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LOGIC PRO X 2015

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anyone,
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are my secret
weapon.”

S. Husky Höskulds – recording engineer / mixer



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Welcome



Welcome to *Logic Pro X 2015* the latest Focus from *MusicTech* magazine. If you are a Logic user you have come to the right place as you are holding our best ever Logic guide, with all new content and workshops aimed at all levels of Logic user. If you are new to music production, we start at the very beginning on p6 with a guide to sequencing and a gentle introduction to the world of Logic. More advanced users will be getting the best out of Logic's instruments on pages 10 and 32 and elsewhere there are guides to automation, increasing speed of workflow and a whole set of music to picture walkthroughs. Something for everyone then!

But we don't ever leave it there with these special Focuses as we always include lots of larger features that examine the wider aspects of music production, so there are guides to getting more exposure for your music, getting paid and even getting a job.

Add a big reviews section and we reckon we have you covered for all aspects of Logic and music production in general. As always enjoy the issue and feel free to email feedback on the address below.

/// We reckon we **have you covered** for all aspects of Logic and **music production** ///

Andy Jones Senior Editor
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MusicTech Focus

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MusicTech focus

Issue 37 ■ Logic Pro X 2015



POWER TO THE NEXT LEVEL IN LOGIC PRO X

41 pages of Logic Pro X workshops covering everything from the basics to improving your workflow and even writing for film. We've also got features on working in the audio industry and getting your music out there plus the best hardware and software reviewed.

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Get a job!

Fancy working in the audio industry?
Here's the complete guide p16

■ Feature

Get your music heard!

By the right people. p36

■ Feature

Music to film

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MTF Workshops

Everything from basic sequencing to composing for film covered across 11 workshops



Logic Pro X: back to basics

New to Logic Pro, sequencing or the latest version X of the software? **Andy Jones** introduces DAWs and sequencing and has a guide to the basics of Logic Pro X...

The heart of most music production today is the DAW (Digital Audio Workstation) of which Logic Pro X is one of the best – if not *the* best – out there. If you are new to using DAWs or Logic, or even the latest version (Pro X) of the software, then you have come to the right place as this tutorial aims to go back to basics with an introduction to the concepts of sequencing and modern music production and, while we're at it, a tour around the latest version of Logic to show you how it all comes together and how today's music is made. And all that in just four pages!

Even if you are a seasoned Logic user you might want to stick with us as we'll look at some of the newest features and discuss sequencing ideas and concepts that could easily be of benefit. But before we do that, let's go back to basics.

Logic Pro X does everything you need to make professional-sounding music. It's the latest in a long line of sequencers which began life decades ago. My first experience was using Steinberg's Cubase sequencer on an Atari 25 years ago and while it might have been black and white and not able to record sound, the concepts behind that sequencer and Logic Pro X are still surprisingly similar.

Track by track

Songs are built track by track within Logic so you vertically stack bass, drums, guitars, synths, vocals or whatever you like all together by placing them on top of each other on the main screen within the software. There are two main types of track: MIDI and audio. MIDI

tracks trigger internal software instruments which either come bundled with Logic or can be bought separately. External hardware synths, keyboards or modules can also be triggered by these MIDI tracks.

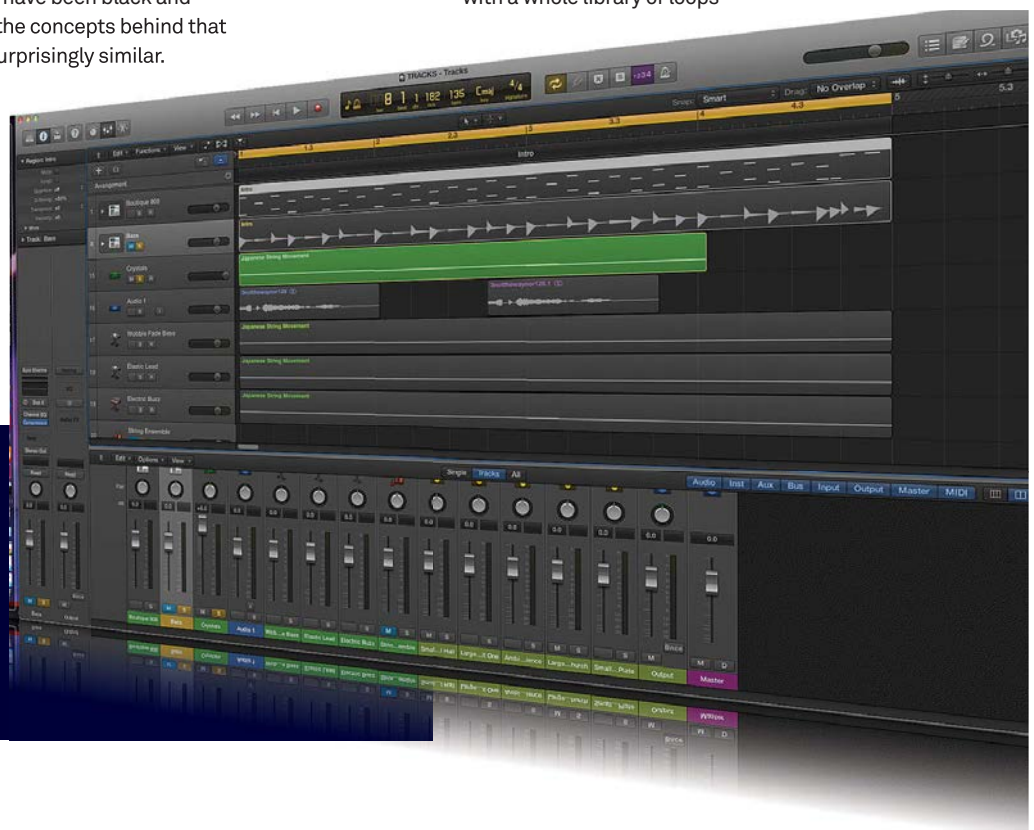
The other type of track is an audio track which could be a

/// We've got **a tour around Logic Pro X** and an explanation of **modern music production**. And all in **just four pages!** ///

recording of, say, a person singing into Logic which can then be layered into your song. You can also load in audio samples (of say a guitar) to build the song. Logic comes with a whole library of loops

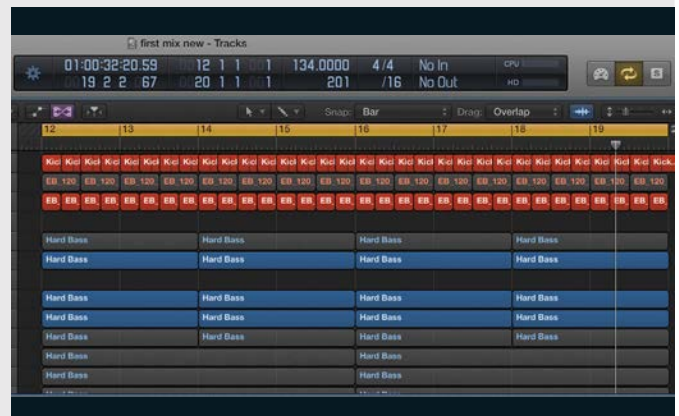
/// FOCUS ON TRACKS

Gone are the days of recording to tape but today's DAWs are still using the same 'multitrack recording' concepts that were first introduced 60 years ago, just within a computer-based environment. So pretty much every song you hear today will have been made using an environment like this and that assemblage of coloured bars you see to the right is how it's done – that is modern music production right there!



MTF Step-by-Step Logic Pro X overview

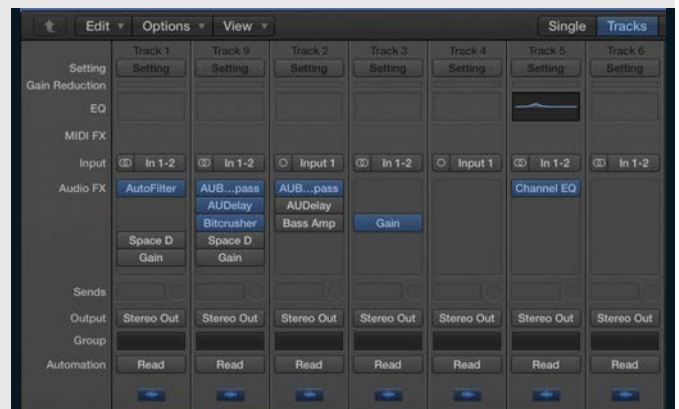
01 Think of the main window in Logic as four different parts: the Tracks area (main centre/right), Inspector (left), editor/mixer (bottom) and Control Bar (top). We'll look at each in more detail.



02 The main Tracks area is where you put your song together track by track, top to bottom and time moving left to right. It's good to colour code tracks. Here we've made the drums red and bass blue.



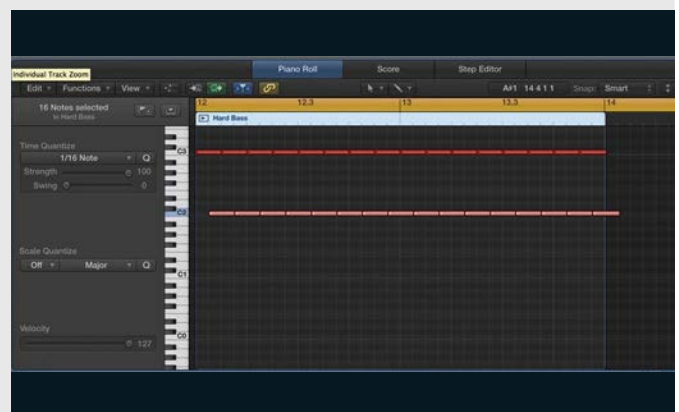
03 Underneath the tracks area you can have either the edit area or the mixer displayed. Here we have the mixer which, on a basic level, simply allows you to adjust the volume level of project tracks.



04 Moving up the Mixer window and you can add effects to each track like the delay and EQ shown. This allows you to greatly adjust each track's sound and to blend them together.



05 We turn our attention to the Control Bar at the top of the main window which allows you to display and hide various functions within Logic. For example we've now clicked the scissors icon...



06 ... which swaps the previously shown mixer area for an edit area. Here we've double clicked on our bass part to show the actual notes that make up our instrument bass-line in a piano roll editor.

and samples to do this with and also stacks of instruments to play and record notes in.

So, once you are happy with some parts playing together you start to arrange, or sequence them (hence the software being called a sequencer back in the day) from left to right across your computer screen. This then makes your song and that in a couple of hundred words, is music production today. But, you guessed it, there's more!

Editing and effects

In order to get your music sounding professional, in time and even in tune, Logic comes with a stack of editing features. MIDI tracks can be edited by picking up notes and dragging them around for example. Audio tracks can be tuned (so you can correct bad playing) and both types of track can have loads of different effects added to them.

You can add distortion to guitars, echo to vocals, delays to →

→ bass-lines. You name it, you can hear it, add it, play it, mix it and record it in Logic Pro X.

The main areas in Logic, and which we run through in this step-by-step workshop are the Track Area (where your tracks are sequenced and assembled); the Editor (below the track area for both MIDI and audio tracks); the Mixer (interchangeable with the Editor and used to adjust volumes and effects in your mix); and the Inspector area which gives all the detail you need about recorded notes and parts. A

fourth area is the Control bar which opens and closes smaller blocks within the software allowing you to quickly access different sounds, for example, or copy sequenced parts at just the click of a button.

We'll be focussing more on Logic's instruments and effects in other tutorials within this *MusicTech Focus* but these are all accessed from within the mixer. You simply click on a track and use drop down menus within each to select from an incredible number of software instruments and effects.

MTF Step-by-Step Logic Pro X overview (cont...)



07 You can look at your notes in several different ways. In the previous step we looked at them on the piano roll editor. Here we see the bass-line as more traditional notation.



09 Hitting the Inspector Icon reveals more details about whichever track you are on. Tracks can be either instrument tracks (synths, pianos, etc) or audio tracks of 'real' sound.



11 In part 6 we looked at editing instrument notes. Now we'll look at the other type of part mentioned in part 9: audio. This can be audio recorded externally like vocal or guitar as shown.



08 Now we return to the Control Bar at the top to reveal the Logic Library (click top left icon) which allows you to select instruments and sounds by the categories shown.



10 Further changes to these tracks can be made by clicking on the third icon, the Toolbar which opens a row of edit icons along the top which enable functions like cutting and copying.



12 Or the audio can be in the form of loaded 'samples' like this drum loop. These can be imported from Logic's own loop library or bought from third party sample companies.

If you are new to Pro X I'd say Apple has made this latest version of software more accessible to everyone than ever before. I loved version 9 but looking back it was perhaps over complex in some respects. Right across the sequencing world we have seen companies concentrate more on ease of workflow rather than just including features that few people will use. And Pro X is no exception.

Essentially you can have whatever parts of the software you want open at any one time and customise it to however

you want meaning that you can keep things incredibly simple for fast workflow. And with all of those instruments and effects we reckon that there's still definitely no better way of spending £140.

Check out the other tutorials in this issue for more specific ways of accessing Logic Pro X's many features. And over the next few pages we'll explore some of the instruments that come with the software in more detail, and explain how to get program some amazing sounds with them. **MTF**

MTF Step-by-Step Logic Pro X overview (cont...)



13 You get to see and edit this audio by double clicking on the audio track. You can now go in deeper to 'Track Edit' things like cutting and pasting or editing (shown) the speed or timing of the audio.



14 Go in still further by clicking on File and you get to make more dramatic changes to the audio like reversing it, adding fades or adjusting the pitch.



15 Now we've looked at tracks and editing it's time to build our song. Many producers like to start with a looped segment of tracks and build part of the song up in that. Here we have eight bars looped.



16 You often start (particularly in dance music) with beats and bass. Here we have four bass sounds a couple of kick drums and that sampled drum loop we looked at earlier.



17 When you are happy with your looped section you can flesh it out into a longer arrangement by repeating it. Click Repeat Section in the Toolbar section. Here we've repeated it twice.



18 Here's one we made earlier! After completing your arrangement you can export the finished song often called bouncing (as shown with the drop down File menu).

Logic Pro X: creative synthesis

Logic Pro X comes bundled with more instruments than any other DAW. You can just use their presets, of course, but spend a little time getting to know them can reap rewards...

For the money, there is no doubt that no other DAW on the market comes close to Logic Pro X in terms of what you get bundled with the software. The number of instruments you get with it is simply phenomenal and you will spend an age downloading the additional sample and loop content. In short Apple wants you to have everything you need to create music in any genre (and arguably sell it to you at such a low cost that you buy into the company's hardware – but that's an article for another day!).

There's a good argument to say that you could simply just get in there and start making music using the thousands of preset sounds on offer and why not? That is what they are there for after all... There are many people who have produced many tracks with Logic presets all over them and Apple loops have found their way into many an album track and single so who are we to say 'don't use them'? But, as ever, if there is a 'proper way' of doing something it is probably balancing using what's on offer with a little (or a lot) of your own input. And that means getting to know the instruments within Logic a little more and gaining the confidence to either produce your own sounds from scratch or tweaking the existing ones either dramatically or

subtly to create something that you can quite easily call your own. And that is what we are going to do here.

We'll concentrate on the synth side of Logic because it is so well endowed in that department, and the bulk of the

/// We'll help you **get to know** the instruments within Logic **to create something** that you can quite easily **call your own** ///

/// FOCUS ON THE NEW

Logic comes with many, many instruments and the ES range of synths has been with the software for years. As this is a Logic Pro X Focus Guide, we'll concentrate on the newer Retro Synth that comes with the latest version of the software. That's not to say that ES1 and the like should be discarded. While some of their sounds are starting to pale a little and their futuristic fascias are perhaps looking a little less futuristic, many of their sounds do cut it so don't ignore them. We particularly like some of the sounds with added movement but most of the step by step workshops over the following five pages will focus on Retro Synth (pictured) although we will look at updating ES1's sound in the final tutorial.



MTF Step-by-Step Adding punch to bass

01 The best thing to do when programming any sound is to have a cycling loop of notes playing so you hear the changes as you tweak. It's a bass sound so here's our looping bassline.



03 The oscillators might provide the basis of the sound but in this instance aren't the most important ingredient but a combination of square and sawtooth is a good one to choose.



05 Adjust the Cutoff and resonance in real time simply by grabbing the pointer. You can hear the sound change like an acid bassline here but we settled on around 0.2 (Cutoff) and 0.9 (Resonance).



02 Now we will simply choose one of the less memorable presets on Retro Synth to liven up. The Hyper Lead preset might be a lead sound but it sounds more like a bass waiting to be improved...



04 The real drama happens in the filter section. You can experiment with the different filter types but we've chosen the 12dB low pass for added zing on our bass line.



06 To add the 'punch' you'll need to adjust the Amp dial (up) and balance it with the attack time in the Amp envelope window, also reducing the release time. Careful with the balance of each here as you can overdo the punch with too high an attack on the sound.

tutorials will be on Retro synth because that is the newest of the additions (see box opposite for more on the rest) although we will look at updating the sounds of one of the ES range in the final step-by-step tutorial.

Easier than you might think

Before you shy away from this thinking you need a degree in synthesis to understand what is going on, don't! Because you don't! A simple understanding of signal flow is all you need. The building blocks of basic analogue synthesis are that you

always start with a signal generated by one or more oscillators. This might be a sine, square or sawtooth waveform, usually something fairly simple. This is then filtered by frequency to give some bass or treble characteristics. It is then modulated to give it more character with perhaps a low frequency oscillator adding movement or a sub bass oscillator adding depth and bass. An Amp envelope equates to how the sound comes in and out i.e. its volume characteristics (the attacks, decay, sustain and release parameters). And that is basically it!



→ Of course there are a lot of different synths that add a lot more to it than that. Some 'analogue' types might have seven different oscillators, for example, or allow a gazillion different modulations so you can take the output of an LFO and apply it to the resonance of the filter (basically in software synths you can do take any sonic parameter and apply it to any other).

And that is just analogue synthesis. With more digital based synths you don't just start with analogue waveforms, you can have digital waveforms or samples that enter the signal flow for all sorts of fun. And FM synthesis is a whole

new ball game which we will touch upon with Retro synth but not get in too deep for fear of drowning.

Around the sounds

So armed with just that fairly basic knowledge you should easily be able to understand what we're doing with each sound in each workshop.

We'll start with a punchy bass sound which will demonstrate not only the importance of the core ingredients of the sound, the oscillators, but also how important the filter

MTF Step-by-Step Fattening up a lead sound



01 Now we're going to see how a few simple tweaks can fatten a preset up. Dial in Retro Synth's Simple Analog Lead sound. It's OK but is what it says... simple. We're going to change that!



02 The first thing to note is that although there are two oscillators in use you can barely hear them as they are both the same shape, so change oscillator 1's waveform to make it more distinguishable.



03 Detuning one oscillator is a great way to add breadth. You can do it very subtly by making a very small adjustment or wade in there like we have here and simply push oscillator 2 up by 24 semitones.



04 The filter again comes into its own now although we're not going to use it as dramatically as in the first tutorial. Tweak the Resonance up to 0.3 and the Cutoff to 0.44 for some subtle buzzing.



05 It's surprising how much playing with the envelope characteristics can have a dramatic effect on a sound's character. Here we've tweaked the filter envelope but the biggest change comes from extending the sustain which helps give the lead a lot more body.



06 Now it's simply a case of adding a helping of Chorus to really finish things off. Press the Compare button to hear how far the simple lead sound has come in just six short steps. Apple should really give us a job programming its synth sounds!

is in shaping the punch and EQ of the sound (actually vital in this case). It will also demonstrate how the amplitude envelope can help add weight in terms of punch i.e. how quickly the sound comes in and how this, in turn also adds to the sound's character.

Next we show you how to fatten up existing sounds. While Retro Synth is good it does have the odd surprisingly weak sound. In this case we're using up one called Simple Analog Lead to show you how simple sounds can be beefed up. We use a combination of detuning (which is a common way of

distinguishing oscillators from one another) and envelope shaping (which adds a surprisingly dramatic change to the sound). We're also lucky that Retro Synth comes with built-in effects as a helping of chorus at the end fattens things up although this feels a little like cheating and we like to think that our programming has already fattened the sound up a lot by this stage!

In the third walkthrough we take a couple of the principles picked up already and take them up a notch. We use another pretty basic preset, Bright Cycle, and apply the oscillator →

MTF Step-by-Step Using the envelope as an effect



01 We're going to take some of the principles picked up opposite and get really dramatic now. Again we're livening up another of Retro Synth's weaker sounds, this time called Bright Cycle.



03 We're not dramatically changing the filter Resonance and Cutoff like last time. Instead play with the filter envelope to introduce a little rasping and nudge the Filter FM dial slightly to the left.



05 Now the real drama. Increase the Release time of the Amp Envelope to 0.45 and, as in the last tutorial, you get a dramatic change in the sound, but this time it sounds more affected like you have added a reverb or short delay and is great for adding character.



02 Again, use the oscillator tuning method to add a bit of breadth but this time only tune up by 12 semi tones. You can go as low as one if you want the sound to be a little more wonky.



04 We're wheeling out the big guns here now by bringing the LFO into the fray for the first time. Dial the Shape Modulation rotary to the left and Vibrato dial right for some subtle wobbling.



06 In this way we've used the on board parameters to add an effect to the sound, especially useful if none are available. As Retro Synth has some on board, though, we might as well bring them so here's some very unsubtle Chorus.

→ fattening technique and also some filter envelope tweaking to show you how to get a buzzing sound without resorting to too much filter changing. But the big drama here comes with how the Amp Envelope can be used to dramatically change a sound's character, adding its own effect, and a very useful option if your synth doesn't come with built-in effects. Once again this shows how a little knowledge can really lift your existing presets.

In the fourth tutorial (below) we show how bringing in the LFO can add movement to a relatively low key preset. As good

as Fifth Sequence is, there's no denying that adding a bit of delay and drama will lift it and that's what we can do by bringing the LFO in, applying it to some of the filter parameters but reigning it all in with the LFO synth and lowering its rate. This introduces some delay effect and added interest. We then increase the decay and release times and suddenly another of Retro Synth's presets have been lifted.

By this time you'll wonder why you can't apply these simple principles to all synths to breathe new life into their

MTF Step-by-Step Adding movement to a preset with the LFO



01 Now we're going to show how the LFO on Retro Synth can bring a preset very quickly to life. Dial up the Fifth Sequence preset. We like the sound with its noise element but think we can make it better.



02 Apply some of the LFO to the filter parameters by nudging up the LFO dial within that section by a couple of notches. It should make the sound start to wobble but doesn't sound great... yet.



03 Now we need to play it in time so sync it within the LFO section (nudge the Sync switch to the right 'on' position). You can hear that it already sounds better – with added delay – but not quite right.



04 By changing the LFO waveshape to a square wave its impact is much more dramatic so we've done just that. Note how the preset sounds a little raspier and with a much quicker attack.



05 Now we're really going to lock it into the groove by lowing the LFO rate down to 1/8 from 1/16th. This makes the delay far more manageable but also more noticeable.



06 We've livened up the preset with movement and delay. Time to use the Amp Envelope trick again. Take the decay time up to 0.35 and the release to 1200ms. The sound is a lot more in your face. Compare it to the original and you'll hear the preset has been lifted.

sounds. The answer is: now you can!

Finally we look at the classic ES1 synth. While we said we'd stick mostly to Logic Pro X's new Retro Synth, there's no harm in looking at one of Logic's older synths to see if we can update its sound too. This time we're taking a fairly tired string sound and turning it into a fatter lead. Firstly we use ES1's Drive and Filter cutoff parameters but then return to the Envelope shape to add punch and depth with more of a delay effect added at the end. The sound quickly moves from a fairly bland string sound to a cutting lead with the turn of

just a couple of dials.

We hope that by now you realize just how easy it is to get in to your soft synths and improve the preset sounds with some basic knowledge and editing. And these principles can be applied to any synth, not just the ones that come bundled with Logic and not just software ones! Now there's no need to put up with tired presets as with a few parameter changes and edits you have become a synth programmer creating your own sounds, and better ones than those bundled with Logic. Happy synthesising... **MTF**

MTF Step-by-Step Updating ES1's sound



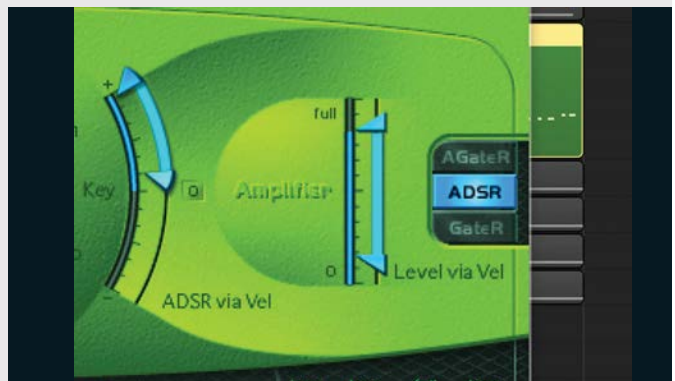
01 ES1 is one of Logic's older synths and, in the main, still sounds great. But one or two of its presets are pretty weak and could do with updating. Load up the Classic Synth String preset.



02 It's a weak sound but ES1 can be a powerful synth so we're going to turn it into a rock solid lead sound with a twist of a couple of buttons. First up bring the sub into the mix using the Mix slider.



03 Now push the Drive parameter up very slightly and the Filter cutoff dial upwards. The sound starts getting a little edgier but still retains its 'string' character.



