to grapple. The point to remember here is that, if you can, get the bass sound right at source rather than tweaking and upsetting the inherent balance within the sound.

Making the best of a bad bass

The bass sound (or timbre) you choose can never be truly separated from the choice of notes or the pattern of those notes and the way

techniques apply equally well to most types of bass, whatever the original means of production.



ON THE DVD

> As inspiration we've lined up a set of bass examples that broadly show the full gamut of bass possibilities. A track can be transformed through a change of bassline or bass sound.

Bass vs drums

An important consideration, when tweaking the bass end of a track, is to determine whether it is the bassline, the drums or (gulp) everything that needs adjusting. There is always a trade-off between the specific frequency content of the various bass elements. For example, in tracks requiring large, low-frequency kick drums, it might not be possible to also have a satisfactory sub-bass synth bassline. Sub's long wavelength's interfere with each other much more readily than higher frequency sounds.

Two perfectly pleasant sounding sub basses will almost always produce either a super-energetic clash (where the frequencies effectively combine and double) or will disappear to a flabby fuzz, as opposing waves suck the life out of each other. Avoid at all costs. Pick one

sub element and nurse and nurture it through the mix. Never try to supplement or work alongside it.

This means that you will often have to tailor the kick drum to the bass – or the other way around depending on the style. A common problem is confusing the relative bass energy levels between the various parts. It's easy to spend days adding and tweaking EQ and levels when you've simply got two sounds that – when they sound together – produce an unpleasant frequency clash. The use of sidechain compression is a great way of making the kick and bass fit together more smoothly, and not just in the context of Dance music.



ON THE DVD

> Listen to the examples to hear how certain tracks sit better together. Deliberately introduce a clash and

Live From Matter

When it comes to state-of-the-art, the set-up at London's mighty Matter will blow your mind

Matter London at the O2 is the most hi-tech club in the world. Opening just over eighteen months ago, it's fast gained a reputation for stocking only the latest and finest gear and producing an incredible sound that excites both crowd and performers alike. We checked in with Roberto Pieroni, Matter's Head of Sound, to find out what makes the magic.

FM: What was the goal in building the sound system at Matter?



"The goal was to have a great sound system both for club

music and for live Rock events. And also to improve on everything we achieved with our previous system at Fabric."

Matter is an sumptuous, but all-concrete building. That must have been a nightmare.

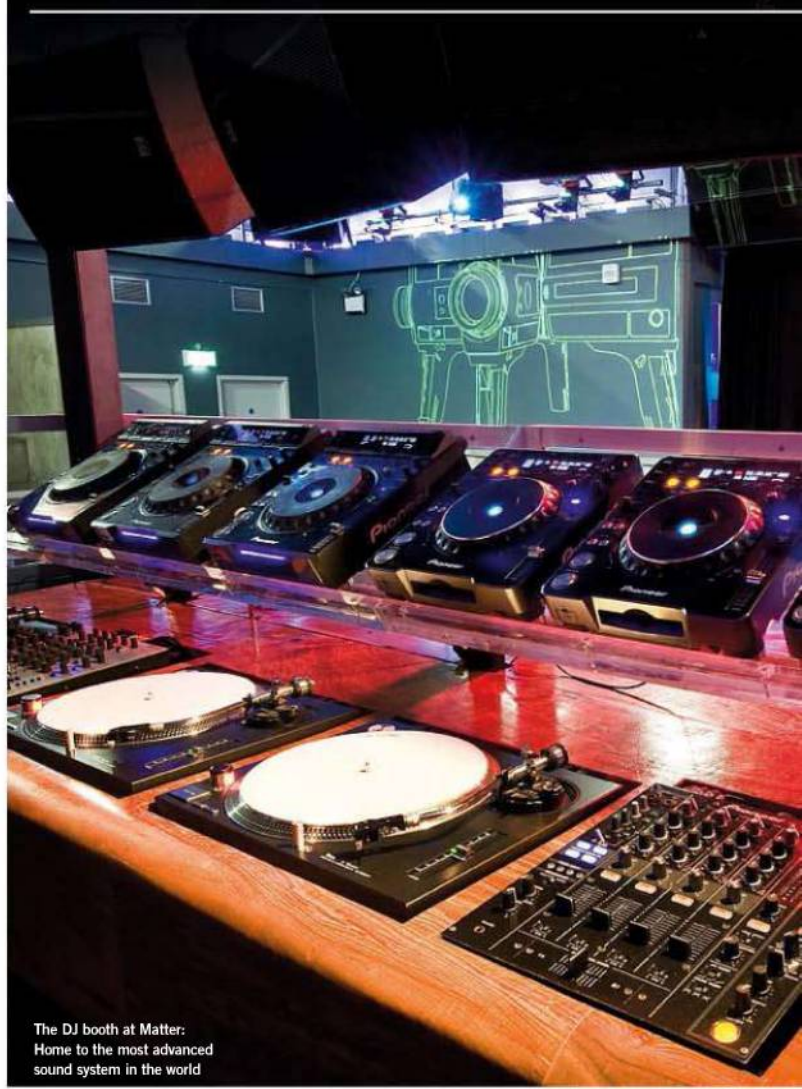
"You can imagine the sound reflections you get around a big room made mostly of flat shiny concrete walls... We beat it with lots of technology and patience. The system is controlled by two Yamaha DME 64 and five digital to analog converters with about 30 inputs and over 100 outputs. "The main dance floor's

sound system goes through our faithful TiMax – we have had one in Room Two over at Fabric for over eight years. The TiMax has two main settings: 'Club' and 'Live'. When in 'Club' setting, the sound is in surround mode with no delays on any speakers around the main dancefloor. When in 'Live' the sound seems to come from the stage but all the speakers, rears included, are still on 100% so there's no loss of volume when swapping between the two settings. Without the TiMax we would have to turn the rear speakers down, losing 40% of the power. Also the TiMax has a 3D surround

Confusing the bass levels between the various parts is a common problem

they interact with the rest of the track, most specifically the drums. Some bass sounds will inherently suit certain basslines. And this interaction also extends to the lengths of notes and rhythmic complexity (or lack thereof), due to the naturally played groove or sequencer programming. If you are stuck with a sound – be it synthesised or real – then you are left with the option of processing or adding to what is there. Fortunately there are many ways of doing this.

It's fair to say that some techniques work better on synthesised material that is not designed to sound real. This doesn't mean that you can't combine synthetic sources with 'real' ones, but in a classic Rock band for example, this is clearly stepping away from established conventions. But, rules are there to be broken and many of the shaping and enhancement



The DJ booth at Matter: Home to the most advanced sound system in the world

effect which enables the DJ or sound engineer, through a MIDI keyboard, to send sound effects throughout the room. Used in the right places it's mind blowing.

"The hardest part was to get the bass – getting our powerful subs to cover the whole dance floor evenly. That meant hours and hours of walking around the room with our wireless tablet that controls the Yamaha DME, listening to basslines! The subs are eight Martin Audio WS218X driven by two Martin Audio MA12K amps with 24kW of power in total placed under the stage and firing across it at ankle level.

"At the beginning we were getting far too much bass in the middle and not enough on the outside of the floor so we changed the design, wiring and the delays settings of the sub outputs until we managed to get that

even distribution desired around the room. That said, in the very middle in the front of the stage the bass is still quite evil, especially on D'n'B nights..."

You put bass to stunning effect at Matter. Tell us about that kinetic dancefloor.

"The Kinetic floor is the idea of Dave Parry (Most Technical) and Luke Pepper (DJenerate). This is a development of Fabric's 'bodysonic' floor which we all worked on. At Matter, one output from the DME goes into a DJenerate controller fitted in the DJ booth where we can control the kind of vibration we want from the floor. The rest is a secret. Sorry! The only thing I can say that it needs lots of power. We have seven Martin Audio MA12K amps with around 100kW of power."

What's the signal path for a track that's played at Matter and what makes it sound so big?

"The mixer feeds the Yamaha DME which does all the hard work of levels, EQ, compression, limiting, crossovers etc. From there a stereo mix goes to the TiMax hardware where the signal gets divided into nine – one for each speaker stack in the main dancefloor. These go back into the DME for further processing, then on to the amps and speakers – nine sets of Martin Audio, eight subs and a gorgeous Void Audio system at the top level. Total power? Not sure. Around 200kW with the bodykinetic floor, maybe a bit more..."

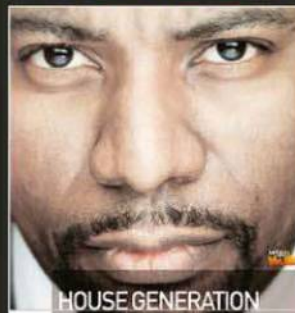
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HOUSE GENERATION VOL 2

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you'll pay for it with hours of mixing, EQing and compression correction.

Warmth and distortion

The popularity of 'vintage' or 'boutique' kit isn't always about absolute sonic fidelity. Each piece of hardware – from microphone pre-amplifiers to EQs and compressors – has its own sound based on the way audio (and digital)



There are plenty of emulation plug-ins that do a good job of adding harmonic warmth

is when extra content is actually added to the signal. Various kinds of distortions are added in almost any kind of signal chain that involves an amplification stage (and that means nearly all of them). These distortions tend to add mostly harmonic content. These are frequencies that are whole number multiples of the original frequency.

Different types of harmonic (second, third, odd, even etc) will impart extra 'vibe' to a sound, and if used appropriately, will impart a pleasing quality of 'warmth'. This is part of the reason why pros have favourite pieces of kit, that 'just

sound good', with little tweaking. Of course, many plug-ins now attempt to simulate this, and some do it very well. This is probably the closest that many of us will come to the almost mythical status of such legendary units as a Fairchild 670 compressor or a vintage Neve EQ.

There is also much current interest in modelling modern classic units such as the Empirical Labs EL7 Fatso Jr, which itself is an attempt to recreate the various 'musical non-linearities in tube, class A discrete and magnetic tape mediums' – there is even a 'Warmth' parameter. Recently, UA took on the task of recreating the Fatso in software form for use with the UAD-2 DSP card, and it works a treat – particularly on bass. If you can't stretch to premium plug-ins then there are plenty of free or low cost solutions out there. If adding harmonics is the name of the

game – and it is a great way of thickening-up unsatisfactory bass sounds – try a dose of your DAWs distortion plug-in into the signal chain. In order to avoid 'over-cooking' the bass, and losing definition, try duplicating your bass track and applying distortion only to the new copy. This way you can adjust the amount of distortion independently of the original. You could also try creating a series of duplicate tracks, each with different distortion settings and panned across the stereo field – this is great way of increasing width.



ON THE DVD

> Before and after some simple 'warmifier' processing! **FM**

WANT TO KNOW MORE?

Make sure you pick up next month's issue of Future Music. Stay at the top of the game with **FM225** on sale March 23rd.

Different types of harmonic will impart extra 'vibe' to a sound

signals are altered when they pass through any kind of circuitry. The various components in the audio chain (including the cable) will change the frequency response and phase of signals in various ways, but one of the most interesting alterations

Doubling, Parallel Processing and Specialisation

Something that is easily overlooked is that of stereo information at low frequencies. In the days of vinyl, it was essential that loud low frequency content was not positioned too far to either side in the stereo field. If this was the case, then overall bass level was compromised at the cutting stage. However, it's still worth remembering that bass energy accounts for most of the power required by an amp, and is maximised in most situations by placing it firmly in the centre so that it is evenly spread between different channels.

Of course, there are times when you might want to add more spaciousness to your mix, and perhaps increase the perceived bass presence, especially simple bass and rhythm-led Electronic tracks.

The best way to do this is doubling-up a bass part with something an octave higher (but lower in the mix) that has reverb or delay applied. Subtly detuning two versions of this by small but varied amounts, and then panned to the left and right also works a treat. Routing all

bass sounds to a single Group (Buss) track is a good place to start when experimenting with any of these ideas. Combining your elements before EQ and effects will give your bass a

coherent focus as they'll all be 'coming from the same place'

Luckily, there are a number of tools for keeping the stereo spread of the higher frequencies in a mix (or individual track)

while ensuring that the lowest content is effectively mono or close to it. The Sonalksis StereoTools plug-in has this feature alongside a stereo-widening tool.



ON THE DVD

> Using Sonalksis Stereo Tools to manage the low-end stereo field – a vital element of a bass-friendly mix.



Stereo Bass

Sonalksis StereoTools plug-in for simple stereo control

If you want to experience full-on bass, make sure you check out a Tayo DJ set

More Bass Enhancement Tools

Better bass – the easy way!

There are a wealth of other enhancement tools available to purveyors of bass. We've mentioned those that create higher harmonics and distortions elsewhere, but what about adding low frequencies? LowEndr from Refuse Software is one such tool, and is effectively a sub-harmonic synthesizer that creates very low frequency content related to the frequencies already present in the material. It ultimately does the job very well if not overdone, and can really bring some power to bass sounds (real or synthesised) that don't quite cut it.



LowEndr a subsonic synthesizer plug-in

You might also have some success with Dynamic EQs or more specialist processes as the BBE Sonic Maximizer or SPL Vitalizer. One variant on these that delivers some positive results is the Emphasizer from V-Plugs which combines it's own custom algorithm involving compression, EQ and non-linear tricks such as mild saturation.



Emphasizer from V-Plugs is an interesting alternative to standard EQ

For sophisticated stereo manipulation, you could turn to a tool such as DrMS, which offers an extremely sophisticated feature set.



DrMS – a comprehensive stereo management tool

It's options truly allow you to run riot but remember that there is a danger with any process such as this. Get too hungry and you will add too much bass, especially if you are working with more modest monitor speakers so heed the advice elsewhere first!



> Some examples of Refuse Software's excellent Lowender in full swing.

Bass Invasion

Your nine-point-plan to amazing bass...

Get the bass as right as possible at the source

If you're spending more than a few minutes EQing and compressing your bass then you really ought to try a different bass sound.

The gaps are as important as the notes

Don't be tempted to create a 'wall of bass' or a line up notes back to back. Gaps in your bassline will give your track groove and space for other instruments to come through.

There can be only one sub source

Sub plus sub doesn't equal 'better sub'. Two subs will almost always produce a clash that may sound great on your system but will almost

certainly go crazy when you play it anywhere else.

Suck it out

If your bass is great in some parts but gunking up the groove in others a spot of sidechain compression can suck it out momentarily giving just enough time to let the rest of your track breathe.

Is it your room?

Some primitive acoustic damping (be it duvets in your room corners or sitting in front of a sofa) will instantly give you a truer representation of your bass frequencies.

Subs and room correction

They do work. But bear in mind that

you might just be introducing an even bigger bass mystery if your sub takes a dislike to your room.

Don't go stereo

By all means experiment with doubling a track and applying and mixing in a stereo effected 'clone' but keep your bass locked centre for maximum power.

Removing 'hidden' bass

Worried that your monitors aren't revealing dangerous levels of sub-bass? Then head them off at the pass by pulling down every track's EQ to zero at the bottom end. Result: zero hidden bass.

If in doubt...

It's worth listening to some representative tracks from a similar genre before committing to a mix. By all means, push the envelope but remember there are limits to what the human brain and ear enjoys.

Thomas Gold



Thomas Gold is set for the producers big leagues after a massive 2009. Now armed with a shiny new studio, he's tearing up 2010 with a techy track on Toolroom Records. **Chris Barker** heads to Berlin for currywurst and cocktails to get the inside scoop on his golden sound...

From his roots in remixing to becoming a regular fixture in clubs all over the world, Frank Knebel aka Thomas Gold is being tipped for big things in 2010, with Beatport already listing him as 'one to watch' for this year.

We were first introduced to his production prowess by Swedish legend Stonebridge, just one year after the Thomas Gold guise was born. Later, just like Stoney predicted (he's rarely wrong about these things) we noticed Thomas Gold popping up everywhere, from club listings and remixes to stomping original tracks splattered across the internet.

Recently, Mr Gold has just moved his studio from Munich to Germany's creative capital, Berlin – it's a huge space based around a Logic setup and some nice big Adam monitors and we couldn't wait to have a good old nosey around it. So when we ran into Mr Gold at ADE last year, we quickly organised a trip to his brand new studio, where he promised to reveal some of the production secrets behind his remix hits and give us an insight into his rise to success and debut on Toolroom Records in 2010.

FM: There aren't many DJs that started out as award-winning organ players, but you're one of them, right?

Thomas Gold: "Yeah, it started when I was seven years old. My mum took me to a concert where there was a guy playing the organ and I decided I wanted to do that. So my mother bought me this basic organ and I started learning to play. At first when I started having lessons I hated it and I was just getting up on the tables and dancing in front of the other kids."

"So the teacher moved me into another class which her husband ran and after a while, I discovered I actually had a bit of a natural talent for it. I was entering competitions and winning them, becoming one of the best organ players for my age in Germany. But, as you can imagine, when



© Nathan Wright

So were you recording?

"Yeah, I would do little demos on to cassette by recording each track one by one. Digital wasn't big back then as this was around 1988, but I remember getting my first Atari around 1992 and then a really cheap PC after that."

"But it was when I got my first Mac, a G3 and Cubase, that things started becoming much better for me, production wise. After a few years I eventually switched to Logic and that's what I'm still using now."



chance to show them what we could do. So after work and at weekends we would work on this remix and they ended up liking it and we got offered more work."

"It was still a hobby though and when you listen to the remixes from then you can hear that there will still problems with the production, but I was doing it in my living room and learning how to mix and getting better each time."

Where did you go from there?

"Because of doing the remixes I got the chance to work with some guys in a studio so I took it and quit my day job"

Was that an easy decision for you to make?

"No, it was really hard because I had a good job and a steady

income and there was no guarantee of work with the job in the studio doing remixes. I remember it took me about seven months to decide before I fully went in to it. But my family and everyone around me supported the idea and it was a great decision in the end."

"This was when my sound really began to take off because suddenly I was spending between eight and twelve hours in the studio every single day and learning how to get the sound I want. I was able to take tracks to the club and see how they sounded before tweaking them again in the studio. I think as

“Because of doing the remixes I got the chance to work with some guys in a studio so I took it and quit my day job”

I got to around 15 years old, my interest in organ-style music wasn't exactly very high and I really wanted a proper synthesizer to play on. I'd begun collecting records by that age and I was listening to Jean Michelle Jarre and a lot of music like that."

So what synth did you buy?

"I bought the Yamaha DX11, a Yamaha QY10 sequencer and a crappy little mono amp but I couldn't afford anything better back then, but it was a start."

And were you DJing at that point?

"Well, at 18 I got a chance to DJ in this club and they kicked me out after the first weekend because it was so bad, but then a year later I had practiced and I started to DJ in a sort of cafe/bar which helped me build up my skills before I landed a proper residency at 22 playing House music."

How did you get your first real work producing?

"It was my friend that I was making music with that got us our first contact. He said he knew a guy at a label who wanted a remix and this was our

NI Synths

"I think I've bought practically all of the Native Instruments synths and I even still use the old ones like the Pro-53, which was used in the *Delirium Silence* remix I did."

SSL Waves

"This pack is great and one of my favourite tools has to be the SSL Bus Compressor which is a very musical-sounding compressor. I like to drive it hard enough so it pumps the whole track a little bit and I usually place the Waves L3 Ultramaximiser on the end of my master channel somewhere too. They're great."

Arturia Collection

"I love all these Arturia plugs. I use the Minimog plug-in a lot for bass and it was again used as the offbeat deep pulse and as one layer of the stabbing chords in my remix of *Silence*."

soon as I started with the studio stuff full time, I learnt very quickly.”

So you were working as a remixer for a label?

“Yeah, but not under the Thomas Gold name, it was a nameless operation and the company would just make me do whatever remixes they wanted, they would always be the point of contact so I never really got to do my music or talk to people.

“It was a standard thing though, but after a couple of years I decided to go on my own and

pay for my own studio now, the telephone, electricity and so on. It was very hard. But I did as many remixes as I could to try and build up my name and build up my contacts.”

So you think it's vital going full time if you're looking to take that next step?

“It's not a hobby, if you want success you have to do it full time. I think there's a slight misunderstanding that you can just buy Logic or whatever and make a track with a fat sound. But,

the main hook and melody. For the ‘Thomas Gold’ sound I just listened to the tracks I liked and made the music I like I never really thought about being German, I guess most of the music I like was coming from other countries though. Now it doesn't matter where you are in the world and the styles that are being produced in that area because it's so easy to reach music because of the internet.

“Years ago you would have had a fixed style and your label would have wanted you to stay in this style. Now everyone has more freedom to change

or develop their style. Look at David Guetta – he's doing tracks like *Grrrr* on Toolroom at the same time as working with popstars like Akon and Kelly Rowland.

“So, this is also true for what I'm doing now because I started with the Electro style

bassline and have developed my sound. Every time I do a remix I try to do something different and recently I've been really wanted to do something a bit more Minimal and Techy.”

So what inspires you?

“Obviously other people's music, and what else is going on in the market, plus, synth sounds and new equipment. When I'm DJing and I play a track I really like, I'll make a note to listen to it and dissect it in the studio to find out how the parts I liked were created.”

I think there's a slight misunderstanding that you can just buy Logic or whatever and make a track with a fat sound straightaway

start the Thomas Gold name. I think it's necessary to learn like this though, and I made a little bit of money while I learnt how to produce properly, although they weren't very happy when I left. Now their company has broken apart and I'm friends with them again.”

How was it leaving the comfort of your regular remix gig?

“It was really hard, as my fees went down and I had to start remixing for two or three hundred Euros a remix and I didn't have any DJ gigs. Plus, I had to

for me it was when I started spending all that time in the studio that I was able to take it to the next level. Maybe if you're a genius you can do it, but I knew I had the musical talent from my youth, but production was something I needed to work on.”

You began with a completely different sound, and your sound has never really been 'German' if that even exists?

“At that time I guess there was no typical German sound and it was the era where the electro basslines had started to come in, where the basslines were



Do the keyboard playing skills give you an edge, do you think?

“Well, the good thing is that if I get sent some parts for a remix, they will rarely send over the MIDI files, but I'm easily able to work out chords and replay parts if I want. I always play everything in using the keyboard. If I want to play a big Trancey pad sound or something like that I can just hit record and play instantly.”



In that case, would you recommend producers learn music theory and how to play?

“Well I meant there are two completely different schools of thought with this because I've seen guys who can hear the melodies and riffs in their head and program them down very quickly in a really methodical and logical way.

“I produce music in a musical way, but there's definitely a lot of great producers out there who manage to work in this more logical programmed way. It's never bad to have a knowledge of harmony and music training though.”



Where do you take your career now?

“I'm always thinking about it and of course there's the need to make money like everyone does. It's difficult because you have to treat it like a business, because it is a business. But, you have to be careful that that side doesn't make you lose the passion.

“To be honest at the moment I'm not looking to be like David Guetta – a Pop star – I just want to be able to grow and continue with Thomas Gold in

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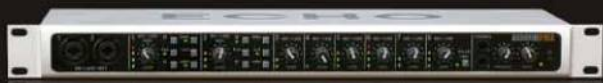
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the clubs and in the studio. Longer term, I think I'd like to maybe produce Pop acts and things like that, but right now I want to be in the clubs while I can. The idea of being 50 years old and DJing in a club to twenty-something's isn't cool, but right now I'm loving being in the clubs."

But the 50 year old DJ is a scary thought because DJing is where your money comes from, right?

"Yeah that is what has changed because even the successful producers are still making more more from live shows or DJing. I'll try and keep it going as long as possible and then maybe look at supporting new talent with a label."

"I don't know, it's very difficult because there are so many labels out there now that it's becoming more and more difficult to make money from a label and identify yourself. It costs so much money to get your brand noticed. I'm lucky because I'm musically trained I can do Film and TV scores and other projects like that."

"But, for now I'm focusing on the Thomas Gold name and completely enjoying the DJing and everything that goes with it."

Is music gear important to you too?

"Yeah, I really love to have gear around me. It's inspirational to have it around but I probably only use certain bits of outboard equipment one a year. For me the plug-ins now sound so great and the people in clubs are completely used to that sound. There really is no need for the analogue-digital argument any more, because the people in the clubs don't know what the true analogue sound really is – they listen to Beatport and MP3s and I really don't think you can make a huge difference, but I personally do love both hardware and software technology."

"I go shopping for new plug-ins every week at the moment, I find it really amazing what you can get out of them. If you look at the bookmarks in my browser, you'll see a huge list of all the manufacturers and I'm constantly checking for new updates and new products."

"I think the [Access] Virus TI is amazing – the way they've got the keyboard so you can plug it in and use it as a plug-in – that's the main reason I bought it really – because I had the older Virus before and I hardly used it."

What's new for you then?

"Well, the first thing is the new track *The Button* which has just been released on Toolroom and should be on Beatport now. This track really represents what I would call 'the new Thomas Gold sound' and the type of music I'm really into playing at the moment, so I'm really excited about this record and to see how it goes down."

See Thomas Gold pull apart *The Button* and explain how he made it and his production techniques on this month's *FM* DVD. **FM**

WANT TO KNOW MORE?

Check out all his other releases and catch Thomas Gold DJing by logging on to thomas-gold.com



SE-1X

"You can really make some huge sounds with this synth and it's defiantly one of my favourite bits of outboard. The three oscillators allow for such deep bass and you can really get hands on with it."

Doepfer LMK2+

"Because I'm a keyboard player, I had to get this really nice MIDI controller keyboard, as it has the real feel and action that I prefer to play."

Adam S3A

"I listened to the Genelec's and Klein & Hummel in the same price range, but I settled on the Adams as they seemed to working best for my ears."

Avalon VT-747SP

"This is used for the mics and sometimes I'll use it on the master to boost the bass or the really high end."

Access Virus TI

"This is absolutely perfect for big, thick pad sounds. Sometimes it can be swamped with effects so you have to edit patches quite a lot but for the big Trancey style pads or strings it's really amazing."



ON THE DVD: Thomas Gold Production Techniques

1



Drums

Thomas takes us through the construction of all of the drums from his latest track *The Button*.

2



Vocals

We get a breakdown of how Thomas processed and mixed the vocals from his remix of Delirium's *Silence*.

3



Automation

We see how getting in deep with FX automation can really help to give a track that dancefloor edge.

4



Quick Rhythm

Using the Elektron Machinedrum, Thomas builds a rhythm track, showing how to fit sounds together.

CUBASE ESSENTIALS



Parallel Processing in Cubase 5

This month, **Bruce Aisher** updates to the latest version of Cubase – C5.1.1. So what's new? Time to get your head around that enticing new-look AmpSimulator and explore the wonders of parallel processing in your mix. Dig in...

This month, we bring news of the latest Cubase update – 5.1.1 to be exact. Although not groundbreaking, it does warrant a mention with regard to a number of points. Take a look at the box overleaf for more detail of some of the more interesting fixes and new features. It has also served as the inspiration for this month's tips in the guise

of the newly face-lifted AmpSimulator, which can be pressed into service for much more than a range of obvious guitar-oriented tones.

This led me to consider some mixing techniques useful for utilising live recordings with multiple mics (and possibly DI'd) sources, such as an amplified lead guitar. These then pointed the way to



The new-look AmpSimulator in Cubase 5.1.1

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.

various types of parallel processing, as we'll see below.

Multi mic

When attempting to add some interest and depth to your productions, you may find yourself experimenting with guitar cabinets and multiple microphones. Of course, this may be quite common if you have any experience of working with live-oriented bands, but this is an area that is also worth exploring even if you use synths and electronic instruments.

You could just route your given instrument to a cab in a decent sounding room and shove one mic in front of it, but maximum flexibility can be achieved if you use multiple microphones in different positions, and even a 'pure' directly recorded version too.

On their own, these recordings will generally add vibe (assuming the room doesn't sound too boxy or unpleasant), but the way they are mixed will determine the overall tone of any given element in the mix. By balancing the levels of the various

dry and mic recordings, the timbre will change in ways more interesting and far reaching than a simple channel EQ. In fact, EQ can be left out all together with a little time and patience.

The main principle here is that of mixing slightly different versions of the same thing together to create something new. In essence this is a form of parallel processing, and can be created entirely within a DAW if you don't have access mics or other hardware.

The first step on this road is by recreating the situation above using AmpSimulator, but the parallel processing concept can be used in numerous other ways. Adding distortion is only one possible route – compression and even pitch-shifting are all viable parallel processing possibilities for subtle enhancements.

Parallel processing

One seemingly odd and magical process is that of parallel compression – sometimes called 'upward' or 'New York' compression. Essentially this involves mixing a heavily compressed version of a piece of audio with an unprocessed version. By slowly bringing the compressed version up in the mix, it is possible to increase the level of the quieter elements without squashing the peaks.

