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Olav Basoski

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Welcome

Swede It and Reap



There are few better places we'd rather play fly-on-the-wall than in London's Metropolis studio while three of the biggest names in House are polishing up their brand new summer anthem. But that's exactly the dream scenario that we enjoyed this month, and – via FM's DVD – you get to come along too. There's the mother of all features starting on page 32, video on the DVD and a bunch of tutorials on how you can get the sound. Don't miss this.

Likewise we get *In The Studio* With Olav Basoski who not only takes you through three of his tracks on video but dishes up samples of his very special Logic tutorials on our disc too. And while you're there, be sure to check the second of our exclusive D.Ramirez videos. This month he's dishing up all you need to know about House vocals. Remember, no other mag does tuition like *FM*!

It's also been a great month for gear too, with a pair of analogue belters arriving in the office in the shape of the Korg Monotron and Dave Smith Instruments Mopho Keys. Massive reviews on pages 80 and 84.

And there's just space to point you at our raft of great tutorials. Don't miss our in-depth guide to Reverb & Delay on page 68 and Knowledge Bases on timecode and limiting. That's quite a mag load. More next month!



Daniel Griffiths, Editor
daniel.griffiths@futurenet.com

EXPERT CONTRIBUTORS THIS MONTH...

Marc '01'
artist, producer



Marc jumps on the decks this month to test out Allen & Heath's Xone:DX. An all-in-one DJ controller and interface for Searto's Itch? Get the low down from page 88.

Greg Scarth
music scientist



Circuit-bent bro and synth sage Greg Scarth takes on two of our main reviews this month, the mini mighty Monotron and the mega mono Mopho Keys. Find out how he feels from page 80.

Jono Buchanan
artist, producer



Make some space for Jono this month, as he tackles the elusive art of creative reverb and delay. Also, Apogee's guitar-friendly GiO and SPL's fantastic Frontliner get a thorough seeing-to. It all kicks off from page 68.

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From p80 Korg Monotron and DSI's Mopho Keys go on test

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FMDVD

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Sample Techniques

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



Crossover Pumping

"Splitting audio (mixes, synths, group busses, etc) with a crossover and applying differing effects to each frequency band before recombining often garners interesting new twists on standard processes. The ubiquitous House sidechained compressor pumping effect gets the crossover treatment here by splitting the drum mix with a crossover (a dbx 234) between 200 and 300Hz and sending each band to a Drawmer DS201 dual gate. By triggering the gates with different pulses or by setting one to gate and one to duck from the same pulse (or a combination of both setups) all manner of rhythmic pumping effects can be achieved and, with experimentation, adds a little more originality and flair to this now industry standard effect."

INSIDE STORY



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



This month's highlight was one that started a good few years ago with a chance meeting with a young House producer in a club in Stockholm. Fast forward three years and *FM* bumped into him again, this time in LA. From that chance meeting, *FM* were given the opportunity to get into a London studio with him and two friends. Don't miss this month's meeting with the Swedish House Mafia team. Only on FM DVD.

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

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DVD HIGHLIGHTS

Olav Basoski

We have a selection of tuition videos from Mac Pro Video covering Ableton and Logic techniques. Check out these lessons and head to **macprovideo.com** for more

From the Vaults: Soundtrack Samples

500 Once again, we've got a huge selection of amazing multi-sampled instruments all ready to go in NI Kontakt format

Vocal Masterclass



The second instalment of the Icon Masterclass features D.Ramirez as he creates the perfect House vocal just for you

Knowledge Base: Limiting

This month's *Knowledge Base* gives you an insight into the elusive subject of limiting and dynamic control

PLUS OUR SPECIAL BONUS SAMPLES COURTESY OF

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

BHK FIDGET



"Bursting at the sonic seams with 41 bad-ass drum loops, 10 trashy tops, 42 wonky basslines, 25 vox FX loops, 50+ scratches, 41 FX, 32 cheeky drum hits and much more, this pack dribbles with mainroom mischief. All samples are pumped up analogue style while leaving you enough headroom to tweak."

S2S DEEPER HOUSE TOPS & MELODICS



"Slinky kick-free tops, Minimal-infused percussive grooves, late-night Rhodes and shimmering organic melodics in the most exciting release yet on our in-house label, boasting a whopping 240+ all-original tops and instrumentals."

SOUNDTRACK & CHILL



"1.58GB of the deepest cinematic moods and organic ambience for Soundtrack and Chill, featuring hundreds of trembling textures, Vangelis-soundscapes, sultry keys, ambient guitars, haunting vibes and viola, cracked percussion, delayed city atmospheres and much more."

S2S UNDERGROUND TECHNO



"With club sounds getting deeper and more melodic, Underground Techno attacks the genre head on, with sub-stacked kicks, white noised stabs, dusky background ambience, ano-synthetic percussion and subtle hats creating 120+ all-original beats."

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THE MAKING OF YOUR UNIQUE *FM* SAMPLES...

Shaking AfroHouse

Add a whole new continent to your sound palette

This month's samples have once again two very different flavours. Groove Criminals has embraced the world of distortion with his Digital Hardcore collection which is guaranteed to quench any thirst for messed up sounds.

Meanwhile this month's collection from Cyclick Samples is all about rhythm and getting some different flavours into your music. To get a better idea of what Cyclick Samples were creating this month, *FM* caught up with them during a rhythm break. "All of the beats and drum kits started life as wee samples floating around on hard drives, but after some layering, pitching and general mutilation were squeezed out into the analogue world to get some processing via the GSSL and ART ProVLA compressors as well as some extra effects through the DS201 gates in conjunction with the dBx crossover. The hand percussion in the 120bpm tempo folder was played piece by piece having rummaged through the Sandpit Studio percussion box and recorded with a pair of '60s/'70s Calrec CM654D small diaphragm condenser mics set up as a coincident pair."

1,000 samples

Gatekeeper

"This signal was then sent out through the dbx 234 crossover and split into HF and LF components (@~300Hz) and sent to separate DS201 dual gates. The two gates were sent a trigger pulse to their sidechain inputs with one unit gating and the other ducking. A great trick, be it in analogue form or with plug-ins – adjusting the relative phase of the split components can add depth."

GEAR USED

Digital Hardcore Groove Criminals use: Sound Manglers

"Distortion, over compression, bit reduction, fuzz, overdrive, synth wah. Yup, we hammered it all to rough up and destroy this month's samples using both hardware stomp boxes and software effects to shred those samples."

AfroHouse Cyclick Samples use: Calrec CM654D mics

"These CM654 small condensers from the '60s/'70s can be hard to find in good condition (they're near impossible to service) and with the proper power supply (no ordinary +48v here) but when you do, they pay dividends. Often favoured for drum overheads due to a smooth/unhyped HF response coupled with a decent LF extension and used this month for percussion recording."

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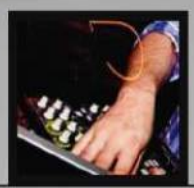
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Use IK Multimedia's iRig interface (sold separately for £30) to connect your guitar for easy amp processing







Highlights this issue...

Numark Mixtrack **10** A new Traktor-specific controller from Numark, with a classic layout.

Novation Dicer **11** Mini magic from the Novation crew, the Dicer controls cueing and looping for Serato and Traktor.

Producer Sessions Live! **12** More exciting info on *Future Music's* upcoming live event at SAE London.

Studiofile **20** We take a trip to the Neve-heavy AlexanderSound Studios in Milton Keynes, UK.

On The Radar **24** Tensnake tells all about his favourite synths and production secrets.

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Supplement the set of pedals included in your chosen pack via the built-in store

Hi iAmplitube

IK Multimedia bring their amp sim to Apple's portable platform. We grab a sneak peek

Mobile phones have come a long way since playing Snake on our 3210, and releases such as Korg's iElectribe and Propellerheads ReBirth mean that they're starting to be taken seriously as musical devices in their own right.

Enter IK Multimedia, with its brand new Amplitube for iPhone and iPad app that – quite frankly – is knocking us out right now. It's a rack of stompbox effects units fully contained within your iOS device. And via their iRig interface you can plug a guitar (or anything you like) directly in and enjoy superb effected sound directly out of the built-in speakers or headphone socket.

You can download the Free, LE (£1.79) or Full (£11.99) versions from the App Store and while the cheaper versions have a limited model count included, once installed you can expand your collection one model at a time at a cost of £1.79 per stompbox and £2.99 per amp. Clever.

The Full version comes with all five amp models – Clean, Crunch, Lead, Metal and Bass that have been derived from a handful of classic amplifiers. It also includes 11 common stompbox (only three can be used at once) effects ranging from the simple Noise Filter, Overdrive and Distortion, to tempo based effects like Delay, Flanger and Phaser (complete with BPM and sub-division synching). There's also modulation in the form of the Chorus model, an Octave effect and filtering from the Envelope Filter and more traditional pedal style Wah.

The latter's rocker pedal can be moved backwards and forwards by touching the screen, but it also has an auto mode (sadly there's no tempo sync option here) and most impressively, Tilt mode. This uses Apple's accelerometer to offer Wii-style interaction with the effect, so you can adjust the wah's cutoff frequency by physically tilting your iOS device. It's not exactly practical when you've got both hands on your guitar, but until someone comes up with a dock equipped 'Applecaster' or similar, it's definitely fun. IK has packed a lot into a small screen, as long as you don't have digits to match the girth of a bratwurst, you should find making adjustments surprisingly glitch-free. iPad users on the other hand, won't need to worry about screen space at all. Once you've finished editing you can save your setup as a preset by simply picking one of the 36 slots and holding down its respective button until it saves. Amplitube also comes with a simple but useable chromatic tuner and a metronome with tap function, and some audio clips for auditioning sounds sans guitar.

Finally, there's the separate (but necessary) iRig interface, which costs £29.95. It offers a 1/4" jack input, 3.5mm output, and an attached 3.5mm TRS cable to connect to your Apple device. It's small enough to fit in your pocket, but at a first-glance, the lightweight plastic construction and moulded attached cable means it probably won't stand up to too much abuse.

Overall, the sound quality is great. It's not without slight noise – which we're attributing to Apple's less than studio quality A/D converters – but any criticisms along these lines are squashed when you remember one simple fact – you're playing convincing guitar sounds through a mobile phone for a relatively low price. Check out our full review next issue. FM

WANT TO KNOW MORE?

For more information on purchasing IK Multimedia Amplitube for iPhone and iRig, visit **ikmultimedia.com** or log on to the Apple App Store.

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Desktop Delights

Now with knobs on. The German boutique boffins Vermona are releasing not one, but TWO fantastic looking compact analogue mini synths



First up is the Mono Lancet a monophonic desktop analogue synth in a neat and tidy package. Two analogue oscillators for the basis of sound generation, with oscillator one creating triangle, sawtooth and square wave shapes while the second replaces white noise instead of the triangle wave.

Hook a MIDI controller and the pulse width can be modulated through the modulation wheel and/or an external control voltage. There's also a glide generator with a legato mode or alternatively can be simply always active. The filter comes in the shape of a 24dB per octave low pass which will self-oscillate and produce a stable sine wave that can be played in a range of about two-and-a-half octaves with enough resonance. The cutoff frequency can also be controlled by velocity and/or aftertouch via MIDI.

There's plenty of decent modulation options too and a great ADSR, making this a very powerful little mono synth.



Kick it off

Next, is a meaty analogue kick synth in the same range called the Kick Lancet. Based on the famous Kick channel of the DRM1 MKIII it features a single oscillator with sine and square waves which can be blended seamlessly.

The oscillator frequency and VCA both can be modulated by separate envelopes with adjustable decay times. There's also an intriguing 'Balls' rotary control which claims to add an extra punch to your sound. For thick analogue kicks, this looks the business. Retail for the Kick Lancet is expected to be 265 Euros and both synths will be reviewed in *FM* next issue.

WANT TO KNOW MORE?

Visit Vermona's official website for the lowdown on their new kit **vermona.com**

Mixtrack

Bundled with Traktor LE and aimed at being a self contained package for both beginners and advanced DJs alike, the feature set and large jog wheels means that the Numark Mixtrack means business.

There's EQ kill buttons, a central browse button for selecting tracks and to help you keep your hands off the mouse. Plus, the dedicated FX and looping controls should make accessing Traktors' advanced DJ effects a breeze – it's an impressive package assuming the price right – we're expecting £150/£200. Full review in an upcoming issue of *FM* very soon. **numark.com**



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Roll the Dicer

Once again, it seems that Novation have delivered the performance goods

In what looks like a genius move, Novation, together with Serato and Ean Golden (DJ and curator of DJ Tech Tools) have launched Dicer – a clever little controller for Serato Scratch Live.

Designed to fit right on the corner of your deck or CDJ, the Dicer comes with reusable DJ putty to fix it in position on a CDJ or will lock straight onto Technics SL 1200/10, using the 45-adapter hole. Dicer intends to make setting cue points and loop points a breeze, giving DJs the ability to trigger Hot Cues, quickly set up Auto-Loop and Loop Roll modes. Depending on which mode the Dicer is set to, each pad will illuminate a different colour, making it quick to view which mode is where in a dark environment. Both Dicers chain together, plus they power and connect via a single USB cable.

The Dicer is fully MIDI assignable so it will no doubt be a used by non Serato users too as it's neat design make it integrate into other set-ups very neatly and with up to 60 assignable MIDI controls available from a pair of Dicers it's flexible too. Best of all their priced at £80 for a pair (yup, there's two in the box). Watch this space as the full *FM* review is in our next issue.

novation.com



Muff Men's Magic

You'd think the Electro Harmonix guys would have had enough Big Muff in their life, right? But no, here's their latest version – The Germanium 4 Big Muff Pi. Built around four classic German transistors, this robust stomper has independent overdrive and distortion controls and uses two of the NOS NKT275 germanium transistors on each control. Stacking both the overdrive and distortion together, EHX claim this Muff delivers the power of a four germanium transistor circuit with the flexibility of two independent controls. Looks like more analogue fun from the EHX camp and with a list price of just $193 in the USA. If you're a purist when it comes to analogue tones, this could be worth a look. **ehx.com**



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Dave Spoon will be on hand to teach you his production tips



Learn from the fabulous Freemasons at Producer Sessions Live



Get red hot D'n'B tips from London Elektricity

Future Music presents... PRODUCER SESSIONS LIVE

Look! New stuff! Come to *Future Music's* live event. Meet stars. Learn loads. Make music

Don't forget this year we're running our very own, intimate live event in London. And we want you to come along. And this month's big news is that TICKETS ARE ON SALE NOW! (Big enough for you?)

Just head to **producersessionslive.com** and get them while they're HOT! Yes, our friends at the SAE school in London are turning over their entire flagship studio facility in Shoreditch, London to us on September 25th and 26th. Producer Sessions Live is your chance to learn from the pros and get hands on with the latest and greatest music making gear.

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

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

WANT TO KNOW MORE?

Head to **producersessionslive.com** for all the details and follow **prodsessionlive** on Twitter for the latest additions and announcements as they happen.

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London Music Show 2010

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

Doing anything on the 8th to the 10th of October? We certainly are. We'll be at the UK's premier music show, now being run by Future Publishing, the folk that make *Future Music*, *Computer Music*, *Guitarist*, *Rhythm*, *MusicRadar.com* and countless more music brands.

The 2009 show attracted over 22,000 musicians, engineers and producers from every ability level and musical genre. And with us running the show we're all set to bust that figure wide open.

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

Meanwhile over in the Guitarist Zone you can expect the staff of *Guitarist*, *Total Guitar* and *Guitar Techniques* to be doing likewise. And drummers get their own section, hosted by *Rhythm* magazine. Plus, legendary producer Steve Levine will be on hand to answer your production questions and take you through how production has changed over the past 25 years. The show all kicks off on Friday the 8th October at 10am, running until 6pm, while on Saturday the 9th, and Sunday the 10th the show runs from 10am til 5pm.

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

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

WANT TO KNOW MORE?

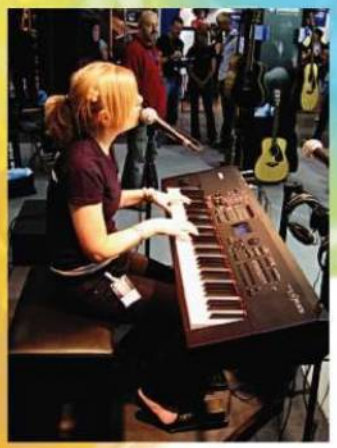
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THE CLASSIC ALBUM



© Mick Rock

Sabres Of Paradise Haunted Dancehall

Warp, 1994

Roy Spencer joins original Sabre, Jagz Kooner, as they brave a return visit to this ghoulish-sounding Warp Records belter



This Sabres' warped, post club, come-down classic soundtracked as many 'all-back-to-mine's as you care to mention in the mid-nineties.

Its soothing blend of Dub architecture, Hip Hop drum programming, Techno pads and live instrumentation was provided by three masters of their crafts.

You had arch production wizard, Jagz Kooner, manning the boards and tweaking the gear. Gary Burns, sublimely playing any live instrument he cared to turn his hand to. And the final, vital cog in the machine, the legendary Mr Andrew Weatherall, fresh from producing the amazing *Screamadelica* for Primal Scream, dreaming up the arrangements and sourcing the perfect samples to soundtrack each twist and turn.

It was the *Haunted Dancehall*, but it was very much alive with the spirits of the three men behind it.

"No one bit of equipment made the album," says Jagz Kooner. "The most important bit of kit was me, Andy and Gary."

Forging the Sabres

The Sabres Of Paradise formed through the same blend of convenience, coincidence and shared experiences most of the acts of the day seemed to.

"I hooked up with Andy because I did a bootleg and it was one of his favourites, and one of the tunes that finished off a Boy's Own weekender," says Kooner. "I met him at a cub called Flying in London, and he said he liked it and that he'd like to do some bits with me.

"We worked on a remix of a Jah Wobble track that had Sinead O'Connor on it, and it started from there. I lived next door to Gary for a while, so that's how we met." After sizing up each other's talents, they worked together on material under the Sabres Of Paradise banner, which eventually culminated in *Sabresonic*.

"*Sabresonic* was more a collection of various things we'd done," says Kooner. "Whereas with *Haunted Dancehall*, we sat down with the concept of putting an album together, rather than random songs from the past."

Inna de Dancehall

The concept of *Haunted Dancehall* was to soundtrack the journey home from a club night through the dawn drenched streets of London.

The album sleeve itself comes with passages of a chilly story about a Nicky McGuire, and the song titles (*Flight Path Estate, Chapel Street Market 9am*) signpost different locations in that tale.

"We wanted the album to run like a storyboard, with a theme, or a story that you can make up as you go along," says Kooner.

"We worked on some ideas and pieced them together. So you have places like Chapel Street at 9am, and characters like Nicky McGuire cropping up, and that kind of stuff.

"It was a soundtrack to one guy's journey through a couple of nights out clubbing, or something like that, but I suppose it went on to soundtrack many more people's, really.

"I think people still love the album today because they can all identify the world we're talking about. The sketchy bits after the club, where sounds don't sound quite right."

Track by track with **Jagz Kooner**

Bubble And Slide

"I don't know if this as an opening track would have been a shock to Warp fans, because they are the most open-minded people going.

"It's probably still one of the coolest labels about. People who vibe to Warp do so because they know they're not gonna get the tried-and-tested stuff that you might get on other labels. I don't think this opening shot would have freaked them out. It might have done so to certain Sabres Of Paradise fans from our first album...the experimentation side of things might have confused a few of them.

"The whole album was just about experimenting in the studio. *Bubble And Slide* came about from random noises and bits and bobs."

Bubble And Slide II

"Every sound on the album is processed in a different way. For instance, we used to get really short delays on drums. Like, get five milliseconds, and turn the regeneration right up to ninety per cent, so it almost sounded like it was feeding back, but in a ring modulator

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LIKE IT? TRY THESE...



Primal Scream
XTRMNTR

Gillespie's boys knocked the hippy shit on its head and got political. Peep the remix work by Jagz Kooner.

ADD THESE TO YOUR PLAYLIST:
Swastika Eyes (Jagz Kooner Mix); Kill All Hippies



Augustus Pablo
King Tubby Meets Rockers Uptown

His production would cast a big, spliff cloud shadow, over the *Haunted Dancehall*.

ADD THESE TO YOUR PLAYLIST:
Young Generation Dub; 555 Dub Street



Nas
Illmatic

"At the time we were listening to Nas' *Illmatic*. That was one of the things that had an effect on us," says Kooner.

ADD THESE TO YOUR PLAYLIST:
Halftime; Represent



The Sabres Of Paradise
Versus

A selection of 'recut scenes' from *Haunted Dancehall* provided by the excellent remix work of top bods of the day.

ADD THESE TO YOUR PLAYLIST:
Tow Truck (Depth Charge Mix); Duke of Earlsfield (LFO Mix)



Two Lone Swordsmen
The Fifth Mission

Weatherall shows no signs of letting up when it comes to pushing the boundaries on this collab with Keith Tenniswood.

ADD THESE TO YOUR PLAYLIST:
Gang Sweep Shuffling; Little Did We Know

type of way. Then we'd adjust the delays, which were so short that they were ringing, so they were almost in tune.

"Things like that – tuning really tight delays. It was like adding a vocoder with effects underneath it. We never wanted anything, like the drums on this track, to sound like a straightforward loop."

Duke Of Earlsford

"We're massive fans of the Dub pioneers of the '70s. Massive fans. King Tubby, Scientist, Lee 'Scratch' Perry, Mad Professor... they used production values that I still hold dear. The big delays, reverbs...it's our great love, so it was bound to fit in with anything we were making.

"We had a pretty decent sound system in the studio to do all that bottom-end justice. We had these big old JBL speakers – they were like club sound system speakers. The thing was that we grew out of the whole club dancefloor thing.

"It was just natural for us to be mixing and working on music with that kind of sound and environment in mind."

Flight Path Estate

"With synths and keyboards and effects you can warp and morph sounds loads. A piano didn't need to sound like a piano anymore. If certain instruments sounded a certain way, because that's how they were expected to be heard, we wanted to change all that. Some of the sounds on this track started out quite normal. But by the time we had manipulated them, they would sound unrecognisable. That's the whole experimenting side of things, again. We wanted people to go 'shit, how'd they make that sound like that?' That's what we wanted to do. That's the thing with this track, it's just a load of bonkers noises, really."

Planet D (Portishead Remix)

"This track came about because we had a track called *Planet Distortion*. It was one of the ones that we had sitting on the shelf for a while. It could work well with what we got going on here on this project.'

"We had the track sounding pretty good, then we were talking to Geoff Barrow from Portishead about different bits and bobs for the album, and we asked him if he fancied having a go at this. He did his own mix of it, which was brilliant. So we were like, 'Fuck that. Let's stick his on the album rather than ours. It's all about the quality'."

> If a loop was in stereo we'd put a stereo delay on that and pick out different rhythms on either side

Wilmot

"It's that Dub connection again. We took the original sample from an old record from Trinidad called *Black But Sweet* by Wilmoth Houdini. The title for the track came from that, but we took the 'H' off his name to stop people saying it like they had a lisp.

"We gave the track to Scruff – not Mr Scruff – it was Steve 'Scruff' Gilder from UK Reggae heads, Sound Iration. People always seem to get those two confused. We gave the track to him to bring the Dub out and he did a great job."

Tow Truck

"It's like a Spaghetti Western theme. It kind of continues the Dub tradition, as Lee 'Scratch' Perry and them were heavily influenced by Ennio Morricone, with the big reverbs and all that. We had a love of those films and the composer's use of sonics.

"If anything, this track sounds a lot 'straighter' and less experimental than most of the other tracks on the album. You could have got a band to play it straight off pretty easily. We didn't know it would go on to influence stuff like Trip Hop a few years later. I don't mind if producers after us took bits of our style. I'm a huge fan of sampling, anyway."

Theme

"This had been sitting around beforehand for quite a while as well. It was one of the early ones that Warp heard that ended up getting us signed. It works well – it's just a load of samples that we put together.

"It's drum loops off an old Hip Hop track. It's a proper kind of sample-based tune, rather than play

In the Studio with... Jagz Kooner

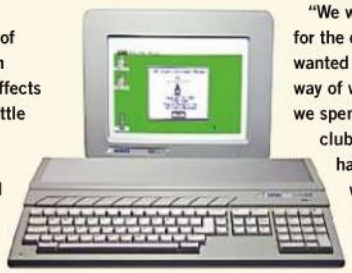
"The studio was Sabresonic. It was mine, Andy and Gary's studio in London. It was actually underneath the flight path for Heathrow Airport in the Slough and Hounslow area. We put all our gear together there. We did all the Sabres stuff there, all the remixes.

"We had a really nice desk, an old Peavy 2400. Loads of outboard, loads of synths and drum machines and effects units. It had a little vocal booth as well. But it was the way we used it. We had a [Roland TR-]909, a [TB-]303 and loads of keyboards. But we could have lived without any of it, but we couldn't have lived without making the mad sounds.

"We had an Atari 1040 running the whole MIDI shebang. I think we were running early Cubase as well.

"We were doing different things with stereo, too. It wasn't like, here's the drums in the middle, the hi-hats on the left hand side, snares slightly to the right, pianos on the right hand side and therefore the guitars on the left...we didn't do that normal engineer bollocks. It was all about moving sounds around in stereo image, rather than just having them pan off in one direction or another.

"We were also going for the club sound. We wanted it to convey that way of working because we spent our lives in clubs. The sub bass has to work, whether it's a chilled tune or a banging Dance tune."



© Bill Bertram

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it all ourselves. We were experimenting with stereo as well. If a loop was in stereo we'd put a stereo delay on that and pick out different rhythms on either side.

"Then after that there'd be a stereo phaser on that from left to right. We did a lot of that, but in a way that wasn't bog standard."

Theme IV

"This was a short track to reset the tone. You have to do that. You can't overkill things in one style for too long. You have to give people space. So we had Breaksy stuff, slow chugging Hip Hop stuff. Now we need to clean the palette. Stick a spanner in the works, before you get too familiar with the sounds.

"It was just about experimenting. We didn't want to do something that had gone before. We were taking influences from all sorts of things. It was more an experiment than setting out to make an album, but it turned out that way."

Return to Planet D

"The beats threaten to go double time, like Drum 'n' Bass, on this track. That was one of the things that we didn't do on this album. We didn't want to do what was expected from us. We liked just keeping you on the edge of your seat. There are some nice pad sounds in there, too. We had a nice collection of synths at the time. We had Roland's Jupiter-6, Juno-106 and the JV-1080. We even had Sequential Circuits' Prophet VS.

"Between those, Gary was an absolute genius in putting together rich textures and sounds and making them work really well. It's a real credit to him that the record sounds the way that it does."

The Ballad of Ricky McGuire

"It's got really crisp drums this one. We'd put on delays, a bit of distortion, and a sharp and fat EQ.

"We'd also drive them through a Space Echo, and then use a little reverb sent through another compressor, like the Ensoniq DP/4 multi-effects unit or something similar. The drums were downsized to 12-bit for a harder and crunchier feel, but without sounding processed in the normal way.

"We'd have to use a Zoom 9050 [multi-effects rack] on the drums, and a Boss SE-50 [stereo effects processor] and Yamaha SPX-900s [multi-effects unit] ... things like that. Then chain groups of them together to make a whole sound. The drums were put together in a bonkers way."

Jacob Street 7am

"We're getting late into the night now, in the story on the album. That'll be pretty much to do with our club, Sabresonic. It wasn't the street it was on. That was Crucifix Lane. Jacob Street was round the corner.

"The whole vibe of this tune is the coming down from that experience. And this is the way home. No drums, just chilled out. It's experimental sounds, that don't sound quite right. It's that moment, when you've been at a music festival and things don't sound quite right after. The birds chirping in the morning and that.

"It's more than likely to do with the fact that you're completely spannered! [laughs]."

> The whole vibe of this tune is the coming down from that experience. This is the way home

Chapel Street Market 9am

"It's later in the day now, you're moving into a different headspace than you were a few hours earlier, being pounded into submission by the club. Sabresonic was so loud, so intense and banging that coming out of there, Chapel Street was the way home where your ears would just about stop ringing.

"It's all about coming back from a club, you've got that little burst of energy, but it's not enough to take you out again. The tempo is up, but it never leads to a peak. You're still coming down, but the heart is racing a bit [laughs]."

Haunted Dancehall

"This is very dark with a soundtrack vibe with the strings. If you compare it to people who are writing music for film scores now, then it was leaps and bounds ahead of that.

"The mood sums up that reality is dawning. The memory of last night has completely gone. The comedown phase. It's dark and intense, but it's quite 'proud' sounding as well. This is the track that gave the album the name. Before that we had no title.

"This track reminded me of that bit in The Shining, where there is a band playing in the hotel hall that only Jack can see. You can hear something, but you can't place it. Literally a haunted dancehall." FM

What Happened Next

"After this album we all called it a day, we wound it up. I left and went off and started working with Primal Scream on *XTRMNTR*.

"Gary carried on with the other band we were in, The Aloof, for a little while. He was also running his own studio for a while. Now he works over in Ibiza.

"After Sabres, Andy got Rotters Golf Club off the ground and then after that he ended up doing production for Fuck Buttons and his solo stuff as A Pox


Sabres' Andy Weatherall

on the Pioneers. He's still doing his thing.

"I've got loads going on production-wise, now. I did the production work on Reverend and The Makers and I'm a part of the Reverend Soundsystem. We're taking it on the road and making it more banging and club-based. I'm DJing on that now with Ableton Live.

"I'm also working on a film score that we're developing with Cinemission, the new production company from Mike and Claire Manumission. We're storyboarding that at the moment. I'm also maybe going to be working on Indie band The Whip's album. Now my studio is based around Pro Tools HD3, really. And I've got Ableton which I love using. It's great fun and a cool way of working. I really love the sound of it.

"I've still got loads of old synths too. A Juno-60, Nord stuff, and other bits and bobs. I've still got loads of the effects from the Sabres age, but most of the stuff is inside the machine. My studio is called Echoplex, in London."

WANT TO KNOW MORE?

For upcoming gigs and for more on his future releases, visit Jagz Kooner's MySpace at **myspace.com/jagzkooner**

NEED TO KNOW

Five essential facts about... Sabres Of Paradise and *Haunted Dancehall*

1 "Originally, Irvine Welsh was going to write a story that we would compose the music to for this album," says Kooner.

2 "After *Screamadelica*, you thought Andy would be riding the crest of that guitar/Dance wave, but he didn't. He wanted to throw it all on its head," Kooner says.

3 Their debut album, *Sabersonic*, shared a name with a banging Techno night the band ran in London at the time.

4 Gary and Jagz also formed the bleepy supergroup The Aloof, who enjoyed some chart success.

5 Jagz was crowned 'Remixer of the Year' in 2003, by XFM radio station.

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Phil English, Owner

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WEBSITE
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Phil English, owner of AlexanderSound, has a knack for making things sound easy. Judging by how casually he tells the story, you almost believe that he set up this fantastic studio without any planning.

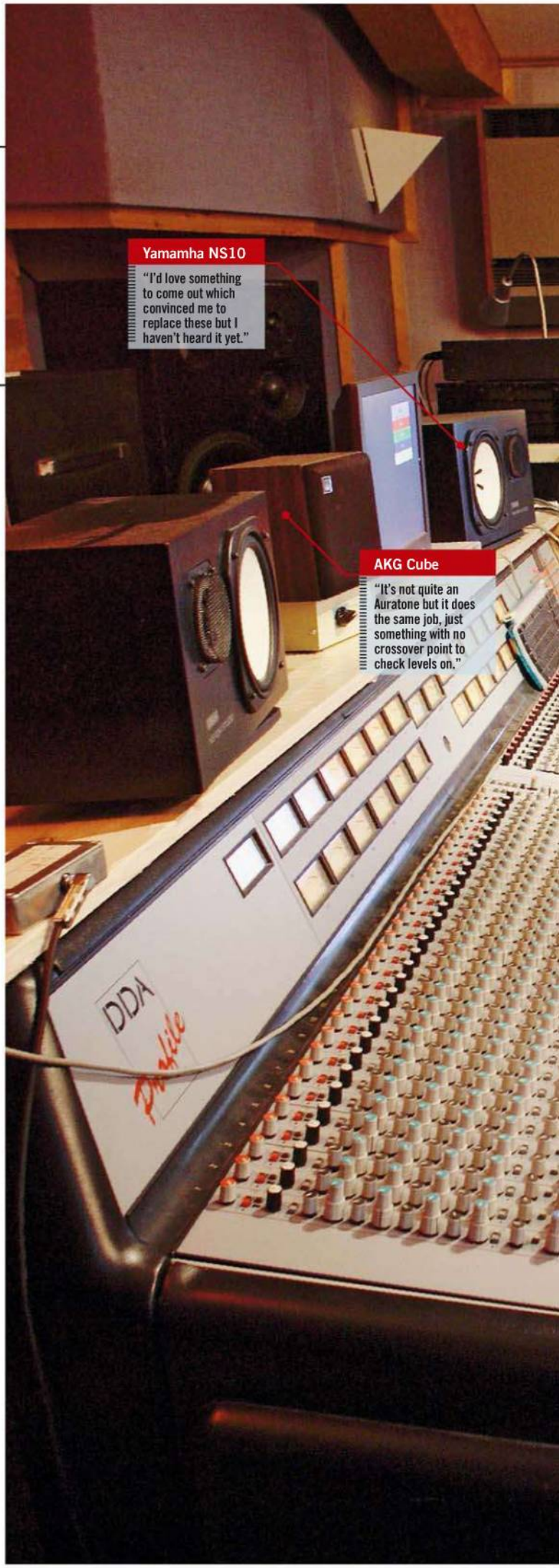
While working at Pete Winkelman's Great Linford Manor Studios, Phil started taking on freelance production jobs and began to build up a collection of gear for his own use. "Eventually I was pretty much bringing a studio with me," he tells us. "Just hooking into their desk and tracking entirely through my stuff. The rooms weren't often that great anyway so at that point I realised that if I got a console I'd have a studio." See? Easy.

Originally setting up a mix room in his garage, Phil eventually found his way to an existing studio space in Willen, a couple of miles down the road from Linford Manor on the outskirts of Milton Keynes. We suspect there might have been a bit more thought involved, but all in all it sounds remarkably trouble-free. The space was set up as a studio in the late 1980s by Nigel Pegrum of Steeleye Span but had been sitting empty after he emigrated to Australia.

Phil tells us the space didn't need much work: "The control room acoustics are still exactly as they were. The live room got rebuilt with better isolation but other than that it's all original. You can tell by the air conditioner – I think that was probably second-hand when they built the place! It's not a massive area but it's very easy to make it sound a lot bigger than it is." In terms of equipment, the studio did see a massive overhaul. The control room is practically overflowing with gear and Phil has to shift a few flight cases just to let us get a proper view of the outboard. To say the room is packed with toys is an understatement.

The control room

The main desk in the well-equipped control room is a 56-channel DDA Profile with full Uptown automation,



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Melos Echo Chamber

"This sounds pretty dreadful but it's wonderful if you want feedback loops or a kind of grainy aftertaste to a sound. It was the first birthday present my wife bought me. I realised she'd already got me sussed."

DDA Profile

"It's reasonably clean, it's got great EQ, the mic amps are functional and the routing's very flexible. The racks are full of flavour and colour so it's important the centrepiece is as clean as possible. I wouldn't swap it for anything but an SSL."

INTRODUCING...

Phil English
Owner/Producer

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Modified Neve Line Mixer

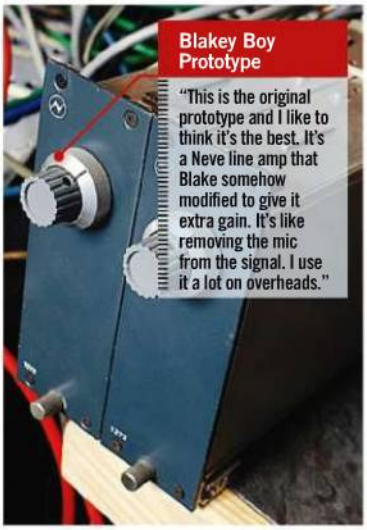
"This has 24 of the same pres as the other desk but I can use them to push signals through the wall. It's good for Poppier drums. Before I had it the Killers hired it to record *Sam's Town* and KT Tunstall did a record using it too."

Vintage Neve Heaven

AlexanderSound is a Neve fan's idea of paradise, with every corner revealing another hidden gem. In total, we counted more than 50 channels of Neve mic pre dotted around the place, not to mention the EQs, compressors and exotic prototypes. A number of these pieces belong to Phil's friend Blake Devitt, technician and Neve fanatic. "He was the tech at Linford when I was there," Phil tells us. "We live round the corner from each other. He's heavily involved in the studio. I'm kind of a test guinea pig for him. Vintage Neve is his thing and he does it brilliantly." It sounds to us like Blake is the kind of friend we all want to have. Phil showed us some of the highlights of the pair's collection, dotted around this page.







Blakey Boy Prototype

"This is the original prototype and I like to think it's the best. It's a Neve line amp that Blake somehow modified to give it extra gain. It's like removing the mic from the signal. I use it a lot on overheads."



Neve Percentile Distortion

"I think this is the only one of these. It gives you the same kind of harmonic distortion you'd get by going into a mic amp to add some extra bite."

Neve 1081

"The EQs in these aren't matched so they're not usable as a stereo pair but I can never quite bring myself to take them out and get them lined up. The 15kHz band is fantastic, it lifts really nicely."









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dbx 120A

"This just adds a bit of weight and makes the bottom end tidier and tighter. It gets rid of a lot of noise. I'm amazed you don't see these in studios more often."





Ball & Biscuit Microphones

"If you need to make a room sound bigger, stick one of these three metres away from the drum kit, hammer it through a Pye compressor and suddenly it sounds like you're in the Albert Hall. But much nicer!"

but it's the Neve 5315 tucked in the corner that really catches our eye. An ex-RTÉ broadcast desk, the Neve has been rebuilt and customised by in-house tech and diehard Neve obsessive Blake Devitt. "It was a wreck when he found it," Phil says. "He wanted to own it but had no use for it so it stays here. I do a lot of tracking and sub-mixing through it. A lot of the time if I'm mixing I'll run parallels through the mic stage on the Neve. It doesn't get used as a console much, but it gets used as a rack of 24 EQs. They're fast and in terms of Neve they're clean but there's still a lot of colour in there. It's also got onboard speakers which are great for checking radio compatibility."

Monitoring is via Quested mains and Yamaha NS10s, with Acoustic Research AR18s on hand for occasional use on softer acoustic material. The custom Questeds, originally installed at Battery Studios, tend not to be used too much. "I like to track bass and guitar with the player in the control room so the Questeds are there mainly for vibe and for checking the bottom end now and again. For actually making decisions, it's always the NS10s."

> "A lot of the time I'll run parallels through the mic stage on the Neve"

Working process

Phil's typical working process focuses heavily on getting things right in pre-production and nailing the sound early on. "I do a lot of EQing and compressing things at tracking and really get the sound as I want it. I want to be able to bring the faders up on a mix and it sounds pretty much there. I'd rather get the sound with a mic and careful placement at the start rather than having to allow for the fact that I'm going to colour it later." Everything's running to Pro Tools using SSL converters, which Phil rates highly for their neutrality.

Phil tends not to use plug-ins, so all processing is carried out using hardware. With such a great selection available, we can't say we blame him. He's certainly not afraid to experiment with different sounds either, as he tells us when discussing his current approach to guitars: "I come from a Rock background and I started out as guitarist, but the guitar is one of my least favourite instruments. People just default to guitars too much. They never seem to go out of fashion."

The studio has a modest but versatile collection of instruments on hand for bands to use. "We've got a small selection of drums, a Hammond, a Rhodes, a couple of guitars and a lot of amps and cabs. We don't have many synths so I'm really looking to build the collection up. I love the Novation Bass Station and I bought a Korg DW-8000 last week so I'll get that serviced and it'll be pushed into action."

Future plans

A few upgrades are in the pipeline for AlexanderSound, most notably a minor reworking of the acoustic treatment in the control room and a possible move to an SSL console. "Ideally I'll get an E-Series, but physical size is an issue," Phil tells us. "I'm having to reconcile myself to the idea of losing channels and floor space at the same time but the functionality of them is great."

With plenty of clients coming in, Phil is clearly tired after countless late-night tracking sessions but happy to be working so hard. "I'm currently working on sessions with a band called The Dirty Flags," he tells us. "And I've been doing quite a lot of work mixing some Techno tracks with Twisted Pear from Cambridge. I have my very slanted way of looking at things and they're coming at it from a completely different angle so I really enjoy it." This attitude sums up Phil's approach to working and developing his own skills as a producer and mix engineer. "You need to learn at least one thing from every session otherwise you're just going to keep making the same record. Never save patches or presets!" FM

YOUR STUDIO IN HERE?

Want to show us around your studio? Drop us a line at **futuremusic@futurenet.co.uk**, and we'll pop round for a Blue Bols.

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ON THE RADAR

Tensnake

Tensnake has risen from the underground to become one of the most prolific club producers in town. We grabbed him for a chat after a manic DJ set at Cable, London

Tensnake, aka Marco Niemerski, is a busy man. His remixes and releases have been circling the underground since his first EP in 2006 but he was propelled into the populace with the fantastic *In The End (I Want You To Cry)* EP in 2009. Heavy club kicks, tight claps and short and suave vocal samples made it a hit on trendy dancefloors around the world.

Tensnake wasn't done though – his *Coma Cat EP* earlier this year saw him thrusted to new heights with a summer smash, laden with catchy riffs, soulful vocals and finger-snapping grooves.

After several failed attempts to grab him for a chat about all things studio, we finally caught up with him at the Modular Summer Sundance party at the recently reopened Cable nightclub in London.

FM: So you're using Ableton to DJ...?

Tensnake: "Yeah, I'm actually using a Max for Live patch, programmed by Darren Cowley. It's really crazy actually, I didn't know how to use it when I first got it but he helped me out. I'm not into Max/MSP stuff really but I just found the patch and thought it looked good."

Are you using it in the studio too?

"Yeah I've moved completely to Ableton Live from Cubase over the past few years. For me, the speed is really important because if I have an idea, I need to get it down as soon as possible, so that's why I'm loving Live. I'm not using the Session View at all – I use it in a traditional sequencer way. I'm not really using any of the Ableton plugs either – I'm almost entirely using UAD-2 plug-ins."

Ah, which ones?

"My every day EQ is the Cambridge and I love the Harrison too, but you can't use it for everything as it has a signature. A friend of mine owns a Harrison console and we were A/Bing it, and it's really close.

"I rarely use compression actually – I do a lot of volume automation and EQing. I was using it too much and it killed the dynamics so I decided to take it off and do it all with volume fades. I mean, on *In The End...* for example, there's the Ableton compressor for sidechaining and what made it so punchy was that I put a sub bass under the kick and used the Waves [L3] limiter for the master."