04 Sometimes the obvious is good. In order to give this preset added umph, simply increase the amp envelope. In other words, the volume! Don't be afraid to use it.



05 We'll now take one of the principles picked up in the first tutorial to add a bit of punch by reducing the Attack time so the sound comes in quicker and punchier. It's the first of our envelope tweaks.



06 And here's the second. It's the old 'Release trick'. Nudge the Release time in the ADSR envelope upwards until it become an effect, adding a short delay to the sound and giving it a final fattening.

MTF Feature

GET A JOB IN THE AUDIO INDUSTRY

If you think you've got what it takes to make it in the audio industry but don't know how to break in, fear not, for **Rob Boffard** is here to guide you towards your dream job...

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You're probably reading this magazine because you're a producer or musician. You make music that you want other people to hear. It's the finished product which interests you, rather than actually working with the tools used to *make* the finished product.

But, really, the two go hand in hand. If you're a moderately skilled musician with a knowledge of studio hardware and software then you're probably very comfortable with the ins and outs of DAWs, VSTs, synths, outboard gear and the like; and if not, then you should probably learn about them sharpish. But the point is this: there is absolutely no reason why you shouldn't take that hard-earned knowledge and make it work for you.

Working in the audio industry to develop the programs and gear that musicians use every day can be an amazingly rewarding, complex and challenging job. It can, and often does, go hand in hand with musical endeavours, and there are plenty of musicians out there who have used their expertise in audio to build up a steady income. Many have switched focus entirely and now consider audio development their primary work.

Before you start...

Be warned: working in the audio industry is not easy. The technical knowledge of plug-ins and hardware is just the start – you have to be able to reach into the

guts of these things, tear them apart, figure out what every bit of code or every glowing valve does, and put them back together. To become a hot-shot designer at a company such as Waves or Native Instruments takes a hell of a lot of work.

If you're willing to put in the time, though, the rewards speak for themselves. The programs and gear you create could be used by thousands of musicians around the world. Imagine the feeling when you see a top-name producer creating a track with a plug-in you worked on, or releasing a synth and having its users create sounds you never even dreamed of – all of which came from your programming. There are better feelings in life, but few you'll get standing up.

That's what this guide is about: how to break into the audio industry, what it's like once you get there, and the various skills that you'll need to survive and thrive. We'll go through everything you need to know: programming languages, courses, what jobs are out there (and where to find them), and a dozen tips and →

 **Working in the audio industry can be amazingly rewarding, complex and challenging** 

→ tricks for how to get ahead. We'll also talk you through starting to design your own plug-ins.

The beginning

Let's start from scratch. You're a musician. You're happy and comfortable with various DAWs. You know your way around compression and EQ, and you have a sound knowledge of industry-leading plug-ins and you're comfortable using them. You want to work in the audio industry, in some capacity. How do you get started? And what career paths are open to you?

Let's deal with the former first. You learn to score goals by kicking footballs, you learn to write by tapping on a keyboard, and you learn to work in audio by using equipment. You should be trying and testing as many plug-ins and pieces of outboard gear as you can get your hands on. It's not just about how to use them, you should be trying to work out how they function. Which variables affect others? Why are they designed the way they are? If it's hardware, and if it's possible, open them up and look at the guts. It doesn't matter if you don't know how it all works, the key is to be curious about it and willing to figure it out. The answers will come later.

You should start experimenting with programs used for designing plug-ins. Most of these are freely available, and in the step-by-step sections of this guide we've taken a closer look at some of them, such as Max For Live and SonicBirth. The advantage of learning to use these programs is that they offer a very easy way into plug-in design, usually with graphical interfaces that are simple to understand and customise. It can take minutes to design a basic instrument or effect, so there's no reason not to experiment. Coding is something you should seriously look at, too, and we'll talk about that in more detail later on.

Sound design is a great skill to have, especially if you've already got a kickass portfolio of work. Many people in the creative fields, such as post-production engineers, Foley artists and TV sound designers, often transition into more demanding roles in the audio industry.

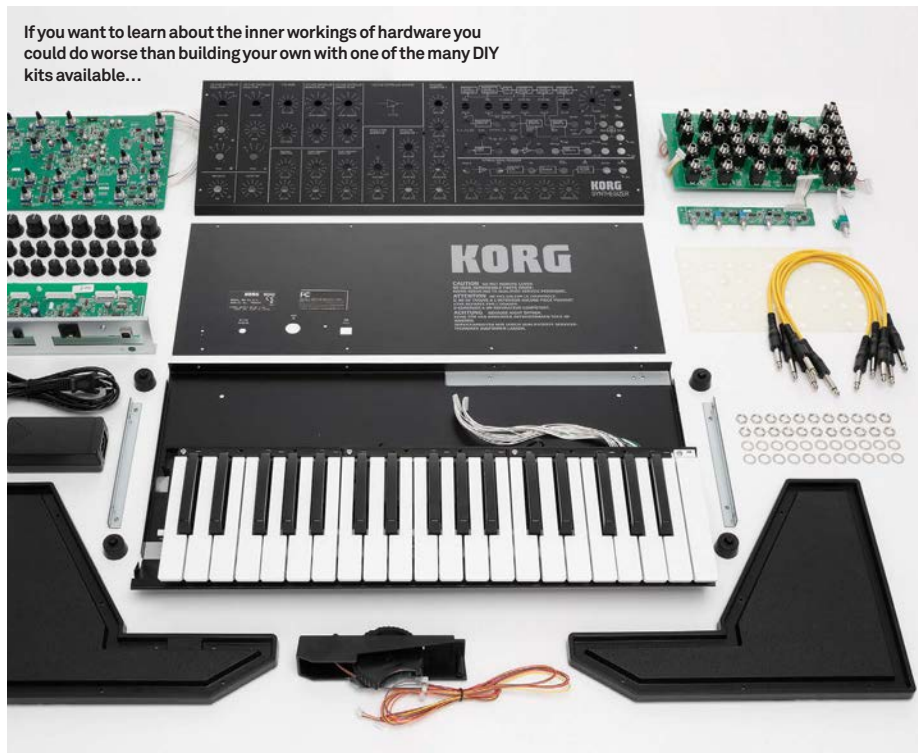
You don't need to know how to weld or solder to design hardware, but you do need to know how it all works. Admittedly, getting a piece of hardware to tinker around with is a little tougher than downloading a program from the internet, but if you can find an old synth or keyboard somewhere – eBay, garage sales, etc – and you're prepared to rip it open, then you'll start gaining a knowledge base that you can build on.

Finally, you need to start researching the industry, and that's arguably even more important than hardware or software skills.

Go to work

So what's it actually like working day-to-day in the audio industry?

We could lie and say that the top programmers are like rock stars and that you'll have a Ferrari within five years. But we won't. The audio industry is

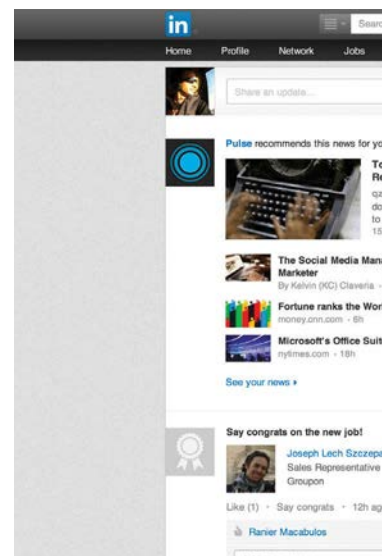


You need to **try out as many plug-ins and pieces of outboard gear as you can**

just like any other. It has big companies and small companies, and freelancers and conferences, and corporate nonsense and office politics, and maverick developers and internal feuds. There are plenty of amazing developers, and some really terrible ones. It's an industry like most others, and it acts like it.

Many programmers start off as freelancers, working by themselves or alongside others in a small group to create and sell their own plug-ins – think people like Urs Heckmann and Rob Papen. The advantage, like with any freelance job, is the freedom to do what you want. But there are plenty of disadvantages: you don't just have to know how to build a badass plug-in, you have to know how to sell it, how to do your accounts, and how to respond when things go wrong. Plenty of wannabe programmers fail because they don't get the business side sorted out.

You might be hired by, or decide to apply for a job at, an established audio company. Most of these companies have a corporate structure, so you'll need to be prepared to deal with HR managers, accounts people, and certain standards of production. That might not be what you want out of an audio career, especially if you come from a musical background, but if you can stick with it there are plenty of advantages – and we're not just talking about a



regular salary. You can focus on designing plug-ins and hardware. You have support and training. You have team members to help out.

Working in the audio industry is similar to working in IT or software development. You'll be working to schedules of design, testing and bug-fixing. You'll need to slog to get the rewards, mostly because if you release something that isn't perfect it can come back to bite you later on.

It's also very competitive. There are plenty of audio companies but the big ones only hire the best. If you're serious about working in the industry then you need to make sure your research and skills are top notch, and that you're not going to be sitting there one day wondering why you went down this route.

You don't, by the way, need to be designing software or hardware to work in the audio industry. Love audio and know about HR? Nothing to stop you working in recruitment. As the editors of *MusicTech* will tell you, audio companies definitely have need of good public relations and marketing people. If you don't have the programming or musical skills to work on the creative side then these can be a great way into the business.

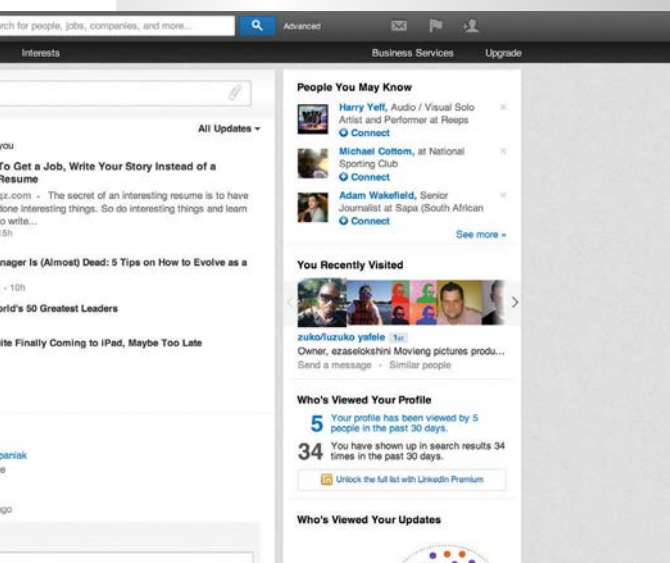
Solo button

Let's talk about working solo. How do you go about creating and selling a product?

Well, firstly, you need to have a good one – something that fills a need, or makes sounds no one →

Pro Tip

- Looking for jobs doesn't have to be restricted to audio company websites. You should be taking other sites into account too, especially places such as LinkedIn, Twitter and Facebook. Don't just hang around passively searching, either; follow, like, and chat to the people running the accounts. This will mean that they'll be familiar with you when the time comes to recruit. Added to that, it lets you show that you're already using their product. And if you've created a great track with a company's synth, why not post a link to it on their FB page, or tweet them?



The Evolution of a Vulture

2014



THE CULTURE VULTURE *super 15*

The latest incarnation! All the best bits of it's ancestors. Check out mid lifts, presence, High output and low noise.



THE SOLO VULTURE

High gain for "solo" use, studio or stage. Dynamic mid lift + Presence and "Squash". Great for sound fx.



THE CULTURE VULTURE *mastering PLUS*

Sowter transformer balanced inputs and outputs. Carefully aligned for stereo. Plus extra distortion setting.



THE CULTURE VULTURE

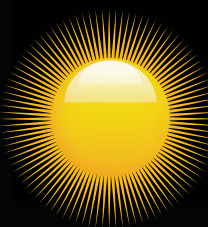
The original all valve distortion/enhancer for studios. 0.2% - 99.9% (variable) harmonics. Essential outboard worldwide.

rich pickings of sound

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→ else has figured out how to make. The road to get to this point is probably the toughest part of the process, because you'll need to have spent countless hours dabbling in programming. You can use our step-by-step guides to get you started, but like any skill you'll need to go beyond the material in this guide to master it.

So let's say you have your product, eg, a software synth that makes dubstep growls sound like the chirps of a hyperactive budgie. It looks amazing, you've tested it into oblivion on a number of different systems, and it's ready to go. What do you need?

Firstly you need a website to sell the product. It needs to showcase what the program can do, why it's awesome, and things such as tech specs and versions. It needs to be clearly and reasonably priced, and easy to pay for and download. Are you going to offer a trial period? What are the restrictions? It all needs to be up there, in one place.

Secondly, marketing. This is a dark art in itself, but the more people who know about the product, the

more producers you'll have beating a path to your door. If you're a musician, try and create songs using your product and share them around. Use Twitter, Facebook and message boards such as KVR Audio and GearsLutz to get the word out. And *MusicTech*, of course! A good product – one that fills a need or does something different – will spread by word of mouth once other people start using it. And once they do, get testimonials that you can display on your website.

Thirdly, treat this endeavour like a proper company. Register your name, do your paperwork, pay taxes. It's all boring, but all necessary: it will protect you further down the line and enable you to focus on creating brilliant audio plug-ins or hardware. Just do it, and thank us later!

Making connections

We've harped on about the importance of networking a lot in these pages. That's because it's important. Often boring and frustrating, yes, but important. And that goes double if you're trying to forge a career in

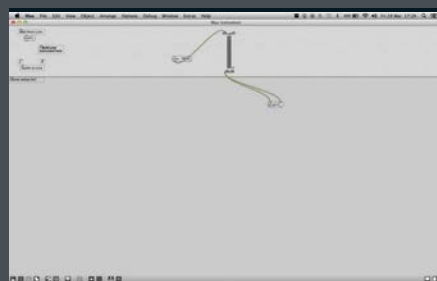
MTF Step-by-Step Max for Live



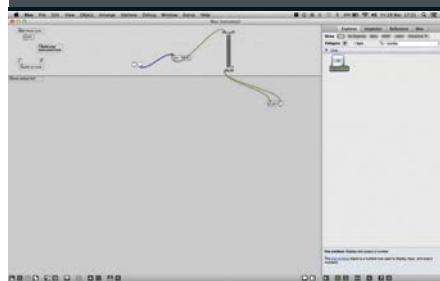
01 Max for Live is a modular plug-in builder. It looks intimidating, but its GUI is actually quite intuitive. You have an input and an output. Every little box you put between them (connected by stripy audio cables and black data cables) is a parameter that will affect the sound – think of them like insert effects on a channel. Everything you put in the top box will be visible on your plug-in, and everything you move to the bottom box will be stashed out of the way.



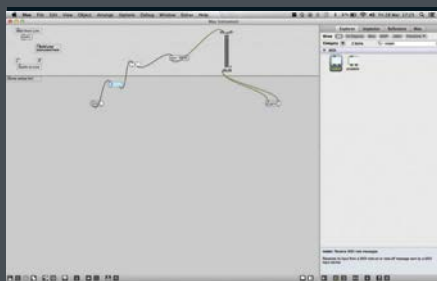
02 We're going to create a very simple synth. Drop a Max instrument onto a MIDI track, then click the Edit button in the top-right corner on the device that appears. Click in the Max window that pops up and press N to create a new object. In the box, type saw~ (the ~ is called a tilda, and it denotes an audio object). Press Enter, and you have a saw wave. You can also find any object you like in the sidebar, which can be popped up using the button on the bottom-right of the Max window.



03 Click the saw~ box again, and type in 500Hz, so it reads saw~ 500Hz. Press Enter, then create another new object: Live Gain. You now have an output level. Click and drag the black bars to bring up a connection. Connect the saw wave to the input, and the Plugout object to the output. Click the Lock button (bottom left on the bar) to test your device. Turn up the fader and you'll have a single saw wave playing. Click the Lock button to unlock the plug-in for tinkering.



04 To control the frequency of our synth, open the Inspector using the button on the bottom right and select Explorer. In the Live section, drag the Live Numbox onto your plug-in and connect it to your saw. Right-click the Numbox and open the Inspector. Here you can rename the control, change its Unit Style, and input max. and min. values. Lock the instrument and try changing the value on the Numbox.



05 To control the frequency with a MIDI controller add a NoteIn object, which the Explorer has under MIDI objects. Then hit I to create a number object. Link the Pitch of the NoteIn object to this, and link the number object to the Live Numbox. Once again, lock the instrument and have a play on your MIDI controller. Different notes should now throw up different pitches of saw wave. It's a very rudimentary synth, but it's our synth!



06 Max enables you to add a huge number of controls: we've added a filter with Cutoff and Resonance. Tidying up, we've moved all the user controls into the top box, and everything else (the stuff the user doesn't need to see) into the bottom box. By clicking the Presentation Mode icon on the toolbar we can neaten up our GUI further. Don't forget to keep saving your instrument patch: it's Ctrl+S on PC, or Cmd-S on a Mac.

the audio industry. You're not just selling music here, you are trying to sell sophisticated pieces of hardware and software.

Conferences are key. If you can, get to events such as Midem or Musikmesse. Yes, there's an outlay (plane tickets, event passes, etc) but it will be invaluable professionally. These are places where the makers gather, and if you're serious about making connections you could certainly do worse than spend some time hanging out here.

Actually finding communities of people who'd be willing to part with their cash for your product is harder than it sounds. Gearslutz, KVR Audio and the like may have messy message boards and outdated interfaces, but they can be a repository for a lot of business if you play it carefully. Try different strategies and see what works: a free VST may draw people to your site, or maybe an extended, fully functional demo period for one of your plug-ins. Either way, your goal is to find and maintain customers, and get feedback – if something doesn't work you need to know about it sooner rather than later.

Lastly, don't forget to make connections with local studios and producers. Often it can be as simple as giving them a copy of your plug-in, or plug-ins, to use on their system. No studio engineer or producer will turn down a free VST, so take full advantage. Be sure to check back after a month or two to see if they've been using it and if they have any comments.

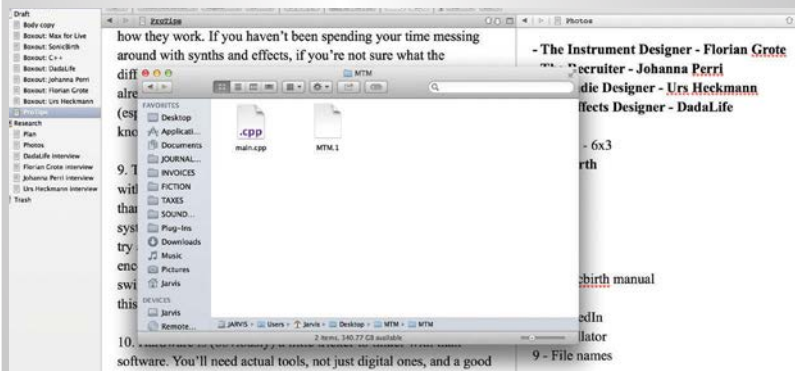
Dear Sir...

If you're thinking about applying for a full-time job in the audio industry, then you might reasonably ask →

▨ Your goal is to **find and maintain customers** and get as much **feedback as you can** ▨

Pro Tip

- This is going to sound like something you know already, but bear with us. If you're coding you will accumulate scraps of code faster than you can ever imagine. You don't just want a good naming system, you *need* it, as it will save you a lot of headache later. Also, try and get familiar with the various file extensions you'll encounter (such as the .cpp files used in Xcode). Your goal is to be swimming in this ocean of code without drowning, and tricks like this will help keep you afloat.



MTF Spotlight Interview

The producers

Dada Life's Stefan Engblom can talk about Sausage Fattener all day. He and Olle Corn  er released the plug-in to their fans in 2011, and they're justifiably proud of it. But the one thing he won't talk about is the effects chain the plug-



“I have to keep the original chain secret,” he says. “If the Sausage Fattener didn’t exist, I’d tell you! What people don’t realise is that with a large effects chain you don’t push one plug-in to the maximum. You only do it a little bit, and altogether it makes a really fat sound.”

Dada Life became famous for the thick, grimy basslines in their tracks, and Sausage Fattener was a chance for their fans to replicate the effect. The group already had a connection with Swedish plug-in producer Tailored Noise, and they decided that it was a perfect way to market their music.

"Before we even had an idea we'd gotten a lot of questions about how we got our sound," says Engblom. "We took it for granted how we had a long plug-in setup in Ableton. [We] realised that it could be a good opportunity, because nobody had done an artist-standard plug-in. They ran the effects chain, and tried to replicate how it sounded."

For Dada Life, the process of designing their plug-in paid a heavy debt to that mythical effects chain. They'd use Ableton's macros to craft a plug-in setup with two control knobs working many parameters at once, and it shows in Sausage Fattener's design. Two knobs – Fatness and Colour – pump up the sound, while a funky little animated sausage creature gets fatter and angrier the further you push it.

Tailored Noise handled the back-end, but it was up to Dada Life to test the plug-in. This, Engblom says, was a labour-intensive process, and one that anybody designing a plug-in should be prepared to work hard at: "We had to test how it behaves. I'd push a hi-hat through it, see how it reacted, and sometimes it reacted in a weird way, or in a way our original chain wouldn't. So we'd reprogram it and try it out on other stuff, just going back and forth."

But, Engblom says, the result was worth it. Sausage Fattener has started to show up on tracks from other big-name artists such as Tiësto. Dada Life are planning more plug-ins, although they're not keen on us revealing the details just yet...

MTF Spotlight Interview

The HR person

Zotope's audio products are some of the most useful things any engineer can own. Their mastering, mixing, restoration and sound-design plug-ins (think Ozone, Alloy, RX) have won them acclaim from everywhere in the audio world, so it's no surprise to hear the Massachusetts-based company has some seriously high standards.

Johanna Perri heads up Human Resources for iZotope and is in charge of making sure that the right people come to work at the company. It has 62 employees, but it's expanding quickly – Perri says that they want to get to a hundred before the end of the year.

"We try to use as many different avenues as we can think of," says Perri. "We'll have strategic meetings to decide who we need to recruit, what needs to be done, what kind of personalities we want to hire, and who'll be a good fit. Then we come up with a strategy of where we want to post the position."

The iZotope website has an active jobs board, and you'll often see its postings all over the internet. They're a good example of a small audio company with a big range of needs. Their biggest team



is engineering, and if you want to play with the back-end of something like Ozone you'll need to know your DSP from your C++, and probably have a degree in a science field of some sort. Sound design or musical experience, of course, helps immensely.

But Perri says that getting hired by an audio company isn't just about your core skills – it's about making sure you actually care enough about plug-in design to make it a day job. "Everyone here is unique in the sense that we have people who are extremely smart but also have a passion for music," she says. "We also have some positions outside of R&D: sales, operations and product management. Our biggest department is engineering, but we have three other teams we need to hire for as well. We have other people

that come on board who don't play an instrument, so we have to understand what needs to get done: do they have the skills to do that? And we have to make sure they're going to fit into the culture at iZotope. We're looking for people who are going to be passionate about audio. Are they going to be comfortable working for a small but growing company?"

Like many HR managers, Perri won't discuss how much iZotope's workers earn. Other sources suggest it's very reasonable, however, and although iZotope doesn't recruit internationally all that often, it still happens, and they're also looking for freelance contributors.

Pro Tip

● Chances are you'll be spending a lot of time on one of the programs mentioned here. We've only covered the basics, but when you're learning you'll always want to go deeper. When you do, be wary of the manufacturer's tutorials and manuals: there are much better ways to learn, and some of them – including SonicBirth's – are almost hysterically obtuse. Instead, jump on YouTube. There are plenty of people who have uploaded tutorials, and it's much easier to learn from those while using the manual as a reference.



/// If you're prepared to freelance there are plenty of companies that **require outside help** ///

→ whether there are actually that many jobs available at any one time.

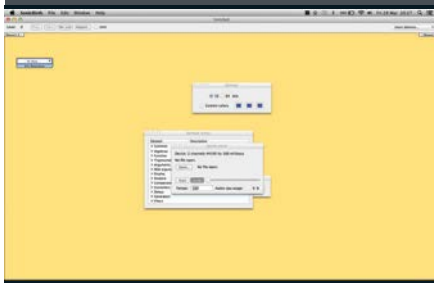
Given the current economic conditions (boy, do we wish we could stop saying that) it's no surprise that the audio industry has been hit hard too. To some extent, it's fared better than others as there's always been a need for audio professionals, but there are still fewer jobs available now than there used to be. But that doesn't mean there aren't some positions to apply for. Take a look at the careers page for companies such as Native Instruments, iZotope or Waves – there are usually plenty of roles going.

Jobs have also started popping up in odd places. There are more companies now, and with the rise of the internet their customer bases have expanded and they need people to help deal with the demand for their products. The big, traditional companies are certainly still hiring, but they aren't the only ones you should be looking at.

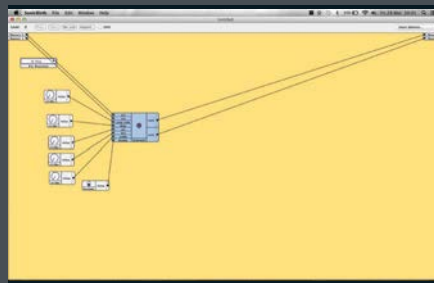
If you're prepared to work freelance there are plenty of businesses that require outside help from time to time. You need only one 'in' to get started, and once you're dropping in and out of companies like an audio paratrooper to help set things right you'll find more and more opportunities opening up.