This technique works especially well on complete drum mix, but can be tried on just about everything – even complete mixes – and often adds a body and fullness. If you are having trouble getting the right vocal sound, parallel processing techniques can sometimes come to your rescue. Adding differently distorted versions of a single mono vocal together can work wonders on a less than vibey take, even if used in almost subliminal moderation to achieve subtle timbral changes. The advantage here, is that various versions can be panned across the stereo field to widen the mix. Throwing in some pitch-shifting here can also work wonders for your take.

Experiment

The boxes on the following pages will give you some pointers on how to use some these techniques within Cubase. The key here is not to be afraid to experiment. Be careful though as things can get quite confusing with a bunch of similar but subtly different pieces of audio flying around a mix. There is great scope in parallel processing of tracks and mixes, but as always, different isn't always better. Use your ears and have fun. **FM**

CUBASE ESSENTIALS NEXT ISSUE

For more Cubase tips and techniques make sure you pick up the next issue of *Future Music*. **FM225 on sale 23rd March**

Multi-mic Mixing in Cubase

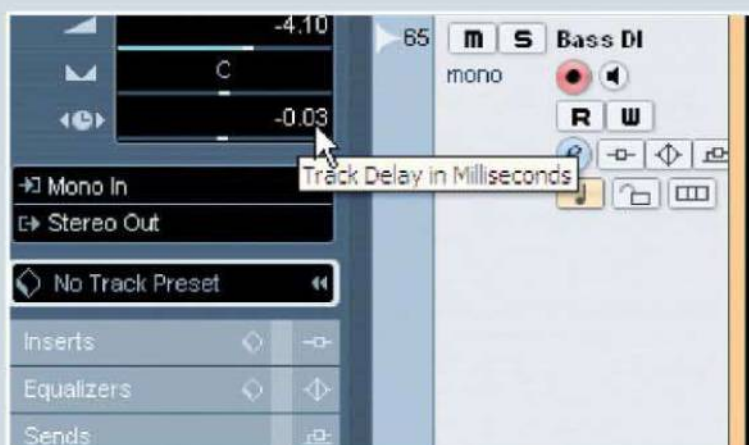
There are a number of useful techniques when combining multiple mic and DI sources



1 If you are lucky enough to have multiple microphones, you can achieve different tones by adjusting the volume for each one. Different relative levels will give different timbres. If you need to use EQ, then route all of these to a Group channel first.



2 Adjusting the mix level will only take you some of the way. Try using the phase reversal switch on each channel in turn to see what effect this has to the tone. This is usually very noticeable and can change an instrument's timbre dramatically.



3 For more subtle changes, adjusting the track delay in small increments (positively or negatively) has the effect of small changes in EQ and increases the available sonic palette considerably making a wide range of tones available even with one mic and a DI'd source.

Parallel Processing Tricks

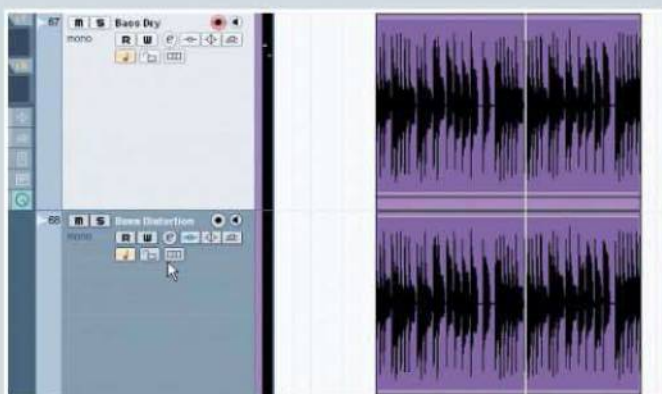
Parallel processing is a great mixing tool, and a useful way of creating new and interesting tones or even just for sonic thickening



1 Let's assume we have single mono synth bass recording derived from a VSTi and exported to mono audio channel. In this case we have a simple tone with not much in the way of harmonics. It may take care of the bottom end of the mix, but lacks much in the way of character.



2 The first step in adding more interest to the sound might be with use of distortion, which adds harmonic complexity to the pre-existing sound. The C5 AmpSimulator is a great place to start with all this. Pushing up the Drive parameter, although great for filling-out the sound, can lead to over-saturation so be careful.



3 For more flexibility you could try duplicating the track and keeping at least one unprocessed version and add other more distorted or driven versions to it in varying amounts – much like multiple microphones with different amp/cabinet combinations. You will need to experiment with the relative levels for the best effect.



4 This flexibility can be increased by spreading the various versions across the stereo field and allows you to create space in the mix, even when confronted with a very basic monophonic source. Adding delay and reverb to these separate elements will also increase their effectiveness if used sympathetically.



5 For vocals in particular – although the trick works with other elements as well – try using the Pitch Correct plug-in on duplicate tracks, with one tuned up and the other version tuned down by a few cents. With the addition of panning, this is a useful vocal thickening technique.



6 Don't forget that sidechain processing can be useful for level control of additional processed elements. Try a compressor across a distorted duplicate and configure the sidechain to receive level info from the unprocessed version. With a bit of tweaking you can get more distortion in quieter passages as a way of balancing the overall level.

Parallel Compression

A classic use of parallel processing is compression. Here, we apply it to a whole mix...



- 1 Load up an empty Cubase Project and import the take you're working on to a few new tracks. Duplicate the track so you have two similar tracks and pull level fader down on the new copy. Leave the level unchanged on the first.



- 2 Insert a compressor on the second track. Start with the standard Steinberg C5 plug and configure it for a fast attack, moderate release, low threshold and 2:1 ratio – you should see a hefty amount of gain reduction in the meter display.



- 3 Slowly push up the level of the compressed second track, and you should notice a gradual change in the depth of the mix. Try giving it a go with the Vintage Compressor (or any of your own), and across groups or even single instruments.



ON THE DVD

Check out some dry/wet audio examples of the techniques used this month.

The Cubase Update

Steinberg recently released an update to the Cubase range, and although it isn't going to set the world alight, it did see the arrival of a version that is fully compatible with Windows 7 and OS X Snow Leopard (10.6).

Unfortunately, there was an installer issue for some, but Steinberg did solve this with an installer tweak the following week (18th December), which seems to have solved the issue.

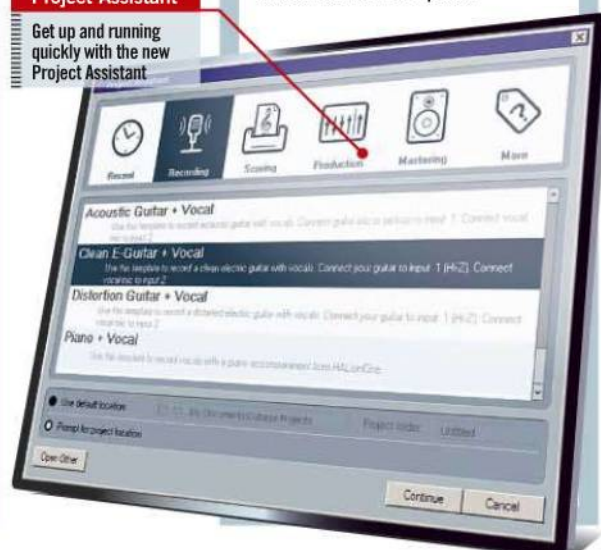
The only vaguely significant new feature seems to be the addition of the new Project Assistant, which provides more user-friendly way to start new Projects based on factory and user defined templates. Although it doesn't offer very much to the seasoned user, it does make things a bit easier for those new to C5. Usefully, Projects can now be tagged and get their own VST Sound node location, where their tag attributes can be edited. Additionally, the AmpSimulator plug-in has been reorganised horizontally for a slightly different look and feel. Sonically and functionally though it remains identical. Also, VST3 plug-in scanning on start-up is now much quicker.

In terms of bug fixes, there is a short list in this update, but we do at least see Steinberg addressing the issue with VSTi channel faders appearing with transparent faders, which somehow slipped through the quality testing last time. On the subject of updates, it is always worth making sure that you have up-to-date drivers. It's quite possible that older drivers will limit your performance, which usually means having to run Cubase with larger buffer sizes, and increased latency.

If you are also considering making the move to Windows 7, I suggest that you check that all your hardware has drivers to work correctly, and spend some time reading the Cubase forums before making the leap. If you have a working XP system, think carefully about going ahead with a full OS update.

Project Assistant

Get up and running quickly with the new Project Assistant



The Science of Drum Synthesis

This month, we look at an underappreciated aspect of synthesis. **Greg Scarth** investigates how those block rockin' beats are created...

A lot of the time, drum synthesis gets overshadowed by the more glamorous forms of instrument synthesis. However, there are just as many ways of synthesising a drum sound as there are of synthesising a piano, a guitar or an earth-shaking analogue monosynth bass patch and the effect it has on your overall sound is just as important.

Not only will this month's *Knowledge Base* explain the various methods used to synthesise percussive sounds, we'll also try to cram in a few crucial lessons about the history of drum machine technology and give you some pointers on how to start creating drum sounds from scratch using just about any subtractive synth. You might just be surprised at how easy it is to make your own drum sounds and it's a great way to add a unique touch to your productions.

A quick history lesson

It's a fair bet that most of us got our first experience of drum machines in the form of a beginner's keyboard or organ with built-in percussion, and this is really the root of modern drum synthesis.

Early rhythm machines were primarily developed as accompaniment for organ players and the majority of commercial machines in the late 1950s and early 1960s were built into organs or sold as accessories for organ players.

One notable market leader in this early era of rhythm and drum synthesis was Japan's Ace Electronic Industries (aka Ace Tone), whose drum machines were built into Hammond Organs and also sold as standalone units. Ace Tone's founder, Ikutaro Kakehashi, would go on to found the Roland Corporation in 1972.

Whereas the drum machines of the 1960s and early 1970s were based entirely around pre-programmed rhythms which the user could choose from, the 1970s saw the development of units which also allowed users to program their own unique rhythms. The introduction of machines such as the PAiA Programmable Drum Set, released in 1975, and the Roland CR78 (1978) allowed musicians to break out of the preset rhythms, which they had been confined to for so long. For most Electronic musicians, however, drum machines started to get seriously interesting in the early 1980s with the introduction of Roland's TR series. The combination of great analogue sounds with fully programmable patterns ensured that the TR-808 and 909 in particular would become classics.

These machines and others in the TR range still command huge prices on the second-hand market. A large part of the attraction of classic analogue drum machines comes from the fact that the sounds they produce are a long way from being 'realistic' recreations of acoustic drum sounds. It's unlikely that you'd mistake an 808 kick drum or 909 snare for an acoustic instrument, but this is part of the appeal of analogue equipment, with each drum machine offering its own unique sound and character. The 808 and 909 themselves remain so popular that new emulations, clones and sample packs still appear on a regular basis.

Subtractive synthesis

Just as in the case of any other instrument, there are many approaches when it comes to synthesising a drum sound, but the vast majority of the classic analogue-era drum machines used subtractive synthesis, following the same principles as classic analogue synths. Check out *FM213* for our full explanation of subtractive synthesis, then consider the approach that you'd need to take if you wanted to use the same techniques to create drum sounds rather than melodic instruments. Although many drums have a pitch tuning and a fundamental frequency, the fundamental frequency of a drum hit is often less important than the non-pitched percussive element of the sound.

A large part of this percussive element can be built from noise, a randomly generated waveform which contains all frequencies. The amplitude envelope of our synthesised sound is also vitally important when creating a drum sound – we need our envelope generators to create lightning fast ADSR envelopes in order to recreate the fast transients and aggressive dynamics of drums and cymbals. Voltage-controlled filters can be used to shape the harmonic content of

Ultrabeat

When creating your own drum sounds, you'll need an accurate envelope generator to replicate the lightning-fast transients of percussive instruments. Dedicated drum plug-ins like Logic's Ultrabeat allow you to fine tune your amplitude envelopes to the exact microsecond, making them perfectly suited to this task.



the sound and a variety of distortion, modulation and filtering effects can be used to create just about any drum sound you can dream of. As such, the process itself is very similar to synthesising a bass or lead patch, but with a few key differences which dramatically affect the outcome.

The majority of analogue drum machines hide the synthesis process under the hood, only allowing you to control a set number of parameters (the tuning of the kick drum or the decay of the snare for example), but there's no reason why any synth shouldn't be used for percussive sounds so long as it can generate noise waveforms and fast amplitude envelopes.

Hardware-based analogue subtractive synths can be used to create some of the most impressive drum sounds, but software synths such as Sonic Charge's outstanding *µTonic* subtractive drum plug-in (soniccharge.com) probably offer the easiest way of getting into more serious drum synthesis. If you don't want to shell out for dedicated software, most subtractive synth plug-ins are perfectly capable of doing the job with a bit of hard work.

Sample-based methods

With the analogue drum machine market thriving, the early 1980s saw the arrival of a radically different approach to electronic drums. Roger Linn, creator of the legendary Linn LM-1 Drum Computer and the later LinnDrum, led the race to develop drum machine technology based on digital sampling rather than analogue synthesis.

The LM-1, released in 1980, was phenomenally expensive at \$4,995 but its 8-bit sampling technology made it stand out

This concept reached its logical conclusion when Roger Linn designed the MPC 60

from its analogue competition. Although the sounds of the LM-1 and LinnDrum are a long way from what we now think of as realistic drum samples, they offered incredibly different sounds to the synthesised drums of their rivals. Linn's drum machines provided the distinctive rhythm sounds of hundreds of 1980s hits.

Perhaps most notably, forward-thinking funkster Prince spotted the LM-1's potential immediately and used it extensively from 1982's *1999* album onwards. The development of sample-based drum

Drum Machine Sequencers

Although the sounds themselves are the most important part of any drum machine, one other aspect is worth considering as an explanation of the enduring popularity of classic drum hardware. The step sequencers built into the drum machines of the 1980s played a huge role in shaping the rhythms that musicians and producers created. Yet again, Roland dominated the market in this field – the 16-step sequencer built into the TR range in particular is directly responsible for the sound of modern Electronic music. In the days when hardware sequencers were clumsy, unfriendly beasts and computer control of external hardware was in its

infancy, built-in sequencers were the most efficient way of controlling drum patterns. Each of the machine's sounds could be programmed individually and loops could be saved to allow large banks of patterns which could be used during a performance

or recording session. Users quickly discovered clever tricks such as programming two-bar patterns at double speed to create unusual timings, or using different time signatures to allow swung rhythms.

The introduction of the TR-909 in 1984 saw the

addition of shuffle and flam controls to the basic 16-step model, making it much easier for musicians to add even more variety to their custom patterns.

Modern drum machines like the Elektron Machinedrum, along with grooveboxes like the Korg Electribe range and Roland's own MC series have dragged the idea of the 16-step sequencer kicking and screaming into the 21st century. Sure, MIDI might allow infinitely more control over the rhythms and patterns you can create, but there's something incredibly satisfying about working within the limits and constraints of the classic 16-step sequencer.



Korg's Electribe series melds the old skool drum synthesis ideals with modern sample editing features and step sequencing

machine technology also directly led to the development of sampling workstations still in use today.

Units such as E-mu's Drumulator, SP-12 and SP-1200 combined the drum machine concept with the ability to sample and play back external sounds. This concept reached its logical conclusion when Roger Linn designed the MPC 60 for Akai. Released in 1988, the MPC series combined sampling, looping and sequencing to great effect and became the mainstay of just about every 1990s Hip Hop producer.

Sample-based machines played a major role in reducing the cost of drum machines, bringing the technology to a much wider market than ever before. Roland themselves, masters of the analogue approach, soon released sample-based machines such as the TR-505 and 707, which offered 909-esque sounds and an LCD interface for programming. The Roland R8 of 1989 took the idea even further by cramming dozens of samples into a compact unit with 32-voice polyphony and allowing the user to adjust a handful of crucial parameters such as attack and decay. The R8 even made it possible for the user to add ROM cards packed with extra sounds, including samples of the 808 and 909 hits.

However, there were some serious disadvantages to the flood of sample-based drum machines that hit the market in the

late '80s. Most notably, a variety of machines were introduced which did little more than play back samples, offering none of the adjustability and sonic variety of their analogue predecessors.

The drum machine market of the 1990s in particular was dominated by sample-based units such as the Alesis SR16, which offered very limited adjustment. As a result, development of drum synthesis technology stuttered somewhat. However, sample-based drum machines also led to the development of a variety of drum synthesis techniques based on sampled waveforms.

The software approach

Just as with other instruments, software provides a variety of options for creating, programming and sequencing drum sounds. Just about every hardware method has been recreated in software form, from simple subtractive synths to FM synthesis to ROMplers. Although there are a huge number of sample-based 'drum machine' packages available, ROMplers probably aren't the way to go if you're interested in versatility and adjustability.

The quick fix of samples won't keep you satisfied for long if you're looking to create your own drum sounds, especially when VST instruments provide a variety of cheap and easy ways of getting into drum synthesis. **FM**

KNOWLEDGE BASE NEXT ISSUE

Make sure you pick up *FM* next month for our expert's guide to the science behind sampling. **FM225 on sale 23rd March**



With over twenty years in the Electronic music scene and even an appearance on Top Of The Pops under his belt, Jori Hulkkonen has become a guru of the Techno and Electronic music scene. Hailing from the lesser-known town of Kemi in Finland, Jori began the first part of his musical adventure with French label F Communications and has continued to release album after album to critical acclaim. His most recent release, *Man From Earth*, is an astonishing piece of groovy Electronica that oozes with cool while inversely warming your cockles with its rich analogue synth sounds. We caught breakfast with Jori in Austria after seeing his brilliant side-project, the 303 Orchestra, the previous evening.

Jori Hulkkonen

From hits with Tiga to Techno bombs, this Finnish pioneer is a dab hand at producing exceptional records. **Chris Barker** discovers the tools of his trade...

FM: Finland has a pretty rich Electronic music scene now but things can't have been the same back when you started?

Jori Hulkkonen: "No, Finland has quite a strange music industry, it's quite uptight. There's the heavy Rock and Metal scenes but much of the music that is made is in Finnish and created for the Finnish market, so it's a very insular market. The first act to have a real chart hit internationally outside of Finland wasn't until probably 2000/2001.

"Luckily where I grew up I was close enough to Sweden so that I could get Swedish radio and it was only about 30 minutes to get to Sweden, so I would go and buy all my music from the record stores over there. The record shops in Finland back in the 80s didn't have the same stuff as the Swedish stores. In Sweden, I could get Electronic music from London or New York and I would hear early House music

and Techno. This is probably one of the main reasons why I was at the forefront of the scene in Finland because I was aware of this music maybe a bit sooner than many other people in Finland."

Did you learn an instrument when you were young?

"I didn't have any musical training and I've never been in bands or anything because I wouldn't really consider myself that much of a social person. When I was a kid, I was never playing team sports and it's sort of the same with music I suppose.

"Even though I was really interested in making music because I was listening to it so much, to make Pop music you sort of had to be in a band and that really wasn't for me. The big revelation came in the late '80s when I started hearing House and Techno records and discovered that they were made by guys with no musical training, in dark basements surrounded by blinking lights and machines. For me that was 'wow, that's what I want to do,'

doing everything from the beginning right to the final track."

But in the '80s the machines were much more expensive, right?

"Yeah, it was a different world in the '80s as you really had to make financial sacrifices to be able to get the equipment. I would work Summer jobs and borrow money from my grandparents to try and build up the equipment I wanted.

"I was building everything around my Amiga computer and a Fostex four-track cassette, having an Alesis drum machine, some Yamaha PSR keyboards and eventually my first real analogue synth a Roland SH-101. There was a lot of experimentation with the gear and it felt like a very organic experience as you really had to work hard to get the most out of your equipment."

Do you long for those simpler days?

"No, I mean it was fun at the time but if I was to start again now, I'm sure I'd just be straight on the software. In terms of a learning curve, though it was a really good experience for me, learning about the equipment and also learning how to make records as I'd never done it before."

When did things start becoming a bit more serious?

"It was a few years later because I was quite up North in Finland and didn't know anyone who was doing anything similar in the area. Plus, I really didn't know or care about what was going on in the South of Finland. But then in around '92 I met these two guys who had these very advanced studios as far as I was concerned. They had Roland System-100s, a Korg MonoPoly and a mixing desk but were my age. Funnily enough one of the guys lived about 200 metres from my house and I had no idea there were people making music there. So we got talking and decided to make a record and release it on our own label which we called Lumi.

"So, we released our first 12" and it got us a lot of attention within Finland because it was strange that there was this cool, experimental Techno music coming from the north. Then we met Cari Lekebusch and decided to stop doing our own label and release our records with him and he even set up a sub-label called Trainspotter's Nightmare which was just to release the stuff me and my Finnish friends were doing."

But you eventually moved on to another label, right?

"In late '95 I decided to send out three demos, to ACV in Italy, F Communication in France and then Planet E in Detroit. Within a week all the labels had got back to me saying they wanted to do something. Amazingly the first call I got was from Carl Craig and I just presumed it was one of my friends joking around so I just started talking in Finnish until he asked if I spoke English and said, "It's Carl Craig" again. Then the next day Laurent Garnier called me and it just became a question of who I wanted to sign for and I eventually went to F Comm.

"Signing with F Comm was really the thing that changed everything because starting from '96 they were organising all these tours with us playing before Laurent Garnier at festivals or in the other rooms at clubs etc."

So the money you earned from touring you spent on your studio then?

"Yeah right, I'd been collecting synths all the time and spending any money I would earn on new gear. I've never really been a fan of using computers so when the MPC 2000 came out I was probably the first person in Finland to get one and it also worked really well live too."

Would you say your sound is led by equipment?

"It's a bit of both equipment and music, but I would say that if you're using 100% software it's very difficult to sound different. For me, using hardware makes getting your own sound much easier and I don't think I could only use software. I'm always



The 303 Orchestra

One of the many side projects that Hulkkonen indulges himself in is the incredible ten man group that is the 303 Orchestra. Armed with a 707 drum machine, Hulkkonen conducts the arsenal of Roland TB-303s creating an immense Electronic music showcase. "Unfortunately, we don't play very often", Hulkkonen explains, "As

we're pretty expensive to move around because there are so many of us." Like any orchestra, head backstage and you'll find a dressing room full of formally-suited musicians all tuning their instruments, except it's the glorious sound of squelchy 303s that you'll hear. "We used to use a Roland 808 drum machine", commented

Hulkkonen, "But I switched it for a Roland 707 because the 808 just took up too much room in the mix and sounded far too big." After a string of festival appearances and a brilliant set opening for Kraftwerk, hopefully, expense aside, we'll be seeing many more performances from Hulkkonen and his 303 wielding pals.

looking for new stuff and I'm always trying to rotate the stuff in the studio by selling it and getting something new to get a new vibe."

How did you start work with people like Tiga?

"When we started touring with F Comm I met so many people and the networking possibilities were great. People were asking me for remixes and because F Comm were only releasing my material as

older I'm starting to enjoy it more. With Tiga it's a completely different thing because he has so many ideas but doesn't always know how to get to it. If you get to know Tiga enough then you know exactly what he wants and it's really fun. But, when I work with Jesper Dahlback for example, it's completely different because he's as much of a nerd as me with the machines and it can almost be like competing with each other. There was one time for instance

I think they must have regretted it when I did *Sunglasses At Night*, but I don't know if they could have made it a hit like DJ Hell did

Jori Hulkkonen – they were cool with me releasing music on other labels if they weren't interested it. I think they must have slightly regretted it when I did *Sunglasses At Night* with Tiga as that was obviously a huge hit. But at the same time I don't know if F Comm could have made it a hit the way DJ Hell did on Gigolo.

How do you decide who to work with?

"If I like their music and I think there is a real reason for us to work together really. It's like how I said before though – I've always been dubious about being with other people in the studio, but as I've got

when we were experimenting with Jesper's 303 that had the mod so you could drive an audio input through the 303's filter. We decided to use the 8-bit sampler on my Doepfer and drive that through the 303. Afterwards we were both congratulating each other on what a great idea it was [laughs]. It's really fun to work with someone like that as well."

How do you generally work? Do you play or program?

"I generally play – I mean I'm quite happy sitting down and playing a chord sequence. Also a few years ago I convinced myself that there are so many Indie bands out there playing guitar and making

records that I was going to do that too, on my own. So I made an Indie record with drums, bass and guitar under the name Processory in 2007 with my friend Jerry Valuri doing the vocals. So, I guess I'm at least decently musical even though I don't actually have any formal training on any instruments."

Have you seen any technology that has excited you recently?

"I'm excited to get my hands on Melodyne DNA because it looks amazing for remixing and being creative with samples. There's so much stuff out there though, and to be honest I get excited about every single new bit of kit that I hear about [laughs].

"I'm really into this modular thing though at the moment but it's a bottomless pit that you put your money into. It's sort of really cool and really sucky at the same time that a modular can never be finished."

Do you think we're done with hardware synths?

"I think the software synthesizers are going to become better and better of course and probably get much more important. But for me, hardware synths are never gonna vanish. Not only are they beautiful machines that look nice, feel nice and sound nice but you can't compete with real hands on control and being able to just turn on a box and play.

"People are using so many presets with software also, I hear it all the time on records. Presets aren't the problem though – it's just that so many records end up sounding the same and because of digital downloads I don't think the records really mind. You get one record up on Beatport and within a few days there are ten tracks that sound the same. The quality of music has probably gone down on the whole in the last ten years, or at least it's much harder to find the good stuff as a DJ. There's so much less filtering today than before, with millions of small labels and independent releases."

Do you think you'll ever make uplifting-type club records more akin to the Swedish House Mafia?

"I've often had this discussion with Tiga because sometimes he wants to go for a more uplifting, upbeat sort of Pop vibe, but my music will always have an element of the melancholy I guess. It's either super hard or super deep and I've never really done the big build up, big breakdown stuff. Of the new things that have

been happening, I think I'm more at home with the Nu-Disco or Space Disco scene. As a DJ I really appreciate that sound and over the last couple of years. It's all about trends though – this is trendy music and every week there are new ones. I've never been too quick to jump on any bandwagons, I prefer to stay influenced by what's going on and try and retain what I like to do and my own sound." **FM**

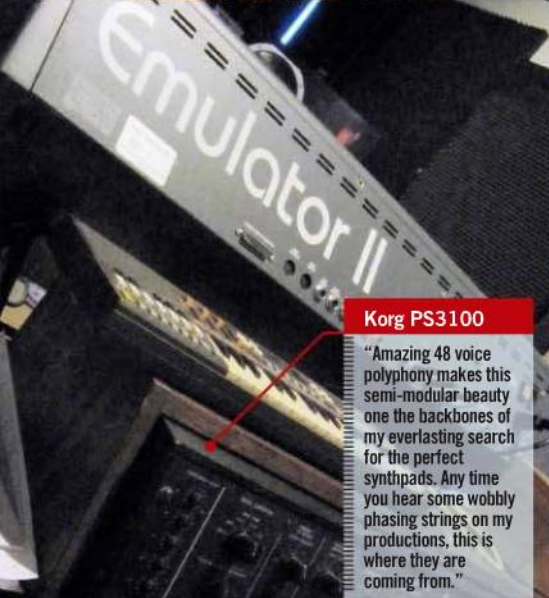
WANT TO KNOW MORE?

For lots more info on Jori Hulkkonen and his upcoming releases, head to his MySpace page at: myspace.com/jorihulkkonen. *Man From Earth* is on sale now.



Genelec S45YA

"These are really the first model that the Finnish company Genelec made for the Finnish Broadcasting Company. I do a radio show for the Finnish Broadcasting Company and when they were getting rid of these speakers, I bought them."



Korg PS3100

"Amazing 48 voice polyphony makes this semi-modular beauty one the backbones of my everlasting search for the perfect synthpads. Any time you hear some wobbly phasing strings in my productions, this is where they are coming from."



Emulator II

"A friend of mine saw some construction workers throwing this to the garbage. At the same time I was convinced that vintage samplers are the future. I love the idea that so many of my favourite records were done with this."



CLEF B30

"Apparently it was sold as a kit in the UK in 1982, which explains why they all sound slightly different. A friend of mine picked up two of these while touring in the UK and thought I might be interested. They sound incredibly raw with a flexible modulation possibilities."



Alesis M1s

"Even though these might not be the greatest, I know them so well that, combined with the big Genelecs, it works very well for me as a set up."



Modular System

"My pride and joy. Eurorack modular system with a case I built myself. It's 90% Doepfer. I use the Doepfer MCV24 for controlling it so I can use it also polyphonically, as I have five oscillators. It's responsible for most of the bass and leads I use. Compared with this, everything else I use just seems like a preset box."