Let's talk about *Coma Cat* then – it's probably been your biggest track to date. How was it made?

"It was made in Ableton again – the idea was based on an old track [Anthony and the Camp – *What I Like*] and at first I was thinking of just doing an edit and I got more into it and it came together really fast. The vocal is just from a random R'n'B sample pack – I used Melodyne to put the third harmony in. I did the whole track in one day, which is really fast for me. I used the Arturia Jupiter-8V for recreating the main riff, and I put a marimba sound from the Yamaha TX81Z over it too, but it's quite quiet.

"On *Need Your Lovin*, I wrote the lyrics and recorded the vocals with a singer from Hamburg – I tried to keep it as authentic as possible. I used the Harrison EQ on the vocal – unfortunately the Manley Massive Passive EQ wasn't out then, which I just bought. I used to own a Manley VoxBox and I still think that's the best for vocals."

What's your studio setup like then?

"It's not really anything crazy – I don't actually have a lot of synths. I have a [Roland] Juno-106 and a JX-3P too, which I actually prefer. I was lucky enough to find the programmer for it [PG-200] on eBay for like 40 Euros. The chorus is amazing on it, same on the Juno.

"I also have a Moog Voyager which I just bought a few months ago which is amazing and I just got a Kurzweil K2000 too. I have a Jupiter-4 that doesn't work and a SCI Six-Trak that I got from Matt from the Junior Boys that blew up because I put a cheap voltage converter in it.

"My main software synth is the Arturia Minimoog V, I think it's great. I use a lot of freeware too, like Synth1 [by Ichiro Toda]. There's so much stuff coming out every day, and they all sound pretty different, but it's all about what you do with them. You can make a soft synth sound dirty by just recording it with a mic, with your room printed on it too. It's just a matter of creativity."

What are you using for drums?

"I'm using Kontakt and Battery and a load of samples I've collected from all over the place. I bought a load from a guy in Australia called Gold Baby that are really good. I really like Maschine too, especially since the latest update. I use the UAD-2 Fatso on my drums, to stick things together."

What's coming out next?

"I'm working on a new 12" for Tim Sweeney's Beats in Space label that I've been working on for a long time. I'm really late with it. Sorry Tim!" FM

WANT TO KNOW MORE?

Head to Tensnake's MySpace for more on his upcoming releases and tour dates **myspace.com/tensnake**

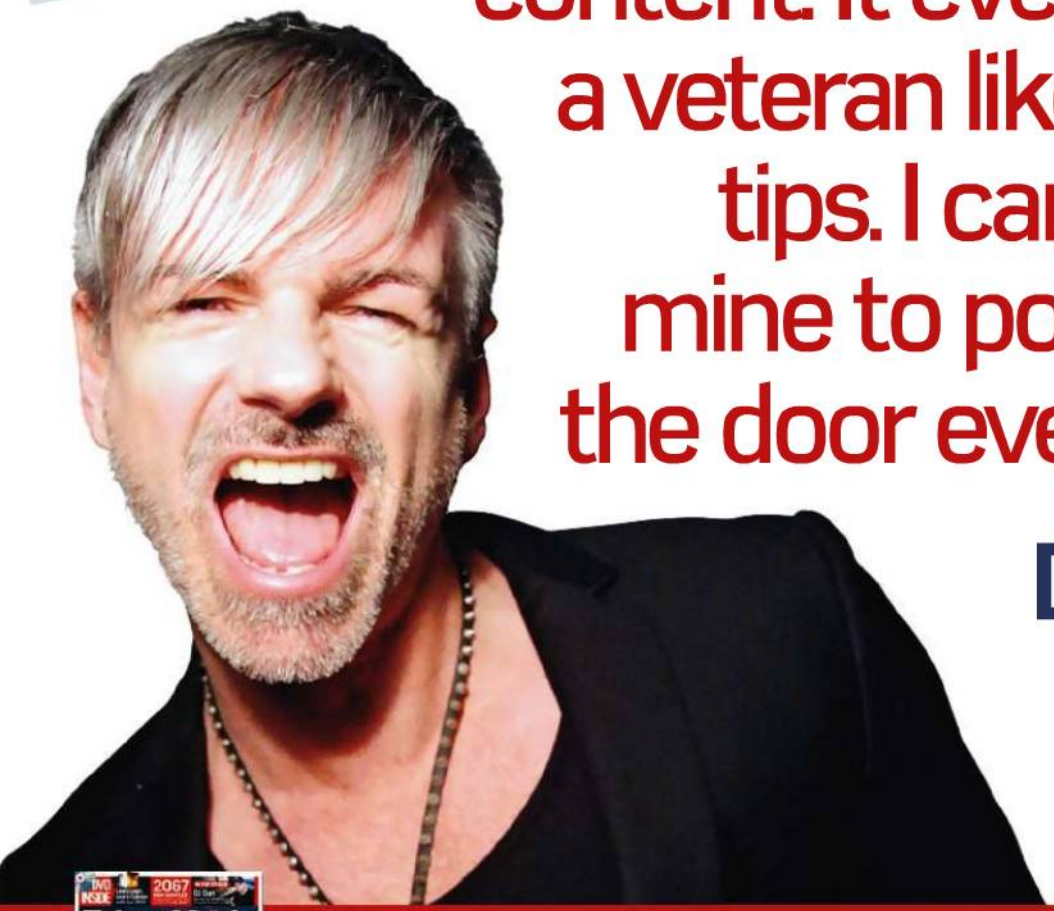
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FM always has excellent content. It even teaches a veteran like me new tips. I can't wait for mine to pop through the door every month



D.Ramirez
Artist and Producer



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Albums



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

Album Of The Month



Chemical Brothers
Further

Freestyle Dust/Parlophone

Despite never courting fame and media attention like some of their superstar DJ peers, the Chemical Brothers have over the years established themselves as icons of modern Electronic music. As if proof were needed that the boys have still got it, the singles *Escape Velocity* and *Swoon* immediately dispel any doubts. The former builds and builds into a classic Chemical Brothers epic, while the latter's lush shoegazey textures, lazy beats and hypnotic vocals mark it out as one of *Further's* highlights. The album ebbs and flows to perfection, from the breakbeats and distortion of *Dissolve* to the filtered soul of *Another World* and the slamming Acid of *Horse Power*.

Although some of the duo's finest moments (*Life Is Sweet*, *Setting Sun*, *The Test*...) feature guest vocal appearances, the Bros' last album, 2007's Grammy-winning *We Are The Night*, drew some criticism for its collaborations. That approach is avoided this time around as almost everything is kept in-house. With the exception of an appearance by American singer-songwriter Stephanie Dosen, all vocals come courtesy of Tom Rowlands, whose restrained approach fits the album's attitude perfectly.

A little more slow-burning than previous releases, there are no obvious big hit singles on *Further*, but that should be taken as a compliment rather than a criticism. The consistency on display make it the most cohesive of their seven studio albums, and it's a pleasure to listen to from start to finish. Eighteen years on from debut 12-inch *Song To The Siren*, the Chemical Brothers are still as fresh and vital as ever. ***Greg Scarth***

ADD THESE TO YOUR PLAYLIST:
Escape Velocity, Dissolve, Swoon

9/10



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Uffie
Sex Dreams and Denim Jeans
Ed Banger



When we first tipped Uffie for success back in 2005, we never expected to wait this long for her first album. With her thunder stolen somewhat by the commercial Electro Pop of Ke$ha and even the straight-talking sassiness of Lady Gaga, Uffie has a point to prove. The album kicks off with *Pop The Glock*, first released as a single four-and-a-half years ago but still a perfect summary of Uffie's unique style. Other old tracks *Brand New Car* and the slow-burning *First Love* sit comfortably alongside new material such as the mid-tempo *Our Song* and Velvet Underground-sampling title track. Guest appearance from Mattie Safer (formerly of The Rapture) and Pharrell Williams add a male perspective to *Illusion of Love* and the anti-consumerist rap of *ADD SUV. Sex Dreams and Denim Jeans* proves Uffie's still got what it takes. I can't help but fear that she has missed the boat, but judged on its own merits, this is a fine album. ***Greg Scarth***

ADD THESE TO YOUR PLAYLIST:
Pop The Glock, MCs Can Kiss

8/10

Midnight Juggernauts
The Crystal Axis
Siberia Records



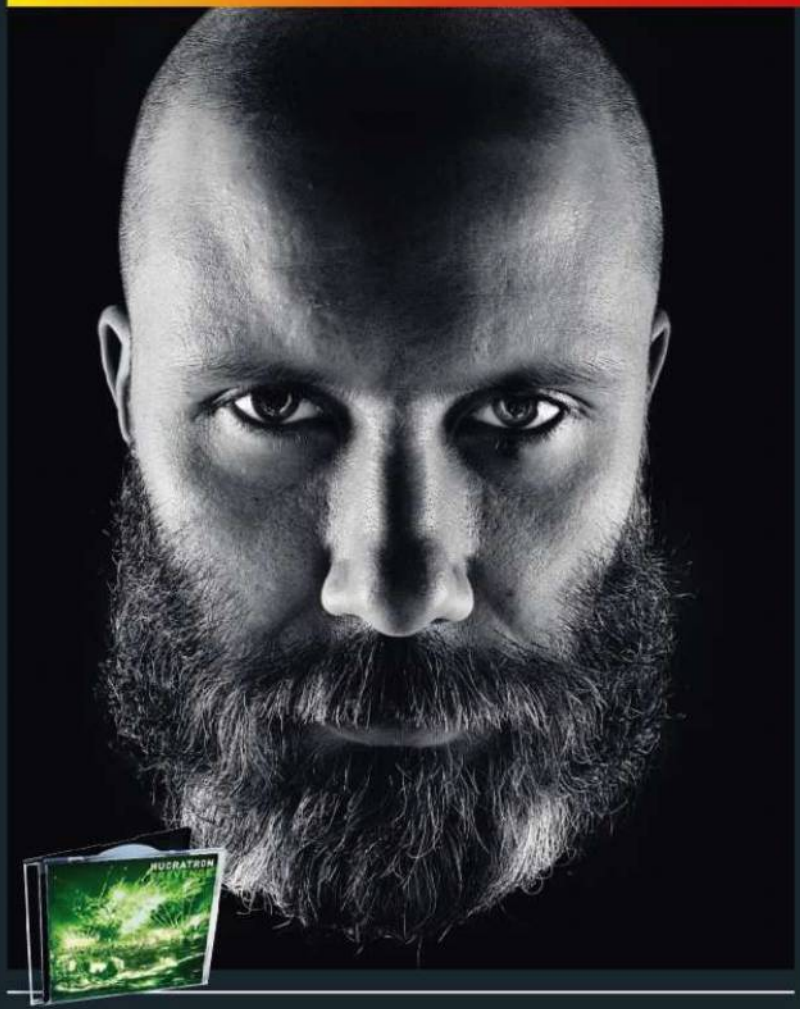
Back with a more mature sound, the Juggernauts have travelled back in time to an age of '70s space Prog, where epic organ parts and droning guitars meet reverberated drums. It's Pop Rock with a synthy texture that's both catchy and hypnotic. At points, it can be so pastiche, it's almost a Prog by numbers, but singles such as *Vital Signs* and *The New Technology* really explore a neat balance between artsy, abstract production, fresh arrangements and chorus driven Pop. The album is much more natural sounding than previous tracks that sometimes felt like the Electronic elements were shoehorned in.

Tracks like *Lara Versus The Savage Pack* form the bed for spacey riff-Rock and the on-the-beat driving vocals. Midnight Juggernauts could also see themselves gaining an army of Brit Pop fans, serving up memories of Oasis' trip into prog and leaving Kasabian riffs ringing in my ears. It's sort of strange how, by moving backwards, the Juggernauts have managed to actually push their sound forwards. ***Chris Barker***

ADD THESE TO YOUR PLAYLIST:
Vital Signs, This New Technology, Lara Versus The Savage Pack

8/10

It's On Our iPods



Huoratron
Prevenge
Last Gang Records

Take a deep breath, sound the Rave alarm and prepare yourself for the hard hitting sound of Huoratron, aka Aku Raski. He's the Finnish friend of Jori Hulkonnen, member of the 303 Orchestra and purveyor of speaker-spanking synthesizer music that could be the sound of Heavy Metal 100 years in the future. Imagine a chiptune melody at 24-bit resolution through a guitar amp and 400 subwoofers and you're close to the trash-Rock Electro that is Huoratron. It's Ravey, Indie, Electro, completely synthetic and will make your face-cheeks flap up to ten metres away.

Tracks such as *Gbay* build to such mammoth proportions before dropping to a weighty kick and bassline that wobbles, squirms and distorts so much, you'll question whether your speakers, ears or mind has been broken. It is, however, all very one dimensional and the *Prevenge* EP will not deliver anything musically deep, subtle or filled with metaphorical nuances, but it will smash any dancefloor and inject Rave and Techno into the veins of the unwilling. It's commercial enough to fit into a heavy Electro set and abstract enough to be like nothing that's come before it. It's the kind of club music that makes you want to get a tattoo. We like! ***Chris Barker***

ADD THESE TO YOUR PLAYLIST:
Gbay, $$ Troopers, Hoedown, Trolls

9/10

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Patrick Pulsinger
Impassive Skies
Disko B



Fourth studio album for Austrian Techno experimentalist Patrick Pulsinger, who has remixed for the likes of Grace Jones, Anti-Pop Consurtium, Ken Ishi, and Pet Shop Boys (with DJ Hell).

All eight tracks are long, stealthy and intricately produced, while a variety of guests can be found, notably fellow countryman Christian Fennesz on two tracks – providing an icy background to Pulsinger's warbling, fleshy Jazz flourishes on *Future Back*, and a more associable wash of white noise on the closing title track, complete with Pulsinger's soup of estranged piano chords and twittering Electro-Funk.

The standout track is *Blame It*, which moves Pulsinger away from abstract beats and rhythms towards free-flowing dubbed-out Disco with vocoded vocals. *A to Z* is also a high-calibre, gliding Techno-Pop outtake. A playful, gristly Techno-Funk album full of Jazzy flourishes and deep sequencing, *Impassive Skies* takes a while to grow on you, but slowly locks you into its irregular patterns and wistful, flamboyant charm. ***Danny Turner***

ADD THESE TO YOUR PLAYLIST:
A to Z, Blame It, Grey Gardens

7/10

Jean Jacques Perrey & Cosmic Pocket
Froots
Invitro



Jean Jacques Perrey is an 81-year-old French producer, cited as one of the first to step out from sixties avant-garde Electronic music to tread a more commercial path as part of the duo Perrey and Kingsley, which pre-dates even Wendy Carlos' notorious *Switched-On Bach*. Perrey has worked with everyone from Edith Piaf to innovative Electronic composer Pierre Schaeffer and Walt Disney. He was also best mates with Robert Moog, and one of the first to record records using Moog's own branded synthesizers.

Froots sees Perrey team up with In Vitro artist Cosmic Pocket to produce an almost surreal album of exaggerated Electronic Pop. Much of the music can be linked back to Perrey's work in jingles and children's TV – he once provided segments for Sesame Street, and it's these goofy nursery rhymes that lay the foundations here, both irritating and delighting in equal measure. A bizarre album that might test your patience at times, bridging the gap between the unique sound of sixties experimentalism and something more contemporary, Froots is an interesting listen, but not a patch on Perrey's excellent collaboration with Luke Vibert, *Moog Acid* (2007) – an almost perfect meeting of minds.

Danny Turner

ADD THESE TO YOUR PLAYLIST:
Fake Off, Froots, Six Froots Under

6/10

Grasscut
1 Inch/½ Mile
Ninja Tune



The Ninja Tune label finally seems to be back on the right track having acclimatised to an industry where the words 'profit' and 'music' no longer equate. Grasscut is one of those promising bands that the label used to frequently discover, and *1 Inch/½ Mile* is the debut album of Andrew Phillips and Marcus O'Dair – the former an award-winning film and TV composer, the latter a double bass/keyboard player. Subtle influences abound, most noticeably the bold, stomping piano chords and noisy, anthemic rhetoric of Trent Reznor, but beyond that Grasscut construct more intelligently with elements of moody Folktronica and ghostly, sample-driven vocal excerpts.

Highlights arrive in the form of *Meltwater*, which applies melodic, filmic piano tinkering amidst bold, clashing percussion – a healthy fusion of technology and rock ethics. *The Tin Man*, however, is really Grasscut's Pièce de résistance, with its nervous piano flittering prettily behind bizarrely exotic vocals and a mesmerising brass section – nothing about this is routine, and much the same can be said about the remainder of *1 Inch/½ Mile*, which glides gracefully between agile electronics and daring organic instrumentation. ***Danny Turner***

ADD THESE TO YOUR PLAYLIST:
High Down, Meltwater, The Tin Man

8/10

Mock & Toof
Tuning Echoes
Tiny Sticks



Forcefully avoiding the Nu-Disco stereotype Mock & Toof are producers Duncan Stump & Nick Woolfson from the UK. There groovy Disco-inspired tracks are a hybrid of influences with a feel that nods toward the classic DFA sound and acts like Hot Chip and CSS.

It's an album that, although Electronic, feels completely organic from track to track. The production is simple yet effective, but the main interest lies in Mock & Toof's incredible basslines that are both melodic and rhythmically notable in their structure. It's these basslines that provide the groovy hypnotic underlay, to Mock & Toof's Indie and psychedelic musical carpet.

Vocals are provided by Gavin Gordon and singer-songwriter Pollyester, who both deliver the heavenly, dreamy vocals, that come washed in reverb and delay. Mock & Toof are building a reputation as some of the most creative remixers and producers in the UK right now and if you have any sort of affection for Indie Shoegazing Disco, this album should be on your list of purchases.

Chris Barker

ADD THESE TO YOUR PLAYLIST:
Shoeshine Boogie, Day Ken Died, The Key, UnderwaterBallroom

8/10

Jimmy Edgar
XXX
!K7



From his previous home at Warp, Detroit based Edgar has recently signed to !K7. Blending the sleazy Funk of Prince with the pristine shiny metallic tone of Berlin, Edgar creates radio friendly Pop with a dark twist.

It's full to the brim with high-pitched, portamented synths, 909 claps and syncopated basslines. Through the album, you begin to hear Edgar's keen mix of influences from the romance of the Paris to the Funk of Minneapolis, while polishing it with the hard edge of programmed drums.

Some tracks don't have as lasting an appeal, offering little more than a hypnotic groove. But when Edgar strikes the balance between Pop, Techno and Electro Funk, it's a sound that's hard to classify. If you're loving the renaissance of Disco and '80s Electro, you should pick this up, but some may find the hybrid sound a tad soft in places. ***Chris Barker***

ADD THESE TO YOUR PLAYLIST:
Function Of Your Love, Turn You Inside Out, Physical Motion

8/10

Retro Respect



Michael Jackson
Bad
Epic

One year on from his death, it seems a suitable time to revisit Michael's catalogue. Following up *Thriller* was no simple task and it would have been easy to stick to such a proven template, but *Bad* boldly took Michael's sound into the digital production era. Without the artist-defining impact of *Thriller*, it's easy to forget *Bad's* gems. *Another Part of Me*, *Just Good Friends* and *Speed Demon* still kick it. Michael lives!

Declan McGlynn



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Compilations

PICK OF THE MONTH

Kode 9
DJ Kicks
!K7



All round Dubstep guru and founder of the influential Hyperdub Records, Kode 9 has served up a massive 31 tracks on this mix, mashing together fragments of UK Funky, Grime, Two Step, Dubstep and even futuristic Broken-Beat and Dancehall influences. It's one classy mix. ***Chris Barker***

Various
Pacha Ibiza Classics
New State Music



Mixed by three Ibiza residents, this commercial triple-CD mixer of every song you've ever spilt a drink to while dancing in the Ibiza sunshine. Good times. Here's a compilation for some reminiscing of summers gone by... ***Will Seelig***

Stefan Noferini
Club Edition Ibiza 2010
Deeperfect Records



Some lovely deep summer sounds here from the Italian house maestro. Noferini delivers tracks and remixes from Blacktron, Koen Groeneveld, David Tort and more. Check it! ***Chris Barker***

Various
Soma Coma Vol. 4
Soma Recordings



Sculpting out another groovy, Ambient, Electronic compilation, Soma punch out tracks from Alex Smoke Funk D'Void, Slam, Vector Lovers and more. Deep, swirling and overflowing with trippy percussion, glassy tones and textures.

Declan McGlynn

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Two mix CDs and a bonus DVD featuring 40 minutes of footage from Space's closing party in Ibiza. This is a great package full of all the sunshine sounds of the white isle and CD2 bringing a deeper late night mix. ***Chris Barker***

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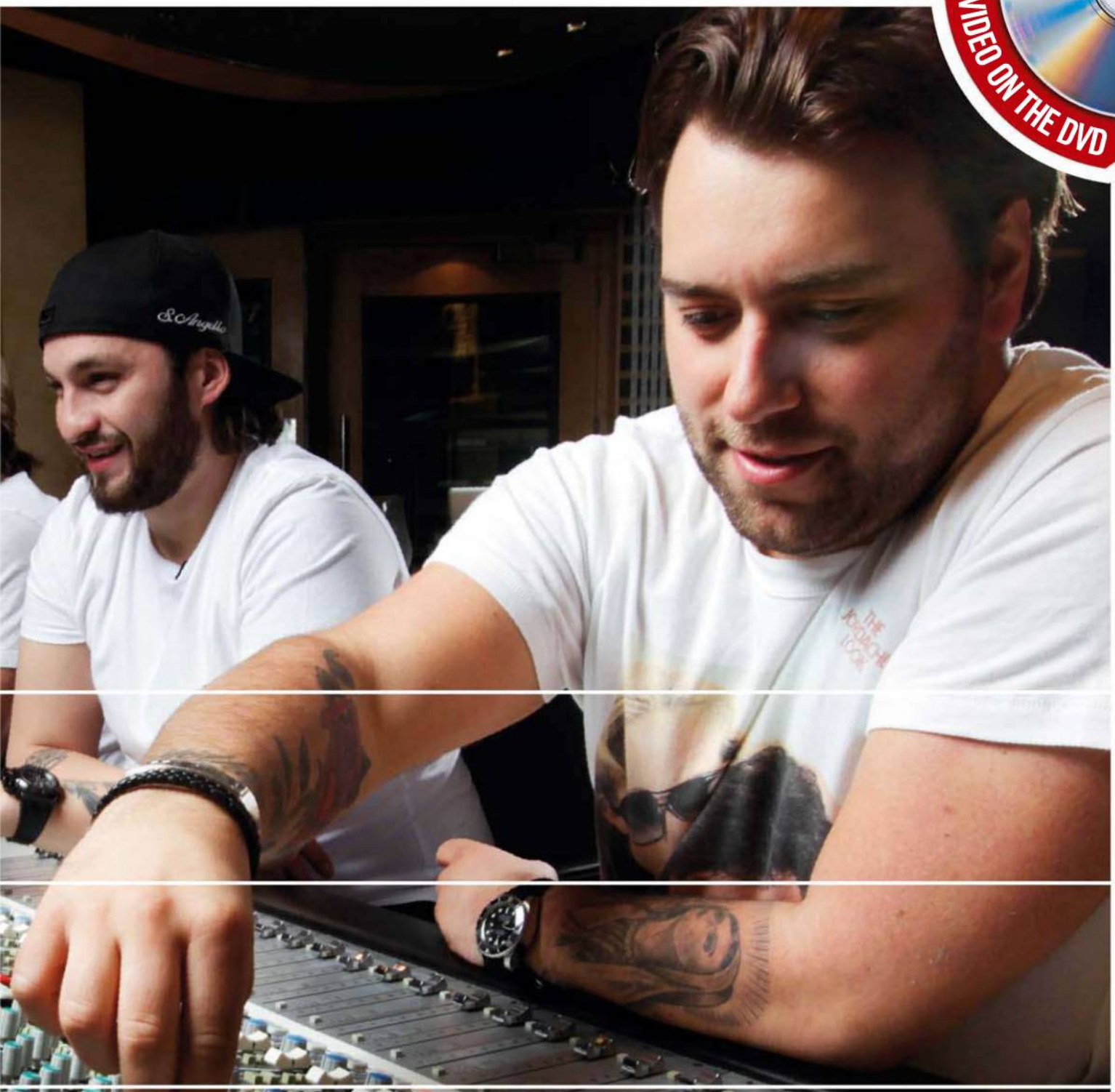
Swedish House Mafia

IN THE STUDIO WITH...

We go on the road and in the studio with three of the biggest names in Dance music. Axwell, Steve Angello, and Sebastian Ingrosso reveal how they created this year's summer anthem and one of the most breathtaking DJ shows we've ever seen. Here's how it all happened...

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VIDEO ON THE DVD

This story begins with a tweet. *Future Music* were hard at work in LA, killing time before meeting with Sasha at Avalon (yeah, we know) and we remembered that a certain Swede who we'd met a few years earlier had recently set up residence in the Hollywood hills high above our eatery. A mobile tweet to Steve Angello was dispatched and before desert had arrived a reply had landed, inviting us to his new house and a grand tour.

So why not? With time to kill we grabbed a cab and hit the road. So begins the story of *One*, a track that – as we trundled up the hill to Angello's house – was only a distant glimmer in the minds of Angello and his Swedish House Mafia co-creators Sebastian Ingrosso and Axwell.

Google maps is a wonderful thing and soon enough, we were paying a taxi driver and stepping out into the early evening Hollywood sunset.

Discretion prevents us from divulging our precise locale, suffice to say, business seems to be good chéz Angello.

Opening the door to his beautiful new home overlooking LA, Angello plays perfect host and effortlessly slips into the grand tour. "Not bad for making Dance music, huh?" Angello says as we check out the rest of the house.

LA and Angello are clearly a good combination and his rediscovered love for analogue has injected a brand new passion for producing the American way. Adding that SSL sizzle to his own productions, and the huge global Pop acts Angello is currently working with, is a new world for him and one that's opening up all kinds of invitations.

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A long way from Stockholm, sunny LA provides the perfect backdrop for Angello's productions

Los Angeles / 14/03/10 / 4pm

LA Angello

After a peek at the new studio and the SSL gear that's defining his new sound we took an espresso to the terrace for the official FM catch-up.

FM: So, from Stockholm to LA?

Steve Angello: "Yeah I'd been coming to LA a lot over the past four years and I loved the relaxed and chilled vibe here. But also, if you want to get stuff done there's the biggest labels, studios and musicians here. Because Dance music became Pop it felt like a natural move for a producer like me to come and try to produce Pop music and challenge myself. Plus, when you wake up in the sunshine it makes you smile! I'm a sucker for the sunshine because it just makes everything so much better.

"When you wake up after three hours sleep, it's definitely easier to get out of bed in LA than it was in Stockholm."

And you're turning the house into a studio?

"Yeah, I'm going to probably get an SSL or Wunder Audio's Wunderbar console and install it here. Analogue just sums stuff up with so much punch and space that I need for not only the Pop stuff but with the big Dance records too.

"Of course we started on analogue, but we quickly moved on to digital and I've been using digital for a long time and got bored of not being able to get the exact sound I wanted in Logic. You need to make that next step to the gear that bedroom producers can't afford, otherwise what marks you out in terms of production? When you get to a certain level you get pressured into making the next big release. We sold 450,000 copies of *Show Me Love* and it means that I have to try to hit that mark again.

"It's up to DJs and producers to prove themselves now with the quality of their productions. Digital distribution and the instant nature of downloads means there is no filtering of quality compared to the years of vinyl and CD. I could fart into a microphone and it could be uploaded on to Beatport without anyone really approving it…"

And it would probably get in the Top Ten from people buying on auto pilot.

[laughs] "You have to ask yourself how you are going to get noticed with so many thousands of tracks getting uploaded every week. It has to be by making great records that sound better than everyone else's. If you don't invest in the equipment, you're using the kit that everyone else is. My friend's daughter is ten and makes House music in GarageBand and it sounds pretty good! So, how do you elevate yourself away from that?"

> "When something becomes popular people file that under 'cheesy'. But Lady Gaga wouldn't be cheesy if she only sold 1000 records"

Is it the same story for the live shows?

"This is all stepping up too, we're taking the Swedish House Mafia production to the next level with effects companies, choreographers, costume companies, sound engineers, stage managers and more. It's a huge crew with maybe 35 staff helping us do the shows. We're doing Brixton quite soon, actually."

If Axwell and Seb moved out to LA, do you think it would have an impact on the sound of the Swedish House Mafia?

"No, because the balance is that we do so many big shows as DJs individually. I would only have our name in the credits of Pop stuff and not have 'Beyoncé ft. Steve Angello' on the artwork or anything like that. Pop is created when something becomes popular and people usually file that under 'cheesy'. But Lady Gaga wouldn't be cheesy if she only sold 1,000 records.

"I was talking to a big Techno DJ recently and he said that the stuff I make was really mainstream and commercial. I asked him how many copies of his last compilation he sold and he said, 120,000. I sold 22,000 which makes him much more mainstream and commercial than me, in terms of figures. I can sometimes take criticism quite hard because I put so much into my music. I just wish people would drop the attitude about what's credible and what's not. If it's a good track, then it's a good track. It's a lot better in America for that than in Europe where everyone slates anything that's Pop or commercial. In the USA they pat you on the back all the way to the bank. It's the American dream! It feels like everyone in America wants to be successful. It's a nice attitude to have."



And it's a nice place to be. By now time was marching on and prior commitments on both sides meant it was time to hit the highway. But not without landing a second invitation first. "You should come to the Swedish House Mafia show that we're going to do in Brixton," Angello suggested. "We're all going to get in the studio together while we're in London too. Me, Axwell and Seb." Seemed like there was more to discover so we jumped at the chance. Sure enough, a few months later, were sat in the EMI office chatting to Angello and Axwell hours before their Friday night sold out show…

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London / 28/05/10 / 11am

At EMI London

EMI London is an impressive place and the boys were in the midst of being given the star treatment when we arrived. Platters of food, drink on tap and with a lucrative Virgin 360 deal under their belts the afternoon's chat was to be all about business. So how come when we entered the room Angello was discussing his new Shadow Hills Mastering Compressor while Axwell jibed him about the pain of routing stuff in and out of the computer?...



FM: You've just signed to Virgin on a 360 deal. Are you still able to do work individually?

Steve Angello: "Yeah, I've been producing some Pop stuff for Interscope, Sony and a few other big labels. But I still have my own label Size and I can do my own thing with that, as I'm not exclusive to anyone as Steve Angello."

Axwell: "The same for me, I still have Axtone and I have actually done some Pop stuff too, but I don't want to jinx it by saying much about it. I did a track for Cyndi Lauper that went pretty much under the radar. She has her fan base though..."

SA: "Go on, put it out there, 'she has her fan base'" [laughs]

A: "I mean, I'm sure some people bought it, it's a good song. And it was on her album!"

SA: [laughs]

A: "Other than that, I'm also signed to Sony for my solo stuff. And I'm sure they're expecting me to actually deliver something soon." [laughs]

SA: "For me, right now, I just want to do everything that I can. I don't care about labels or genres I just want to try any style. Sometimes I'm producing Pop at 80bpm or other times I'm working on club bangers, or music at 175bpm. If I'm having fun and making music it doesn't really matter."

What do you have to deliver for the Virgin deal?

A: "Nothing, they're just along for the ride!"

SA: "It began as talks for the Swedish House Mafia to do a compilation but that just felt a bit flat. So it's more of an audio visual experience. We're doing a DVD for Virgin, which is a 45-minute documentary showing the last four years of music and what the Swedish House Mafia have been doing. It's good because there's no pressure. I like to be on a deadline, but I think too much pressure is bad for creativity."

How do you decide what idea becomes Swedish House Mafia and what you keep to yourself?

SA: "I'll play the boys everything and if there's something they like then we'll get on it. We're all friends and we're having a blast."

A: "The same goes if something is bad. We just tell each other 'that loop is shit'."

SA: "Yeah, and then everyone starts denying it was their idea in the first place [laughs]. 'Maybe it's an Apple Loop, it's not my loop...'"

Apple Loops can work though. Look at *Umbrella*...

SA: "Yeah, but we replayed that sample because the original loop didn't sound very good."

A: "I just wish you could delete the Apple Loops in Logic while you preview them, because some of them I never want to hear again..."

> "I'll play the boys everything and if there's something they like then we'll get on it. We're all friends and we're having a blast"

By now the Virgin crew are tapping their watches. With so much to fit in to today, it's time to give the guys some space. Next stop, our kind of business: to Metropolis studios to complete this summer's biggest club smash...



London's murky skyline on the morning of the Swede's meeting with EMI

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Metropolis Studios London / 29/05/10 **/** 4pm

In The Studio

By now, it's just a few hours before the Swedish House Mafia's huge London show and the boys are in Metropolis Studios, stealing a few hours from their schedule to do put the final polish on the extended version of their single *One*. We're ushered in just as the guys are getting busy. Time to talk tech with the Swedish triple-threat and with showtime just hours away, there's no time to waste…

FM: Take us through how you made *Leave The World Behind*.

Axwell: "It actually started out sounding completely different and we've had a lot of comments about it, because the YouTube video we uploaded of us in the studio previewed a very different sounding track.

"First we started with Laidback Luke, and we had this bassline riff, the riff that opens the track. Many times when we work together, you work towards an idea, then reduce it down to its core parts and then – boom – you have a new idea because of it. The bassline was created using the ES1 in Logic with a UAD compressor and the UAD Boss CS-1. There's two reverbs on that riff also, with a short snappy reverb and then the high note processed separately with a send to create that longer reverb on that particular note.

A: "Seb had brought a [Roland] Juno-106 to Steve's studio and was playing around with some chords and we all thought they were nice so we recorded them straight in, no MIDI or anything.

"Then that became the basis for the main riff of the track, but we had to add some piano and extra layers too."

The piano sounds like the same Axwell signature sound from *I Found U*.

A: "Sort of, except there's actually a send to the UAD Nigel plug-in and a layer of piano sounds with two layers of Logic's EXS24, with one EXS24 layer sending to the Nigel and the Nexus Piano. Then there's the cut up Juno-106 that is matched to the programmed piano."

So do you mix on the fly with all these layers?

Steve Angello: "I think we all work by mixing as we go. It's the worst feeling in the world when you get a demo of a track and then you have to go and mix it. Because we are all DJs, we are spoiled with wanting it to sound like it's in a club straight away."

Sebastian Ingrosso: "We can't ignore the production so that means we can't work like traditional songwriters. We end up listening to hi-hat samples for five days! It can destroy the creative process if you're not careful so it can be a good thing and a bad thing trying to make something fat straightaway."

Is there a lot of pressure to get a track finished? Considering how busy you are and the logistics of getting all three of you together in the studio.

A: "Because there are three of us, it's a lot easier to be confident than when you sit by yourself. When you're alone, you start doubting whether stuff is working or not, but together the others will drive you forwards."

SA: "The tempo during the production process is so much better. When we made *One*, we were all just on our laptops throwing different stuff in to the main project.

A: "Yeah, the decision-making process is so much faster when there's three of us."

So what about Steve going headlong into analogue? You won't all have the same setups anymore?

A: [laughs] "That is a problem, right, Steve?"

SA: "It's a problem for me, because now when I'm in my hotel room and open a project, nothing sounds right! But I've bought the small Adam A5 monitors, an Apogee Ensemble, SSL buss compressor and an EMI Chandler Curve Bender to travel round with so things should be better."






The guys have a chin-rubbing critical listen as the vocals are stemmed through the SSL



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The SSL G-Series console makes a fantastic MacBook Pro stand

> "We can't ignore the production so we can't work like traditional songwriters. We end up listening to hi-hat samples for five days!"

ON THE DVD: The Making of One: The Extended Version



1

The First 'One'

The Swedish House Mafia take you through each element of the original track *One*, breaking down the sounds and processing behind this monster track.



2

The Vocals

Steve Angello takes you through the process of recording, producing Pharrell's vocal and shows how Melodyne helps expand it's potential.



3

Master Channel

One of the secrets behind the Swedes' production, we discuss the famed Mafia master chain.



4

The End Result

Catch a glimpse of the track as it's played that night at Brixton Academy and see exactly what this track does to the crowd.

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A: "I used to work a lot with the UAD plug-ins but I don't use them because they don't work with the laptop when I'm on the road."

Can't you get the express card version of UAD-2?
A: "Yeah, but then I'd have to have the huge 17-inch Mac…"

SA: "We're not really extreme when it comes to analogue or anything. It's not like we're looking to record vocals through old tapes or something. I just hear the difference now I've switched to analogue outboard and a desk for mixing.

"There's just that extra headroom and the tracks just sound so much fatter."

Do you think there is still the loudness war in clubs?
SA: "Yes, but it still has to sound good though. If I want to squeeze the life out of a track I can. But it will sound shit."

A: "It's kinda whack that just because you make things sound louder, it will sound better. But it's basic really, because when you're in the studio, if it's cranked up loud it sounds better. In the club there isn't always the headroom to increase those tracks that are quieter, so you have to aim to be the fattest you can be so your track stands up. Back in 2004, it was easier to make stuff sound loud, but now getting those few extra dBs is hard.

"Everything has to be so bass heavy now too, which doesn't help when you're trying to make things sound louder."



Sebastian Ingrosso

Hardware
Custom SSL X-Rack
"I designed my own SSL X-Rack with the EQ from the [SL] 4000 console and the buss compressor too."

Software
Sonic Charge Synplant
"This gives me so much inspiration, but it did take me about five months just to fully get to grips with it."

So you're here to finish the production of *One*?
SI: "Yeah, we created *One* at Record Plant in LA. The boys came over for four or five days and we just had three laptops up and went from there. Axwell had the idea for the kick looping up and becoming the main riff." [Check out our tutorial on page 42]

A: "Yeah, like we do when we play out. Making a loop smaller and smaller till it's just a tone. In fact, when we play I always wished we could turn it into a melody ourselves, but getting the melody accurate by using the pitch fader is pretty much impossible. So we started with that idea then made the bassline and then the chords."

SA: "It's pretty much built as it's arranged."

A: "The chords are pretty unique sounding though, we used [Sonic Charge] SynPlant for the first chords and then the Rave melody using the [LennarDigital] Sylenth1 plug-in. There are a lot of layers and melodies, plus a piano and the

Creating Melodyne Harmonies from a Single Line

Making your own harmonies from a single vocal line can add your stamp to a sample and stop it sounding repetitive. Here's how to do it in Melodyne

The ability to lift a section by providing additional voices often provides an effective way to get extra weight into your tracks, but if you're working with a sampled vocal line, once again, you won't have the luxury of being able to ask a singer to come up with some extra musically relevant lines. Melodyne can help, as you can simply copy all or part of your vocal phrase onto one or more extra tracks and create a multi-layered arrangement by scanning each line separately and then moving notes to create harmony parts. If you're good with your chords, this won't take long as you'll know which notes will fit with your lead line but if not, trial and error will get you there too, so don't be put off. Here's how it's done.

ON THE DVD

> The single lead vocal line is tuned, then two harmonies are created from shortened versions of the same file, using two extra instances of Melodyne.

Next, you can add some effects, panning and volume changes and suddenly the track is much richer.

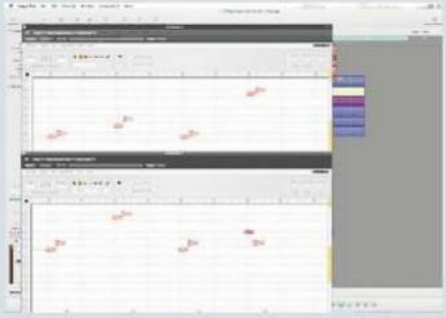


1 Copy your lead line onto three audio tracks of your DAW, muting tracks two and three to prevent all three from playing at once. Open Melodyne on track one and scan your lead line in. To help your harmonies 'stay in tune', go through the lead line and correct the tuning of any notes which are a little on the edge. In the phrase I've chosen, the first note, F, is outside the chord pattern of C minor and A-flat major that I'm using, so I've tuned this up to a G to help the harmonies which will follow.



2 It's only the 'woah-ooh' parts I want to harmonise, so on both tracks two and three, I've shortened the regions to play just these parts. Then, keeping track three muted, I've scanned the second track into Melodyne and played around with harmony notes.

Some music theory helps here – I'm using thirds and fifths above the lead vocal – but if that's not your thing, simply move notes around until they sound good.



3 Same again with the second harmony – scan it into Melodyne and choose your notes. It's a good idea to keep the Melodyne display for the first harmony open so you can check you're not duplicating.

Once you've got the two harmonies, pan one left and one right and add some delay. Drop their volumes too, so it's obvious which part is the lead.

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drums and percussion." [Check out our tutorial on building a Rave lead on page 44]

How did the Pharrell William's vocal happen?

SA: "We had a Pharrell acapella that me and Seb had recorded in Australia for another track that we wanted to do over a year ago. We took that and tried it on *One* and it worked. Well, it worked after Axwell Melodyne'd the crap out of it!" [laughs] [Check out our tutorial on the next page]

A: "We had one phrase that we had from Pharrell and we made it into a whole song."

SA: "It's kind of old skool, chopping up one vocal and turning it into a whole Dance track."

A: "It was also refreshing to not have 60 tracks of different vocal takes in the arrangement."

What about the vocals for *Leave The World Behind*?

A: "Now that was a lot of tracks. Again, I recorded that vocal for another song a long time ago. I think the best tracks are when we take a vocal from one track and put it on another.

"We just have these moments when we think – bam! – take this vocal and it works."

SA: "When we crank up the tunes in a big studio like Record Plant [LA], we know if it gives us the chills there, then it's going to work really well in the club."

What else are you loving in the studio?

SA: "Native Instruments' Kore 2 – it sounds pretty good. ReFX Nexus is also great because it's so quick. When you're looking for a sound you can find something close very quickly and manipulate it. I don't use the Kore hardware though because it takes up another USB and there's no need."

A: "I'm a mouse guy from the start so it's just another thing for me to have the hardware and remember to go to it every time. But, it sucks that in Kore you can't just flick through the sounds quickly without the hardware."

SA: "I heard from some technicians at Interscope that there's this new soft synth that can analyse a track and create the sound for you, like match EQ for synths…"

SI: "I still love Logic, I love all of the synths and working with it."

A: "A lot of plug-in synths are almost used like

> "When we crank up the tunes in a big studio like Record Plant, we know if it gives us the chills, then it's going to work well in the club"



The Swede's tweak the SSL buss compressor – one of their favourite summing tools

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Making a Track from a Vocal Line

If you've got a killer vocal sample you could be sitting on the key to making a whole track. The Swedes did it with 'One'. Here's how you can do the same.