Generally, you'll get in full-time in one of two ways. First, a company might approach you, impressed with your skills and your software, and eager to bring you on board. You really, really want this to happen. It's rare as hell but if you've worked hard and created something special, it can happen.

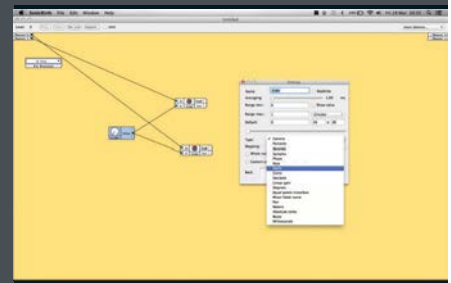
The second way is more traditional: applying for jobs. Generally speaking, this is the same as applying

MTF Step-by-Step **SonicBirth**

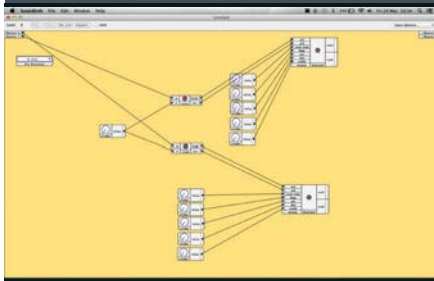
01 SonicBirth is a Mac-only application designed for creating bespoke Audio Elements, although you can export the results as VSTs as well. The interface is similar to Max, with Wires (the black lines) connecting different Elements (the box-like objects). Elements can have numerous inputs and outputs, and come in two flavours: Arguments and Circuits. This will all become clear very shortly when we start using SonicBirth to build an effect AU.



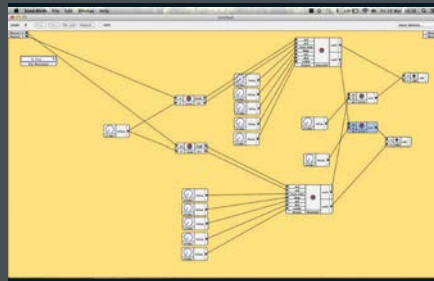
02 The default for SonicBirth is one input (top left) and one output (top right). Let's change that. Select Window>Show Settings, and set the Input and Output to Two. Additional boxes will appear. Using the top-right dropdown menu, create a Freeverb (under Misc), five sliders and a boolean (both under Common: a boolean is an on-off switch). Connect them up as shown. Select Window>Sound, load up a WAV or AIFF, press play, and toggle the sliders.



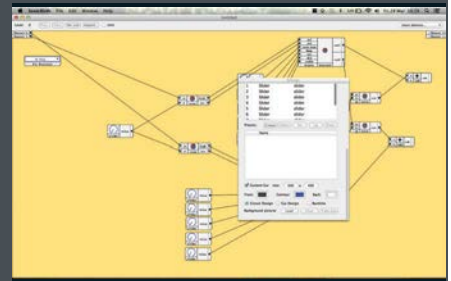
03 Let's build something a little more sonically complex: a reverb with a built-in frequency crossover. To start, create a new session with two inputs and two outputs. Then, create two Crossover elements (Filters>Crossover) and a single slider. Connect the slider to the frequency input of each Crossover, and connect the main plug-in inputs to the Crossover's main inputs. Select your slider, click Window>Settings, and change the type to Hertz.



04 Create two Freeverb elements. Connect the high outputs of the Crossover elements to the In1 of each Freeverb, and the low outputs to the In2. Wire up the Reverbs as before with sliders. In fact, you might want to combine controls such as the Wet and Dry sliders for both 'verbs using one slider for each control connected to both elements. Rename each slider so you know what it does by selecting it and opening up Settings.



05 Create two Addition elements. Wire Out1 of each Freeverb to one Addition element, and Out2 of each to the other. Wire the Addition elements to the final channel. For a little more flavour, we've added a distortion element (with its own slider) between the Additions and the Outs, as shown in the screenshot. If you want to clean things up a bit you can create multiple points in a wire simply by clicking on it and dragging.



06 Time to make things presentable. Click anywhere in the main window, open Settings, scroll down and click Custom GUI and GUI Design. You can now adjust how your plug-in looks, including loading up a background picture. SonicBirth doesn't label your controls, so create a bespoke background image that you can load in, positioning the controls next to the labels. Then, simply export it and you're good to go!

for work in any other industry. Interviews, salary expectations, portfolios – all of these come into play. We're not going to go into the ins and outs of a successful job application beyond saying that the one thing you need to demonstrate is passion. Showing that you care for audio and music, and that you let that show through in your work, covers up a lot of sins.

But a word of advice: in the audio industry, things move slowly. Job applications can sometimes take months, so don't be disheartened if you don't hear anything for a while.

Code breakers

Do you need to code? If you're in the business of designing software or hardware, then yes.

We wish there was a way around it, but there isn't. Sure, the people we've spoken to for this feature have said that knowing programming languages such as C++ or Python aren't absolutely essential, but, honestly, you'd have a very hard time finding →

ProTip

● There's no rule that says you have to work for traditional audio companies. There are a lot of businesses that need people who can dive into the guts of sound and acoustics. As Florian Grote of Native Instruments says, the automotive industry is often in need of people who understand DSP, as is the telecoms industry. We'd never advocate becoming a corporate drone for a car company (because, really, who wants to do that?) but as a source of freelance income or a way to build your skills it's definitely worth looking at.



Pro Tip

● If you want to build guitars for a living, first you have to know how to play them. If you want to build synths, same deal. And if you want to build software synths you absolutely have to know how they work. If you haven't been spending your time messing around with synths and effects, and if you're not sure what the difference is between the different types of oscillator, then you're already behind the curve. It's easier than ever to get ahead, though (especially with this mag in your hands), so make sure your knowledge is up to scratch.



→ work if you can't do a bit of code compiling. It comes down to choice: if a company is looking at hiring you or someone who has your skills plus a coding background, they're going to go for the second guy.

Even if you're doing a job that doesn't involve tinkering with the guts of the instrument, having a knowledge of coding still helps. C++ is an excellent place to start, as many companies still use it to build their programs. We've dealt with some very basic C++ in this guide but if you're willing to spend time with it you'll find that it gives you a real edge no matter what job you're applying for.

Another thing worth knowing is DSP theory, especially if you're interested in the engineering side of things. DSP – Digital Signal Processing – is a very technical and complex body of knowledge that involves understanding how signals are changed, and the mathematical principals that underlie them. Unlike coding this isn't something we'd necessarily recommend for everyone who wants to work in audio →

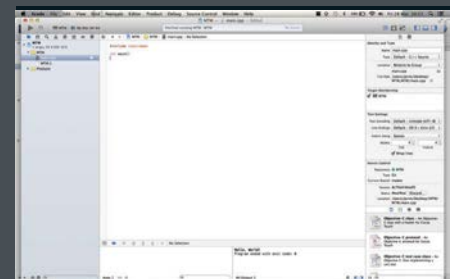
MTF Step-by-Step C++



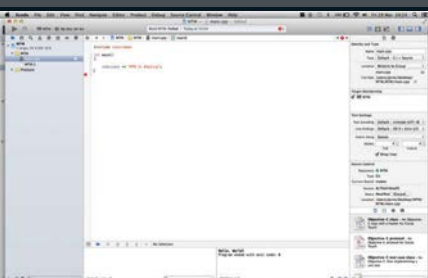
01 If you're serious about working in audio software design you could do worse than learn the programming language C++. It's complex, but it's easy to get started. First, you'll need a compiler, ie, something that enables you to put together your code. For Macs there's a free Apple compiler called Xcode, which you can download off the App Store, but there are plenty of other compilers available if it isn't to your taste. Once you've got one, it's time to start coding!



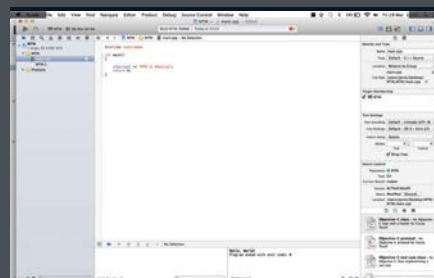
02 C++ is a tricky language. It demands accuracy: MusicTech, in C++, is very different from simply musictech. Open Xcode and create a new project with the Command Line Tool, making sure the selected language is C++. This default project is already loaded with the standard C++ intro program, Hello World. Click the Play button on the top left to build and run the program. Hello World will pop up on the bottom bar. Now we're going to do some basic editing.



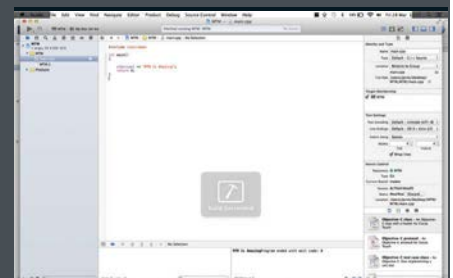
03 Click on the main.cpp file on the left. This will pop up Hello World's code. Select the text, and then erase it all – go on, trust us. Insert the following: `#include <iostream>`. That links your program right at the start to the operating system's code bank. You need that. What we're going to do next is construct a very simple program designed to output a specific sentence, and to do so everything needs to be in exactly the right place.



04 Leave a line, then add in `int main()`. On the next line type `{`. You'll close the code with the same symbol reversed, and anything inside these brackets constitutes your code. On the next line we're going to input the meat of our code: the statement. We want it to say 'MTM Is Amazing', so we need three things: the statement, the operator and the string. Altogether, they look like this: `std::cout << "MTM Is Amazing";`.



05 The `std::cout` is the statement. It tells the code stream what sort of code is needed. The `<<` is called an operator, and in this case it means 'output', ie, what will happen with the code. Finally, the string "MTM Is Amazing";. Note the semicolon: without it the program won't compile all the code. Leave a line, and enter `return 0;` to tell the program a value of 0, which means the code is finished. Then leave another line and type `}`.



06 Hit the play button again, and 'MTM Is Amazing' should pop up in the bottom-right corner. There is a long way between this little bit of code and an actual, working plug-in, though. C++ is a deep, complex language, and it takes a lot of work to producing anything meaningful. If you are serious about learning to produce plug-ins this way there are plenty of tutorials online that go into more depth than we can here.

MTF Spotlight Interview

The product designer

You'd expect the man behind one of the most popular pieces of audio equipment on the planet to have lived and breathed sound his entire life. But while Florian Grote certainly has a long-held love for music, he came to the job of Senior Product Designer for Native Instruments' Maschine from a very different route.

"I started at Native Instruments in the PR department," Grote says. "I worked with a lot of artists along the way and developed stage setups and iPhone apps. I got into product design and was around when Maschine was originally developed. At some point I just made the switch because I was becoming more involved in the product side."

Grote did have an audio background, though. He'd studied it at university as part of a cultural studies course and had spent plenty of time working with Max/MSP and Reaktor. He's living proof that you can come at a career in audio from almost any angle.

It's an incredibly high-pressure role. "My job is thinking about features for Maschine," says Grote, "then discussing them and sketching them out and creating interactive prototypes, then



discussing them with people outside of the company: management, expert users, panels of artists, our support team. They're very important because they deal with a lot of the problems that users encounter. So it's taking all the input, compiling it, thinking about the requests, and converting that into features we can develop.

"We have a lot of testing, as it's a really complex product," he says. "We prototype a lot, and that's becoming more important. We let people use it and then discuss it in a group which we moderate, or we ask users to complete certain tasks and think out loud while they do them. We also have a big beta programme to generate feedback."

Native Instruments is one of the most high-profile audio companies around, not just because of Maschine but because of other equally popular programs such as Reaktor, Kontakt, Battery, Molekular and more. But Grote says that while a background in DSP, C++, engineering and the like are always good to have, he's more interested in working with people who understand how hardware (and NI's products, in particular) get used.

"The bare minimum is an understanding of how our products are used. You need an audio background and you need to know what we're trying to do. C++ is definitely appreciated but it's probably more fundamental to understand the basic principles of software development: what's hard to do, what's easier to do."

SONOKINETIC GROSSO GRANDIOSE ORCHESTRAL SAMPLING



Pro Tip

● Think carefully about the design of your plug-in. One of the most annoyingly persistent things about most pro plug-ins is their use of knobs as a graphical control. We don't understand this: knobs are great for fingers, but can be pretty fiddly when you're using a mouse. If you can, spend some time making sure your controls are as simple and easy-to-use as possible. A fader, for example, is a much simpler method than a knob or a wheel for controlling a parameter.



→ as it requires serious study to master, usually through a degree. But if you do have it, you can take the edge that C++ gives you, and consider it infinitely sharper.

You'll need to have a basic knowledge of the programs that see action in the audio industry: Xcode, Git, Visual Studio, Wwise. A lot of these are complex enough to demand guides of their own, so we won't go

If you want to further your knowledge there are a plethora of coding courses

into too much detail on them here, but expect to be tested on your knowledge of how they operate.

Top marks

So where can you learn these skills? You won't find out how to create plug-ins from scratch at a dedicated audio school, at least not in the UK. The three big ones – Point Blank, ACM and SAE – are all excellent, but they're geared towards music production and the music business (although SAE does offer some programming modules in its advanced courses).

Ultimately, the best weapon you can have is a BSc in electronics or engineering. We realise this isn't a realistic goal for many people but fortunately it's a nice-to-have, not a must-have. If you're interested in furthering your knowledge there have been a plethora of coding courses popping up recently. Companies such as Steer, Rewired State, Treehouse and Code Academy all offer courses at varying prices – Treehouse, in particular, has gotten rave reviews and is remarkably affordable.

As you can see there are many paths to making it in the audio industry, so figure out which is the most realistic for you and follow it! **MTF**

MTF Spotlight Interview

The independent

There are few indie designers more successful than Urs Heckmann. Under the name u-he he's managed to create a name for himself in the world of audio plug-ins, mostly by doing things that nobody else has tried before. His ACE (Any Cable Everywhere) and Zebra synths have become part of many set-ups worldwide.



He started making his own VSTs in 1999 simply because he couldn't afford to buy them. An industrial designer by trade, Heckmann quickly took to programming. "I think what I do is similar to regular industrial design," he says. "We develop objects on computers but instead of manufacturing them according to those specs we add all the functionality and sell the results online."

Initially, u-he was mainly just Urs. Then in 2012 u-he exploded: his Diva and Dark Zebra plug-ins sold so much that the user base "practically doubled". Heckmann now has several employees, and u-he is one of the most important names in music production.

ACE, easily one of u-he's most popular releases, came about when the synth Heckmann was working on, Bazille, began to be too CPU-heavy. The team wanted something that would be easier on the system, but deep enough to satisfy modular enthusiasts. ACE, Heckmann says, was the logical consequence: "Its feature set is quite close to that of the ARP 2600 or the standard Roland System 100m. ACE adds some advantages, such as polyphony and a few strictly digital modules. I also wanted it to have a deeper 'geek vibe', so we added a circuit-bending section."

Creating a plug-in that will find fans, he says, takes a lot of different skills. "One must have experience with music production to really 'get' what audio plug-ins are all about," he explains. "Also, we always like to bring something new to the table – the core concept of a new plug-in must involve an idea that hasn't already been done, at least in that form. Having a vision for a new feature that makes sense is very important: people who are enthusiastic about ideas that nobody wants aren't going anywhere. The essential skills are product and graphic design, programming and marketing. I think the conceptual stage of plug-in design is a lot harder than the actual development part!"



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Secrets of the Toolbar

Despite its apparent simplicity, the Toolbar contains some essential tools for speedy and efficient music arrangement. **Mark Cousins** gets tool-ed-up.

Cunningly hidden at the top of the interface, the Toolbar is Logic Pro X's secret weapon for super-fast editing and arrangement, and a great way of extending a rough-and-ready demo into a developed composition. Technically speaking, many of the Toolbar's functions can be found as either assignable keyboard shortcuts or menu commands, but the Toolbar's real usefulness is its simplicity – simply select a few bars or regions and then hit the appropriate function for instant gratification! Though simple in execution, the Toolbar facilitates complex edits across multiple tracks, making it much easier to concentrate on the musicality of the track, rather than getting distracted by the process.

Toolbox

Since the release of Logic Pro X, the Toolbar has become a togglable part of the user interface, activated either using the Toolbar button on the Control Bar, or the keyboard shortcut **ctrl + alt + cmd + T**. By default, a healthy splattering of functions are included (most of which we'll explore in this workshop), but if you're working on a bigger monitor you can also add additional features into the mix by **ctrl+clicking** on the Toolbar and selecting the desired feature.

The key concept to grasp with the Toolbar's features is that many of the tools work with either a selected time period – defined in the bar ruler – or a selected region. In the case of time-based functions using the bar ruler, it's great that the two elements sit in such close proximity, letting you swiftly make an edit using the uppermost part of the Tracks area, often without having to go anywhere near any regions.

Eat, Sleep, Repeat

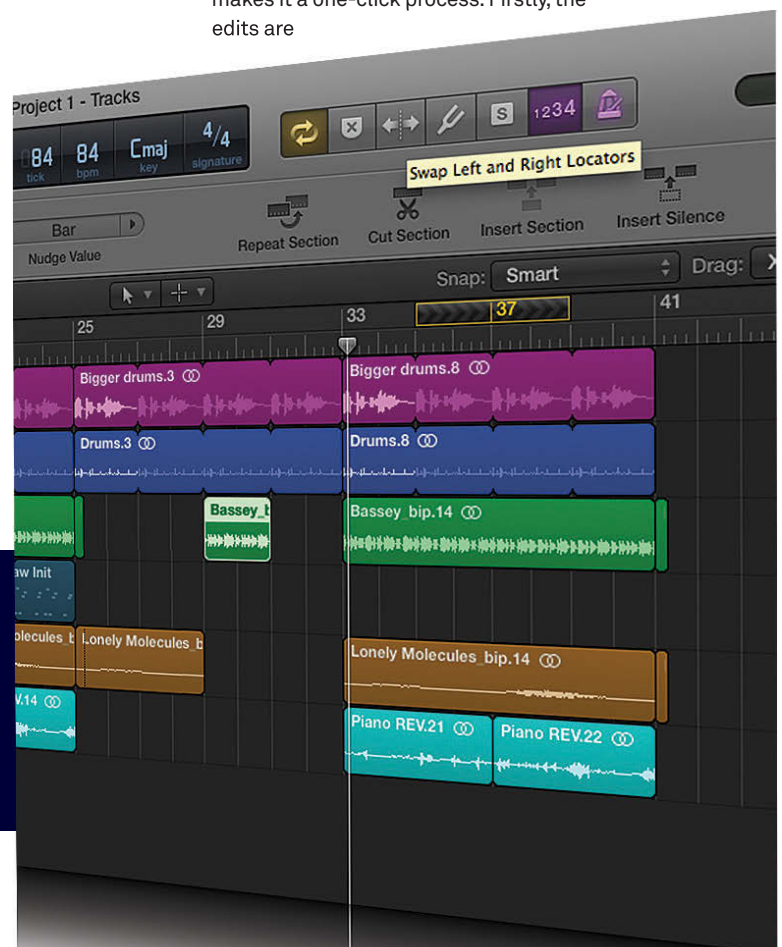
Arguably the most useful features on a day-to-day basis are those grouped to the right-hand side of the Toolbar, covering the Repeat, Insert and Cut functions. Put simply,

these are your 'macro' arrangement tools that allow you to Slice, Splice, Extend and Cut your track quickly and easily. Key to all these features is some form of selection in the bar ruler that defines the area you want to work with – either to

/// The **most useful features** are those grouped on the right side covering Repeat, Insert and Cut – your **macro arrangement tools**. ///

remove a passage; Cut Section, insert a given number of bars silence; Insert Silence, or cut and paste segment of the arrangement; Cut Section and Insert Section.

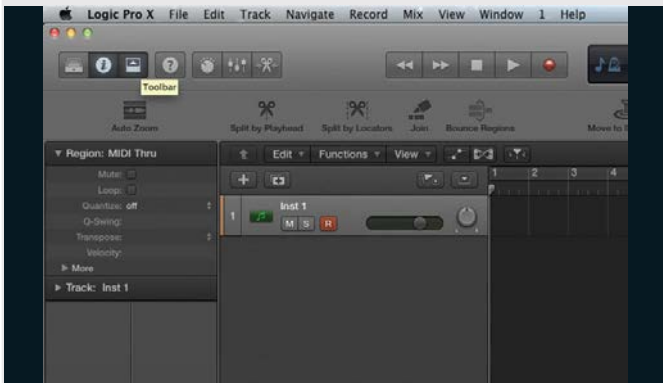
While it's possible to perform all these actions with the scissor tool and a bit of patience, the Toolbar largely makes it a one-click process. Firstly, the edits are



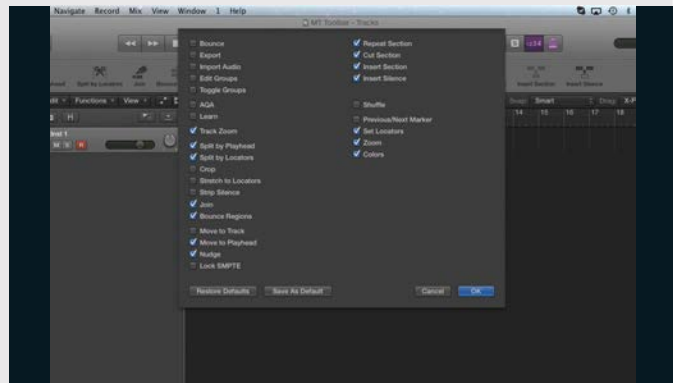
THE SKIP FEATURE

If you need to rehearse any arrangement edits, try making use of Logic's Skip feature. The Skip feature works much like Cycle, although rather than looping a segment of the timeline, it skips it. Start by setting a cycle for the region you want to skip, then in the Control Bar select the Swap Left and Right Locators button, which looks like two arrows pointing away from each other. By default, the button might not be on the Control Bar, in which case you need to customize it (by **ctrl+clicking** on the Control Bar) to make it active. Once active, the cycle will change shading, and if you start the transport before the Skip region, Logic will jump its playback to test the edit

MTF Step-by-Step Secrets of the Toolbar



01 By default, the Toolbar isn't viewable, but you can make it active at any point either using the button in the top left-hand corner of the Tracks area, or by using the keyboard shortcut **ctrl + alt + cmd + T**.



02 The Toolbar can be customized to your particular workflow. You can add or remove functions by **ctrl + clicking** on an empty area of the Toolbar. An accompanying dialogue box lets you drop in and out functions as you see fit.



03 The Toolbar makes most sense when used in conjunction with the bar ruler and the task of arranging a project quickly and intuitively. Before you initiate any of the Repeat, Cut or Insert functions, therefore, ensure you define the area using the locators.



04 Two of the most useful features of the Toolbar are **Cut Section**, and **Insert Silence**. Use **Cut Section** to remove a segment of the track you don't like, or, if you want to insert an number of empty bars, **Insert Silence**.



05 The Repeat, Cut or Insert functions are efficient tools because you don't need to select any region data. Using the Repeat function, for example, you can quickly extend a track, without having to edit multiple regions and move subsequent data.



06 As you'd expect, the combination of **Cut Section** and **Insert Section** can be used to duplicate a part of the song later on in the project. In this case, the new section is inserted at the current Playhead position.

performed 'Globally', that is to say, all regions within the given time period are modified, and any subsequent events are also moved accordingly. When you've got a project assembled from 100+ tracks this can be a real lifesaver, avoiding the potentially pitfall of forgetting to edit some of the material. Equally, events like tempo, time signature changes and automation (which can be often be forgotten) are also moved without you having to remember.

Bar manager

Although a large number of the Toolbar functions work

predominantly with the bar ruler, it's worth noting a number of options that work in tandem with both the bar ruler and one or more selected regions – most notably **Split by Locators**, **Split by Playhead** and **Crop**.

In essence, these Split functions are a useful step down from the 'Global' Repeat, Insert and Cut, letting you use the Bar Ruler and Playhead as form of editing tool. With **Split By Locator**, for example, you can define a global time frame in the bar ruler, then either activate **Select All** (**cmd+A**) and make the cut, or select a number of specific regions and then split them.



- Split by Playhead is a great tool because you can edit in a musical fashion, rather than positing an edit in a 'graphical' fashion, therefore, make use of Logic's transport. You find an out point simply by pressing stop and then activating Split by Playhead.

In mastering, the Split by Playhead option is an absolute godsend, letting you establish a final end point for a song in a musical way, rather than the rather more vague way of simply moving the end point of the region around until it 'sounds right'.

MTF Step-by-Step Secrets of the Toolbar (cont...)



- 07** The next Toolbar functions are interesting in that they work with both region and bar ruler selection. Split by Locators needs both a defined time period (in the bar ruler) and one or more selected regions before the function can be applied.



- 09** Once you've separated a region, it's interesting to use the Nudge tool and a means of re-positioning one or more regions without the use of the mouse. Set the value using the central drop-down menu, and then nudge the regions using alt + arrow keys.



- 11** Following Split at Playhead, another useful function is Set Locators by Regions, found at the right-hand side of the Toolbar. This sets a cycle length that sample-accurate to the length of the region, rather than snapping to a bar division.

All Tooled-up

Although its simple feature set might not set the world of music production on fire, the Toolbar remains an important part of Logic's workflow, and a perfect way of extending your existing editing skills in a musical and intuitive way. Having spent many years ignoring it (on the basis that all the functions could be initiated by key commands) it's interesting just how much the Toolbar has embedded itself into our daily workflow, especially when it comes to making speedy and efficient changes to our music's structure. **MTF**



- 08** Another variation of Split by Locators is Crop, which is a great way of trimming down one or more regions based on the cycle length. Crop a great way to separate an event without have to change both the start and end of the region.