Studer Mixer

"This 16 channel Studer desk features two stereo busses with amazing compressors. Perfect as a mic pre-amp. Sometimes I run some VSTs through this and the Doepfer to soften up the sound."

Creamware Minimax

"Perfect little desktop machine for some instant bass and pads to try some ideas out. A highly versatile synth, well worth the money."

Starting Out With Max/MSP

So far we've covered MIDI, audio, VSTs, and controllers. This month, **Richard Wentk** explains how to put everything you've learnt together...

Part Three: Taking Control

After the first two instalments, you might be wondering what all the fuss is about – making a transposer or a looper isn't exactly out on the cutting edge. So this month we'll look at a more complex project that starts to hint at how versatile and useful Max can be. There's less hand-holding than in the previous couple of months, so you'll need to spend some time looking through the example patch and picking it apart to understand what's happening. But if you've used Reaktor or some other digital modular and if you've been following the introductions, you won't find anything too challenging here.

If you use any kind of hardware controller to manage one or more VSTs, you'll know that matching synth and FX parameters with physical controls can be tricky. It would be useful to be able to map any controller – pitch bend, mod wheel, aftertouch, or arbitrary control – to any VST parameter. What if you could make a VST auto-fill some drop down menus for you on a laptop? And what if you could link any physical controller to an on-screen slider that can drive any parameter in a VST?

In this month's patch, we use a couple of neat tricks to do just that. Firstly, we use the `vst~` object as a VST wrapper in Max. `vst~` simply loads a VST – either an FX VST, or a VSTi. It has audio inputs for processing, and audio outputs for connection to a `dac~`.

You can add a default file name so that it loads automatically when you load your patcher, but in this example we're leaving it blank so you always have to load a VST by hand – partly because the current release of Max has a bug which means that auto-loading doesn't work reliably.

ReVSTing

When you send `vst~` a 'plug' message, it shows a file selector. You can use the file selector to select and load a VST. When you send it an 'open' message, it opens a new floating window for the VST. You can click on the controls in the window to operate the VST in the usual way.

`vst~` has some cleverer hidden features. Send it a 'params' message and it dumps a complete list of parameters from one of its outlets. Likewise, the 'pgmnames' message dumps a list of patches. Note that not all VSTs support parameter and patch names.

THE EXPERT

Richard Wentk Developer



With an occasional sideline writing music for ads, Richard was last seen working on ideas for new controllers and control surfaces for Max, as well as some novel experimental synthesis techniques. He built his first hardware synth aged sixteen, and hasn't stopped since.

Most do, but a few don't, and they won't play nicely with this patcher.

So how do we make a menu? The `umenu` object in Max is a drop-down menu. You can populate it by hand in the Inspector, but you can also fill it automatically by sending it a message that starts with 'append' followed by a list of one or more menu items.

Append

If you're ahead of the game, you'll have realised we can put these two features together. If you connect the list of parameters or patch names dumped by the `vst~` object to the input of a `umenu`, the menu will – more or less – fill itself with entries. You can use this feature to turn any list into a set of menu entries in a `umenu`.

The one catch is that we need to add the magic 'append' keyword to the start of the list. To do this we use an object called `prepend`, which does exactly what we want – it inserts any word or message at the start of a list. If we tell `prepend` to insert 'append' at the start of the parameter list – this is slightly tricky, but stay with it – we can create a menu from a list automatically,

Build a VST Controller

This example is a bare-bones introduction. With some copying and pasting you can extend it to add as many controllers as you want...

Object Key

umenu: creates a drop down menu

prepend: inserts a word at the start of a message

append: inserts a word at the end of a message

slider: just a slider. Use the Inspector to set the maximum and minimum values.

loadmess: sends a message when the patch loads, or when triggered by a bang

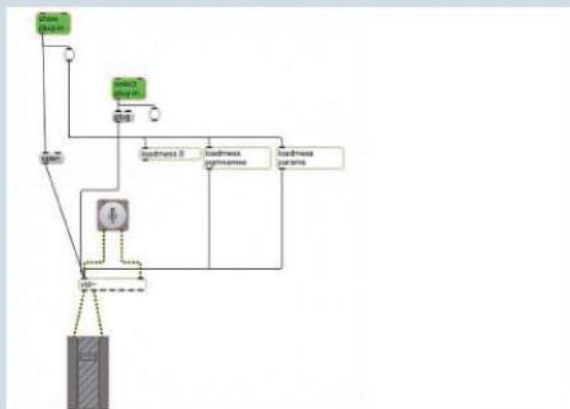
led switch: sends a bang and flashes when triggered by any message, or when clicked

pack: combines two inlets into a single message

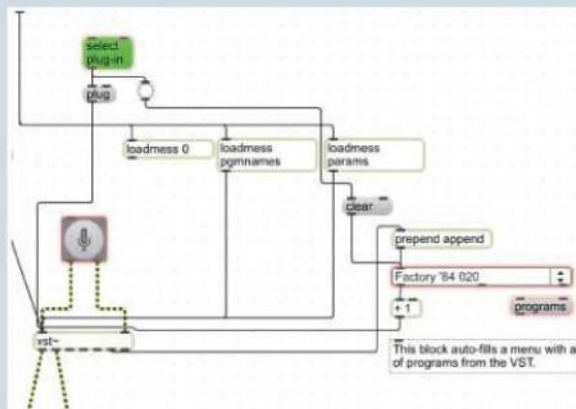
zl: a general-purpose list processor with many, many options and features.

match: pass through messages that match a given message, with optional wildcards

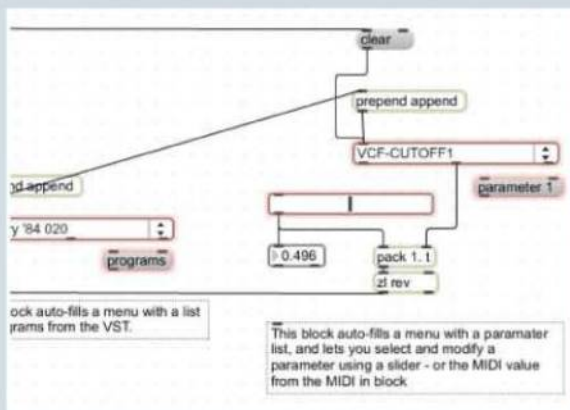
gswitch: a clickable switch that toggles between two inputs



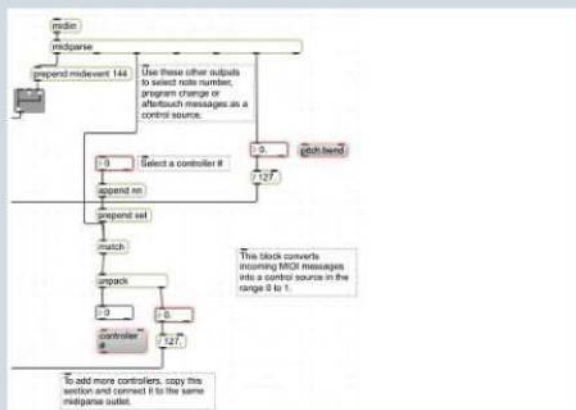
1 Load Max, select File > Open > vspatch [on this month's DVD]. This is a starting patch for our VST controller. It includes an adc~ for audio input, a special combined dac~ and level slider patch and the button controllers and message items mentioned in the main text.



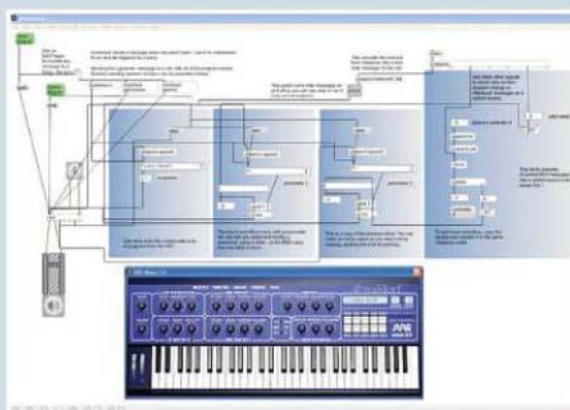
2 Add a uimenu. Link the program names outlet on vst~, and connect it to uimenu's inlet. Add a clear message triggered by a bang to clear the menu when a plug-in is loaded. Add a +1 box from the first menu out and connect it to vst~'s first inlet. You can now select patches from the menu.



3 Add a uimenu with prepend and clear to create a second menu that fills with parameter names. 'Pack 1.1' combines the parameter name with the slider value, and 'zl rev' swaps the message around so vst~ can understand it. The slider now controls parameters you pick from the menu.



4 Add a MIDI input block. This uses midin and midiparse to read incoming MIDI messages and converts them into control messages. The right-most output reads pitchbend messages. The leftmost chain of objects picks a controller number set by the top-most number box.



5 Connect the processed incoming MIDI messages to a slider so that the slider is set by MIDI. There are two sliders now – one is controlled by PB messages, the other by a MIDI controller. vst~ parameters are always in the range 0 to 1, so we've added maths to map MIDI's 0-127 range to 0-1.



This is Presentation Mode



6 In Presentation Mode, add some buttons and text as labels. To experiment with the patch, click 'Select plug-in', load a VST, and then click on 'Show plug-in'. The menus will auto-fill. Use the menus to select two parameters and move the sliders to change them on the VST.

with no typing. How excellent is that? In this example we've used this trick twice – once to fill a menu with a list of patch names, and again to create a menu with a list of VST parameters.

Use Presentation Mode to create clean interfaces that hide patch connections

To make the vst~ perform on demand, we need to send it the messages it needs. This illustrates another couple of tricks. Firstly, you can convert one message into another just by connecting the second to the output of the first. Here an on-screen button

called 'show plug-in' triggers a message called 'open'. vst~ doesn't know what 'show plug-in' means, but we can make it 'show plug-in' a button on the screen for convenience, which triggers the 'open' message behind the scenes. Similarly we've created a 'select plug-in' button that sends the 'plug' message to vst~, which makes the VST's window appear.

Bang bang

Secondly we've used an LED/switch object to convert a message into a bang. Most objects expect bang triggers, and will ignore text they don't understand. Here the bang triggers the 'paramnames' and 'pgmname' messages, which in turn trigger patch and parameter dumps for our menus. In fact,



ON THE DVD

You can find a copy of the vstpatch and vstmachine patchers on the disk. To run them, go to cycling74.com/downloads/max5, select your platform, and download Max Runtime, which loads pre-edited patches, but doesn't allow editing. You can also download a fully working time-limited full demo, to make your own edits.

they do this indirectly – we fire them using the loadmess object, which sends out a message when the patch loads, for initialisation, or when it receives a bang, so you can trigger it manually too. This may seem tricky, but it's standard message processing in Max.

Finally in this example we'll be using Presentation Mode. Right-click on some objects in the patcher, and select 'Add to Presentation.' Then click on the icon that looks like a rising graph at the lower left, four along. The display shows just the objects you added. Use Presentation Mode to create clean interfaces for performance that hide all of the underlying patch connections, so you don't have to look at them or think about them. **FM**

WANT TO KNOW MORE?

If we've whetted your appetite for Max/MSP style goodness in these past three issues, head to Cycling 74's official website at cycling74.com

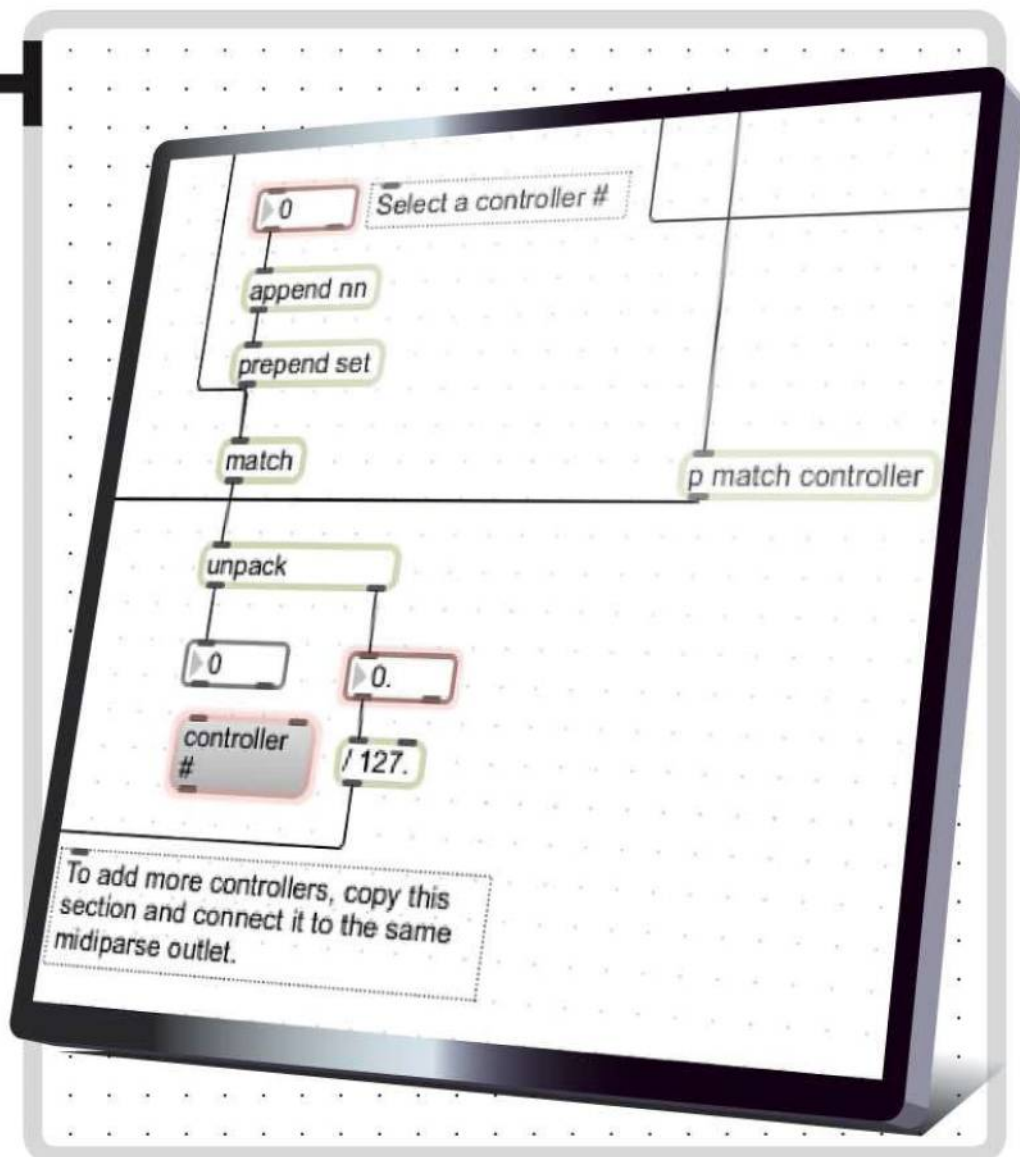
Get More from Max

The art of copy and paste goes a long way in Max/MSP...

Max/MSP is a lot like a modular synthesizer on steroids, so you can think of it as a vast array of patchable modules that do all kinds of things to audio, MIDI, and message text. But a key difference is that you can make your own modules, and then copy them as needed.

If you need an extra synth voice or MIDI controller processor, you can drag a rubber band box around it and select Duplicate from the Edit menu.

Typically you'll need to do some tidying up with the input and output ideas, but the key point is that you can make as many copies of something as you want – or until your computer runs out of cycles. There's also a more advanced feature called encapsulation. Drag a rubber band around some objects and select Edit -> Encapsulate. Max hides the patch block and it's connections inside an object box. Give the object box a name, and you can treat it like a custom object, copying it and reusing it as needed. Very useful to clean up your patch and your mind.



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Essential Minimal Techno



Tech House Producer 2



House Generation Vol 2



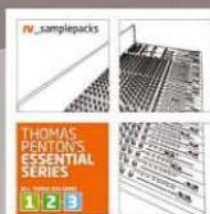
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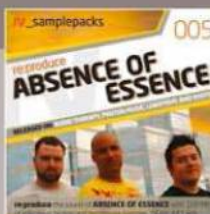
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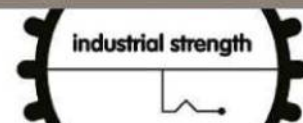
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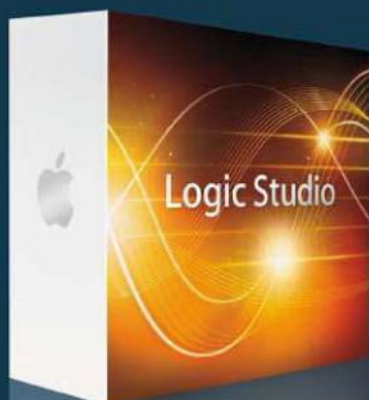


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LOGIC ESSENTIALS



Creative Mixing and Effects in Logic 9

10 tips on video! **Jono Buchanan** highlights some specific mix issues for your consideration. He's ironing out bass issues aplenty, looking at advanced automation to help you manage auxiliary effects and showing off some less well known plug-ins...

Mixing multiple bass tracks

1 Layering several bass tracks within a song or instrumental is a great way to get lots of power 'loaded in' but it comes with its own problems. As speakers are physical devices which respond to the

frequencies thrown at them, it makes sense that 'slower' cone vibrations from low bass frequencies will have a profound effect on the rest of the mix too, as the slowly moving cone still has to produce a wide range of higher frequencies too. You'll

THE EXPERT

Jono Buchanan
composer,
producer

Jono is a composer, producer and songwriter who relies as heavily on Logic to act as his creative muse as that bloke needed that girl with the pearl earring as his.

probably have noticed that if you've got one strong bass in your track and choose to add another for a chorus, for instance, it's easier to create a messy soup than it is to achieve the punch and drive you're probably after. On the DVD, you can see how multi-layered basses really can give you that power, so long as you think in frequencies as much as in sheer 'sound' or tone. If you're a bit smart about which sounds you choose or design in the first place, and then get busy with EQ and compression, you can achieve the power you're after.



ON THE DVD

> In this video, I've separated three basslines so they fit my track better.

Bass with reverb

2 It's a common misconception that it's a total no-no to add reverb to bass parts but it's understandable that caution is recommended. As explained in the previous tip, lots of bass frequencies can easily mount up to produce a



If you have multiple basslines, they'll need some frequency separation

Instant Cut

Using auxiliaries, effects can 'stop dead' when you need them to



Getting Effects To 'Stop Dead'

3 Effects processing is, of course, a key part of the sound design process for any noise within any track. In fact, it's so crucial that even choosing to leave a sound 'dry' constitutes a creative decision! Getting lost in worlds of effects is

great fun but there are times when a track which features masses of effect-based 'organised chaos' becomes too much – what you want to do is have your cloud of effected ambience build up and up, only to drop unexpectedly before the next part of your track kicks in. Regenerating delays perhaps

demonstrate this best, as plug-ins such as Tape Delay can produce positive feedback (any setting over about 56% will do it) so that echoes get louder rather than quieter. If you put an effect like this on an auxiliary, perhaps feeding into another effect afterwards, you can then automate two parameters to make your sound

stop dead at the required moment. These are delay feedback and auxiliary volume. Find out how all of that works on the DVD.



ON THE DVD

> Get your effects to stop dead to ease the transition from one section to another.



Can't use reverb on bass? Nonsense!

less-than-desired muddy mess at the bottom of any mix and as reverb will simply add more bass content to your dry bass line, you're likely to encounter problems. Unless, of course, you modify your reverb

setting to ensure that only the frequencies you really want to include are added to enhance the bass part. Generally, it's a good idea to use a shared reverb across a number of the component tracks of any piece you're working on but in the case of bass a dedicated, individual setting might be a better idea.

You might find the reverb you want to use has some basic EQ settings 'built-in' but equally, you can always hone a reverb sound you like with a separate EQ or filter plug-in afterwards to help cut out the content you don't need.



ON THE DVD

> It's a myth that you can't use reverb on bass. Just be careful!

Bass with delay

4 Again, delays on bass can frequently sound disastrous but once again, this tends to be because there's too much bass in the delay. In fact, adding carefully chosen delay to a bass sound can be a fantastic way to add grit, bite and dirt, as you can see on the DVD. Here I've started with a relatively punchy, aggressive

**Ringshifter**

Create industrial beats with an auxiliary Ringshifter.

Auxiliary Delay into Ringshifting

5 If you like your beats crunchy and industrial, it's high time you got busy with Logic's Ringshifter, which warps the frequency of any dry signal to produce overtones. These can grate and clang and sound truly metallic and Logic's Ringshifter will even let you control the ring modulation effect

by assigning LFOs, effects and envelopes to keep things moving if you so desire. The only downside is that used as an Insert effect, Ring Shifting can take over – by completely replacing a part in its entirety. If this isn't desirable, stick the effect on an auxiliary after a delay so that the dry sound has a chance to 'speak' before its ring-shifted 'sister' appears as a ghost afterwards. Automate the

send level to the effect and the actual ringshifter dial itself and you'll soon create a great, rhythmic foundation for your track which you can further enhance with other effects if you so desire. Even a simple programmed beat pattern can become wonderfully complex.



ON THE DVD

> **Industrialise with the help of the Ringshifter plug-in.**

bass sound but I've enhanced this basic vibe with effects by sending the dry sound to an auxiliary where, firstly, I've sorted out the delay to make sure it's not too bass rich. Then, I've fed this delayed signal into Guitar Amp Pro and selected a distorted preset to provide some real power. That's great but it's slightly taking over and I'd like the sound to 'move' more, so I'm adding the Autofilter, with the LFO module used to create movement. Rather than filling up the bass, I've got a lot more mid-range detail, which in turn provides the power I wanted.



ON THE DVD

> **Delay too can provide the drive you need at the bottom end, so long as the bass doesn't get too soupy.**



Give full pads a lift with the Exciter plug-in...

Exciter

6 We've all reached for EQ to add life and sparkle to a sound but if you find yourself regularly adding top



A neat trick for copying automation to multiple regions

end to sounds which 'need it', you might grow tired of adding the same groups of frequencies to one sound after another. Instead of doing this, choose a sound which lacks a little life and instead insert Logic's Exciter on that channel. Exciters don't just add treble by boosting volume of higher frequencies as EQs do – instead they focus on particular harmonic groups and give you a dial to decide how much additional content to artificially 'build in' to the sound you've picked.

The results can be extraordinary, as they vary from adding sheen and shimmer to producing falsely over-bright results which can be great, particularly on the dancefloor. On the DVD, I've brought life and soul to an otherwise functional pad part which, until Exciter turned up, was about the least exciting sound imaginable. Not for long...



ON THE DVD

> **Exciters can lift pads in ways EQs can't.**

Copying automation data between regions

7 It's not uncommon to create a region which then forms a repeated musical figure in your track. Rather than being a straight copy, however, let's suppose this figure changes from one region to the next to support a changing chord progression within your piece. Let's then suppose you want to add automation data to the first of those regions to bring the sound to life, with some changing cutoff data, or pan position for instance.

The result sounds great and you suddenly want to apply it to all subsequent regions. Does this mean you'll have to draw the same data every single time that figure recurs? You might think so as you can't just copy it – you'll lose the shifting chords you've currently got from one region to the next. Help is at hand though to prevent you wasting lots of time drawing and re-drawing. All you need to do is to create a new track for the same instrument and MIDI channel. Then, you can copy the 'automated' region, with all of its inherent automation data, to all of the spots you need it on the mirrored track. Once this is done, simply select all of the copied regions and delete them, taking care not to

delete the automation data as you do. Make sense? If not, watch the video!



ON THE DVD

> Save lots of time with a neat automation copy trick.

Gated vocal tricks

8 Gating can be a great effect. Rather than having a sound sustain predictably, gating offers you the chance to chop up a MIDI or audio region to 'get rhythm' into sounds which couldn't possibly create such rhythms from



Check out the ways you can create 'reverb only' sounds

performance alone, such as pad sounds with slow attacks and long releases or held vocal notes. Gating can work brilliantly on more dominant sounds within a mix too –

just check out the final phrase of the first verse of Ellie Goulding's *Under The Sheets* as the track stomps into the chorus, where a long held note is chopped into 16th notes. Gating effects like this can be achieved in two ways – you can either set up a real noise gate over a channel and feed it a side-chained signal to rapidly open and close the gate or, with audio files, you can multiply divide a region into a number of slices before shortening them and adding a tiny real-time fade in and out value to make sure the start and end of each phrase doesn't 'click'.

You can see both of these techniques in action and also how sustained backing vocals can be brought to life with a combination of gating and delay on the DVD this month, so pop it in.



ON THE DVD

> Two ways to chop up and 'gate' vocals are featured in this video.

Ways of creating 'reverb' only sounds

10 A sense of space is central to any acoustic sound we hear. As humans, we make value judgements about sound, both consciously and unconsciously every day of our lives and among those judgements are the acoustics, depth and level of reverberation which accompanies any sound as it travels through space towards us.

Recording studios are partly artificial because they seek to dampen any natural resonances in the recording space so that a shared 'reverb of choice' can be added to all elements at the mix stage. However, there are rare moments when, for special effect purposes perhaps, you want to use a sound which is 'only' reverb and which lacks any dry sound at all. In the real world, this can be achieved by standing at the back of a large space like a cathedral and listening to someone at the other end singing or playing an instrument.

By the time the sound has reached the back of the hall, much more of it is reverb than it is dry sound, but even then, it's rare to find a sound constructed completely of reverb alone. However, if this is your goal, watch the DVD to find three ways to achieve the result you want.



ON THE DVD

> Sometimes you want to get rid of your dry signal altogether to create reverb only effects. Here's how.

Using Delay Designer to Create Harmony

9 If you've got a single vocal note which you want to bring to life to follow harmony within your track, one creative solution is to use Delay Designer – its ability to choose an individual pitch for each of its delay taps is key here. There's no reason why you can't simply feed the plug-in one single note and have it

do the rest. On the DVD, I've done exactly this, creating a series of taps which support and work well within a chord progression I've made. Until, of course, the chords change and the delay stops working. No problem. All I need to do is to copy the entire channel strip down to this new channel and create the harmonic variation I need so that my vocal can continue

to work as the chords develop. I can even modify the pattern second time round to create more variation and the result is certainly unlike anything I'd have been able to make simply by sampling and sequencing the original vocal note.



ON THE DVD

> Looking to create arpeggiated sequences? Make them unusual with Delay Designer.

Delayed Harmony

You can use Delay Designer to create harmonic, arpeggiated parts.



NEXT ISSUE

Next month, Jono returns to lift the lid on the new version of MainStage and all its features. Miss it not. *FM225* on sale 23rd March

The Science of Mastering: Part One

Greg Scarth gets his teeth into one of the darkest arts of the music-making process. Welcome to the arcane world of mastering...

This month, *Knowledge Base* tackles one of the most mysterious aspects of the music making process: mastering. Thanks to a

combination of misinformation and good old-fashioned misunderstanding, a number of myths surround the mastering process, so we'll try and dispel them here, as well as talking you through the equipment, processes and knowledge which mastering engineers use to add the finishing touch to your tracks. This month's installment will be largely theoretical, while next month's second part will cover the practicalities of DIY mastering.

So, what exactly is mastering? Simply put, it's the process of taking a complete mix and preparing it for distribution. Historically, the mastering engineer's job related very closely to the vinyl record manufacturing process. As we discussed in our *Knowledge Base* on vinyl technology, vinyl discs had certain limitations which meant that mastering engineers had to be

careful to get the balance right in order to create discs which would be loud and have enough bass without causing the needle to jump or grooves to wear prematurely.

The same general principles apply to modern distribution methods, albeit with slight differences. A good master nowadays will sound good on any playback system, will be loud while retaining dynamic range, will have a good balance between all parts of the frequency range and will sound, for want of a better word, finished. Let's take a look at how it's done.

The mastering environment

If you thought that recording studios paid close attention to acoustics and high-quality equipment, mastering studios take it to the next level. Given that the mastering process acts as a final check on the quality of tracks already mixed in recording studios, it stands to reason that the playback equipment and acoustic treatment of the mastering suite should offer an even more neutral, revealing

Manley's Massive Passive is a common stereo EQ used in mastering studios

sound to ensure that the finished product is of the highest sound quality. Studio acoustics are of vital importance to a mastering suite, and no expense is spared to ensure that the space offers a flat, neutral frequency response and is free of excessive reverberation, room modes, standing waves and other acoustic nasties.