Plenty of us have copious single line vocal samples sitting on our hard drives which sound great in isolation but which start to become repetitive and dull as soon as they're copied or looped. How great would it be to have the original performer in the studio to ask him or her to sing the same phrase but with as many melodic variants of the phrase as possible, so that a single line could turn into a whole track? Well, with Melodyne, exactly this is possible, as you can scan a phrase in and then create as many melodic variations of it as you like. Read how in the following six steps.

ON THE DVD

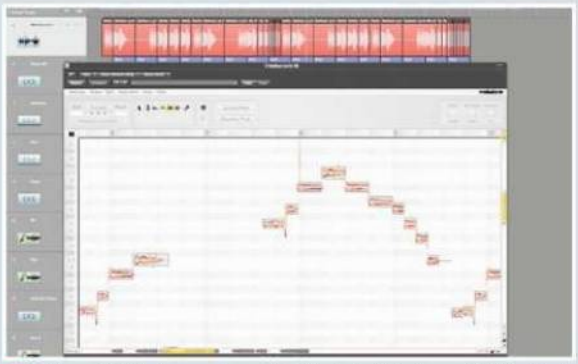
> On the DVD, you'll find a video explaining how it's all done, along with step-by-step audio examples as the track progresses from a single line (step one), to a more rhythmically more diverse one (step two). In step three, the phrase is scanned into Melodyne and manipulated before some pitches are 'flattened' in step four. In step five the audio file is bounced out and in step six, it's integrated into the track.



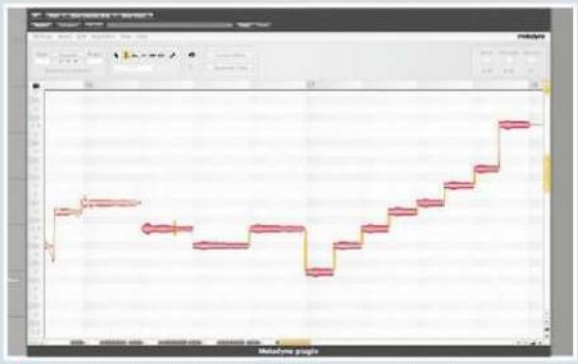
1 Find or record a vocal phrase you find inspirational and build a little track around it. At this stage, just use the vocal's vibe and don't worry about its rhythm or melody. In my track, I've imported an Apple Loop vocal phrase and repeated it, building synth and beat elements below.



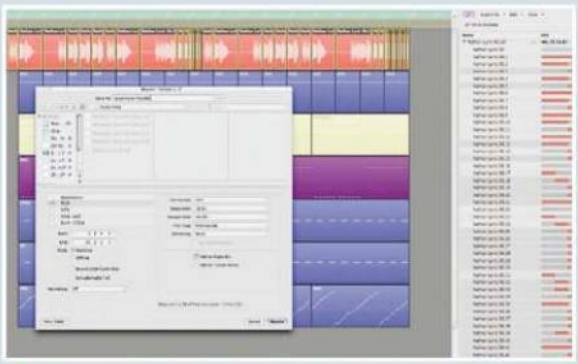
2 Once you've got a basic backing track together, complete with your chord moves, copy the vocal phrase you've chosen so that it's forming the rhythmic structure you want for your track. It's the vocal rhythm you're after here at this stage – we'll build the melody shortly.



3 The next job is to scan the melody line into Melodyne and think about which notes you want to use in your phrase. Think about the chords you've used and which notes will fit but it's a good idea to keep a melodic instrument to hand to check the notes you're choosing. Watch the video!



4 Next, I'm going to 'flatten' the pitch of some of the notes in my new vocal melody phrase to create the 'Cher' effect of perfect tuning and zero vibrato. This is done by using the Pitch Modulation tool and simply double-clicking the notes you want to flatten.



5 Once you're happy with your melody, solo and bounce the vocal phrase you've made down to create a new file. This way you'll be able to chop it again, copy it to other audio tracks and use it later in your track.



6 Once the vocal is bounced, you can get busy with effects. I've added reverb and delay to the lead line but also copied an 'echo phrase' onto audio tracks two, three and four, which are panned left, centre and right. Each track has its own effects treatment with distortion, filtering and flanging respectively and each progressively drops in volume.

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they're a flavour of the month though, don't you think?"

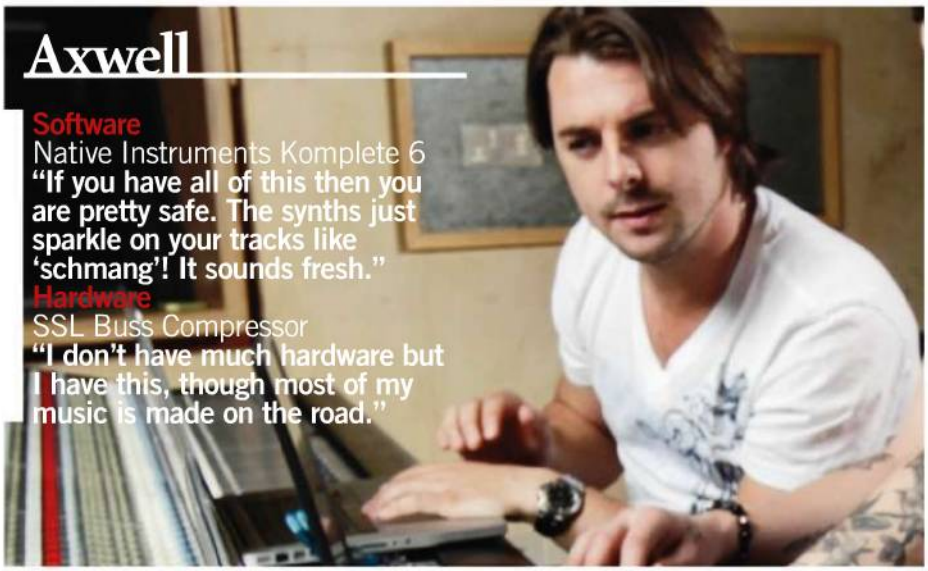
SI: "Yeah, you just get a new one, do a few tracks, get tired of it… and never use it again."

SA: "I'll often get a new synth when I want to make a new track. I was tired of Sylenth1 almost straight away."

A: "What I like about Sylenth though is that they realised that you want it to sound fat straightaway. Most soft synths are very clean and simple on the presets, but in Sylenth they are EQ'd, compressed and effected and can be really inspiring straightaway."

SA: "I hate when you get a new laptop and you have to move everything over. The amount of times I've lost a box or a code and I have to buy the software again because I move around so much. It's so stupid."

A: "The dongles and the iLok are also stupid. Why can they only take 120 licences? For instance, Waves Mercury is 120 licenses instead of just one and takes up a whole iLok."



Axwell

Software
Native Instruments Komplete 6
"If you have all of this then you are pretty safe. The synths just sparkle on your tracks like 'schmang'! It sounds fresh."
Hardware
SSL Buss Compressor
"I don't have much hardware but I have this, though most of my music is made on the road."

Axwell, there was a lot of fuss about what you were using on your master channel…

A: "It's different now. When people started to ask about the master channel, it was a Waves C1, Fat EQ, Logic's Compressor and the PSP Vintage Warmer, but it's not like that anymore…"

What's your next big studio project after this one?

SI: "We're going in the studio with Tinie Tempah because we loved the *Pass Out* track and really wanted him to come to our Pacha residency this summer. But, we wanted him to come over and do a track that was actually made with us."

SA: "It's nice too, when you find producers who are actually producing shit themselves. I get remix stems through sometimes from three different people, while the actual 'producer' is sat chillin' in Monaco somewhere."

SI: I think House music stands for individuals actually doing it. Back in the day people didn't have the money for these big studios with three different engineers, a mix engineer and loads of musicians. They were just guys with big dreams. It's the same for us when we're creating music – it really is us producing and playing."

And with that, time was our enemy once more. It was time to hit the road again. It'd been a tough, long day in the studio and the Mafia's driver is already calling to take them back to their Brixton hotel for a disco nap, some food and pre-show warm up. Mind if we tag along?…

Turning Kick Drums into Basslines, 'One' Style

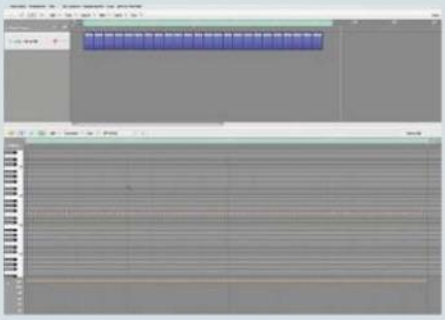
We've all heard kick rolls a thousand times but the Swedish House Mafia turned theirs into a bassline. Here's how you can do the same…

Kick drum rolls have been used throughout Dance music's history to build a heightened sense of drama and they're particularly effective when a producer's looking for a neat way to negotiate a transition in a track from a 'drop section' back into the main theme or vocal hook. Swedish House Mafia have taken this concept a step further in their track *One*, not only because the kick roll gets the track started but also, via some neat trickery, the roll becomes a drone and this drone then becomes a playable, pitched bassline. You can find out how this is done through the following three steps, which combine the techniques of programming, MIDI to audio conversion and sampling to get the job done, with a little effects processing thrown in.

Often, it really pays to think about how you can swap one type of data in your DAW into another (such as MIDI to audio) in order to achieve unique and more interesting results.

ON THE DVD

> Bingo: Our kick turns into a drone and then into a bassline.



1 The secret to making this trick work is to tune your kick drum to the key of your track so that it'll be in tune when it becomes your bassline. Program a pattern that gets progressively faster so that by the end you've got 1/128th notes, which will sound like a drone. Create a long section for this super-fast fill at the end.

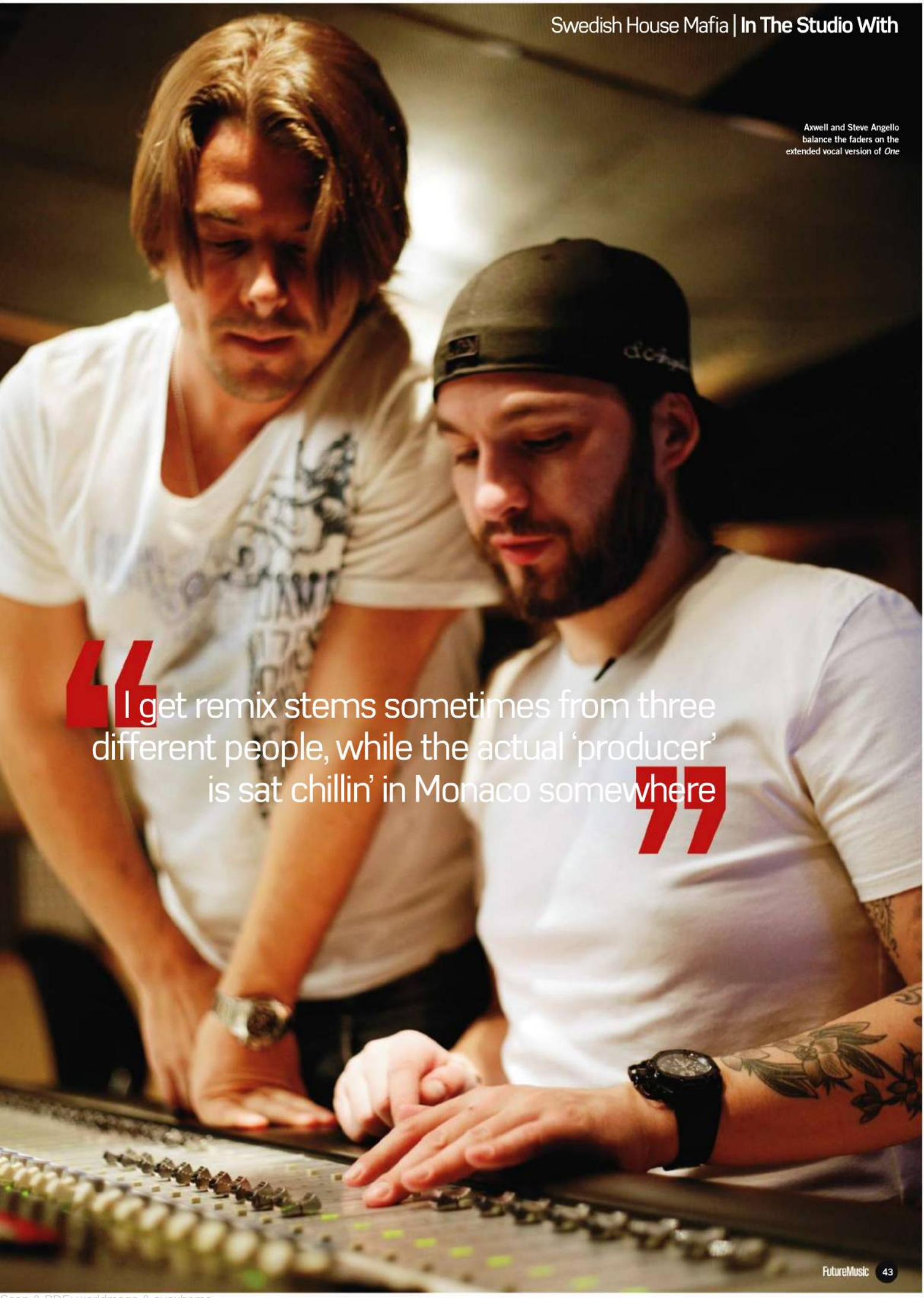


2 Next, bounce just this super-fast section down as an audio file, leaving out the kick pattern prior to that point. Drag this file into your sampler. Take note of its key-note and draw a long note in to your arrangement so that the original super-fast fill is replaced by the note from your sampler. Set pitch bend to rise one octave and draw in a pitch ramp over four bars.



3 Duplicate the sampler instrument so you've got the same instrument set up on the next track. Make sure the sample is set up to play back across the entire keyboard range and play in the bassline you want from the point the drone stops. The lower you play, the more obvious the pulsing nature of the kick will be in the bassline. Add a little reverb to the rising drone and you're pretty much there.

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Axwell and Steve Angello balance the faders on the extended vocal version of *One*

> "I get remix stems sometimes from three different people, while the actual 'producer' is sat chillin' in Monaco somewhere"

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London / 29/05/10 / 6pm

In The Cab

As the guys leave Metropolis Studios for their Brixton hotel, Future Music slips into their black people carrier to continue our chat.

FM: Last time we saw Steve and Seb was in Sweden in 2007. Things have got a lot bigger since then, right?

Steve Angello: "We've worked really hard over those three years and just stepped up our game individually, as producers and as the Swedish House Mafia. We've managed to get really good people to work with us – we've built a great team and we're just working really hard at it."

Seb, tell us about the track that you've just done for Kylie's new album.

Sebastian Ingrosso: "That came about after I did a little instrumental track with a guy called Magnus Lidehal from Stockholm and my management played it to EMI and they loved it. Then they worked really hard to get a great top-line recorded on top of it and then Stuart Price was involved as executive producer. I got the version back with Kylie on it and I was really happy, especially as Stuart liked it so much because he's always been such a big inspiration to me."

Will there be more Pop stuff for you then?

SI: "We'll see, I have lots of projects I'm working on but I don't really have a strict plan or anything. When you start a track, whatever style it is, you take it from there and see who will want to do it."

Do you all work in each others studios?

Axwell: "Yeah, depending on where we are."

SA: "I can work anywhere because I used to work out of my kitchen in Sweden…"



SI: "Ha, yeah! I remember doing a Röyksopp remix in the kitchen and saying that it was sounding fat, but Steve told me it was only fat in the bass when the coffee cups on the other side of the kitchen start shaking!"

SI: "Can I just say, I love your magazine…"

Can I quote you on that?

SI: "Yeah! Me and Steve were on a plane from Brazil to Argentina and we watched *Future Music*'s video of Benny Benassi in the studio and it was because of that interview that we made the bootleg of *Show Me Love* vs Benny Benassi."

So who would you guys like to see *Future Music* do an *In The Studio With*?

A: "Daft Punk."

Axwell, you actually came above Daft Punk when we asked readers whom they'd like to see.

A: "Probably because they knew Daft Punk was never gonna happen!" [laughs]

SI: "I'd love to see James Holden, Rick Rubin and Wolfgang Gartner."

All we can say is watch this space… And with that it was time to let the guys go and get ready for the gig. Next stop: Showtime…

Rave New World: Building Massive Synth Leads

Almost any half-decent hardware or software synth can be used to create a classic huge 'Rave' sound. Let's find out how…

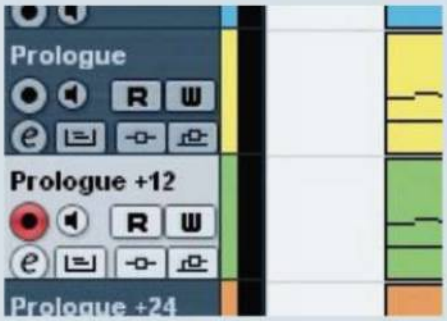
Sounds and styles come and go, but there are some that tend to get polished-off and reused with surprising regularity. One such example is the fat, full and rich Rave-style lead. Dating back to the early nineties (in a Dance context), it has seen the light in various guises in both commercial and underground contexts over the last 20 years – even making its way into recent Hip Hop and R'n'B productions. But what characterises a 'Rave lead' sound? In technical terms it usually exhibits a very full harmonic tone (associated with more interesting oscillator sources, such as a saw wave) and a warmth and fullness that is usually created through doubling and detuning. There are two ways to go about achieving this (although they can be combined for extra sonic delight). Stacking multiple sounds is the quick and easy way – the more the merrier, but you can also go back to basics and roll your own for more timbral control.

ON THE DVD

> Our video racks up wider, bigger and deeper sounds.



1 Start with a single oscillator set to a sawtooth wave, then add additional oscillators detuned either side of the first. The more detuning you use the fuller the sound – and make sure you don't use any filtering just yet. Adding some LFO pitch modulation provides additional thickness. Many synths also have a unison control, which stacks multiple detuned instances of a sound.



2 The next step if you aren't yet satisfied is to stack multiple instances of synth and set them to play at different octaves (higher or lower). This isn't about subtlety, its about filling up the available harmonic space. You can also start exploring the use of effects to fill in the gaps – reverb will help here.

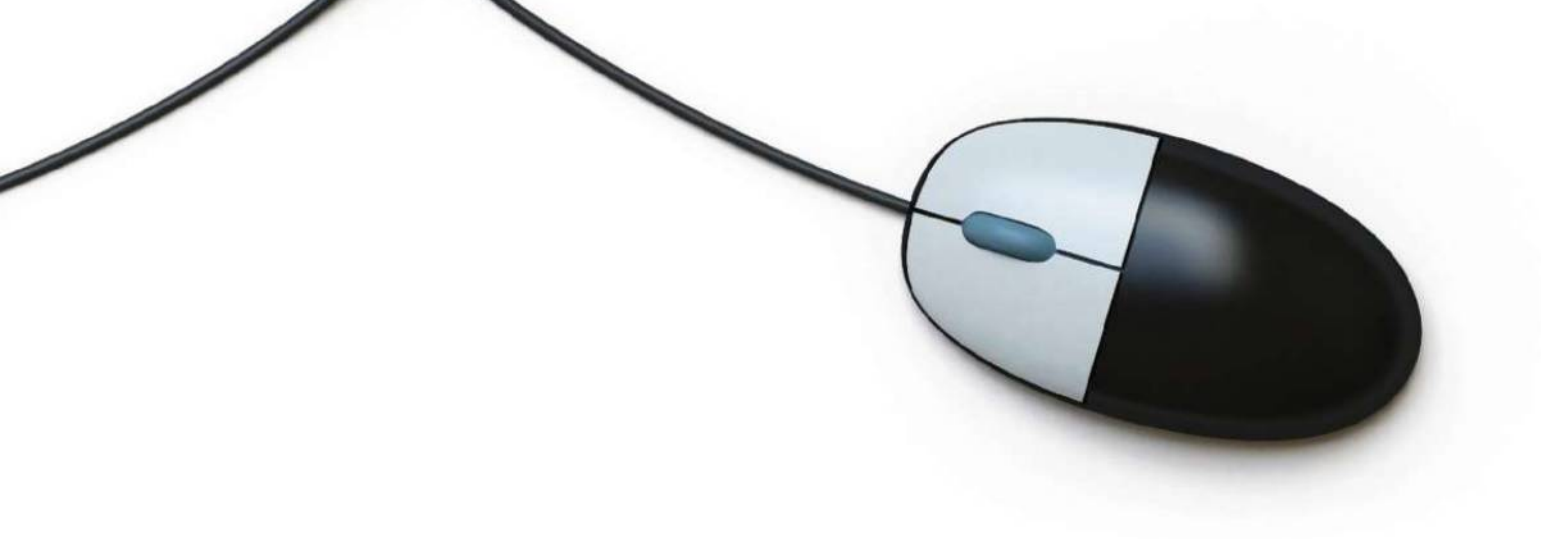


3 For additional variation try stacking different types of synth sound. Adding piano into the mix gives the sound a more percussive attack and works well for quicker and punchier lead lines. You might also try throwing in some pizzicato strings (a la Faithless), and string machine samples to fill out the sound. Don't forget to experiment with panning to create width.

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Brixton Academy / 30/05/10 **/** 2am

At The Show

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Last time we saw the Swedes play it was at a small exclusive party they hosted in Stockholm. With probably about 200 people in attendance. Now, things have changed. As we walk into Brixton Academy to the sound of Alex Metric kicking out furious Electro House, there was close to 5,000 people warming themselves up. Mirror balls dangled from the domed roof and floor-to-ceiling LED screens threw millions of colours from behind the DJ booth. As Metric's set came to a head, the music was silenced and a huge screen was raised from the floor. The lights dimmed and film collaborator Christian Larson's movie hit the screen.

With the crowd whipped to a frenzy, the screen counted down from ten to zero then fell. The lights strobed, and as three of the biggest names in Dance music belted out *One* the crowd went crazy. Aided and abetted by fire cannons, smoke machines, explosions, strobes and lasers it was – hands down – the greatest DJ show we have ever experienced. We grabbed the guys for a post-gig catch-up.

FM: So how was the gig?

SA: "It was absolutely amazing. Epic in fact! We sold out in advance and it was so much bigger than the last show we did. The production value has gone up so much, with more lights, bigger, more hi-tech screens and extra visuals."



SI: "Our visuals are done by Christian Larson who just makes these incredible videos that we project at the shows. We want something that is completely different and not end up doing a show that looks like a Daft Punk copy.

"We work so hard and get involved so much with every detail of the production. With the Masquerade Motel theme we are doing in Ibiza we're hands on with everything as we want everything to be 'Swedish House Mafia.'"

Isn't it going to get a lot more difficult to keep so much control as you do bigger and bigger things?

SA: "We're three guys so there's always going to be someone who can make a decision."

And do you trust each other to make decisions on behalf of all of you?

SA: "Yeah of course – if Seb makes a decision I trust him 100%. It's always difficult because everyone has an opinion and we are all in different locations, but we always seem to end up naturally on the same page."

SI: "The idea is just that it's three good DJs and producers coming together to do something great. It's like Axwell describes it – instead of getting a burger, you're getting a triple burger!

"It's not like Steve plays the drums and Axwell plays the bass like in a band… we're not a group… we're a supergroup! [laughs]. It's like you have Batman, Superman and Spiderman altogether…!" [laughs] FM

WANT TO KNOW MORE?

Check out all the action from the boys at their official website **swedishhousemafia.com**

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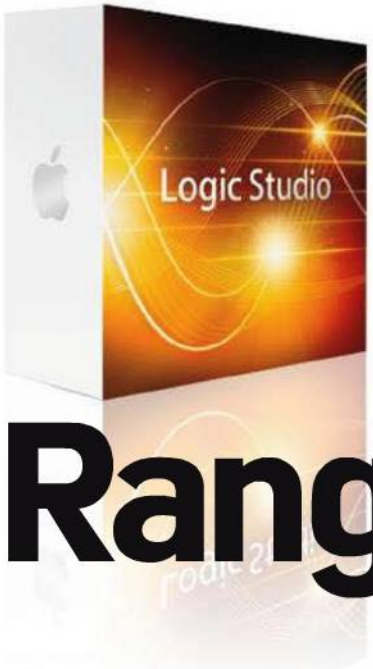
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LOGIC ESSENTIALS



Working in the Low Mid-Range in Logic 9

This month, ***Jono Buchanan*** looks at the low mid-range. Getting this part of the mix right could be the difference between a hit and miss. From snare choices and mastering solutions to selecting sounds, this month is all about weight and power…

We've looked at how to get both the very top and very bottom of your mixes providing sparkle and bang respectively over the past few issues, but this month, I'm going to look at that frequency group directly above the very bottom end, known in technical terms as low-mid range.

In busier mixes particularly, this area is too frequently overlooked by programmers and producers as a source of 'mix weight', yet if you can maximise the elements which touch the frequency groups here, your mixes can come alive.



You can hear the effect of doubling the cello line down an octave on the DVD

THE EXPERT

Jono Buchanan
composer, producer



Jono is a songwriter, producer and composer. He's recently formed a coalition in his studio with Logic, with several radical music policy reforms being mooted. How long will it last?

What's the frequency?

First things first, let's clarify exactly which frequencies I'm talking about. Low mid-range is often described as the content between about 150Hz and 350Hz but I'm going to be extending some of my musical examples up to about 500Hz, as I tend to find that this area too can provide a real 'hole' if you're not careful.

The reason this area is so often neglected is that, if you're using very pure bass tones, most of the energy of these lies below this threshold, whereas vocals, hi-hats and other brighter sounds lie above.

We'll be focusing our attentions on sounds like snares, which often contain at least some frequency content in this particular range and other bespoke noises that we'll be programming in to fill in any holes our mixes might have inadvertently thrown up.

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Naturally Occurring Low Mid-Range

So, which sounds are naturally rich in low mid-range frequencies? While you can add new sounds to fill holes and turn to EQs and other plug-ins to wrestle content into this frequency area, it's good to use sounds which feature these frequencies 'naturally' so that the content here sounds 'organic' rather than added falsely, and there are some great ways to achieve this.

As we saw in the main article, one way to do this is to program richer bass sounds which 'open' as a note progresses but if you're using a more standard set of 'Pop' instruments, including acoustic and electric guitars, drums and, as we've seen, pads or strings, it should be possible to cover your bases in this area.

On the DVD, I've programmed a track for two acoustic guitars, using RealGuitar 2L, an electric guitar part using the Clean Electric Guitar patch for the EXS24 running through Amp Designer and Pedalboard and some drums using acoustic samples from BFD and a Fretless Bass patch from Spectrasonics' Trilian.

To emphasise how musical instruments can make the most of their natural low mid richness, I've limited myself by sacrificing a snare sound in favour of a rim shot instead, as this sound is naturally much less rich in low mid-range. As you can hear from the first clip, the mix actually sounds nicely rounded already, even though in this first instance, I'm only including the drums and acoustic guitars.

This is because the 'body' sound of the acoustic guitars is naturally rich in low mid-range, so they fill a gap between the kick drum and the rim shot sounds. Second time around, I've added the bass sound too and any perceptible gap here is now completely eradicated. Despite the bass being unsurprisingly rich in bass, it's also detailed, so much of its harmonic content stretches into low and even upper mid territory, so even at low volume it's still capable of really filling in the bottom end.

In the third clip, the electric guitar is added and, while this is a predominantly melodic and bright instrument, Amp Designer's crunchy setting ensures that there's still lots of energy in this sound towards the bottom end, so my low mids are being complicated yet further by the introduction of this sound.

In the final clip, I've slightly overcooked it – by adding the conga part, which is naturally resonant in the low mids and by adding toms to every bar of the drum part, all of the instruments in the mix are now topping up the low mid content and it now sounds a touch over-full.

I've taken care not to EQ out frequencies from any of these sounds but I'd need to address that next – while low mids are often overlooked, it's still possible to overdo it!





By inverting Env2 to the filter, the sound starts 'dull' and becomes brighter – great for bringing up low mids from a 'bass-only' start

ON THE DVD

1 Extra Low Mid: Original track, then the extra snare I'm going to add.

2 Bass Variations: In the second clip, a saw bass opens from dull to bright. Third time round, the same routing is passed into a square wave bass, which works best.

3 Natural low mid-range: The 'body' sound of the acoustic guitars fills the gap between the kick and rim shot. With toms and congas, the low

Snare aware

A common trick to make sure your mixes sound adequately full is to double snare sounds so that, so that rather than just having the frequency content of one instrument present, you add richness by layering sounds together. If you're doing this within the context of a big sounding track, it's a great idea to focus at least one of your snares in the low mid-range, particularly if your main snare's focused on higher frequencies. In the musical example I've made, you can hear exactly this – there's a string arrangement and piano part, with a bass below and some drums taken from FXpansion's BFD. The snare sample from BFD is a great sound but it leaves the impression that there's a bit of a gap in the mix. In the second clip, you can hear the difference when I add a low snare from Ultrabeat. Even at low volumes, you can hear the job it does by tying the bottom end to the rest of the mix and suddenly, there's more power in the track overall, even though only a single, fairly quiet sound has been added. In the final example, I've doubled the cello line down an octave to fill this area of the mix in even more. There's so much more richness now.

> "I've doubled the cello line down an octave to fill this area of the mix in even more"

Make sure you explore the DVD to make the most of this article.

Place for bass

If you're working with particularly deep bass sounds, the same issues can pop up at the mix stage but here are two nice solutions if you can't make the various frequency bands of your track glue together. Firstly, suppose you're using a sine-wave bass sound in the ES2 and this isn't gluing nicely to the

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Make sure you double up your violin with viola and cello to thicken the frequency range

Orchestral Low Mids

Low mid range is behind dramatic soundtracks

If you're an aspiring TV or film composer, or if you've got your heart set on computer game soundtracking, it's well worth considering which instruments will best serve your low-mid purposes – this being the frequency area where drama and punch will be added to your compositions.

As the first violin section, alongside upper winds and brass are so regularly used to provide melodic interest, it's easy to forget that these lines will need proper support if the overall sound you're after is going to be strong enough. In the strings, make sure that your viola and cello parts are mixed sufficiently loudly, as this will provide richness and, as far as wind and brass writing is concerned, guard against lazily writing parts only for solo flute, trumpet or flute, taking time to underscore these with clarinets and bassoons in the winds and horns and/or trombone parts in the brass. Even fairly quiet, chord-like parts will help provide richness and character.

For really dynamic passages, you can bring out the big guns from the percussion section with orchestral bass drums and timpani so rich in low and low-mid harmonics that you'll find your mix fills up beautifully.

One word of caution – convincing orchestral arrangements are dependent on a 'sliding scale' of reverberation, with strings at the front of the orchestra requiring less reverb than winds, then brass, then percussion. Adding too much to the brass and percussion sounds will de-focus them completely, however, so be sure to address the EQ of the reverb you choose to make sure the low mid-range doesn't become too soupy.

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Multipressor in the Mix

If you want to leave your low-mid balances to the last minute, it's a good move to put the Multipressor in your output channel before the Adaptive Limiter, as this gives you a chance to squeeze some extra level into this crucial frequency group.

Multipressor opens with four frequency bands which can be independently compressed, expanded and levelled and the second of these, between 100Hz and 500Hz by default, should help you address this range. Thereafter, turn up the volume of this range by dragging the horizontal line up and down to hear exactly which bits are being affected. Some compression of the elements here is often successful – though if you're using a ratio much above 3:1 in combination with a dramatic level rise, you'd do well to go back to the elements of your track and have a rethink as the adage 'you can't fix it at the mix' will certainly be true if your settings are too extreme. Remember too that you can disengage activity in the other frequency bands simply by clicking the bypass buttons to de-activate these, so if you just want to target the low-mid range for some processing, you can.



frequencies above it. Obviously, you could switch your bass sound to something fatter, but if this makes you miss the 'pureness' of your original sound, worry not. By using envelope 2 on the ES2, you can design your sound to 'open' as the note is held down, giving the impression of a sine wave bass at the beginning of each note, before the richness of your full bass sound emerges on longer notes. You can hear an example of this on the DVD, where I've substituted a sine bass for saw-wave and then square-wave alternatives – the sounds integrate much more successfully in these examples.

The second possibility is that you add a second part on top of your pure bass sound which tracks its harmonic movement but which is simply designed to fill this hole. I find that the ES M is a great synth for this – set with a short decay time and some automation to open and close the filter, even at really low volumes, it often works really well as a tool to fill in these frequency gaps.

ON THE DVD

mids are perhaps too busy now.

4 Mix Multipressor: Here's a track on which I've used Multipressor: first time round, it's not used, second time all bands are bypassed except the low mid-range which I've cut dramatically.

5 Bass Exciters: A drum and bass loop with sine wave bass underneath – the same clip with an Exciter added.

Mix evaluation

In the boxes around this feature, you can see some of the ways in which you can squeeze maximum effect from this really important frequency area, but it's important to realise that you needn't necessarily turn to new sounds to enrich the low-mid range.

Strings, pads, vocals, snares, kick drums, acoustic and electric guitar and other instruments can all be rich in low-mid range, so if you're using sounds like these, make sure you're not neglecting them. With some careful thought about the sounds you program and your treatments of them, you should soon be able to add some real drama and weight to your mixes via the low-mid range, which in turn should help your tracks come alive. FM

LOGIC TIPS NEXT ISSUE

Jono returns in video form to take you through more of Logic's thrills and spills. He'll see you then. *FM*230 **on sale 12th July**

Exciters

Exciters, as we've seen before, are usually used on upper mid-range and treble sounds which might benefit from more colour or 'air' but there's nothing to stop you turning the attention of an Exciter towards the bottom end of your mix and this can be really successful on deliberately muted or dull bass sounds such as the nearly pure sine wave basses favoured by Drum 'n' Bass producers.

On the DVD, I've imported a loop from Stylus RMX and underneath I've programmed a basic bass pattern using the 'Sine Bass' preset.

The frequency gap between the two programmed parts couldn't be more clear but if you want to add extra low-mid weight to the bass part, it'll be difficult using EQ, as the frequency content in the bass sound is so minimal and picking out upper harmonics will be accordingly tricky.

Harmonic excitement

Exciters work to generate extra 'false' harmonics, so by setting an Exciter up on the bassline and by focusing its range from 110Hz upwards, suddenly the sound comes alive, particularly if you're particularly generous with the Harmonics dial.

In fact, it's possible to get a proper speaker blow-out sound by overdoing it here as you can hear in the final clip on the DVD, so mind how you go! On richer sounds, Exciters can also be used to thicken almost any frequency group you can think of, so it's well worth experimenting here to see what effects you can produce.

The bass frequency you select effectively becomes a fundamental for the action of the Exciter, so you can leave bass rumble in and focus on slightly higher frequencies.

Remember too that Logic's Exciter provides two 'Colour' options which focus the harmonics they add in different ways, so these are worth exploring too as the range of sounds they produce can be really diverse. Experiment with their settings.



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FutureMusic KNOWLEDGE BASE

The Science of Timecodes

If you want to keep your gear in sync, timecodes are essential. Luckily for us, ***Greg Scarth*** knows exactly what time it is

At its most basic level, a clock or timecode is used to transmit information about the tempo or position of your track. From an audio perspective, we're mainly interested in synchronising pieces of audio equipment for timing purposes, so in this month's *Knowledge Base* we're going to be taking a look at all the most important standards and ways in which timecode can make your life easier. In the '80s and '90s, timecode could be a bit of a minefield.

Thankfully it's not as complex as it used to be, but it still finds a huge variety of uses in studio gear and it's now a fundamental part of a lot of DJ equipment.

Roots of timecode

To understand the roots of timecode, we need to look to the world of motion pictures and go back all the way to the pre-video era. Although we're going to try and avoid looking at the audio-visual industry too much in this article, timecode is inextricably linked to the AV world thanks to the fact that so many of the standards we've used over the years have been developed alongside video synchronisation standards.

Before video, film time stamps were relatively simple visual indicators of the position on a film, similar to those used along the edge of a photographic film to indicate frame positions. The arrival of video recording in the 1950s eventually led to the invention of automated editing systems, which required a reference point so they could analyse the position of the tape.

The need for a more advanced timecode system led to a number of methods being tried before the video industry settled on the SMPTE system, introduced in the late 1960s and standardised in 1972. The SMPTE (Society of Motion Picture and Television Engineers, usually pronounced 'simpty') standard assigns a unique reference number to each frame of video, creating a standard reference for the position of the tape. Given the frame rate, equipment can easily calculate the tape's position relative to a pre-defined zero point.

There are more standards and confusing acronyms for audio-visual timecode than you'd ever care to remember (LTC, VITC, BITC, CTL, RCTC...), but thankfully they're largely irrelevant to musicians unless we happen to find ourselves editing a video.

Nevertheless, we should be grateful to the AV industry for the invention of one of the most important synchronisation protocols, as it soon crossed over to the audio recording industry.

SMPTE and MIDI

SMPTE very quickly caught on as a synchronisation method for multi-track tape machines in recording studios. The last track on the tape was typically recorded ('striped') with timecode as a matter of course, and the SMPTE timecode not only provided a reference of the position of the tape, but could also be used to synchronise the speeds and positions of multiple pieces of equipment.

The 1980s revolution in digital music was accompanied by an increasing reliance on the synchronisation of multiple pieces of equipment, from drum machines to sequencers, computers and tape machines to synths. A number of basic synchronisation formats, such as Roland's DIN sync system, allowed equipment to be locked into sync, but the arrival of MIDI finally allowed equipment to be controlled remotely using standardised signals, making things a little easier (if not necessarily simple).

The MIDI protocol allows for the use of a number of different signals to control and synchronise equipment. The most common is probably MIDI clock (also known as MIDI beat clock), a very basic signal which includes tempo information and start/stop/continue messages. Although it's not particularly sophisticated, MIDI clock is more than suitable for achieving a basic level of synchronisation between pieces of equipment and unlike the more advanced MIDI timecode it has the advantage of allowing variations in tempo. The one major weakness is that MIDI clock contains no location data (an indicator of position based on minutes and seconds or bars and beats) so the equipment you're synchronising has no idea where you are in your song. To include this information, song position pointer (SPP) may be transmitted along with the MIDI clock signal.

The more advanced MIDI timecode signal, essentially a SMPTE signal converted to MIDI format, was typically used for synchronising MIDI equipment with tape machines. In the days of multi-track tape



DJ software such as VirtualDJ and Traktor Scratch are the most modern examples of timecode use

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recording, this was particularly useful because it allowed tracks to be kept clear until the final mixdown.

Rather than recording each MIDI part to tape and using up valuable space, all MIDI instruments could be synchronised to the SMPTE signal and played back live along with the other tracks on the tape. Typically, MIDI equipment is synced to the tape machine rather than the other way round (which would be possible in theory but much less reliable).

SMPTE and the various MIDI formats reigned supreme until the mid-1990s but there hasn't really been on the agenda for the majority of musicians and producers since the arrival of more advanced computer-based setups. In large part, this is due to the fact that most of us aren't using the same kind of equipment any more – DAWs have replaced tape machines, software has replaced hardware sequencers, improved MIDI functionality has made triggering remote hardware easier, and many pieces of equipment have been replaced with effects plug-ins and soft synths.

Other forms of timecode still exist, most notably in digital signals which may contain embedded timecode information to provide a reference for equipment, while you could argue that a digital word clock (see *FM210*) is a form of timecode sync signal.

Tape Machines in Sync



In addition to synchronising synths and hardware, the SMPTE protocol is occasionally used to expand the track count of tape-based recording setups. In itself, recording to two tape machines simultaneously is easy – just route your signals, hit record on both machines and start playing. You've instantly doubled your track count, but there's one major snag: you now have to figure out a way to play both tapes back perfectly in sync with each other. The slightest variation between the two machines will render your recordings practically unusable, and this is where SMPTE comes in. The machines can be synced by making one the master and syncing the other (the slave) to it using the SMPTE signal, but this is easier said than done. Locking the tempos is relatively easy using variable speed motors, but the tempos and locations of each machine must match perfectly to make the system usable.

For a number of reasons, syncing multiple tape machines was never a particularly common approach. Firstly, high-end tape machines were expensive, so running and maintaining two 24-track machines was simply out of the question for the majority of studios. The complexity of the approach also meant that it was far from foolproof, and an imperfect sync could end up being inconvenient at best and costly at worst. The advent of the DAW meant that the days of being limited to 24 tracks were effectively over, and these days the SMPTE sync method might more typically be found to synchronise a tape machine with a computer to create a hybrid analogue-digital recording setup.

DJing hardware

One of the most common (and probably most interesting) contemporary uses of timecode signals exists in computer-based DJing setups. The DJ world has been revolutionised over the last ten years by the emergence of vinyl emulation software such as Serato Scratch, Native Instruments Traktor Scratch and Atomix VirtualDJ. These programs allow a virtual DJing environment to be created in software, with audio files manipulated, pitch shifted and controlled via a vinyl record encoded with a timecode signal. The timecode from the control vinyl is sent (as an audio signal) to a soundcard connected to the computer. The software decodes the signal in order to analyse exactly what you're doing to the control vinyl, and then uses this information to synchronise the audio signal playback with the vinyl. Slowing down the turntable will slow down the track, pulling back the record will reverse the playback, and so on.

> "The software decodes the signal to analyse what you're doing to the vinyl"

Tracks can be chosen from your library of audio files and played back as if they were on the turntable.

The latest software is so accurate and responsive that complex scratches can be carried out in addition to more basic mixing and beat-matching. There are a huge number of advantages to this approach, from the simple fact that you no longer need to carry as many records, to the ability to mix and scratch with tracks that aren't available on vinyl. The fact that the control vinyl can be played on any regular turntable not only means that the setup feels comfortable and familiar for DJs weaned on vinyl, but also that the setup is relatively portable and flexible. Hook your laptop up to any club's equipment, slap the control vinyl on the turntables and you've instantly got all your digital music collection at your disposal.

On a slightly different level, CD decks work on a similar principle, except that rather than using an audio signal sent between devices to control the playback of a track, all control signals are contained within the one box. Things are slightly more complicated due to the fact that the music is being played back from a regular PCM stream on an audio CD, but the overall operating principle is similar. In comparison to using turntables and vinyl records, vinyl emulation software and CDJs might be a little more complex but they offer a great deal more flexibility and advanced sound manipulation options such as looping, pre-defined cue points and time stretching.

Reliability, sound quality and accuracy are now at such a high standard that you'd be foolish not to consider adding one of these options to your DJing setup.

Should we worry about timecode?

In a word, no, timecode is no longer something most of us should need to worry about. The majority of timecode information is handled behind the scenes in a modern DAW-based setup. The majority of us probably don't even come close to using MIDI to its full potential for synchronisation, which is a testament to the simplicity and convenience of more modern approaches.