- 10** The next few Toolbar features are particularly useful in mastering. Split and Playhead is a great way of setting the ends of a song in a musical way. Simply select the region, play it, stop the transport at the 'end' and initiate Split at Playhead.



- 12** With the cycle set exactly to length of the region, we can now Bounce our file (this can be set as an addition function on the Toolbar, to negate a trip to the mixer) to render a final file of an exact length.

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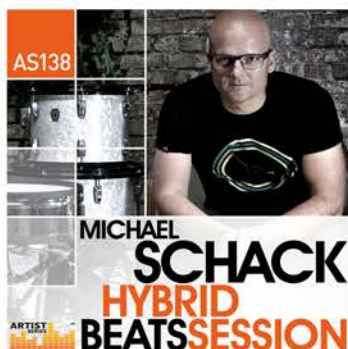
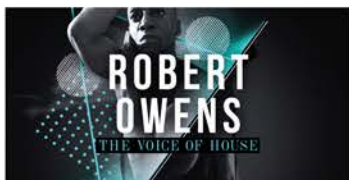
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Good automation practice in Logic

The effective use of automation can transform an average mix into a song that lives and breathes. **Mark Cousins** takes control of the faders...

When it comes to the craft of creating a finely-tuned mix, most mix engineers will turn to automation as a means of creating the perfect balance of sound. Unless you are working with deliberately static genres, all music works best when there's a dynamic interplay between instruments with some parts 'singing out' at key points while others sit back and form the 'body' of the track. Once you've established a broad balance of instruments, therefore, automation lets you ride the faders and shape the mix over time, whether it's something as simple as a few rides on a lead vocal, or a more creative mix where multiple instruments dip in and out of the texture.

While most of us should be familiar with the basics of automation in Logic Pro X, it's interesting to note how a range of existing features – like the Marquee Tool and Fader Groups – take on a new lease of life when it comes to automating a mix. In this workshop, therefore, we're going to take a broad look at automation that pulls in a number of the concepts, illustrating just how conducive Logic Pro X is to the task of mixing.

The Perfect mix

On the whole, automation data is written in one of two ways: either on-the-fly moves where you grab a fader, or control on a plug-in, and record moves as you make them, or manually, where you take a more precise approach where you draw a series of nodes to adjust one or more tracks. Use the Read, Write, Touch and Latch automation modes for recording moves on-the-fly, assuming that you've got the broad balance of instruments to a

satisfactory level. With a good mix established, Touch mode is the quickest and easiest way of tweaking the balance, as moves are only written whenever you grab hold of a fader. To avoid writing further moves by mistake, place the track back into Read mode.

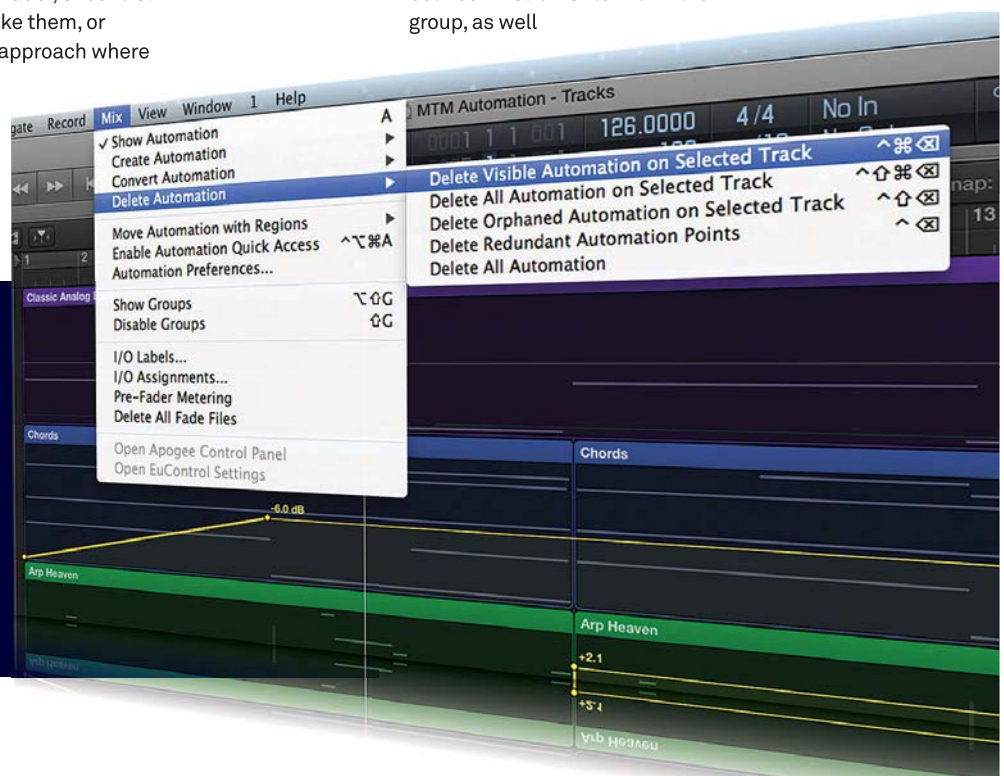
Automation lets you **ride the faders and shape the mix over time**, where multiple instruments dip in and out of the texture...

For precision mixing, drawing nodes in by hand tends to deliver the best results, letting you fine-tune the mix down to 0.1dB. Given that hand-drawn automation is a slightly more laborious approach, though, it's well worth utilizing some extra features to make your workflow slightly speedier.

One essential tool that I use is fader grouping, which lets you draw moves across multiple channels, rather than having to repeat them. Usefully, Logic keeps the balance between instruments within the group, as well

DELETING AUTOMATION

Not every move turns out perfect, so it's good that Logic Pro X includes an array of options for deleting automation data, found under Mix > Delete Automation. Usefully, the deletion options are directed, so, for example, you can choose to only delete the visible automation on the current selected track – erasing one parameter, while other hidden parameters are kept safe. Before you initiate this command, ensure you've closed down any additional automation track lanes, and left the current view on the parameter you want to delete. If everything goes wrong, of course, you always have the option to Delete All Automation, which will delete automation whether it's visible or not.



MTF Step-by-Step Logic automation guide

01 To view or edit Automation you'll want to have the Automation view enabled using the menu option **Mix > Show Automation** of the keyboard shortcut **A**. Each track has its own Enable Automation icon found to the left of the Input Monitor switch.



03 Using the Touch automation mode you can write automation moves in on-the-fly. When the control is 'grabbed', automation data is written to the track. Release the control, and Logic will return the parameter to its original state.



05 Where automation moves need to be placed across several tracks at once, consider using Logic's Group function. Start by placing the required tracks (in this case, the drums) into their own group via the mixer. The Automation Mode should be on by default.



02 All mixer controls and plug-in settings can be controlled by automation. Use the small arrow at the bottom of the track to extend the display to include further lanes of automation. In this case, we're working with the cutoff for Retro Synth.



04 Drawing nodes directly into the track lane can achieve a more precise form of automation. In this example, the chords have been faded in using two nodes – one at the start of the track and another where the chords hit -6.0dB.



06 With the tracks assigned to a group, any automation nodes written into one track will be written in the other. Note that Logic keeps the proportional balance between the tracks, so that instruments still sound balanced as part of the group.

as the integrity of any moves that are already in-place.

Fine-tuning

Once you've written various moves into the track, things can get difficult if you need to fine-tune the results further, maybe lifting a series of vocal rides by 1dB for example, or turning down a carefully automated bass line. Using the Trim mode (found as part of the track header) is a quick way of lifting an instrument throughout the track, even with a series of moves in place. Where you need the modification applied in a specific part of the track, consider using the

Marque tool as means of defining the area to modify. Once set, simply use the Pointer Tool to lift or attenuate the section as required, keeping the moves either side of it untouched.

As well as automating virtual instruments and audio tracks, it's also the case that you'll want to automate auxiliary channels used either as reverb returns, or for submixing. By default, these channels won't appear in the Tracks area, but by using the mixer's local menu item **Options > Create Tracks for Selected Channel Strips** you can create empty track lanes ready for automation data. As

→ there are no regions on these tracks, be careful if you move or duplicate part of your project, as the moves won't be copied across. As a quick fix, insert empty regions on these auxiliary tracks so that the moves are brought across appropriately.

Balanced decisions

Using the broad palette of techniques and tools we've outlined here it's interesting how much you can transform even the most basic of mixes. When a mix isn't quite

working, most of us turn to quick-fix tools, usually some kind of 'must have' plug-in, like a compressor or some other sonic gimmick. In many cases, though, the musical problems that we're presented with are often best solved by some strategic automation – making the mix more dynamic and letting the instrumentation sing! Letting yourself be guided by the music, and in turn, responding to the music you're presented, always produces the best results, and automation represents the perfect opportunity to explore this relationship. **MTF**

MTF Step-by-Step Logic automation guide (cont...)



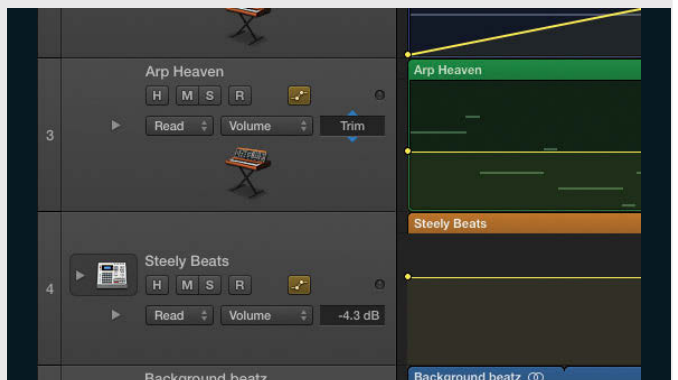
07 Automating FX returns or auxiliary faders used for instrument grouping can be an important part of the mix. Do to this, start by highlighting the required auxiliary channel in the mix and select Options > Create Tracks for Selected Channel Strips.



08 With the channels placed in the Tracks area you can apply automation as before (here we've pumped the level of the snare reverb). Note though, you might want to create empty regions so that you can move or duplicate the automation data.



09 Tweaking a mix often requires lifting just a small segment of automation data. Try using the Marquee tool as a means of selecting the area you need to modify, which you can then attenuate or lift accordingly using the Pointer Tool.



10 If you need to modify the track as a whole, use the Trim function found as part of the track header. Using Trim will raise or lower all of the automation moves, letting you change the broad mix after automation moves have been recorded.



11 Another interesting option is to change automation on a region-by-region basis. Select the region you want to associate the automation data with, then pick the menu option Mix > Create Automation > Create 2 Automation Points at Region Borders.



12 With the four nodes placed (two at either end of the region) you'll be able change the automation data specifically for that region, arguably making it possible to radically change levels between different regions in a way that would be impossible by hand.

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MUSIC HEARD

So, you've got some tracks together that you're happy with, but what are the next steps you need to take to bring them before the world?

Rob Boffard explores some of the best tried-and-tested ways of promoting yourself and your music and explains how you can get your tunes in front of the right people...



Recording an album isn't an easy task by any stretch of the imagination, but there's no question that it's the fun part of being a musician. You get to do what you love the most: being in a studio, knocking ideas around, creating music, pulling off the perfect mix. You're working on something that means everything to you – and chances are, you're having the time of your life doing it.

Most people, however, don't really like the part that comes after that – and for good reason. Because once you've made the album or the EP, actually making sure that people get to hear it is hard. It's not just about performing gigs – although that is, of course, still a big part of it. It's all the tiny bits that go with it: your online presence, social networking, meeting people, shaking hands, creating merchandise. Videos, free tracks, podcasts... none of it is sexy, and if we're going to be honest, it's not all fun, either. But that doesn't stop it from being absolutely essential. You can't just put your music up on your website and hope that people will notice it. There are more people than ever making music and more people than ever wanting to succeed with it, so you need to stand out, not just with your music but with your promotional tactics too...

Fortunately, while it might seem pretty daunting, there are some pretty straightforward things you can do to make sure that

promoting your music is done effectively. None of these are hard-and-fast rules – in music, there are never hard-and-fast rules, whether you're making it or selling it – but they do have some good principles behind them.

 You can't just **put your music up on your website** and hope that people will notice it 

The essentials

In this guide, we're going to go through some of these principles. We'll talk to key industry figures who act as gatekeepers between you and the listening public: the music PR, the journalist, the radio plugger and the social media expert. We'll go through all you need to know about promoting your music, from gigging to creating eye-catching posters and merchandise, and designing an electronic press kit.

Be warned: you should be prepared to spend a little bit of money doing this. You can do a lot of it for free, but things will move a lot faster and yield better results if you're prepared to spend a little to make them as professional as possible. Either way, this is all essential stuff. Dive right in...





The Unsigned Guide (www.theunsignedguide.com) is a one-stop resource site for up-and-coming bands.

ProTip

● Remixes can be an extremely powerful tool for promoting your music. Just ask Ray Volpe. The producer cooked up a fiery dubstep remix of Macklemore and Ryan Lewis' *Thrift Shop*, which really helped to get his name out there. Think about remixing other tunes, or – even better – get other people to remix yours. Someone else might see your music in a new light, or twist the genre into something else entirely. And when people hear the remix, they'll go looking for the original...

→ Public relations

If you're on a label, chances are you've got someone helping out with promo already. For the purposes of this guide, we're going to assume that you're an independent artist, with music ready to release.

You might reasonably ask why you shouldn't hire a public relations company to do the job for you. If you have the money – we're talking a few hundred or a few thousand pounds here – it can be a great way to skip a lot of the headaches. These are people who know the business, who have the contacts/skill to get their clients noticed. They'll also help you present yourself and your music in the best way possible; you can find out more about this in our interview with James Parrish, of Prescription PR, elsewhere in this article.

The downside? The cost. But if you're prepared to put in a bit of graft – OK, a lot of graft – you could try a bit of DIY PR. PR agencies will try to sell your music and you – not literally, the concept – to their contacts in the media. But in reality those contacts are available to everyone. The cheapest way is to hone in on a few select media that relate to the music you make (*DJ Magazine* for dance music, for example) and get contact details through their websites. A more expensive option is the *Showcase Directory* – £75 for 10,000 music industry contacts, including the media and PR companies.

The aim is to find the name of a person who deals with music reviews and email them a few lines and a link or even enclose an electronic press

/// You might reasonably ask why you shouldn't hire a public relations company to **do the job for you** ///



Above: Obsidian Publicity
www.obsidianpublicity.com
Below: Showcase Directory
www.showcase-music.com



kit (see our guide for more on that). There's a good argument that sending a well-packaged CD could pay dividends as it has become so unusual these days. Either way, make your bio brief – no one has the time to read anything too long these days. A PR company will include name of artist, label, genre, link to music and a photo – you should do this too. The label might be a sticking point if you are unsigned but it adds a little clout so when you invent your band name, invent a label as well. Everyone, it seems, runs a label, so why not you?

Don't forget a photo as well. You must know a photographer, as everyone claims to be one! We would advise against simply wearing sunglasses and posing, but try to stand out with an image of some kind (see our guide to creating a press kit).

So you can see by now that the DIY PR option is a tough one. It's hard work and you will certainly come across as more competent an artist if you are presented to the media by a professional PR company. There is one bit of self DIY you should do, however, and that is to email links, bios and photos to us – we put unsigned tracks in front of the MusicTech experts for feedback and have 150,000 visitors to MusicTech.net every month! ➔



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New York singer-songwriter Erin Barra took proactive steps to get her name and talent noticed by the music industry.

→ The show must go on

One of the best live shows we've ever seen was an in-store performance in London, in a tiny shop, to a crowd of about seven people, at one o'clock on a midweek afternoon. But to the three-man rap crew performing, it could have been Madison Square Garden. They put everything they had into it.

The last thing we want to do is try to tell you how to put on a live show. You know your music, what's best about it, what works and what doesn't.



Check out our interview with Erin in MusicTech Focus: Ableton Live 2013.

MTF Says Get Out!

Always try to meet people. Many listeners find their music online now and it's tempting to keep all your promotion there too, but that's a mistake. It's far better to get out: go to events, hang out at gigs, buy people drinks, get chatting...

Try to get introduced to people in the industry: music journalists, DJs, promoters. Be friendly, be charming, and try not to foist your music on them too soon. It might sound obvious, but it's worth repeating: if someone can see you're making an effort to get to know them, they'll be much more receptive when you mention you're about to drop some music.

And on that note: follow up. If you've met someone at a gig, remember their name and drop them an email or tweet later. Check out what they do and mention it to them. None of this should come as a surprise, but if you've spent the past year locked in the studio, it can come as a shock to actually get out and meet people.



Erin combines the best in technology with traditional skills to put on a truly unique live show.

/// To the **three-man rap crew** performing, it could have been **Madison Square Garden** ///

The only advice we have here is: do give a crap. Be on time, rehearse, get the soundcheck right; giving a crap no matter how small the venue or how seemingly disinterested the crowd.

When it comes to merchandise, there are ways to step up your game. Merchandise serves two roles: getting your name out, and making money. It's not expensive to order a bunch of T-shirts with your logo on them (don't have a logo? Get a logo. Find a designer and pay them). You can sell them for a good mark-up, and as long as they look good and you've put on a good show, you'll have customers.

Accept credit card payments anywhere on your iPhone, iPad or Android device: www.intuit-gopayment.com



Once you're
off the stage
you cease being a
musician and **start**
being a salesperson

Try to be inventive with your merchandise as well. T-shirts, hoodies, CDs and the like are all very well, but there's no limit to the number of things you can slap your logo on. When Aussie rap crew Bliss n Eso came to London, they were selling beer-holders emblazoned with their logo.

If possible, man the merchandising table yourself – and treat every customer like they're royalty. Once you're off the stage, you cease being a musician and start being a salesperson.

We have an additional tip in this regard. Most merchandising tables in a venue will allow only for cash transactions. This is crazy – by the end of the night, many people don't have £10 or £20 left in their wallet. If you have an iPhone, you can use a plug-in card reader such as Intuit to take mobile payments. If you have this set up, put a big sign up at the merchandising booth advertising that you do, and familiarise yourself with security issues so that you'll have an answer for anyone who asks about how you'll keep their details safe. →

Pro Tip

● Business cards aren't just for stuffy corporate execs. They're something you should have in your arsenal. People aren't really all that keen to get CDs anymore, but an eye-catching business card can sometimes mean they remember your name. You can get hundreds of cards made for relatively little outlay and you can be creative with how you present them. Unusual shapes, QR codes, a link to an exclusive track (shortened, please)... All these things can make your card stand out.

MTF Spotlight Interview

The music PR person

What's the difference between you and James Parrish? He'll make you look good...



Type 'music PR' into Google and James Parrish's

company Prescription PR is the first result to pop up. The Cambridge-based outfit handles public relations for Paul Weller, Roger Waters and dozens of other household names, as well as smaller outfits like Japandroids, Rufus Wainwright and Big Deal. Parrish founded the agency four years ago, and still runs online and national press. If you're his client, it's his job to get you into the public eye.

As you might expect from someone who makes it his business to sell music to often reluctant ears, Parrish comes across as poised and confident. "You come to us and we work out what we're dealing with: an album, a single, a SoundCloud page... We work with you to make sure you present your project in the best way possible. We'll help you pick what we think is your strongest material to go to press with. We'd get the imagery and artwork the best it can be; we'd build your profile. You should expect that at the end of the time working together, you have some press coverage to show for it."

The hardest thing for anyone promoting their music is the sheer difficulty in being heard. There's so much music available now, via so many different outlets, that it's a mission just to get above the waterline. "Ten years ago, we didn't have SoundCloud, broadband internet, access to different bands, and sometimes you might have a wonderful record and you might not hear back from people right away," says Parrish.

Of course, Parrish and Prescription charge for their services. But you do get what you pay for: Parrish says that what he and other PR companies offer is inside knowledge – knowing who to contact, and how and when to do it.

Whether or not you decide to go with a PR company, Parrish says that having your strongest material available for the media is absolutely key: "No longer can people use the excuse that you just have a demo," he says. "Home recording is now at a level where you can deliver really quality stuff."

His closing comments? "Decide where you want your music to be covered, make the best music possible, then go for it."

MTF Spotlight Interview

The music journalist

Duncan Dick helps to run one of the biggest music magazines on Earth. Here's how to get his attention...

Duncan Dick claims to have over 40,000

unread emails in his inbox. We haven't had the chance to count them ourselves, but it gives you an idea of the kind of stuff a music journalist has to wade through to find new music – and that's without counting the CDs and press releases that regularly pop through Dick's letterbox at *Mixmag*, where he is deputy editor.

Dick studied law at Strathclyde University, but despite his unusual background he has been at *Mixmag* for over a decade. When it comes to dance music, he helps to ferret out the new talent, and has helped the mag to keep its place as a tastemaker for the genre. While the internet has hit magazines hard, Dick says that no musician should neglect the print press: "It's definitely got harder for print journalists," he says. "But the prestige of being featured in a magazine is something that remains, whereas the web can be quite disposable. Our circulation isn't what it was ten years ago, but once you have a *Mixmag* feature, the response from the industry in terms of booking and profile makes a huge difference." He cites the example of their top-ten DJs list, which he says started a "real conversation" on Facebook and Twitter.

Getting the attention of a journalist – even a freelancer without Dick's responsibilities – can be tricky. But they remain a key way to get your music in front of listeners, and a mention on a blog or in a magazine can be a real boost – plus, you can splash it all over your social media.

When contacting journalists, it's best to get the basics right. Unless you have a professionally designed CD package, it's best to write a polite email with a couple of links and not to be put off if the journo doesn't get back to you. In addition, Dick says, journalists often have sources, like PRs or DJs, who they trust to deliver them good music: "The most important way that I find new music is through tastemakers. If you can get your music into the hands of DJs, we'll hear it. If you can get a tune onto a mix and it's a DJ we respect, we'll make the effort to find out what the tune is."



Pro Tip

● You may have noticed us talking about money in this feature. That's because it's essential to the promotion process. As such, you'll need to have a budget – and stick to it. The worst thing that can happen is for you to lose money on your project or put yourself into debt. Lay out exactly what you can afford to spend and get multiple quotes before committing to anything. It'll save you a lot of pain and heartache later.



Explore the numerous online outlets to make your music available to the listening public. Note that many services will require you to submit tracks in certain formats, so check first to avoid wasting time.

Companies like **TuneCore** or **CDBaby** take care of the admin for you and are **usually inexpensive**

→ **Easy access**

A key element to promoting music is making sure that your tunes are available on the outlets your listeners use – not just the ones you use. For most people, that means services like iTunes or Spotify.

To get music onto these services you'll need to apply, which can be done online. Although there are some hoops you'll need to jump through, particularly with iTunes (which demands things in a certain format, and that music has ISRCs, or International Standard Recording Codes), it's still



Check out websites such as CDBaby (www.cdbaby.com) and podcast services for further promotional opportunities.

Once your music is ready for release check out some podcasts and online radio shows

very possible to get onto the services. That being said, it may be worth looking into what's known as an aggregator: a service designed to get your music onto as many services as possible. Companies like TuneCore or CDBaby will take care of all the admin for you and are usually inexpensive. Whichever way you choose, the key is to make your music available and inexpensive.

Of course, it doesn't stop there. Once your music is ready for release – if, for example, you've got a single burning a hole in your hard drive – then check out some podcasts and online radio shows. Getting tunes onto regular radio can often be quite tough (just ask our radio plugger, James Passmore, who we speak to elsewhere in this tutorial) but podcasts are usually an easier bet.

Crucially, they don't need massive audiences to be effective. Good ones tend to have very dedicated audiences, and if they like your tune, you'll have

Pro Tip

● Hip hop artists pioneered the concept of street teams: hordes of volunteer promoters handing out mix CDs, stickers, flyers and guest list passes, all in return for free entry or some merchandise. While we're not suggesting you promote indentured servitude here, there's nothing to stop you recruiting a few up-for-it mates to hand out some flyers at a gig or offer people free press passes. Even if they say no, they might walk away remembering your name. Just tell your people to be very polite. Really. We mean it.



some solid fans you can depend on. Make a list of podcasts you like and politely hit up every single of them. Offer an MP3 or two, a brief explanation of what you do and why you think the DJ needs to hear your stuff.

When you do get airplay, be sure to thank the people who got you it. We simply can't stress this enough. A Facebook post or a Tweet linking to the show will do the trick.

Over the page we tell you how to produce an electronic press kit and talk to radio plugger James Passmore. I hope that this feature has given you enough to push your music. So get it out there now! →

MTF Says No money?

You're probably noticing a theme developing here. Promoting music costs money.

Not a lot of money – you shouldn't have to start selling studio equipment to fund your album promo – but there are certain things that will be a lot easier if you have a little bit of cash put away. In this article, we've tried to focus on either free or very cheap ways to get promo sorted, but sometimes you're going to need to dip into your own pocket.

Out of cash entirely? Why not start a crowdfunding campaign? You can use sites like Indiegogo or Kickstarter to get fans to contribute to the costs of your launch, in exchange for some perks. If you have a pre-existing fanbase, this can be a great way to build up the funds.