It should go without saying that the monitors themselves must be of the highest quality. Debate rages as to whether subwoofers are preferable to full-range systems, but whichever approach is chosen the playback system should be capable of delivering a neutral, uncoloured reproduction of the full frequency range. In these digital days, D/A conversion is also crucially important so that the monitors are fed with a high quality signal, as is A/D conversion to print the finished master back to digital.

Some mastering engineers still choose to print the finished master to a top quality two-track tape machine, although tape's declining popularity in the tracking process is mirrored in mastering.

The most important, and perhaps most underrated, pieces of the mastering puzzle are something we all possess but not all of us use to their full capabilities: our ears! In order to carry out the mastering process, it's essential that the mastering engineer has a well-developed ability to listen to music and analyse it closely. Luckily, the hearing can be trained – although it's not really in the scope of this short article to explain how to develop your critical listening and analytical hearing skills – don't be put off if you feel that you don't have so-called 'golden ears'. With hard work and careful training using a wide variety of recordings, just about anyone can learn how to use their ears to a high enough standard. As with so many aspects of music making and production, practice makes perfect.

The mastering process

So, what's involved in the process itself?

Firstly, the mastering engineer listens to the track and assesses its characteristics and requirements, including overall EQ balance, dynamics and stereo width and balance. At this point, consider the fact that the mastering engineer might decide that the track needs absolutely nothing doing to it. Although this is often not the case, it's a good reminder of the fact that there are no rules as to what equipment should be used in the mastering process, what processing should be applied or what settings should be used. Anyone who tries to peddle sweeping generalisations about processing and settings should be viewed with a healthy dose of scepticism!

Once the mastering engineer has a good idea of what's required, the sound can be



processed in order to achieve the desired results. Taking a look at the typical outboard equipment used in mastering studios will give us a good idea of the kind of adjustments that might be made. The tools of the mastering trade are very closely related to equipment commonly found in recording studios and used for tracking, producing and mixing. The most commonly used gear like EQs, compressors, expanders and limiters should need no introduction, although the versions used here tend to be mastering-grade equivalents, designed with the intention of offering features demanded by mastering engineers and also providing the highest possible sound quality. Digital or analogue versions of each tool may be used.

Accurate and precise EQ is crucial to the mastering process and various options are available, with many offering mastering-friendly features such as linear phase response, linked stereo channels and discrete switched settings rather than continuously variable rotary controls. The classic Pultec EQ and Manley Massive Passive are de facto industry standards here. Compressors and expanders are typically used to control dynamic range but may also be used to add a subtle colouration to tracks. Units including the Manley Vari-Mu, Chandler LTD-2, Pendulum OCL-2 and classic Fairchild 670 offer a variety of different flavours, including valve and solid state operation plus VCA, FET and optical circuitry. For the more aggressive forms of 'loudness maximiser'-style limiting, Waves' L2 digital hardware limiter is the top dog.

Together, these tools carry out the most important parts of most mastering jobs. Other tasks may include fixing problems with elements of the mix, for example by applying noise reduction or widening the stereo image. In some cases, mastering engineers may also choose to employ

Preparing A Track For Mastering

Even when you're entrusting your tracks to a professional mastering engineer there are a number of things you can do to help make the process run more smoothly. We had a chat with Joe Caithness of Subsequent Mastering in Nottingham (subsequentmastering.com) who gave us some great advice that should help you get the most out of the mastering process. "The single most important thing is to ask questions if you're not sure about something" says Joe. It's essential that you and your mastering engineer understand each other's aims, so don't be afraid to discuss what you want. "It works both ways," Joe tells us. "Sometimes we need to ask questions too. A quick email can save hours of messing about."

Joe advises against applying stereo mix buss effects like limiters, heavy compression and mastering plug-ins before sending your tracks to him. "Although there's nothing wrong with



Thanks to: Joe Caithness, Subsequent Mastering, Nottingham. Tel: +44 (0)7815 595 514. Web: subsequentmastering.com

applying processing to your main output, most of the time it's going to confuse issues as you're essentially doing bits of our job for us. If you use any mix buss effects please tell us what they are, how they're set, and why they're set that way. If possible, you should also send a version without any processing applied." And don't be tempted to push your mix too

hot to try and get it louder. After all, that's part of the reason you're sending it for mastering in the first place. "Like all tradesmen, we need some space to work! It's better to leave a little bit too much headroom than not enough. Even more importantly, do not let the mix clip!"

It's another aspect of the mixdown that causes the biggest headaches for mastering engineers like Joe:

"Probably the biggest tonal problem in tracks I receive is the excessive use of effects like exciters, saturation and overdrive. What I get is a lot of 'solo mixing' as I call it. It's obvious when someone's soloed each instrument in turn and made everything hotter and hotter. When you add it all back together, you get mush! It's kind of like preparing a casserole and adding a bit of salt every time you chop a vegetable. Each piece might make a tasty snack, but man your casserole will be salty... yuck!"

Multimedia's T-RackS, TC Electronic's MD3 and Brainworx's suite of M/S tools. Many will argue that sound quality in some cases may not match the hardware equivalents, but the lower price and ease of use of the software approach has seen it rise in popularity over recent years. Unfortunately, software also has the unwanted side effect of encouraging the use of presets, an idea which would be met with derision by any mastering engineer worth their salt. We'll discuss the DIY and software approaches to mastering next month in *Knowledge Base*, but for now suffice it to say that presets will not be involved and appropriate settings should be determined on a case-by-case basis, even when using software.

Alternative methods

Although the mastering process usually runs along these lines, there are a few alternative techniques, which some engineers might use when they feel it's necessary and appropriate. The most

common technique in this case is for the artist or producer to supply the mastering engineer with separate stem files for different sections of the track.

This could be as simple as providing a stem of the vocals and a stem of the instrumental or may involve splitting the mixed version into three or four component parts, all with the levels matched so that



ON THE DVD

Mastered and Unmastered: The same audio clip before and after mastering by Joe Caithness at Subsequent Mastering. As you can hear, the mastered version adds weight and punch to the original. The mastered version is also significantly louder, but retains dynamic range thanks to subtle application of compression and limiting.

they simply need summing together to create the desired mix balance. The aim is not for the mastering engineer to carry out the mixdown for you, but to allow more freedom and flexibility during mastering. Processing the fully mixed stereo file of a track may be satisfactory in the majority of cases, but the ability to adjust the balance of elements or process separate parts individually may be preferable in some circumstances. Bear in mind that there comes a point where a higher number of stems is less convenient, and mastering engineers will certainly not thank you for handing over a disc full of unmixed stems!

A less common technique still employed by some is the idea of creating different masters for distribution by different methods. This is a real bone of contention among the mastering fraternity, with most mastering engineers arguing that it shouldn't be necessary to produce versions with different characteristics, and that a good master is a good master regardless of how you intend to distribute it. If you really feel that your track needs special treatment, discuss it with your mastering engineer and they'll be able to offer you the best advice. A good understanding of the theory behind mastering should help, but next month we'll take a look at the DIY options and explain how can try mastering at home. **FM**

KNOWLEDGE BASE NEXT ISSUE

Make sure you pick up *FM* next month for more on the practical theories of mastering. *FM225* on sale 23rd March

The classic Pultec EQ and Manley Massive Passive are de facto industry standards

multi-band compression in order to control the dynamics of separate frequency ranges individually. All-in-one digital mastering processors are also produced by various companies, offering every type of mastering tool in a single unit.

Software equivalents of just about all mastering tools are now available thanks to the likes of iZotope's Ozone suite, IK

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Summing Up

While most of us can see the logic in using the highest quality mic pres, EQs and compressors, summing remains a bit of a mystery. **Stuart Bruce** explains why you should be thinking about it...

Analogue vs digital is probably the most contentious issue in modern recording (after 'how do I get paid for doing this!') and certainly a subject that crops up most days I'm at work. When I started my studio career, recorded audio was all about the quality of the signal path – the signal to noise ratios and distortion characteristics of various tape formulations and their line ups and the relative merits of different

console and compressor designs and their resultant sound.

Now we live in the digital domain things are not so different. Certainly our work methods are very similar. We still put up microphones, plug them into mic amps, EQ and compress them and then try to record them through the best quality A/Ds into our DAWs. It's once we get into the digital domain that the debate starts and the relative merits of pure analogue and pure digital become an issue.

The reason that so much gear from previous decades is so sought after is because the techniques learnt by it's designers allowed them to strive for ever-increasing creative qualities in the equipment they built. As digital technology advanced some of those qualities were ignored.

The first moves to redress the balance were made at the front end of systems. Modern high-quality outboard mic pres, EQs and compressors allowed us to put the

best possible signal into our systems. Then people started to pay attention to the back end, and that's when the summing mixer arrived.

I think everyone agrees that the front end needs to be as good as possible, but why come out of the digital domain when that is where it's going to end up? Well, because there are other creative possibilities and colours that you can use that pure digital just can't give you, and it's not necessarily just about mixing – the current crop of summing mixers is broad and varied. Which you choose and why will depend very much on how you use your system and organise your workflow. Let's investigate that in more detail, by looking at four current 16-input summing units and how they can be used.

Neve 8816 Summing Mixer

Carnhill transformers give this unit the classic Neve console sound

Neve has been at the top of the audio tree for longer than most and the 8816 is an example of why they are still there. What you get here are 16 channels each with individual level, pan, cue, solo and mute functions. Each channel has a dedicated direct out and the stereo output has an insert point which like the X-Desk can be a straight insert or can be mixed in to add some punchy compression without losing

the dynamics of the original mix. The output stage also uses custom-built Carnhill transformers, just like the ones used in Neve's big studio consoles firmly stamping the Neve sound onto whatever you throw at it.

In addition, the 8816 also has a stereo width control which can really help to open up a narrow sounding mix. Again like the X-Desk it incorporates a monitor section,

allowing control of two sets of monitors, an external stereo input for checking back your mixes, and an iPod input. The line inputs, insert send and returns and main balanced monitor outs are all connected via the ubiquitous D-Sub connectors. The main stereo output comes out on a pair of XLRs and there are headphone outputs on the front and rear. The back panel also sports a USB port which allows connection

to a computer so that you can save a setup of the whole system and then recall it at a later date. You can link another 8816 via a dedicated two-channel buss so you can have an additional 16 channels if you need them, even linking the recall systems for seamless integration and there's also an add-on with 18 long-throw faders. All in all a great package to suit most setups.

ESSENTIAL INFO

Classic Neve sound with extra features such as stereo widening, dual monitor outputs and USB for total recall.

Solid State Logic X-Desk

SSL's latest mini desk packs console style with summing brains

The X-Desk is the closest of our three subjects to resemble a desk both physically and in operation. You get eight channels with a fader, pan pot and dual line inputs, two mono and one stereo send per channel, stereo FX returns and a monitor section with speaker and external source selection.

All inputs and outputs arrive and depart via D-Sub connectors on the back

panel except for the monitor outputs which are directly accessible from XLRs. Each channel has a direct output which can be fed back directly to your DAW and also an insert send and return.

The stereo output also has an insert point which can be either a hard insert or, by selecting the Sigma button, a mixable return into the mix buss. The dual line inputs give you two options. Firstly you can

select either input source to your channel input or by pressing the Alt button on the channel's stereo cue, you can send input two to the stereo cue with input one going to the channel.

If you then switch cue to mix on the main output, you can sum all 16 line inputs to the mix output, each with its own level control and pan pot, giving you a very controllable summing mixer. As we

discovered in issue *FM220* the Platinum awarded X-Desk sounds great but it doesn't even end there.

If you're going to expand your studio the X-Desk can link to another identical unit or to an SSL X-Rack to provide you with more inputs either for summing or for tracking purposes, making it a great audio hub for all of your production work.

ESSENTIAL INFO

The X-Desk is more than a summing mixer, with comprehensive routing and plenty of modular options.

TL Audio Ebony Series A4 Summer

TLA's A4 adds a valve stage to the summing mixer package

The TLA is more of a straight summer. Its 16 inputs can be accessed via TRS jacks or D-Sub connectors. They are switchable between +4 and -10dB allowing you the option of using pretty much any interface out there and each input has its own panpot. There is a level control on the master output and a switched balanced insert point. The output feeds a pair of XLRs and the inserts are accessed via TRS

jacks. Finally the A4 has a valve output stage which can be enabled or disabled via a switch on the front panel.

Having lined up the A4, I ran the track through it. I liked the result, it handles the level well and gives a big broad sounding summed signal with great transient response. However, switching in the valve circuit turned it to a rather soggy sounding mush. With drive on minimum, the

distortion was still too much. I then realised that I was hitting the inputs too hard for the valve circuit to have the chance to be subtle. After pulling back my output levels by a good 6dB the valves had a chance to breathe a bit more and it all made more sense.

Personally, I wasn't convinced by the valve part: the valve-less output sounds very good indeed and so I'd be happy with

just that. However, even if you don't want it on the final mix, it could well be useful when bouncing stuff down to add a bit of grit here and there.

I like the TLA A4 – it's a very good no-nonsense summer, absolutely straightforward in use and in a price range that will suit many more pockets than the other options here.

ESSENTIAL INFO

TLA's A4 is a straightforward summing mixer with an added valve output stage. The price makes it a quality option.



SPL MixDream

SPL continue to live up to their reputation with this summing amp

The MixDream is the most obvious summer here as it has no direct monitor output or panpots in its signal path. This makes it more of a summing amp, but it also has a few tricks up its sleeve which make it far more than just a straight final mix tool. As with the other units, it has inputs and outputs on D-Sub connectors but the master outputs are on XLRs. There are 16 inputs arranged in eight stereo

pairs, 16 insert points, 16 direct outputs and also a stereo insert on the main output. Each of the 16 channels has its own insert in/out switch which also has a mix mute function. In addition to this, you also get a switchable stereo expander on the master output and a stereo peak limiter that does just what you would expect. The send on the main mix also has a switchable insert point with a send level

control so you can hit your favourite master compressor or FX chain with just the right level. There is also a master output trim should you need it and the option of switching in some Lundahl transformers to give a little more colour to the sound.

The MixDream gives great transient responses, very high headroom characteristics and a frequency range of 1Hz to 220kHz by utilising SPL's 60-volt

rail technology. It sounds simply fabulous – in transformerless mode the clarity and transparency of the summed signal is quite breathtaking in detail, and with the transformers in, the detail remains but the overall sound is warm and inviting. The MixDream is a prime example of why SPL have such a well-earned reputation for high-end gear.

ESSENTIAL INFO

The SPL is straight to the point with fantastic clarity, headroom and signal routing options.



Getting Connected

As you can see from the descriptions of these units, there are a lot of connections in and out of a summing mixer. Good D-Sub cables terminating in XLRs and stereo jacks can now be bought off the shelf for very little money.

You could go that route and directly patch your gear in and out of a summing mixer and it would work fine. However, re-patching to create that special effect or just swapping an insert around can be time consuming and difficult. How many of us want to spend time crawling around the back of a rack with a torch?

It's now possible to buy TT patchbays pre-wired to D-Subs. This means you can have all the inputs and outputs of your studio coming up a few rows of patchbay allowing you simple access to all your gear.

A double row 48-point patchbay with half-normalling would give you access to 16 outputs and inputs from your DAW, 16 inputs to the summing mixer, 16 direct outs and 16 insert points. Half-normalling means that the top row used as outputs links directly into the bottom row of inputs unless you 'break' the normalling by patching into it. The direct outs sit above the DAW inputs so they link directly until you need to crosspatch them.

If you then get another double row you could connect all the stereo outputs and returns of the summing mixer and have plenty of space left over for all your outboard gear, synths etc. Using the half-normalling capabilities of the patchbays you can have your basic setup pretty much without having to use a patchcord, but leaving you with the flexibility of sending anything anywhere should you need to, just like in a big studio with a big console.



It's Not Just Mixing

There's a lot more to stem mixing than merely balancing your levels on a new signal path...

One of the great joys of modern recording is that we have both digital and analogue effects at our disposal. What if you want to add some foot pedal distortion to your drum loop? Latency means that anything you send out of the computer will come back delayed and even a few samples will cause you untold problems with phase which then has to be corrected.

and the effect through the stereo output and record it back in to your DAW as a stem. There will be no latency between the original and the effected signal as it's all happening in the analogue domain.

You can do the same with the SPL and the TLA by sending to the effect via a send and a different output from your DAW. Because they return via the summing mixer, they have no latency issues. With the SSL, the

outputs directly to your EQ and compression and then into the summer, allowing you the same options as with the others. Backing vocals and string parts can take up lots of mixer channels in a song and often benefit from being bounced down. With a summing mixer, it's possible to bounce them analogue via your favourite EQ and compression.

With their individual level and pan, the Neve and the SSL make this a particularly easy job, although the TLA and the SPL will handle the job equally well by using either the level or pan controls from your DAW.

To sum up

A summing mixer isn't just something you use at the end of mixing – each

one of these units sounds fantastic in its own right. Which one is right for you depends on how you like to do things. If you are going to be

doing a lot of bouncing down or blending of analogue signals then the X-Desk and Neve may be what you need. If you want straight summing then it has to be the SPL and TLA.

The SPL is without doubt the best sounding summing mixer but if it comes down to price, you won't be disappointed with the TLA. With the addition of a summing mixer and some patchbay, your studio can become more flexible and hopefully more productive. **FM**

With a summer, it's possible to bounce stems analogue via your favourite EQ and compression

Beyond the fiddling about, it's impossible to hear how some effects really sound until you've corrected them and mixed them back in. Any of the summing mixers here can solve this problem for you.

Return to sender

Both the X-Desk and the Neve have send busses so you could feed any bit of outboard from them and return it up an input or a dedicated FX return. You can then blend the original signal

Neve and the SPL you could even bring it all back separately via the direct outs so you can decide on the balance of direct-to-effect later.

Say you wanted to try an analogue mix of your drums. Using the SSL or the SPL you could send your drum tracks to individual channels, EQ and compress via the dedicated insert points and record the result as a stereo mix or as individual tracks via the individual outs. With the Neve and TLA you would plug your DAW



ON THE DVD

On this month's DVD, you'll find a track I did to demonstrate the differences between the units. To make this as fair a test as possible, I ran a test tone from the DAW through each channel and set the through level to within 0.2 of a dB. I then sent stereo stems (drums, perc, bass, guitar, harp, strings, ambiences and keys) through each unit and recorded the stereo outputs back into the DAW. No external processing was used, so any differences you hear between them relates entirely to the sound of each summing mixer.

The original track was at 48kHz and 24-bit so they are all at this resolution and I've included a digitally summed version of the track too. Import the mixes into your system and set them up on individual tracks and switch between them to hear the differences. I preferred all the analogue versions to the original digital mix. There is something more natural in the space around the sounds, a greater depth of field and, particularly with the SPL, more width. It's only a small difference, but that's what mixing is all about and anything that allows you to get to a better end result has to be worth it.

FINAL CONCLUSIONS...



Neve 8816

Best for... Bouncing and blending. Individual levels and inserts are all through Carnhill transformers.

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£2,173
Buy it from:
AMS Neve
Website:
ams-neve.com



SSL X-Desk

Best for... Stem routing. The X-Desk offers ample sends and returns, direct outs and expansion options.

Price:
£1,965
Buy it from:
Sound Technology
Website:
soundtech.co.uk



TLA Ebony A4

Best for... Direct summing. Minimal routing but good transient response and a master valve stage.

Price:
£1,173
Buy it from:
Sound Technology
Website:
soundtech.co.uk



SPL MixDream

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ABLETON LIVE ESSENTIALS



ReWire Live 8 with Logic and MainStage

There are a lot of ReWire-friendly music apps out there – and getting them to interact with Live is a breeze. GarageBand and Logic have always ReWired to Live, but now you can ReWire MainStage 2 as well. **Martin Delaney** hooks 'em up

ReWire lets you merge the best bits of two or more music applications (and some video ones too). Whatever's lacking in one can be found in another. ReWire was developed jointly by Propellerhead (the Reason and Record people), and Steinberg

(the Cubase people). It doesn't require any special installation, because it's built into most music applications, including Reason, Record, Cubase (of course), Logic, GarageBand, Digital Performer, Pro Tools, Sibelius, Max MSP, Arkaos VJ, Numerology, Sonar, and Reaper. ReWire allows these

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.

applications to synchronise – locking together their transport controls, and allowing audio and MIDI to be streamed between them: up to 256 audio tracks and 4,080 channels of MIDI (255 MIDI busses with 16 channels per buss) simultaneously – which should be enough.

ReWire needs one application to be the master, or host, and then the other (or others) are slaves – or clients. It's possible to have several slaves running at the same time. ReWire apps share transport controls – the master application sets the tempo – but generally you can start playback in any of the ReWired applications, and the others will play along in sample-accurate sync.

Logic link

This time round we're talking about the Mac OS X-only Logic and GarageBand, but ReWire does its thing on Windows too. Part Two, next month, is going to cover ReWiring Ableton Live with Reason, which will work the same on OS X and Windows. Choose your ReWire applications based on what they don't have in common – Live and Logic have



ReWiring Live with Logic Pro gives you a huge amount of potential plug-ins to choose from



It seems a bit funky to ReWire Live with GarageBand, until you remember that Logic can open those GarageBand files later

a lot to offer each other (though there's more crossover than you might think, if you haven't looked at Logic for a while). Live has the fast workflow, the live performance interface of the Session View and the real-time audio manipulation – Logic has far deeper MIDI programming capability, a pro-level range of extensive user settings, and a pretty-much unbeatable collection of software instruments and audio effects.

There wasn't room to cram it all in the walkthroughs, but you can also send MIDI from Logic to instruments in Live, by creating an External MIDI Instrument track in Logic, loading Operator (or your other favourite instrument) into a Live MIDI track, and then using the Logic browser to point MIDI from the External Instrument track directly to Operator.

MainStage and Live

If you want to access Logic's instruments and effects alongside Live in a performance situation, you're probably better off using Logic's performance-friendly cousin, MainStage, which has a totally editable user interface, where you can lay out your on-screen controls as you see fit.

GarageBand is pretty useful too, because it's a ReWire-compatible application that saves its projects in a format Logic recognises. GarageBand is pretty good for making a quick audio or MIDI recording, maybe a soundtrack, or a podcast. You might even need to use GarageBand alongside Live simply because you're working on a project that's come from a GB user. It's a very basic relationship – nothing to do but sync transport – but when you export your GarageBand song, the Ableton Live audio parts are included in the stereo mix. If you have active Session View loops in Live, when you export your track through the ReWire master, the loops will play through the entire song! **FM**

LIVE ESSENTIALS NEXT ISSUE

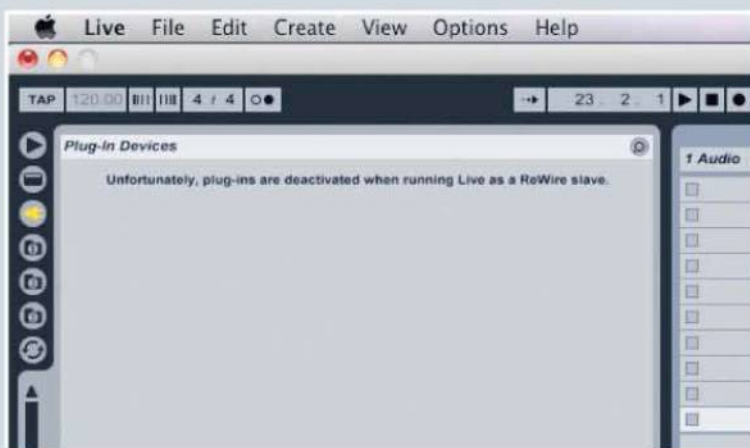
Make sure you pick up *Future Music* next month for more on ReWire and Ableton Live. **FM225** on sale 23rd March

ReWire To GarageBand

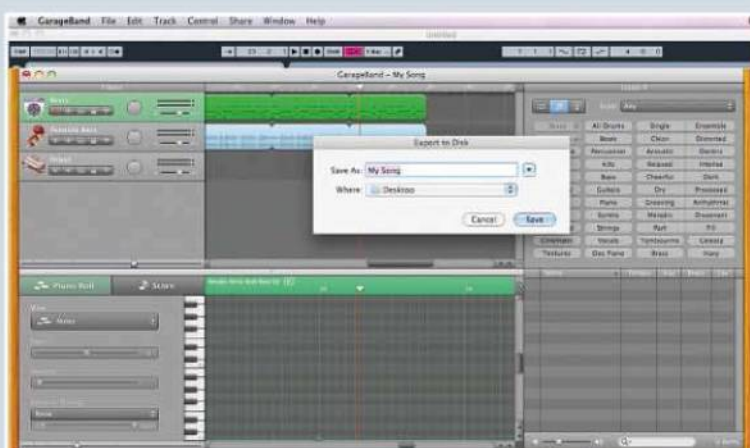
This is just about the most straightforward ReWire relationship going...



1 Launch your GarageBand project first, then your Live project. GarageBand wants to be the ReWire master, so Live has to play along as slave. You might want to add a GarageBand instrument sound to Live loops, or vice versa. Hit the spacebar to start playback.



2 The apps will run in sync, taking their tempo from GarageBand. Anything in Live will sync – like clip launching, or delay effects. Remember that Live can't get to any third-party plug-ins when it's slaving, you'd have to load them into GarageBand.



3 As it says in our main text, there's no MIDI or audio exchange between Live and GarageBand. When you choose 'Share/Export Song to Disk...' in GarageBand, your Live parts will be included – Session View loops will just repeat to the end of the song.

ReWire To MainStage

Preview any track you haven't prepared in advance with a multi-out soundcard...



1 ReWiring Live to MainStage 2 isn't much different from using it with Logic. See the main text for reasons why you might use it. Load your MainStage Concert first, then open Live. You'll see Live will take on the tempo from the current MainStage Concert or Patch.



2 In the MainStage Edit view, click on the '+' in the Channel Strips view at the right. Choose Auxiliary, then below that where it says Input, choose Ableton Live/RW:Mix L/R. Run a loop in Live and you should hear it coming through.



3 Now you can play your MainStage keyboard parts over Live, apply audio effects to Live, and send MIDI to Live's instruments. Everything stays synced, once again. If you use MainStage's Record button, all of the Live input will be recorded too!



ON THE DVD

A QuickTime movie showing ReWire in progress - Ableton Live ReWiring to GarageBand and Logic Pro. If you don't have Live 8, download the demo from www.ableton.com; it'll run fine alongside your current version of Live. Then you can download the demo (if necessary) of another ReWire friendly application.

Sharing The Stage

If you're using a Mac, or you know somebody who is, and they've got Logic Studio (the current version with Logic 9), you really should look at MainStage 2 – it might seem like a rival to Ableton Live in some ways, but the two can make a particularly hot combination, especially for keyboard players, vocalists, and guitarists. When you buy Logic Studio, you're really buying a package which contains Logic Pro itself, Soundtrack Pro and MainStage – plus a lot of extra content.

MainStage is, as you can probably guess, a live performance tool, that lets you use all of Logic's software instruments and audio effects in a highly performance friendly interface – and a big part of the MainStage cool is that you can build your own interface, from the library of knobs, pads, faders, and meters, included, then view it in glorious full screen on your MacBook when it's time for your gig. If that sounds like too much hard work, there's an included library of editable templates to get you started.

Stage harmony

MainStage 2 is a major update from the original version, adding a lot of features that are necessary to make it an awesome live performance tool. MainStage 2 even has some loop playback facilities, but these are currently more of an afterthought for musicians needing backing tracks, than loop-based live jammers.

It's a separate product from Logic, though, so don't expect it to load and playback your Logic projects intact, and it doesn't have its own sequencer at all. But if you're an instrumentalist or vocalist, MainStage makes a great host for your live channel strips, and as it says in our walkthrough, it ReWires with Ableton Live very easily.

MainStage can handle the MIDI or live instrument and vocal inputs and process them, while Live delivers warped audio playback, loop control and jamming via the Session View, and of course it's own sweet instruments and effects. You CAN have it all!

Live Stage

Could Live ReWired to MainStage be the ultimate live performance tool?

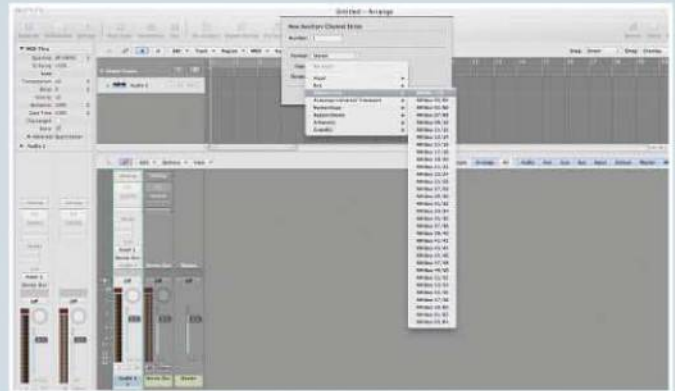


ReWire To Logic

Two mammoth DAWs collide: it's like King Kong vs Godzilla – but this time they're holding hands...