I would hazard a guess that fewer than one in a thousand of us even considers SMPTE as part of our home project studio setup. Nevertheless, the various timecode systems remain perfectly usable in a modern studio environment and you'll be grateful for them in the event that you need to sync an older piece of gear or a tape machine with your modern equipment. FM

KNOWLEDGE BASE NEXT ISSUE

Stay tuned to *Knowledge Base* for more unmissable studio wisdom and industry insight. *FM230* **on sale 6th August**

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Olav Basoski

IN THE STUDIO WITH...



From Cubase on an Atari to the bleeding edge of digital music production software, Olav Basoski can do it all – and has. He's seen the industry shift from gigantic mixing desks and enormous remix fees to the rise of the producer DJ and in-the-box studios.

We took a trip to his stripped back home studio to find out about the start of his career and what's next for his productions.

FM: How did you get started?

Olav Basoski: "I started by listening to the Ben Liebrand show where he did one hour in the mix on Dutch national radio. I used to listen and think, 'how the hell is he doing this?'

"So I started out as a DJ in the late '80s. Of course, back then, making Electronic music was out of reach because of the costs of the gear. But, I managed to get a job as a trainee at the mastering house for CBS Records and I learnt so much there from a technical point of view.

"After a year of saving up I managed to buy my own Akai X7000 keyboard sampler and an Atari, brand new, for something like 3,000 Gildas. Then two friends and I joined forces and combined our equipment and made a little studio."

When was the big breakthrough?

"Well the first big thing that happened to me was when I was in the studio with Zki from Chocolate Puma, who were The Good Men back then. We did a song together called *Windows* under the name Sil and that really blew up at the time.

How did you meet Zki?

"He lived around the corner and worked at the local record store."

Is the Dutch scene quite small then? Didn't Laidback Luke get his first break with Chocolate Puma too?

"Well sort of yes, because of the other guy, Dobre from Chocolate Puma. I think Zki and myself, and maybe a few other guys at the time, seemed to be the only people making House music in Holland.

"The scene is huge now though and getting even bigger by the day. I see DJ listings and line-ups all over the country and I think, 'who the hell are these guys? I've never heard of them'. So it's definitely growing all the time."

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VIDEO ON THE DVD

Vi Ki

Celebrated as one of the grand-wizards of Dutch House, he's able to turn his hand to anything from sample-based Disco House, to more underground Tech. ***Chris Barker*** heads to the outskirts of Amsterdam for some Logic Pro action

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So did the track *Windows* chart?
"No it was just a club hit, but back then a club hit meant you still sold 30,000 records."

When did you quit the day job?
"I was fired from my day job. I can't remember why but they found some shitty reason to get rid of me and I've been on vacation ever since [laughs]. Seriously, I can get up when ever I want and I'm my own boss. It's not about money, I mean especially now, you can't do this if you're in it for the money."

Has the change been quite sudden for you in terms of music sales?
"Yeah, about four years ago it felt quite sudden for me. I had just started up a new label with some friends, Roots Records and we were selling about ten or fifteen thousand vinyls's peaking with my own hit, *Waterman*. Then shortly after that we saw an average of say, eight thousand vinyl sales, drop to two thousand then six months later, one thousand."

Everyone knows you for the track *Waterman*, that must have been a big moment for you.
"Yes, because before that I was only DJing when I wanted to or if my agent said it was going to be a particularly nice gig but I was earning a living from producing. Then *Waterman* came along and the booking requests just skyrocketed. People advised me to take all the booking because the next few years for record sales were going to be rough."


Olav uses the TLA Fat Track to sum his stems and add analogue warmth and separation











How was being an international DJ as a young man?
"All of a sudden you're in business class to North America or The Philippines and you can ask if you can take your girlfriend and suddenly they've given you another business class ticket. It's crazy.

"I had a strange time in Manila actually when I was playing there with Ian Carey. We were playing this huge venue and I was playing first and nobody was dancing. I though, 'OK' and carried on. Forty minutes later, still nobody was dancing. After two and a half hours I played my last track and the crowd went crazy and started applauding and going crazy like it was a performance. It was the same for Ian's set after, it's just the way they do it there. The first time I played in Poland it was crazy too.

"My surname is actually Polish and *Waterman* was a really big radio hit there, so when I played there the club was screaming and going so crazy I could barely hear my monitors!"

Has equipment changed your sound over the years?
"Of course, especially in the '90s where guys like me earned quite a good income. We could go to the shop and buy a couple of new sound modules and those sounds were your inspiration. I suppose the key bit of equipment must have been my Soundcraft Ghost desk because I was having a tough time – my girlfriend and I had just split up and my production partner, Erik E, had just left too.

"I'd just bought this huge console and it really wasn't giving me what I wanted. I traded it in for the Soundcraft Ghost and began to get the results I wanted – that really warm gritty sound. Even though I kept the Soundcraft desk until a few years ago and would occasionally drag it out of storage, I got rid of it in the end."

> I would never buy hardware synths. They are just too much trouble. I don't think anyone knows the difference on the dancefloor

So you see in-the-box as your future?
"Yeah, I would never buy hardware synths now. They are just too much trouble these days. I don't think anyone knows the difference when they are on the dancefloor. Plus, now you have unlimited channels and unlimited EQs. I use the PSP plug-ins a lot all over my mixes. Their oldTimer compressor plug-in is really good – especially for the money."

What are your favourite plug-ins recently?
"Honestly, after having used just about every Audio Unit plug-in in the universe – and I mean that literally – I think I can safely say that whatever feels best to you, is best. There's a huge debate happening on the web about how all digital EQs actually do the same thing unless there's harmonic distortion added to the code. In other words, whatever EQ is best for your workflow and 'vibe' really is the best, to keep you from getting distracted by all the options available in the plug-in world. I suppose the same goes for compressor plug-ins.

"My favourite plug-in of all time must be the PSP Vintage Warmer. It has this crazy warm colour that changed everything for me when I rediscovered it a couple years ago. Come to think of it, at first I didn't even like it! It's odd how that happens sometimes. In fact, I think anything that has the PSP logo on it would be in my desert island plug-in pack."

When did the remixing go crazy for you?
"In the '90s it was amazing – there were moments where the fees were like getting paid in medium sized cars! I was really in to remixing and did this series called *Samplitude* and sold a huge amount of those. I just focused on the dancefloor and created

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music for that and didn't worry about what was going on in the charts. That's when the offers started coming in for remixes, once I'd created my own style and sound."

Remixing must have been a different game then...

"Well it wasn't so much of a pain as you would think. I had these really good Lexicon multi-effects machines with a fantastic pitch shifter.

"I nicked a load of Disco loops and pitched them with the vocals and did whatever it took to get them to work together."

What are your favourite produced club tracks at the moment?

"Actually my own tracks, *Luger* and *New Day*. Sorry to say that so bluntly. Don't mean to sound arrogant in any way, but a lot of the current tracks out now sound so bad it's embarrassing. I'm talking even the big club hits don't cut it sonically.

"On the other hand, it shows that maybe it doesn't matter one bit anymore how a track sounds, which opens for more creativity. Unfortunately that seems to be lacking a lot lately too..."

But is it easier or harder to break through now?

"It's hard to find time to listen to all the demos I get sent, plus I get about 100 promos in my email every week with only about 10 percent of them being any good. Everyone has their own digital label nowadays, which is fine. But it means there's so much stuff. I think it's still pretty simple to get noticed. If you make five really strong tracks in a relatively short period of time then people will take note.

"Although, there's so much stuff out there now that you really have to look at what people are dancing to in the club. I noticed that my sets were getting much harder and I was playing more stuff from producers like Wolfgang Gartner and Darbruck & Klein. But now the whole Disco sound is creeping back in. Things change so fast because of the amount of music available now."

What have you got coming up release wise?

"A new Disco track is coming up soon-ish, working on it now. I love how Disco is finding its way back to the floors again, albeit in a somewhat different form than 10 years ago. Also now remixing the old Urban Cookie Collective single *The Key, The Secret*, I love doing that! My latest track *Luger* will be out on German powerhouse WePlay records soon.

What's your studio tips for producers?

"A touch of natural analogue tube compression works wonders on the master. If you can afford it, you should really try it. It's the one thing I think still can not be reproduced perfectly in code.

"I still use my analogue compressor and the tubes in the TL Audio Fat Track give that indefinable warmth and sparkle." FM



WANT TO KNOW MORE?

For more on Olav's upcoming DJ dates, releases and for more information on his discography, visit his official website at **olavbasoski.nl**

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Genelec 1031A

"I've had 1031As ever since 1993. This is my second pair I think. I also have the Mackie 624s, which are amazing, by far the best Mackie has ever built and much better than the big 8's. I had those too but just couldn't get comfortable with the excessive bass."

Korg Kontrol49

"I bought this because it was the prettiest at the time. Haha, no, actually because I've been using Korg keyboards since 1991 or so. There's something about the keys that feels comfortable for me when I play them. When my Z1 died for no apparent reason and I needed new keys I chose not to install my old Nord Lead as I hate those Nord Lead 1 keys. So I got something new from Korg and this had USB MIDI, so I got to dump the MIDI cables too!"

Pioneer CDJ-1000

"For DJing I'm just using the CDJ-1000s at the moment. I haven't yet gone the way of the USB stick. I need to get the CDJ-2000s myself first, I don't want to try it for the first time on-site, in the DJ booth. So Pioneer, if you're reading this, I'm willing to wear a Pioneer t-shirt!"

ON THE DVD: Olav Basoski's Production Techniques

1

I Feel So

Olav takes us through a new track and shows how he created a pitch sweep that's a key feature of the track.

2

Life's A Bitch

Olav shows how he EQs, creates his own sample sets and the benefit of using hardware summing for the final mix.

3

Straight Up

Olav takes you through his technique for creating memorable melodies.

4

Master Channel

Every producer has there own way of finishing a mix. Olav shows you the plugs that are part of creating his sound.

5

Mac Pro Videos

To check out more of Olav's technique, install the NED player from the DVD and explore the selection of free videos.

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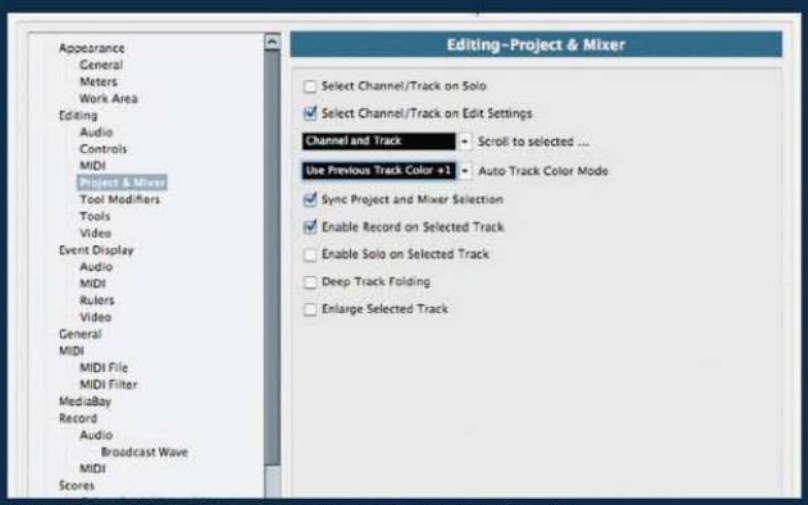
CUBASE ESSENTIALS



Personalising the Interface in Cubase 5

In this month's 10 tips on video, ***Bruce Aisher*** casts an aesthetic glance at Cubase 5. Along the way, you'll get stuck in with some interesting and helpful interface tweaks and take a look at some useful ways of streamlining your workflow

Cubase 5.5 is still yet to surface – although its arrival is imminent according to my sources. With this in mind, rather than focus on the technological, this month we're going to take a look at the aesthetic and functional aspects of workflow customisation. Cubase is quite flexible in this regard, and allows you to alter its appearance to suit your own personal requirements. This is particularly important in modern DAWs where there are numerous ways of achieving the same thing – a function can be reached via multiple menus and buttons. Much like clearing your desk, configuring your DAW is a good way to streamline your creative flow.



Cubase's Editing > Project and Mixer window is where you'll find your GUI editing options

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. The two are now inseparable.

Track and Event colours

1 One of the most worthwhile uses of colour in any modern DAW is in making project navigation easier, especially considering the track (and event) count of a many productions. I have a, perhaps over-developed sense of 'project organisation colour fascination', and tend to group different instruments using similar colours, and into separate folders. For this you should ensure that you have enabled Show/Hide Track Colours (the button at the top of the Track List). This enables colour selection in the Track list, Mixers and Project Inspector. In the Track list, for example, you should notice the addition of a small strip at the far right, which when clicked on will bring up the colour selection palette.

If you want to let Cubase take care of colour selection, then it's worth dipping into the Preferences and heading for the Editing section's Project & Mixer page where you'll

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Cubase Preferences and Appearance Settings



find the 'Auto Track Colour Mode' drop-down box. Options are available for using the default colour, incrementing automatically or complete randomisation.

Parts and Events may be also be also be coloured, and the simplest way of doing this is by selecting the parts you want change and using the Colour Selector in the Toolbar.

ON THE DVD

> Let's go crazy (with colour).

Event Display Preferences

2 Buried in the C5 Preferences are all kinds of options for altering the way events are displayed. Starting in the main Event Display section we have 'Colourise Event Background' that is worth enabling if you wish to improve the clarity of audio event waveforms in particular. If this isn't on, then waveforms adopt the colour of the event (rather than the standard black), and tend to fade into the background.

Unless you name every part, you might want to untick 'Show Event Names', as this can add a lot of visual clutter. 'Transparent Events' does what it says and removes the upper and side borders of an event (or part). More usefully, 'Show Data on Small Track Heights' allows you to keep tabs on the contents of events/parts even when the track height is small.

It's also worth exploring the Event Display sub-menus especially the Audio section, and enabling 'Thick Fade Lines'. For those with slower processors, switching 'Wave Image Style' to 'Solid' might is a bit easier on the the CPU/graphics overhead. 'Use Strong Colours', in the 'Rulers' section is also worth enabling.

ON THE DVD

> Help your CPU with some simple graphic adjustments.

Storing and managing your settings and preferences

3 Given the wide range of customisation options in C5, it is useful to know how to keep track of any of your tweaks, particularly if you need to return to the default settings.

In terms of the Preferences section, the best thing to do is to use the Store option at the bottom of the window, and create a new 'default' Preference Preset before you start – there are also buttons for Renaming and Deleting your presets (selected in the drop-down list).

If you find yourself in a Preference tweaking mess, then the 'Default' button at the bottom of the window will return the settings (for the currently displayed preferences only) back to their default values. Helpfully preferences can be copied between machines, meaning that if you have a favoured way of working you can carry it to different Cubase-based sessions. Unhelpfully, you have to dig the files out yourself. Go to 'Documents and Settings\<user name>\Application Data\Steinberg\Cubase 5' on Windows machines and 'Users/<user name>/Library/Preferences/Cubase 5' under OS X.

Other C5 settings are (confusingly) stored in a range of other places. Only Colour setup, Mixer view presets and Workspaces are stored directly with the Project you are working on. You'll need to dig out the manual for more details on this.

4 A good place to start when looking to tweak the Cubase interface is in the Preferences dialogue box. As well as allowing more detailed workflow adjustments, it features an Appearance page that allows you to tweak the overall look of the interface.

Starting in the General sub-page you'll find three controls (Saturation, Brightness and Button Brightness) that alter the overall 'vibe' of the interface in a similar way to controls on your monitor or in graphics card settings. The Work Area sub-page partners this with a multitude of sliders for event display window tweaking. I have found myself tweaking these on more than one occasion after Cubase upgrade interface changes.

Perhaps the most useful visual tweak here is in the Meters section. The standard mixer has four 'colour handles' spread across the dynamic scale. These can be moved by clicking and dragging, and the colour adjusted using the controls to the right. Additional handles can be added by [Alt]/[Option]-clicking to the side of the metre scale and removed with a simple [Ctrl]/[Command]-click.

ON THE DVD

> A tour of some of the C5 colour tweaking options.

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Working with Workspaces

5 Although we live in a world of ever-expanding monitor size – all a very far cry from the monochrome charm of Cubase running on an Atari ST in the late 1980s – it seems that one can never have enough screen real-estate. Whenever I am reduced to using C5 on a single monitor, rather than the dual-screen luxury of my normal studio environment, I have a tendency to get rather peeved, but help is at hand in the form of Workspaces. These don't give you more space, but they provide a way of configuring multiple windows easily and will hopefully speed up your workflow.

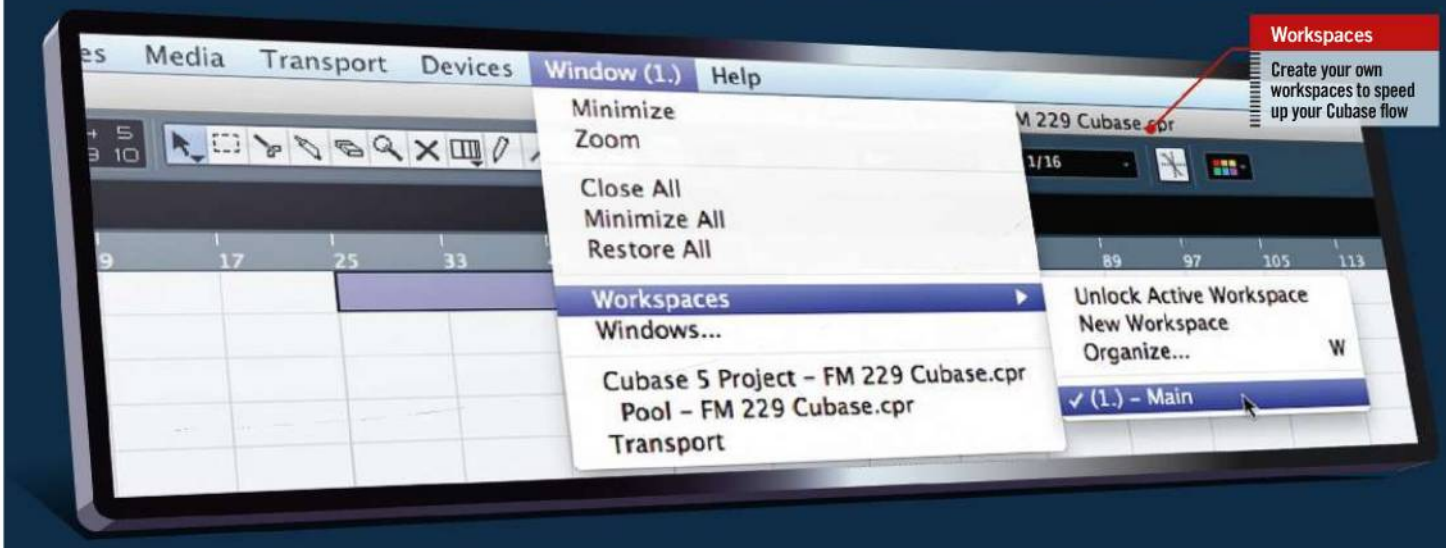
A Workspace saves the dimensions, position and content of windows, and allows you to switch between them quickly by using key commands or from the Window menu.

For example, you can switch back and forth between a full-screen Project view and a dual-mixer plus channel edit window setup with very little effort, and avoiding the usual problem of overlapping windows.

Even if you don't realise it you are using a Workspace as soon as you start Cubase. Go to the Workspaces section of the Window menu to take a look.

ON THE DVD

> An introduction to Workspaces.



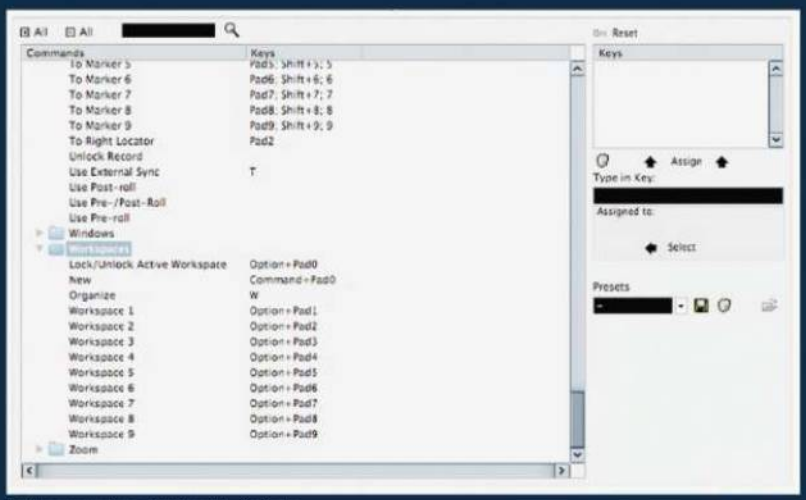
ON THE DVD

> Demonstrating saving and managing your preferences.

Creating Workspaces

6 Before we dive into the multiple Workspace universe it is worth taking a look at the 'Lock Active Workspace' setting in the Workspaces submenu. Turn this on, and then open some new windows, resize them and generally make things messy. Now return to the Workspace sub-menu and click on the first (and only Workspace), with the '1' to the left of it. Notice how Cubase is returned to the state it was in prior to all the window shenanigans. This was because it was 'locked'. It is important to remember that unless you lock a Workspace, any further window changes will alter it permanently, and all your aesthetic housekeeping will go to waste. So far we have been using the single default Workspace. To create a new (additional) workspace, go to the Window menu again, and in the Workspace sub-menu choose 'New Workspace' – you will then be prompted for a name for you new creation. Now you will need to customise this space to suit your needs. Remember to lock it if that's required.

To select a Workspace you will need to return to the Workspace sub-menu and choose it from the list



Assign your workspace keyboard shortcuts here

ON THE DVD

> Creating and activating Workspaces.

Selecting Workspaces using Key Commands

7 If you find yourself using Workspaces regularly, then having to dip into the Cubase menu system each time you want to switch spaces becomes a pain, and in many ways negates the benefits in the first place. What we need is fast switching using keyboard shortcuts, and luckily a dip into the Key Commands dialogue in the File Menu allows you to do just that. Navigate to the Workspaces section and you will find a series of keys pre-configured for selecting any of the nine Workspaces, locking a space and creating new ones. The defaults are fine

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for those with desktop machines and a large keyboard, but laptop users will be frustrated. However, with a little reassignment of keys it's easy to get everything up and running.

We've covered key command reassignment before, but simply type your chosen keys in the 'Type in Key' box and click assign. I find that [Ctrl] or [Alt]/[Option] and the standard number keys work well, and are not used for any other functions.

ON THE DVD

> **Switching Workspaces using custom Key Commands.**

Organising Workspaces

8 Workspaces are useful on a per-Project basis for organising windows in an individual session, but they are perhaps even more useful when used globally across all Projects. This allows you to use the same set of Workspace arrangements whatever the job, and these can then be integrated into your standard workflow alongside key command switching.

To do this and manage your Workspaces generally you will need to take a look at 'Organise...' in the Workspace sub-menu. The window you are presented with has the Workspaces you have create in the left-hand box. Each has a number, name and lock status box. If you want to override the default incremental numbering system, then you can switch to your own editable IDs using the 'Use IDs' box.

The box on the right displays Workspace Presets, which are unused (but previously saved) Workspaces. The arrow in the centre column allow you to copy one to the other.

If 'Show Project Presets' is unticked then the presets shown will be global in nature and available within any Project.

'Auto Instantiate Presets' converts global presets into Workspaces when you create or open a project.

ON THE DVD

> **Organising Workspaces, creating presets and using them globally.**

Customising track controls

9 The Track List in Cubase offers an array of options that expands as you move the Track List/Project divider from left to right. Sometimes you may not need direct access to all the controls, or need to arrange the order in which they appear, and this is where the 'Track Controls Settings' box comes in. Clicking on the small triangle at the top of the Track List brings up a list of Presets and the option to open the box in question.

At the top of the window is the drop-down menu to select which type of track you will be editing – there are different options for what is displayed in each. Using the buttons in the centre of the display it is easy to reorder, add or remove controls, group them together and create Presets.

To ensure that controls make full use of the available Track List space you should ensure that 'Wrap Controls' is activated. Presets are stored or removed using the + or – folder icons and will also appear in the drop-down menu in the main page.

ON THE DVD

> **Adjusting the 'Track Controls Settings'.**

NEXT ISSUE

Make sure you pick up *FM* next month for more Cubase tips. *FM*230 **on sale 6th August**



Adding and Removing Buttons in Cubase

10 One issue that most pieces of software have to grapple with is the balance between buttons, menus, drop-down menus and other graphical elements. In fact there are often numerous ways of doing the same things, and one person's easily accessible button is another's pointless and rarely used distraction.

Cubase conveniently allows you to deal with this through its system of context menus, accessed with a right-click in the Transport panel, window toolbars, info lines and Inspector.

By bringing up the context menu, elements can be added or removed using the ticks next to each item. The last item in the menu ('Setup...') allows you to hide individual items in a more accessible way, and use the 'Move Up' and 'Move Down' buttons to re-order how items will appear. The final tasty extra in this section is the ability to save Presets, so that you can use a minimal set of buttons for some sessions, and go function crazy on others. The Floppy and bin icons are used for saving and deleting.

ON THE DVD

> **Customising the Transport Panel, Infoline, Channel Settings window, Toolbars and Inspector.** FM

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FutureMusic KNOWLEDGE BASE

The Science Behind Limiters

We should all understand compressors by now, but where do limiters fit in? ***Greg Scarth*** examines some more advanced methods of dynamic control

One subject that seems to cause more confusion than any other among beginners and experienced engineers alike, is dynamic control. With thousands of compressors, limiters, levelling amps and maximisers on the market, it's perhaps little wonder that the subtle differences can be hard to grasp. In this month's *Knowledge Base* we'll build on our existing knowledge of basic compression to explain what these subtly different tools are, how they work and how they can help you.

The main focus of this month's article will be on limiters, although, as we'll find out later, there isn't really a specific definition of the dividing line between compressors and limiters.

Limiters, levelling amps and expanders

The difference between a compressor and a limiter (sometimes known as a peak limiter) is essentially very small. Both operate in a similar way, reducing the volume of a signal when its level exceeds a given threshold. The usual rule of thumb is that if the ratio is 10:1 or higher, the unit is considered a limiter. However, there are a huge number of exceptions to this rule, and you'll find many compressors that offer higher ratios and limiters with lower ratios. A 'brickwall' limiter uses a ratio of ∞:1 in order to ensure that the signal never exceeds the threshold.

Occasionally you may also come across a compressor described as a levelling amplifier. Rather than describing a specific topology or circuit design, levelling amplifier is really just an old-fashioned term for a compressor, most famously used on the legendary Teletronix LA-2A of the 1960s and cropping up occasionally on new equipment. Thanks to the vintage link, it's more closely associated with retro sounding compressors which colour the sound of any signal they compress. However, this is only a very vague rule of thumb. In reality, the differences between compressors, limiters and levelling amplifiers are so small that they should really be considered different variations on the same basic idea. The good news is that this means the controls tend to work in pretty much the same way. If you know how the threshold, attack and release settings work on a compressor you'll have no trouble with a limiter or levelling amp.

Expanders, which seem to have fallen out of fashion in recent years, are effectively the opposite of compressors. Rather than reducing the level of a signal above the threshold, expanders reduce the level of any signal below the threshold. The result is to allow louder parts of the signal to pass through untouched while reducing the volume of quieter parts. You could think of it as a more flexible version of a noise gate – whereas a noise gate completely mutes any signal below the threshold, an expander simply makes it quieter and allows you to adjust how dramatic the gain reduction is.

We covered multi-band processors in our recent discussions on mastering [*FM224*], but it's worth a quick recap here, just to reinforce the point that multi-band versions of compressors and limiters work in precisely the same way as their single-band equivalents but use filters to split the signal into a series of contiguous frequency ranges before processing each one individually. The signals from each band are then summed back together.



There is little to no difference between a levelling amp and a standard compressor

Maximising

Maximising is the term most often used to describe the process of increasing the volume (or perceived volume) of a signal. The key to the process is reducing the dynamic range. We can amplify any signal until its loudest peak just hits 0dB, but depending on the headroom between this peak and the rest of the signal, the track still might not seem loud.

Maximising with a limiter or compressor effectively increases the average level of a signal by reducing the level of the peaks, allowing us to push the gain up and make the whole track seem louder.

The subtle distinction between general compression and using a limiter to maximise a signal is that maximising specifically aims to push the overall level of the input signal as high as possible. This can be achieved in two main ways. The first is to route your signal into the limiter, pull the threshold down until the desired level of gain reduction is achieved, and then add makeup gain to push the output up as high as possible (again, until the loudest peak is at 0dB). The other method is to set the limiter threshold at or close to 0dB and amplify the signal before it hits the limiter in order to achieve the desired level of gain reduction on the peaks. The downside to this process

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is the fact that dynamic range is essential to keep a track musical.

Limiting and dynamic range

Although we've covered it in previous *Knowledge Bases*, the effects of compression and limiting on dynamic range always seem to cause confusion so it's worth thinking about them again. Understanding what you're doing to a signal's dynamic range is one of the keys to getting good results from dynamics processors. Compression and limiting effectively reduce the difference in level between the quieter parts of your signal and the louder parts, so let's consider three different ways this can occur and look at the implications for whole track limiting, drum buss compression and kick drum compression.

Firstly, consider the track as a whole. For argument's sake, let's say we have a verse which is quieter than the chorus. If we push the whole track through a limiter in order to make it seem louder, we'll eventually pull the threshold down to a point where the loud parts (the chorus) are being limited and the quieter parts (the verse) are being amplified. As a result, the dynamic balance between the two sections is being affected. If the overall level of the track can't be increased without detrimentally sacrificing some of the track's intended dynamic variation, then it suggests there's a problem that should be addressed in the mix rather than with broad, sweeping application of a limiter.

Transient shaping

Secondly, on a smaller scale, let's consider the situation when we compress a bussed drum mix. When a drummer plays, some hits will be louder than others due to the drummer's emphasis on certain beats and potentially due to some degree of inaccuracy (accidentally hitting the snare harder than intended on certain beats or fluffing a kick drum hit). If we use a compressor to tame the dynamic range of the hits, we can smooth out the variation in level between each one. Louder hits can be squashed, making the level more consistent, and this allows us to push the level of the quieter hits up to match. But as the drums are compressed harder and harder, the dynamic range between hits is reduced. This may be desirable in some cases, but care should be taken to avoid squashing the dynamics to the point where the drummer's expression is lost. On an even smaller scale again, consider a single kick drum hit.

> "Consider limiters, compressors and levelling variations on the same basic idea"

At shorter attack and release times, a compressor on a drum hit can dramatically affect its overall amplitude envelope. For most of us, the envelope-shaping effect of a compressor on a drum track is an invaluable tool – one of the characteristic sounds of Electronic music is the effect of a drum machine being pushed through heavy compression – but if you don't think and listen carefully to the effects of your compressor it's easily possible to end up with a drum hit which doesn't sound anything like you want it to.

The desired amount of dynamic range may vary according to genre. Jazz tracks or more gentle acoustic music would typically benefit from the highest levels of dynamic range in order to retain a realistic, lifelike sound, whereas the (slightly controversial) trend in recent years has been for Pop, Rock and Dance music to be more squashed, so lower dynamic range might be acceptable if it meant the track would have the loud, squashed sound which we've become used to. The temptation with limiters and compressors is often to go overboard, but care should be taken avoid the squashed, lifeless sound which often occurs. FM

Transient Shaping

As an effect, compressors and limiters can be incredibly powerful when it comes to shaping the transient envelopes of percussive sounds. However, there's an alternative to diving in with a compressor. Rather than requiring you to set ratios, thresholds and attack and release times in order to squeeze the sounds into place, transient designers simplify the process by offering you direct control of the amount of attack and sustain. It's often a much easier way of achieving similar results, allowing the effect to do the hard work behind the user-friendly controls.

The groundbreaking SPL Transient Designer is the most well known transient shaping hardware unit, but a plug-in version soon followed and a number of other companies make similar effects. The most common use is on drum tracks, to manipulate the amplitude characteristics of hits, but transient shapers can be just as useful on other sounds with a percussive element. Synths, guitars and even vocals can be tamed or twisted. There are plenty of options out there for you to get started with, but the free Flux BitterSweet II plug-in comes highly recommended. Download it from fluxhome.com



KNOWLEDGE BASE NEXT ISSUE

Stay tuned to *Knowledge Base* for more unmissable studio wisdom and industry insight. *FM230* **on sale 12th July**

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STUDIO ESSENTIALS

Get Creative With Reverb & Delay

Reverb and delay are probably two of the most frequently used effects in music production. ***Jono Buchanan*** implores you not to reach for your tried and tested old favourites, but to try something new

Reverb and delay are such commonly used effects that it's almost impossible to find a record which doesn't use copious amounts of both. Yet the sheer number of effect types and presets within any dedicated hardware device or software plug-in suggests immediately that there are thousands of ways in which these tricks can be used. As ever, understanding which treatments will best serve your track comes down to some analysis and technical understanding of what these effects replicate from the acoustic world around us, so the first question is: do you really understand what these effects are?

Free to reverberate

Reverberation is the sound 'offered back' to a listener from the acoustic space in which any noise is made. Think of it this way: the performance of a single instrument or voice in a space falls into two sound categories – the 'dry', direct sound produced by the instrument itself first, and then the reflected sound produced by the acoustic properties of the space in which this dry sound is played.

Imagine a concert hall – as the direct signals of the musicians flood into the room as they play their instruments, individual sound waves move in all directions from the stage, some up to the ceiling, some to the walls, some down onto the stage itself and, of course, some directly to the audience without having been bounced off the concert hall's architecture.

Any of the signals which bounce off the surfaces of the hall and which then return to the listener will present as reverb, as they'll arrive after the direct sound as they've had further to travel. Of course, some signals will have a long way to go – perhaps they reflect off the ceiling first, then bounce off a wall, then off another, facing wall and so on, before reaching you as the listener. As sound is energy, these signals lose volume (and change in tone, as we'll discover) as they bounce from one surface to another, so reverbs tail away as the loud dry signal is followed by louder, initial reflections, before quieter, progressively 'multi-reflected' sounds follow later. It stands to reason, therefore, that the further away from the stage you're sitting, the more reverb and less direct sound you'll receive which is why the process of adding reverb to a sound in your tracks actually distances you from the direct sound.

THE EXPERT

Jono Buchanan
composer, producer



Jono is a producer and lecturer at London's prestigious Guildhall School of Music. His days are spent perfecting and talking about effects treatments, so he was only too happy to shed a little light on his working practices...

Perfect reflection

Reverb plug-ins tend to refer to two reverb types – Early Reflections and Reverb itself. Early Reflections are any reverberated signals which reach the listener within the first 100ms or so after the initial dry signal, whereas reverb refers to the multi-reflected signals which come after that and which can last for up to several seconds after the dry signal has finished completely, depending on the acoustic properties of the room you're listening in.

The physical properties of that space also count for a lot in terms of how your reverb will sound. In a cathedral, the

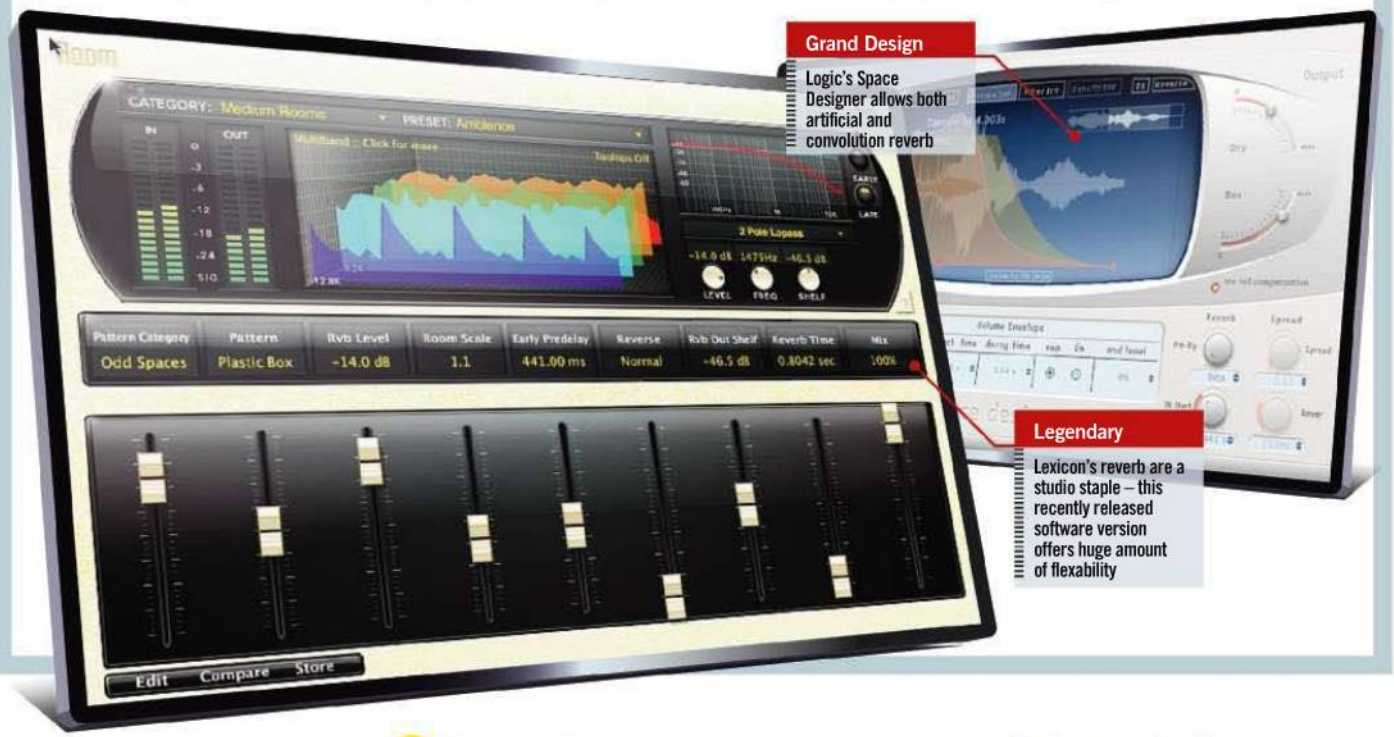
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Artificial or Convolution?

Two types of reverb plug-in are now widely available – artificial reverb and convolution reverb. Artificial reverbs have been available, with growing levels of complexity for the past 40 odd years, as championed by companies like Lexicon and newer, convolution reverb types, such as Altiverb or Logic's Space Designer. Artificial reverb does what its name suggests – it provides a series of parameters you can set to create a reverb 'unnaturally' in that, like synthesized sounds, the reverb you hear is made from a series of adjustable parameters which trigger a 'mathematical response' from within the plug-in. Convolution reverb is different, in that the signals used to trigger the reverb, called 'impulse responses', are actual recordings of acoustic spaces which can be super-imposed upon the sounds you feed into them. The way this works is that an impulse response is actually two separate pieces of information – a dry sound and the reverb triggered by playing that dry sound in a space.

The way you're left with 'just the reverb' and none of the dry sound trigger is that the dry sound has its phase inverted, so that at playback, it cancels out the presence of the same sound in the reverb tail, leaving you with reverb only.

You'd think that convolution reverbs would be the ones that producers would turn to without blinking – after all, surely it's better to have a recording of 'the real thing' rather than artificially building a reverberant space that doesn't exist? The truth is that artificial reverb is stunningly convincing when used well and the capacity to construct a virtual space down to every last detail means that producers will turn to artificial reverb as often, if not more, than convolution, much as these can often sound wonderful too. One additional benefit of convolution reverb is that you can make your own impulse responses, so that if you visit a space with a sweet natural reverb, you can capture it and add apply it to your productions in future.



textured stone walls, stone floor, high ceiling and pillared internal structure combine to produce a series of highly reflective surfaces where comparatively little of the energy of the sound waves is absorbed as the signals bounce from one surface to another, producing long reverb times and harmonically rich reflections, resulting in a full reverb tone.

In a concert hall, the padded nature of the seating and floor, as well as the likely acoustic treatment put in to ensure a satisfying reverb 'experience' mean that reverb times will be shorter and that some parts of the frequency spectrum will be deliberately 'swallowed' by the space, so that a deliberately less rich reverb is produced. In a recording studio, most engineers prefer a space that is comparatively 'dead', so the acoustic treatment is extreme here, with most reflections swallowed by padded walls and ceiling and treatment on the floor as well.

So, the same single instrument played in all three of these spaces will produce a dramatically different sonic experience, with the reverb completely responsible for the different sonics you hear.

In reverb plug-ins, you'll find a whole series of sliders and dials which help you tailor the specific sound you want, with settings to decide how 'absorbent' the virtual space is in which you're placing your sounds, how many walls it has, how big it is, how high and low frequency signals respond and, of course, how long you want the reverb to last – just a few of the many parameters available.

> In reverb plug-ins, you'll find a whole series of dials to tailor the sound you want

ON THE DVD

1 Vocal treatments: First, reverb is too long, second time around, it's shorter and there's less

2 Vocal treatments: The verb is now less bright and a delay has been added

3 Vocal treatments: The vocal with an additional, bar-long delay treatment

4 Reversed reverb: My 'forwards' vocal, followed by the reversed one

5 Reversed reverb: The lead vocal, preceded by its reversed reverb file

6 Reversed reverb: The full mix in 'straight', then processed forms

Delays on the line

Delay is a related, if different type of effect. It too offers reflections of a signal but rather than producing one long, clean tail as reverb does, it produces echoes with a dry signal replayed after a silent delay (hence the name).

Unlike reverb, it's quite hard to find a natural acoustic space that will purely replicate what we've come to understand delay to be in production, though you can often find single-tap echoes if you stand under a bridge with a curved stone ceiling and shout something upwards into the arch.

As the signal moves away from you, it hits the bridge and the curved nature of the ceiling reflects what you've shouted straight back to you rather than diffusing it outwards as reverb does, meaning you'll

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often hear a single echoed 'version' of what you shouted a moment or two after it left your mouth.

In the studio, delay techniques were pioneered by electroacoustic musicians like Karlheinz Stockhausen, who experimented with creating loops of tape which used both the record and playback heads of a reel-to-reel tape machine to record a signal which would then repeat whenever the tape loop passed over the playback head.

Going digital

Later, more complex delays were built up by creating longer loops which passed through the heads of multiple tape machines but this was an expensive and impractical way to achieve an effect which was becoming more popular, so through the '70s, units like Roland's Space Echo used similar technology inside a dedicated box, before the '80s and '90s began development of digital delay, where a signal is effectively buffered into memory and 'held' before being repeated. As with reverb, a number of parameters exist within modern delays to help you build exactly the sound you're after.