Just be warned: crowdfunding is a lot of work. You need to create a campaign video, make or figure out something for your backers to get and monitor donations. And nothing will lose you fans quicker than not being able to deliver on the perks for your backers. So before you offer to perform in someone's living room should they contribute £1,000 to your album, make sure you can actually get there and do it!

→ **Pro Tip**

● Get thee to a music event! Showcases like MIDEM or RADAR are ideal, giving you the chance to meet people, check out the competition and see who the movers in your genre are. And while we're on this topic: read as widely as you can - not only *MusicTech* (obviously) but industry mags like *Music Week*, as well as more general-interest stuff. Treat your career like a job; if you were getting a salary for this, you'd be on top of developments in your field and making contacts constantly.

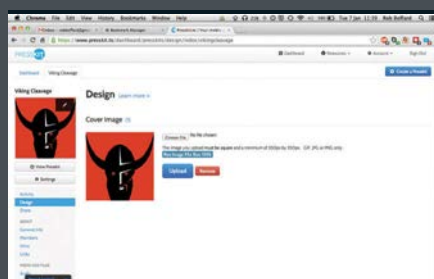


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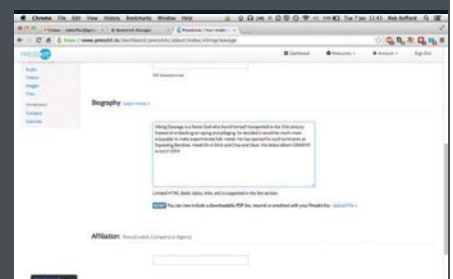
MTF Step-by-Step Creating an EPK



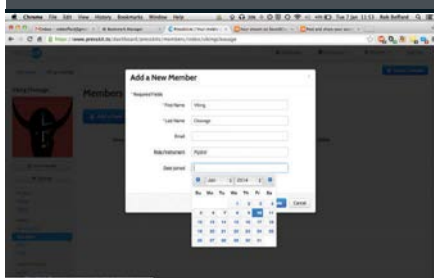
01 Putting together a solid Electronic Press Kit is crucial to making your interactions with journalists and DJs painless. Make it easy for them to get what they need, and they will remember you. While you could put together a version yourself using desktop publishing software, there are plenty of free or very cheap services that will let you create something professional. Here, we're using presskit.to, which lets us create a version online, accessible through a single link.



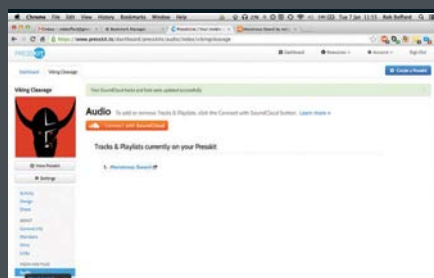
02 Your imaging should be consistent across every site you use – Twitter, Facebook, Bandcamp, SoundCloud, whatever. That includes your press kit, so make sure that your logos or band pics are available in a good range of sizes and formats. JPG and PNG files will be OK to start with; if you need to switch formats, try an online service like CloudConvert. Here, we've uploaded our Viking logo to be our press kit's main image.



03 Another thing to make consistent across all your outlets: your biography. It should be short, snappy and to-the-point, giving a clear indication of who you are, where you're from, the kind of music you make and any accolades you've received. If it's too long or too waffly it won't be read, so spend some time editing it down.



04 Presskit.to allows you to list individual band members (if you have them) and their roles and instruments. You can also put down a chronological list of achievements, which is handy. A general tip: whenever you've edited something on a page, click Save. It sounds obvious, but you have no idea how infuriating it is to have spent ages tweaking a piece of text only to lose it with a careless click.



05 Now for the most important bit: audio and video. We'd recommend SoundCloud for this as once you've uploaded your tracks you can share them just about anywhere. Don't forget to upload press photos as well; they need to be upward of 1MB in size, at least, and they have to look professional. If possible, hire a photographer to take some for you. You will use them over and over again.



06 Our completed press kit. Make sure you keep yours updated as your career progresses, ensuring that you add new tracks to it as you release them. Now all that's left is to actually share it. Putting it in your email signature and website is a good start, and if you have a business card or a mix CD you're passing around, it should go on there, too. The easier you make it for people to find you, the easier time you'll have getting heard.

MTF Spotlight Interview

The radio plugger

For James Passmore, nothing less than beating Justin Timberlake to the top of charts will suffice...

James Passmore knew he'd pulled off a coup when one of the acts on his roster beat Justin Timberlake to the number one spot on the UK album chart.

Passmore is a radio plugger. As the head of Plugged In PR, it's his job to get his acts played on as many radio stations as possible, as much as possible. With HAIM, the trio of sisters from the US, he knew he had a challenge on his hands – but with his help, they ended up overtaking JT.

Plugged In has become one of the go-to plugging firms in the UK. Passmore not only managed to get HAIM on his roster, but other acts such as Flume, Bloc Party and The Naked And Famous.

The success of his campaigns, including HAIM's, came because Passmore knows his radio. In getting airplay on any station, knowledge is key: "It's extremely important to know the shows you're plugging so you can ensure that you only send them music that is appropriate to their output," says Passmore. "By doing this you can gain their trust, so that when you flag a brand-new band to them, they take notice."

When you're pitching songs to radio, he explains, it's also important to manage expectations. There are only so many slots available on any playlist, after all – and it can be mighty tough to get a song onto some of the bigger shows.

"I start my campaigns by trying to pick up support for the single from the specialist shows that I think are best placed to champion the act and start building a story and profile for them at national radio," Passmore says.

Like any service, radio-plugging costs money. While Passmore says that artists need to employ a plugger if they want to "step things up and build towards regular specialist play and playlists," he also says that artists would be crazy not to take advantage of the free services. Things such as *BBC Introducing* and *Amazing Radio* are great for independent acts to get some airplay: "If you've already had some radio support then you will be a much more attractive proposition to potential pluggers, record labels and publishers," he notes.



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Creative MIDI editing in Logic



Logic's heritage as a MIDI sequencer really shines when it comes to adopting a speedier and more creative approach to editing MIDI data. **Mark Cousins** takes note...

One of the key skills of producing music in the virtual domain is MIDI editing: refining the all-important musical data used to drive the virtual instruments in your Logic project. All too often, though, it's easy to overlook the ability to edit and refine MIDI data – to be distracted by an all-together more alluring world of instrument plug-ins and effects – but in truth, the way that you handle and manipulate MIDI data can be as creative as any part of the production process. Handling MIDI data in a fluid way, and understanding the myriad of creative possibilities that can be applied to it, can transform your music in a profound way.



menu-driven ways that Logic can transform your MIDI data, often applying a process that could take an eternity to carry out by hand. Ultimately, the combination of improved note selection, along with some handy menu-driven transformations gives you more freedom to be creative with your MIDI data, whether you're editing a complex drum pattern, moving different musical lines around a virtual orchestra or using controller data to make your music more dynamic. Enjoy the tutorial! **MTF**

This tutorial is endorsed by Point Blank Music School which specialises in courses on production, sound engineering, the music business, singing, radio production, DJ skills and film production, all run by top British music producers and media professionals, with regular visits from legends in music and media. www.pointblanklondon.com

It's easy to be **distracted by alluring plug-ins**, but editing MIDI is **a creative process**

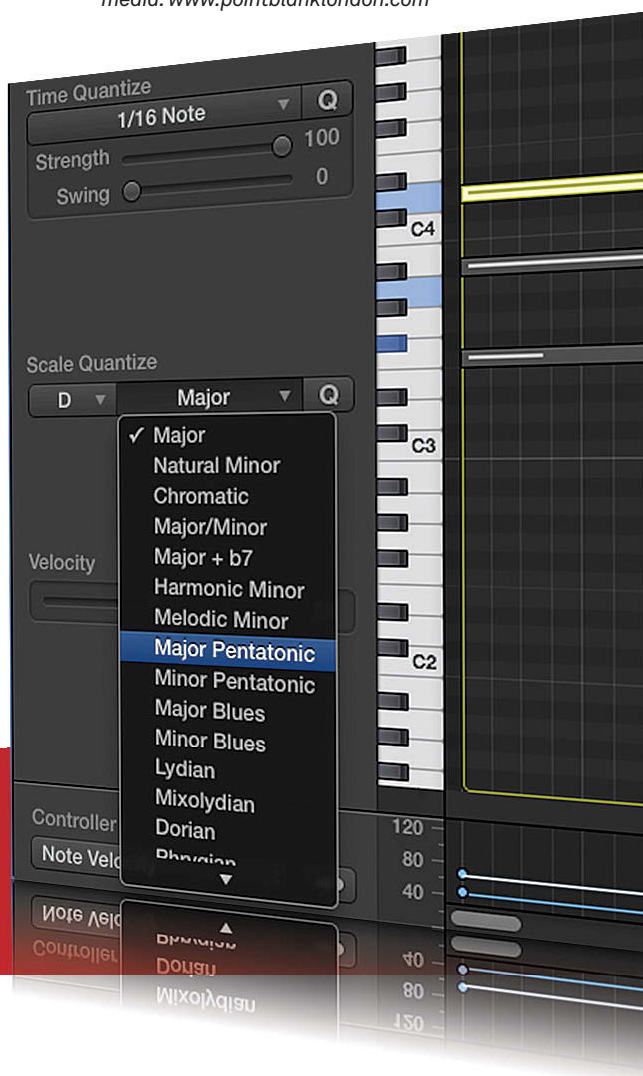
Rather than exploring Logic's MIDI editing features in a laboured way, we've decided to take a look at a variety of techniques and possibilities with MIDI editing that might suggest new ways of working, or a more balanced use of all Logic's features. At first, we explore the link between the Inspector and the Piano Roll editor, two of the primary means of editing MIDI data in Logic, as well as seeing the potential importance of 'normalizing' some of your edits along the way.

One of the key overarching themes in this workshop is the idea of 'intelligent' selection – selecting multiple MIDI notes using a few simple keyboard shortcuts rather than highlighting them on a note-by-note basis. With many MIDI performances often containing tens, or even hundreds of notes, it's often the speed and efficiency that you select notes that can make a real difference to how quickly your MIDI edits are applied.

Beyond note selection, we also look some unique

FOCUS ON... SCALE QUANTIZING

One of the more intriguing elements of the Piano Roll editor is Scale Quantize, which works as a form of pitch-correction tool on MIDI information. Selected notes can be set to a user-defined scale – like Major or Natural Minor – as well as a chosen key. One immediately-interesting application is to use one of the more unusual scale types – like South-East Asian or Dorian – to see how it transforms your music. Another possibility worth exploring is the combination of MIDI Transform's Random Pitch combined with Scale Correction, which transforms an otherwise atonal collection of random notes into something that could be considered music.

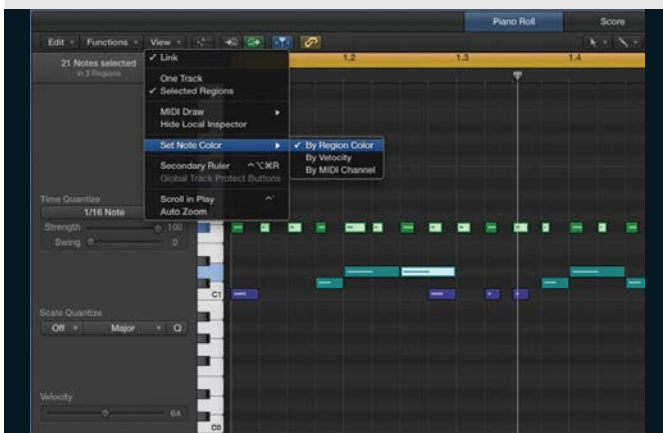


MTF Step-by-Step Improved Drum Editing

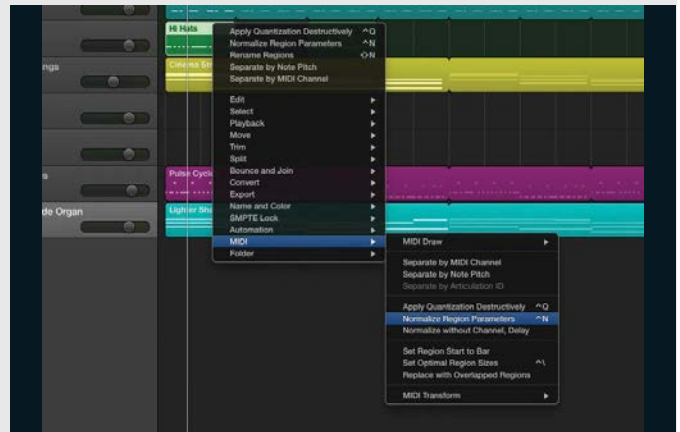
01 In this first example we're going to explore some possibilities with editing drums, starting with the hi-hat pattern. The Inspector is often the first port of call with many MIDI edits – in this case, applying a straight 1/16th quantize and fixing the dynamics – using the extended region parameters as part of the floating region inspector, alt + R – so that the velocity is flat.



03 One of the key ideas behind more efficient MIDI editing is the idea of intelligent selection. One of the best examples is arguably the menu option Select > Same Subposition, or Shift + P. In the case of the hi-hat we can select the accents for one bar, then initiate the Same Subposition command to have Logic select the remaining bars.



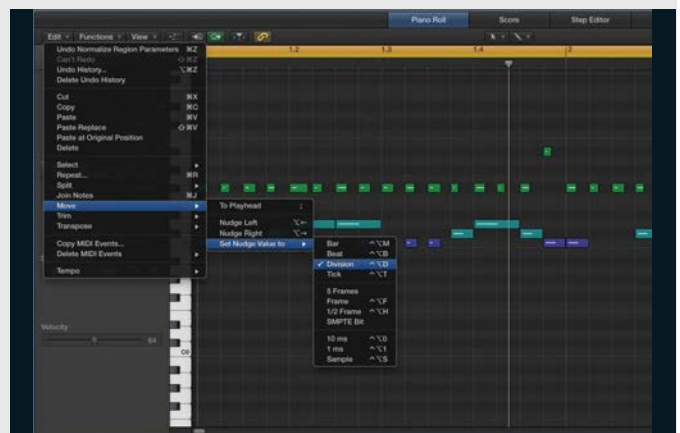
05 If you're working between multiple regions, it's worth remembering the Set Note Color function as part of the Piano Roll editor. In this example, try selecting all the drum-based regions and then open the Piano Roll editor. Now switch the colour setting using the menu option View > Set Note Color > By Region Color.



02 Editing between the Inspector and the Piano Roll editor can get a bit complicated when you're moving between the two layers of editing, so it's often useful to normalize the region parameters, making the region edits permanent. Ctrl click on the region and from the MIDI sub menu select Normalize Region Parameters. The quantize and dynamics changes are now hard-written.

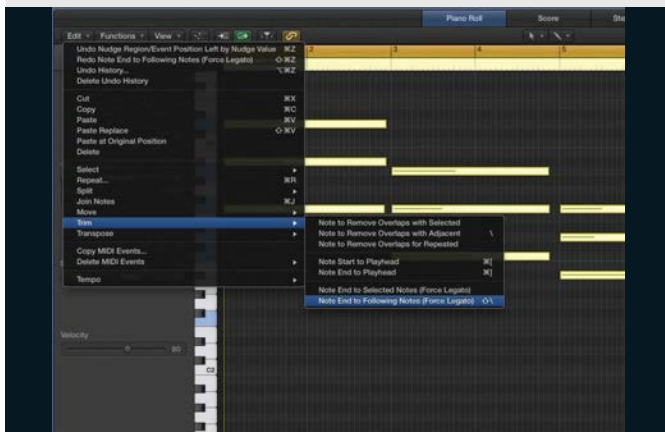


04 With the notes selected, we can now use the Velocity slider as part of the Piano Roll's local inspector to increase or decrease their relative level. If we want to adjust the level of the other notes in the pattern we can use the Invert Selection function – Shift + I – to shift our current selection accordingly.



06 Another useful tool for MIDI drum editing is the Nudge feature, which enables you incrementally shift the position of one or more notes using the left and right arrow keys in conjunction with the Alt modifier. You'll need to set the nudge value (Move > Set Nudge Value to > Division) to ensure it's set to a division for 1/16th movements.

MTFStep-by-Step Dealing with MIDI chords



01 The next few examples explore some interesting techniques in relation to working with chords. One really useful tool in this context is the Force Legato feature, found under Trim > Note End to Following Notes (Shift + \). Try this on the Cinematic Strings region and see how the note length is changed to make a smooth transition.



02 One useful skill with chord sequences is the ability to split-out the notes to different instruments – in this case, doubling the bottom two notes on clarinet and the top note on flute. To start, copy the strings to the clarinet, open the region and use the menu option Select > Highest Notes (Shift + Up Arrow).



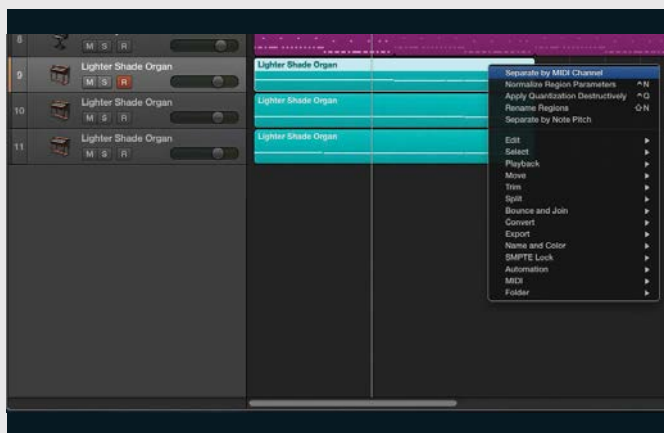
03 With the top notes selected, press mute (Ctrl + M) to silence them. Copy the region over to the flute, select the muted notes (Shift + M), un-mute, Invert the selection (Shift + I) and then mute. While this seems complicated, it actually illustrates how a few simple key presses can transform your MIDI Data.



04 An interesting alternative to the technique described here is the menu option Functions > Set MIDI Channel to Voice Number, which divides a chord between a series of MIDI channels. This is well worth doing with the View > Set Note Color > By MIDI Channel enabled, so that you can see the MIDI assignment by colour.



05 Try applying the Set MIDI Channel to Voice Number function on the Hammond track. In this case, the notes end up being divided among the three different organ manuals (Upper, Pedals and Lower). You can achieve some interesting effects changing the drawbar setting between the three manuals, colouring each part of the chord in a different way.



06 If you're intending you use your separated note data with other virtual instruments, it might be worth using the contextual menu item MIDI > Separate by MIDI Channel. Once applied, your original sequence data will be split into three regions, one for each voice of the chord, each of which can be mapped to a separate virtual instrument.

MTF Step-by-Step Getting creative – controller data and beyond...

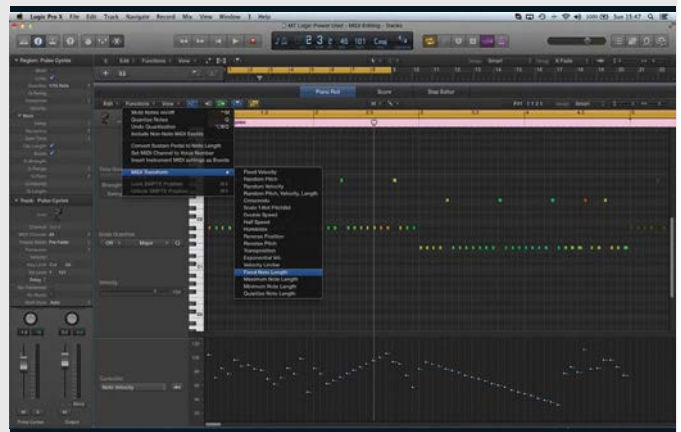
01 The MIDI Draw area at the bottom of the Piano Roll editor is where you can access the MIDI controller data and, of course, MIDI velocity settings. This view is particularly useful if you use the note data by Region Colour view, although it's also handy in that you get a detailed overview of the respective velocity level between notes.



02 Using the drop-down menu in the local inspector, you move between any one of the 127 assignable MIDI controllers. Working with the synth bass track, for example, we can use the modulation to controller the filter cutoff. Use either the pointer tool to add new nodes or the pencil tool to draw freehand.



03 One of the key points to note about the MIDI Draw area is that you can access the same information at arrange-level. From the Tracks Area, use the local menu item View > MIDI Draw > Modulation. You should now see controller data directly from the arrangement, although you'll need to make sure the vertical scaling is suitably 'large'.



04 When it comes to modifying MIDI data, there's a host of possibilities to be found under the Functions menu in the Piano Roll editor, especially under the MIDI Transform sub-menu. Whenever you apply a transform, Logic will take you through to MIDI Transform dialogue. Click on Select and Operate to initiate the transform.



05 Working with the Synth Bass part, there's a number of interesting transforms we can apply. Fixed Note Length adds a more machine-like feel to the sequence, especially if we then reduce the note length by half (effectively creating notes 1/32nd in duration). Also try Random Velocity as this is mapped through to the Filter.



06 Going back to the drums, one of my favourite MIDI transforms is the Humanize option, which adds small amounts time drift and velocity randomisation to mimic the style of a 'human' performance. The great thing here is that you can add Humanize progressively – making the performance looser each time.

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Better mixing in Logic Pro X

Logic Pro X comes packed with features to help you mix effectively. **Mark Cousins** reveals the best ones for your perfect Logic Pro mix...

Mixing is easily the most creative part of the recording process, so it's reassuring to note that Logic Pro X has a range of features that can aid the mixing workflow, as well as ensuring your mix is as musically effective as it can be. However, in the virtual domain it's easy for the task of mixing to become a sloppy exercise, often tagged onto the process of writing and recording the track rather than a distinct and separate part of your creative workflow. Creating a better mix, therefore, is often more about how you're mixing, rather than finding that elusive 'quick-fix' plug-in setting that makes everything sound 'good'.

In this workshop we're going to explore a number of key



With a more organized project in hand, the second section explores where best to instantiate FX plug-ins, both in respect to channel inserts and bus sends. In many ways, this is where the finesse of a mix really lies – whether a compressor sits before an equalizer, for example, or the ability to precisely place a delay tap in the stereo field. Ultimately, it all helps create a more reasoned soundstage that ensures your music is presented as effectively as possible.

In our final section we take at the real 'secret weapon' of a good mix – automation. While it's possible to get 80% there with a static mix, automation offers the icing on the cake, ensuring every piece of your music puzzle is articulated throughout the entirety of the track. Understanding Logic's various automation modes – Touch, Write and Read – will allow you either to record fader moves in 'on-the-fly', or take a more methodical hand-drawn approach that lets you tweak a mix right down to 0.1dB. **MTF**

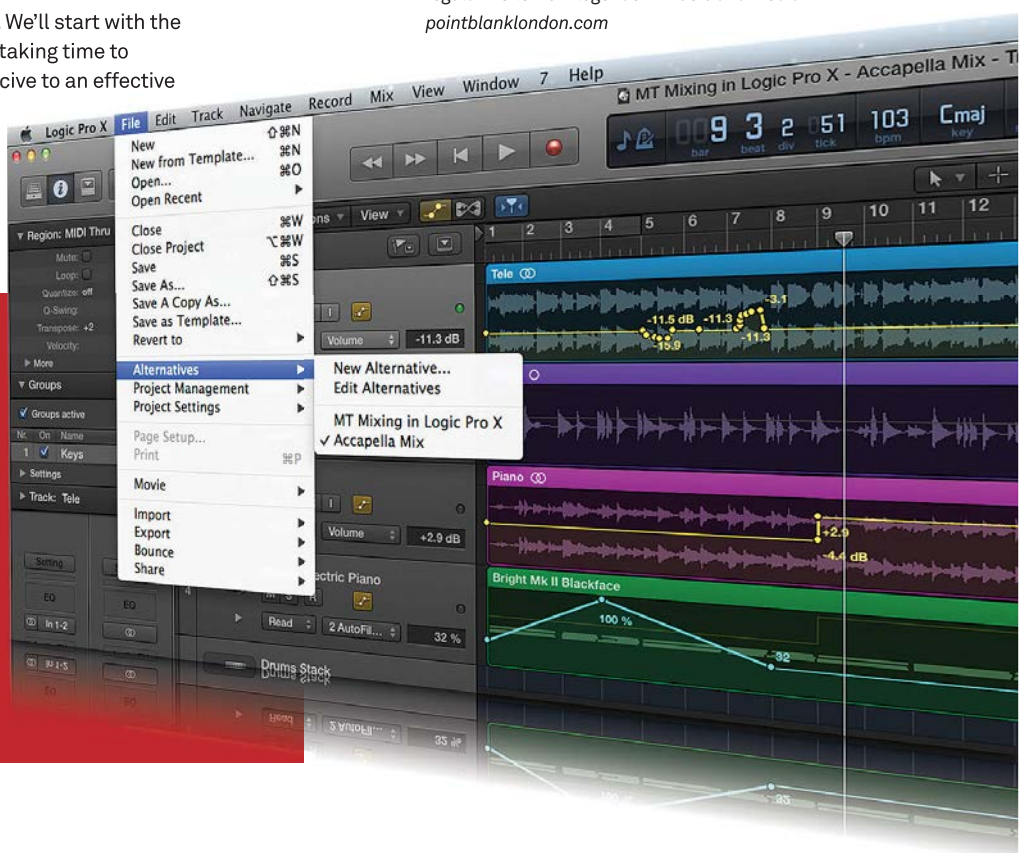
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It helps **create a soundstage** where your music is presented as **effectively as possible**

processes that can improve your mixes. We'll start with the basics of a more methodical approach, taking time to organize your session so that it's conducive to an effective mix. From an improved use of bus sends, though to Track Stacks and Groups, we'll see how an organized mix can often end up sounding more defined and less haphazard.