1 This is a classic example of what ReWire's about – mixing and matching two applications to get the best of each, combining Logic's instrument and effects with Live's workflow. Launch Logic first, then Live, to establish the ReWire relationship. If Logic's Mixer isn't visible, click on the Mixer tab at the bottom of the screen.



2 Click on the Options tab at the top of the Mixer, and choose Create New Auxiliary Channel Strips... From the next box choose Format: Stereo, and Input: Ableton Live/RW:Mix L/R. Leave Output set to Output 1-2 – you could've also chosen a separate stereo pair of outputs from Live, for handling specific tracks.



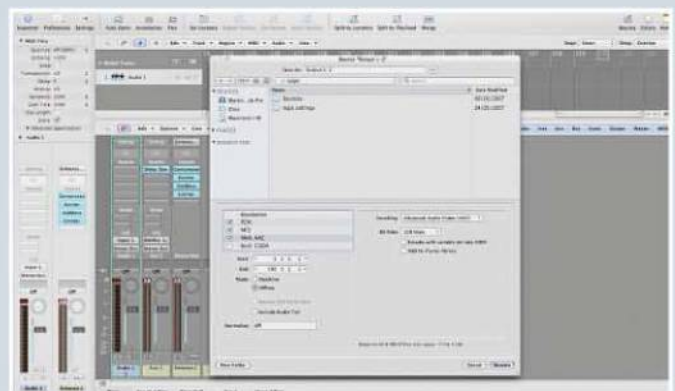
3 If you've got some parts ready to play in your Live set, start either application running and the transport of the other will follow. If you're using Session View clips, make sure they're active! You'll immediately hear Live's audio coming through Logic's Mixer. Now you can apply Logic's audio effects to Live.



4 Click in one of the Auxiliary Strip's Insert slots and choose an audio effect, then a preset for it. Cool – Logic has great plug-ins. Unless you chose separate outputs from Live, these effects apply to the whole Live mix. This might be the time for the bad news – you can't recording audio directly from Live into Logic.



5 I particularly like to use Logic's mastering effects on a Live mix. Click on the Setting slot at the top of the Stereo Out track, and choose '02 Mastering', and then have fun playing with, and editing, those presets. When you bounce your Logic project down, your Live audio is included in the stereo mix.



6 Make sure you move the Logic end marker to the right point, otherwise your song will be cut off early, or have silence added to the end. You'll also notice that you can export from Logic in several formats at once, which is really useful, and I wish Live could do that!

Every issue in Guitarist...
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Reviews

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



Highlights this issue...



**Yamaha
DTX-Multi 12**
90 Yamaha's new
addition to
their percussion-based
DTX range is versatile,
but at a high price...



**SampleLogic
Morphestra**
92 A 27GB
sample library
delivered on a 160GB
external harddrive. The
future has arrived...



**Akai
LPD & LPK**
94 New mini
controllers from
Akai put them direct
competition with Korg.
But who wins?



**Spectrasonics
Trilian**
96 Spectrasonics'
highly
anticipated update to
their ever-popular
Trilogy bass plug-in.



**Behringer
T-47 & T-1**
100 Tube mics
from our
bargain buddies. But
how do they stand up in
the studio?

Mackie 1220i | £799

Mackie's latest pairs analogue mixer with FireWire audio interface. **Trevor Curwen** wonders if it's an ideal combination...and what's all this about Pro Tools?

WHAT IS IT?

Analogue mixing desk with integral FireWire digital audio interface

CONTACT

Who: Loud Technologies
Tel: +44 (0)1494 557398
Web: mackie.com

HIGHLIGHTS

- 1 Streamlined integration between mixer and computer
- 2 Nice sounding preamps
- 3 Practical connectivity options for use in a small studio



Best of both worlds is a phrase that gets overused, but when Mackie's product manager used it at their launch to describe the new Onyx i-series he may just have been right.

Besides the obvious wiring and space-saving advantages over separate units, combining an analogue mixer with a computer audio interface and mixer makes complete sense, giving you the familiar hands-on layout of a mixer while feeding audio directly to your computer with convenience and speed.

What you get with Mackie's new Onyx 1220i is a 12-channel analog mixer combined with a 16 x 2 FireWire interface and, what's more, a first for a non-Avid product, it can be used with Pro Tools.

Extremely robust and powered via an IEC lead, the 1220i features four mono mic input channels plus another four stereo line inputs that can be used in mono by connecting the left input only.

The four mono channels are equipped with insert points and sport both an XLR mic input with individually switchable phantom power and a 1/4" jack input, which, in the case of the first two channels, can be switched to Hi-Z operation for plugging guitars and instruments directly in.

Each channel has a switchable hi-pass filter (18dB/octave below 75Hz), plus a three-band EQ offering up to 15dB of cut and boost for high- and low-shelving EQs (at 12kHz and 80Hz respectively) and a swept midrange (100Hz to 8kHz) EQ. The

stereo channels each have the same low and high EQ with a single midrange knob centred on 2.5kHz.

All channels feature two auxiliary sends, each globally switchable between pre- and post-fader operation. Each also has a panpot, a 60mm fader, a solo switch and a mute switch that has a secondary function of routing the audio to an alternative (alt 3/4) rear panel hardware output.

Routing audio from any channel to the equivalent FireWire input on the computer is automatic – a 'FireWire' switch nestled just above the EQ section will determine if it is sent pre- or post-EQ. Aux sends 1 and 2 are automatically sent on FireWire channels 13 and 14 and the main mix on 15 and 16. The stereo output of the computer can be routed back to the mixer through stereo channel 11-12 for monitoring or for integration into the mix, it can also be directly assigned to the main mix.

A compact master section offers volume controls for the control room outputs and headphone outs plus options for setting the sources. Rotary knobs control the volume of the stereo auxiliary returns and there's a talkback mic built-in with level control and routing to the headphone output and the auxes.



Yamaha DTX- Multi 12 | £700

The DTX-Multi 12 is Yamaha's latest addition to their DTX drum line. **Dan Goldman** gets percussive...



WHAT IS IT?

Percussion unit with 12 rubber pads and sound module with sample upload capability, various trigger modes, MIDI, USB and a pattern sequencer all in one portable box.

CONTACT

Who: Yamaha UK
Tel: +44 (0)1908 366700
Web: yamahasynth.com

HIGHLIGHTS

- 1** Sturdy, portable and can be stand-mounted easily
- 2** Feels good to play
- 3** Wide range of sounds onboard plus ability to upload your own

SPECS

Built-in pads: 12
External inputs: 5

Wave memory
Drum and percussion:
1,061 keyboard – 216 total
Drum kits Preset: 50
User-defined: 200
Effects: Chorus, Reverb,
5-band EQ
Wave memory: 64 MB

Connections
3x pad input, hi-hat control,
foot sw, output
L/mono and R jacks, phones
jack, Aux In, MIDI I/O, USB
and DC IN.

Dimensions
345 x 319 x 96mm
Weight
3.3kg

Yamaha's DTX line incorporates several different drum orientated products, including their pad kits and

the DTXT3 module – the drum brain from which many of the DTX-Multi 12's sounds are taken. All products in the range are intended to replace or augment traditional acoustic kits, add sounds to use with external MIDI gear, or to simply use as standalone percussion boxes.

The DTX-Multi 12 can be a perfect accompaniment to an acoustic kit, allowing a drummer to have easy access to his/her favourite samples/loops and beats/patterns or the included 50 preset kits, or it can be coupled with additional kick, hi-hat and snare trigger pedals to use as a completely self-contained electronic kit. On top of this, you can use the DTX-Multi 12 as a MIDI controller for inputting beats into your

DAW's sequencer, using sticks or even your hands on the pads for more dynamic realism.

It's the beat

Build quality seems good throughout, though it worries me that you can easily hit the controls or display with sticks causing considerable damage if you get a little carried away. You can also use your hands/fingers or anything else, though, initially, I was having trouble getting the unit to trigger sounds consistently using fairly light drumming with light sticks and my hands.

However, once I'd dug into the trigger options and selected Hand Trigger Mode, the unit reacted much more sensitively. Generally, the pads feel good for both stick and hand playing and, while the operating system is fairly cryptic at first, it just about makes sense after a little practicing!

There are 12 textured rubber pads that work well for most applications and there's a nice bounce to them, while they aren't too hard either. Pads can be set up to trigger the onboard sounds or to trigger user content uploaded from a DAW and sent over USB via memory stick, USB hard drive or direct from your computer. Yamaha also include a cut down version of Cubase to facilitate the recording and transfer of sounds to the DTX itself. One beef here is that the flash memory is fairly small at 64MB and coupled with the fact there is no onboard card storage, this may be an issue for some users.

Sound-wise, Yamaha have provided a limited number of preset kits, some of which are pretty average, while many are filled with clichéd DJ one shot samples, though thankfully the majority of kits, onboard effects, and percussion samples are pretty good, cover a wide range of styles and trigger well.

There's further space onboard for 200 user kits too and here you can upload your own sounds or mix them with the onboard sounds.

Promising pad

Other features of note include the ability to mute/trigger sounds from a single pad (much as you would stop a drum or cymbal ringing with your hand after triggering) and you can also layer several sounds on a pad, plus sequence/trigger your own loops and patterns. Each sound is editable too, with amp envelope, filter cutoff and res and some basic effects.

This a useful bit of kit with some nice features, some good sounds, some filler (why so few useable preset kits onboard?) and some limits, including the measly flash memory and lack of onboard removable storage media. At £700, it's not cheap either but then there aren't many boxes in production with these capabilities, so definitely put it on your list to check out. **FM**

**FutureMusic VERDICT**

BUILD



VALUE



EASE OF USE



VERSATILITY



RESULTS



It's not cheap and it has limits but if you're after a self-contained percussion box, test it out.

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SampleLogic Morphestra | £449

If you have ambitions to write music to picture, you'll need more than notes. **Jono Buchanan** discovers a sound library with 'cinema textures' at its heart



WHAT IS IT?

A Kontakt-powered 'cinematic' sound library of atmospheres and loops

CONTACT

Who: Time & Space
Tel: +44 (0)1837 55200
Web: timespace.com

HIGHLIGHTS

- 1 Inspiring to play – you'll be making music in no time
- 2 Wide range of textures and sonic 'worlds'
- 3 In tandem with Kontakt, an extremely powerful library



SampleLogic's Morphestra is a sound library of cinematic textures, rhythms and atmospheres. If you think about the nature of modern movie and television soundtracks a couple of things call instantly to mind – the sound designed layers of creepy textures for horror movies, the driving rhythms for chase sequences and the deep percussive hits and exotic wind instruments which underscore scenes

from far-flung destinations. These are all just as much a part of the fabric of modern scoring as the more traditionally 'musical' elements of an orchestral or synthesised soundtrack.

Morphestra is designed to provide you with just such an array of otherworldly noises to create atmosphere, which should make it an essential choice for anyone working in this field or with aspirations to do so. But does it?

Unpack and Install

First things first – the all-important install. Large sound libraries almost always arrive on multiple DVDs, giving us time to kill as we feed one DVD in after another. So imagine my surprise and delight to discover that Morphestra arrives on a compact 160GB Glyph hard drive, ready to connect up and go. This certainly sweetens that price quite a bit, given that the library uses 27GB of the drive, leaving 133GB for your own use.

All of which means that rather than the hours installing and authorising you'll be up and running in less than five minutes. A highly promising start.

Ease of install would be worth nothing unless the library was worth having and fortunately, this is where excitement ramps up another few notches as Morphestra is phenomenal.

The library runs through NI's Kontakt sampler or the free-to-download Kontakt Player and installation is simple. Simply press click on the 'Add Library' tab in the top left hand corner of Kontakt's GUI and point the browser at the Morphestra Library on your Glyph. You're then automatically routed online to NI's Service Centre, where you can enter your serial number to authorise.



Easy. If you don't want to travel everywhere with Morphestra's precious Glyph drive, you can simply copy the Library across to your hard drive of choice before activation.

Let's get cinematic

At their best, libraries shouldn't simply provide you with what you're expecting but should offer genuine surprises too and this one delivers in spades. Sounds are organised into two categories, namely Instruments and Multis, which are pretty self-explanatory – Instruments are single sounds, while Multis are combinations of several Instruments which are usually stacked up via the same MIDI channel, producing pre-mixed multi-timbral layers of sound, of which more later. The Instruments are sorted into folders by 'type', with categories such as 'Blurred Emotions', 'Dark 'n' Scary', 'Nature' and 'Sci-Fi' for instance, which makes narrowing your search straightforward.

Within any folder, you'll then find a list of instruments that load into your version of Kontakt ready to play. There simply isn't space to describe the wide variety of sounds on offer but there's a staggering array, from 'organic' textures derived from instrumental recordings through to synthetic textures and tempo-sync'd rhythmic loops and much, much more. The whole library is effortlessly and excitingly 'playable' as the raw sample content is impressively

Morphestra Meets Kontakt

One of the main advantages of running a library through a plug-in host like Kontakt is the fact that you're free to shape the library's sounds however you choose. Loading a single instrument presents you with a pane with controls with high- and low-pass

filters, attack and release dials and six buttons to activate effects including Distortion, Reverb and Delay to get you started.

Below this main tab, four additional ones lie in wait to let you set up the Arpeggiator/Gater module, the Filter/EQ settings, the Reverb/Delay parameters

and any separate FX tweaks you want to make. All of which gives you 40 controllable parameters, even if you're just using the free Kontakt Player. If you're an owner of Kontakt, you can go much further, and this library then becomes even more of a creative playground.



number of times I 'checked' a Multi during this review before guiltily returning to my words an hour and several track ideas later. The Multis have been developed mostly by

vocal recording, field recording and rhythmic looping which, once run through some serious processing, creates a library with such a broad range of layers it's a sound-designer's

dream. Simply put, there's something here for everyone, so while this isn't the cheapest library you'll ever come across, I do think that the quality of

the sounds on offer, the ease of use and that big drive justifies the expense. Now, if you'll excuse me, I've got another hour of 'happy time' to lose. **FM**

The library's intelligent use of controllers really comes to the fore through the Multi instruments

enhanced by the Kontakt engine, which you can read all about in the *Morphestra meets Kontakt* box.

Multis – ready-made tracks

The Multi content stacks several Instruments together and usually presents them mapped to a single MIDI channel meaning that lots of sounds trigger at once. Often, zones are mapped to present you with key-specific layers with, for instance, a series of tempo-based loops in the middle, some ethereal textures at the top and some weighty booms towards the bottom.

These are nothing short of inspirational – my only warning is that firing up a random Multi will often lose hours of your life – I lost count of the

SampleLogic themselves but some heavyweight endorsement lies in wait too, as there are artist patches from several Hollywood luminaries including Rupert Gregson-Williams, Tom Salta and Mark Isham, to name but three.

The library's intelligent use of controllers such as the modulation wheel really comes to the fore through the Multis as you'll find that by pushing the wheel up, several Instruments suddenly leap forth with extra brightness or resonance, making these hugely dynamic instruments.

Who's it all for?

Morphestra's success is in its variety. Its sound sources have come from diverse fields including orchestral sampling,

FutureMusic VERDICT

STABILITY

VALUE

EASE OF USE

VERSATILITY

RESULTS

Inspirational and instantly 'visual' – there's something for everyone. Morphestra gets two thumbs up.

SPECS

Kontakt Player:
PC: Windows XP, Vista, Windows 7, Pentium or Athlon XP 1.4GHz, 1GB RAM, 2GHz or higher processor (Intel Core2Duo or higher recommended)
Mac: OS X 10.5 or higher, Intel Core Duo 1.66GHz, 1GB RAM
Hard drive: FireWire or USB port
Morphestra: 28GB hard drive space, 1,110 instruments and multis

ALTERNATIVES



Spectrasonics Omnisphere

£349

If you're a texture fetishist, Omnisphere is well worth a look. All sounds were recorded from 'real' sound sources, providing a rich, organic quality, which is breathtaking. Less immediately 'cinematic' but with a broader sound range.

spectrasonics.net



Heavyocity Evolve

\$339

Like Morphestra, Evolve uses Kontakt as its front end and provides similarly cinematic material – hits, loops, atmospheres and sequences aplenty.

heavyocity.com



ProjectSam Symphobia

\$999

If it's the orchestral side of things you're interested in, this could be for you, particularly if you don't want to spend hours building 'orchestral ensembles' using VSL et al. Lots of ready-made textures to go but expensive...

projectsam.com

Akai LPD8 & LPK25 | £45

Hot on the heels of Korg come these mini controllers. **Greg Scarth** gets his man-size hands on 'em...

**Mini keyboard controller
and mini pad controller
with rotaries**

Who: Akai
Tel: +44 (0)1252 341 400
Web: akaipro.com

- 1** LPD offers MPC-style pads and eight assignable rotary pots
- 2** LPK's mini keys hide built-in arpeggiator
- 3** Better build quality than Korg Nano controllers

Plug and play USB connection for Mac and PC. USB bus-powered operation

Dimensions
339 x 97 x 33mm
Weight
40 grams

Dimensions
310 x 80 x 28mm
Weight
34g

Since their launch last year, it's fair to say that Korg's nano series of mini controllers have taken the world by storm.

This brand new duo of Akai controllers will inevitably draw comparisons with their Korg counterparts, offering high-quality DAW/DJ software control in a tiny package. Korg themselves are so concerned about the Akai controllers that they've slashed retail prices across the board. Clearly this competition is starting to hot up so let's take a look at what Akai are bringing to the table.

The LPD8 Laptop Pad Controller slots in somewhere between Korg's nanoPad and Nanokontroller, with eight MPC-style pads and eight rotary pots, all of which have a 270-degree sweep rather than being infinitely adjustable 360-degree rotary encoders.

Obviously the LPD doesn't have the XY touchpad of the nanoPad or the faders of the nanoControl, meaning that a lot of the decision here will come down to personal choice in terms of

what you need to improve your workflow. Either way, the versatility of the LPD will make it suitable for controlling a wide variety of software.

The LPK25 Laptop Performance Keyboard is slightly larger than the Nanokey but offers the significant advantage of having much more realistic piano-style keys with a nicer feel than the Korg's flattened low-profile keys. Other than that, the overall idea is pretty similar, but the LPK's 25-key velocity sensitive keyboard does have another trick up its sleeve in the form of a built-in arpeggiator. Like the LPD8, it sends MIDI over USB and requires no external power or batteries.

Ridiculously, Akai have supplied the software for both units on 80mm mini CDs. Obviously this is in keeping with the miniaturisation theme, but it means that anyone with a slot-loading CD drive will need to make a trip to the Akai website to download the files.

The software isn't actually required to use the controllers but comes in

handy for programming and recalling setups. In use, the build quality of both units appears to be quite a bit higher than their Korg equivalents, with a sturdier, more stable feel.

The LPD's pads are almost identical in use to those of the MPC range, with a sensitive touch that makes it easy to trigger hits at a range of velocities. Although the keys are small and may be fiddly if you have big hands, the LPK is perfectly acceptable for coming up with ideas or playing simple parts. The arpeggiator is simple but effective, creating a variety of melodic patterns with minimal effort.

My only major gripe with either unit is that the knobs on the LPD's rotary pots are too short, meaning that they're difficult to grab hold of. It's understandable that Akai have tried to keep the overall size of the unit down, but when you combine the knobs' size with their lack of knurled sides, it makes them much more fiddly to turn than they really need to be.

There are dozens of potential uses for the LPK25 and LPD8. The LPD8 in particular offers a handy combination of pads and rotaries which make it ideally suited for use alongside controllers such as Akai's own APC40 or Novation's Launchpad. A further use would be to line the LPD8 up alongside a DJ software controller like the Vestax VCI-100, controlling effects, cueing, adjusting BPM or whatever you choose to map it to. Either way, the versatility that the LPD8 brings to the table makes it the pick of this pair for my money.

There are probably various minor improvements that Akai could make but ultimately at this price it's hard to argue. Those seeking more features should look elsewhere but the convenience, build quality and value for money on offer here make the Akai mini controllers seriously attractive. **FM**



Category	Score (out of 10)
BUILD	9
VALUE	8
EASE OF USE	7
VERSATILITY	6
RESULTS	5

Akai's offerings provide seriously stiff competition in the increasingly packed mini controller market.

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**WHAT IS IT?**

Spectrasonics' STEAM-based update to 2002's Trilogy bass plug-in providing electric, acoustic and synth bass to the power of many

CONTACT

Who: Time & Space
Tel: +44 (0)1837 55200
Web: spectrasonics.net

HIGHLIGHTS

- 1 Truly a total bass module
- 2 Vast array of samples, waveforms and effects
- 3 Innovative and inspirational



Spectrasonics

Trilian | £215

Trilogy was a popular plug but it's been STEAM-rolled by a new successor. **Jono Buchanan** gets deep...

Around Autumn 2008, Spectrasonics unveiled Omnisphere. Initially billed as an update to their popular Atmosphere plug-in, Omnisphere smashed that remit by unleashing STEAM, the 'under the hood' engine that powered the plug-in and provided its combined sample and synthesis approach to sound generation. Now it's the turn of Trilian, Spectrasonics' update to 2002's Trilogy, which, with STEAM at the core again, also promises to go way beyond its brief as a bass module.

Down to business

Trilian's library extends to 34GB and covers instruments new and old. In

terms of new, there are six separate electric bass instruments, with 60 articulations, including Fender Precision, Chapman Stick and Music Man five string, plus an all-new acoustic bass with multiple mic/pickup positions. There's also a weighty raft of synthesised patches, with sampled waveforms from a huge variety of synths old and new, including Moogs (Minimoog and Little Phatty as two examples) and other classic boxes from Roland, ARP and Dave Smith Instruments to name but a few.

While these weren't quite ready at the time of launch, Spectrasonics have since updated the library with all of the original Trilogy patches too so if, for instance, you're running a newer Mac

with which Trilogy has proved incompatible, you're covered now. One nice addition is the Bass Legends library, which provides the content from Spectrasonics' first ever release, 15 years ago. As with Omnisphere, Spectrasonics haven't been shy about providing presets to show all of this off – there are hundreds available in the synth section alone but you can narrow your search using a number of criteria to make life simpler.

Be a little careful here though, as a single (rather than double) click on any preset launches the sound, which makes it too easily done for my liking. That said, as the Browser window is a separate 'pop-out', you're unlikely to inadvertently switch patches having made edits.

Real bass

Whereas Trilogy was primarily a synth bass module, Trilian comprehensively covers acoustic and electric bass too, with fantastic results. The sample content of these 'real' basses is wonderfully recorded but, beyond that, the playback engine ensures a staggering amount of realism in performance. This is achieved in a number of ways – round-robin techniques prevent against dreaded 'machine-gun' effects, while slides and effects aplenty are employed to make transitions and multi-velocity performances a joy to create. You can

load either a single 'do it all' patch with all variations built-in for these basses, or select single articulations and build your own less 'intensive' patches, which is advantageous if your system isn't stacked with RAM – though v1.2 introduces 64-bit support to utilise all available memory. Special mention should go to the acoustic bass, which uses four separate audio channels and over 21,000 individual samples.

Trilian works in two multitimbral modes – Live or Stack, which is where the power of running multiple sample variations really come to the fore. Here, you can decide how to keyswitch between patches to create more lifelike performances, or how to assign velocity or MIDI controllers to morph or switch from one articulation to the next. In both modes, up to eight separate patches can be run at the same time.

Get unreal

The synth patches are great too and the power of STEAM becomes apparent when you start editing. Again, many of the synth basses are derived from sample data from classic bass boxes but

STEAM-Powered

Trilian's vast array of sample content is impressive enough but the engine which lets you drive it is ultra-powerful too and worthy of further explanation. The move to STEAM with Omnisphere's release meant that Spectrasonics could develop much more powerful instruments, free from restrictions.

This is great news for both Spectrasonics and users, as a raft of new sound possibilities emerge



from STEAM. For a start, the sample and synthesis options are much greater, as is the potential for 'hybrid instruments', as evidenced by Trilian's ability to run inside Omnisphere. However, the main advantage is that Spectrasonics won't be

forced to 'lag' behind when it comes to imposed industry transitions such as updates to operating systems or a wholesale shift to 64-bit. Before, third parties limited development, now STEAM means Spectrasonics can run their own show.

add further levels of detail. Need a 'hold one note' bass sequence for your track? No problem – the arpeggiator is easy to use and can read a MIDI file to generate its pattern if you want to lock performance to an existing groove.

Effects-wise, the racks of options mirror those available in Omnisphere, with separate effects for the 'A' and 'B'

you need? Absolutely. In fact, it could be much more besides. Its forte is with bass and if you're drawn to its electric and upright 'side', then you'll find plenty of what you're looking for, as the plug-in produces stunning, lifelike performances with sumptuous bass recordings which come alive under your fingers. But the powerful processing

engine is the key to its success.

As with Omnisphere, you're encouraged to go way beyond the presets and as soon as you do, you realise just

The plug-in produces stunning, lifelike performances with sumptuous bass recordings

because each patch actually accesses two 'layers' of sound, you can create monstrous, hybrid instruments very quickly. Basic editing of global parameters can be carried out on the 'Main' page, while the 'Edit' page lets you go into a sound in depth.

Once the sound is shaped, you can then dive into the FX and Arp tabs to

layers, as well as a 'Common' tab, where effects are added to a patch globally. The options here are impressive, with Tube Limiters and Amp Simulators accompanying the more expected delays, reverb and EQ options.

Conclusion

Could Trilian be the only bass plug-in

how powerful an instrument this is, with so many waveforms, samples, routings, effects and arpeggiation options that Trilian is capable of going way beyond bass alone. With the updates already provided since its initial release and the promise of more patches to come soon in future updates, this is a truly comprehensive instrument which I can't recommend highly enough, if your bass options aren't covered already. Even if they are, treat yourself. **FM**



As well as powerful sample and synthesis options, Trilian contains comprehensive effects

SPECS

System Requirements: 2.0GHz or higher processor (Intel Core2Duo or higher recommended), 2GB RAM (4GB or more recommended for multis), Dual Layer compatible DVD drive for install, 35GB of free hard drive space

PC: VST 2.4 or RTAS capable host software, Microsoft Windows Vista or later

Mac: OS X 10.4.9 or higher, AudioUnit, VST 2.4 or RTAS capable host software, Universal Binary for Intel Macs (G5 PowerPC compatible)

ALTERNATIVES



Native Instruments Scarbee Jay-Bass and MM-Bass

79 Euros each

If it's just the 'electric' side of Trilian that attracts you, try these too. Using Kontakt or the Kontakt Player as their front-end, these libraries deliver wonderful, lifelike results too.

native-instruments.com



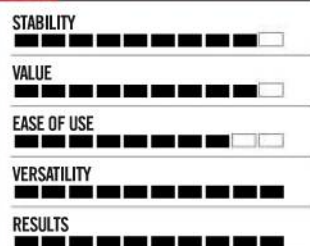
Rob Papen SubBoomBass

£89

Rob Papen knows a thing or two about synth plugs, so it's no wonder this one delivers synth bass aplenty. Worth more than a peek.

robpapen.com

FutureMusic VERDICT



If you can't find the bass sound you need here, you're doing something wrong.

Eventide Pitch Factor | £459

Having been thoroughly impressed with Eventide's pedals to date, **Dan 'JD73' Goldman** pitches up



The third addition to Eventide's Stomp Box range, specialising in pitch-based and rhythmic effects

Who: Source Distribution
Tel: +44 (0)20 8962 5080
Web: eventide.com

- 1** Sturdy build
- 2** Lots of control available by hand or foot
- 3** High quality sonics and effects throughout

10 effect types: Diatonic, Quadravox, Harmmodulator, Micropitch, H910/H949, PitchFlex, Octaver, Crystals, Harpeggitator, and Synthonizer
Modes: True Bypass mode
Controls and switches: Amp/line level switch, 3x stomp-switches (bypass, flex/learn, tap tempo/bank select)

Ins and Outs: Input 1 and 2 — ¼ inch mono jacks, Output 1 and 2 — ¼ inch mono jacks **Expression Pedal:** ¼ inch mono phone jack **Aux Switch:** ¼ inch stereo phone jack USB, MIDI In and MIDI Out/Thru (Combined)

Dimensions
190 x 122 x 54mm
Weight
1kg

capable FX box utilising Eventide's high end effect algorithms, coupled with MIDI (for program changes, clock/tempo sync and control of many front panel parameters) and USB (for software upgrades) with a simple, clear and uncluttered interface.