For instance, 'feedback' controls the number of echoes you'll hear before the sound dies away completely, while tone controls are often provided too to let you decide if the entire frequency range of your dry signal will be echoed, or whether you'll

ON THE DVD

7 Gated reverb: The original drums with straight reverb on the snare
8 Gated reverb: Now with gated reverb on the snare
9 Gated reverb: Now applied to snare and toms

Sidechained Reverb

If the reverb you've chosen for your vocal sounds great but is overwhelming your mix, try sidechaining the reverb with the vocal as the trigger



1 In the first clip on the DVD, you can hear the vocal with the reverb I've chosen. It's a huge, spatial affair, which will suit the smooth, laid-back vibe I want for my track. But the problem is that the big reverb is completely overpowering the fragile nature of the dry vocal.



2 To fix the problem, I've inserted a compressor after the reverb and set up a sidechain, which is receiving the vocal part as its trigger. As I've set a low threshold and quite a high ratio, this means that the compressor ducks every time it 'hears' the vocal. This means that while the vocal part plays, it's almost dry but in the gaps, where the compressor isn't being ducked, the reverb recovers to fill up these spaces.



3 Here's the result in context. The washy nature of the reverb is gone, with the deliberately huge space I've chosen only becoming apparent between phrases, where there's more room for it. On a second auxiliary, I've set up a smaller reverb to which I've fed a couple of the instruments to narrow to spatial gap between the wet vocal and otherwise dry instruments.

Grungy Delays

I've got a pretty beaten up and distorted drum groove, over which the vocal is sounding a little too dry and uninteresting. Let's fix that



1 In this first clip, you can hear my dry vocal, sitting atop the beat loop I'm using. The beats are coming from Stylus RMX and I've treated them to some distortion and tube effects so that they're pretty dirty but this just serves to show the dryness of the vocal.

I've let the beat loop run on for the second four bars so that you can hear it in isolation.



2 I want a sense of stereo in this vocal, so I'm setting up two auxiliaries, which I'm panning hard left and right, so that the effect treatments won't fill up the whole mix but will be unique to each side.

On the left, I'm bitcrushing the signal before sending it to a quarter-note delay, while on the right, an eighth-note delay comes before Logic's Clip Distortion plug-in, which distorts the repeats nicely.



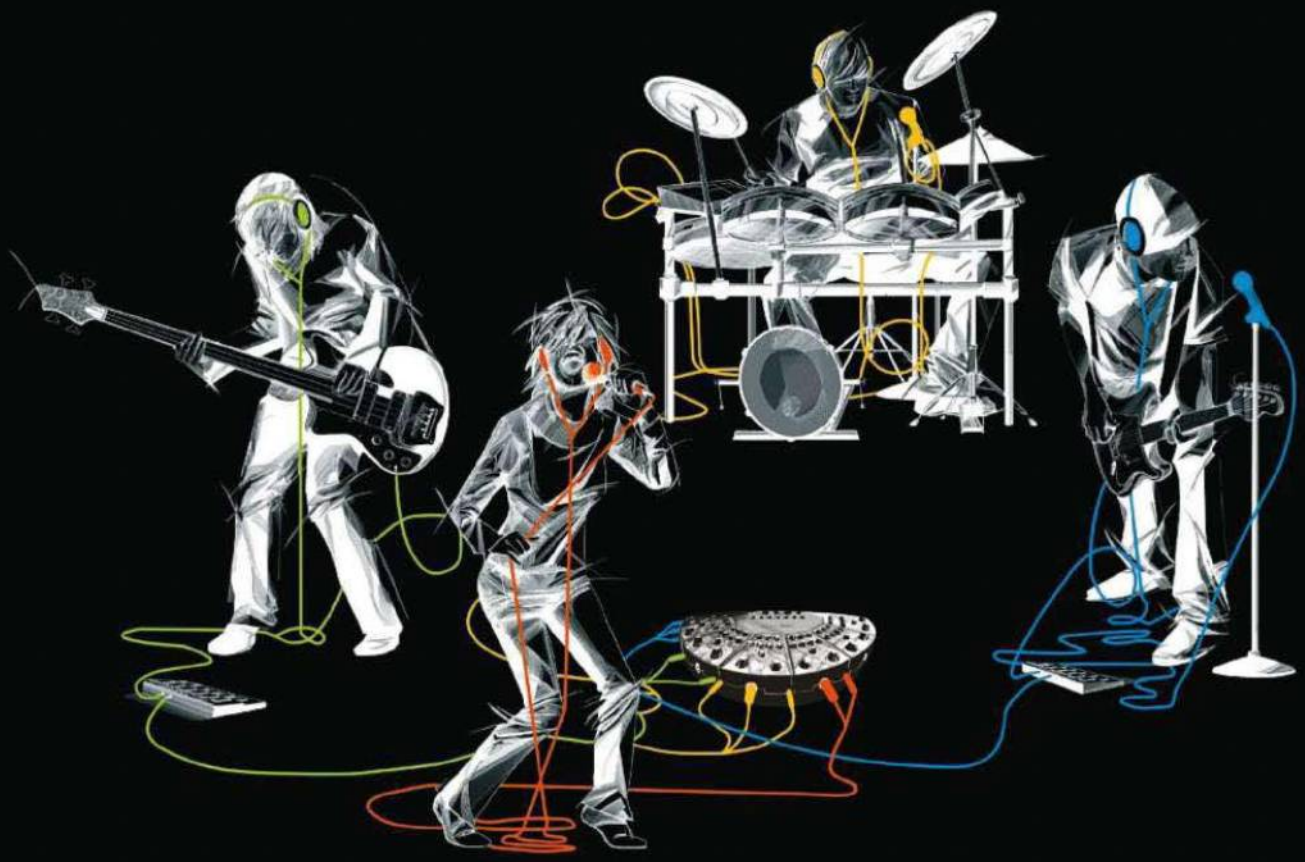
3 I want this eight-bar phrase to 'grow into' its effects, so it's time to turn to automation. Firstly, I'm ramping up the auxiliary send levels on the lead vocal so that they progressively send more signal into both delays. Then, I'm automating the feedback amount of both auxiliary delays, so that they build up to regeneration. I've reined them in after a while but you could build your track this way before dropping the beats back in.

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Gated Reverb Tricks

Gated reverb was all the rage in the '80s, and as the production styles from that era are returning with fresh acts like La Roux and Ladyhawke, it's high time this favourite was pulled out again, particularly as it can add some serious power to snares, toms and drums in general.

1 Program some drums with snares on beats two and four and be sure to separate the sounds of your kit so that the snare is playing on one track. Send this part to an auxiliary reverb and choose something with plenty of density, so that there's a full frequency reverb 'cloud' following the snare hits.

2 On the auxiliary channel, set up a Noise Gate after the reverb. Remember, gates only let sounds through above a certain volume threshold, so as the reverb tail dies away, there'll come a point where it will be 'chopped off'. You can control how exaggerated this effect is by sliding the Threshold dial of your gate up and down. High Threshold = short gated reverb and Low Threshold = long gated reverb, which I've automated through this clip.

3 The best way to judge how much you need will become apparent when you play your snare with your other drums – tweaking the threshold so that the gate snaps shut 'on the beat' is particularly effective. In my example I've let each snare effectively last one beat by setting the threshold so that the reverb cuts out on beat 3 and beat 1 after each hit.



Ladyhawke loves a bit of gated reverb around her drums

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limit the upper of lower frequency content to prevent the delay being too full and overwhelming. Some digital echoes even provide parameters to help you achieve the characteristic sound of the original tape loops, complete with the wow and flutter effects that would be produced by well-used tape.

Modern delay pedals, as favoured by guitarists in particular, often combine delay with another effect such as pitch-shifting, so that each delay tap plays back with its pitch raised or lowered, for instance. Most delays even allow for regeneration, whereby the echoes produced start to build in volume (and eventually distort) rather than die away, with this technique hugely popular in Dub, for example.

Now that you've got your head around the science, check the tutorials on these pages for some practical tips on how to put these common effects into the best action.

If you're interested in learning more about specific vocal treatments, how important the tone of the reverb you sculpt for your sounds can be, or even if you're looking for unusual stereo delay treatments, there's something there for you. Plus, if you've graduated from reverb school and you're looking for a higher qualification, see how reversed reverb and edited treatments thereof can elevate your productions. What are you waiting for? FM

ON THE DVD

10 Sidechained Reverb: Examples of sidechaining your reverb with the vocal itself
11 Grungy Delays: Audio examples of our Grungy Delays tutorial

Perfect Vocal Treatments for Reverb and Delay

There are some general rules that can be applied which should act as a good starting point for your reverbs and delays, so work outwards from these…



1 What speed is your song? A long reverb treatment might not suit a track with a quick bpm, so the first thing to do, having fired up your reverb of choice, is to adjust the length so that the reverb isn't fighting the vocal. Using Sony's Oxford Reverb, I've backed off the time of a Hall preset and the overall amount of effect being used, as you can hear in the before and after clips.



2 The reverb is quite bright, so I've adjusted the Oxford's internal EQ to rein in the top end and also adjusted the Overall Size to make the treatment less epic. To add some presence, I'm adding a quarter-note delay to the vocal. Again, I want this to be subtle, so I'm using UAD's Time Cooper Delay, which automatically syncs to the tempo of the track but which lets me control tone and feedback amounts.



3 Lastly, I want to make the most of the gap in the lyrical phrases by using a specialist delay. I've set up a third auxiliary and used Logic's own Tape Delay set to a semi-breve (i.e. a full bar) delay. With a really low feedback, I just get one echo. After the delay, I've then set up SoundToys' Decapitator to produce a blown speaker effect and I've automated the auxiliary send, so the treatment only affects the first three phrases.

Reversed Reverb

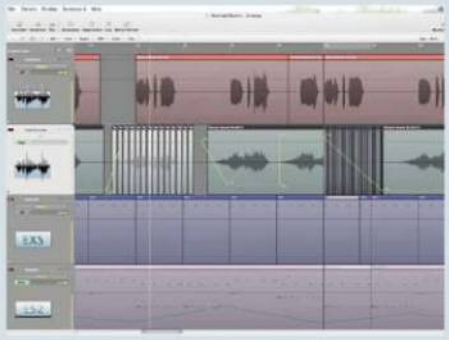
As reverb is produced when a sound is triggered in a space, it of course means that it always comes 'after' the dry sound itself. But if you want a really neat trick, try reversing your reverb



1 Make a copy of the dry audio file to which you'd like to apply reversed reverb, leaving the original intact. Once copied, use your DAW's capabilities to reverse the file so that your vocal, guitar or other instrument is playing backwards. On the DVD, you can hear my 'forwards' vocal file followed by the backwards one.



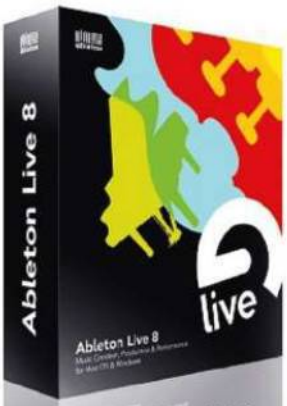
2 Send this reversed version of your sound to an auxiliary reverb. It's important that the mix is set to 100% 'wet' – none of the dry signal should make it through. When you've done this, solo the auxiliary reverb channel and bounce down the resulting audio file, making sure you leave enough space at the end to avoid chopping off the reverb tail. Drag the resulting reversed reverb file onto a new track of your DAW and reverse it.



3 The reverb will now be 'right way around' for the file you originally copied, so all you have to do now is move it so that it lines up and neatly precedes the original part. Hey presto, the reverb now builds neatly into the original file. If this dry version sounds 'too dry', simply send a little of it into the same auxiliary, where it will gain a 'normal' reverb treatment too. Hear before and after treatments on the DVD.

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ABLETON LIVE ESSENTIALS



Hardwired Syncing in Ableton Live 8

Last time, we used Mac OS X's wireless MIDI networking to sync two computers running Live and Traktor. This time we're going to do it with cables – the old-school way – for Mac or Windows. ***Martin Delaney*** tries not to get into a tangle

There are two things we want to do: sync Live with Live/Traktor over two computers, and sync Live with Traktor on one computer. Sounds simple, doesn't it?

But before we start, there are four things to remember: ReWire doesn't work between two computers, Traktor doesn't do ReWire and Ableton Live isn't great at MIDI slaving. There is no perfect way to do this.

Simple solutions

If this techy stuff gives you a headache, don't freak. There's an easy way to get two computers (both running Live), to play together without technically 'syncing' them – connect them with MIDI cables and interfaces (see the walkthrough on the next page), and configure Live's MIDI Preferences so that the relevant interface ins/outs are recognised for each computer.

Make sure none of the sync boxes are checked on either computer, but enable Track Out on computer A, and Remote In on computer B. Next, create a new MIDI track in the Live set on computer A, and open the In/Out View, selecting your MIDI interface in the MIDI To chooser. Create a MIDI clip, with a C-2 note in it, and make sure the clip isn't set to loop.

Now for the fun part: on computer B, go into MIDI Map Mode, and click the top scene launch button – at the right, in the Master Track. Start computer A, then stop it after a bar or two. You'll see that the MIDI note C-2 has now been mapped to that scene launch button.

Exit MIDI Map Mode on computer B. From now on, whenever you launch that clip on A, B will start running, triggering



You can send audio from each computer, or each application, but there are more interesting things you can do too...

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.

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From now on, whenever you launch that clip on A, B will start running, triggering any clips in the scene

any clips in the scene you just mapped. But even better, use cmd-R to rename the scene with a BPM value, like 120 BPM, which as you probably know, changes the project tempo to that value when the scene is triggered. So every time you launch that clip on A, you can control the tempo of B.

This is a workaround rather than a sync solution, because it doesn't involve sending or receiving any sync at all!

Live and Traktor

You can send audio from each computer, or each application, as usual, but there are more interesting things you can do too. With Live and Traktor on the same computer, you can use free utilities like Jack or Soundflower to route audio between them to use their effects on each other.

If you want to go from Live to Traktor, assign one of Traktor's decks to Audio Through, and send Live's master output through that, so you can apply Traktor's effects and mixer controls to it. Pretty awesome, but it's even better the other way round. Use Jack to send each of Traktor's four decks to a different audio track in Live – that way you can have all the advantages of Traktor's superior DJing features and control over entire tracks, at the same time as having Live's Session View and MIDI functions, and be able to apply Live's audio effects to the incoming Traktor audio.

To get the best from this, use a dedicated controller for each application, like the NI Kontrol X1 for Traktor, and the Novation Launchpad for Live. I love this! Masochists could add NI's Maschine, for the full Richie-Hawtin-technical-trainwreck-waiting-to-happen vibe. FM

LIVE ESSENTIALS NEXT ISSUE

Make sure you pick up *Future Music* next month for more on syncing Live across two machines. *FM230* **on sale 6th August**

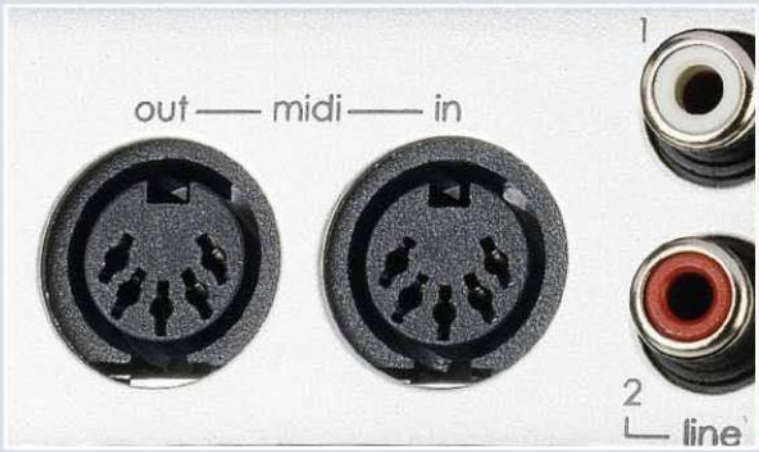
FILES ON THE DVD

Connect Your MIDI hardware

Put those MIDI ports on your USB interface to some good use!



1 For this example, I've used Novation's Nio 2I4 audio/MIDI interface, but there are lots of interfaces you can use. Use a USB cable to connect the interface to your 'A' computer – make sure you have drivers installed if your interface needs them!



2 Take a USB-to-MIDI cable (like the M-Audio Uno, for example), connect the USB end to your 'B' machine, and the MIDI in plug to the MIDI out port on the Nio. Make sure you're using the MIDI In, not the MIDI Out!



3 You could also attach audio cables now, depending on your mixer setup. Route audio from machine B through machine A's interface, or send each out to your main mixer. If you do go through 'A', it gives you extra audio processing options later on.

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Configuring Your Sync

How to configure Live/Traktor once your MIDI cables are hooked up



1 Let's say you want to sync Live to Traktor. Launch Traktor on machine A, and launch Live on machine B. In Traktor's Controller Manager, choose your soundcard, then your MIDI Out port, and enable 'Send MIDI Clock' in the MIDI Clock tab, then close Preferences.



2 Go to Live's MIDI Sync Preferences, and choose your USB/MIDI interface as the MIDI Input, then close Preferences, and click the EXT button at the top left of the Live screen (this is pretty much like we did last time for the WiFi tutorial).



3 Click Traktor's Int sync button, and click on the Sync transport button to start sync to Live. Use the Sync button above that to restart sync to Live if necessary. This can work well, but it might need some TLC – read the rest of our tutorials!

ON THE DVD

A QuickTime movie showing some of the techniques used in the tutorial. No Live sets this time, because all you need is some loops to sync. Use something from the *FM* disc, or the Ableton Library. You can download the Live 8 demo from ableton.com, and the Traktor demo from native instruments.com.

Sync Sessions

Synchronisation's about timing accuracy, and truthfully, that'll vary depending on your setup. This isn't like regular MIDI or audio latency, where a signal is ahead of, or behind, the beat by a regular amount – the tempo can float around what it should be – instead of 125bpm, you'll get scary numbers like 125.81, 124.20, and 123.35. Ableton say this is merely a display thing (as Live's readout tries to be as accurate as possible), and doesn't affect the audible sync. You may or may not find this to be true, but you need to avoid this situation in the first place, or fix it if it starts.

Different setups work for different people – some folks prefer syncing over Ethernet. Some like the WiFi method we talked about last time around, and some prefer using MIDI cables and interfaces, like we do this month. There are many variables – your computer, your soundcard's audio latency (get this as low as possible), and your MIDI interface (some are more accurate than others). It's also said that in Live, MIDI clips can drift more than audio clips, so you have a better chance of staying in sync if your Live set contains only audio clips. As for tempo changes? Most MIDI sync solutions don't like changing BPM – it's likely that your slave machine will catch up slowly, over several bars, instead of instantly jumping to the new tempo – it might be better if the slave computer isn't playing anything at these moments!

It's not all Debbie Downer though – you can get reliable results. The cheat I talk about in the main text works great, and there's another very down-to-earth solution – if you're used to using tap tempo, why not stick to that? Map Live's tap tempo button to a pad on your hardware controller, or a letter on your 'B' computer's keyboard, and start tapping. You'll need to keep updating throughout your set, but it's a technically simple, and maybe more reliable solution!

OS Sync

Mac OS X offers built-in sync options in MIDI Setup



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Set up Live/Traktor on One Computer

If you love Traktor's classic DJ interface but want Live's effects, using Live and Traktor together on one machine offers huge flexibility



1 It's reasonably easy(ish) to run Live and Traktor together on one computer. Launch both apps (it's not ReWire, remember, so it doesn't matter in what order). Configure Traktor to send MIDI Clock, and enable Traktor Virtual Output as the MIDI Out port. Close Preferences. Go into Live, and open the Preferences MIDI/Sync tab.



2 Select Traktor Virtual Output as Live's MIDI Sync Input. Close Live's Preferences. Go back to Traktor, check the Clock Master Ext button, and click on the Master Clock Start to send sync to Live. Live doesn't start running automatically, like with ReWire, but when you launch a Live clip, it'll start running in sync (hopefully).



3 You can change Traktor's master tempo by clicking and typing in the BPM display at the top of the screen, but you'll probably be setting tempos based on defining a song in one of the decks as being the Master. As a new song becomes the master, Live should change tempo to stay in sync.



4 You can sync Live to Traktor, or Traktor to Live – it's a question of what works best for you. There's the audio routing too. You could assign each application to separate outs on your soundcard, for one thing. Or you could route the audio between the programs using intermediate applications like Soundflower or Jack.



5 You could route Live's master output to a Traktor deck, so you can apply Traktor audio effects to it, or you could flip that over, and send the audio from each Traktor deck to a separate Live audio track, for ultimate mixing control...and way too many options!



6 It can take a lot of time to find the ideal setup, and syncing can be an unstable business, especially when your sets involve tempo changes. There are a lot of methods, a lot of workarounds and a lot of people are left scratching their heads. Read our main text for some ideas about this.

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Reviews

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



Highlights this issue...

Korg Monotron **80** An MS-10 filter with ribbon controller and LFO. Is it the mini monster it could be?

DSI Mopho Keys **84** The Mopho shows its teeth, adds a sequencer and remains fully analogue. A must have product?

Pioneer CDJ-350 & DJM-350 **90** An entry level DJ package from Pioneer with the fantastic RekordBox.

Focal CMS 40s **96** Focal expand their CMS range with these tiny tabletop montiors. Do they deliver weight beyond their size?

Apogee GiO **98** A controller and audio interface for Logic, GarageBand and MainStage guitar modelling effects.

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Korg Monotron Analogue Ribbon Synth | £59

It's been a while since we've seen an analogue synth from a major Japanese manufacturer. ***Greg Scarth*** investigates if this tiny box can live up to the hype

ON THE DVD

WHAT IS IT?

Miniature analogue monosynth

CONTACT

Who: Korg UK
Tel: +44 (0)1908 857 100
Web: korg.com

HIGHLIGHTS

1 Single oscillator synth with LFO and low-pass filter
2 Ribbon controller keyboard
3 Auxiliary input for processing external sounds

Since the late 1980s, analogue technology has simply not been on the agenda for the Japanese hardware giants. Content to let other manufacturers fight for the retro market, Korg have focused instead on developing digital technology with the occasional nod towards their past in the form of analogue modelling synths and software recreations.

Synth fans clamour for modern versions of past favourites, but the results (which include the likes of Korg's MS2000 and Roland's SH-201) have never quite recaptured the magic of the classics. Korg, whose vintage machines continue to rise in value on the second-hand market, have finally offered a hint that a new analogue range might still be an option.

The Monotron, a bare-bones monosynth, is their first fully analogue product for nearly three decades. As far as we can remember, Korg's last truly analogue synth was 1982's Trident mkII – everything which followed used digitally controlled oscillators. Needless to say, we were pretty keen to see whether Korg still have what it takes to build a classic analogue synth.

Tiny terror

Even though I knew it was going to be small, it's almost impossible not to be surprised by the size of the Monotron. This is truly a palm-sized synth, powered by a supplied pair of AAA batteries and with a miniscule built-in speaker. The Monotron's synth architecture is admittedly very basic, but the limited features mean that it couldn't really be any simpler to play and tweak. The single oscillator, filter and LFO make it easy to get started creating weird and wonderful analogue sounds. The biggest problem when trying to play melodies on the Monotron is the keyboard. You'll need the dexterity of a brain surgeon and tiny fingers if you want to hit perfect notes on the ribbon controller. I'm sure it's possible to develop precision with practice, but trying to play melodies is a lot easier said than done. If you're worried about precise tuning you're looking in the wrong place. I honestly couldn't tell you whether the oscillator's tuning was stable thanks to the imprecision of the ribbon.

The pitch control isn't really intended for fine tuning – it's primarily used for setting the keyboard's range. I found that using a stylus (not supplied) made things a little easier, but even so it's not easy to pick out melodies.

LFO yeah

The simplest way to get interesting patterns out of the Monotron is to use the low frequency oscillator. Like the oscillator, the LFO can only produce an inverted sawtooth wave, which can be used to modulate oscillator pitch or filter cutoff. The LFO re-triggers each time you touch the ribbon, but unfortunately it can't be routed to pitch and cutoff at the same time, and the absence of a VCA means that tremolo



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SPECS

Fully analogue ribbon-controlled monosynth

Single oscillator

Resonant low-pass filter based on MS-10 and MS-20 design

LFO assignable to VCO pitch or VCF cutoff

Dimensions:
120 x 72 x 28mm

Weight:
0.09Kg

effects are out of the question. Even so, it's highly effective for creating rhythmic filter patterns and cool warbling vibrato sounds. With the LFO speed cranked right up, audio rate modulation of pitch and filter cutoff produces intensely vicious timbres which belie the size of the Monotron.

It might be asking a bit much in this price range, but the ability to sync to a tap tempo input would be a massive improvement to the LFO, allowing you to integrate the LFO pattern with your tracks. Square wave and regular sawtooth shapes would also make the LFO more versatile and in fact, while we're at it, why not add a square wave to the VCO? Perhaps we'll see these features on the inevitable Monotron Pro? The only significant problem with the Monotron's sound is a persistent hiss emanating from the speaker.

The headphone output allows you to plug it into a better monitoring setup and the internal speaker is automatically muted when you insert a jack into the socket but the hiss is also present in this signal. It's a real shame, because the sound is otherwise incredibly good for such a tiny device.

Dissecting the Monotron

As an unashamed geek, I'm not afraid to say that I was almost as excited to see what was lurking on the Monotron's circuit board as I was to hear it in action. Popping the front of the case off, it's immediately apparent that the Monotron is, as promised, fully analogue. From a DIY perspective, it was feared that the circuit might have been built into a single proprietary chip, which may have been cheaper for Korg to produce but would have made modifications difficult. Thankfully, Korg's decision to build the Monotron from standard surface-mount components and integrated circuits means we can get a better idea of how it works. The Monotron derives its power supply from a pair of 1.5V AAA cells – the MS uses a ±15V DC supply – so some differences are inevitable, but the VCF circuit appears to be a recreation of the Korg-35 chip using discrete transistors.



Two low power LM324 op amps and a Schmitt trigger chip carry out VCO, LFO and modulation duty, while the output is powered by a Texas Instruments headphone amp chip, making the circuit compact but still ideally suited for mods. It's a clever design and is sure to appeal to DIYers.

Filter fun

Without doubt, the most exciting element of the Monotron is the filter, said to be "the same highly acclaimed VCF circuit as the MS-10 and MS-20." The MS synths were famed for their viciously aggressive 12dB/octave low-pass filters, which howled and wailed with ease and could be provoked into self-oscillation by cranking the Peak control.

Korg nerds will tell you that there were a number of slightly different versions of the MS filter – most notably, the earlier (and arguably more desirable) versions were based around a proprietary Korg-35 filter chip, whereas later MS-20 models used more widely available op-amps. The Monotron's VCF appears to be based around a recreation of the Korg-35 circuit, and there's no doubt that it captures the spirit of the MS sound.

Lined up alongside my MS-10, it's clear that the two LPFs have a lot in common. Running the Monotron's oscillator through the MS filter and vice versa, similar sounds are easily achieved with any combination. The Monotron filter might not sound exactly the same, but it certainly captures the spirit of the MS.

> The ace up the Monotron's sleeve is its ability to process external sounds via the auxiliary input

The real ace up the Monotron's sleeve is its ability to process external sounds via the auxiliary input. MS filter clones cost at least twice as much as the Monotron, so it's by far the cheapest option if you want a taste of that analogue filter magic. The good news is it's definitely not a poor man's version. The results to be had from processing external sounds are outstanding, although the lack of an envelope follower or CV control mean that you'll need to grab hold of the knobs to add your own variations. The LFO can still be used to modulate the filter when processing an external source, so it's really not a problem.

Practical usability

When we first saw the Monotron, we were certainly excited to see if it could live up to our expectations. Most importantly, we desperately wanted the filter to sound good and for it to be a faithful recreation of the classic MS filter sound. The Monotron delivers on that front, and at this price point there really can't be too many complaints about the sound. The bigger question is whether the diminutive form factor and imprecise ribbon keyboard make it possible to use the Monotron for serious music-making rather than just as a fun toy. The lack of precise pitch control means the Monotron lends

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itself better to sounds that don't need to be pitch-perfect, and I suspect its most obvious use in the studio will be for special effects. Filter sweeps, glides and rhythmic LFO modulation tend to produce the best results from the Monotron and I also got some nice effects by feeding various sources into the auxiliary input and manipulating them. The currently trendy filtered white noise takes on some great textures with the addition of LFO filter cutoff modulation and manual manipulation of the cutoff and peak knobs, while audio rate LFO modulation of the filter is particularly good fun.

It's certainly a useful tool to have around, although I doubt I'll end up trying to use the keyboard very much.

> "Filter sweeps, glides and rhythmic LFO modulation tend to produce the best results from the Monotron"

Conclusion

There's no ignoring the fact that the Monotron has a number of weaknesses. It's fiddly, there's no external control, the output's noisy and it's difficult to play in tune.

But despite those issues, I still like it a lot and I think the benefits more than outweigh the minor flaws.

Once you look past the limitations and remind yourself that this is a true analogue synth for a bargain price, the Monotron is a real winner. It's certainly not perfect, but it's an inspiring piece of equipment to have kicking around the studio and it sounds good enough to use it on a track.

When it comes down to it, the Monotron a toy rather than a synth, but I really wouldn't be surprised if the Monotron made it onto quite a few records in the near future. If this really is the first sign that Korg are going to return to building analogue synths then I say, bring it on. FM

DIY Potential

Since the announcement of the Monotron, the internet DIY community has gone into overdrive with speculation about the possibilities for upgrades, modifications and additions to make the tiny box more powerful and more useable. What if it could be hacked to accept CV or MIDI control inputs? What if it could be re-built in modular format? With so much of the power of my beloved Korg MS-10 already in it's tiny case the potential appears to be huge. At the time of writing, the Monotron hasn't yet hit the shelves in Europe or the USA, but Japanese owners are already achieving some great results from modifying the circuit, with that all-important CV/gate control apparently fairly easy to implement. By the look of what's coming out of Japan, you can expect to see plenty more modified Monotrons in the pages of *Future Music* over the next few months.



ALTERNATIVES



Gakken SX-150

£46

We loved Gakken's self-assembly mini synth when we reviewed it last year. Now available in the UK through Juno.

juno.co.uk



Dübreq Stylophone S1

£17

The Stylophone is even more of a toy than the Monotron but it's great fun. As used by electronic music legends Kraftwerk, Orbital, David Bowie and, er, Rolf Harris.

dubreq.co.uk



Korg MS-20

£1,000+

If you're looking for the classic Korg monosynth sound you can't beat the Monotron's spiritual successor. Second-hand prices hover around £1,000.

ebay.co.uk

FutureMusic VERDICT

BUILD

VALUE

EASE OF USE

VERSATILITY

RESULTS

Forget about it's weaknesses. At such a low price it's impossible to resist its many charms.



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£ 258.50



Peluso P67

The latest in the Peluso canon of vintage inspired microphones – their faithful re-creation of the Neumann U67. Hand built in the USA by John Peluso. Beautifully smooth and with a musical airiness – just like the original. Watch out for reviews coming soon…

£1,699.00



Crane Song Avocet

Avocet is a stereo and surround controller with three digital inputs, three analogue inputs and a headphone system. *"Avocet sounds all but invisible using the analogue inputs. It would be hard to think of higher praise. Not only that, the D-A is stunning".* – Rob James.

£ 2,350.00



Josephson C42 Matched Pair

The C42 cardioid is the closest thing to an all-around microphone. Applications include acoustic and amplified instruments, ensemble and choir pickups, concert recording, sound effects and vocals. *"the Josephsons balance the detail/clarity/fidelity elements with the musicality/liveliness that simply makes things sound good."* Brian Lucey.

£ 740.25



ShinyBox 46MX

Each 46MX ribbon microphone is hand assembled at the bench by Jon Ulrigg of ShinyBox in Washington.

"The 46MXC has provided one of the most beautiful piano sounds I've gotten" - Daniel Lanois *"I would say that at this price, the 46MX is almost an impulse buy."* – Paul White.

£ 239.00



TL Audio A4

A 16:2 Discrete Class A summing mixer housed in a 2U unit (rack) and features 16 balanced inputs on TRS and D-Sub with individual pan controls. *"[With the A4] you get a wholesome feeling, hearing impeccably designed Class A circuitry handling the summing, the Ebony A4 is exceptionally well featured."* - George Shilling.

£ 749.00



JDK R20

The JDK R20 is a dual channel, high quality microphone preamp, designed from the ground up by API's design team to offer a versatile high quality input for microphones as well as instruments.

"API sound quality at an affordable price and an abject lesson in modern construction and components without compromise". – Huw Price.

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Dave Smith Mopho Keys Synth | £550



The tiny Mopho wowed us all with its sound but cried out for an improved interface. ***Greg Scarth*** spends much quality time with its new big brother

ON THE DVD

WHAT IS IT?

Analogue mono synth from the legendary DSI

CONTACT

Who: Dave Smith Instruments
Tel: +1 (707) 963-7006
Web: davesmithinstruments.com

HIGHLIGHTS

1 Same great synthesis engine as Mopho module
2 Improved programming interface
3 Excellent two-and-a-half-octave keyboard

Since its release less than two years ago, the desktop module version of the Mopho has built a huge following. When we reviewed it back in December 2008 we loved the sound but had reservations about the programming interface and the slow rotary encoders, so we're happy to see the arrival of the new Mopho Keyboard that aims to address some of these issues. Unlike the tiny module, the keyboard version takes up significant desk space, but the benefits more than make up for it.

Essentially, the Mopho Keyboard follows the same design as the module, but in addition to the obvious 32-note keyboard with pitch bend and mod wheels, the most notable upgrade is the move to a much more intuitive programming interface. Could this neat little mono synth really be the 21st century equivalent of the legendary SCI Pro-One?

Layout

From the moment you pull it out of its protective wrapping, the Mopho Keyboard oozes quality. Housed in a tough steel enclosure, the overall package is relatively small but reassuringly weighty. The striking paint job won't be to everyone's taste but it's in keeping with the Mopho module and works nicely with the wooden side panels. The two-and-a-half octave keyboard is also nicely built, adding to the sense that DSI take a great deal of care over fit, finish and quality control.

Internally, the Mopho Keys is essentially the same as the desktop version with the exception of a few minor improvements. The overall synthesis topology is identical, with two oscillators (each with its own sub-oscillator), a noise source and a switchable 2- or 4-pole Curtis low-pass filter that self-oscillates when the resonance is cranked up in 24dB/octave mode. There are a few minor upgrades, which we'll look at later, but the sound is otherwise just as tough and powerful as the desktop module.

Hands on

Whereas the Mopho module relies on dedicated knobs for pitch, cutoff, resonance, attack and release plus four



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assignable rotaries for programming, the Mopho Keyboard's interface is much more user friendly. The DSI designers have taken customer feedback on board and used pots rather than encoders wherever possible, so the majority of knobs (all of those with line markers) are attached to pots with a 330-degree sweep. The Mopho features revised software for encoder behaviour, speeding up the response of the few rotaries left on the front panel. As a result, all encoders are nicely responsive, sensitive and smooth, with no jumping or glitchiness.

Thankfully, the encoders display none of the erratic encoder behaviour which blighted early examples of the Prophet 08. DSI claim that the Prophet 08 encoder problem was primarily caused by oxidisation of the contacts, and all DSI products now use different components. Ergonomically, the Mopho Keyboard's knurled, rubberised knobs are much more comfortable than the original Mopho module's smooth, rounded counterparts.

> The Keyboard's rubberised knobs are more comfortable than the module's rounded counterparts

The interface doesn't quite offer a single function per knob, so you're inevitably going to need to refer to the LCD screen while programming, but it's a huge step up from the original Mopho module. Very few parameters require you to use the dreaded shift key, and global settings such as MIDI options and clocking are handled nicely by a dedicated menu. The new programming interface is what the Mopho deserved all along, and I'd love to see DSI release a Mopho 2 with a full knobby interface.

It's clear after just a few minutes playing that DSI also haven't cut any corners with the keyboard on the Mopho. The semi-weighted keys feel nicely solid and respond superbly, while velocity and aftertouch curves are easily adjusted in the global parameters menu. The pitch bend and modulation wheels are positioned on the main panel, above the keyboard rather than to the left.

I find this layout a little awkward, having to reach over the keys to get to the wheels, but it does mean that the case can be even more compact, and the overall look reminds me of the tiny Moog Rogue.

More new features

Although the synth architecture is very similar to that of the original module, the Mopho Keys has a few more little tricks up its sleeve. The most exciting new feature for me is that the programmable audio feedback control from the Tetra has been included, meaning that you can easily mix the output signal back into the filter.

Things get a little hairy at the top end of the range, so it's generally best to exercise a little restraint until you're ready to create some truly vicious, face-melting sounds, but it's a great option to have at your disposal.

Elsewhere, you'll find a handful of upgrades to the arpeggiator and sequencer, most notably the addition of

Mopho Lite?

The compact dimensions of the Mopho Keyboard got me thinking about the budget synth market. With a street price somewhere around £250, the original module is one of the biggest bargains around but the keyboard version's significantly higher RRP might put off a few potential buyers. The Mopho's keyboard is top quality and the retail price is fully justified – it's a lot cheaper than plenty of other synths that don't even come close to it in terms of sound or features. Even so, part of me can't help but wonder whether there's a market for a cheaper, more basic version with a slightly lower spec keyboard grafted on.

A Mopho Keys Lite would appeal to a huge entry-level market in the same way that the Mopho module offers top quality analogue synthesis at a bargain price. I'd take a slightly stripped-down version of the Mopho Keyboard over budget synths like the microKorg and Akai MiniAK any day.

If DSI could produce a Mopho with unweighted keys and no aftertouch for an RRP somewhere around £400 I think they'd make a killing.

SPECS

- 32-note (F to C) semi-weighted keyboard with velocity and aftertouch
- Modulation and pitch bend wheels
- Two oscillators (sawtooth, triangle, saw/triangle and variable pulse width square waves, with hard sync)
- Curtis low-pass filter (switchable 2- or 4-pole) with audio rate modulation, self-oscillating in 4-pole mode
- Analogue VCAs
- Three envelope generators (ADSR plus delay)
- Two sub-octave generators (one octave down and two octaves down)
- Feedback loop with programmable level and gain
- White noise generator
- 4 LFOs
- Gated 16 x 4 step sequencer
- Arpeggiator
- 1/4" unbalanced audio input
- 1/4" unbalanced outputs
- Sustain pedal input
- Expression pedal/control voltage input
- 1/4" stereo headphone output
- MIDI In, Out/Thru, and Poly Chain
- USB socket

Dimensions:
470 x 280 x 90mm
Weight:
4.25kg



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ALTERNATIVES



Dave Smith Mono Evolver Keyboard

£850

The most obvious alternatives also come from DSI. If you can live without the keys and knobs, the Mopho is a bargain. Moving up the range, the MEK adds more modulation options.

davesmithinstruments.com



Moog Little Phatty Stage II

$1,395

The baby of the Moog range sneaks over the Mopho Keys price band, but if you're after a mono synth with legendary heritage, look no further.

moogmusic.com



Waldorf Blofeld Keyboard

£699

The tiny Blofeld module also has a keyboard-equipped big brother. It's not analogue, but on the plus side, it's polyphonic, multitimbral and can process samples.

waldorfmusic.de/en

new arp modes (including multiple octaves) and the ability to adjust the slew rate of individual steps in the sequencer. The Push It! button for auditioning sounds is made slightly redundant by the keyboard, but with shift pressed it now serves as a tap tempo button for the internal clock. This is a great addition, but for me it's the wrong way round – I'd much prefer tap tempo to be the primary function.

Intriguingly, the Mopho can also be hooked up to other Dave Smith synths via the poly chain socket in order to increase polyphony. Unfortunately, I didn't have another DSI synth on hand to try it out but the same feature seems to work well with the Tetra and Prophet 08 so in theory this should be a real bonus for owners of multiple DSI products. The combination of Mopho Keyboard and Tetra, in particular, promises to create a monstrous five-voice beast. With the Mopho as the master and the Tetra as the slave, editing parameters on the Mopho's front-panel will automatically adjust their equivalents on the Tetra.

> "Editing parameters on the Mopho's front-panel will automatically adjust their equivalents on the Tetra"

Final thoughts

At an RRP of £550, the Mopho Keys is positioned between the Mopho module and the Mono Evolver Keyboard, nicely filling a gap in DSI's monophonic range. The improvements to the programming interface and addition of the excellent keyboard really allow you to get the best out of the Mopho's fantastic synth architecture. There's no doubt that the Mopho desktop module sounds great but, for me, it's hampered by the menu-based programming system.

Since its announcement, many of us were hoping the Mopho Keyboard would be a modern version of the Sequential Circuits Pro-One. Comparisons are inevitable, but the Mopho Keyboard isn't a Pro-One. For a start it has patch memory, more flexible modulation routing, sub-oscillators, MIDI as standard and modern reliability. More importantly, the Mopho can create sounds the Pro-One could never achieve. Ultimately there's no need to look to the past for comparisons. The Mopho Keyboard is a classic in its own right. If you're thinking of buying a Mopho module, I'd strongly advise you to keep saving until you can afford the Keyboard version. FM

Pro-One II

Designed by Dave Smith, the Sequential Circuits Pro-One is a legendary mono synth which will inevitably be used as a reference point for the Mopho Keyboard thanks to the fact that the module bears the legend 'Pro-One II' on its printed circuit board. First sold in 1981, the Pro-One was a dual oscillator mono synth with classic Curtis CEM-3320 filters, three-octave keyboard and onboard sequencer. Later models included basic MIDI capabilities. Prices are hard to pin down due to their relative scarcity in the UK, but you can expect to pay at least £700 for one.

The Pro-One can produce some of the most powerful bass sounds of any compact synth, but its limitations in comparison to modern hardware make it a very different proposition to the Mopho Keyboard. Although they might seem similar on the surface (and much is made of the fact that the Mopho uses modern descendents of Curtis filter chips), the Mopho hides a wealth of MIDI options, not to mention patch storage and other luxuries we're used to.

While they have their similarities, I doubt many potential buyers will actually be making a direct choice between the Mopho and the Pro-One. The Mopho Keyboard stays true to the spirit of the Pro-One but brings the dual-oscillator mono synth right up to date.

FutureMusic VERDICT

BUILD

VALUE

EASE OF USE

VERSATILITY

RESULTS

Adding a keyboard and improving the interface takes the Mopho to the next level.



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'Playing' Live is so much more than just launching clips.
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Allen & Heath Xone:DX | £999

Marc '01' steps up to some four-deck action with this custom package from Serato and Allen & Heath

WHAT IS IT?

A complete digital DJ solution consisting of hardware controller/ soundcard combo with integrated four deck mixing software.

CONTACT

Who: Allen & Heath / Serato
Tel: +44 (0)1326 372070
Web: xone.co.uk

HIGHLIGHTS

1 Superior build quality
2 Great feel and layout
3 Four deck mixing and looping

The Xone series has been instrumental in changing and expanding the way DJs perform for over a decade. The DX is their latest DJ Mixer/MIDI Controller/Sound Card combo.