FOCUS ON... CREATING ALTERNATE MIXES

Logic's Alternatives feature – found under the File menu – is a great way of exploring different mixes of a given project. Rather than re-saving a project, the Alternatives feature offers a duplicate arrangement and mixer, all sharing the same project data. As such, you can quickly create alternative versions of your project – like an instrument mix, 30-second commercial cut, or even a remix – without having to open a new document. The Alternatives feature is also useful if you want to explore a different take on the mix, all with the option of restoring your last 'stored' alternate mix if you decide that the approach is wrong.



MTF Step-by-Step Cleaner mixing

01 Creating an organized mixer layout can really aid your mixing process, especially if you're running a large number of tracks. To begin with, consider how best to order your tracks so that you can navigate the mix effectively. As long as the mixer is set to Track Mode, the order in your Tracks Area will be reflected in your mixer.



02 If you've used the Library, it's likely that you'll be left with a large number of dormant bus sends and auxiliary channels. Consider removing the unwanted bus sends, therefore, and deleting their associated aux channels. It also worth instantiating the bus sends so that Bus 1, for example, is only ever on the first send slot.



03 To create a defined depth to the soundstage, it's often the case that you only need to use around three reverbs, each with a progressively larger size setting – Small, Medium and Large. In this example, we've instantiated and named the three reverbs, as well as made the relative bus sends clearer by their slot assignment.



04 Where you have groups of sounds - like a collection of drums, for example – it's well worth creating a Track Stack. Create the Track Stack by cmd-clicking on the desired tracks, and then selecting the menu option Track > Create Track Stack. When prompted, select a Summing Stack so that you have a master fader.



05 You can open and close the stack using the small arrow in the Track List. It's also worth naming the Summing channel (currently labelled Sum 1) and possibly colour coding it for clarity. On the whole, the mixer is clearer with Track Stacks placed towards the end of the mixer, so consider moving Summing Stack accordingly.



06 An interesting alternative to Track Stack is the Group function. A Group links the fader's movements, rather than sending them to a summing fader, but you don't get the option of hiding the tracks. Assign a Group using the Group slot just below a fader's output assignment. You can suspend Groups at any point with the keyboard shortcut Shift + G.

→ MTF Step-by-Step Using signal processing



01 As you're piecing together the mix, try to make a distinction between the signal processing applied on channel inserts and via bus sends. On the whole, inserts should be reserved for changing tone, timbre and dynamics. Also, experiment with the order of processing as this can have a subtle but important effect on the cumulative sound of the plug-ins.



03 With both reverb and delay, we can control the amount of effect in the mix either with the relative level of bus sends, or by modifying the aux channel accordingly. From a mix perspective, you also gain the option of applying processing solely to the reverb – rolling-off the bottom end with an equalizer, for example, or adding a touch of chorus.



05 With every rule there's an exception, and in this case it's the application of compression as a send effect, creating what is often referred to as parallel compression. Create bus sends from the main drum channels, and instate a compressor plug-in across the newly created aux channel. Setup a fast-acting compression on a 6:1 ratio, yielding around 10dB of gain reduction.



02 By contrast, bus sends are reserved for ambience effects – namely, reverb and delay – where it's important to control the amount of effect, also referred to as the wet/dry ratio. If you're using reverb, consider using the Post Pan option on the Bus Send slot as a means of preserving the signal's stereo position.



04 When you're applying delay, it's well worth considering how it's placed in the stereo field. For example, the Telecaster in our Logic project is panned slightly to the left. Sending the Telecaster to a 16th tape delay, though, we can pan the delayed signal to the opposites side of the mix, adding a unique dimensionality to the mix.



06 As with reverb and delay, the added dimension of parallel compression is decided and the amount of 'squash' injected back into the mix. In this case, the level of the aux channel sets the density of the effect, and the amount of body added to the drums. Remember to route the signal through to the drum bus as well.

MTF Step-by-Step Adding automation

01 Although it's possible to control a lot of the mix using dynamic processing, there's still often a need to tweak the mix using automation, usually to help accentuate a particular part of the mix that's getting lost in the body of sound. The first stage of adding automation is to enable the Automation View using the keyboard shortcut A.



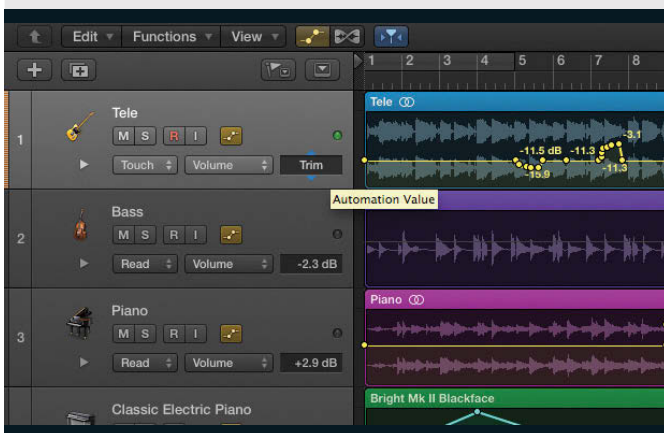
02 The automation modes – found in the track header, and as part of the mixer – are important in defining how you apply the automation. Use the Touch mode for example, for manual on-the-fly fader moves. Automation is written while you hold the fader. When you release, the fader returns to its original level. Read, of course, is the safe playback mode.



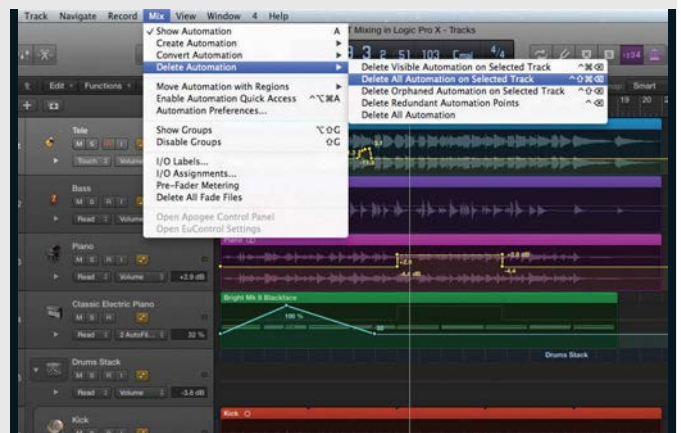
03 For more precise control over signal levels, consider using the Tracks Area and drawing the moves by hand – either using the Pointer or Pencil tool accordingly. If you need to raise a specific section, consider using the Marquee tool to define the area, and then use the Pointer tool to create the desired amount of lift or cut.



04 While most automation moves are concerned with the volume, it's also worth noting that you can automate any plug-in parameter in Logic's mixer. Use the drop-down menu in the track header to change the currently viewed parameter (listed by plug-in). For example, try changing the filter cutoff on the Rhodes track so that it slowly opens over four bars.



05 One potentially annoying aspect of automation can be re-gaining the current settings – lifting a track by 2dB, for example, once a series of moves have been written in. Use the Trim control, therefore, as part of the Track Header to attenuate or lift the level globally across a track, keeping all the moves in place.



06 In situations where the automation has gone horribly wrong, or is simply becomes redundant, consider exploring the various delete features found under the menu option Mix > Delete Automation. You can delete 'visible' automation data, for example, automation data on a selected track, or all automation data across the entire project.

Sequencer-driven synth sounds

Using a combination of the Arpeggiator MIDI plug-in and Retro Synth can unlock some powerful sequencer-driven synth sounds. **Mark Cousins** shows you how.

The combination of a synthesizer and step sequencer is one of the cornerstones of electronic music: from Giorgio Moroder's chugging Moog-driven bass line that powered *I Feel Love* through to the diminutive TB-303 that kicked-started a whole musical genre in the form of Acid House. If we want to recreate these sounds and effects in Logic Pro X we can use the combination of the Arpeggiator MIDI plug-in (which, as we'll see, is a lot more than just an arpeggiator!) and Retro Synth, along with few strategic audio plug-ins to add depth and interest to the results.

Although we looked at both the Arpeggiator (as part of MIDI plug-ins) and the Retro Synth before, this workshop is designed to unite the two components so that they work in a dynamic fashion, often exploring effects that might not be immediately apparent. As we'll see, the techniques even go so far as to suggest a different way of writing music, using relatively simple one-note lines that trigger more musical-complex sequenced lines. As with the TB-303, it lets you create frenetic sequencer-driven sounds with having to worry too much about what you're doing!

Beyond the Arpeggio

Although most of us will be familiar with the Arpeggiator's Live mode, its real versatility lies in the Grid feature, which effectively turns the plug-in into a form of step sequencer. Rather than just playing swathes of notes at 16th divisions, the Grid mode offers the potential to create a more 'programmed' output, creating rhythmic staccato chord sequences, for example, or complex filter movements formed from a pre-defined pattern.

As you move over from Live to Grid mode, you'll notice a number of additional features. Firstly, we can establish a number of steps in our sequence, usually defaulting to 16 steps, although of course, you can use odd-numbered sequences, or up to 128 steps for a longer sequence. Each step can be given its own velocity level, as well as moving between chord mode (where it plays the chord as a whole)

and a traditional arpeggiator mode, where it steps through the notes of the chord in sequence.

Going Retro

Getting the most from the Grid mode involves a few tweaks and observations to be made with Retro Synth. By default,

/// The techniques even go as far as suggesting a **different way of writing music** creating frenetic sequenced music with **without knowing what you are doing!** ///

velocity tends to get mapped through to the two envelopes of Retro Synth, so that a harder velocity increases the amount of amplifier envelope and the amount of filter modulation. This is a sensible approach if we want the synth to respond like a real instrument, but it doesn't make so

MODULATING THE ARPEGGIATOR

If you enjoy using the Arpeggiator in a live, performance-driven way, it's well worth taking a closer look at the Controller tab, where you can establish various forms of MIDI control over the Arpeggiator. By default, the Sustain Pedal is assigned to Latch mode, but it's also worth experimenting with the Modulation Wheel (or another available MIDI controller) controlling Note Length. Once set, the Modulation Wheel has direct control over the length of each note, so that you can move between a short, staccato like arpeggio effect to something much more flowing. As you'd expect, these movement can be recorded into your sequence, and really help add another level of musical interest.



MTF Step-by-Step Logic Sequencer Synth

01 MIDI FX plug-ins can be instantiated in an instrument channel strip, just below the EQ display. In its basic configuration, the arpeggiator will arpeggiate any chords that you play using a music division based on the Rate parameter.



03 Effects are often an integral part of many sequencer-driven synth lines. Two of the best effects to explore are tempo-synced delay lines and reverb, both of which help spin the notes out within the stereo field and enhance the depth.



05 Click on the chord control on each step to have the arpeggiator move from playing single notes to the chord in its entirety. Change the velocity levels to create some form of 'feel' to the pattern. Later on we'll map this to the filter.



02 To hear the arpeggiation in effect, we need to insert Retro Synth into the instrument path. On Retro Synth, take a note of the Settings tab as this is the principle way we can adjust how the synth responds to the Arpeggiator's Pattern mode.



04 Having understood the basics, let's take a look at a sequencer-driven chord effect. To do this, we need to make use of the Arpeggiator's Pattern mode, which effectively turns the Arpeggiator into a simple form of step sequencer, complete with velocity values for each step.



06 Click on the Options tab to change a number of important aspects of our sequence effect. First is Note Length, which can be adjusted as percentage of the step duration. 50% works well, giving some space between each successive note.

much sense when it comes to sequencer-driven lines. In this application, it would make more sense if the Grid track lane had a direct input on the filter, raising or lowering cutoff in relation to levels on the bar graph.

The solution is to make use of Retro Synth's Settings tab, where you have access to a rudimentary form of modulation matrix, in this case setting Filter Cutoff as the parameter for 'Velocity to'. Setting the amount of slider now establishes the amount of filter modulation applied, so that the Grid either

has a small or significant impact on the timbre of each step.

For the best results from the Arpeggiator, look carefully at how Retro Synth responds to each note. Short, percussive envelope settings tend to produce a line that cuts through the mix, but you might want to use a more graduated decay and release so that the sequence has a softer, more rounded sound to it. Note that if you join some of the steps together, you can create notes with a longer duration, arguably making the sustain control far more important. →

→ Sequence music

Unlocking the powers of the Arpeggiator and Retro Synth starts to open up new ways of composing electronic music. Rather than creating a music part by playing it, start to think about triggering sequencer patterns from a single note, letting the arpeggiator define each step of the sequence, both in respect to its duration and the filter cutoff setting. Rather than using straight 16th notes, for example, look at creating syncopated rhythms that play off-beat sequences, and also

pay close attention to how the filter movements form the character and interest within the part, either forming a sense of pattern (so that the filter opens and closes in distinct steps) or something far more random!

Going beyond what we've highlighted here, there's plenty of additional possibilities to explore. Although Retro Synth is a great immediate tool, there's no reason why you can't explore other third-party synthesizers, or indeed, Logic's own ES2. The advantage here is that you could exploit a more

MTF Step-by-Step Logic Sequencer Synth (cont...)



07 Another parameter worth exploring is the swing control, which can be used to create subtle shuffling effect from one step to the next. Even small amounts (moving from 50% to 55%) can transform the feel of the pattern, adding a nice groove to the results.



08 Now we return to the Control bar at the top to reveal the Logic Library (click top left icon) which allows you to select instruments and sounds by the categories shown.



09 Now turn your attention to the envelopes. The trick here is keep the envelope percussive: with a short attack, reduced sustain and a graduated decay and release. You'll also want to explore the Env amount control in the filter section to add the right amount of 'bite'.



10 Rather than using Velocity to modulate the amount of envelope, it's much better to route it directly to a chosen parameter, like filter cutoff. Do this under the Settings tab, using the slider to establish an amount of timbral movement in the sequence.



11 As before, we're going to use a combination of tempo-synced delay and reverb as our effects. A useful addition to these chordal parts is a slow-moving modulation effect, particularly Chorus, Flange or a Phaser, which adds a nice undulating movement.



12 Pattern mode also works well as a composition tool. Move over to the Off-Beat Bass track to see this in action. Here, a simple off-beat bass is created with just four steps, with an accent on steps 4 and 12.

creative mapping of the velocity track lane that isn't restricted to the limited options offered by Retro Synth.

Yet another option would be to use additional MIDI plug-ins to further enhance the basic sequence, like the Modulator adding in some random Sample-and-hold effect, or some of the more experimental possibilities of the Radomizer.

As the examples here perfectly demonstrate, the significant strength of Logic Pro X is the breadth of its

features, which ultimately leads to a greater sense of creative possibility and discovery. Rather than being forced into one method of writing music, Logic users can take an array of different paths – whether it's something as simple as layering Apple Loops, or, as we've seen here, an approach that really exploits the potential of Logic's in-built synthesizers and MIDI plug-ins systems. Like the Rabbit Hole in *Alice in Wonderland*, the deeper you go, the more you appreciate Logic's almost limitless creative potential. **MTF**

MTF Step-by-Step Logic Sequencer Synth (cont...)



- 13** Again, the finesse of this sequence is largely defined by the parameters on Retro Synth. Here the key point is the amount of modulation applied to the Filter Cutoff, so that the ghost notes appear as echoes to the main accents.



- 14** Given that the part is working as a bass line, the approach to effects is slightly different. To get the desired amount of body, a combination of compression and distortion has been used. The distortion, in particular, really adds a Moog-like quality to the output.



- 15** The synth arp track is an interesting example thinking a little more creatively. The idea is to mix 16th and 32nd movement in the style of Tangerine Dream. Use a 1/32 Rate, with a gap between the majority of steps.



- 16** To create some additional movement the Modulator plug-in has been used. The Modulator is set to output a string of Modulation Wheel messages, using a simple sample-and-hold LFO waveshape set to 1/8 and a low Output Level to ensure the result is subtle.



- 17** Adding further plug-ins lets you explore more creative potential. In this case, the Randomizer injects a small amount of chaos into the Arpeggiator (like a malfunctioning synth). The Transposer's scale correction ensures the output is still musical, though.



- 18** Although Retro Synth is a great immediate tool for sequence-driven synth sounds, it's really synths like the ES2 that really take possibilities to another level. In particular, the flexible modulation matrix lets you route velocity to almost any parameter in the synth.

 **Logic Pro X** Become a Logic Power User

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Mastering in Logic Pro X

Logic Pro X's new and improved Channel EQ plug-in really comes into its own during mastering. **Mark Cousins** finds the perfect tone.

When it comes to mastering there's little doubt that a good equalizer is one of the most important tools to have at your disposal. Rather than just sounding good, an effective mastering equalizer needs to be a versatile and precise tool that's able to direct the right amount of timbral magic to the correct part of the mix.

As well as featuring plenty of parametric bands, filtering options and shelving controls, it's vital that you have discrete access to both the left and right channels and, if you're feeling really adventurous, M/S processing as well. Add to that the ability to move between Linear Phase operation and good old-fashioned 'phase-shifting' EQ, and it's clear that the demands of a mastering equalizer are plentiful!



One of the most exciting possibilities with the Channel EQ is that of M/S equalisation, which deals with a stereo signal as Mid/Side components rather than the traditional Left/Right stereo. Despite being a popular technique in mastering circles, M/S processing can create some confusion due to the different way it handles stereo. With M/S stereo the mix is broken into a Mid component formed from the sum of the left and right channels, and a Side component formed from the difference between left and right. In effect this enables you to apply the EQ in a more directed way, especially towards instruments that are planted in the 'phantom centre' of a mix.

More than just being a mixing tool, the Channel EQ is a versatile and effective tool for mastering, and well worth closer inspection. **MTF**

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More than just a mixing tool
the Channel EQ is a **versatile and effective** tool for mastering

Having received a major facelift and operational upgrade with the latest version of Logic Pro X, the Channel EQ plug-in coupled with the Linear Phase EQ are powerful tools that are perfect for mastering your tracks. In this workshop we are going to take an in-depth look at how the features of the Channel EQ and Linear Phase EQ plug-ins can be used for mastering tasks – a process that has some distinct differences to the use of EQ in more conventional mixing applications.

FOCUS ON... PLUG-IN LINK

The Plug-in Link mode – found in the top right-hand corner of the plug-in window – really comes into its own in mastering applications. With Link active, the plug-in window updates to show the same slot assignment for whatever channel or track you decide to reside on. By keeping comparable plug-ins assigned to the same slot (all EQs on slot one and all compressors on slot two, for example), you can quickly move from one song to the next and hear how settings compare without having to open and close plug-in windows. This is particularly important if you're trying to ensure listening continuity across the project, especially in areas such as equalisation and loudness.



MTF Step-by-Step Getting started

01 In most mastering signal paths the Channel EQ is usually used as the first device in the chain, with compressors and limiters placed afterwards. Once you've added the Channel EQ plug-in, remember to open the expanded parameters at the bottom of the interface and click on the Oversampling option for the highest audio quality.



02 As with all equalisation tasks it's well worth using the Channel EQ's Analysis option to gain a more informed understanding of the track's frequency characteristics. Click on the Analyzer to make it active, setting the Medium or High resolution (found as part of the extended parameter set) so that you get a more accurate and detailed frequency plot.



03 One interesting control worth investigating is the Analyzer Decay, which defaults to around 10dB/s. Setting a slower speed – even as low as 0dB/s – produces an 'averaged' frequency plot over time, rather than an instantaneous snapshot. This slower setting can be useful as a means of understanding the broad frequency characteristics of your track.



04 Let's start the equalization process by looking at the low end of the track. To keep things controlled it's well worth applying a high-pass filter so that any subsonic elements are removed. Click on the high-pass filter curve in the top left-hand corner, set the Curve to its steepest setting – 48dB/Oct – and adjust the Frequency control to around 20-30Hz.



05 Another useful trick with high-pass filtering is adding resonance, which is the lowest parameter, beneath frequency and slope. Increase the setting to 1.00 and notice the small bump around the cutoff. With the added resonance you might want to slightly raise the cutoff. The result can be a tighter and weightier bass end if used correctly.



06 At the two opposite ends of our track – low and high, respectively – a shelving equalizer is used to establish the broad frequency characteristics of the track. Carefully position the respective frequency controls to achieve the desired colour. A treble boost at 7kHz, for example, adds presence, while a lighter 'air-like' tone can be found between 12-16kHz.

→ MTF Step-by-Step Q and Linear Phase EQ



01 As with the high-pass filter, it's worth noting how the Q can be called into action. In the case of shelving, lowering the Q produces a wider curve with less of a plateau-like shape. The curve is similar to the classic Baxandall EQ, which is a favourite among many mastering engineers thanks to the gradual way it lifts treble ahead of the frequency setting.



02 Timbral modifications across the rest of the mix are achieved using the four parametric bands. On the whole, the best approach is to use wide Q settings for boosts coupled with a narrower Q setting for cuts. The result is an EQ that's transparent to the ear, and musically effective for the result you're trying to achieve.



03 One behaviour worth noting is the Gain Q coupling. By default the Q effectively becomes sharper the more you apply a boost or cut, so that the bandwidth of the EQ remains constant irrespective of the amount of boost or cut applied. In effect, this Q-Coupling enables the EQ to work in a musical way, so it's best left as it is.



04 With any equalisation task it's highly likely that the net result of the EQ curve is an increase in signal level. Therefore to preserve your gain structure and provide a more objective view on the un-equalized source, consider balancing an overall increase in level with a corresponding gain cut using the Gain slider located on the right of the interface.



05 As well as the Channel EQ, Logic also includes a Linear Phase EQ. You can move over to a Linear Phase EQ at any point (with your settings immediately transferred over) making it easy to compare the sound of the two plug-ins. Notice the increased transparency offered by the Linear Phase EQ, as opposed to the character of the Channel EQ.



06 Rather than processing the entire mix it's often useful for mastering EQ to be more 'directed'. By changing the Processing parameter we can assign the Channel EQ to either the left- or right-hand side of the mix. Try a left-only treble boost, for example, and notice how you can tangibly grab hold of the hi-hat without over-enhancing the top end.

MTF Step-by-Step Mid and side processing

01 If you've used one Channel EQ plug-in to process the left-hand side of the mix it follows that the right-hand side will need its own separate instance, set to Right Only under the Processing parameter. Rather than equalizing the entirety of the mix with the one plug-in you now have separate control over each side of the mix.



02 As well as being able to process the mix with discrete left and right channels you can also experiment with M/S processing. Create a basic M/S matrix using two Channel EQs set to Mid and Side, respectively. The freeware [bx_solo](http://www.brainworx-music.de) (www.brainworx-music.de) at the end of the chain enables us to isolate the Mid and Side channels.



03 Press the M Solo button on the *bx_solo* channel to hear the Mid channel in isolation. Notice how the bass is prominent in this channel as it's fixed in the centre of the mix. Applying a low-end boost, therefore, will lift both the kick drum and bass in a directed way, leaving the sides of the mix untouched.



04 Now move over to the Side channel, noticing the distinct omission of Mid elements such as the kick and bass. A good strategy with Side-channel equalisation is a bass cut (which can be relatively extreme as you want to keep the bass end mid-focused) and a small amount of air lift to increase the vibrancy and dimensionality of the mix.



05 One interesting feature of the Channel EQ's M/S operation is the use of the Gain control. As part of the M/S matrix, the Gain control can be used as a means of modifying the stereo dimensionality of the mix. For example, increasing the Gain on the Mid EQ while lowering the amount of Side channel will result in the mix becoming more mono-centric.



06 If you're having to open and close matrix'd combinations of plug-ins, consider using Logic Pro X's Screenset feature, found on the menu bar. Screensets can be assigned to a number key, so it's easy to establish a unique Screenset for each song in your mastering project, even including plug-in windows for the rest of your signal path.

20

Audio Editing Tips

You've finished your recording sessions, and now it's time to process your audio. Get on the fast track to sonic success with **Hollin Jones's** essential advice...



01

01 BE MINDFUL OF SNAP SETTINGS

With audio, as when editing anything in a DAW or a wave editor, keep an eye on whether snapping is switched on and what it is set to. If it's set to a high value such as bar or $\frac{1}{2}$ you will find precise edits almost impossible to make. On the other hand, if you are trying to cut a whole bar of audio you will want snap-to-bar switched on. As long as your audio is in time, using a snap value will help you make precise edits. A snap value of $\frac{1}{16}$ or finer is usually helpful for working with transients inside an audio event. If you turn snapping off you get complete free rein to move events, but it's also easy to accidentally de-sync your sound by doing this.

The accuracy of your edits will be heavily affected by your snap settings (above).

Dig right down to the lowest level of your audio with the zoom tool (above right).



02 ZOOM IN

Software enables you to zoom in on any waveform to sample level, and this gives you a great deal of power. Glitches or other events that last for only a fraction of a second can be identified and processed or corrected by zooming right down. The finer the zoom level the quicker the playhead will disappear offscreen, so it can be a good idea to set up a loop and disable autoscrolling as this will probably drive you mad otherwise.