The Pitch Factor can operate at line or amp level and it's a breeze to use plus the display is large enough to read from a distance, very handy for on stage. The general feeling here is high quality throughout. A quick tour round the interface shows there is plenty of hands on and foot control available, with 11 dials in total, plus three tough-metal stomp switches for active/bypass, tap tempo and bank/preset selection.

Further to this, the middle footswitch labelled flex/learn adds control over key

parameters depending on the mode selected. Most of the main parameters within each effect can also be expression or switch controlled by foot using the expression pedal and aux switch inputs. This enables you to keep both hands on your instrument while tweaking/switching the effects and saves your back too! This is a very versatile box indeed.

There's a huge number of tweakable parameters onboard, ranging from wet/dry mix, pitch for left and right channels, keys/scales/modes and effect depth, to fuzz/octave blend for the octave, filter cutoff and resonance, delay times, feedback, wave shapes, arpeggiator modes/patterns, beat divisions and speeds, reverb depth for the synthonizer – the list goes on, but it's truly a great pleasure getting lost in the sounds this box can provide – you'll

Importantly, the note-tracking is spot on with no glitching or delay between instrument and effect and the effects are as smooth as you like, with none of that awful wobble you sometimes get with inferior pitch-shifting effects.

All the effect modes are very impressive sonically but it's the octaver/synth and harmonate/or arpeggiator modes that really do it for me. In particular, the octaver is one of the best I've heard and also doubles as a mean bass guitar synth with a great fuzz built in too. I recommend any bassists/guitarists check this box out for this feature alone!

Rest assured, there is something to inspire everyone here and there's much more than meets the ear (and the eye) crammed into this box. Eventide have done it once again! **FM**

Category	Score (out of 12)
BUILD	10
VALUE	10
EASE OF USE	10
VERSATILITY	10
RESULTS	10

Eventide's expertise with pitch-based effects shines through here. It's pricey but it's worth it.



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Latest Release

ESSENTIAL MINIMAL TECHNO

Essential Minimal Techno is a powerful collection of samples presented in construction kit format for techno and minimal producers looking for up to the minute royalty free sounds to complement and crystallize their productions for the dance floor.

This pristine collection of razor sharp sounds from the artist Danmad aka Dan Mardan includes 7 huge Minimal Techno construction kits which include fantastic drum, bass, synth, fx and separated grooves to give producers total flexibility to remix and create new dance anthems and underground mixes with ease and enjoyment.



Best Sellers



Tribal Tech



Fidget House 2



Dubstep



D'n'B Rough
Connections vol 3



Meat Katie
Tech Funk Producer



Rise Push Button Bang

Featured Products



Artist Series Download Packs



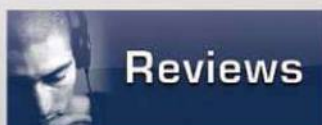
Sounds and inspiration from some of the world's best known music producers and artists directly to your desktop.



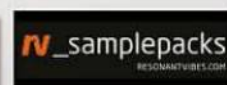
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Behringer T-47 & T-1 | from £148

Decent sounding valve mics at a price we can all afford? **Trevor Curwen** investigates...

WHAT IS IT?

A pair of inexpensive valve microphones

CONTACT

Who: Behringer
Tel: +49 2154 9206 4149
Web: behringer.com

HIGHLIGHTS

- 1 Affordable pricing
- 2 Characterful sound
- 3 Comes with carrying case and suspension mount

PRICES

T-47
£148
T-1
£160

SPECS

Transducer: Condenser
16mm (0.63")
Polar Pattern: Cardioid
Low Cut Filter: 12dB/octave @100Hz
Attenuation: -20dB switchable (T-1 only)
Frequency Response: 20Hz - 20kHz
Dynamic Range: 110dB
Max SPL (3% THD @1kHz): 130dB
Accessories: Aluminium case, foam windshield, suspension cradle
Dimensions:
T-47
62 x 215mm
T-1
68 x 211mm
Weight:
T-47
0.47 kg
T-1
0.77kg

There's a certain mystique about valve mics that has ensured that they remain objects of desire among recordists. From the giddy heights of vintage classics like the Neumann U47 and AKG C12 on down, there are a slew of less expensive options to whet the appetite. None, though, less expensive than the two just released by those teutonic touters of affordable audio, Behringer. If you have about £150 to spend (less if you shop around) you too can be the proud owner of one of their two new valve mics.

But are they any good? Behringer's two models are the T-47 and the T-1,

the difference between the two being in their cosmetic design (the T-47 is black with a grille design that has a passing resemblance to a U47 while the T-1 is silver, fatter and heavier) and that the T-1 adds a 20dB pad switch to the equation. Both have a cardioid pickup pattern and come packed in a large aluminium case containing the microphone, power supply and 7-pin multicore connecting lead, IEC power lead, suspension cradle and windshield.

Tube way

Although looking a little flimsy at first glance, the suspension mount is a practical design and does hold the mic

firmly in the desired position once the tightening knob is finger tight. There is about 30 feet (10m) of cable connecting the mic to its power supply allowing you, if you find it more convenient, to keep the power supply in the control room and run the cable through to the vocal booth or live room. The power supply houses the low cut filter switch and a ground lift switch in case you do run into any hum problems and, obviously, an XLR output to connect to mixing desk or preamp.

With power on you can see the 12AX7 valve glowing through a tinted window in the mic body and, given time to warm up, it is ready to use. These mics could certainly be described as having a warm sound – smooth with plenty of body but not over-endowed with top end. Compared in an A/B test to a more expensive AKG SolidTube, the Behringers lacked some of the top end zing but still turned in decent results recording an acoustic guitar. On a guitar cab, the sound was captured with great accuracy and male vocals were recorded with a flattering sound, rich in low end.

While there was little sonic difference between the T-47 and T-1, the pad switch on the T-1's body does make it a more useful all-rounder in that it can handle higher SPLs. Behringer see it as being a good kick drum mic and the bottom end response is solid so there is no reason, with the pad engaged, that it couldn't take its place in front of the kit.

Bargain valves

OK, the naming is a bit cheeky – these are not Neumann U47 clones but neither are they rubbish. If you are looking to expand your mic collection by adding a valve mic, these two offer that option without breaking the bank. Both are capable of producing good results on a variety of studio tasks, but the pad switch on the T-1 gives it the edge in versatility. **FM**

FutureMusic	VERDICT
BUILD	
VALUE	
EASE OF USE	
VERSATILITY	
RESULTS	

Very affordable valve mics that you could find plenty of use for in plenty of different tasks.

Garritan Personal Orchestra 4 | \$150

Is the world's most affordable orchestra now irresistible? **Jono Buchanan** conducts Version 4



ON THE DVD

WHAT IS IT?

Version 4 of Garritan's bargain and popular orchestral plug-in library

CONTACT

Who: Time & Space
Tel: +44 (0) 1837 55200
Web: timespace.com

HIGHLIGHTS

- 1** Right balance between quality and value for money
2 ARIA Player provides tactile, easy to use 'host'
3 ProjectSAM Brass sample content incorporated

UPGRADES

Upgrade to v4:
\$49.95

SPECS

System Requirements:
2GB RAM, 3.5GB of free
hard drive space, hard drive
speed of at least 7200RPM

As the likes of Vienna Symphonic Library and EastWest Quantum Leap continue to develop

orchestral libraries with increasing sonic quality and performance capabilities, you'd be forgiven for thinking that you'd need deep pockets and lots of hard drive space if you want to get involved.

Garritan's Personal Orchestra, now in its fourth incarnation, promises to challenge that notion by providing a full orchestra, a choir and assorted other 'orchestral' goodies for a mere \$150.

ARIA overview

GPO V4 is the first to be fully downloadable from Garritan's website, though boxed copies are also available. The downloaded file expands to occupy just 3.5GB of hard drive space but manages to squeeze an entire orchestra of sounds into this capacity.

Once downloaded and activated, you'll find GPO's instruments organised

into nine categories, which load into one of 16 slots in the new host Aria Player. In many categories, you can either load a particular patch to produce the articulation type you want to use or a global one with KeySwitches to let you flick instantly between variants.

I was impressed by the sheer number of these – the Section Strings, for instance, provides long and short articulations, patches for up and down bows, pizzicato, tremolo, mutes and three trill variations. As well as Patch Selection, each slot on the Player lets you select an output routing, a MIDI channel and fine tuning of up to 100 cents sharp or flat.

What else is new?

Each slot also features its own volume fader, pan dial and auxiliary send dial, the latter of which can access GPO4's new Ambience effects. There are 12 variations including Concert Halls and Ballrooms, with eight parameter dials to

help you shape whichever effect you select. Above the Effects tab on the right, the Controls option lets you configure a global three-band EQ with sweepable mid frequency, as well as setting the size of the stereo stage and applying amounts of 'humanising' effects such as Variation, Portamento and variable note length, which can be quickly introduced via Controller Changes via your keyboard.

As far as library updates go, the biggest news is that Garrigan have teamed up with ProjectSam to provide additional Brass content in all four categories – Trumpets, French Horns, Trombones and Tubas. These sound rich and full and I wouldn't be surprised to find this relationship developing in the coming months.

Who is it for?

It's perhaps no surprise that, next to Vienna Symphonic Library et al, GPO4 might seem the poor man's orchestral choice. Such a comparison would be grossly unfair as GPO isn't attempting to take on the might of the more vast orchestral libraries – its remit is completely different.

This is the fastest loading library, with the tightest integration with 'score-writing' software like Sibelius and Finale available on the market and while its library doesn't offer every conceivable performance articulation or bottomless velocity variation, it does allow good-sounding orchestral emulations to be constructed quickly.

The library balances immediacy with enough variation (key switches, sufficient articulation choices, MIDI controller assignments) to allow some great results to be programmed, particularly when its sounds are used alongside other textures and synthesized instruments. As a triangle between value for money, quality of results and speed of use, it sits very snugly in the middle. A good place to be. **FM**

**FutureMusic VERDICT**

STABILITY



VALUE



EASE OF USE



VERSATILITY



RESULTS



Sits aside from the orchestral 'big boys' to provide good quality at a great price.

SM Pro Audio M-Patch 2 | £100

SM Pro Audio believe quality monitor control needn't break the bank. **Greg Scarth** contemplates...

WHAT IS IT?

Passive monitor controller and headphone amp

CONTACT

Who: tt Audio
Tel: +49 (0)2504 88 88 780
Web: smproaudio.com

HIGHLIGHTS

- 1 Monitor controller with passive signal path
- 2 Input/output selection, mute and mono controls
- 3 Built-in headphone amp

SPECS

Headphone amp frequency response: 20 Hz – 20 kHz (± 0.5 dB)

Dimensions: 220 x 120 x 86mm

Weight: 1 kg

Monitor control is one of the simplest but most important aspects of any studio setup. Not only

does a hardware monitor controller protect you from any nasty surprises if the digitally controlled output of your audio interface plays up, but hands-on control of monitoring levels, mono summing and speaker selection can seriously improve workflow. I was very keen to take a closer look at the M-Patch 2, a simple monitor controller with a passive signal path and an enticingly low price.

The M-Patch 2 has already been a hit in mainland Europe, America and SM Pro Audio's native Australia, but can it conquer the UK?

Sounding out

The M-Patch's somewhat utilitarian case offers a variety of connection options which should suit most needs. Main input is by balanced TRS or ¼"

jack connection, while an auxiliary input can be connected via the RCA input. For monitoring, the two pairs of stereo output connections are via XLR only while the front panel houses a single ¼" stereo headphone socket. Rackmount ears are provided which offer a neat solution if you have a spare 2U rack space near your monitoring position or can double up as a crude stand for flat or angled mounting.

The feature set is surprisingly complete for a product at this price. The front panel houses the main rotary volume control along with separate controls for the aux input trim and headphone output level, plus dedicated switches for input and output selection and mute. Mono summing is activated using a toggle switch next to the main volume control, providing a quick and easy way of checking for phase anomalies. Small LEDs provide visual indicators of the selected inputs and outputs along with activation of the mono and mute settings.

Plug and play

In use, everything is straightforward. The main volume control knob feels solid and makes it easy to dial in a suitable level. As far as sound quality goes, the M-Patch's passive signal path means that colouration of the sound is

kept to a bare minimum. My only criticism is that the potentiometer doesn't track perfectly at lower volume settings, but this is less a design flaw and more an inherent problem with the technology. The best solution would be a stepped attenuator, which would also be even less coloured, but that would increase the price significantly. In practice, it's not so much of a problem as long as you have your monitors' volume controls set appropriately.

It's worth noting that the M-Patch's attenuation, switching and summing circuitry is truly passive and runs without the use of a power supply, but the on-board headphone amp and indicator LEDs require a 12-16 volt wall wart-style DC power supply. The M-Patch is currently only supplied with a European two-pin plug, meaning that you'll need a plug adapter or a universal PSU to get up and running. SM Pro informed us that they hope to supply UK-ready adapters in the near future, while some UK retailers are already throwing adapters in with the package to sweeten the deal.

Once that minor hitch is out of the way, the M-Patch's active features do the job with a minimum of fuss. The headphone amp is acceptable for a unit in this price range, offering a maximum power output of 320mW into a 32 load with reasonable if unspectacular sound quality.

Conclusion

At this price, the M-Patch 2 is an extremely attractive solution for monitor control. I'd certainly rate it above competition like the Samson C-Control and slightly cheaper Behringer MiniMon. I suspect the M-Patch will be suited to most home studios, and would suggest that it be considered alongside even more expensive rivals such as the Mackie Big Knob and TC Electronic BMC-2. Worth a look by everyone on the hunt for monitor control. **FM**



FutureMusic VERDICT



Excellent monitor controller at a great price. Well worth the hassle of finding a UK power supply.

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Contact: 02074047080/info@subbassdj.com
Website: www.subbassdj.com

PreSonus FireStudio Mobile | £269

Mobile interfaces are popular, yet many sacrifice quality. **Jono Buchanan** finds a middle ground...

WHAT IS IT?

A portable interface with the same circuit quality as FireStudio

CONTACT

Who: TC Electronics
Tel: +44 (0)800 9178926
Web: PreSonus.com

HIGHLIGHTS

- 1 Tons of I/O for a compact interface
- 2 Solid construction
- 3 Great sounding pres

SPECS

System Requirements

PC: Windows XP SP2 or Vista, 1.6GHz processor, 1GB RAM

Mac: OS X 10.4.11 or Mac OS X 10.5.2 or later (10.6 supported in 3.4.2 driver)

Microphone Preamp: XLR Balanced

Phantom Power: +48V

Instrument Input: 1/4" TRS

Main Outputs: 1/4" TRS

Impedance Balanced, Output Impedance: 51 ; Headphone Output

Digital Audio

FireWire 400Mbps

Bit Depth: 24-bits

Internal Sample Frequency

Selections: 44.1, 48, 88.2, 96kHz

Dimensions:

140 x 140 x 45mm

Weight:

2kg

PreSonus' FireStudio interface has become a popular choice for many a studio, as it combines a generous 26

channels of I/O with FireWire operation, 24-bit/96kHz quality, digital options, software control and even a 4GB bundle of instruments and audio loops to get going. For some users, this has proved to be an over-specified system, so PreSonus have responded with FireStudio Mobile, a super-compact interface that manages to pack a serious amount of its big brother's features into a portable package.

I/O to go

The first thing that strikes you about this interface is that it's built like a tank – with a rugged, brushed aluminium finish which immediately gives the reassuring impression the box won't be bullied by the inside of your laptop bag.

The front panel offers a pair of line/XLR inputs, with gain controls for each channel, a headphone port and level dial and master output knob. Round the back, you'll find twin FireWire 400 ports (new MacBook users take note of this compatibility issue), while further I/O is

supplied in the form of six additional 1/4" inputs and a stereo pair for the Main Outs. By now space has almost run out so PreSonus have neatly provided a combined solution for the interface's S/PDIF and MIDI capabilities – a breakout cable.

In and Out ports are provided for both types of data. Including the headphone output, this therefore equates to 10 inputs and six outputs in total – an impressive number for such a compact device. The interface is bus-powered via its FireWire port (though the box also includes a separate 12V power supply) and features switchable sample rates, with 44.1, 48, 88.2 and 96kHz all offered.

Portable quality

The preamps for inputs 1 and 2 are PreSonus' own XMAX designs, as featured on the FireStudio, which ooze quality. The sound produced is warm without being coloured and much more detailed from that captured from several 'rival' devices of this size. Couple this with JetPLL 'jitter elimination technology', zero-latency monitoring and the afore-mentioned solidity of

construction and what's so pleasing is that this becomes a true 'go anywhere, record anything' interface which should appeal as much to field recordists as it does laptop musicians looking to sling an interface in a bag for gigging or mobile recording, though do bear in mind that for 'outdoor' recordings, the bus-powered interface will eat your battery life for breakfast.

In the unlikely event that you don't have software which you already use for recording, FireStudio Mobile even ships with their own 64-bit DAW called StudioOne, which can be upgraded to StudioOne Pro if you like its approach, which expands the feature set with additional plug-ins, a dedicated Kore soundpack, lots of audio loops and other assorted goodies.

Conclusion

I've seen many portable interfaces pass through my studio but few feature this amount of I/O and mic preamps of this quality. If you're one of the many people looking for a mobile interface for whom those things are the primary interface requirements, FireStudio Mobile is worth your serious consideration. **FM**

FutureMusic VERDICT

STABILITY



VALUE



EASE OF USE



VERSATILITY



RESULTS



Not the cheapest but one of the highest quality mobile interfaces around.



Toontrack SDX: Custom & Vintage | £125

Superior Drummer continues to grow in versatility. And **Greg Scarth's** ears are in for a beating



ON THE DVD

WHAT IS IT?

Expansion pack for
Superior Drummer 2.0.

CONTACT

Who: Time & Space
Tel: +44 (0)1837 55200
Web: timespace.com

HIGHLIGHTS

- 1** Wide variety of rare and unusual drums
- 2** All samples recorded with high production values
- 3** Incredible sound from legendary signal path

SPECS

System Requirements:
12GB hard drive space for full install, DVD drive, requires Superior Drummer 2.0 installation (not included)

Hot on the heels of their well-received Metal Foundry and Lost New York Studios releases, Toontrack offer a huge new Custom & Vintage expansion pack for their Superior Drummer virtual instrument. The first few Superior SDX packs focused mainly on samples of classic drums and cymbals from well-known manufacturers, but the drum selection here is noticeably more esoteric, offering a huge variety of rare and interesting drums to add to your Superior collection.

Installation issues

Whereas previous expansion packs have been perfectly straightforward to install, Custom & Vintage initially refused to play ball with my Mac, despite the fact I was following the instructions to the letter. A quick email to Toontrack tech support revealed that Snow Leopard has changed the way OS X handles file permissions, causing a problem with the Superior installer. The problem is easily

solved by installing the files to the desktop rather than the Superior Drummer folder in the Library.

I'm assured that Toontrack are working on a solution but this workaround is currently the only option. Windows installation is completely unaffected and still runs smoothly.

Drum selection

Diving straight into Superior's kit construction window, a thorough investigation of the choices on offer reveals a huge arsenal of positively droolworthy percussive instruments. Big names like Ludwig, Gretsch, Noble & Cooley and Slingerland are represented, along with high-end boutique manufacturers such as Camco, Craviotto, Noonan and Canopus. Cymbals are mainly K Zildjian, with a variety of Turkish-made crashes and rides on offer.

Paiste provide a handful of further cymbal options, including 16-, 17- and 18-inch fast crashes plus bell, mellow

and dark rides in various sizes. The final choice comes in the form of the Steve Hubback Cymbal Sculpture, an unusual 24-inch handmade ride which offers a wide variety of unique tones.

How do they sound?

One of the most exciting features of the Custom & Vintage pack is the signal chain used in the recording process. All of the drums were recorded at London's 2KHz Studios and the list of equipment used in the sessions will make any gear nerd green with envy: an ex-Abbey Road EMI TG console with Germanium mic pres, a variety of classic Neumann, AKG and Sennheiser mics and the legendary Helios F760 compressor on one of the room mic channels. Soloing individual mic channels in Superior's mixer window reveals the outstanding clarity and character on offer.

It's also worth mentioning that the pack includes library of MIDI patterns played by highly-experienced session drummer Chris Whitten. Depending on the style of music you're making, these may come in handy.

Conclusion

Trying to add up the value of the sounds here is practically impossible. A drum like the Craviotto Timeless Timber snare alone would cost a couple of thousand pounds, putting the sounds in this expansion pack out of the reach of all but the most well-heeled drummers. For most of us, this is as close as we'll get to some of these rare and highly sought-after instruments.

The sound of the samples in this pack is perhaps best described as being less American than previous releases, with a less polished sound which might work better for British music than some of the slick, super-clean kits already available. Overall, the Custom & Vintage SDX is highly flexible, providing the professional results we've come to expect from Superior Drummer. **FM**

**FutureMusic VERDICT**

Category	Nikon D500	Canon EOS 5D Mark IV
STABILITY	9	2
VALUE	9	1
EASE OF USE	9	1
VERSATILITY	9	2
RESULTS	10	0

Toontrack hit the mark again with a distinctive sound and samples of extremely sought-after hardware.

TC Electronic Nova Repeater | £120

Following on from their Nova Delay pedal comes its simplified sibling – the Nova Repeater. **Dan ‘JD73’ Goldman** plugs in and trips away...



WHAT IS IT?

A digital delay pedal based on the Nova Delay pedal but with simplified user interface and feature set

CONTACT

Who: TC Electronics
Tel: +44 (0)800 9178926
Web: tcelectronic.com

HIGHLIGHTS

- 1 Sturdy
- 2 Expensive high quality sound
- 3 Very simple to use with great results

SPECS

Analog Inputs: 1/4-inch phone jacks with mono-sense

Analog Outputs: 1/4-inch phone jacks with mono-sense

Delay types: Studio, Analogue, Tape, Dynamic, Reverse, Ping-Pong

Tap Tempo Footswitch with hold for audio tapping mode, Spillover and Kill Dry Functions

D-A Conversion: 24-bit, 128 x oversampling bitstream

Dimensions:
130 x 130 x 55mm

Weight:

765g

10

The Nova Delay pedal is well regarded among guitarists, counting Nils Lofgren (E Street Band) and Doug Aldrich (Whitesnake) among its fans. However TC have been listening to user requests for a simplified version of the Nova but utilising the same high-quality sound engine, and so, the Nova Repeater was born.

So what's the Repeater all about? In essence it's a digital delay pedal, without presets that emulates a number of delay types including Studio Grade Digital, Analogue, Tape, Dynamic (which ducks the initial start of the delay and allows your instruments initial attack to come through clean before the delay continues) Reverse and Stereo Ping-Pong.

Case construction feels very solid with high-quality brushed aluminium and heavy-duty plastic sides, tight feeling pots (with no sideward play) and decent footswitches. The pedal is also reassuringly heavy though it's powered by the now obligatory wall wart.

Pedal control

The pedal can run in mono or stereo and has high and low inputs for high and low input signals respectively. Generally high would be used if you have a preamp or high boost circuitry in the signal path and low for normal to low input levels.

Now the controls – there are five rotary pots in total. From left to right, there is Delay time, Feedback, a Tone control, a Mod control and an FX level



control (dry/wet control). Functionality of these controls can change depending on the selected mode, so for example, the feedback in the tape delay mode induces more distortion.

Below the rotaries is a guide displaying delay ranges (though the writing here is small so it's unlikely to get used as a reference during a live performance) and there's also a range button to select from the three preset delay times (unlike the TC Nova Delay that has a three-segment LED delay time readout).

Next to the range button is a Kill Dry button that kills the dry signal (useful when using the delay in a parallel FX loop) and a Spillover switch that allows repeats to die away naturally after the effect is bypassed. To the right hand side is a Delay Type selector for the six delay types and a Division button that can select from six preset note values for the repeat patterns. There's also a tap tempo footswitch that has a nice hold feature, allowing you to set the delay tempo by playing a rhythm on the plugged in instrument. This is a very useful feature and can be as creative or as practical as you need it to be.

Delayed reaction

The Nova Repeater is a very simple to use delay and it really does sound great. All the modes sound like they should with a solid and expensive sound. Each mode exhibits its own character and there are certainly enough sound-shaping parameters for personalising your sound.

Sonically, this pedal is really up there with the best. However there are a few letdowns. There's no way to sweep pitch using the delay time in the tape and analogue modes, there's no expression pedal input, nor can it be battery powered. These gripes aside, if you need a high quality, no fuss delay pedal, be sure to check this one out. **FM**

FutureMusic VERDICT

	BUILD	VALUE	EASE OF USE	VERSATILITY	RESULTS
100					
90					
80					
70					
60					
50					
40					
30					
20					
10					
0					

A great sounding, well built and simple to use delay pedal that's very reasonably priced to boot.



FOCAL CMS 50 / 65 Active Nearfield Monitors

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- M.I.P.A (April 09)

m.i.p.a.

I can honestly say I found nothing about their performance
to dislike. ...they have to count as some of the sweetest and
most natural-sounding desktop monitors I've heard in the
price range. Highly recommended

- SOS (April 09)

SOUND ON SOUND
The World's Best Music Recording Magazine

I would personally choose the CMS65 monitor for
day-to-day use without hesitation. For me, the Focal
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- Audio Media (April 09)

AUDIO MEDIA
The Official Journal of the Recording Industry

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Mini Reviews

The latest musical bits and pieces racked and rated



Mono EFX Producer Messenger Bag | £109

monocase.com

When it comes to bags and luggage in general, I have to say I'm becoming a bit of a fuss-pot. Travelling a lot means that having a well-designed bag can save me tons of hassle when trying to access all of my various bits and bobs safely. Made out of a robust material, this producer bag happily

accommodates all of my electronic bits – laptop, cables, etc – and fits on easily as hand luggage on the plane. It's comfy enough to carry on your shoulder, even when full and weighed down by a large 17" laptop. The only gripe has to be the way the main flap of the bag fixes down – the two clips mean unless you're sat down or have the bag perched somewhere, it's a

struggle to open and close the bag when on the move. So far though, this bag has happily taken me all over the world and protected my laptop and gadgets in a variety of weather and situations. Definitely one of the best messenger bags I've ever had the pleasure of jetting with. *Chris Barker*

9/10

MiLi

Powerskin | £50

powerskin.com

Tsk. Jonathan Ive designs the sleek, gorgeous iPhone handset and as soon as it hits the street everyone whacks in a gimp suit... Fortunately the Powerskin not only keeps its presence as discrete as possible but also packs a battery secreted in its back that effectively doubles your charges.

Surrendering your 3G to the Powerskin is an easy affair though it does mean losing access to that 30-pin connector. Instead charging and syncing is carried out via a Mini USB port (and supplied cable). From there it's a breeze to use, with both phone and 'skin charging and draining together. The only thing you'll notice is that your phone is slightly thicker (but not much heavier) and you get almost twice the audio or video out of it before you need a plug. Slick. *Daniel Griffiths*

9/10



Think Geek Bliptronic 5000 | \$49

thinkgeek.com

With the advent of the Yamaha Tenori-on, the world's interest in portable quirky square instruments exploded. While the Tenori-on offers a comprehensive set of music-making tools it also comes with a substantial price tag. Enter the Bliptronic 5000. While this diminutive silver box might not have all the bells and whistles of its counterparts, it also has a very different price. Think Geek have come up an 8x8 LED button grid with a small built-in speaker and four

basic controls. You can loop, change BPM and also the timbre of the sounds with eight different settings along with a line out and an interesting Link option that lets you connect multiple units together. However, the Bliptronic has some serious limitations: the fixed scale, naff GM-esq sounds and rigid tempo options. But, this is a very cheap option that can offer some real fun and is just begging to be circuit-bent and expanded. *Will Seelig*

8/10



Drum Machines 01 | £22

wavealchemy.com

The latest in a long line of impressive sample packs from Wave Alchemy, *Drum Machines 01* gathers together three previous products, *AirBase Drums*, *Deep Drums* and *Elektrik Drums*. This exhaustive compilation features a wide variety of sounds generated by analogue drum synths from JoMoX and Vermona.

There are no loops, just top quality kicks, snares, claps and more. All 1,400 samples were recorded in 24-bit WAV resolution through API preamps and an assortment of high-end outboard. At this bargain price, *Drum Machines 01* would make an outstanding addition to anyone's collection. **Greg Scarth**

9/10



Platinum Essentials 3 | £65

timespace.com

Preposterously named Hip Hop producer Keith 'Clizark' Clark mans the boards for this West Coast compilation from Big Fish Audio. The content here is divided into 40 construction kits, each with all kinds of drums, bass, synths, percussion and everything you need to add a big of contemporary West Coast vibe to your tracks. As you'd expect from a successful producer like Clark, the loops here are all top quality and there should be something for most Hip Hop producers to work with.