It differs from previous offerings such as the similar spec'd Xone:4D by being specifically tailored to work with the included Serato Itch DJ software.

Itch has been out for a while now, and has established itself as a rock solid performer alongside hardware from Vestax and Numark.

What makes this special is this is the first time we get to play with Itch across a full four decks. Combine that with tight looping tools, FX and hands on control, and you got all the makings of a sweet decks n FX set.

The close partnership means once the software is installed, there should be no set-up time as every controller is pre-mapped, with all controllers labelled and ready to be tweaked.

Hardware feel

The DX is slim-line, with a depth of 50mm it easily slips into a backpack or record bag for transportation. Every knob, fader, switch and button feels solid – all the controls are fitted to small PCBs, which are then mounted to the top plate.

This has the benefit of making all the knobs and faders wobble free, and if anything goes wrong, it will be easier to repair or replace a specific bit.

The four-channel mixer features a three-band EQ, assignable cross fader and full headphone monitoring. The mixer is integrated with a 20 channel USB 2.0 soundcard that features four sets of stereo analogue inputs on RCA.

Three of these have selectable inputs, two have phono preamps and the third can take a feed from the XLR mic input. This is located round the front and is only suitable for dynamic types and has a dedicated EQ with high and low bands. The mixer channels can listen to either the analogue source or one of the digital decks, but not both.

The dual FX section runs from the software but you can process the signal from the analogue inputs as well.

There's one more input round the back for a 3.5mm stereo jack that feeds straight into the mixer and bypasses the software. This is designed so that if there happens to be a problem with the soundcard during a live show, you can have an iPod on backup to keep the music playing while the soundcard reboots.

There are four pairs of outputs designated for Cue, Booth, Aux and Master (which is duplicated on the balanced XLR outs) plus stereo digital over S/PDIF and Optical. Last but not



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least, round the front you'll find a headphone slot.

Sound quality is up to the usual A&H quality and latency is minimal so response is tight and up there compared to hardware CDJs.

Four wheel drive

The layout will be intuitive as it follows the standard decks on the outside, mixer in the middle setup.

Almost every function can be directly accessed on the mixer and has its own dedicated controller be it fader, button and dial. The only doubling up is on the decks, where each of the two hardware decks can be used to control two virtual counterparts by way of a layer switch. On the plus side, this keeps the cost down and the footprint to a minimum. A colour-coded system is employed to keep track of which deck layer is the focus whereby the LEDs glow and blink green for one and red for the other.

Play time

Almost every control on the unit spits out MIDI commands, so the DX can also be used to control other DJ software and apps, but you'll need to spend some time working on the mapping. All the usual transport and playback options are available too. This includes key-lock, quart-lock, forward and reverse playback, which is also labelled 'Censor' as you might need it if you are playing back explicit material, if you happen to be DJing at a children's party.

The trick with the reverse function is that when you release the button it resumes playback from the point where the track would have reached if it hadn't been reversed. This means it always stays in the groove and in sync with other tracks in the mix. Pitch adjustments are made via a notched rotary dial, and you can make fine adjustments by twisting it, or coarse ones by pressing down the knob and then turning it.

Analyse this

While its possible to load tracks straight into the decks using the DX's dedicated knobs or by dragging them from the finder, Itch doesn't always guess the tempo correctly.

This can mess up the auto-sync and looping tools so there is an off-line analysis mode. Here you can get your collection in shape by setting the tempo and beat grid precisely.

Serato tell me a free update is in the works that will be dropping by late summer. The adds a number of nice new features that will definitely be welcomed. First up is a true scratch mode for the jog wheels, to go with the bend, scrub and skip modes. The cross-fader will add aDJustable curve control and there will be a 'cue mix' option for headphones to add to the normal and split modes.

While all updates are promised for free, the price of the system is on the higher side. That said, you definitely get what you pay for here – hardware that oozes quality and is built to perform, and rock-solid software that sets the standard for others to follow. FM

> With tight looping tools, FX and hands on control, and you got all the makings of a sweet decks 'n' FX set

Skip To My Loops

One of the exciting aspects of digital DJing with four decks is being able to throw in extra loops and remix stems and the DX has plenty on offer here with looping, hot cue points, auto-sync and repeat functions. The DX goes further than the usual auto looping/tempo subdivisions by offering a nice Roll function which is loads of fun to play with and very musical. If you like to use loops that are trimmed to the beat, you can just stick the track repeat function and auto-sync that deck to the master. I also liked the fact that cue points and loop markers are saved in the database ready for next time so it's possible to prepare a set properly in advance. The cue points can be used to stutter or start a track depending on the play mode and you can see the all the cue points and loop markers clearly.



FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

A total quality system, easy to use with loads of power for the ultimate decks 'n' FX DJ set.

SPECS

Software: Serato Itch
PC: Windows XP, Intel processor / Core Duo 1.8GHz or better / 1GB RAM – 32-bit only
Mac: OS X 10.4.11 or higher, Core Duo 1.8GHz or better / 1GB RAM

Xone: DX Hardware
20-channel USB sound card
24-bit/96kHz audio system
Inputs/Ouputs
USB 2.0, MIDI In / Out,
Mix outputs: RCA and balanced XLR
Digital: S/PDIF / Optical In/Out – 44.1, 48, 88.2 and 96kHz sample rates
Deck Inputs: 4 x Stereo RCA
Mic Input : XLR
Mic EQ: 2 Band HF/LF +/-12db
Headphone Output: Stereo ¼"
Audio Thru
4 channel layout
168 individual MIDI assignments
Faders: 5
Buttons: 57
Rotaries: 32

Dimensions:
400 x 330 x 50mm

ALTERNATIVES



Allen & Heath Xone:4D
£1,299
A slightly different layout to the DX, the 4D is designed to work with any software. It also has those juicy analogue filters and a BPM counter.
xone.co.uk



Vestax VCI-300
£589
Vestax made the first DJ controller to be paired with Itch. It features a four I/O soundcard and two-deck mixer.
vestax.com



Numark NS7
£1,299
The NS7 makes Itch available to DJs who want to work with big, motorised platters with adjustable torque. This thing is huge.
serato.com

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Pioneer CDJ-350 & DJM-350 | from £439

With many of the pro features included, ***Chris Barker*** is eager to check the new entry-level CDJs

WHAT IS IT?

Multi format CDJs and a two-channel mixer with USB recording

CONTACT

Who: Pioneer UK
Tel: +44 (0)870 6001539
Web: pioneerdj.com

HIGHLIGHTS

1 USB mix recording built in to the mixer
2 Four great master effects
3 USB key, MIDI and RekordBox compatible

PRICING

CDJ-350
£520ea

DJM-350
£439

SPECS

CDJ-350
Playable Media: CDs, CD-R/RW, USB devices
Playable Files: MP3, AAC, WAV, AIFF
Audio Output: Phono RCA
Dimensions:
219 x 288 x 107mm
Weight:
2.25kg

DJM-350
Input Terminals:
CD, Phono, Mic, Aux
Output Terminals: Master RCA, Headphone Monitor Out, Rec Out
Dimensions:
219 x 300 x 107mm
Weight:
3.2kg

A short while after Pioneer launched their flagship behemoths, the CDJ-2000, CDJ-900 and DJM-2000, there's a new party-starting set-up in the lower ranks of the Pioneer range that offer an impressive feature set, considering the price. We're reviewing the new CDJ-350 and DJM-350 as a whole package, but of course they are all priced and available individually.

Previous low-end DJ products have offered little in the way of features and functionality and it wasn't until Pioneer's CDJ-400 that a non-pro product offered new DJs the chance to experience advanced features such as USB integration, effects and MIDI.

Setup style

As DJ setups go, this is compact, intuitive, flexible and is the cheapest CDJ option for use with Pioneer's RekordBox music management software. Obviously, there have been some compromises made on build quality for Pioneer to meet the impressive feature set at this price.

The jog wheels are not weighted in any way and do feel quite flimsy. In use though, they are absolutely fine once you're used to their feel. A USB key input is selectable from the surface of the CDJ and at the rear USB MIDI is provided for connecting to digital DJ software such as Traktor. BPM lock is included as a feature also, on the new CDJs, but relies on the machine's ability to analyse BPMs with ultra-accuracy.

Hold BPM Lock down and you can select a master tempo for your mix and every track that is loaded (from any media) will be auto-pitched to that tempo, making mixing even more of a doddle (but this is not beat-sync between decks like Ableton or Traktor offer). Another clever addition is the beat indicator on-screen, which shows a basic view of a bar moving through each beat. This makes bar match-mixing easier and things like scratching on a beat much simpler too.

Mixer mission

Moving over to the compact two channel mixer, it features great additions like fader start control, crossfader curve adjustment and really solid feeling faders and rotaries. There's also the benefit of a master effects section where a single knob level/depth rotary controls the DJM-350s effects.

Four large on off buttons switch between a fantastic Gate, Jet (flanger/phaser), Crush and Filter. Effects can only be applied one at a time so no layering is possible, plus these are master effects only and cannot be assigned to individual channels or the the mic/aux input.

Probably the killer feature of this mixer is the ability to record your mixes direct from the mixer by sticking a USB key in and hitting record. Once the recording is stopped, stick the USB key in your computer and a folder called 'Pioneer DJ' will have been created and inside you'll find a lovely WAV recording of your mix. Better still, hit the track mark button and the mix will split the file ready for you to burn a gapless mix CD, while retaining the track skipping ability. How great is that?

Another pro-feature on such a value-for-money mixer is the EQ section, which features isolator three band EQ, completely killing the low, mid or high frequencies when turned fully anti-clockwise. Very slick.

Future proof

Individually these are good products, but combine them and they make a perfect compact home DJ setup and if you added a decent flight case will stand up to duties at bars and clubs while staying future-proof with USB connectivity and the Pioneer RekordBox software. Great stuff. FM

FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

A fantastic, ready-to-go DJ setup that is future-proofed with USB and the RekordBox software.



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Sound System Vocals Vol3 Dennis Alcapone

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ON THE DVD

WHAT IS IT?

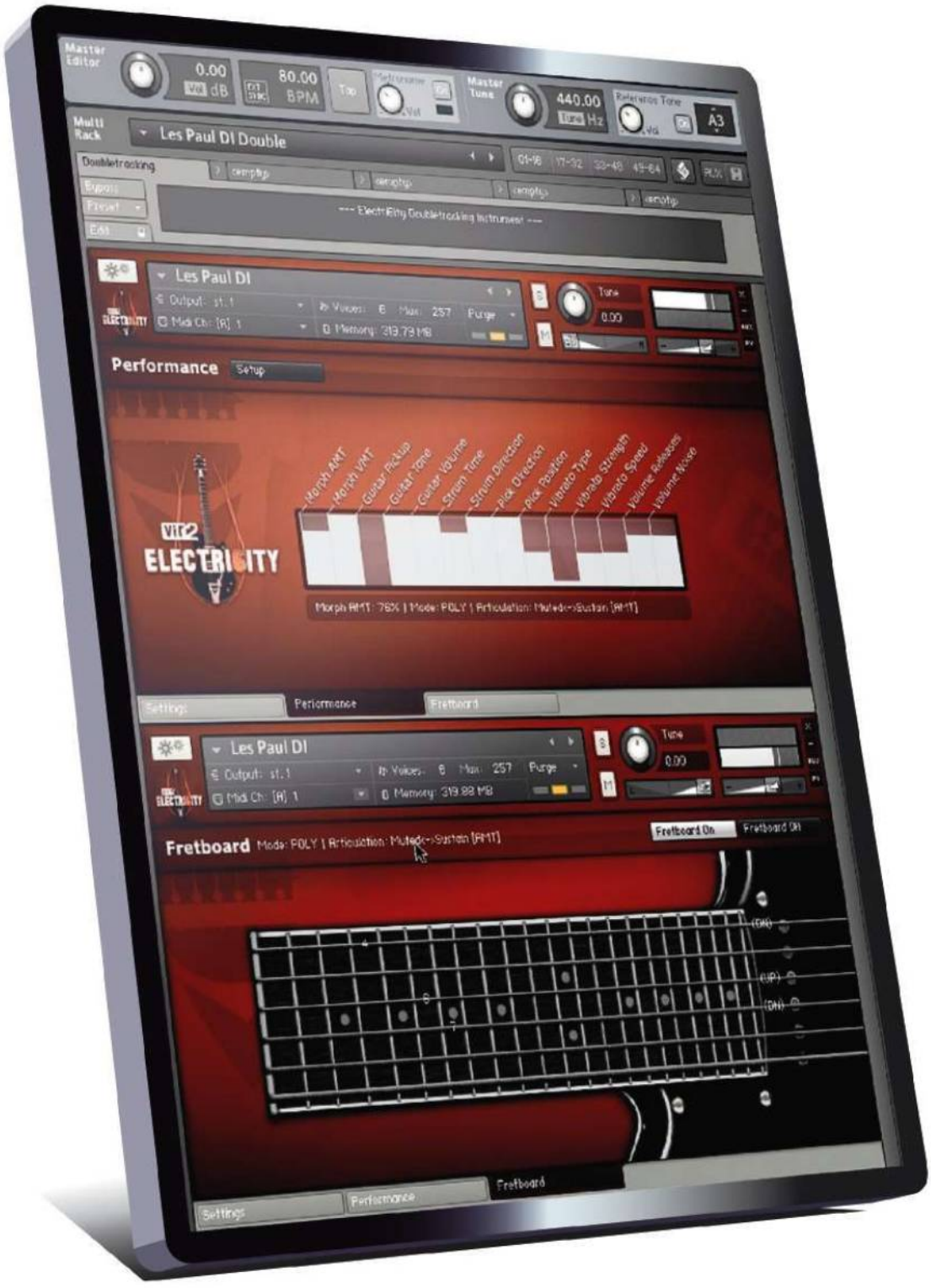
A Kontakt-powered sample library of eight classic electric guitars

CONTACT

Who: Vir2
Web: vir2.com

HIGHLIGHTS

1 Phenomenal sound
2 Huge level of playability
3 Background scripting yields unprecedented realism



Vir2 Instruments Electri6ity | £259

Vir2's Electri6ity provides eight guitars in virtual form. ***Jono Buchanan*** grinds his axe…

Vir2 are developing a reputation for the quality of their virtual instruments and the latest of these is the ambitious virtual guitar library Electri6ity, which has been three years in development. Containing over 24,000 24-bit samples taken from eight of the best known electric guitars, this library uses Kontakt 4 as its playback engine and, beyond the raw sample data, it utilises a wealth of scripting information to attempt to provide a complete solution for studio

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based non-guitarists or indeed for guitarists who don't happen to have several thousand pounds' worth of high quality axes lying around. So far, so good but does this impressive theory equate to a similar level of playability?

Install and first impressions

Well, before we get to that, let's get the essentials out of the way. Electri6ity ships on four DVDs containing an installer for the library and, if you need it, a separate one containing the latest version of the Kontakt Player. Note that if you are a Kontakt 4 user who hasn't updated since your first install, you'll need to run NI's Service Centre to update as this is a system requirement for Electri6ity. The library will munch 27GB of your hard drive space and install to an internal or external 7200 or 10000rpm FireWire drive is recommended over a USB equivalent.

Thereafter, launch Kontakt and activate the library as usual through the Service Centre and you're away. The instruments sampled read as a who's who of the world's most celebrated guitars, namely: Stratocaster, Telecaster, Les Paul, P90, Rickenbacker, Danelectro Lipstick, ES335 and L4 and each has been recorded with Front, Rear and Front/Rear blended pickup positions, from which you're free to choose. Playing modes vary between polyphonic, monophonic and both sustained and muted legato, with slides and other techniques available in all modes for lots of real-time performance enhancement.

The realism goes on, as you can choose the release mode in performance, with finger noise, hand mutes and pick noise just three of 14 separate release 'types'. By now you might well be wondering how all of this is selected and intuitively 'playable' and that's where the magic of the Kontakt engine takes over. Vir2 have extensively programmed AMT (Articulation Morphing Technology) and VMT (Velocity Morphing Technology) scripts into Electri6ity's GUI so that, as you play, the engine carefully analyses your performance and uses your playing style and velocity response, for example, to instantaneously switch between samples and playback styles. However, if you want to get involved, rather than let the engine do all of the work for you, pretty much any parameter you can think of can be manipulated via control changes or key switching, so you can hone the guitar of your choice to your own setup and playing style.

> Pretty much any parameter you can think of can be manipulated via control changes or key switching

Rock out!

Within Kontakt, full versions of the instruments are available in both 'DI' and 'Amped' forms, with 'full', 'sustain only' and 'muted' versions your choices. The latter two are offered to dramatically decrease load times which will prove useful. Once you've loaded an instrument, three tabs (or four for Amped) models let you get down to the nitty gritty of setting up your chosen guitar. The most comprehensive of these is the Settings page, which contains a multitude of parameters in various categories, so that you can choose how the strings are tuned or will resonate, how wide vibrato will be for notes that exceed the automatic vibrato threshold or how quickly you want slides to perform to name but four parameters.

At both extremes of the keyboard range, a huge number of articulation possibilities are provided to help you effortlessly switch from sustains to mutes to bends to strums to slides to picks and so on.

Conclusion

Electri6ity is a phenomenal library and certainly represents the most comprehensively sampled and organised virtual guitar system I've seen to date.

You'll need to commit to Electri6ity, as its almost overwhelming range of performance options take some learning.

The important thing, though, is that if you want a range of well-sampled guitars, powered by an engine that will let you use them to create 'photo real' performances, Electri6ity will step up and deliver, regardless of the musical style you prefer to play. A truly stunning library. **FM**

Electri6ity's Effects



Choose an 'Amped' guitar and you'll find the instrument loads with its own 'Effects' tab within which you'll find three custom effects generators. The first is a multi-effects unit with phaser, flanger, chorus, reverb and delay algorithms, one of which can be selected to provide a series of parameter dials. The second is a 'Screamer' pedal style distortion unit with tone controls, overdrive and amount dials while the final section provides amp modelling. There are seven 'modelling' types available including Modern, Metal, British and Classic, with three microphone positions available. You can choose between Dry, Medium and Wet room treatments and independently bypass one or either of the Drive and Amp stages of the amp model you build. The results are excellent and by no means a 'cheap add on' to the DI alternatives. I could see myself using this integrated solution rather than simply firing up Guitar Rig, Amplitube or Amp Designer as a default option.

FutureMusic VERDICT

STABILITY
VALUE
EASE OF USE
VERSATILITY
RESULTS

A comprehensive and intelligent library that impressively meets all electric guitar needs.

SPECS

Mac: OS 10.5.x or newer, Intel Core Duo 1.66GHz or higher, DVD drive, 4GB RAM

PC: Windows XP (SP2, 32-bit), Windows Vista (32/64 bit), or Windows 7 (32/64bit), Pentium/Athlon 1.4GHz or faster, DVD drive, 4GB RAM

Both: 27GB of free hard drive space

Recommended: more than 4GB RAM, 88-note keyboard

ALTERNATIVES



Music Labs RealStrat and Real LPC

£169 and $249

Two separate virtual guitars from Real Labs capable of phenomenal results across a variety of playing styles. Each plug-in contains just one sampled guitar, though.

musiclab.com



Steinberg Virtual Guitarist 2

£170

The original virtual guitar is still a popular choice, though it doesn't contain the huge performance credentials of Electri6ity.

steinberg.net

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Fostex PM0.4n Powered Monitors | £140 per pair

The PM0.4n's are the new babies of Fostex's studio monitor range. ***Jono Buchanan*** lends them his ears...

WHAT IS IT?

The redesigned, smallest monitors of Fostex's PM monitor range

CONTACT

Who: Paxt
Tel: +44 (0)1223 830800
Web: fostex international.com

HIGHLIGHTS

1 Good sound quality
2 Surprising depth of detail for a monitor this size
3 Available in a range of colours

SPECS

HF unit: 16mm Soft Dome
LF Unit: 100mm Aromatic Polyamide

Frequency Response: Free field ± 2dB: 60Hz - 30kHz
Low Frequency Cut-Off: 60Hz (-10dB)
High Frequency Cut-Off: 22kHz (-10dB)

Amp Power
Low Frequency: 18W
High Frequency: 18W

Amp Distortion: <0.1% T.H.D. @ 12w, 4 Ohm 20Hz - 20kHz
Amp Signal to Noise: >75dB 20Hz - 30kHz, not weighted

Dimensions
114 x 190 x 220mm

Weight
3.75kg

The PM range of monitors was released to the world in 2005 and while Fostex's name might not be the most immediate to spring to mind if you were listing companies building studio speakers, their popularity has proved sufficient for Fostex to tweak and reissue the whole of the PM range, with the smallest of the monitors, the PM0.4n, the subject of this review.

These are available in a range of five flashy colours with red, yellow, white and purple options for those who prefer something striking, alongside black for studio traditionalists. So, can the visual vibrancy be matched with sonic fidelity?

Looking around

The PM0.4n's are active monitors, that stand only 22cm tall but which feature a 4" cone for their low frequency driver and a ¾" soft dome tweeter for the top end. 18W of power are available to both drivers and frequency response is offered between 60Hz and 30kHz.

Input is provided at the rear via RCA or ¼" jack, alongside a continuously adjustable gain control, while the power button lies below a prominent heatsink, with a bright blue LED on the monitor's front to indicate that it's ready to do your bidding.

One construction point of note – the PM0.4n's are not magnetically shielded speakers, so may be prone to greater levels of interference than any of the other models.

Sound and size

Monitors of this size usually suffer most at the bottom end and with the frequency range stated above, it's fair to say that the PM0.4n's shouldn't be exclusively trusted to balance super-low bass content, though the prominent roll-off of the original PM0.4n design is much less apparent this time around. However, they manage to avoid the more obvious low-mid pitfalls that can beset monitors of this size by providing a pleasingly rich level of detail in this area, while there's also plenty of snap in the upper mids, without too much obvious colouration.

The tweeter is nicely fizzy without being over-bright and with the Dance music I fed their way, in particular, the PM0.4n's are punchy little beasts, responding well even at louder listening levels.

More layered and textured material stands up fairly well too, though there's a slight prominence around the 'vocal sweet spot', which you'll need to handle with care if you're intending to use these speakers to mix Pop records. Rich, more orchestrated music is also impressive, with a good density of field and pleasing stereo image.

Foxtex focus

As is clear from Fostex's website, these monitors have been designed to serve a multitude of purposes, including installation in clubs and bars for 'recreational' listening and this is perhaps supported by the range of colours in which the monitor is available. This doesn't rule them out for those looking for a studio monitoring solution towards the budget end of the market but any mix can only be as good as the monitors on which it is put together and accordingly, this is one area where anyone who can stretch their budget, should.

However, the PM0.4n's impressed me with the level of detail they do manage to convey and they're certainly capable of doing a good job, so if you're shopping with one nervous eye on the debt crisis, you should certainly add these to your listening list. FM



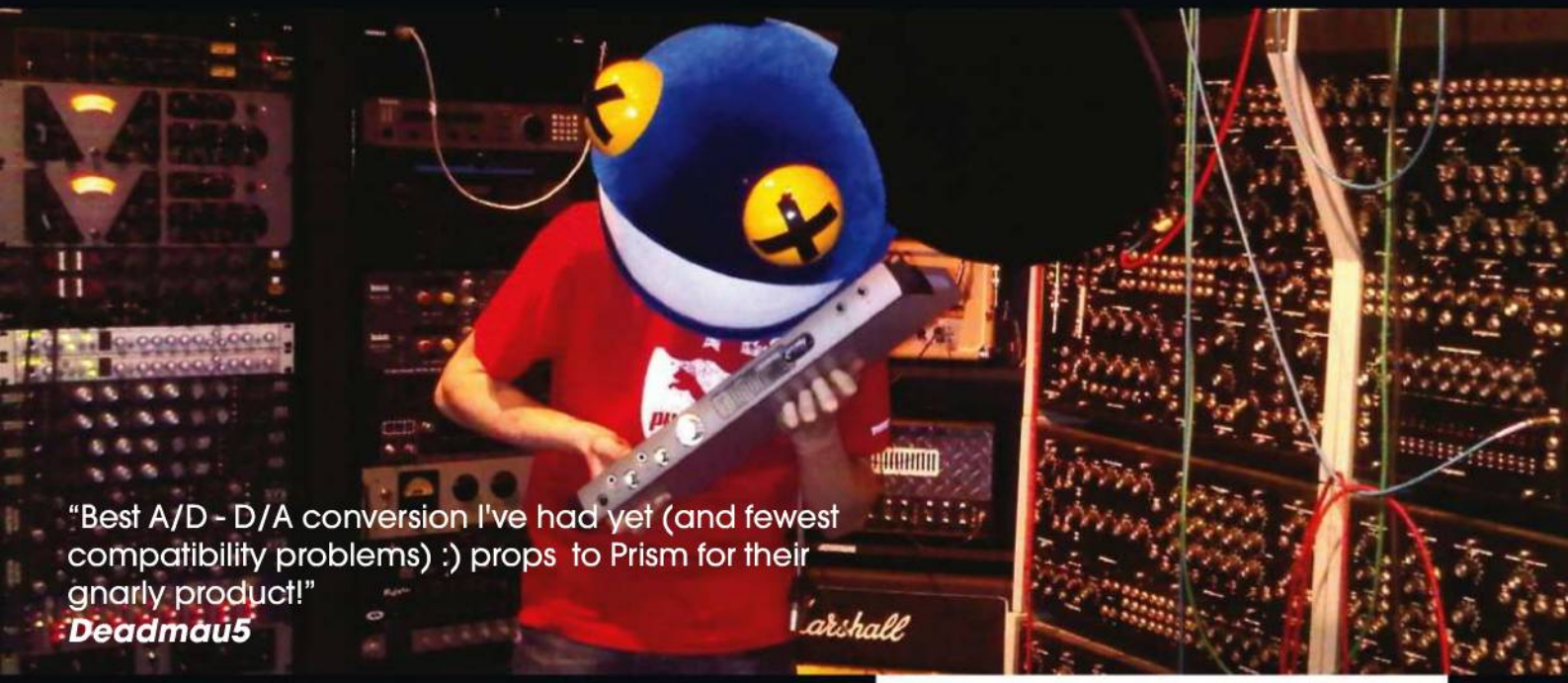
FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

Packing more sonic weight than their size would suggest – good for those on a budget.

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Prism Sound



Deadmau5's logical choice of interface

When Deadmau5 went looking for a high quality I/O solution, it became apparent that there was only one choice.

Orpheus provides Prism Sound's world renowned performance, sound quality and state-of-the-art clock technology in a dedicated FireWire unit compatible with both Windows and MAC OS X.

Orpheus features line, microphone and instrument inputs, selectable RIAA Equalization for turntables, a built-in premium-quality monitoring mixer and concurrent ADAT and switchable S/PDIF or AES3 digital I/O plus support for outboard MIDI devices. The Microphone inputs include MS matrix processing and dual headphone outputs are provided each with their own volume control.

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Available until 31st August 2010

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Focal Professional CMS 40 Compact Monitors | £564

The CMS 40s are the mini addition to Focal's CMS range. ***Dan 'JD73' Goldman*** finds out if they deliver

WHAT IS IT?

Focal's most compact monitor to date, designed for small studios, post production and broadcast applications.

CONTACT

Who: SCV London
Tel: +44 (0)20 8418 1470
Web: focal professional.com

HIGHLIGHTS

1 Small and portable
2 Great build quality
3 Accurate non-fatiguing sound

SPECS

Frequency response (+/-3dB): 60Hz - 28kHz
Input Connectors: Balanced XLR, Unbalanced RCA
HF amplifier stage: 25W RMS; Class AB
LF amplifier stage: 25W RMS; Class AB

Controls
Sensitivity: Adjustable, +4dBu / 0 / -10dBV
Volume: Adjustable, -66dB / 0dB
LF shelving (0-450Hz): Adjustable, 0 / -/+2dB
HF shelving (4.5kHz - 20kHz): Adjustable, 0 / -/+2dB

Construction
Woofer: 4" Focal drive unit, Polyglass cone
Tweeter: Aluminum/ Magnesium inverted dome Focal tweeter
Shielding: Integral by cancellation magnet
Construction: Reinforced and damped die cast Aluminum cabinet

Dimensions:
238 x 156 x 155mm

Weight:
5.5kg

Focal Professional's CMS line is primarily designed for smaller studio environments for post-production work and (in the case of the CMS 40s) for use as secondary monitors to compliment larger full range systems.

The CMS 40s are Focal's most compact nearfield monitors to date and on unboxing them, it's surprising how small they are, but how solid and well built they feel. They look the business too, with black-powder-coated die-cast-aluminium cabinets. The speakers ship with removable protective grills, phase plugs (to insert over the tweeters for as precise a soundstage as possible), rubber feet, adjustable spikes and rubber isolation mats, plus they can be placed vertically or horizontally and wall mounted if required. Connection-wise there's a kettle-plug power socket, a balanced XLR input and an unbalanced phono input.

High and low-shelf EQ switches plus an input level switch are provided too for optimising the performance of the CMS 40s in your listening environment. Round the front, there's a power switch, overall volume control and a handy clipping indicator.

Design details

The CMS 40s are a front-ported design (which is great if the speakers need to be placed close to a wall) and utilise a four-inch main woofer with Polyglass cone, coupled with a magnesium/ aluminium inverted-dome tweeter connected to two separate 25W RMS, Class AB amplifiers. From these specs, it's clear to see that these are very much simply smaller versions of the larger CMS speakers and no corners have been cut in terms of materials, electronics or sound production.

As a proud owner of Focal's larger Twin 6 BEs, I was eager to try these monitors out and I'm happy to inform you that these tiny speakers have the fantastic accurate sound stage and overall character of their much more expensive CMS and S-Series brothers, which is great news, particularly if funds are tight.

This is nothing short of miraculous considering their size but they really have to be heard, as the quality of sound that comes out of them is top notch. They are accurate, have a smooth and clear top end and detailed mids. Although the lows roll off at 60Hz (which isn't ideal for Dance music where low subs need to be heard), they can be paired with a CMS sub for extended low end response providing you with a very flexible and compact, yet full range monitoring setup.

Mini magic

Bearing in mind their size and the applications they're aimed at, there's really nothing to fault. Once paired with the sub, I would be very happy mixing a whole album on them. They are surprisingly powerful and punchy and are easy to listen to over extended periods, but the main positive is that translation from studio to other systems is great and the character of the speakers remain consistent throughout the frequency range.

Their response really is truly surprising for their size and you certainly won't be disappointed with their performance. If you need a compact setup and can compromise on the 60Hz roll, they're a great choice and you need to check them out. Focal have done it again. **FM**



FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

The CMS 40s performed beyond my expectations for their size. Put them at the top of your list!

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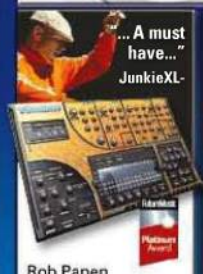
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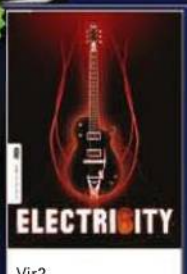
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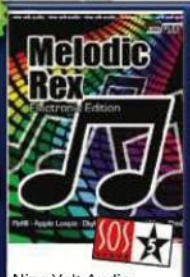
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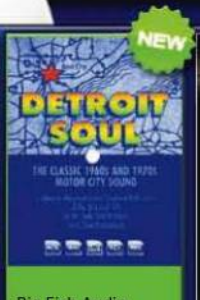
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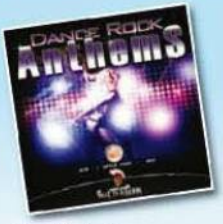
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Apogee GiO Interface | £288

Apogee and Apple to take their guitar effects into the hardware world. ***Jono Buchanan's*** guitar gently weeps

WHAT IS IT?

An interface and guitar effects controller for Apple audio products providing guitar-pedal control over Logic, GarageBand and MainStage

CONTACT

Who: Sonic Distribution
Tel: +44 (0)845 5002500
Web: apogeedigital.com

HIGHLIGHTS

1 Foot control for Apple based guitarists
2 Simple yet highly effective
3 Rock-solid construction

To think that it's getting on for a year since our esteemed Editor and I were summoned to Apple HQ to be given a lift-the-lid presentation of all things Logic Studio. The day focused on Logic 9, yet an intriguing shiny silver box also lay on the floor in front of our demonstrator, through which he recorded his guitar and controlled Logic's then new PedalBoard plug-in.

10 months later and the same box is now in my studio. The device in question is the Apogee GiO interface and control surface, which has been built especially for Apple's countless guitar-based producers and composers and which offers audio I/O alongside a controller optimised for axe-wielders.

Getting started

GiO's rear-panel provides its I/O options, with a USB port for connection to your computer, a quarter-inch 'Instrument In' for your guitar, an output to send to your speakers and an optional MIDI expression pedal. GiO features a high-impedance input for your instrument but doesn't feature a gain dial, with input levels set via the 'Sound' panel within Apple's System Preferences. A/D conversion is provided at 44.1 or 48kHz and at 24-bit and, as you'd expect from Apogee's proud history, sound quality is great. Installation of GiO is simple – a DVD gives you access to the installer, which requires your details for authorisation via entry of the serial number and your email address.

Pedal to the metal

GiO's control surface is simple, yet very effective. At the top of the unit, five transport buttons provide Record, Return to Zero, Rewind, Fast Forward and Play/Stop stomp buttons so that you've got easy-to-access control over Logic while wearing your guitar.

GiO and Other Programs

If you're Apple-based but not a Logic user, GiO still has much to offer. It's integration into GarageBand is similarly immediate. Both Logic and GarageBand provide coloured LED control over the stomp box options on show, with the lights above the GiO's buttons aping the colour of the pedals on screen allowing you find the button you want more easily. Input



levels are actually easier to set up in GarageBand than in Logic via the dedicated 'Recording Level' pane. Integration into MainStage is seamless too, though I did have to select GiO as my interface choice here manually. In fact, GiO's compatibility with MainStage could be one of its biggest selling points. Having a pedal set up for live use with simple switches and that great coloured visual reference will appeal hugely to gigging musicians.



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Below this row, another of five lie in wait, with on/off bypass switches which are principally designed for integration with Logic's PedalBoard plug-ins. Above each of these 'foot-buttons' a bold LED gives you a colour indication of any PedalBoard effects you set up. Step on one of the Bypass buttons and the LED 'mutes' with the plug-in. If you pick up your mouse and re-order your effects, the lights instantly re-order too. By now you're probably thinking 'well, that still means you're spending as much time with the mouse as you are with the interface' and you'd be right. Except, GiO's final two buttons allow you to step to the 'Next' or 'Previous' plug-in preset, so provided you're happy to either step through Logic's own vast library of plug-in possibilities or to spend some time configuring your own, it should pretty quickly be the case that you're free to record, stop, go back to the top and punch in and out the effects you want.

Automation and effects

Provided you've thrown Logic's Automation into one of the 'record' modes like Latch, any stomp pedal on/off action you produce during recording will be written along with your audio. Personally, I'd love it if GiO shipped with one or two rocker pedals attached to its end panels so that as well as recording bypass messages, you could also assign a parameter of choice to a currently selected pedal (wah and volume being obvious examples) and record changes to it in real-time as you recorded audio. The rear-mounted expression pedal option provides access to precisely this level of control but I'd like this by default, please Apogee. More of a pleasant surprise was that, beyond control over the obviously guitar-based effects plug-ins, the 'Previous' and 'Next' buttons let you scroll through the rest of Logic's plug-in presets too.

Here's how it works: If you highlight a Channel Strip preset, these buttons scroll through Logic's lists, thereby changing all effects in your strip, whereas if you highlight a specific plug-in, its own 'personal' preset list will be scrolled through.

This is intuitive and quickly leads to trying out effects in conjunction with your musical ideas, rather than whacking down a recording and then spending endless time flicking through effects possibilities afterwards.

> It provides fuss-free control over things guitarists want when laying tracks in Logic or GarageBand



Summing up

GiO is simple yet effective. It provides fuss-free control over the things guitarists want when laying tracks in Logic or GarageBand or controlling effects in MainStage and with its rugged construction, GiO promises much for the guitar-based Logic Studio or GarageBand based producer either in the studio or on stage.

It won't completely divorce you from your mouse and I'd recommend attaching an expression pedal to take effects control beyond the simple 'on/off' but if your priorities are sound quality, reliability and immediate integration, this could be the answer guitar and Apple-based producers have been looking for. **FM**

FutureMusic VERDICT

BUILD

VALUE

EASE OF USE

VERSATILITY

RESULTS

Should definitely prove a popular choice for guitar- and Apple-based musicians and producers.

SPECS

System Requirements
Computer: Mac, with an Intel or PowerPC G5 processor
Memory: 1 GB minimum of installed RAM, 2 GB recommended
OS: 10.5.7 or greater Apple's GarageBand '09, Logic Pro 9, MainStage 2, Logic Express 9
Connection and Power: USB powered

Unbalanced 1/4" high impedance input

1/4" MIDI Expression pedal

Line-level, 1/4" stereo output for headphones, powered monitors or an instrument amplifier

A/D and D/A conversion @44.1/48kHz, 24-bit

5 Stompbox buttons

5 Transport control buttons

2 Previous/Next preset selection buttons

Dimensions
457 x 180 x 63mm
Weight
2.95kg

ALTERNATIVES



Guitar Rig Kontrol
399 Euros
NI's popular foot controller, interface and amp sim software. More expensive but with an expression pedal as standard.
nativeinstruments.com



Line 6 Pod XT Live
£269
With 100 internal StompBox and Studio Effects, pedal on/off and wah/volume/tweak expression pedal integrated, as well as audio I/O, this is tough to beat.
uk.line6.com



Boss ME-25
£169
Budget Boss multi-FX pedal with phrase looping and amp sims. Not so flexible but no computer required.
bossus.com

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Alesis PalmTrack | £119

Alesis' multi-mic gives performance and price

WHAT IS IT?
Stereo digital recorder with and four-capsule omni patterns

CONTACT
Who: Numark Alesis
Tel: +44 (0)1252 896000
Web: alesis.com

HIGHLIGHTS
1 Ease of use
2 Pocket sized
3 Optional microphone arrays

SPECS
Recording media: SD card, SDHC card
Recording format: 44.1/48kHz, 64–320kbps MP3 and 16/24-bit WAV
Overdubs: None
Connections: 1/8" stereo mini jack line input, 1/8" stereo mini jack mic input, 1/8" stereo mini jack headphone output, USB
Features: Onboard speaker, four onboard mics, MP3 Voice Cancel, Tuner, threaded mounting point
Effects: Bass compensation, Chorus, Pitch Shift, Delay, Reverb
Power: Two AA batteries
Dimensions: 152 x 107 x 25mm
Weight: 143g

The number of portable digital stereo recorders on the market has really grown in the last couple of years. However, the Alesis PalmTrack is slightly different from the norm as it boasts four onboard microphones and is designed to record stereo or four-capsule omni audio in any location. You can choose two-mic or four-mic operation, the latter allowing you to place the PalmTrack in the middle of a rehearsal room to capture sound from all around. External mic or line level signals are also accepted and you can hold the PalmTrack in your hand, place it on a flat surface or attach it to a camera tripod or, via an adapter, to a microphone stand.

Operation is very easy – you can be recording within seconds of switching the PalmTrack on, the gain being easily set by a high/low mic gain switch and up and down Record Gain incremental buttons. Onboard processing includes optional vocal enhancement when recording for boosting vocal frequencies and you can treat your recorded audio to bass compensation for reducing the proximity effect in close-miked situations or add chorus, pitch shift, delay or reverb. The PalmTrack has an onboard tuner but is not particularly set up for phrase-training as there is no option for altering audio speed.

However, you can loop audio and there is a voice cancelling function that works on some audio. FM

FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

It's no-nonsense design makes it an ideal 'point and shoot' stereo recorder at a great price.

Korg Sound on Sound | £234

With infinite overdubs and amp sims too

WHAT IS IT?
Portable stereo digital recorder with infinite overdubbing capacity

CONTACT
Who: Korg UK
Tel: +44 (0)1908 857100
Web: korg.co.uk

HIGHLIGHTS
1 Unlimited overdubs
2 Dedicated guitar input
3 Onboard rhythms

SPECS
Recording media: microSD card (512MB-2GB)
Recording format: WAV
Overdubs: Number depends on memory card space
Connections: 1/4" jack guitar input, 1/8" stereo mini jack line input, 1/8" stereo mini jack mic input, 1/8" stereo mini jack headphone output
Effects: 100 – Guitar (36), Mic (25), Master (30), Touchscreen effects (9)
Power requirements: 2 AA batteries
Other Features: onboard speaker, tuner, 50 onboard Rhythms
Dimensions: 132 x 69 x 33mm
Weight: 182g

While the Korg Sound on Sound Unlimited Track Recorder (SOS) can record stereo audio in any location like the rest of the hand-helds on the market, it supports overdubs – as many overdubs as you like, in fact – the amount only limited by its memory capacity. With a wedge shape that makes it convenient for placing on a tabletop, the SOS can record through its internal mics but can also take external mic or line signals or the output from a guitar.

Guitarists can in fact benefit from an onboard tuner and a range of amp sims (just some of a wide range of onboard effects) to transform their sound. The SOS even comes equipped with 50 onboard rhythms and facilities to loop audio and slow it down without changing pitch, so can be put to use as a practice aid and phrase-trainer. In fact, tt's hard to think of a useful musical feature that they haven't squeezed inside!

Perhaps best of all each overdub is recorded as a separate WAV file and the whole lot can be transferred to a DAW as separate tracks – all automatically lined up with the correct start and end points, if the DAW supports the BWF format.