03 USE SPECTROGRAPHIC EDITING

Regular waveforms are fine for seeing the amplitude and duration of audio files, but that's about it. Spectrographic analysis, on the other hand, can show you multiple visual representations of the frequencies and amplitudes inside a sound based on the type of view that you select. Even better, they provide you with a way to edit sounds in whole new ways. Imagine you have a recording of the perfect vocal take but in the background there's a car horn that's crept into the recording – this would be tricky to remove using EQ because the frequencies of both sounds cross over to an extent. A spectrographic editor such as iZotope's RX or Sony's



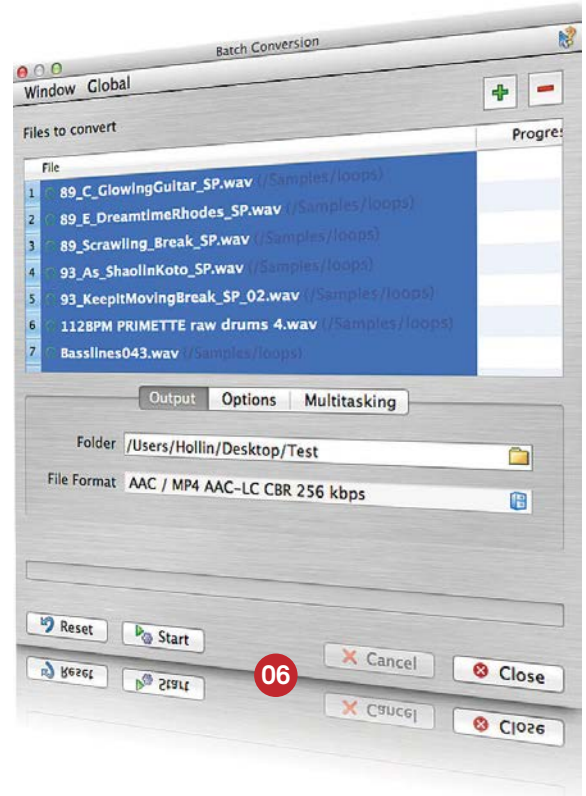
04 PROCESS IN PLACE

[illegible]

05 TAKE ADVANTAGE OF COMPOSITING

(Below right) Learn how to batch process to save huuuge amounts of time.

06 BATCH PROCESS AUDIO FILES



07 USE TIME- AND PITCH-STRETCHING

Any mid-level or better DAW will support time- and pitch-stretching of audio. They have different names: Flex Time and Pitch in Logic, Hitpoints in Cubase, and so on. Time-stretching is useful to make a clip fit the tempo of your project regardless of its original speed. Spend a little time properly editing its start and end points (since your DAW will work on clip length rather than waveform) and you should be able to snap it to a bar marker to fit it to the project. Alternatively, stretch audio without worrying about snapping to create some special effects, such as extreme slowdowns. Tempo-stretching can be done without affecting pitch, and the reverse is also true. Change the pitch of audio and you can conform it to your project key, duplicate a part to create harmonies and process a clip differently through your mixer.

08 RENDER DOWN AND DUPLICATE PARTS

When you work on digital audio, edits that you make are generally nondestructive, and that means you can usually go back to any step and undo it. Sometimes, though, certain kinds of edit are only possible on a real audio clip and not on one that's being effected. Effects are generated in real time and therefore you couldn't, for example, slice up a delayed clip because the software would analyse the source clip, not the sound of the delays since they were still virtual. The way around this is to simply bounce (not freeze) a copy of an audio part down either by exporting and re-importing it or by printing it to a new track internally. Then, any slice analysis is performed on the effected file, which will look very different to the original. Since you have copies of both you can keep the original too and decide which one to use for what purpose.

09 USE SPECIAL FX PLUG-INS

You'll probably be aware of regular plug-ins such as EQ, compressors and reverbs, but there are quite a few effects out there that are capable of much more extreme sound processing. There was a time when to get cut-up effects you basically had to physically cut up all your audio parts and process them through tons of effects. Now it's much simpler with effects such as Turnado, BreakTweaker or Stutter Edit. These multi-effects simulate complex edits and processing, but instead of taking hours to work on they can be performed with a couple of clicks. You can take fairly ordinary-sounding



source audio and quickly turn it into something much more exciting, cut up and dynamic. Since it's an effect, everything remains virtual until you choose to bounce down, so the sky is the limit when it comes to creativity.



This means you shouldn't get any nasty clipping caused by clashing waveforms

Quickly create presets with groove extraction tool (above).

Make sure you fully explore your plug-in folder and take advantage of the more 'out there' effects (below).

10 EXTRACT GROOVE

Many DAWs will enable you to extract the groove from either a MIDI or an audio part, store this as a quantization preset and then apply this to another part. So you can impose your own groove maps onto recorded or sampled audio parts using this technique to change their feel. Software such as Melodyne and Cubase also lets you extract pitch data to MIDI; so, for example, you can analyse a vocal take and create a MIDI-triggered duplicate.

11 CHEAT USING COPY AND PASTE

Sometimes you will find that your recordings have some performance errors in them and there's no opportunity to do any retakes to fix them, perhaps because the performer is no longer available. A good way to patch over such errors is to identify similar or identical passages in a take that were performed correctly and then isolate, cut out and copy and paste these into the location of the incorrect part. This takes more skill than you might think, since there may be small variations in timing or feel between the part you're pasting in and the time segment you're pasting it into. But with some careful nudging and perhaps even a little slicing and groove quantization of the audio, you can usually make it fit in, and if you do the job seamlessly nobody will ever know the difference.

12 SNAP-TO-ZERO CROSSINGS

Many DAWs have a 'snap to zero crossings' option that you can turn on when editing audio waveforms. This works independently of your main application snap settings and ensures that a cut is not made at a point in the waveform where signal exists, but rather where the level is zero. This means that when you edit two parts together you shouldn't get any nasty clipping caused by clashing waveforms.



14

Get more out of your audio by creating your own REX loops (above).

13 USE VOLUME AND FADE HANDLES

You can automate a mixer easily enough but sometimes it's quicker and more suitable to use the volume and fade handles found on audio clips in many DAWs. These work independently of the channel fader so you don't affect any other clips in the track. Simply pull any chosen clip's volume up or down, or create fades to create a sort of submix within the track.

Keyboard shortcuts will make your workflow markedly quicker (right).

Never used the Pen tool? Learn now – it's more useful than you might first think... (below left).

Set up regions to quickly navigate your way around your tracks (below right).

14 USE REX LOOPS

Using software such as Propellerheads' ReCycle or Reason you can slice up any audio file and quantize it as you like, even adding some effects before you bounce it out to a REX loop that can be opened in various different instruments and applications. These loops will alter their timing to fit any project and are also playable slice-by-slice from any MIDI input device. Audio is made super-flexible using this technique.

15 FIX GLITCHES WITH THE PEN TOOL

In a sample editor you can zoom down to sample level, showing the very building blocks of the digital sound. A digital click or pop will usually manifest as a clear spike or peak in the sample display, sometimes flattening out against the very top. You can often fix these by using the pen tool to literally draw them out, flattening the waveform to erase the spike.



15

16 ALWAYS BE CROSSFADING

When you edit audio clips and arrange them on the timeline, there can be occasions where two clips glitch as they cross over because one or both waveforms are not perfectly cut. To avoid this, apply short crossfades to remove any glitching. Some DAWs such as Cubase are able to automatically add these for you.

17 LEARN A FEW SHORTCUTS

Sometimes you might find yourself having to make lots of cuts to a long audio take, perhaps to remove periods of low-level noise between voiceover or guitar riffs. Rather than manually zooming and clicking over and over, use a shortcut or set up a macro to use a key command to split a clip. Over the course of many edits on a clip this will save you lots of time. Logic has a 'strip silence' tool to achieve this.

18 USE REGIONS

Instead of making physical cuts to audio files you can often define regions within a clip and then use markers or similar commands to jump back and forth between regions. If you decide you want to make edits permanent there is usually the option to divide clips to new clips based on the regions you have set up.



17

19 REMOVE THE ROOM

One of the problems some people encounter when recording in less-than-perfect acoustic spaces is room ambience on recordings. Always use an isolator such as the Reflexion Filter, but you can also use EQ to try to identify and then dial down the frequencies that are clouding your sound. This takes time and patience but it can significantly improve the end result.



18

20 KNOW WHAT TOOLS YOU HAVE

Each DAW will have a different (if overlapping) set of tools to make working with audio easier. These can save you lots of time, with tools for trimming, cropping, deleting overlaps and moving data to preset locations all available in many applications. These tools typically cut out tens of mouse clicks, so if you're spending hours on the donkey work of editing, look to see if you're missing a trick. **MTF**



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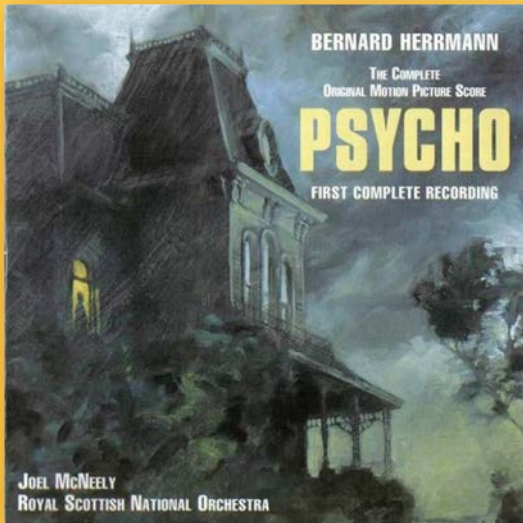


MTF Feature

THE HOLLYWOOD SOUND

Big-screen scores have evolved over decades of film making, but what really makes a piece of music truly cinematic?

Mark Cousins unlocks the secrets of soundtracks...



combined with the sonic possibilities of new technology. Not surprisingly, therefore, film music has been one of the most exciting and progressive avenues for musical development over the last 60 years, arguably eclipsing the work of many concert hall composers.

In this feature we're going to explore the evolution of film music, and in particular the key ingredients that have come to define the Hollywood sound. With so many cinematic sound libraries appearing to offer the elusive 'Sound of Hollywood', as well as increasing the desire to compose and produce music for film and TV, it's a timely exploration of the key practices and approaches taken with screen music. Whether you're scoring a large-scale action movie or composing for the small screen, understanding the way screen music has developed over time and the conventions it has adopted will ultimately inform and enhance your working process.

From the top

Although few could deny the power of music, its early relationship with cinema was a complicated one, fraught by both the logistical

Some of the greatest moments in cinema aren't just defined by moving images, but by the dynamic combination of music and picture. Films such as *Stars Wars*, *Psycho*, *The Good, the Bad and the Ugly* and *Inception* have used music as a pivotal component in the storytelling – more than just aural wallpaper, they are a device that a director and composer can actively exploit to enhance the audience experience. Ultimately, it's testament to the power of music when allied with the right picture, and, in particular, the visceral way music can illuminate the emotion and feeling behind a scene far better than any moving image.

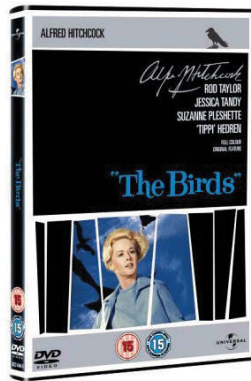
The journey that music has taken throughout the history of cinema is both a fascinating insight into the changing role of technology and the creative opportunities any screen-based composer can exploit. In many ways, cinematic music has been defined by both its ability to absorb great musical ideas and conventions of the past (such as a symphony orchestra, for example, or some of the great classical composers of the 19th century),

Music can illuminate the emotion and feeling behind a scene far **better than an image**

and technical difficulties of aligning music to picture. For early silent films the only option was live music, either performed by a pianist, a small ensemble or organist. In most situations the music was simply improvised, although some of the more ambitious studios and directors would create a suggested cue list of pre-existing music especially selected for the film in question.

With the introduction of talkies in the 1920s, music could finally be synchronised to picture; although early systems, such as Vitaphone, were fraught with technical problems, either in their ability to maintain synchronisation or the shockingly poor sound quality of printing a soundtrack 'optically' to film. Although systems improved throughout the late 20s it took a while for





Alfred Hitchcock knew the power of marrying the right music to his images, and his collaborations with the legendary Bernard Herrmann are classics.

performing or recording with the stuffiness that had come to be associated with the concert hall. Rather than exclusively playing classical music, many of Hollywood's musicians were used to moving between musicals, big bands and the film music orchestra – something that had a significant effect on the vibrancy of the playing. Equally, the sound engineers at the time weren't afraid to push the technology they had at their disposal, often using creative microphone positioning and a variety of other studio techniques to enhance (rather than just capture) the music they were recording.

A sound revolution

Like popular music, it's interesting to note how developments in technology changed the way composers and directors thought about the role of music. Throughout the 50s, 60s and 70s, therefore, film music witnessed some major innovations, partly in response to developments in recording technology (particularly the advent of stereo recording), but also in response to composers and directors seeing music in a different way. One of the key players in Hollywood's 'modernist' phase was Bernard Herrmann, who's pairing with Alfred Hitchcock arguably produced some of the some of the most imaginative (and daring) combinations of music and picture ever created.

Through a series of iconic scores for films including *Psycho*, *Vertigo* and *North by Northwest*, Bernard Herrmann demonstrated that sound itself, or more specifically the colour of sound, was just as important as melody and harmony. In many ways, Bernard Herrmann seemed to actively avoid the romantic trappings of a full-sized symphonic orchestra, often assembling a unique combination of instruments

The sound engineers of the time weren't afraid to push the technology at their disposal

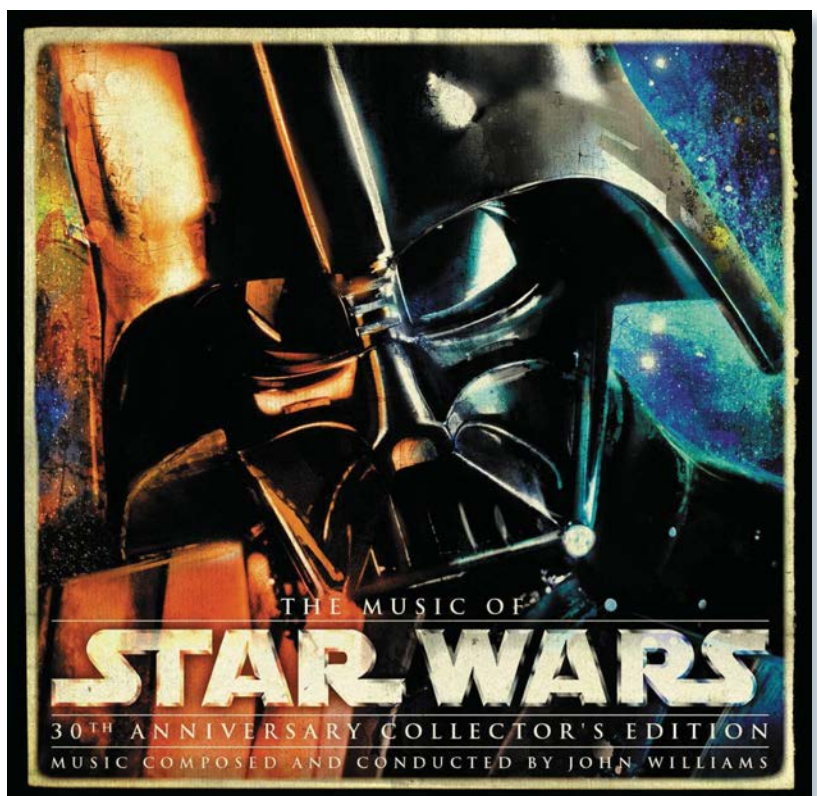
→ directors to see the artistic and cinematic potential of synchronised, original music scores. Indeed, it wasn't until Max Steiner's music for *King Kong* in 1933 that the symphonic score finally made its first real impact on the cinematic experience.

Bursting onto the scene

The golden age of Hollywood, and the point at which music imprinted itself with a film audience, started with the aforementioned *King Kong* and continued through to the early 50s. One of the best composers of the era, and somebody who illustrates the 'melting pot' of ideas that happened in Hollywood during the 1930s, was Erich Wolfgang Korngold (who eventually won an Oscar for *The Adventures Of Robin Hood*). Born into a Jewish home in Brno, Korngold was lured to Hollywood as a means of escaping the rise of the Nazi party. As such, he brought a direct lineage with European romantic classical music, which is why the sound of Hollywood owes much to the likes of Mahler, Strauss and Wagner.

One key composition technique that Erich Korngold brought to Hollywood was the idea of leitmotif, popularised by Wagner. In many ways, Korngold saw film music as a kind of 'wordless' opera, composing the music using the same rich, symphonic colours and drama that inhabited a Wagner opera. Key to this was the leitmotif concept, where characters were given distinct themes that could be re-used and adapted to help shape the narrative journey of the piece. Even to this day, leitmotif is a key component in how film music works and how the director and composer lead you through the narrative of the film.

Despite inheriting some of the ideas of European classical music, Hollywood wasn't intent on



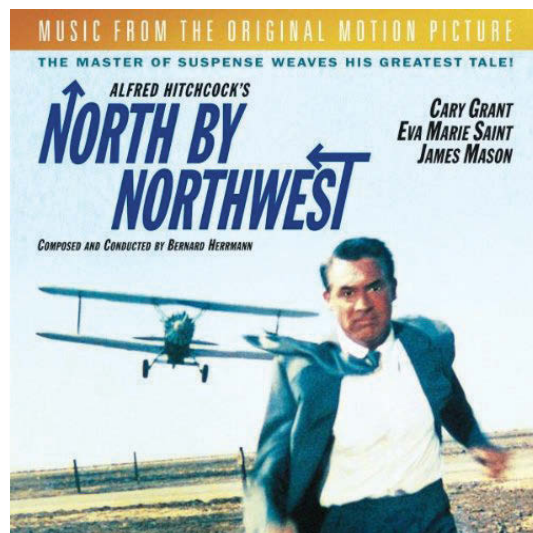
that, for example, favoured woodwind rather than luscious strings.

Bernard Herrmann's most famous score has to be the music for *Psycho*, which, as a demonstration of his philosophy – and against some of what Hitchcock's wanted – was scored exclusively for strings. Rather than scoring melodic lines full of romantic vibrato, though, the strings were used in a shockingly violent and atonal way. The infamous shower scene, for example, was originally intended to be devoid of music, but at Herrmann's insistence, the addition of his infamous Murder cue complete with its distinctive 'stabbing strings' transformed the intensity and impact of the scene.

The sound design trap

While much of this move towards sound-based scores can be explained by artistically bold decisions and parallels in contemporary music (which also rejected all forms of traditional melody and harmony), it's interesting to note how the quality of sound – as noted by Bernard Herrmann himself – may have had a significant part to play. Whereas composers of old could only really ensure the melody translated over poor quality recording and production, 'modernist' film composers had far more opportunities for their listeners to hear subtleties in the music. Indeed, Bernard Herrmann even went so far as to indicate pan positions on some of his scores, demonstrating that studio recording had become an important field of opportunity for the contemporary film composer.

Of course the trap that all 'sound-based' composers face is the relation and crossover between music and sound design. Pointedly, *The Birds* saw Alfred Hitchcock and Bernard Herrmann rejecting music altogether in favour of abstract, electronically generated sound effects (although Bernard Herrmann was still credited as sound consultant). Today's film world constantly struggles with this phenomenon, both in respect to the complexity of sound design now evident in major blockbusters but also (and more pointedly) its volume, which often drowns out any subtlety in the music! →



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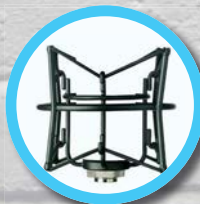
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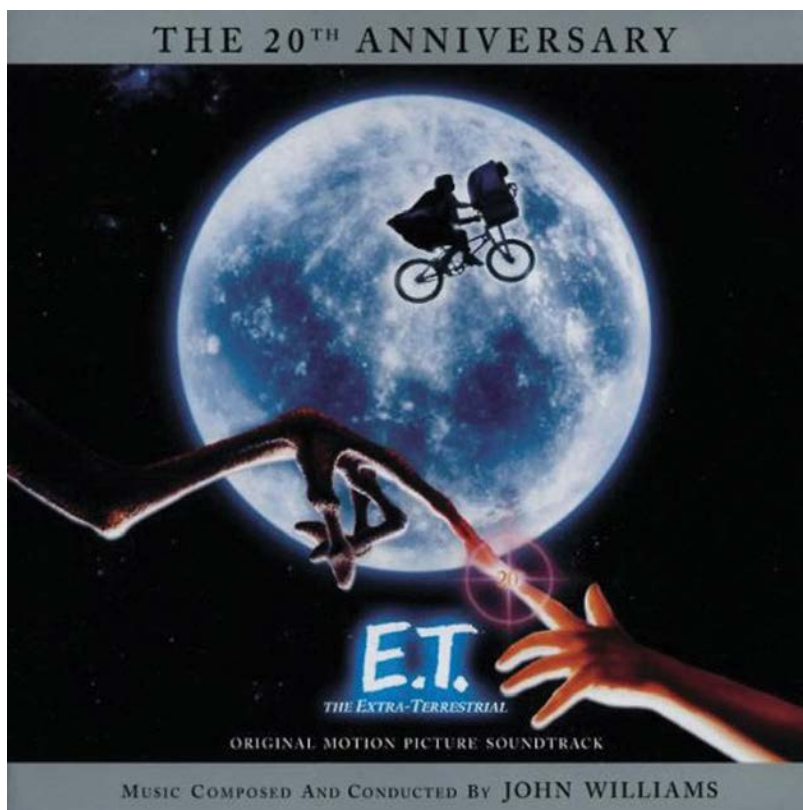
→ The birth of the blockbuster

One of the biggest ironies in the development of film music is that at a time when recording technology was advancing exponentially, Hollywood decided to take its biggest step backwards into the sound of its past. The film that ushered this change was *Star Wars*, which despite being ahead of its time in respect to special effects actually had some surprisingly 'old school' music references.

Shot much like an old serialised B-movie from the 40s or 50s and populated by spaceships that looked decidedly rusty, *Star Wars* wasn't in the same 'shiny' universe populated by other science fiction films. With a story borrowing much from westerns, combined with a medieval tale of a princess locked in dark castle, it made sense that the music paid a similar reference to the golden days of Hollywood, and in particular the work of Korngold in the 30s and 40s. Whereas previous science fiction films had alienating soundtracks, *Star Wars* felt immediately familiar, carefully referencing the aforementioned Korngold along with Gustav Holst's *The Planets*, Edward Elgar and Igor Stravinsky.

Leitmotif mastery

One of the key techniques John Williams returned to with *Star Wars* was the Korngold/Wagner concept of leitmotif. Indeed it's hard to separate John Williams'



MTF Spotlight Technique

Recording a Hollywood Soundtrack

The way that an orchestra is recorded for a Hollywood soundtrack hasn't changed greatly since the late 50s, although the technology surrounding the recording, editing and mixing has evolved radically. Even if you don't intend to record an orchestra it's highly likely you'll encounter the principles behind it, especially in relation to modern-day orchestral libraries that use multiple microphone sets.

The key to recording an orchestra is to capture the life and energy of the ensemble as a whole, which is why stereo microphones tend to form the body of the sound. The main stereo setup is a three-mic array (left/centre/right) called a Decca Tree, first developed by engineers at Decca records for recording classical music.

The left and right channels of the Decca Tree are positioned around 2m apart, almost directly above the conductor's head, and capture a large part of the width of the orchestra. The centre mic, though, is positioned approximately 1.5m ahead of the L/R mics, and thanks to the 'Law of the First Wavefront' (also known as the Precedence Effect) it ensures that the centre of the soundstage gains a small psychoacoustic advantage over the L/R mics.

Although the Decca Tree captures a good image of the orchestra it can sometimes miss some of the 'symphonic width' of the soundstage, especially in relation to some of the double basses or the back desk of the first violins that are placed at the extreme

edges of the orchestra. The outriggers therefore, are an ultra-wide stereo pair, positioned halfway between the centre of the soundstage and the extreme left- or right-hand side. On their own these outriggers sound too wide, but couple them with the Decca Tree and the soundstage gains an important extra width and dimensionality.

The final piece of the recording puzzle is the spot mics, which are used to provide extra focus and detail to the instrument groups, partially as a result of their relative proximity to the instrument/s in questions. In the case of the strings a spot mic will be used for each desk, whereas members of the woodwind section may well get a different spot mic for each instrument: such as flute one, flute two, oboe and so on.

The key to using these three microphone positions – Decca Tree, outriggers and spots – is how they're blended together. In the case of the spot microphones they're best used to reinforce the main sound from the Decca Tree, especially with instruments such as the woodwinds that are often placed at some distance from the conductor. This is particularly important if an instrument is used in a solo context, where the addition of the spot microphone can really help the instrument articulate itself over the rest of the mix.



distinctive leitmotifs from the films they were created for: whether it's Darth Vader's imposing *Imperial March*, *The Force Theme*, or *The Raiders March* association with Indiana Jones. His skill wasn't just an ability to write a strong melody, though – and remember how important such a melody was as part of the plot of the John Williams' scored *Close Encounters Of A Third Kind* – as his real genius was how he strategically deployed the leitmotif.

The key to strong leitmotif writing isn't just the tune itself (although a memorable hook certainly helps here) but how it's embedded and quoted in the soundtrack. In *E.T.*, for example, we never hear the

John Williams' real genius lay in how he strategically deployed the leitmotif

theme started fully throughout the first half of the film, instead hearing just short snippets, often played on solo flutes. When *E.T.* finally takes to the sky on Elliott's bike we finally have the pay-off and hear the theme in full, played in all its symphonic glory. Deployed in this way, the leitmotif lent an emotional gravity and completeness to the scene that wouldn't have happened had the theme already been played countless times before.