At this price, *Platinum Essentials 3* faces some tough competition but it's easily on a par with most of its rivals. Well worth checking out. **Greg Scarth**

7/10



Big Fish Audio G-Suite | £65

timespace.com

Big Fish Audio come up trumps again with this collection of Hip Hop and R&B samples. Comprising 40 construction kits each broken down into drum loops, individual hits, bass, synths and plenty more component parts, *G-Suite* offers something for everyone. There's a heavy G-Funk influence on a lot of the content here, with plenty of sounds reminiscent of older Dr Dre and DJ Quik productions.

Although clearly inspired by existing tracks, the sounds on *G-Suite* are fresh enough that they could easily be used in your own productions. As usual with Big Fish, all the major sample formats are catered for. **Daniel Griffiths**

8/10



Kolombo's Secret House | €85

mutekki-media.de

Raincoat-wearing, cigar-smoking Belgian House artist Kolombo (aka Olivier Grégoire) enters the sample DVD arena with this impressive release. Focusing on loops with a nice handful of REX/EXS-24/ Kontakt patches thrown in for good measure, it should come in very handy for producers of Deep, Progressive and Tech House. Germany's Mutekki Media have a pretty low profile in the UK but if they keep pumping out sample discs as good as this they'll soon have producers of hard and minimal tunes going crazy for every release. Just one more thing: it's five Euros cheaper if you download it.

Declan McGlynn

9/10

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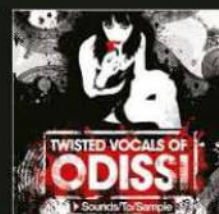
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Q&A

Our panel of experts answer your music-making questions, from hardware issues to software ideas, with tips and tricks along the way

Real keys for my iPhone

Jonathan Bloomfield asks:

Q I've had a bit of a laugh making music on my iPhone, but with some of the music-making apps, I'm finding the touchscreen a bit restrictive. So, I was wondering if there was any way that I could plug a MIDI keyboard in and use that? I realise that the iPhone doesn't have a USB port so I'm guessing not, but I thought I'd ask just in case.

Mark Gyver replies:

A Apple made it possible for third-party hardware manufacturers to create products that hook up to the iPhone and iPod touch last year (via the dock connector), but MIDI keyboard builders didn't take the bait.

However, Ion (Akai/Alesis's 'consumer brand') recently did by announcing the iDiscover Keyboard. This is a 25-note device that features a central dock for your iPhone or iPod Touch, and is designed to be used with a dedicated app that contains instrument sounds that can be played and recorded. There's also Akai's new iPK25, which seems practically identical but is black rather than white and comes with a different, synth-based app.

So far so good, but what isn't clear at the moment is whether the iDiscover Keyboard or the iPK25 will

work with other apps, though it has been reported that Ion/Akai have said that they plan to open the hardware up to other developers. It seems possible, though, that – for a while at least – it'll only be able to control its own software.

What's more, you need to consider when you actually make music on your iPhone. Chances are it's when you're away from your desktop or laptop computer – in which case, do you really want to be carrying a keyboard as well?

This is a question that only you can answer, though and the iDiscover and iPK25 do at least benefit from a USB connection that enables you to use them with your Mac or PC, giving them a bit more flexibility. They'll be released in the second quarter of 2010: the iDiscover doesn't have a price yet, but the iPK25 will retail in the US for \$199.

Should I update Logic?

Damien Walker asks:

Q I recently bought Logic Studio and I also have Snow Leopard (Mac OS X 10.6) installed on my computer. I know that this means that if I upgrade to Logic Pro 9.1 and MainStage 2.1 I'll be able to use them in 64-bit modes, which I guess is better than using them in 32-bit. However, I've heard that if I do

upgrade, some features might not work any more, so I'm a little wary.

Could you let me know the score, and if there are actually any benefits to upgrading?

Mark Gyver replies:

A Logic Pro 9.1 and MainStage 2.1 are indeed the first versions of these applications to support a 64-bit mode. If you do choose to upgrade (and run them in 64-bit modes), you may notice some slight performance improvements, as they can address more RAM than their 32-bit counterparts, which are limited to 4GB. Obviously, though, this will depend on how much RAM you actually have installed.

You are right, however, when you say that, at the time of writing, some features are missing from the 64-bit version. These include MP3 conversion and support for REX files and ReWire, so they're not insignificant, either. That said, it's important to stress that these features do still work in the 32-bit version of Logic Pro 9.1, and because projects created in one mode can also be opened in the other, you could switch back to 32-bit mode when you wanted to use them.

I should also point out that 32-bit plug-ins are automatically opened when in 64-bit mode using the 32-bit Audio Unit Bridge, so hopefully you shouldn't have any compatibility problems there either. So, should you upgrade? Apple say that "the update improves overall stability, provides numerous fixes and enhancements, and is recommended for all users of Logic Pro 9", so the answer has to be yes. You can always just use the 32-bit mode for now and switch to 64-bit later when the missing features have been added to it.

MPC for me

Alton Davies asks:

Q I'm thinking of getting an Akai MPC for studio and live gigs. Currently, I work on Hip Hop tracks on my computer but I'm sick of being tied to a screen and keyboard and don't want to lug a laptop to gigs. I've done a lot of searching on the net but wondered if you could provide me with a definitive answer to the eternal question – 'which MPC is best?'

I'm unsure whether to cop one from the new range, or should I go for one of the older 'classic' models. I've

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.

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Monmouth
Street, Bath
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iKeys

Ion's iDiscover Keyboard has a dock for your iPhone or iPod Touch and will work with its own dedicated app



Under Control

Dave Danford asks:

Q I'd like to buy a control surface for my studio that doesn't have an audio interface built in because I've already got an M-Audio ProFire 2626. I'll be mainly using it with Cubase 5 for recording and mixing so motorised faders are a must but it would also be good to include some rotaries for some of the synth

programming I do in Reason 4? The Mackie Control Universal Pro is great but a bit too much money! Can you recommend a product that fits the bill and won't cost me the earth?

Dan Goldman replies:

A No problem Dave. The Mackie Universal control is a well-featured and solid bit of kit but it does

come at a price. Thankfully there is an alternative that comes straight to mind. Many of my DJ and producer friends can't believe how decent the Behringer BCF2000 is for the money. It will do everything you need for around the £180 or even cheaper which is a real steal. It has motorized faders, plus plenty of rotary controls too, which would be perfect for you to use with Cubase and Reason.

As a bonus, it will communicate with your computer either over MIDI or USB. It can also be put in Mackie Control mode for comprehensive

instant mapping. Obviously don't expect anything amazing in terms of build quality, but many users report solid and reliable performance with decent enough build and can't believe how good it is for the price. Plus, you could buy more than one for 16 channels of motorised control for just over £300. Couple it with a BCR (the rotary equivalent) and you're sorted.

Put it this way, if it breaks, they are cheap enough to replace anyway and the rest of the money you can save and spend on other essential studio purchases!

The Behringer BCF2000 – plenty of control at a serious bargain price

heard these sound 'better' but as I can't get to try one I'd really value your opinion on this one!

Dan Goldman replies:

A I know how you feel having been in this position too. You find yourself trawling through forums for days where nobody really gives a decent answer to which MPC is best! Thing is, it's quite a hard thing to answer and it depends on budget vs the sound that your after and the features you require.

First off though, let's deal with the older models. The revered models are the Roger Linn designed products – the MPC 60 and MPC 3000 and the old 2000 and 2000xl also has many fans. The 60 is a 12-bit sampler while the 3000 is 16-bit. Both these machines are built like rocks but they do have subtly different sequencer feels to the new models in terms of both the timing (i.e. where they place the notes when you record in) and the swing feels (skippyness/bounce).

Many people prefer these older models to the new due to this different feel but it doesn't mean

they're better, just different. For me it's the sound of these earlier models and the slightly rolled off highs and grit that they induce that I love.

Even the 3000, which is 16-bit, has a grungy sound in comparison to the new 16-bit MPCs (500,1000, 2500, 5000). However as a purchase, I wouldn't recommend the old ones. There's a lot to consider and plenty to go wrong. Many of them have issues including worn out pads and data entry wheels, bad screen backlights, slow load times (a killer on stage) and though they can be updated and almost brought up to the specs of the new models with available third party operating systems from companies such as Mansell Labs (for the older MPCs) and JJ OS (for the new models) this can end up costing a bit.

The older models also still rely on outdated SCSI connections which are slow in comparison to the flash cards and hard drives in the new models and while you can put zip drives and compact flash readers into the old models (check out

scsiforsamplers.com for a huge range



of expansions and upgrades for old MPCs) the cost soon adds up and you need to be fairly confident at installing electronic components to add these upgrades. Having said that, for some only the old sound and feel will do so cost isn't paramount. If the old grungy sound and dirty swagger is what you're after then you can bring the old models into the now, its just it

will take hard cash and a bit of effort! Also, if possible, avoid getting old zip drives as they can be pretty unreliable over time.

So my money would be on a new MPC. You can drag and drop samples in WAV format easily to and from your computer via USB, screens and pads are much more likely to work for longer due to the newness (unless you

Wireless Studio

Nick Jane asks:

Q I have my studio in two rooms separated by 10 metres. The main room contains my computer and monitoring. The second holds my hardware. What's the best way to use my hardware synths with Logic in my main room?

Doug Kraul replies:

A You can add a Mac, say a Mac Mini, in your second room and use OS X's built-in network audio and MIDI to connect the two rooms over a wireless network. Use a multi-channel soundcard, or a mixer and

soundcard combination, to connect your synth audio outputs into the remote Mac. Likewise, use a USB MIDI interface to provide MIDI from the computer to the synths and hardware.

Wireless network audio has capacity limitations so it's best to limit the number of

channels to prevent pops and clicks when recording. There is also significant audio latency so you will need to modify your workflow if you wish to record live play.

Work up your tracks by first recording a MIDI version using a local software instrument, then record the network audio from one of your remote synths playing that MIDI track. Use Logic's track timing offset to compensate for the latency. One thing to watch out for is

that there is an sometimes issue with OS X's 'network audio' Audio Unit plug-ins where they exhibit increased latency the longer they run. Reset the connection in the plug-in to return latency to its nominal level.

OS X Leopard offers everything you need out of the box to establish a wireless remote studio in your home. Let's look at how to set one up, and how to operate it from the comfort of your main studio computer.



1 You will use OS X's Screen Sharing to interact with the remote computer from your main studio computer. On the remote computer go to the Sharing System Preference panel and make sure Screen Sharing is enable. Use the Finder on the main computer to commence a Share Screen session.



2 Run an Audio Unit compatible host, like GarageBand, on the remote computer. Set up a project with one record-enabled input channel for each hardware synth or mixer. Assign AUNetSend as the last active plug-in on the master output. Select a 24-bit format and give it a Bonjour name like 'Remote Studio' or whatever you want to call it.



3 Open Audio MIDI Setup on both computers, then double click Network to create new network devices (the upper one is remote computer). Use Live Routings and connect your remote studio's physical MIDI interface to the network MIDI port.



4 Create MIDI tracks, assigned to the remote MIDI port, for each remote synth. Add a software instrument using the AUNetReceive plug-in. Route this channel to a buss named 'REC'. Set record inputs to this buss when recording remote synths. Monitor the remote studio using the aux channel Logic created.

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get one used, then you need to try before you buy) and the operating systems are great, particularly if you download the free or paid-for JJOS updates which bring added functions to the MPC not available with Akai's own operating system. While the new MPCs certainly sound more hi-fi and a little cleaner and more precise, they still have that mojo that only these

machines have, the workflow is great and above all it means you don't have to stare at a computer screen all day, which can be great for creativity.

Finally, for live use the MPCs are very sturdy and reliable, easy to use and far less cumbersome than setting up your precious laptop! Depending on budget, a 500, a 1000 or a 2500 will suit you well. Hope this helps.

The 64-bit question

Mitchell Leonard asks:

Q I am worried that soon I won't be able to run my 'old' sequencer and plug-ins on a new computer running a 64-bit OS. Why are 64-bit sequencers taking so long and will my old plug-ins soon stop being compatible?

Doug Kraul replies:

A There has been much progress already on this front. Cakewalk and Cubase already have 64-bit versions for Windows, and Logic 9.1 recently brought 64-bit sequencing to Snow Leopard. If your favourite application though is slow to migrate, do not fret about compatibility: 64-bit Windows and OS X will continue to run 32-bit applications for a good while.

Running 32-bit applications on a 64-bit OS does provide immediate benefits too. The extra OS memory addressing means more physical RAM shared between all applications (even 32-bit ones), and fewer time-consuming virtual memory operations. System performance benefits from increased RAM availability.

Microsoft and Apple have worked diligently to insure that existing 32-bit applications, including your favourite sequencer, work well with their 64-bit OS'. The few issues will be sorted promptly, and once they are, there are few reasons to delay upgrading to a 64-bit OS.

Affordable Drums

Charles Mountfield asks:

Q I would describe myself as a singer/songwriter and I record my stuff on my PC in Cubase. At the moment, I'm using audio drum loops in my songs, but I'm finding that these are a bit repetitive so I want to start creating my own. I want these to sound like they've been played by a real drummer. My question is: what's the best piece of

affordable software (under £100) that will enable me to do this?

I've seen reviews of things like BFD and Superior Drummer, but they're pretty pricey and, for my needs – a bit OTT I think. My other issue is that I'm not a great drum programmer, so I don't want to buy a product that gives me great sounds and then find that I still can't make anything decent with them.

Mark Gyver replies:

A Although most DAWs now come with plenty of features that enable you to chop-n-change your audio loops, for maximum flexibility, MIDI triggering audio still rules.

For someone in your position, the product that springs immediately to mind is Toontrack's EZdrummer (£89). This

comes from the same stable as Superior Drummer and offers a variety of kit pieces. It also includes more than 8,000 MIDI files. Another potential option is FXpansion's BFD Nano – a cutdown version of BFD2. This features a variety of kits and comes with over 1,500 MIDI patterns, while the humanisation should help you get the right feel. It's expected to cost £100.



Dual FireWire soundcards

Anita Lee asks:

Q I need another soundcard for my outboard gear. I'd like to add a second TC Konnekt 48. I record and mix at 96kHz so the pair must work at that sample rate. Will this work?

Doug Kraul replies:

A The Konnekt 48 uses FW400 to deliver 62 audio channels. Some quick math would seem to indicate that there is enough data bandwidth in a FW400 connection to accommodate two such interfaces at 96kHz sample rate. Unfortunately this is not the case.

The FireWire standard reserves at most 80% of the data bandwidth for audio streaming. In practice, only 50% to 60% is normally available. This is inadequate to support two TC Konnekt 48s running at 96 kHz. You'll need another FireWire interface to handle the second soundcard's data bandwidth needs. If your desktop has PCI-style expansion slots then an inexpensive FireWire PCI card will suffice. Laptops can be expanded using a PCCard or similar. If your computer lacks these expansion options then a second soundcard will not be possible at 96kHz.

Q Steve Mooney asks: I've just purchased Logic and need to set up a template that has plenty of audio, audio instrument and MIDI tracks that I can keep coming back to when I start a new session each time. Can you show me step-by-step how to do this easily? I'm a little confused about how best to start, as I'm new to the program and I know it would save me a lot of time in the future.

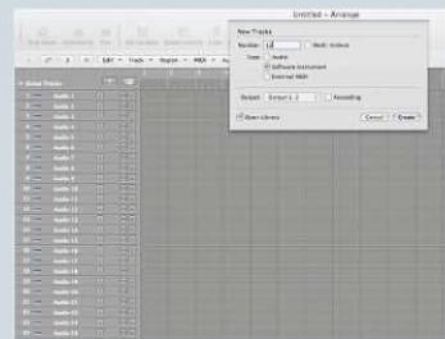
A Dan Goldman replies: No worries. You can either start from one of Logic's preset templates or as I prefer, make your own, specifically tailored to your own requirements. Follow these instructions and you'll be up and running in no time.



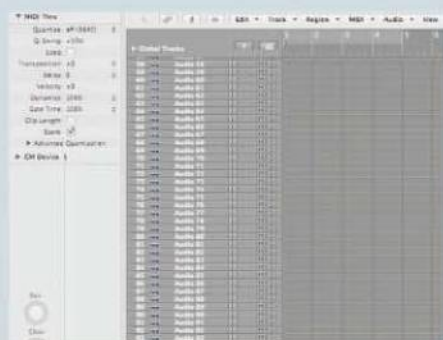
1 Open Logic and select the empty project icon.



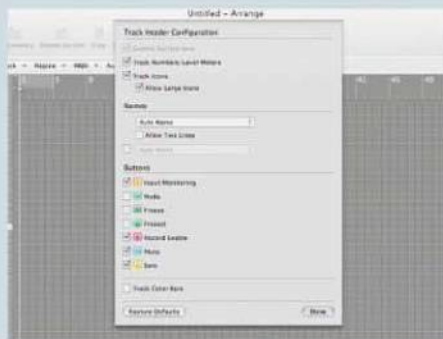
2 A dialogue box comes up. First add your audio tracks. You can select stereo or mono, how many tracks you need and if you want the outputs to ascend. If you select ascending, Logic will assign your outputs in ascending order to save time setting each one up manually.



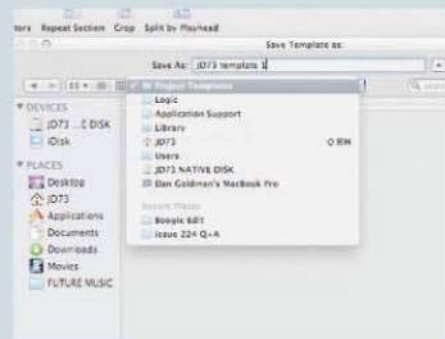
3 Add your Audio Instruments tracks as needed by clicking the '+' button. If you check the Open Library box, the library window will open so you can easily add your favourite plug-ins, so that they open with the template every time.



4 Repeat the process for your MIDI tracks and assign the MIDI channels as necessary for your specific equipment in the far left-hand column on the screen. The list of MIDI instruments will appear in the library window on the right if the Open Library option is checked. These can be named to reflect your MIDI gear for keeping everything nicely organised.



5 At this point it's worth customising your toolbar across the top of the page, adding any shortcut buttons you require. Also, I find it useful to add colours to each track, so that when you record, each track or group of tracks has its own corresponding colour. To do this, bring up the colour window (Alt+C) and go through each track in turn adding the colours you need. Finally go through and add the functionality you need to the track headers using the configure track header option in the view menu. Here you can add options for freezing, nodes, mute, solo, channel protect and more.



6 Save the template. Click File>Save as Template then the dialogue window will come up asking where you want to save and how you want to name your template. You can create a folder with several templates in, or just a template on its own. Finally, name your template and click Save. That's it! Your templates will now be stored in Users>Library>Application Support>Logic>Project Templates for future reference. **FM**

IT'S TIME TO GET SERIOUS.

Dream of a music career? Get on track in 2010 with the brand-new Computer Music Special. It's the practical guide to success for aspiring artists, tunesmiths and producers



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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

- > Apple Mac Pro, 2 x 2.26GHz Quad-Core Intel Xeon, 6GB
- > Genelec 1030A (2x)
- > RME Fireface 400
- > Eurorack modular synth

Software

- > Logic Pro 9
- > Sylenth1
- > Ultrabeat (from Logic)
- > Cytomic Glue
- > IK Multimedia CSR

FAVOURITE GEAR

> "I don't think really I have one. They are just tools; a means to an end. I try not to get too much emotionally attached to them. If I really had to choose one, it might be Logic Pro 9. I like it."



Aflecht Chronos

Contact: krakulandia.info



Yes! We all raised a smile when this track landed on the office system. A buzzing and shimmering chunk

of Electro House that hits all the buttons. Love the delayed 'clanging' in this one. The metallic elements being nicely offset with a solid bass end and a very pronounced snare which keeps the pressure on when some of the more airy 'bleepy' elements threaten to take it more mainstream.

Like we always say, if you've nailed a great sound – be it vocal, bass or snare drum – don't be afraid to show it

off in the mix. Mixing around your bass and snare drum was definitely the right way to go here.

It's the chunks where the bass and drums are allowed to breathe and kick it together that we like the most however. It's pure Electro class (and we know you were aiming for a more Trance style!) but the tight gating on the snare and bass – revealing plenty of stop-start gaps in the arrangement – are a real high.

Watch the top end on your keys – some parts are a little shrill at times – but liberal use of that Cytomic Glue compressor keeps this tight and in check at all times. Superb.

The Artist



Name: Sami Koistinen
Where: Helsinki, Finland
My track: "I think it has lots of Trance

elements to it, but I've heard people describe it more as Electro House. Go figure. Whatever it is, it has a moody melody going on with a dance background."

Which bit of the track are you most proud of?

"The beginning chord progression. Everything else was built around it. Rest of the ideas in this track were born from it. The chord progression was born while I was trying to come up with a hook for a new song (which ended up becoming *Chronos*). I was just sitting there and thinking very very hard. Fortunately my hard thinking produced a usable result."

If we were to give you £5,000 for gear, what would you spend it on?

"I would definitely do something about my room acoustics! It's horrible to do any mixing in here. In addition to that I would probably buy a top of the line Apogee audio interface."

What are you working on right now?

"A 70's disco inspired track. Unfortunately I'm missing a singer with a suitable voice..."

The Best of the Rest...

Rhino Senior Wasted Dayz

myspace.com/rhinosnr



"I'm probably most proud of the arrangement," says this track's maker,

Paul Burnett. "I constructed it in

Cubase some time ago before I met Propellerhead's Reason."

There's lots of loop library at play here but the sounds and structure are strong enough. We'd prefer a little more bass however, so don't be afraid to fire up a synth and give your loops a bit of contrast!

"Right now I use the usual PC, Yamaha Midi Keyboard, Cubase SX, Goldwave Editing Software. The loops were that good I really didn't need to do much to them. Of course these days I like to put in a lot more effort, constructing my own sounds in Reason," says Paul. It's certainly a

start but there comes a point where you're not getting the sonic variety in your track to do it justice. Like we say, more bass and less loops next time!

Dark On Tuesday Schools Out

darkontuesdays.com



"This is a shoegaze inspired drone led burst of electronica," says Tim Harris. "I'm

most proud of when all the elements kick in around 1.32. It's actually a sample of the main vibes without delay and mangled repeatedly through a host of Ableton effects, timestretched and repitched up. So somehow ends up sounding like a guitar." We love the sound and it's just one of the highlights here.

"We use a Shure S7, Macbook Pro, Japanese Fender Jaguar, M-Audio Ozonic, Samson Resolv 40a

active monitors, Ableton Live 8, Guitar Rig 3 and Rig Kontrol 3.

"If we had the money we'd buy a Nord keyboard and a new MacBook that doesn't have a broken screen," says Tim. "Right now we're working on some remixes of the tunes on our 'collection of demos' and finishing off a few tunes new tunes that seem to be heading more to the darker side than Schools o u t. Once that's done we'll be working out how we can do it all live, and then hopefully later in the year we'll work on a full length album. Great track, brimming with ideas. Look forward to hearing more.

Club Filth I Feel So Good

isound.com/club_filth



"This track is raw, retro-flavoured and unpolished electronic body music emerging from a truly vintage studio," says Tim Wellens. We've had demos from Club Filth before and these guys really know what's what.

"I'm most proud of the sci-fi sounds, which seem to come straight

out of a 50's sci-fi B-movie," says Tim. "I used an Elektron Monomachine to get most pads and leads and put them through cheap old Alesis FX boxes and old guitar pedals. The Roland Jupiter 8, Roland Juno 60 and Yamaha CS-15 are responsible for most other synth sounds. The whole lot goes through a Spirit Studio console with a Smart Research C2 compressor inserted on the main bus.

"I recently bought a Mac 8-core 12GB with Logic 9 and a MOTU HD192 core system. I've never sold any equipment in my whole life, so it's a true HYBRID studio I got now featuring a lot of vintage synths."

We love the sound of this one. Proof that if you have lots of different sources you're always going to make a happy mash! Love it.

Jel Stokes a.t.l.a.s

soundcloud.com/calandjel



Such a simple tune but such a great track.

Super dry drums and lovingly controlled



SELECTED KIT

Hardware

- > Behringer UB1204FX mX
- > Behringer MS40 monitors
- > Behringer V-AMP Effects
- > Fender Strat Mexican
- > Storm Acoustic Guitar
- > Roland PC200 MK II
- > Zoom RT-323

Software

- > Ableton Live 6
- > Broombass
- > Cameleon5000
- > NI FM7

FAVOURITE GEAR

- > "My guitar."

Gus S.O.S

Contact: myspace.com/gusgrf

The origins of this one seems to be some protracted guitar jamming and

experimentation, all lovingly chopped into loops and strung out against a set of rhythms. While there is a song structure in place it's interesting to hear that the arrangement is the by-product of putting together matching, complementary phrases rather than us hearing a real band.

The effect is quite unusual and there are more than a few moments where tuning is an issue, as phrases work within

themselves but clash with each other at the edges. The solos help glue things back together however.

Do watch your choice of drum loop though. There are clearly moments where guitar and drums drift out of time – and do so with perfect regularity thanks to the loop based nature of the track. A little timing correction (or just go for another take) on the guitar before continuing would have fixed this.

As it stands however, it's a neat and unusual sounding piece that shows a great grasp for arrangement and mix and some fine playing.

Hot Pick



SELECTED KIT

Hardware

- > Apple Mac Dual G5
- > Focusrite Saffire
- > Edirol FA101 interface
- > Ensoniq EPS 16+
- > Mackie 1402-VLZ mixer
- > Spirit Absolute 2 monitors
- > Sennheiser HD 600 headphones

Software

- > Logic 8
- > FXpansion BFD
- > Spectrasonics Trilogy
- > Waves plugins bundle
- > Sonalksis bundle
- > D16 Group Devastator
- > Spectrasonics Stylus RMX

FAVOURITE GEAR

- > "I have a passion for old bits of kit off ebay. At the moment I'm in love with the Casiotone MT-220. But Stylus RMX is fab."



Him Blah Blah Dance

Contact: myspace.com/Boisounds

One of this month's most accomplished demos and this mix – at nearly eight minutes – gives the guys

plenty of opportunity to show off!

The production here is razor sharp and played out loud this sounds fantastic. The steady build to the drop at 1:30 (love those swirling string synth strings!) is text book and the interplay with the basslines is great. We'd pull back a little on the effects at this point though – keep those basslines nice and dry and lets hear some gaps in the track.

The vocal is worth shouting about to. The performance is great and the gorgeous delay and reverb is an chain we'd like to steal for our next track!

In fact we'd like to take a look at the whole project file for this one as there's pretty much every trick in the book going on here. The gentle bitcrushing on the lead line and a seemingly never ending bank of pad sounds and rhythmic elements from chopped up vocals to gated drones and a healthy (slightly over the top) layer of high-energy, high-frequency elevators and exciters. Great.



The Artist



Names:

Ben Block, remix by Daniel Thomason with thanks to Dom Keenan

Where:

Camden Town, London, UK

This track: "A remix with old fashioned values. Electro Disco, joyful and danceable..."

Which part of the track are you most proud of?

"I love the re interpretation of my strings riff and also the Vocals which soar like a sequined bird..."

If we were to give you £5,000 for gear, what would you spend it on?

"The new Roland AX-Synth keytar, a case of Jagermeister and 500 mini wind up Space Hoppers from Sainsburys."

What are you working on now?

"We are just going to shoot a glitzy but surprisingly low budget video for Blah Blah Blah that will be out be out, with the single, in the new year. We're also putting some finishing touches to the album; like recording some more tracks for starters!"

arpeggios make a noise that's both soothing and exciting.

The elusive Jel hasn't given us details of what's going on here, so that leaves his work as open to speculation. That said we wouldn't change anything about what's on display here. If anything though, a little more sound would be welcome. How about a pad sound blocking out those arpeggiated chords? Or a simple mono drone filling out the sound in the track's later stages?

It's a great sound and a beautiful melody. Hope you get in touch and give us more of your tracks!

Ragamuffins Get Up And Dance

myspace.com/ragamuffinsmusic



"This track is three and a half minutes of upbeat and heartfelt Electro Indie Pop with

one eye on the shimmering, synth future and a cheeky nod to the past likes of the Factory Records, *Orchestral Manoeuvres In The Dark*, Saint Etienne et al," says keyboard ingenue Jules Gilchrist. We couldn't have put it better ourselves.