It's rather complex to use (and baffling if you were expecting a straight up 'recorder') and there's no USB (so you'll need to use a card reader to transfer audio) but these are small flaws in an amazing bit of kit. FM

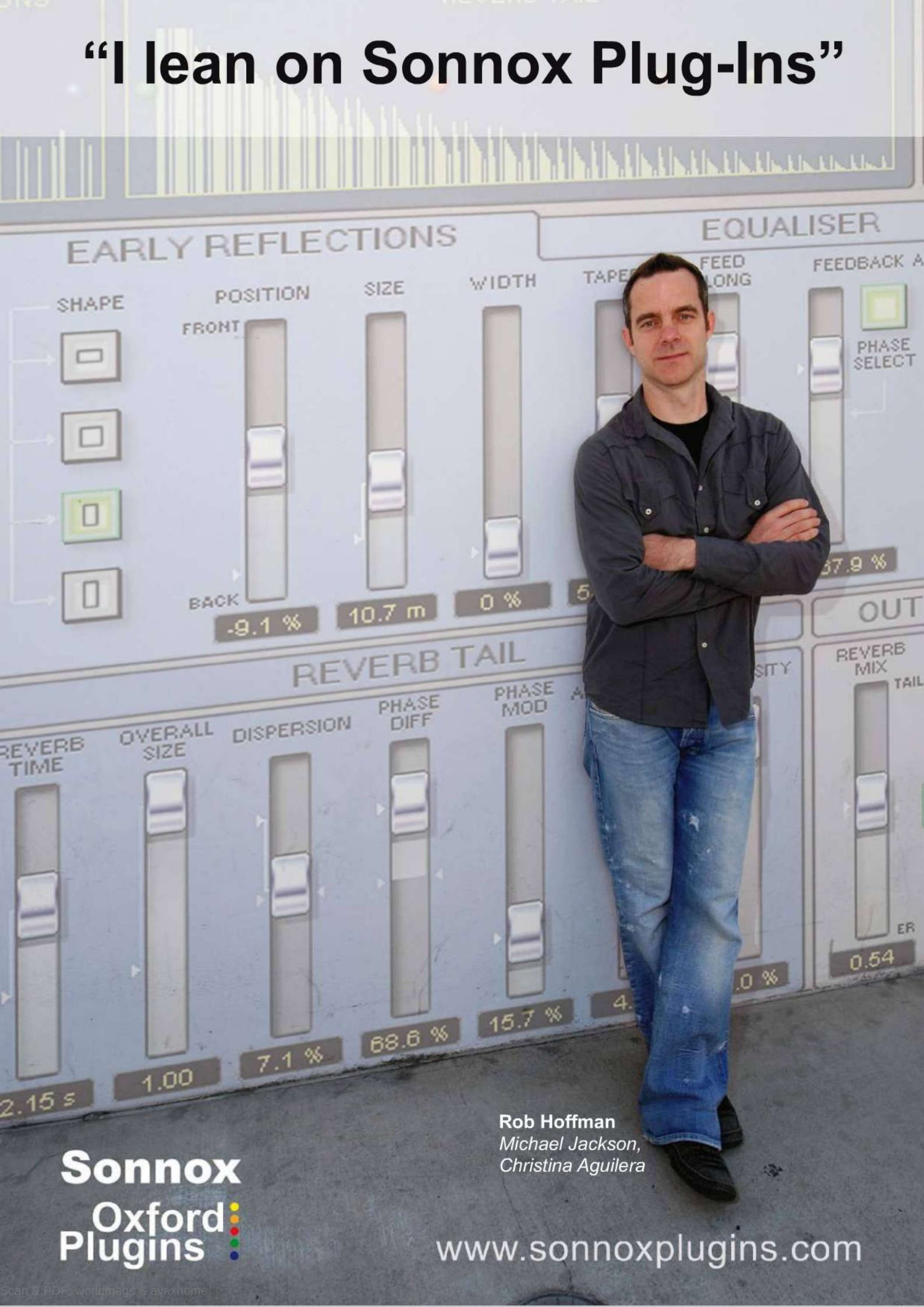
FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

The Korg Sound on Sound is likely to become a must-have utility item for many musicians.

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“I lean on Sonnox Plug-Ins”



Rob Hoffman
Michael Jackson,
Christina Aguilera

Sonnox
Oxford
Plugins

www.sonnoxplugins.com

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SPECS

Response: 25Hz to 20kHz
Sensitivity: 18mV/Pa
Polar patterns: 9 positions from omni to figure 8
Impedance: <200 Ohms
Equivalent Noise Level: 18dB (A-weighted)
Max SPL: 134dB (0.5% THD at 1kHz)
Dimensions:
250 x 755mm
Weight:
1.3kg

Avantone BV-1 Valve Mic | £1,056

Avantone's new BV-1 mic could be just what you need for your BVs. ***Jon Musgrave*** fires it up

WHAT IS IT?

Multi-pattern valve condenser microphone

CONTACT

Who: SCV London
Tel: +44 (0)20 8418 1470
Web: scvlondon.com

HIGHLIGHTS

1 Beautifully made and good-looking mic
2 Flexible multi-pattern design
3 Lovely rich sound

Avantone have carved out a niche for affordable mics ranging from ribbons to large capsule condensers, and with all mics getting the once-over in the US prior to shipping, quality is excellent. So by their standards, the BV-1 multi-pattern valve condenser marks a bit of departure, not only because it's quite pricey, but also because final assembly is done in the United States.

Given these facts it's perhaps fitting that it arrives in a Fender-esque tweed case. And with the inside sporting a deep red furry guitar case style lining, you've got to hand to them – overall this really looks the business.

The mic and power supply are finished in the same gloss buttercream colour and both the mic box and the mic itself are stamped with the serial number. As you'll have spotted the BV is a lollipop style, and includes an integrated pop shield that screws neatly into the neck section.

The capsule itself is a dual diaphragm edge-tapped design mounted on four isolators behind a large twin-layer grill, and a nine-position notched knob on the PSU handles pattern selection.

Further features include body-mounted pad and low-cut filter (10dB and 6dB / octave at 80Hz respectively) and you also get a quality Gotham multi-core cable. Finally, the mic includes a US-made CineMag output transformer and a Russian-made 6072A low-noise valve.

Nice threads

Multi-pattern mics offer plenty of flexibility but also a bit of headache when it comes to spec, so maybe it's no surprise there are no response charts included. In the central cardioid setting, my first impressions are that the BV-1 isn't excessively bright, and I'm really sensing a solid, gutsy low mid-range with plenty of proximity on vocals.

Switch right to omni mode and you get a real sense of the mic's natural tone. But for me the best setting is the slightly wider cardioid settings either one or two notches towards omni, as these reduce the proximity and nasal nature slightly. If your room acoustics and isolation considerations allow it, this has to be the way to go with the BV-1. In terms of sensitivity, the BV-1 delivers 18mV/Pa, and I certainly noticed my mic gain drifting up for acoustic guitar (which sounded lovely and rounded). Also the 18dB noise figure isn't amazing but not rare for a valve deign.

Caveats

Without a doubt the BV-1 is one on the best-presented mics I have ever tried, and when you consider the price, that's quite a complement. However, there are a few things that did bug me. Firstly, although it looks cool, the pop shield sits too close to the capsule and you can't adjust it, so for me this would stay in the box. Secondly, in an ideal world, I'd want a longer multi-core so I could get the PSU out of the way. Thirdly, this mic is heavy (1.3kg) and needs a strong mic stand, so bear that in mind. Finally, both the cradle and the pop shield give off resonant rings when you tap them. Not the end of the world, but worth knowing before you ruin a perfect take.

These points aside, the BV-1 is really rather nice and should deliver plenty of trouble free service while making your studio look more stylish. FM

FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

The BV-1 is a very stylish mic. It's not cheap, but the price is reasonable given what's included.

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SPECS

PC: VST

Mac: VST / AU Intel only. There is no PPC version.

Pitch Shifting: algorithms: Vintage, Clean, and Granular

Buffer Size Control: P1 (Vintage) and P2 (Clean) algorithms from 32 to 2048 samples

Delay: Time – 0 to 1999ms or BPM Sync 1/32 to 1/1

LFOs: 2

Speed: 0.01Hz to 14Hz or BPM Sync 1/32 to 1/1

LFO Destinations: delay time, pitch shift amount, and filter centre frequency

True Stereo Operation

MIDI Note Control: Six octaves of pitch-shifting from MIDI note input

Full MIDI Learn



Audio Damage Discord 3 | $60

Forget those transparent trans-posers, ***Marc '01'*** gets discordant with the pitch-shifter from hell

ON THE DVD

WHAT IS IT?

Multi-effect plug-in featuring stereo delays, filters and three types of pitch-shifting.

CONTACT

Who: Audio Damage
Web: audiodamage.com

HIGHLIGHTS

1 Granular algorithm for special effects
2 Authentic '80s-style pitching
3 Dancing GUI eyecandy

PRICING

Upgrade from V2
$10

Like most plug-ins from the Audio Damage lab, Discord is designed for creative experimentation and is well capable of mangling a sound way beyond recognition. Version three updates the original concept with new pitch-shifting modes, a variable band-pass filter and a brand new animated GUI. The GUI update is not just a cosmetic improvement, it's made programming easier and more accurate than previous versions by implementing a 'grab the number and scroll' technique. This is especially helpful for making accurate adjustments to the amount of pitch shift or when setting the delay time in ms.

Shifty geezer

At the heart of the machine is a true stereo, pitch-shifter with three distinct algorithms, kind of like the past, present and future of pitch-shifters. The P1 'Vintage' is modelled on the Eventide H910 and H949, while P2 'Clean' represents the modern sound and the third is Granular – which opens the way to another world of textures entirely.

Spiral galaxy

Next in line is a pair of delays, one each for the left and right channels. Each side has its own independent set of controls for delay time, feedback and cross feedback. The delay time ranges from zero to two seconds and it can also be programmed in sync mode offering speeds between 1/1 and 1/32 with triplets and dotted notes.

The clever bit happens when the delay line feeds back into the pitch shifter. This makes each repeat shift up or down by the same amount again, sending the pitch spiralling up or down the way. This can spin right out of control with high shift and feedback settings, and create some awesome splattering and grainy tones.

The third effect block in the chain is a band-pass filter with controls for cutoff and resonance/width. This helps shape the sound to fit in the mix and the cutoff can be modulated via the dedicated LFO.

The sum of the parts

As multi-effect units go, Discord has a unique sound largely owing to its characterful pitch algorithms that alter the basic tone in interesting ways. The delay and filter sections are really useable and work really well when feeding back into the pitch section. This makes it great for simple things like subtle double tracking for vocals through to wide wobbly chorusing. With longer delay times it's easy to dial up cool underwater Dub-tek echoes, and weird granular twists that can be animated and take on a life of their own through the LFO.

The pitch shifting is not scale based, chances are after the initial delay repeat harmonic material will start to take on a more discordant nature – think along the lines of cinematic eeriness and Stockhausen clangs and you'll be in the ballpark.

One thing I would like to see is more panning options, besides the straight stereo spread. It would be nice to be able to pan the channels using the LFO, though I'm told there will be some improvements to this in the next update. If you already own Discord 1 or 2, this is a must have update which expands the palate and makes programming slicker and quicker all for $10. At the regular $60 asking price, it's still good value, and is highly recommended for everyone looking for a unique sound mangling tool for their creative arsenal. FM

FutureMusic VERDICT

STABILITY
VALUE
EASE OF USE
VERSATILITY
RESULTS

Another fantastic sound mangler from Audio Damage that wont hurt your wallet.

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SPL Frontliner Model 2800 | £1,644

SPL's new Frontliner becomes their flagship recording channel strip. ***Jono Buchanan*** discovers there are no cuts in these front-line services…

ON THE DVD

WHAT IS IT?

SPL's new flagship recording channel strip providing a flexible, modular approach to studio tracking

CONTACT

Who: The Audio Professionals
Tel: +44 (0)1923 693770
Web: sound performancelab.com

HIGHLIGHTS

1 Warm, deep tone
2 Modular I/O
3 Harmonic distortion

SPECS

Dynamic range (unweighted)
Channel strip: 110dB
Channel strip: 112dB
Microphone preamplifier (@ 30adB): 110dB

Total harmonic distortion:
Microphone pre: 0,03
Compressor: 0,007

Frequency range:
Channel strip: 10Hz to 50kHz
Microphone preamplifier: <10Hz to 50kHz
Compressor: <10Hz to 180kHz
Equaliser: <10Hz to 60kHz

Dimensions
482 x 261 x 88mm

Weight
5.7kg

SPL have been busy of late, announcing no less than four new products at Musikmesse earlier this year. Among these is Frontliner, a new top-end channel strip to head up a couple of already impressive strips in their product range. Outwardly, Frontliner seems a channel strip like many others with a signal path which takes in a preamp, compression, EQ, de-essing and tube saturation, yet the big trick up Frontliner's sleeve is that each module can be accessed via independent I/O which means that as well as its capabilities as a tracking device for vocals and instruments, it also has a role to play at the mix and even mastering stages.

Front facing

The front panel features dials for these separate modules, which are clearly labelled from left to right with, lastly, the External In/Output sections. The preamp contains buttons to enable phantom power, phase invert, high pass filter and a pad, while Mic Gain can be dialed in from 0 to 68dB. If you're using an Instrument input instead, this can be plugged directly into the front panel, with a +15dB Tube button providing initial warmth.

The De-Esser has an 'on' button and thereafter sibilance is reduced simply via a dial – there's no way to select exactly which frequencies to de-ess, though SPL's phase cancellation technology which lies at the heart of this process is wonderfully effective and musical. The compression section features attack, release, ratio and gain make-up dials, while the EQ section features sweepable low and mid frequency sections with cut/boost and generously wide frequency selection knobs.

Tube saturation

The 'Air Band' speaks for itself, allowing you to dial in or out some detail from the top end and this is accessed via its own on/off switch.

The level of Tube Saturation is provided via a percentage dial, with the warmth of Frontliner becoming all too apparent as you travel from 0 to 100%. A VU meter keeps you in touch with levels and its display can be switched from output level to gain reduction via a toggle switch.

Use me

In use, this unit screams quality from the moment you plug it in. The sound is warm and, dare I say it, 'expensive' from the off and as you punch in the modules you want during tracking, you can really hone a sound before committing it to your DAW. A touch disappointingly, there's no digital I/O as standard. However, SPL's own A/D conversion board can be added for a little over £100 and I'm sure some purists will see it as an advantage that a truly analogue channel remains analogue to the end, without having to add the complexity of conversion and the sheer quality of audio provided here should convince any sceptics.

What I like so much is that having used Frontliner as a tracking device, you can then re-patch at the mix stage so that, for example, your lead vocal could access the de-esser, your bass the compressor and, say, your lead guitar the EQ or Tube Saturation stages, making this a much more versatile unit than your average strip.

However, the sheer quality will be its chief selling point and it doesn't disappoint – Frontliner produces a sumptuously warm tone which will add depth, colour and character to anything you throw its way. I want one! FM

FutureMusic VERDICT

BUILD
VALUE
EASE OF USE
VERSATILITY
RESULTS

A flexible, hybrid, modular channel strip from SPL with a sound and tone to die for.

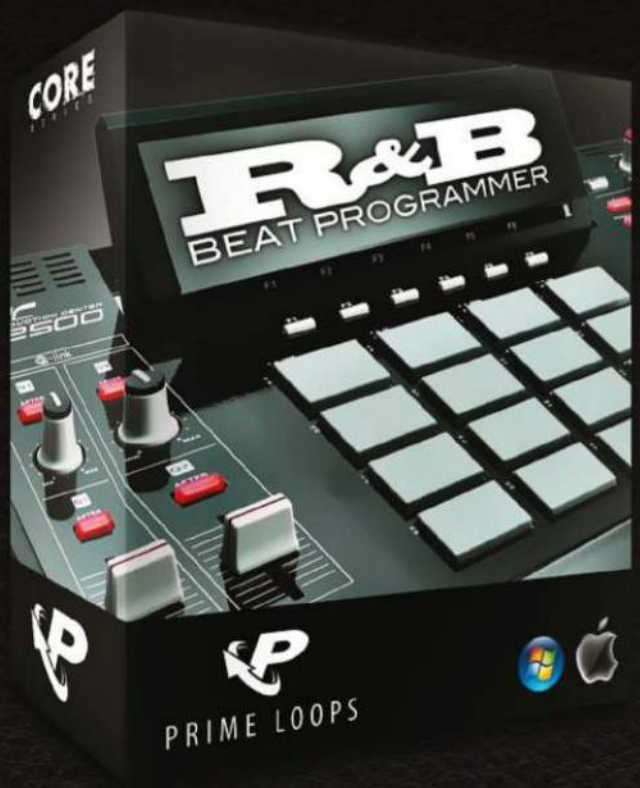


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PRIME LOOPS

WE'RE IN THE MIX

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Mini Reviews

The latest musical bits and pieces racked and rated



Far Out Labs ProRemote | £60

A 32-channel wireless DAW control surface on your iPad is nothing to be sniffed at but ProRemote doesn't come cheap. Thanks to the Mackie Control Protocol, it plays nicely with Logic, Ableton Live and Pro Tools, giving you touch-sensitive faders, transport controls and MIDI pads, plus plenty more.

This kind of control would normally require some serious hardware, and Far Out Labs claim that ProRemote is like having four of Mackie's £1,300 Control Universal Pro units "but better"! At a lower price it'd be a no-brainer, so we recommend the Light Edition, which only offers eight channels but comes in at a more wallet-friendly £12. ***Greg Scarth***

8/10

IK Multimedia GrooveMaker | £6

If your main priority is to get started making music quickly, GrooveMaker iPad fits the bill. Available with ready-loaded House, Hip Hop or Drum 'n' Bass loop packs plus more available to download online, GrooveMaker makes it easy to put together songs, build arrangements and mix tracks live. The bundled samples are good quality and it's a fun way of getting instant results with loops. It's definitely worth checking out the free demo version on iTunes. ***Greg Scarth***

7/10

Kingston 128GB V+ Series SSD Upgrade Kit | £250

kingston.com



The cost and relatively small data capacity of solid state drives has made their uptake pretty slow, but as that gradually changes they're beginning to gain more interest. This kit from Kingston makes the process of replacing a noisy hot laptop drive a cinch. In the box there's an external USB caddy, back-up software and 3.5-inch converter brackets and leads (in case you want to mount the SSD in a desktop machine).

Fitting the drive was a breeze and because of the included caddy, our old grindy hotbox that the SSD replaced could be demoted to a useful portable USB drive – great! Booting Windows 7, or waking it from sleep with an SSD drive is insanely fast thanks to its lack of moving parts and the silence is almost eerie, with the laptop running much cooler during normal use. All applications load so much faster and loading projects in Cubase and Ableton with sample libraries and multiple plug-ins was massively improved. As an upgrade to a laptop, it's a significant and noticeable improvement, but a 128GB drive for £250 still makes this a luxury for most people. I have no complaints whatsoever about the actual product, but it's still a little too expensive to whole heartedly recommend. ***Chris Barker***

8/10



Sennheiser HD650 | £390

sennheiser.com

Championed by Tocadisco in *FM217* and rumoured to be used regularly by David Guetta and Eric Prydz, the Sennheiser HD650s are as open as headphones get, with large grilles on the outside of their huge expensive-looking earpieces.

Slip them on and the audio experience is almost flawless. The mids are crisp and controlled while the high end is airy and accurate, a combination so hard to find on headphones. Their open nature means the low end is rounded but quite transparent, and certainly wouldn't be suitable for sub bass mixing. But being open also means the stereo field is impressively vast. I would have no problems mixing from start to finish on these – with a quick monitor check at the end for very low bass – they really are that trustworthy and pleasing to listen to. As ever open phone leakage is huge here so you're going to 'treat' anyone sat nearby. These are strictly for the buss, not the bus. *Declan McGlynn*

9/10

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Kings of The South: Dirty Crunk Kits | £65

timespace.com



The never-ending flood of Crunk sample packages continues with this release from the reliable sample masters at Big Fish Audio.

Separated into 40 construction kits, the 24-bit samples don't stray too far from the tried and tested Crunk formulas, but everything here is produced to a high standard and could easily be used as the basis for your own tracks.

In addition to the separate drum, synth and bass loops, you'll also find individual drum hits for creating your own beats. Acidized WAV, Apple Loops, AIFF, REX2 and RMX formats are included. Not essential, but a solid package.

Greg Scarth

7/10

Driven Machine Drums | $77

drivenmachinedrums.com



Fed up of weak drum hits, Nathaniel Shreve set out to create the ultimate drum package by taking high quality samples and adding a subtle hint of compression and harmonic distortion to help the sounds gel together perfectly. The gear list alone gives you a good idea of what to expect.

Drum machines including Roland, Oberheim, E-mu, Elektron and Vermona classics were processed through top quality outboard from the likes of Neve, Moog and Thermionic Culture. The result is a collection of 1,684 consistently excellent 24-bit samples which would suit any genre. For an extra $10, the deluxe package also includes instruments for Kontakt, EXS-24, NN-XT and Structure. Outstanding.

Greg Scarth

10/10

Drums: Saturated | £7

nodoughmusic.com



Relative newcomers to the sample scene, Manchester-based No Dough Music have started to make a name for themselves thanks to a series of solid releases at excellent prices.

This new collection focuses on hard-hitting saturated drum sounds, including kicks, snares, claps, hats, bongos, percussion and tones. With just over 300 samples supplied in 24-bit WAV format it isn't the biggest pack in the world but the quality is generally very high and although No Dough generally focus on Techno and House, these samples should fit well into most Electronic production styles. Currently on sale at just £6.99, this one's well worth a look.

Greg Scarth

8/10

Liquid Drum & Bass Vol 2 | £25

producerloops.com



We've been impressed by just about all of Producer Loops' most recent output, and this follow up to the excellent Liquid Drum & Bass collection from earlier this year doesn't disappoint. Again, all the loops are at 177bpm and the sounds are generally very versatile.

The full package is well priced at £24.95, but if you don't need the lot, Producer Loops are also offering five smaller Pick 'n' Mix packs of the same content for just £7.95 each. As usual, all the major formats are available and the sound quality is second to none. Great stuff. *Greg Scarth*

8/10

A Guy Called Gerald – Deep Techno Sessions | £35

loopmasters.com



AGCG (Gerald Simpson to his nearest and dearest) has delivered a new pack of atmos, bass loops, chord progressions and drum loops. I often question the difference between a batch of samples by a 'big name' and one with an unknown. In this case the 'big name' has delivered the goods in a nod-worthy fashion. Some of the drum loops are truly awesome and I'll be filing them away quicker than you can say "The sounds herein contain patterns that create specific air movement sequence in earth atmosphere used at the correct pressure. The sounds will transport you to the groove simulator first level: the holographic key to die hold activation." And that's from the mouth of Gerald himself!

All the usual samplers catered for as you've come to expect. My top choice of edgy soundscapey retro-progressive twisty Techno collection of the month.

Roger Watson

9/10

Deep House Synths and Stabs | £13

soundstosample.com



If you like your synths smoked and leaning on the lo-fi side of the ballpark, then this one could be right down your street. 250 one shots and 128 loops as well as MIDI files for your tweaking pleasure rock in at 242MB with all 24-bits in place.

Sounds to Sample have dusted off the Junos, tuned up the FM synths and left no Rhodes unwarped to bring you a collection full of, as the title states – Deep House Synths and Stabs. Chords are ready to be loaded into the sampler and the availability of the MIDI files is a big plus in my book. Another gem from S2S. *Roger Watson*

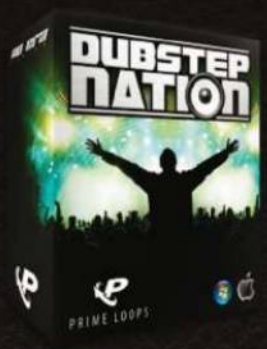
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Q&A

Our panel of experts answer your music-making questions, from hardware issues to software ideas, with tips and tricks along the way

Game Boy for music

Derek Barnes asks:

Q After reading your brief history of chiptune in *FM228* I've been inspired to have a go at making some 8-bit music myself, but I want to be totally authentic and use some original hardware. Specifically, I want to do it on a Game Boy, as this will keep things portable.

What I want to know is: which model of Game Boy should I choose, which software should I get (you mentioned Little Sound DJ but is there anything else?) and how do I get the software running? Does it just come on a cartridge of its own?

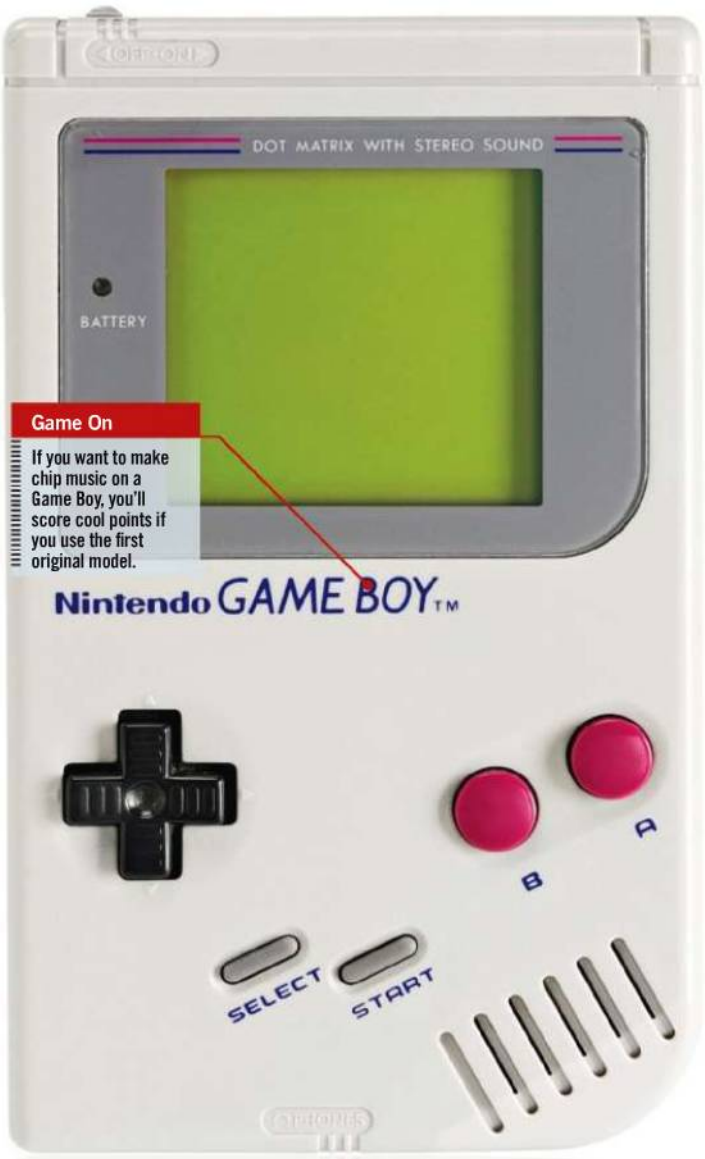
Mark Gyver replies:

A The Game Boy is an excellent choice for anyone who wants to dip their toe in the bleepy waters of chiptune, and if you want to be properly old-school, the original 'brick' model is the one to go for. This one looks properly '80s, and chip music purists will tell you that it has the grittiest and best sound, too. You should be able to pick one up on eBay for just a few pounds.

When it comes to software, Little Sound DJ is a very popular choice, though its tracker-style interface might take some getting used to if you're coming from a traditional PC/Mac DAW background. An alternative is Nanoloop, which works more like a step sequencer, so might be more to your taste.

Nanoloop 1.5, which works on the original Game Boy, comes on a cartridge and costs 58 Euros. There's also Nanoloop 2.3, which also comes on a cartridge and is designed specifically for the Game Boy Advance (it also works on the DS). This costs 65 Euros (nanoloop.com).

Using Little Sound DJ isn't quite as simple: it doesn't come on a cartridge, but you can buy the ROM image file for $2 (plus a donation of what you think it's worth). This can be run on a PC or Mac Game Boy emulator so you can try it on there first – if you want to run it on your Game Boy it's recommended that you buy a backup cartridge with a USB port on it so that files can easily be transferred. The BleepBloop USB cartridge is one of the most popular and costs $70 (it's available at nonelectronics.com).



Game On

If you want to make chip music on a Game Boy, you'll score cool points if you use the first original model.

THE EXPERTS

Mark Gyver
computer music expert



With 15 years of music production experience, Mark knows everything (and more) about the current and classic software market.

Doug Kraul
technology author



Doug Kraul is an electronics and computer industry innovator, who has designed analogue modular synthesizers and MIDI devices.

Dan Goldman
artist/producer



Aka JD73, Dan is a session keyboardist, producer and remixer, specialising in vintage gear, mixing and production techniques.

To send in your queries you can email us at futuremusic@futurenet.co.uk and we'll pass them on to the relevant expert. Or write to *Future Music* Q&A, 30 Monmouth Street, Bath BA1 2BW

Mastering online

Sylvain LeBlanc asks:

Q I'm just finishing up my first album and would like to get it professionally mastered. Do you think it's best to attend the session or just get the mastering done online? Are there any advantages to going to London to attend or do you think this is a bad idea? Thanks.

Dan Goldman replies:

A From personal experience, attending mastering sessions isn't necessarily the best option. You may not get on with the mastering

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Poly Synth Options

Steve Simberg asks:

Q I'm in the market for a new analogue poly synth, but I'm shocked at how few new options there are. From what I can work out it boils down to either DSI synths (either the Poly Evolver, Tetra or Prophet 08) or the Alesis Andromeda. Are there any other options or is this really it?

Dan Goldman replies:

A You aren't really specific about what you're after in terms of features, but there are definitely some second-hand classics that are also worth checking out, including the Roland Juno, JX and Jupiter series' and the Sequential Circuits Prophet 5.

In terms of new analogue poly synths, there are indeed a limited number of choices. The DSI products (Poly Evolver/Tetra/Prophet 08) are solid and well featured, won't break the bank and sound great, though some musicians don't like the 'cleaner' DCO sound, but personally, I think they sound great.

As you've mentioned Alesis have the A6 Andromeda but there are rumours that this has now been discontinued, although it could just be a delay in making or sourcing parts as some have said, so it's best to ring Alesis for the lowdown.

Regardless, the A6 is a beast of a synth that sounds fantastic and would probably fulfil everything you could want in a modern VCO analogue. The other option I can recommend is the Studio Electronics Omega-8, which is a well-featured and super-phat-sounding discrete VCO eight-voice poly in rack form.

Any of the above will be a fantastic option, it just comes down to the features you require and the sound you are after (and what you can afford of course) so check the manufacturers websites for demos and in-depth feature info/pricing.

There's a lack of new analogue poly synths on the market, but DSI offer more than one option

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Chaining FireWire

You can mix FireWire 400 and 800 devices on the same FireWire cable 'chain' but the order of the devices can affect how well they perform!

engineer for a start and this can throw a spanner in the works from the offset! Next up, it takes a long time to get to know the sound of a room. The ME will know his room well but you probably won't, so you may end up requesting changes that aren't necessarily the best for you record, although you may think they are!

The third major factor is that as tempting as it is to get involved in the mastering, the biggest benefit is to have a fresh set of ears and leave the ME to get on with the mastering without interruption. I'm sure it annoys MEs when the client is constantly piping up with ideas and in the end I think you'll end up with better masters if the ME is left to concentrate on the task in hand.

Of course, there are upsides to attending. If you know the room already and the ME is very receptive and knows the sound you're after then it can work out very well. However, the online services have many benefits. They are cheaper, you still get the best engineers and you can get a better perspective on your tracks in your own familiar listening environment than if you'd been in an intense mastering session where you aren't sure whether things are actually being improved or not.

Will FW400 and FW800 devices work together?

Fredrick Dee asks:

Q I have a ProFire 2626 FireWire soundcard (FW400) and an external FW800 hard drive I use to stream samples. However, my new iMac only has a FW800 connector. Will these bits work together, and how do I go about connecting it up?

Doug Kraul replies:

A You can mix FW400 and FW800 devices on the same FireWire network if you follow some basic rules, and appreciate the implications. FW800 and FW400 cables carry the same signals – the difference is that the FW800 can handle data at the higher speed when the path between the sender and receiver only passes through FW800 capable devices. If a single FW400 device is between two FW800 devices then the maximum speed is throttled by the slower device. For this reason it's best to segregate FW800 and FW400 devices whenever possible.

Since your iMac only offers a FW800 connection, directly connect your hard drive FW800 port to the iMac. Next connect your soundcard to the second FW800 connector on your

Sine Out

Sam Jorge asks:

Q I have a [Chorma] Polaris, a vintage analogue synth from Rhodes. I'd like to make some sine wave-based patches. Unfortunately, the Polaris oscillators only have square and sawtooth options. What should I do?

Doug Kraul replies:

A Sawtooth, triangle, and square waves are made up of a fundamental frequency waveform plus various harmonics of that fundamental. The fundamental and its harmonics are sinusoidal waveforms. In other words these waveforms are nothing more than sine waves mixed together. The sawtooth contains all harmonics. Their relative amplitude compared to the fundamental decreases as the harmonic number increase. The relationship is easy to remember: the nth harmonic is 1/nth the amplitude of the fundamental. For example the second harmonic is one-half the amplitude of the fundamental.

The square and triangle waveform lack even harmonics (two, four, six...). Like the sawtooth, the harmonics decrease in amplitude as the harmonic number increases. The difference between the square and triangle is how quickly the harmonics drop: the square harmonic amplitude decrease as 1/nth, just like the sawtooth. The triangle exhibits a sharper decline in harmonic amplitude, 1/n times 1/n. The third harmonic therefore has an amplitude of 1/9th. One way to achieve a sine wave is to use a lowpass filter to remove harmonic components except the fundamental. The best starting waveform is the triangle. Its most prominent harmonic, the third, is well reduced. Only use the sawtooth if you've no other option, but don't expect a pure sine sound.

The same techniques can be applied to hardware and software synthesizers.



1 Start by selecting a triangle or square waveform. If the synth only has a square waveform adjust its pulse width to 50%. Select a lowpass filter (four pole or better preferred) and set all filter cutoff modulation to zero. Locate filter keyboard tracking and adjust it to 100%.



2 Start with maximum cutoff then reduce it until you only hear the fundamental. To help locate the fundamental, temporarily turn resonance up and listen for a dramatic increase in the fundamental while adjusting cutoff. Return resonance back to zero.



3 Alternatively use filter self-oscillation by setting maximum resonance – the oscillation waveform should be nearly a sine wave. Turn oscillators off or set their outputs to zero. If this is not possible, and there's a square wave, use it with pulse width set to 0 or 100%.

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hard drive using a FW800 to FW400 converter cable. Any other FW400 devices should be placed somewhere after the last FW800 device.

This setup will provide full use of the extra FW800 data bandwidth for hard drive operations. The soundcard will use FW400 for all of its transfers. Unless one of the devices has a subtle compatibility issue, this will provide the best use of your iMac's FireWire capabilities.

Keep in mind that FireWire audio transfers are broadcast to every other FireWire device. This means that when your soundcard is sending or receiving data the entire FireWire system is operating at FW400 speed. If your soundcard channel count and operating sample rate consumes 50% of the FW400 data bandwidth, then half of the time the FW800 link to the hard drives will be occupied with the audio data to and from the soundcard. The remaining 50% of the time will be available for hard drive transfers at FW800 speed.

This is a common situation when using a multiple input and output soundcard at 96kHz. If you really need FW800 hard drive performance your computer will need a second FireWire interface card, which unfortunately, is something all-in-one computers like the Apple iMac cannot accommodate.

Original presets

Anna Venna asks:

Q When I'm using effects on my tracks, I often turn to presets. I would like to make my own sounds but I don't know where to start, as I'm a beginner to producing. What's the best way of learning?

Doug Kraul replies:

A I would recommend taking a mostly hands-on approach to learning. Here are some tips:

Concentrate on one effect at a time. First study its manual, then seek out applicable effects articles in *FM* and other sources. Try each preset with different sound sources to gauge its capabilities. Study how these presets are put together and try to understand how they affect your sound.

Perform exercises to construct your own presets. Begin by modifying existing ones but strive to 'start from scratch'. Normally you will want to do these exercises outside an actual project using simple loops and other sounds as source material.

Pay attention to mentions in *FM* and in online forums how others use a similar effect. Try to replicate their technique then use it as a take-off point for further experiments.

Get a DAW on a USB Stick

Tim Harrison asks:

Q The company I work for has given me a PC laptop, but the problem (from my perspective) is that I can't install any software on it. My intention was to put a DAW on there so that I could do some music during my lunch hour and on the train, but this isn't possible. So, I was wondering: are there any DAWs that I can install to a USB stick and run from there? If there are, I could just keep that in my pocket and plug it in when it's required.

Mark Gyver replies:

A I'd recommend you take a look at Cockos's Reaper. One of the big advantages of this DAW is that it has a very light footprint (the installer is just a few MB, in fact) and it's actually been designed to be installed on and run from a USB stick.

To do this, the first thing you'll need to do is install Reaper on your home PC (I'm assuming you have one). Then, if you go to Start > All Programs > Reaper, you'll be able to select an Install Reaper to USB option – a pop-up window will then guide you through the process of doing this. Although Reaper itself is pretty small, it's worth getting a decent-sized key (2GB or more) so you've got enough space for your plug-ins and project files. Speaking of these, projects can just be dragged and dropped between your USB key and hard disk, meaning that you could continue to work on your home machine.



WAV or MP3 for DJing?

Luke Dobson asks:

Q I'm having a bit of a crisis of confidence about the quality of my music collection – not the songs in it, but their format. Let me explain: I've been DJing for a while at small gigs, but I've got a couple coming up that are on much bigger sound systems. I've suddenly started to worry that my music, which is all encoded as 320kbps MP3s, won't sound good enough on such a big setup and that I really need all my music as CD-quality WAV files. Is this correct, or will I be OK as I am?

Mark Gyver replies:

A There's no getting around the fact that MP3 is a compressed format – the reason it was developed was to provide acceptable audio quality with a much smaller data footprint than CD-quality WAV. However, I really don't think you've got anything to worry about unless you're playing on a huge system: if you were working with 128kbps MP3s then you will be able to hear a difference, but with 320kbps files, I doubt anyone will be able to notably hear the compression.

In fact, I've actually heard some DJs saying that they prefer the sound of MP3s when they're playing Dance music as they can sound a little tougher and more punchy. If you're still concerned, your best bet is to do some blind A/B tests with some mates and ask them if they can hear any significant difference in quality.

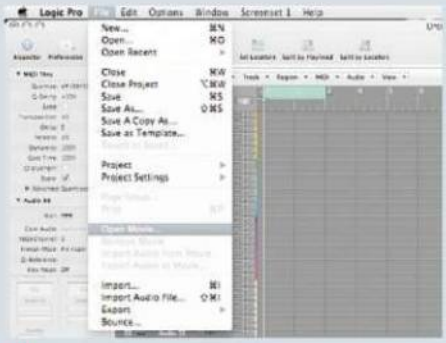
Remember, too, that most people don't go to a club/party to examine the audio fidelity of the music being played – and those that do tend to leave alone.

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Soundtracking in Logic

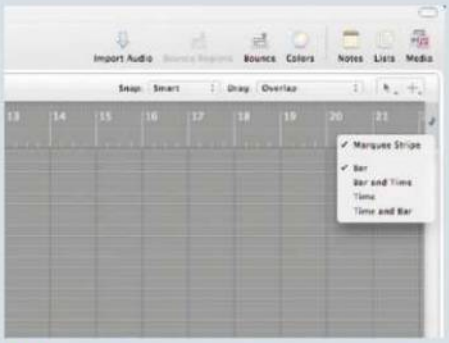
Q **Daniel Thorseby asks: I've been given a brief to add some music to a short movie and it's something I've never done before. Could you explain how to do this in Logic? The file is a QuickTime movie and it's 30 seconds long.**

A **Dan Goldman replies:** No problem here's a six-step walkthrough to get you going. It's pretty easy once you get your head around it and Logic's movie integration is very well thought out on the whole. Let's take a look at how it's done.



1 Open Logic, go to the file menu and select Open Movie. Navigate to your file and click on it to open it.

The movie will open in a new separate window within Logic, however it will open in large format initially so click on the window to minimise it and it will resize itself in the inspector to keep things neat and tidy.



2 Now that the movie is imported into Logic, name and save the Logic file as you would like. If you press play, you'll find that Logic will kick off playing the movie from wherever the playhead is and it will automatically be in sync with Logic's timeline.

If you haven't already set it at this point, click on the musical note in the top right of Logic's arrange and select the 'bar and time option' so that Logic's timeline shows minutes and seconds as well as bars.



3 At this point you're ready to start composing. Check out your brief and look at the video for any specific sounds that are needed such as effects that need to sync up with action in the movie.

It's easy to zoom in on the timeline and add effects at just the right frame in the movie. If you need to resize the movie then just double-click on it in the inspector and it will reopen in a separate window. Place it over a blank bit of your arrange page to keep things neat. Here I've added an explosion sound at 0.01 seconds.



4 Continue working through the track until you have composed your thirty seconds of music. You can now easily sync up effects using the timeline.

Don't forget that if you need to change the tempo of the whole song now, you'll need to realign any specific effects you've lined up with the time line. Here I've notched the tempo up to 145bpm from 100bpm and the explosion sound has slipped out of place so I've had to manually place it back at the right time position.



5 If you're finding it hard to accurately line up effects with the timeline and picture then Logic's Global Track feature has a video bar that shows each frame of the movie enabling you to check that each effect lines up exactly with the picture. Click on the Global Tracks header in the top left of the arrange page and click on the drop-down tab labelled video to reveal the video bar.



6 Finally, once you're happy with your track, you can then embed it within the movie. Go to File > Export Audio To Movie and Logic will render your video, with your soundtrack intact. Once you get the hang of it you'll realise that Logic makes it pretty simple to make high quality audio to movie productions. FM

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> Evolution UC-33
> M-Audio Axiom 49
> microKorg
> Focusrite Liquid Mix
> NI Maschine

Software

> Ableton Live 8
> Absynth 5
> Reaktor 5
> Kore 2
> NI Maschine
> Camel Audio Cameleon5000
> Sonnox Bundles

FAVOURITE GEAR

> "I can't work without my Native Instruments Maschine. I've found it amazing! I use it live and always take it with me."



Menopause (Original Mix)
The Genius

Contact: myspace.com/thegeniusartist

READER DEMO OF THE MONTH

Yes! This track is like an elastic band ball in musical form. It's packed to the rafters with spooky creaks and twangs and the percussion is tight to snapping point. In fact, there's a real sense of tension and space to the track that really sets it apart.

We love the sweet, real-sounding, metallic hi-hats and the warm bass throughout here. There's some very nice EQ and the entire spectrum is beautifully filled.

Our only gripe might be a lack of variety as the track boings and pops through its duration. Certainly keeping one or two spot effects for special occasions or dropping to silence from time to time is a well worn weapon that this track could arm itself with.

There's plenty of gear involved in the track but we can certainly hear the familiar solidity of Native Instruments kit on board. When it comes to that Minimal tick and thwack it seems these guys have got it locked!

All in all an interesting and hypnotic experiment that shows that a diverse range of sounds well placed in a mix can sustain enjoyment and excitement. Textbook Hi-Tech House. Send us more!

The Artist



Name: Eugenio Caria
Where: Sardinia Island, Italy
My track: "Minimal with influences from Techno. Very nice for the dancefloor!"

Which bit of this track are you most proud of?

"On this track I like almost all of it! But to be honest, I prefer the groove part and the bassline. The groove was made with Native Instruments Maschine and the bassline is Native Instruments Absynth 5."

If we were to give you £5,000 for gear what would you spend it on?

"If I had £5,000 I would buy more hardware and also all the things that I need to obtain a great mastering such as Analogic. As a first choice I would like to buy a couple of compressors like EL8X by Empirical Labs. I really like the sound. I wouldn't mind also having a good equaliser (for example, my favourite is a Manley). Then maybe I'd put my mix inside a Studer to obtain a saturation sound."