It's definitely Pop and we're pleased that you acknowledge the retro going on here! Rather at odds with that Ragamuffins name though, don't you think? This is about as 'roots' as tea and crumpets.

"The highlight of this track for us is probably the retro style polysynth riff in the intro that reappears in the choruses. It's basically a preset sound on the Roland Juno D that we use live for its simplicity and robustness that we've tweaked slightly to give it more

teeth using some amp simulators on Pro Tools," says Jules.

"The basic structure of the song came very quickly when writing which makes it a bit more genuine, and we'd played a very stripped down version at a few gigs in December before going into the studio and adding some arpeggiators that we assembled on Pro Tools."

Love the confidence on show here and there's some very worthy lyrical references too. Keep doing what you're doing and above all remember to be different. Top work.

Charlie Baxter Trance In Your Pants

myspace.com/charleswbaxter



Another elusive figure closes the demo showcase this month, with one man

production powerhouse Charlie Baxter showing a slightly comical and free-wheeling side to his song writing.

Charlie's highly prolific, submitting plenty of tracks to our SoundCloud demo box (see below for details) but this one – despite its name – caught our ear.

It's a rollicking ride through sounds and styles that show Charlie's versatility and understanding nicely.

There's clearly a very limited palette of sounds going on here and the tiny (and tinny) drum sounds are both charming and frustrating at once. The track revels in its sharp abrasive, direct sound and despite sounding almost Chiptune at times there's some very complex programming and arranging at play. It's crazy but we love it. **FM**

Hot Pick



SELECTED KIT

Hardware

- > Dell PC
- > Focusrite Saffire
- > KRK RP5 monitors
- > SE reflection filter
- > SE 2200a mic
- > CME VF70 keyboard
- > Yamaha guitar

Software

- > Steinberg Cubase 5
- > Reason 4
- > NI Massive
- > NI FM8

FAVOURITE GEAR

- > "The SE reflection filter is a great piece of kit. I'd recommend it to every recording musician."



Prose No More A Child

Contact: myspace.com/proseinsidez

Nice to have something a little more urban in the demo zone,

and this dual-purposed track by Prose really stands out as one of this month's most accomplished bit of writing and producing. It's half rap and half slow-rocking Rock track. "I'm the producer and singer of the track," says it's maker David Stone. "Prose's name is Michael Murray. We are cousins and Mike's the lyricist and artist."

Hope you don't mind, but comparisons with Eminem's Stan are inevitable. Add the sound of pencil on pad

(ideally mixed just a little too loud) and the vibe would be complete!

That said *No More A Child* is a great piece of original work. The lead rap is a great performance, recorded in the simplest way, seemingly in a single take that sounds all the more genuine and believable for it. We're not totally sure about the accent there though. There's a bit of Sarf London, a bit of slick Miami and just a glimmer of in-yr-face Mancunian! We'd settle for one of the above as all three sounds a little distracting. Keep it real, fellas!

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 *Future Music'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-2

Mobile digital audio recorder

44.1kHz, WAV/MP3, stereo, built-in flash memory (up to 2h of MP3 recording), Slot for separate SD (16MB - 2GB) or SDHC (4GB) cards, built-in stereo condenser mic, 2 jack ins for external mics or guitar/line, headphone out, line out, mini speaker, USB 2.0 interface, frequency range: 20Hz to 20kHz, incl. external stereo mic and USB cable, dim. LWH: 15.5 x 8.5 x 3cm, weight: 200g.

€ 75.- € 65.-

order code 203423

Swissonic MDR-4

Mobile digital audio recorder

24bit, sample rate: 44.1/48kHz, record format: WAV (16/24bit) and MP3 (64/96/224/320kbps), 5 effects (delay, chorus, room, reverb, pitch shift), built-in speaker, 128 x 64 pixel LED display, 1/8" stereo line in, 1/8" external mic in, built-in stereo mic, 1/8" headphone out, Mini-B type USB connector, powered by PSU or 2 AA size batteries, incl. power supply unit, 1GB SD card and USB cable, dimensions WDH: 6.7 x 2.9 x 10.7cm.

€ 89.- € 77.-

o. code 226599

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.

€ 169.- € 146.-

o. code 213436

Zoom Q3

Handy video audio recorder

Stereo condenser mic, true X/Y configuration, 2.4" LC display (320x240px), video resolution 640x480 at 30 frames per second, video format MPEG-4 SP, NTSC/PAL TV out, audio formats with video: 44.1/48kHz 16/24bit Linear PCM or MP3 up to 320kbps, without video u to 96kHz/24bit Linear PCM WAV, up to 1 hour video with 2 GB SD card, auto record level, includes TV cable, soft case, wind screen, 2GB SD card and 2 AA batteries.

€ 209.- € 181.-

order code 234280

Tascam DP-02CF Set

Digital 8-channel multitrack recorder

8-track recording, uses CF card, LC display, 2 mic/line ins (1/4" TRS), 1 switchable to guitar in, 2 XLR mic ins with phantom, effect send and stereo return, stereo line out (RCA), SPDIF digital out (optical), headphone out, MIDI out for MIDI timecode or clock, USB 2.0 port, int. multieffect processor and reverb processor. Bundle including 2GB Thomann Compact Flash Card.

€ 289.- € 250.-

order code 203379

Sony PCM-M10

Portable 24bit/96kHz audio recorder

Built-in stereo mic, internal speaker, cross-memory recording, internal 4GB flash memory + MicroSD/MemoryStick Micro slot, limiter and low-cut filter, 1sec. pre-record buffer, recording level control, USB 2.0, includes power supply, Soundforge Audio Studio LE, cable remote and cable, finish: grey. Bundle includes accu charger BCG-34H S, MDR-V150 stereo headphones and 4 accu NH-AA B4F.

€ 325.- € 281.-

order code 239061

Zoom H4 N UK

Digital recorder

Perfect for interviews, podcasts, meetings and live recordings, 24bit/96kHz, MP3 up to 320 kbps bitrate, two built-in stereo microphones switchable between 90° and 120°, needs 24V or 48V phantom power, USB port, incl. 1GB SD card, windscreens, UK power supply, mic clip adaptor, USB cable, bag and Cubase LE4.

€ 329.- € 285.-

order code 228769

Olympus LS-1 I

Digital recorder

24bit/96kHz, 2 built-in mics, internal 8GB HDD, expandable up to 32GB with SDHC card, up to 23 hours record time, edit functions, PCM/WAV/WMA/MP3 record & playback, built-in stereo speaker, display with backlight, SD/SDHC slot, USB, headphone out, silver metal housing, weight: 165g (incl. batteries), connection for external power supply, incl. wireless remote and Steinberg Cubase 4 LE.

€ 349.- € 302.-

order code 234496

Zoom R16

USB audiointerface and DAW controller

16-track playback and 8-track record, 24bit/48kHz PCM recording, internal stereo condenser mic, battery or USB, 8 mic ins (2 with 48V phantom power), 2 outs, 8 balanced XLR / 1/4" TRS connections, internal effects, Mackie Control emulation via USB, for Win XP/ Vista and Mac OS, incl. Steinberg Cubase LE4 and 1Gb SD Card (Support for SDHC-Cards up to 32GB).

€ 369.- € 320.-

order code 232058

Tascam 2488 NEO Bundle

24-track harddisk recorder

24bit/44.1kHz, 8 mic/line inputs (4 XLR with phantom power), internal FX processor, 16x CD-RW drive, new effects for mastering, 250 virtual tracks, high speed USB 2.0 connects to PC or Mac® for data backup and SMF/WAV file exchange, 80GB hard drive, bundle incl. the Tbone HD-9900 headphone and 5 Sony CD800N CD-Rs.

€ 777.- € 673.-

o. code 223374

the t.mix DJ Box

DJ system

for all DJ systems eg. Rane Serato, Final Scratch, Torq, Mixvibes, Virtual Vinyl, Ableton or Traktor, allows easy control for 2 DJ systems such as Laptop or CD players as well as

2-channel mixers to be routed together, both systems can be controlled with Timecode vinyls.

€ 46.- € 40.-

order code 235522

Hercules DJ Console RMX

DJ controller

with integrated USB audio interface, 2 jog wheels, 6 faders, DJ buttons for DJing control, effects and loop buttons, mic in, headphone out, 4 line outs (1/4"

mono balanced TRS), 4 RCA outs, 2 stereo ins, incl. bag, VirtualDJ DJC edition software (PC and Mac).

€ 279.- € 242.-

order code 208113

Swissonic CDMP I

Compact CD/MP3-Player

40 seconds anti-shock, pitch $\pm 16\%$, loop function, slot-in drive, balanced XLR output, direct headphone output with volume control, master level for the line output, IR remote control, 19"/1HE.

€ 139.- € 120.-

order code 221521

Pioneer CDJ-400

MP3 single CD player

with ID3 tag & CD text, MIDI controlled via USB, jog wheel, scratch jog FX, $\pm 6/10/16\%$ pitch control, master tempo control, reverse play function, shock-proof memory, hot loop & beat loop for 10 cue/loop points per disc (maximum).

€ 666.- € 577.-

order code 139321

Pioneer CDJ-900

Professional single CD player

Compatible with MP3, AAC, WAV, AIFF and Tatum 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.

€ 1245.- € 1078.-

order code 238584

Phonic AM220

Mixer

2 mono mic/line channels, 2 stereo channels, 3-band EQ, 48V phantom power, 1 aux, 2 track I/O, balanced output, incl. external power supply.

€ 38.- € 31.-

order code 196359

Alesis Multimix 4 USB

4-channel mixer with digital output

16bit, 44.1kHz signal on USB, 4 line level ins, 2 XLR ins with gains and switchable 48V phantom power, high impedance guitar input, 2 channel EQ on mic ins, multicolor LED metering, main and headphone outs with independent level controls, incl. power supply, dimensions WHD: 15.2 x 19.6 x 5cm, weight: 0.6kg.

€ 88.- € 76.-

order code 235244

Phonic PHHB18FW

Helix Board

Analogue 18-channel mixer
Compliant to Mac OS X and Win XP, 96kHz FireWire interface, 24bit digital multi FX with 16 presets, 6 mic/line ins with inserts and 3-band EQ, 2 mono/mic or stereo/line ins with 3-band EQ plus 4 stereo/line ins with 4-band EQ, 4 aux sends, 2 stereo aux returns, +48V phantom power on mic channels, includes Cubase LE and rack mounting kit.

€ 311.- € 269.-

o. code 186610

Mackie 1402 VLZ3 Bundle

14-channel mixer

New XDR 2 preamps, 6 mono mic/line XLR/jack combo inputs, 4 stereo line jack inputs, 2 stereo aux returns, 2 aux sends, 6 inserts, 3-band EQ, low cut filter 180B, PFL, internal power supply, balanced outputs XLR/jack, weight: 4.5kg, incl. Winzoo Publishing Sound Reinforcement and PA Guidebook.

€ 366.- € 317.-

o. code 219823

Yamaha 01V66cx

16 channel mixer

8 mono mic/line ins (XLR/jack), 2 mic/line ins (XLR/stereo jack), 2 stereo line ins (jack), 3 aux sends, 8 inserts, 3-band EQ with parametric mids, internal compressor on each mic channel, SPX FX processor with 16 programs, 180B high pass filter, high-end mic preamps, +48V phantom power, dimensions: 47.8 x 10.2 x 48.9cm, weight: 5.5kg.

€ 379.- € 328.-

order code 115511

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 28bit 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.- € 345.-

order code 186079

Allen & Heath WZ1 16:2 DX

16-channel mixer

16 mono ins with insert/direct out, PAD, 100Hz HP and 4-Band-EQ with para. mids, 48V phantom power switchable, 6 Aux, Aux 5-6 internal effect, 2 stereo Aux returns, PFL, mute, phones, master insert, master out, mono out with separate fader, A/B out, 2 Digitech FX processors (2x16 programs), MIDI input, internal power supply.

€ 939.- € 813.-

order code 132316

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.

€ 2089.- € 1818.-

o. code 225534

Yamaha 01V96 VCM

Digital mixing console

24bit / 96kHz, 24 analog inputs, 12 Mic inputs, 40 channels expandable, included ADAT interface, 4 effect processors, parametric EQ, incl. Studio Manager Software.

€ 2380.- € 2070.-

order code 161112

Tascam DM-4800 Bundle

Digital mixer

48 channels, 4-band parametric EQ, dynamics, 2 FX processors, built-in TC Reverb, talkback mic, 24 balanced mic/line ins, phantom, meterbridge and surround monitoring optional, CF card slot, USB interface for data transfer, incl. Mixer Companion software (WinXP & Mac OS X). Bundle incl. Tascam IF-FW/DM MkII FireWire Card.

€ 5444.- € 4715.-

order code 115670

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Akai LPK 25

USB MIDI controller keyboard
25 mini keys, arpeggiator, sustain button, octave up and down, tap tempo controls, 4 programmable memory banks, includes software editor for Mac and PC, plug-&-play USB connection on Mac and PC, requires no driver installation, dimensions HWD: 2,79 x 34,04 x 9,65cm, weight: 635g.



order code 235491

€ 48.-
£ 42.-

Novation Launchpad

Ableton Live and MIDI controller
Bi-directional communication, 64-button Grid with color synced feedback over the status, scene control switchable to control volume, sends, muting and more, up to 6 units at the same time, USB bus-powered, large rubber grips to hold it steady, automap-enabled, incl. Dedicated Launchpad Ableton Live 8 version, weight: 0,76kg.



order code 236641

€ 175.-
£ 152.-

Focusrite Liquid-Mix 16

FireWire plugin processor and remote
24bit/192kHz Shark DSP processing with dynamic convolution technology, over 40 compressor & 20 EQ models, 7-band EQ (freely configurable as vintage EQs), 16 channels each with compressor and EQ @ 44.1/48kHz, 8 @ 96kHz, or 4 @ 192kHz, optional available DSP extension-board for 24 plugins @ 44.1/48kHz, bus or PSU powered, for Mac or PC.



order code 210257

€ 175.-
£ 152.-

Native Instruments Complete 6

Complete software package
Contains: Kontakt 4, Absynth 5, Guitar Rig 4 Pro, Reaktor 5, Battery 3, FM8 and Massive, 7000 presets and sample libraries with over 60GB of professional samples, all instruments run stand-alone, supported interfaces/drivers: Kore, Audio Units, VST, RTAS (Pro Tools 7/8), ASIO, Core Audio, Core MIDI, DirectSound.



order code 235777

€ 458.-
£ 397.-

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 nudge, record enable, solo/cue function, for PC/Mac, incl. Ableton Live Lite Akai APC40 Edition.



order code 223229

€ 398.-
£ 345.-

Swissonic Easy FireWire

24bit/96kHz FireWire audio interface
2 line ins 1/4" TRS balanced, 2 line outs mono 1/4" TRS balanced, 1 stereo out 1/4" TRS (useable as line out or headphone out), volume control for headphone out, frequency response: 20Hz - 20kHz, line I/Os switchable between +4dBu and -10dBu, bus-powered, connection for optional 12V power supply.



order code 218447

€ 27.-
£ 23.-

ESI DualFire

24bit/96kHz FireWire audio interface
2 ins with level controls (1/4" jack), mic preamps with phantom power (XLR), 2 Hi-Z ins, 4 analogue outs, direct input monitoring with level control, headphone out, bus powered or by separate power supply, supports DirectWire 3.0, MME, ASIO 2.0, GSIF 2.0, DirectSound and Core Audio, incl. power supply and Steinberg Cubase LE 4.0.



order code 206255

€ 95.-
£ 82.-

EMU 0404 USB

24bit audio interface
2 microphone inputs/Hi-Z or line, digital I/O (optical and coaxial), MIDI I/O, headphone output, line output, compatible with Windows XP (SP 2 or higher or XP x64) and Mac OS X.



order code 197706

€ 179.-
£ 155.-

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

€ 188.-
£ 163.-

Steinberg C12

USB audio interface and DAW controller
USB studio with 24bit/48kHz, 2 mic/line XLR/TRS inputs with switchable 48V, input 1 with Hi-Z switch for direct input of guitar and bass, 2 balanced line outs, 1 stereo headphone output, latency free hardware monitoring, incl. Cubase AI 5, compliant to Mac OS X, Win XP and Vista.



order code 235705

€ 189.-
£ 164.-

Digidesign Mbox 2 Mini

USB audio interface
1 mic in with phantom, 2 analog line/instrument ins, 2 analog outs, latency-free monitoring, headphone out, Pro Tools LE software, 37 DigIRack and 7 Bomb Factory plug-ins, Pro Tools Ignition Pack.

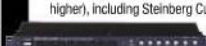


order code 108023

€ 233.-
£ 202.-

Tascam US-1641

USB 2.0 audio interface
24bit/96kHz, 8 mic/line ins with phantom and level meters on the front, 2 balanced line/instrument ins on the front and 4 balanced line ins on the rear, 4 line outs, monitor out, S/PDIF I/O (switchable to AES/EBU), MIDI I/O, 19"/1RU, for Win XP, Vista 32 and Mac OS X (10.4 or higher), including Steinberg Cubase LE 4.

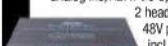


order code 138750

€ 289.-
£ 250.-

Focusrite Saffire Pro 24 DSP

FireWire audio interface
Virtual reference monitoring technology, real-time effects (EQ, compressor, comfort reverb), 24bit/96kHz, total I/O count of 16 ins (incl. int. loopback) and 8 outs, 2 mic preamps, 4 analog ins, ADAT I/O optical, 1 S/PDIF I/O coax, 2 headphone outs, MIDI I/O, 48V phantom, LED meter, incl. plug-in suite and power supply.



order code 233752

€ 339.-
£ 294.-

Apogee Duet

FireWire audio interface
24bit/96kHz, 2 channels, FireWire 400 I/O, breakout cable with 2 XLR mic ins, 2 1/4" jack instrument ins, 2 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.-
£ 354.-

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

€ 439.-
£ 380.-

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.

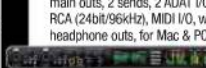


order code 239141

€ 479.-
£ 415.-

MOTU 828 MKIII

19" FireWire audio interface
and 28/16 digital mixer with FX, 24bit / 192kHz, 19"/1RU, integrated DSP for EQ, compressor and reverb, new CueMix console, 2 mic/guitar inputs with internal hardware limiter, 48V phantom power, 8 balanced line I/Os, 2 XLR main outs, 2 sends, 2 ADAT I/Os, S/PDIF I/O RCA (24bit/96kHz), MIDI I/O, word clock I/O, 2 headphone outs, for Mac & PC.



order code 205183

€ 689.-
£ 597.-

RME Fireface 400

FireWire audio interface
24bit/192 kHz high performance FireWire audio interface, analog technology of ADI-8 converter, mic pre-amp technology of Quad and OctaMic (2 mic pre-amps), TotalMix technology of Hammerfall DSP series, very reliable drivers.



order code 193883

€ 795.-
£ 688.-

RME Fireface UC

USB audio interface
36 channels, 24bit/192kHz AD/DA converter, 48V phantom power, 18 I/Os usable at the same time, 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, 9,5", 1U.



order code 229395

€ 822.-
£ 712.-

Digidesign Digi 003 Rack Factory

24bit/96kHz FireWire-Interface
18 simultaneous channels of audio I/O, 2HE, 8 analog I/O, 4 mic preamps, 48V phantom power, 8 channel ADAT optical I/O or 2 channel S/PDIF digital I/O, 1 MIDI in, 2 MIDI out, incl. Pro Tools LE™ 7, Factory Plug-In-Bundle and Pro Tools Ignition Pack 2.



order code 111200

€ 839.-
£ 727.-

SE Electronics SE 2000

Large diaphragm studio microphone
Cardioid pattern capacitor, gold sputtered 1" mylar diaphragm, frequency response: 20Hz - 20kHz, sensitivity: >16mV/Pa -36" ±2dB, impedance: <200Ω, output noise: <17dB typical (A weighted), THD: <0.5% at 125dB SPL, phantom power 48V ±4V, incl. wooden case and shockmount.



order code 223700

€ 85.-
£ 74.-

AKG Perception 220

Large diaphragm condenser mic
1" diaphragm, metal housing, cardioid polar pattern, frequency range: 20Hz - 20kHz, switchable 300Hz lo-cut filter, switchable -20dB pad, 135/155dB max SPL, incl. elastic holder and carrying case, dimensions: 53 x 165mm (diameter x length), weight: 525g.



order code 208310

€ 139.-
£ 120.-

Rode NT2-A MS-180 Bundle

Large diaphragm microphone
Polar pattern switchable between omni, figure eight and cardioid, 1" diaphragm, frequency range 20Hz to 20kHz, max. SPL 147dB, delivered with shockmount SM2. Bundle incl. the t.bone MS180 popkiller.



order code 223002

€ 266.-
£ 230.-

Shure SM 7 B

Studio microphone
Dynamic studio microphone with a cardioid polar pattern, frequency response: 50Hz-20kHz, bass roll-off switch, mid-boost switch, 150Ω, shielded against broadband interference, fixed stand adapter, XLR plug, includes windscreen.



order code 129829

€ 379.-
£ 328.-

Neumann TLM 103 Studio Set

Studio microphone
Large diaphragm cardioid microphone, pressure gradient transducer with one-diaphragm capsule, transformerless circuitry, extremely low noise: 7dBA, high-quality professional equipment for limited budgets, finish: silver, incl. shockmount, delivered in a box.



order code 174067

€ 959.-
£ 830.-

Peavey Q1311

31-band equalizer
Constant Q factor, 1/3 octave, switchable 6dB or 12dB, 40Hz low cut feature, frequency range: 20Hz to 20kHz, XLR and 1/4" TRS inputs and outputs, output LED display, dimensions HWD: 4,4 x 48,3 x 18,7cm (19"/1U), weight: 3kg.

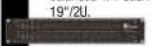


order code 238485

€ 45.-
£ 39.-

the t.racks EQ-2331E

2x 30-band equalizer
20Hz - 20kHz, status LEDs, volume control per channel, low cut filter on each channel, balanced 1/4" Jack and XLR I/O, ±12dB, 19"/2U.

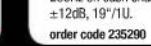


order code 235291

€ 75.-
£ 65.-

the t.racks EQ-1215E

2x 15-band EQ
25Hz - 16kHz, low cut 10 - 250Hz on each channel, range: ±6dB and ±12dB, 19"/1U.



order code 235290

€ 55.-
£ 48.-

StudioProjects VTB1

Tube preamp
Incorporating true class A/B switching, the VTB1 is a totally discrete circuit, the tube drive is a variable drive to a 12AX7, that allows the user to blend as little, or as much of the tube drive they want, 48V phantom power, balanced outputs on XLR and 1/4", TRS insert, phase reverse, high pass filter, 5-segment LED metering.



order code 183260

€ 111.-
£ 96.-

Focusrite Octopre LE

8-channel Class A microphone preamp
8 analog outs, 8 balanced 1/4" jack ins located on front panel for quick and easy access, first two channels can be used for DI free plug-in of guitars and basses, channels 1 & 2 also allow a microphone signal (input using the rear panel XLR connections), frequency response: 10Hz - 122kHz, 19"/1RU, weight: 4,2kg.

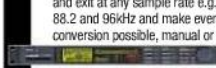


order code 178709

€ 259.-
£ 224.-

tc electronic Finalizer 96k

Studio mastering processor
Gain maximizer, 96kHz 24bit AD/DA, multi-band compressor/expander, 3-band spectral stereo image and un-correlated dithering, format conversion AES/EBU, S/PDIF and Tos-link, enter and exit at any sample rate e.g. 32, 44.1, 48, 88.2 and 96kHz and make even asynchronous conversion possible, manual or auto fade tool.



order code 133460

€ 1179.-
£ 1021.-

KRKR 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

€ 138.-
£ 119.-

KRKR RP8 Rokit G2

Active studio monitor
8" / 1", 140W, magnetically shielded, dimensions HWD: 27,6 x 18,5 x 25cm, weight: 6,3kg. Unit price!



order code 213090

€ 235.-
£ 204.-

ESI nEar05

Active 5" studio monitors
Magnetically shielded, 33Hz - 22kHz, bi-amped, bass: 42W, treble: 33W, balanced XLR input, 6,3mm jack input, dimensions: 25 x 16,6 x 20cm. Pair price!



order code 160180

€ 169.-
£ 146.-

M-Audio EX66

Active studio reference monitor
Bi-amplified with 200W PWM power per channel, high-impedance analog inputs (XLR and 1/4" TRS balanced), S/PDIF and AES/EBU digital input up to 24bit/192kHz for total digital studio connectivity. Unit price!



order code 190176

€ 258.-
£ 223.-

Adam A7

Active nearfield studio monitor
6,5" Rohacell / kevlar sandwich woofer, A.R.T. tweeter, frequency range 46Hz to 35kHz, 100W (sim), 150W (rms), XLR and RCA input, dimensions: 18 x 33 x 28cm, weight: 8kg. Unit price.



order code 193268

€ 385.-
£ 333.-

Dynaudio BM5A

Active studio monitor
2-way bass reflex design, 6,7" woofer, 1" soft dome tweeter, 2x 50W, frequency response: 50Hz - 21kHz, dimensions HWD: 32 x 18,6 x 32cm, weight: 8,7kg.



order code 173581

€ 449.-
£ 389.-

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.



Dave Smith Instruments Mopho | £280

Review FM208 So much fatness, for such little cash – you'd be silly to miss this analogue bargain.



Use Audio Plugiator | £329

Review FM202 A software and hardware hybrid that is brilliant value for money. We all want one at FM!

Soft Synths



FXpansion D.CAM Synth Squad | £179

Review FM217 A powerful synth collection from FXpansion, favoured by Electro House heroes.



Rob Papen SubBoomBass | €299

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.



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.



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 Greta features at an amazing price make this Ableton controller a performance dream.



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.



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, whined 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.

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!



Analogue Solutions Telemark | £689

Review FM217 A semi-modular upright beast, with plenty of unique sonic possibilities.



Spectrasonics Omnisphere | £299

Review FM207 Great sounding, flexible and unique, this is truly a powerhouse of sound design.



GForce Virtual String Machine | £90

Review FM201 Classic string sounds, with hybrid patching, plus a lovely tweakable interface - great stuff!



Waldorf Largo | £175

Review FM217 Waldorf take their Blofeld sound and technology and create a powerful and unique soft synth. Check it out.



Native Instruments Absynth 5 | 179Euro

Review FM220 The super soundscaping synth with a much improved feature list and GUI.



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.



Moog MP-201 | £400

Review FM211 MIDI and CV control in a unique one-of-a-kind package. LFO generators and USB MIDI are just some of the other great features.



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.



Native Instruments Guitar Rig 4 | 179 Euros

Review FM221 A stack of new amp and microphone models make this a tasty upgrade at a great price.



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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Digidesign RM

from £1,763
Review FM197 Very similar to the PMCs and available in two flavours – both of which sound superb.



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.



Edirol PCR500 | £200

Review FM189 Great-looking, sturdy, Roland-style 'board. Laden with controls and a cool software editor for making set-ups for all your plugs.



Novation 49SL Compact | £269

Review FM193 The stripped-down alternative to a full-size SL. Cheaper, but still packed with unique features.



Yamaha KX25 | £185

Review FM205 Although a tad small and fiddly in its controls, Cubase users will love the advanced integration and creative capabilities.



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.



Novation nio 2/4 | £149

Review FM196 Well-built, jack-of-all trades portable solution for guitarists, producers and DJs. Complete with an awesome software bundle.



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 PRO 24 | £243

Review FM217 Plenty of I/O with comprehensive routing software and high-quality D/A conversion.



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.



Audio Damage Discord 2 | £26

Review FM177 Primarily a pitchshifter but can make anything sound interesting. And a bargain too.



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.



Abbey Road Brilliance Pack | \$249

Review FM204 Beautifully recreated from the original vintage hardware – check these out!



UAD Moog Multimode Filter | \$199

Review FM210 The classic Moog filter sound is replicated to a T with this impressive UAD plug-in.



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



sE RNR1 | £2,179

Review FM219 Ultra natural sound, low noise floor and a unique design mean that this ribbon mic is definitely worth selling your car for.



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.



Lauten Audio Horizon Mic | £649

Review FM213 This mic is a serious competitor to classic models that sell for many, many times the price.



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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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

**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.

**Moog Etherwave Theremin** | £300

Review FM207 Even 50 years on, people will still gawp as you flail your arms around making Sci-Fi sounds.

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 raises 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 its 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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