What are you working on now?

"At the moment I am concentrated on some remixes and my second project which is called Saffronkeira myspace.com/saffronkeira.

The Best of the Rest...

Always Fun
lingk
soundcloud.com/xlingk



Niiice. This is some super-tight riffage and drum work. But how would its maker Gerald Gaecke describe this track? "It has a nice chord synth that's kind of Trance-style sound and kind of not. The bassline is almost a lead sound with some nice fuzz to it. It's just a real laid back tune to listen to on your way from work to wind down."

Couldn't agree more. We love the synth chord sound that underpins the track. "I used z3ta+ to come up with that," says Gerald. "I have two track lanes with z3ta+ that are at two different octaves and detuned slightly from each other. 10 oscillators going at one time, crazy I know... The higher octave z3ta+ has a redux on it before it goes to the effects buss. The effect buss has a sidechain compressor to EQ to Compressor to Waves VEQ3 to Waves VCompressor 3." We're impressed.

"My next major gear investment would be to probably get a new notebook, one that I can use for music 100%. Then I'd like a Moog Little Phatty, a Doepfer Dark Energy and probably a few Moogerfoogers. And a Motu AU or DAC." That's a nicely thought out set. "I just finished a minimal track called *Nu Tek* and I'm working on a new track that is kind of minimal and kind of like Always Fun." Make sure you send it!

Neon Jungle
Otaku No Denki
myspace.com/otakumusic



"This track is Tron meets Wagner," says its maker, Jon Hudson. We kind of

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know what he means, this is a frantic and compact little tune with big ideas. The grandiose dome of reverb over certain sounds is massively contrasted with the tiny, tight ticking of the Chiptune drums.

"My favourite thing about the track is that it was programmed from start to finish almost all in one session. We spent about three or four hours on it and we never bothered editing anything afterwards because we loved the way it flowed. Also, we like the melodies a lot. I think we did a decent job of keeping the track interesting throughout. It's a melodic electronic adventure!"

If we had one thing to say it would be to wish that the track used a little more of the stereo space. There's a lot going on there and by piling it all up centre stage it's like it's really burrowing into your brain! Taking a few key sounds (or even random hits) and throwing them hard left and right would give your mix more space and let the listener better pick out your unusual choice of sounds.

That said this is among the more interesting of this month's demos.

I Wanna Be
Demoe Beats

myspace.com/demoebeats_sfnm



A quick glance at our notepad reveals the words 'insanely tinny and crunchy'. Not a great beginning but we love the innate madness in this tune. It's like it doesn't know what's good for it and sticks two fingers up at every turn!

"It's a new approach to Electro with Hip Hop style breaks to give the bass extra emphasis, explains its maker Matthew Fischer. "I am most proud of the Electro synth line I dropped at the 1:45 mark. I created it in Ableton Live, working two arpeggiators together with some compressors to create two patterns playing over each other." Slick.

We're hooked on the crazed snippets of vocal and the treatments thereon. There's a wiggly, shuffly House feel underneath somewhere but we can't help thinking that the desire to push the track 'over the edge' mix-wise means that we're not really getting that beat. It's a brave experiment though and we salute you!



SELECTED KIT

Hardware
> Sony VAIO JS PC
> Behringer UMX61 keyboard
> Philips SHP5401 headphones

Software
> Acoustica Mixcraft 4
> reFX Nexus 2
> Mixcraft sample loops

FAVOURITE GEAR

> "The big Nexus sound virtually defines my style. It's so quick and easy to get professional results. As long as you stay clear of its 'one-finger wonders'!"

Don't You Worry
Caspar Von Biergaaarten

Contact: soundcloud.com/caspar-von-biergaaarten

Yes! We love the big swooshy piano. It's like some kind of Harold Faltermyer soundtrack! "I was trying to create a mood piece, highly evocative of the city at night," writes the man with the keys Andrew Thomas. "I wanted it to be quite moving. Even though Nexus is generally regarded as a Dance synth, it has tremendous piano and strings sounds as well, and I think I used those to good effect on the track. The New York street sounds are Mixcraft samples, as is the drum loop."

We love the synth lead sound here and the slightly unhinged tune. There's definitely some tonal rules being broken here (and it's slightly tricky to get your head around) but it's great. "For me, the best bit is when the strings come in. It's a real 'lighters in the air' moment and the emotional high-point of the track."

We're undecided as to the depth and quality of the reverb here. There's certainly an overdose of the stuff but given that it sounds expensive we're going to give you the benefit of the doubt. Bravo, Mr Biergaaarten!

Hot Pick



SELECTED KIT

Hardware
> Dell Inspiron 1300 laptop
> E-mu X-25 MIDI keyboard controller
> Behringer U-Control soundcard

Software
> Sony Acid Pro 7
> TAL Dub Delay 2
> TAL Chorus 60

FAVOURITE GEAR

> "Definitely Acid Pro. Allows me to get ideas going really quickly."







Half Past One
Mistrust

Contact: soundcloud.com/mistrust

Time now for a little intrigue and mystery. Just what is this track all about? Look, man, don't hassle me! Just go with the, flow! Y'dig? We dig.

It's an intriguing and hypnotic rambling and meandering tune that gathers pace and changes mood as it freewheels along apparently under its own steam. The reverby toy piano ties things together and while the guitars at the end feel inevitable they're most welcome and they're introduction is like a special treat for riding along thus far.

But what does its master, Tim Blackburn reckon? "The opening part of the track sounds almost out of tune and like it's not going to work, and then everything comes together. I've had the bare bones of of this tune on my laptop for a while and couldn't quite work out how to give it a big ending. Then along came the guitar samples."

Love the mix. It's very polite and everything is just 'there'. It's a great way to close an album we reckon. Or better still how about a whole concept album of similarly rambling experiments. Sweet.

The Artist



Names: Tim Blackburn
Where: Bolton, UK
This track: "It's definitely a builder! It reminds me of *Nice Weather for Ducks* by Lemon Jelly."

Which part of the track are you most proud of?

"On this track I'm most proud of the mixdown and how the sounds fit together. I'm a bit of a novice on getting sounds to mix properly and sit in their own space. I've done a few remixes for other people recently and this is the first time I've used what I learned from those projects on one of my own tracks."

If we were to give you £5,000 for gear what would you spend it on?

"I really want to do some live work now, so definitely some control surfaces (Kaoss pad/Tenori-on?) that I could do more than just stand behind my laptop. Plus a holiday for my long-suffering wife and kids to say thank you to them for putting up with my long hours on my laptop!"

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High Enough
Mr Vega
rot10musik.com



Nice edgy vocal. It's always nice to hear someone actually going for it and there's so much to be said for making your vocalist really push their range. This sounds all the more funky and credible for it.

Take away the vocal though and it's a very hard to pin down track. "We call it Soulful House meets Bassy Electro," says Joshua Vega. "I'm most proud of the vocal chop drop into the full on bass verse loop. The vocals ended on an odd number of bars so I had to slice the end of the vocal and extend it, put some reverb and delays on it then – BAM! – go right into the heavy bass sound with some squeaky synths on top."

Yup, the edits are great here. We're reminded of cool '80s 12" remixes where the engineer finally got to try out that new sampler he'd bought! That said, some of the Electro chaos is a little too frantic and dense at times. Stripping back to remind us of the tracks heart and purpose would be welcome in a track with such great potential.

I Can't Figure It Out
Loacs Erepams
myspace.com/erepams



Wow. That's one hilariously fat bass but one that on further examination has quite little bottom end. Turn up your low frequencies rather than the gain on your level. "This track is a reflection of my vision, my state of well being after having listened this song. requires that the listener does not detaches of groove, a low bass saturated and a good kick, a pinch of melancholy. It's my way of cooking." Um, right you are Loïc Sempéré, we think we get your drift.

"I build my tracks for them to be played in big room, or great places with a big soundsystem, they take their meaning when they're in group therapy." That bass certainly sounds at its best on a system that can do it justice. "I made it with the Moog Modular 2 by Arturia into my TL Audio Ebony A2 for tube stage saturation and colour. I give it a sidechain compression on the kickdrum and little bit harmonic distortion with SPL twin tube."

Elevate To Levitate
Katchmo
katchmo.co.uk



Speaking of bass... the bass on this track is almost some kind of ghostly presence. It's there but there's no sense of notes or tone. Weird... or is it genius...?

"I would describe this track as Deep Progressive House with a slight Techy feel," says Jamie Mace.

Yes, the Tech element is certainly there but it's the mix that had us a bit confused. There's plenty of crazy tones here but their levels are just a little too extreme. Meanwhile other elements are back in the dark bassment soup. Flatten out your EQ, zero gain everything and mix again to bring out the best in this beguiling, dark and mysterious tune. FM

Hot Pick





SELECTED KIT

Hardware
> Korg microX
> Novation A-Station
> Novation Launchpad
> Evolution UC-33
> Soundlab mixer
> Sony VAIO dual Pentium
> M-Audio Audiophile soundcard

Software
> Ableton Live 8
> Rob Papen SubBoomBass
> PSP Mixpack
> Sylenth
> Brainworx free EQ

FAVOURITE GEAR
> "My Korg microX and SubBoomBass."

Solar Flare
Jess-E
Contact: soundcloud.com/jess-e

This has been quite the month for bass and once again we find ourselves knee-deep in the stuff! Not only is this track heavy and warm it's super wide too.

"The best bit for me is the lead synth sound," says its maker Jessy de Bruijn. "I got that sound using beat repeat and a filter rhythmically LFO'd to a home made and tweaked to death combi-sound on my Korg microX. The bass sound is from a tweaked and delayed patch from my Rob Papen SubBoomBass. Thanks to Rob for a really great plug!"

Yup, this track really shows it off nicely. And on a big system it sounds really fantastic.

"If I had the money I'd get a new soundcard, a new mixer, maybe a more powerful computer and some room treatment." We're sure the neighbours would approve. "Oh, and maybe a cool new synth like the Access Virus TI2 or the Korg Radias." Both come highly recommended and with tracks like this already under your belt, a bit of powerful hardware can only make things even better. Great tune. Thanks for sharing.

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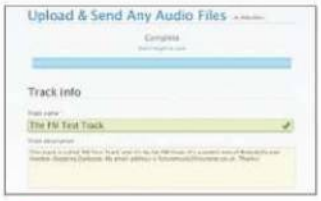
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4 Start work on that bio...
If your track is selected to be featured in the magazine we'll email you and ask you a whole bunch of questions such as your favourite gear, how you got your sound, you know – all the things you see us ask people! We're 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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Mobile recorder
24bit/96kHz, USB interface, record 360° sound as 2 channel data or 4 channel data simultaneously, mic/line input, headphone output, perfect for interviews, podcasts, meetings and live recording, incl. USB cable, stand, power supply, windscreen and 1GB SD card. **Bundle includes additional 4GB SD card.**



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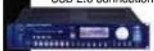
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suitable flightcase — ~~€ 93.-~~ £ 78.-
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Phonic AM 440
Mixer
4 mono mic/line channels with 3-band EQ and low-cut, 48V phantom power, 4 stereo channels, 1 aux (pre-fade), 2-track I/O, RCA jack, ctrl-room out, headphone out, balanced master out, includes power supply.



order code 196369 — ~~€ 69.-~~ £ 58.-

Phonic AM 442D
2 mono mic/line channels: ~~166.-~~ £ 139.-
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Behringer Xenyx X1204 USB
12-channel mixer
4 mic ins, 48V phantompower, lowcut, internal 24bit FX with 16 presets, built-in USB sound card, 2 stereo ins, 3-band EQ, 2 aux, peak LED and mute each channel, XLR main out, internal power supply, incl. 19" rack kit, dimensions HWD: 9,7 x 27 x 32,8cm, weight: 2,8kg, incl. energyXT2.5 Compact music production software for Win XP, Vista (32bit), Mac OSX and Linux.



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Yamaha MG 166cx
16 channel mixer
8x mono mic/line ins (XLR/jack), 2x mic/line ins (XLR/stereo jack), 2x stereo line ins (jack), 3x aux sends, 8x inserts, 3-band EQ with parametric mids, internal compressors per mic channel, SPX FX processor with 16 programs, 18dB high pass filter, high-end mic preamps, 48V phantom power. Dimensions: 47.8 x 10.2 x 48.9cm. Weight: 5.5kg



order code 115511 — ~~€ 358.-~~ £ 299.-

Alesis MultiMix 16 FireWire
16ch. mixer with FireWire interface
8x mic/line ins, 4x balanced stereo line ins, 3-band EQ per channel, 2x aux send/returns, 100x 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, includes Cubase LE.



order code 186079 — ~~€ 398.-~~ £ 332.-

Behringer SX2442FX
24-channel mixing desk
16 XLR mic ins, Xenyx mic preamps, 3-band-EQ, 2 FX processors mit 100 presets, stereo 9-band graphic EQ, FBQ feedback detection system, 4 subgroups, 4 aux per channel, internal power supply.



order code 217454 — ~~€ 455.-~~ £ 380.-

Mackie 1642 VLZ3
Compact 16-channel mixer
8x mono mic/line channels, 2x mic/line stereo channels, 2x stereo channels, 4x subgroups, 4x aux (2x pre/post switchable), XDR2 mic preamps, 60mm faders, 3-band parametric EQ (mono channels), 4-band EQ (stereo channels), 48V phantom power. Dimensions: 42.5 x 13.1 x 42.1cm (WxDxH). Weight: 8.3kg



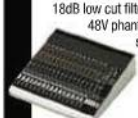
order code 112362 — ~~€ 499.-~~ £ 417.-

Soundcraft FX16 II
16-channel mixing desk
16 mono channels, 4 stereo returns, 3 aux, 19" with inserted Lexicon FX, weight 8,5kg, includes rackmounts.



order code 117908 — ~~€ 711.-~~ £ 594.-

Mackie 1604 VLZ3
16-channel mixing desk
16x mono mic/line XLR/jack ins, 4x stereo aux returns, 6x aux sends, 16x channel inserts, 8x direct outs, 3-band EQ with parametric mids, 18dB low cut filter, PFL, XDR mic preamps, 48V phantom power, internal power supply, 4 subgroups, master insert, balanced jack outputs, includes rack kit. Dimensions: 44.5 x 12.9 x 44cm (HxWxD)



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Yamaha MG 24/14FX
24-channel live mixer
16x mic ins, 4x stereo ins, 2x SPX-quality FX processors, 7-band master EQ, 2x aux sends, 2x stereo returns, 16x inserts, 3-band EQ with parametric mids,18dB low cut filter, 48V phantom power, internal power supply. Dimensions: 82 x 14x 55cm. Weight: 18.5kg



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MG 32/14FX
32 channels — ~~€ 1066.-~~ £ 890.-
order code 161994

Yamaha 01V96 VCM
Digital mixing console
24bit/96kHz, 24 analog inputs, 12x mic inputs, expandable to 40 channels, includes ADAT interface, 4 FX processors, parametric EQ, includes Studio Manager software.



order code 161112 — ~~€ 2368.-~~ £ 1977.-

suitable flightcase — ~~€ 188.-~~ £ 157.-
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€ 46.- £ 38.-
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Kurzweil SP2 XS
88-note digital stage piano
Weighted action keys, 64 voices, split and layering function, 4 keyboard zones, 64 Kurzweil presets (pianos, e-pianos, mallets, strings and voices), 60 rhythm patterns, metronome, 16 user set-ups, four freely assignable knobs, pitch and modulation wheels, effects, USB port, LED display, connection for expression pedal and footswitch, MIDI in/out/thru, internal stereo speaker, weight: 22kg.

€ 859.- £ 550.-
order code 210648

Akai APC 20
Ableton Live USB controller
Exclusive bi-directional communication between the APC 20 and Ableton Live (no mapping required), USB plug-and-play, 40 triggers, 1 rotary control knob, 8 channel faders, 1 bus fader, compatible with PC and Mac, includes Ableton Live Lite Akai APC 20 edition.

€ 179.- £ 149.-
order code 243147

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.

€ 398.- £ 332.-
order code 223229

Doepfer Dark Energy DVD Bundle
Expander
Monophonic stand-alone analog synthesizer with USB and MIDI interface, USB, MIDI input, 4 CV outputs, 1 gate output, external power supply, dimensions WDH: 18,5 x 14,5 x 6,5cm, weight: 1,2kg. **Bundle including german video tutorial DVD „Hands on Synth Sound".**

€ 375.- £ 313.-
order code 245106

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 OSX 10.3.9 and higher.

€ 185.- £ 154.-
order code 235896

Digidesign Mbox 2 Mini
USB audio interface
1x mic in with phantom power, 2x analog line/instrument in, 2x analog out, latency-free monitoring, headphone out, Pro Tools LE software, 37x DigiRack and 7x Bomb Factory plug-ins, Pro Tools Ignition Pack.

€ 266.- £ 222.-
order code 108023

Tascam US-1641
USB 2.0 audio interface
24bit/96kHz, 8x mic/line ins with phantom power and front level meters, 2x balanced line/instrument ins (front), 4x balanced line ins (rear), 4x line outs, monitor out, S/PDIF I/O (switchable to AES/EBU), MIDI I/O. Compatible with Win XP, Vista 32 and Mac OS X (10.4 or higher), includes Steinberg Cubase LE 4. Dimensions: 19"/1U

€ 279.- £ 233.-
order code 138750

SSL Duende PCIe
DSP-powered SSL processing
The legendary sound of SSL with up to 32 channels, SSL EQ and dynamics processing, based on SSL's award-winning C Series mixing consoles, relieves the plug-in processing burden on your computer's CPU. PCI-Express card. Expandable with optional SSL plug-ins for the Duende platform. Supports VST, Audio Unit or RTAS (Digidesign Pro Tools 7 through the use of optional VST-RTAS wrapper) host application.

€ 283.- £ 236.-
order code 209147

M-Audio Fast Track Ultra
USB 2.0 audio interface
24bit/96kHz, 6x analogue inputs & outputs, 2x digital inputs & outputs (S/PDIF), 4 internal preamps, 2 inserts, MIDI I/O, headphone out.

€ 311.- £ 260.-
order code 139990

M-Audio ProFire 610
24bit/192kHz FireWire audio interface
2 preamps, integrated DSP mixer, master volume switch, stand alone operation, powered via FireWire bus or external power supply, 2 headphone outs, MIDI I/O, 2 XLR/TRS combo inputs, 8 line outs, 2 line ins, 2 FireWire ports, S/PDIF I/O, 48V phantom power, compatible with Mac and PC, supports ASIO, WDM, MME, DirectX, Core Audio and Core MIDI.

€ 311.- £ 260.-
order code 217030

Digidesign Mbox 2 Bundle
USB MIDI/audio interface
2x analog ins with with phantom power (XLR/jack), 2x analog outs (jack), SPDIF I/O, MIDI I/O, latency-free monitoring, USB powered, includes Pro Tools LE software (Win XP and Mac OS X), 37 DigiRack- & 7 Bomb Factory plug-ins, Pro Tools Ignition Pack. **Bundle includes the t.bone SC450 studio mic and 6m XLR mic cable.**

€ 389.- £ 325.-
order code 114106

M-Audio ProFire 2626
24bit/192kHz FireWire audio interface
26 analog/digital I/O, ideal for project studios, 8 preamps with Octane™ technology, flexible on-board DSP mixer, user-assignable master volume knob, standalone operation, critically acclaimed jitter elimination, Pro Tools M-Powered compatible, 8 analog mic/line jack in with phantom, 2 instrument ins, 8 analog outs, 2 ADAT I/O's.

€ 399.- £ 333.-
order code 207107

Apogee Duet
FireWire audio interface
24bit/96kHz, 2 channels, Firewire 400 I/O, breakout cable with 2x XLR mic ins, 2x 1/4" jack instrument ins, 2x 1/4" jack monitor outs, multi-segment LED display input and output levels, multi-function controller knob, headphone out, Maestro software for advanced control and low latency mixing, compatible with any Core Audio compliant audio application, compatible with Mac OS X Core Audio.

€ 399.- £ 333.-
order code 122312

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.

€ 435.- £ 363.-
order code 219725

MOTU Ultralite MKIII Hybrid
FireWire and USB audio interface
24bit/192kHz, 2 mic/instrument inps, 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.

€ 468.- £ 391.-
order code 239141

Presonus Firestudio
FireWire audio interface
26 I/O's, 24bit/96kHz, Mac/PC, 8 Class A mic/line inputs, inserts on channels 1 & 2, aux input (stereo jack), 1 stereo main output, 16 ADAT I/O channels, 8 channels @ 96kHz, S/PDIF in/out, MIDI in/out, Wordclock in/out, includes Presonus Studio One Artist recording software.

€ 584.- £ 488.-
order code 109014

RME Fireface UC
USB audio interface
36 channels, 24bit/192kHz AD/DA converter, 48V phantompower, 18x simultaneous I/O, instrument input, 8x analog I/O, ADAT I/O, SPDIF I/O, 2x MIDI I/O, WordClock, intelligent clock control, SyncCheck, SyncAlign, SteadyClock, DIGICheck and TotalMix. Dimensions: 9.5"/1U

€ 859.- £ 717.-
order code 229395

RME Fireface 800
FireWire audio interface
Analog technology of the ADI-8 converters, mic technology of QuadMic and OctaMic. 4x mic ins (XLR & jack), 8x analog ins & outs, headphone out, 2x ADAT I/O, SPDIF I/O, Wordclock I/O, MIDI I/O, seperate instrument in, 2x FireWire 800 plus 1x FireWire 400 connector, includes TotalMix mixing software.

€ 1169.- £ 976.-
order code 171210

Apogee Ensemble
8-channel FireWire audio interface
24bit/192kHz AD/DA converters, 4x digital adjustable mic preamps (75dB gain), 4x Hi-Z instrument ins, 2x headphone outs, 8-channel ADAT I/O, 2-channel SPDIF I/O, UV 22 HR dither, full integration with Logic Pro, compatible with all Core Audio applications, includes Apogees Maestro software, up to 3 units may be cascaded. Dimensions: 19"/1U

€ 1555.- £ 1298.-
order code 190423

the t.bone Retro Tube II
Large diaphragm tube condenser mic
Retro bottle design, 35mm dual diaphragm capsule, vacuum tube preamp, 9 different selectable polar patterns, 10dB pad switch, hi-pass filter switch, frequency range: 20Hz - 20kHz, impedance: < 200Ω, equivalent noise level: 20dB (A-weighted), max SPL: 134dB for 0,5% THD, incl. power supply, 7-pin XLR cable, wooden box for mic and aluminum case for mic and all accessories.

€ 235.- £ 196.-
o. code 225039

Sennheiser MD421U-2
Dynamic microphone
Cardioid polar pattern, 5 step bass filter, includes clamp.

€ 279.- £ 233.-
order code 128331

Rode NT2A
Large diaphragm microphone
Polar pattern switchable between omni, figure eight and cardioid. 1" diaphragm, 20Hz-20kHz, 147dB max SPL, includes SM2 shockmount.

€ 285.- £ 238.-
order code 174488

Shure SM 7 B
Studio microphone
Dynamic studio microphone with cardioid polar pattern, 50Hz-20kHz, bass rolloff switch, mid-boost switch, 150?, shielded against broadband interference, fixed stand adapter, XLR connector, includes windscreen.

€ 389.- £ 325.-
order code 129929

Neumann TLM 102
Large diaphragm condenser microphone
Cardioid pattern, 20Hz-20kHz, 50Ω impedance, 12dB-A equivalent noise level, 144dB max SPL for THD 0.5%, includes SG2 stand mount swivel. Weight: 260g.

Finish: Nickel
o. code 237768 € 539.- £ 450.-
Finish: Black
o. code 237769

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, allowing the user to blend as little or as much of the tube drive they want. 48V phantom power, balanced outputs (XLR & 1/4"), TRS insert, phase reverse, high pass filter, 5-segment LED metering.

€ 138.- £ 115.-
order code 183260

SPL GoldMike 9844
2-channel valve preamp
Discrete Class A solid state, 48V phantom power, phase reverse, pad function, flair presence enhancement, very clear and warm sound. Dimensions: 19"/2U

€ 425.- £ 355.-
order code 123370

Universal Audio 710 Twin-Fifty Bundle
1-channel mic/line/DI preamp
Dual path 310V class A valve & transimpedance solid state preamp, +70dB gain, 48V phantom power, -15dB pad, phase invert, 75Hz low cut filter. Bundle includes UAD-2 Solo PCIe DSP card, VST and AU support, LiveTrack™ low-latency live monitoring/recording mode, Mix Essentials II (1176SE Limiting Amplifier Emulation, RealVerb Pro, CS-1 Channel Strip, Pultec EQP-1A EQ Emulation).

€ 679.- £ 567.-
order code 244200

tc Helicon VoiceTone Create
Vocal FX unit
99 music style based FX combinations, 5 'favourite' user presets, XLR mic level I/O in stereo or mono, clean studio quality mic preamp with phantom power, 2x XLR outs (for mono or stereo operation), tap tempo function.

€ 149.- £ 124.-
order code 117131

tc Helicon Harmony-G
Compact vocal processor
Harmony arrangement algorithm listens to guitar and voice to follow your music, 6 reverb/delay combinations for vocal and guitar in, 10 presets each with A/B location, selectable harmony voicing, XLR mic in with 48V phantom, line Out stereo balanced XLR, guitar in and pass-thru for seperate amp, guitar tuner, incl. external power supply.

€ 149.- £ 124.-
order code 205731

ESI nEar04 Classic
Active 4" studio monitors
Magnetically shielded, bi-amped, 20W bass + 20W treble, balanced/unbalanced ¼" jack inputs. Dimensions: 20.6 x 13.6 x 14.9cm. **Pair price!**

€ 85.- £ 79.-
order code 232799

Yamaha HS50M
Active 2-way studio monitor
70W bi-amped bass reflex system, 5" woofer, 3/4" tweeter, 55Hz-20kHz, XLR & jack ins, adjustable input level, mid EQ, room control, high trim, switchable low cut, fully magnetically shielded. **Unit price!**

€ 139.- £ 116.-
order code 186461

Yamaha HS80M
120W, 8"/1", unit price. € 235.- £ 196.-
order code 186463

KRK RP5 Rokit G2
Active studio monitor
75W, 5" + 1" speaker, frequency response: 53Hz - 20kHz, magnetically shielded, dimensions HWD: 27,6 x 18,5 x 25cm, weight: 6,3kg. Unit price!

€ 139.- £ 116.-
order code 213024

KRK RP8 Rokit G2
8" / 1", 140W. € 235.- £ 196.-
order code 213090

Adam A7 Special Edition
Active nearfield studio monitor
Finish: black piano lacquer, 6,5" Rohacell / kevlar sandwich woofer, A.R.T. tweeter, frequency range 46Hz to 35kHz, 100W (sin), 150W (rms), XLR and RCA input, dimensions: 18 x 33 x 28cm, weight: 8kg. **Unit price.**

€ 377.- £ 315.-
order code 241073

Event Opal
Active nearfield monitor
Frequency response: 35Hz - 22kHz, crossover frequency: 1600Hz, acoustic output - SPL @ 1m: peak (80Hz - 20kHz) 114dB, signal input: combo XLR, ¼" TRS (bal/unbal), low frequency transducer neodymium 7.1" 270W, high frequency transducer Neodymium 1" 100W, dimensions WHD: 29,5 x 45 x 27,3cm, weight: 21,2kg. **Unit price!**

€ 1322.- £ 1104.-
order code 234475

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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

1	2	3	4	5

Hardware Synths



Dave Smith Instruments Tetra | £552
Review FM219 Super Mopho meets cut-down Prophet '08 in this fantastic analogue polyphonic synth.



Dave Smith Instruments Prophet 08 | £1,499
Review FM194 A beast of analogue power. Warm, fat and wooden-ended – what more do you want?



Clavia Nord Wave | £1,395
Review FM196 If you liked the Nord Lead you'll love the Wave. It's more versatile and sounds fantastic.



Moog Taurus 3 | £2042
Review FM226 With more lows than an Eastenders omnibus, this beast will blow your socks off. Modern features make this a dream to use.



Roland Gaia SH-01 | £579
Review FM227 No menus with hands-on controls all over. Despite the ropey presets, Roland are starting to get back to what they do best.

Soft Synths



FXpansion D.CAM Synth Squad | £179
Review FM217 A powerful synth collection from FXpansion, favoured by Electro House heroes.



Rob Papen SubBoomBass | £89
Review FM215 Another superb synth from Rob Papen that caters for all your bass-in-your-face needs.



Spectrasonics Trilian | £215
Review FM224 A long-awaited update to the monster of all bass software. An instant classic.



XILS Labs Poly KB | €149
Review FM228 A lush sounding recreation of the classic and rare. Poly Kobol. Great tones with the benefits of MIDI and automation.



u-he Zebra 2.1 | $199
Review FM183 Subtractive and analogue synthesis with an ultra-phat sound. Ideal for shaking ground and wrecking speakers. In a good way.

MIDI Controllers



Novation LaunchPad | £149
Review FM220 Great features at an amazing price make this Ableton controller a performance dream.



Akai APC20 | £170
Review FM227 A more compact, better-value version of Akai's Ableton front end. Robust build and great features make this very gig-worthy.



Livid Instruments Block | £349
Review FM223 Built out of wood and metal, the Block is a great alternative to the more mainstream controllers.



Native Instruments Kontrol X1 | €199
Review FM223 An intuitive, well-built controller at a great price. If you're a Traktor user, try this.



Vestax VCM-600 | £649
Review FM216 A fantastic way to control Ableton Live. Vestax deliver a well built, fun and feature packed DJ style performance controller.

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How Our Chart Works

We've fought, bitched, whinged and racked-up all our favourite gear that's available today into our Gear Chart. If it makes an appearance on these pages, then it's well worth a look. We've appraised the hardware in terms of its price point, performance and usability, along with the fond memories and sheer joy factor of cranking it up for the first time. We're not saying that keyboard number six is 'better' than keyboard number seven, for example. We're saying that you should have a think about the music you want to make, read our recommendations below, and check out the gear that sounds cool. Each month we'll be updating our charts with new finds and introducing new lists to keep things fresh. Special mention to the Digital Audio Workstation bit at the back, which should help you nail your ideal recording solution. We out.

The FM Awards

Editor's choice. If you see this little flag tagged on to one of our reviews it's impressed us above and beyond the usual excellence.

Platinum. Buy these. Unless you've got a perfectly good alternative or produce your music on comb and paper.

Value. A special chapeau to bits of gear that deliver the goods without breaking the bank. Value awards mean great gear at even better prices.

The Charts This Month...

120	**Hardware Synths**	From two-octave upstarts to two-grand monsters
120	**Soft Synths**	Our pick of sound-producing software
120	**MIDI Controllers**	The best performance and studio controllers in town
122	**Monitors**	Record, mix and master with confidence
122	**Keyboard Controllers**	Everything you need from portables to studio staples
122	**Audio Interfaces**	Get audio into your computer with quality and style
122	**Effects and Manglers**	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?

6



Waldorf Blofeld Keys | £699

Review FM211 A huge amount of exciting presets and solid good looks make for a killer all-round synth.



Spectrsonics Omnisphere | £299

Review FM207 Great sounding, flexible and unique, this is truly a powerhouse of sound design.



Novation Nocturn | £69

Review FM199 Your cheapest entry into the world of Automap, the Nocturn is a mini bargain.

7



Korg microKorg XL | £439

Review FM210 This fresh update of everyone's favourite mini-synth gives a new engine and a great vocoder.



U-he Ace Synth | €69

Review FM227 At such a low price, you can't go wrong with this software modular synth. Patches are clear and crisp and it's all very fun to use.



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.

8



MFB Kraftzwerg | €580

Reviewed FM219 German-built modular synthesis on a budget. Prepare to get addicted to analogue with this flexible patch-happy synth.



Waldorf Largo | £175

Review FM217 Waldorf take their Blofeld sound and technology and create a powerful and unique soft synth. Check it out.



Akai LPD8 & LPK25 | £45 each

Review FM224 A better keyboard design and build than its rivals. Shame about the short throw rotaries.

9

NEW ENTRY



Dave Smith Mopho Keys | £550

Review FM229 Hands-on controls and wooden-ended good looks make this another winner from DSI.



Arturia Jupiter-8V | £150

Review FM189 One of the definitive, all-time great poly synths is now a plug that delivers thunderous bass as powerful as its searing leads.



Korg nanos | from £36

Review FM209 The keyboard lets the series down, but these portable controllers are still a bargain. They're bundled with great software, too.

10



Korg microStation | £528

Review FM227 A mini-keyed workstation that delivers on quality while still being fun. Works well both on-stage and in the studio..



Lennar Digital Sylenth1 | €139

Review FM208 This simple-to-use, Virus-like synth comes packed with a great set of presets.



Behringer BCF-2000 | £140

Review FM153 Eight 100mm motorised faders for such a low price, this is still a great controller.

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Gear Chart

1	2	3	4	5

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 reccomended.

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, with looks and build that elevate it 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 ins and outs 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



Korg Monotron | £59
Review FM229 A genuine MS20 filter with audio input, a fat analogue oscillator and LFO make this a must-have studio toy for everyone.



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 lets you delve deep into the amps circuits for true soft-modding.



Evol Fucifier | £1,996
Review FM228 The oddest outboard we've reviewed produces the most inspiring sound at a price that will keep the faint-of-heart away.

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6	7	8	9	10
				
PMC DB1S-AII | £2,056 **Review FM225** You get what you pay for with these monitors. Adding a PMC sub will help you feel the real bottom end though.	**KRK Rokit RP5 G2** | £270 **Review FM205** These are so nice to work with our reviewer bought a set for his own studio. Great value monitors with a great punch.	**Adam A5 Studio Monitors** | £499 **Review FM209** Though they're at the budget end of the Adam range, these compact near-fields still deliver.	**APS I0 Active Monitors** | £919 **Review FM216** These provide an honest listtening 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.
				
M-Audio Oxygen 49 | £228 **Review FM189** An excellent budget controller range that continues to improve. Ideal for beginners.	**Novation 49SL Compact** | £269 **Review FM193** The stripped-down alternative to a full-size SL. Cheaper, but still packed with unique features.	**Akai MPK88** | £600 **Review FM226** A few minor issues considering the high price, but a great weighted hammer action keybed redeems this controller.	**M-Audio Mid Air 25** | £199 **Review FM181** Not only can you sling it in a bag, but you can also stride to the front of the stage thanks to its wireless power too.	**Korg microKontrol** | £275 **Review FM143** Great build quality and looks and while its reduced-sized keys are an acquired taste, it's certainly more portable as a result.
				
Echo Audiofire Pre8 | £579 **Review FM228** A very high-quality interface from Echo Audio – heavy on I/O and mic pre quality.	**Mackie 1220i** | £799 **Review FM224** This hybrid mixer and interface covers all recording bases in a neat package, with the added benefit of Pro Tools compatability.	**Focusrite Saffire 6 USB** | £163 **Review FM225** A fantastic interface for the studio or for anyone looking to get into digital DJing or Ableton Live	**Presonus FireStudio Mobile** | £269 **Review FM224** Not the cheapest mobile interface, but great I/O make it worth a look.	**Steinberg CI2** | £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.
				
Electro-Harmonix Voice Box | £160 **Review FM213** Give this a decent input and it will output robot voices or perfect harmonies with ease.	**OTO Biscuit** | €529 **Review FM225** Gorgeous design details and fantastic for anyone who fancies a bit of lo-fi 8-bit computer game crunch in their music.	**TC Helicon VoiceTone Synth** | £225 **Review FM221** A few teething problems, but this is still a fantastic hardware vocoding and tuning tool.	**Audioease Speakerphone 2** | €400 **Review FM217** This creative and comprehensive speaker emulator adds air to your sounds and mixes.	**Avid Digidesign Eleven Rack** | £789 **Review FM222** It's a guitar processor that makes re-amping a breeze. Plus it's a Pro Tools interface to boot!

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Gear Chart

1	2	3	4	5

Performance Samplers



Korg microSampler | £436
Review FM219 Easy to use sampling with some clever extras. Another micro-dominator from Korg.



Akai MPC 5000 | £1,549
Review FM203 The 5000 isn't perfect, but it's without a doubt the best pad-ridden studio-in-a-box on the market. Check it out.



Roland SP-555 | £410
Review FM195 The latest in Roland's line is packed with features. A durable and flexible partner for the loop experimentalist.



Roland SP-404SX | £289
Review FM220 This new update tweaks the original SP-404 but lacks anything really special, so it doesn't climb any places in our chart.



Electrix Repeater | £649
Review FM117 Used by our current fave Imogen Heap for building whole tracks, this discontinued unit still has a healthy second hand market.

High-end Audio Plug-ins



Celemony Melodyne Editor | £319
Review FM222 A plug-in that has the potential to change music production forever. A killer tool for every genre.



Lexicon Native Reverb Bundle | £1,174
Review FM225 The motherload of all reverbs brings the original digital algorithms straight to your DAW.



Pro Audio DSP DSM | £200
Review FM226 An incredible multi-dimensional EQ and dynamics processor that works magic!



UAD 4K SSL Plug-ins | from $199
Review FM215 Brilliantly moddled 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 it's quality pre-amps. If you need the flexibility it does the lot and more besides.

Microphones



Newmann Retro NR47 | £999
Review FM225 Despite the choice of name, this mic definitely delivers the classic sound. Bargain.



sE X1 and Project Reflexion Filter Bundle | £169
Review FM223 Unbelievable value for a robust recording solution.



Blue Bottle Rocket Stage One | £600
Review FM222 Interchangeable capsules make this great sounding mic even more of a must-buy.



Sontronics Saturn | £699
Review FM227 It looks drop-dead gorgeous and has a flexible airy sound that suits many different recording situations.



AKG C214 | £450
Review FM205 As part of the classic AKG family, this mic sets itself up nicely to be a recording bargain that holds its own around the studio.

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GET THE EDGE

Get in the loop with *Computer Music*'s brand-new guide to dance music. It's everything you need to make standout tracks in today's biggest electronic genres







All the software, sounds and step-by-step tutorials you need

- > The freshest techniques for dubstep, house, DnB and trance
- > How to create classic and upfront dance sounds from scratch
- > Learn classic beat-slicing techniques with the *Fast Guide to Breakbeats*
- > Recommended! Software and hardware to put your sound at the cutting edge

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Gear Chart

1 2 3 4 5

eBay Classic Retro Finds



Roland HS-60 | £250
Released 1984 Same guts as the Juno-106 but the ugly built-in speakers mean it's often overlooked.



Korg EX800 | £100
Released 1984 This rack-mount version of the Poly800 has a similar sound to the Roland Juno but with the added bonus of a sequencer.



Yamaha MK-100 | £30
Released 1983 Bargain analogue style workstation that has limited synthesis options but a great programmable drum computer.



Yamaha TX7 | £80
Released 1983 With DX7s back in vogue, get your hands on the true hardware sound at a fraction of the price with this desktop module.



Sequential Circuits Multi-Trak | £250
Released 1984 Easier to program than a Six Trak with a better sequencer – a gem find.

Ways To Stand Out



Apple iPad | from £429
Review FM228 The first mainstream tablet offers an unparalleled hands-on user experience that's great for making music.



Snyderphonics Manta | £398
Review FM218 Space-age-style control with incredible good looks and amazing control possibilities.



Yamaha Tenori-on | £599
Review FM193 The amazing lights-in-a-frame synth 'n' sequencer that'll test the way you think about music. Grab one while stocks last.



Jazz Mutant Lemur | £1,799
Review FM166 Techni-coloured touchscreen controller. Why not put a camera on it feeding a projector?



Percussa Audio Cubes | 399 Euros
Review FM207 Expensive, but one of the ultimate ways to stand out when performing electronic music.

Digital Audio Workstations

Best all-in-one solution	Best combo of ease and power	Best for recording audio	Best for jamming and creating	Best bangs for your bucks



Logic Studio | £399
Review FM218
The home studio regular and all-in-one studio package goes V9.1 adding 64bit support – if your Mac can handle it.
Best features include:
> Incredible time-stretching with Flex Audio technology.
> New amp designer and pedal board options for guitarists.
> The best and biggest range of 'built-in' plugs and synths of our favourite DAWs.
Good and bad:
Fantastic Flex Audio rasies Logic's appeal even further and despite that stealthy price increase to £399 it remains a bit of a bargain all told.



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.



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.



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.



Sonar 8 | £349
Review FM207
Updated from the much loved Sonar 7, this new version adds even more features and amazingly puts less pressure on your CPU due to a streamlining of it's core. It's a firm favourite with PC-based producers.
Best features include:
> Beatscape – a fantastic slicing and warping groove-based beat and drum machine.
> The TS-64 Transient Shaper is a simple but brilliant plug-in addition.
Good and bad:
A continuous effort to streamline and an incredible amount of features make Sonar 8 a great choice DAW on PC.

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& VERY SPECIAL GUEST
IAN HUNTER

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BACHMAN & TURNER

UFO • THE QUIREBOYS

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HIGH ON FIRE

AUDREY HORNE • LETHARGY

PROG STAGE

marillion

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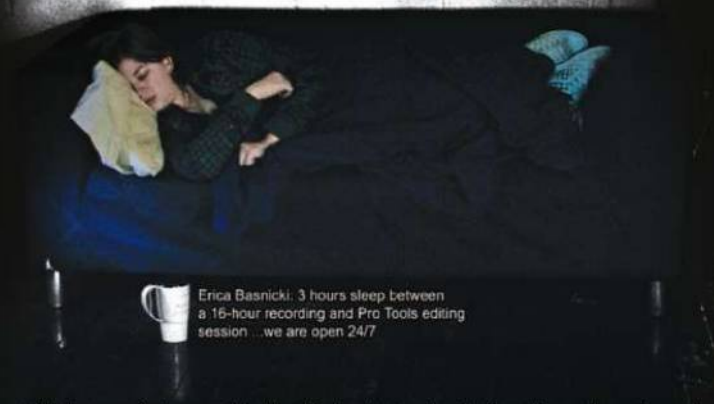
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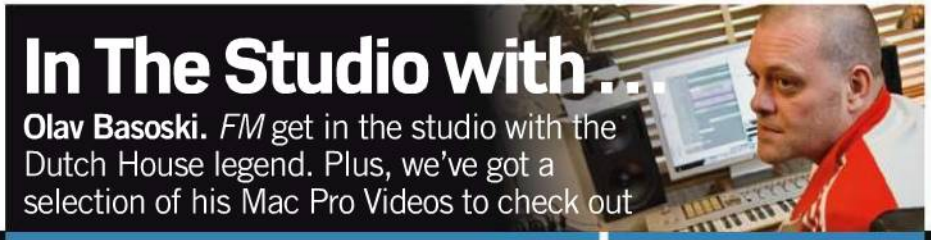
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