Following the success of *Star Wars*, the orchestral Korngold-esque score became a ubiquitous part of the blockbuster experience. What might have been a passing phase of the development of music in film quickly reestablished itself as the de facto sound of Hollywood. Indeed, without *Star Wars* the use of an orchestra on soundtrack recordings could have easily faded out, replaced by smaller 'eclectic' ensembles, like those used by Ennio Morricone, or even pop music, as became the standard throughout the 60s and early 70s. The orchestra's reinstatement, therefore, brought about a second golden age of Hollywood, with a string of Spielberg/Williams epics that cemented the idea of a symphony orchestra being at the heart of the Hollywood sound.

Electric dreams

Despite the apparent success of *Star Wars* and the flood of other orchestral soundtracks that followed it, the more electronically-driven score was still making slow and steady progress. One key shift came with Vangelis' scores for *Chariots of Fire* and, more notably, *Blade Runner*. Up until these two films, the assumption was that an electronic score could offer little in the way of humanity, thanks to its 'other world-y' sound, so perfectly optimised in *Forbidden Planet* in 1956. Vangelis' sound world was different, using instruments such as the Yamaha CS80 in an almost symphonic way, all drenched in sumptuous Lexicon 224 reverb that imbued the *Blade Runner* soundtrack with a tangible sense of atmosphere.

The sound of *Blade Runner* marks a significant

milestone in what we now accept as the contemporary Hollywood sound. Significantly, *Blade Runner* illustrates that the symphonic orchestra and synthesizer can be equals – that an electronic score needn't be restricted to conveying a limited number of emotions or feelings. Arguably, Vangelis was ahead of his time, as even he struggled to really capitalise on the success of these first two films, possibly restricted by the limitations of technology available in the early 80s.

Moving into the 90s we saw a resurgence in scores dictated by the director's record collections (think: any Tarantino film) and the emotive and sparse piano-driven themes laid out by Thomas Newman (*Shawshank Redemption*, *American Beauty*) are still being played (and imitated) across films and TV documentaries to this day, but the new century has brought new themes.

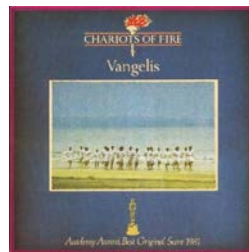
Contemporary Hollywood

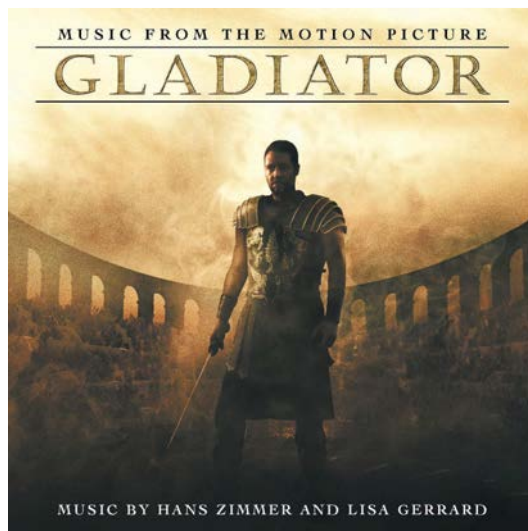
If there's one composer who's wholeheartedly embraced and capitalised on the possibilities of new technology, though, it has to be Hans Zimmer. From relatively humble beginnings (writing the theme tune for the BBC's *Going For Gold* back in the 80s), Hans Zimmer has revolutionised the sound of Hollywood and the role of music in film in much the same way as Erich Korngold, Bernard Herrmann and John Williams did before him.

Like a growing number of technology-based media composers, Hans Zimmer is notable for his lack of formal music training. In interviews, he has suggested he spent as little as two weeks learning piano, instead preferring to spend his time 'modifying' his instrument to create new sounds. Clearly these early experiences have shaped his



Vangelis' soundtracks for *Chariots of Fire* and *Blade Runner* are landmark works, and remain hugely popular to this day.





From early efforts such as *Rain Man* to his later collaborations with Christopher Nolan on the *Batman* trilogy and *Inception*, Hans Zimmer has continued to innovate and produce exceptional soundtracks.



→ approach to music, following a more intuitive approach that blurs the lines between the studio, electronic instruments and the orchestra.

For someone who has grown to have such a large impact on film music, Hans Zimmer's rise through the ranks has been a great demonstration of dogged determination. His early scores, for example, weren't the powerful blockbusters action films he's known for now, but relatively light and breezy numbers such as *Driving Miss Daisy*, *Rain Man* and *The Lion King*. Although these scores all featured real instruments, Zimmer's key selling point, which distinguished him from many other composers working at the time, was the extensive use of sampling technology, notably a Fairlight CMI and other early samplers such as the Roland S-760.

With films such as *Crimson Tide*, *The Thin Red Line* and *Gladiator*, Hans Zimmer started to shape a sound that would come to define contemporary Hollywood. One of the most significant developments from a musical perspective was one of scale and impact, understanding that the only way to beat an increasingly powerful use of sound design was to be louder and bigger than the competition! Rather than just working with a live orchestra, therefore, Hans Zimmer's soundtracks fused samples and real instruments to create a sound of truly 'larger than Wagner' proportions.

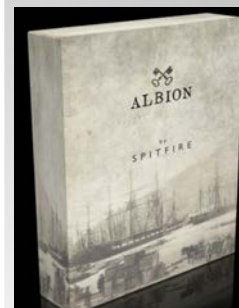
Sound and vision

Another interesting distinction of Hans Zimmer's music is the way it merges the two leading approaches to film music – leitmotif and sound-driven score. Like John Williams, Hans Zimmer's scores use plenty of leitmotif concepts, but rather than these being melodically or harmonically source they're often driven by sound. As such it's often hard to whistle a tune from a Hans Zimmer soundtrack, but when you hear its sonic fingerprint – the 'braam' from *Inception*, the Joker's distorted cello ostinato in *The Dark Knight*, or the thunderous cacophony of drums from *Man of Steel* – you'll be instantly transported to the film in question.

In many ways, Hans Zimmer's sound-driven

Buyer's Guide: Hollywood Sample Libraries

Although there are plenty of orchestral libraries to be found on the market, some are more successful than others at capturing the Hollywood sound. Here's our pick of the best:



● Spitfire Audio Albion 1 (£349)

Spitfire Audio seems to release a new library on a month-by-month basis, but their first offering – Albion 1 – is still one of the finest and most affordable ways of capturing the widescreen Hollywood sound. Albion 1 covers the full orchestra, but divides the library into distinct

sections: high strings, for example, or low brass. As a result you get the sound of multiple players performing as one, creating a more epic sound than libraries that split things down on an instrument-by-instrument basis.



● ProjectSAM Symphobia 2 (£695)

ProjectSAM's Symphobia series covers three volumes, but it's arguably Symphobia 2 that's the most versatile of the three options. Like Albion, Symphobia 2 is

often recorded in instrument groups, which gives the library plenty of width and punch where it needs it. There's also a good range of true legato instruments, which capture the transitions between notes, as well as a wealth of FX patches for more experimental writing.



● Sonokinetic Da Capo (\$299)

Sonokinetic's Da Capo is a unique Kontakt-based instrument, designed to present a complete multisampled orchestra at your

fingertips. The highly visual interface enables you to assemble custom groupings of instruments and articulations – maybe pizzicato strings and staccato woodwind on your left hand, for example, with legato high brass on your right – that create a surprisingly big cinematic sound all from the one Kontakt instrument.

approach is one that matches the look and feel of contemporary cinema. Visually, the use of colour grading has become an essential part of how a director influences your response to an image on screen, changing the relative hues, saturation or colour balance of each frame. It follows that music – or, specifically, the sound of the music – should also reference these tonal shifts. As an example, note how Hans Zimmer's soundtracks tonally match the dark blues and blacks used in Christopher Nolan's *Batman* trilogy, blurring sound and vision in one entity. What's →

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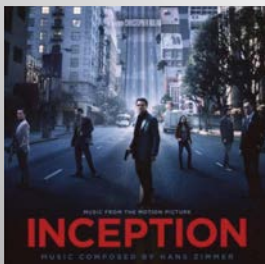
● **Star Wars**
John Williams
Star Wars reignited the traditional Hollywood score, ushering in a series of colorful orchestral soundtracks (many by John Williams himself) that still dominate cinematic music to this day. Star

Wars is a masterpiece in leitmotif writing where the themes have become as famous as the characters themselves, as well as defining the narrative journey across all six films.



● **Vertigo**
Bernard Herrmann
The pairing of Bernard Herrmann and Alfred Hitchcock undoubtedly produced some of the finest combinations of music and images ever created. Just listening to the first few opening bars of Prelude

and Rooftop from the Vertigo soundtrack perfectly illustrates Bernard Herrmann's genius, with its undulating arpeggios on strings, harp and vibraphone punctuated by strident low brass.



● **Inception**
Hans Zimmer
Inception is Hans Zimmer's finest work and a perfect pairing of sound and picture, even to a point where the music embeds itself into the narrative of the film. The sound of the 'kick', a song by Édith Piaf, is re-orchestrated and slowed-down multiple times so that we hear it just like the characters in the film do.

→ interesting is how linked the music and the pictures become. Whereas Williams' soundtracks stand up to listening away from their filmic settings, Zimmer's work doesn't translate so well. Embedded into a film like *Inception*, though, and it's clear that the movie and the film are transformed – both are greater than the sum of their parts.

A new hope

Rather than throwing away the orchestra, as happened in the 50s and 60s, the sound of contemporary Hollywood seems to embrace both the cinematic sound that we all know and love, as well as pushing new sonic boundaries that challenge and alert our ear's attention. The sound of a 400-year-old musical phenomenon – the symphony orchestra – is still a crucial part of cinematic experience,

yet it isn't heard in isolation, instead forming part of a wide timbral palette that reflects the scale and proportion of what's seen on screen. Crucially, the orchestra often forms the humanity of the music while the rest of the sound palette – whether it's thundering taikos, deep subsonic synths or aggressive drums – creates the energy and driving impact of the cue.

Of course, where film music will go next is anyone's guess, but there's little doubt that it will change and evolve in response to changes in filmmaking. Today's film scores are being driven by a lot of new talent that takes elements of all that we have discussed in this feature. Composers include the likes of Clint Mansell (*Requiem for a Dream*, and *Black Swan*), Cliff Martinez (*Drive*, and all his work with Steven Soderbergh) and Johnny Greenwood (*There Will Be Blood*).

Yet maybe John Williams returning to score the new series of CGI-light *Star Wars* films will see a return to the older, more tuneful days of film music, or will the lines between sound design and music become even more blurred? Excitingly, though, technology has evolved to the extent that anyone can now start producing cinematic music with little more than a laptop and a well-stocked collection of Kontakt libraries. Who knows, maybe the real future of Hollywood lies with one of these musicians and the radical new ideas they might bring... **MTF**

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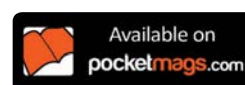
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Technique Producing Music To Picture Part 1

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Working with movies and markers

Welcome to the first of three tutorials for producers aiming to work with Logic and film and TV. **Mark Cousins** shows you the first stages: importing your movie file and creating a series of markers that will form the backbone of your music-to-picture workflow.

This is the first part of a MusicTech Focus series on producing music to picture. It's a thriving industry and if you are not involved, it's certainly an area worth exploring. The idea of this series is to introduce concepts, explain principles and to give you some inspiration along the way.

The process of scoring music to picture requires a balance of both technical and creative disciplines – understanding how musical tools such as melody, harmony and rhythm can be used to accompany a picture, along



into your DAW. Establishing an ordered, methodical workflow will enable you to get the most from your music, making it work seamlessly with the on-screen action and letting you quickly respond to revised picture cuts or creative whims of the director.

In this workshop we're going to look at the essential first stages of music-to-picture work: importing a video file, placing markers, working with timecode and starting to use tempo as a means of synchronising to picture.

Stay in sync

When you receive the video file to be scored, hopefully the cut will be finalised at this point and you'll have some guidance from the director as to where they'd like the music. Try to get a version with and without a so-called temp track, which uses pre-existing cues to illustrate how the music might work.

Maintaining sync is all-important when you're writing music to picture, so it's worth noting a few things before you dive in with the composition process. Unless you're locking precisely to timecode, the simplest solution is to make use of the 2-pop placed at the start of the film. The

Scoring music to picture requires a balance of creative and technical disciplines

with an appreciation of the technical logistics of synchronisation, working with virtual instruments, mixing and file delivery. The all-important groundwork to this task, therefore, is established as soon as you import the movie

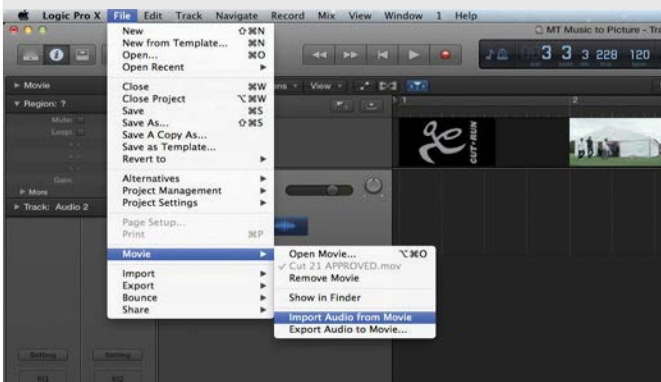
FOCUS ON... THE WONDERS OF TIMECODE AND FILM

Given that you maintain the absolute position of the 2-pop, the ability to 100% lock to timecode isn't essential, but it can still be beneficial, especially on longer cues. If the film is supplied with so-called burnt-in timecode (where the timecode stamp for each frame is indicated at the bottom of the frame), it's easy to match your session start time with the first frame of the movie file. Failing that, of course, you can always use the 2-pop and set your session start time to 00:59:58:00. When exporting, always keep the 2-pop as a reference, but it's also worth noting that the broadcast WAV format (BWF) stores the start point of the audio file as part of the WAV's metadata.

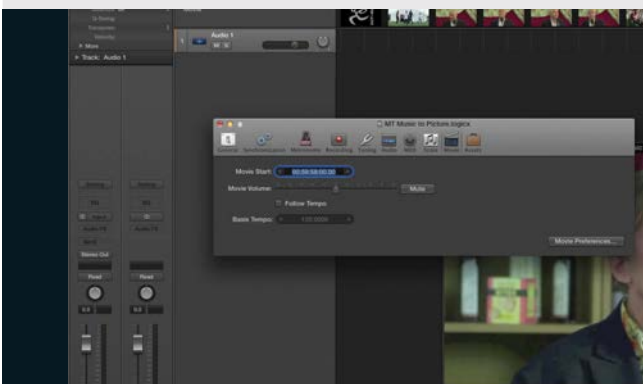


MTF Step-by-Step Sync'ing and adding markers

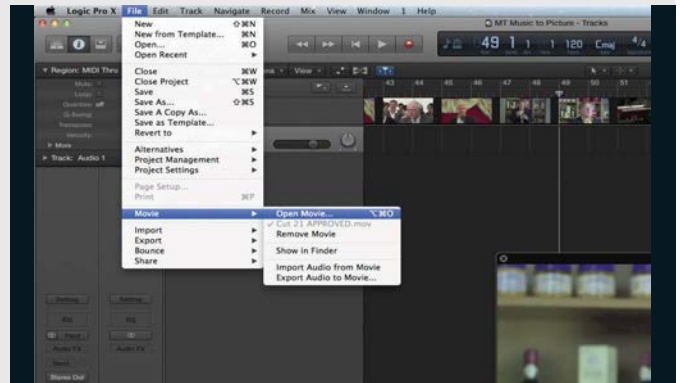
01 To compose the music, you'll be supplied with the most recent cut of the film. Ideally you'll need to work with a version without any music so that you can ensure your music doesn't interfere with any important dialogue or sound effects.



03 To keep a close ear on the dialogue/music balance, it's well worth having it as a discrete track in the project's mixer. Use the option to Import Audio from Movie so that your DAW extracts the existing soundtrack as a new audio file.



05 Changing the SMPTE start time of your session (based on the amount of pre-roll before the picture starts) can be helpful. Technically, you can also change the start time of the movie, which is useful if you need to quickly re-sync a new cut.



02 Create a new session in your DAW, and from the file menu choose the option to import a movie file. The movie will then be placed onto your DAW's timeline with a series of thumbnails to show what's happening at any point.



04 The existing soundtrack might have a 2-pop at the start, which is used as an 'audio slate' to mark two seconds before the picture starts. Ensure you separate this out onto a spare track, as you'll need to print this with your final music mix.



06 If you've got space on your monitor it's well worth running the movie file in its own window, as well as opening a large SMPTE time display. Use these two windows to keep a close eye on the time and picture references in your music.

2-pop is a short, 1-frame burst test tone used to mark the position exactly two seconds before the picture starts (in timecode, this would be denoted as 00:59:58:00, with the picture starting at 01:00:00:00). Assuming the 2-pop stays in the same place, and is always printed at the start of your music track, the editor has a quick and easy way of lining the music back to picture.

Once you've imported your movie you'll then need to think about placing a series of markers that will guide your

composition process, and, in particular, ensure your music syncs with key hit points in the movie. The first marker, of course, will be after the couple of seconds of pre-roll (which will contain the all-important 2-pop), just as the picture starts. Subsequent markers identify the important hit points for your music, but it's important to ensure that your music doesn't end up matching every edit point in the movie.

As you're placing the markers, ensure that they're locked to the absolute SMPTE position rather than a relative 'bars' →

→ and beats' placement, which is what most DAWs default to. As you adjust the tempo – which is one of the key techniques for making your music conform to the hit points – you need to ensure the markers stay fixed at their relative timecode position.

One immediate application of your markers is to set your session so that the first bar of music matches the first frame of picture. By placing a tempo event at bar 2, and then adjusting the tempo of bar 1, you can ensure the first bar

lasts the precise length of the pre-roll. If the pre-roll changes, simply adjust the tempo accordingly.

That's it for part 1. As we'll see later on in the series, the use of markers is a cornerstone in music-to-picture work, impacting on a variety of techniques a composer uses. **MTF** This tutorial is endorsed by Point Blank. With courses in London, Online and now LA, Point Blank is The Global Music School. You can study sound to picture on their Music Production Diploma courses, with pro industry tutors. More info here: www.pointblanklondon.com

MTF Step-by-Step Sync'ing and adding markers... cont'd



07 Markers are essential for music-to-picture work, providing a precise reference for scene transitions and hit points in the picture. Locate your song position pointer at the appropriate position in the movie and then create a New Marker.



09 Once you've placed your markers, ensure they're locked to SMPTE rather than bars and beats. When you subsequently change the tempo the markers will stay in the correct alignment with the picture, rather than moving to a new position.



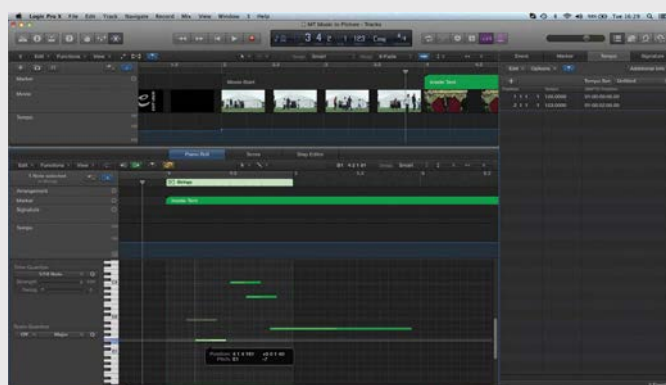
11 By adjusting the tempo of the first bar we can synchronise the beginning of the music cue with the start of the picture (in this case, 120bpm, as it's precisely two seconds). The tempo of the first cue is then set at the start of bar two.



08 Step through the rest of the movie file and continue inserting scene markers and hit points into your project's timeline. You don't need to mark every hit point, just the key locations that the music needs to align with.



10 One immediately important task is to align the first bar of the music with the start of the picture. To do this we need to create two tempo events – one at the start of the movie, and another when the picture/music starts.



12 As we'll see later on in the series, the use of markers is beneficial to a range of music-to-picture activities and really aids an efficient workflow. If the cut changes you'll also be immediately aware of any issues that it raises.

Technique Producing Music To Picture, Part 2

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Working with hit points

Getting your soundtrack to follow the action on screen is an essential part of composing music to picture. **Mark Cousins** shows you how to hit your marks.

One of the most important skills of any film and TV soundtrack composer is the ability to 'lock' their music to the action that's happening on screen. Although it would be foolish to spot every action with some form of musical gesture (unless you're scoring a *Tom and Jerry* animation, that is), it is important that your music follows the broad pace of the cut as well as marking key points in the narrative.

To do this, a composer will often resort to a variety of techniques such as varying the time signature, tempo and

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overall pace and energy of the scene. So, although a tempo of 158bpm might mean that you can hit each and every marker, it could be too fast for the action happening on screen. The beauty of working with a DAW, of course, is that you can quickly audition a variety of options and immediately hear and see the relative merits of each solution.

In situations where your current tempo doesn't result in the music aligning itself with the hit points you can adopt a variety of different solutions. Arguably the simplest solution is a time signature change, so that the marker hits the downbeat of a new bar. A bar might be cut short, for example, so that a 4/4 bar becomes 3/4; to facilitate the hit point arriving earlier, or a beat added (making a 5/4 measure); or if the music needs to be extended to the next hit point. Musically speaking, the addition or subtraction of a beat can be a relatively transparent modification that most casual listeners will miss.

Where marker points fall off the beat, you'll need to consider the

It's important that your music follows the pace and marks key points in the narrative

pulse of a cue, so that the music discretely aligns itself with the action on screen.

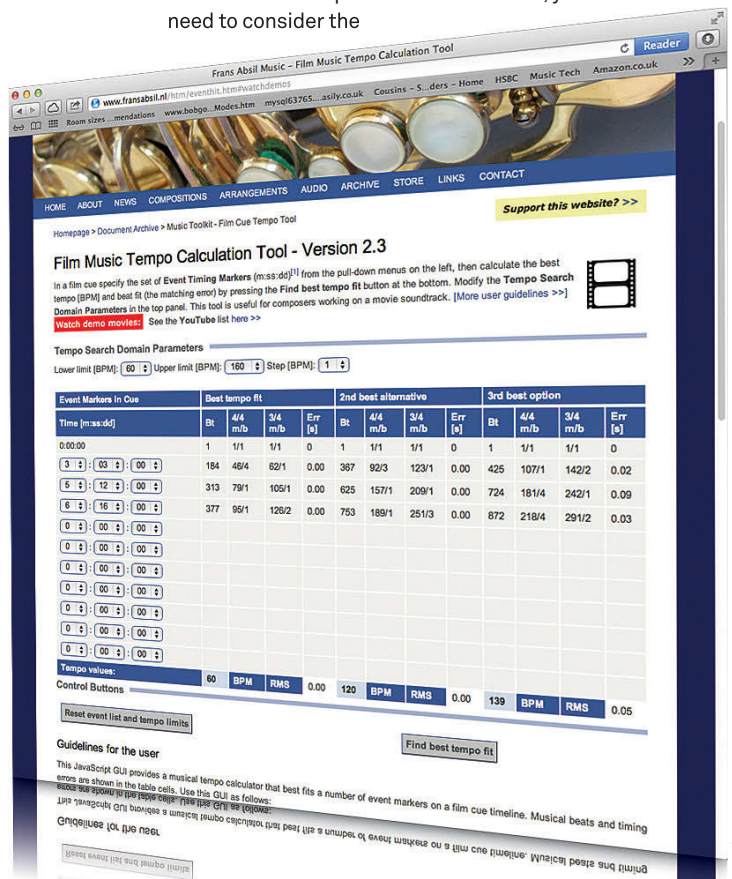
As we saw in the previous workshop (on p80) the key initial stage of the compositional process is the establishment of a series of SMPTE-locked markers, which can be used as a visual guide to ensure your timeline and musical structure matches the action on screen. What should become apparent in this workshop is that the amount and relative density of the markers is often critical to the success of the final score. Put simply, placing too many markers will make your music unnecessarily complicated, whereas a few well-chosen markers will mean that the task of aligning the music becomes simpler.

Just in time

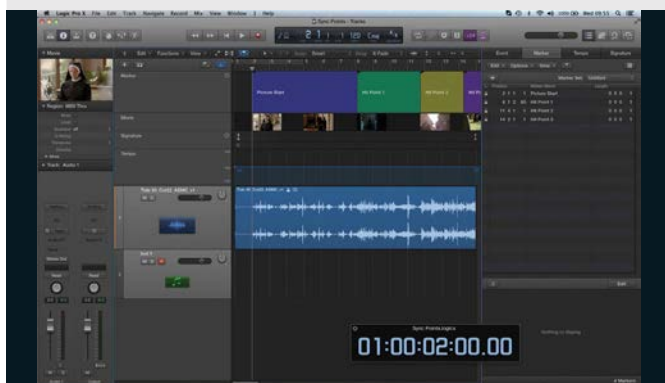
Before diving in at the deep end it's worth considering the broad overarching tempo of your cue, balancing the need to precisely hit all the markers as well as matching the

THE WONDERS OF TIMECODE

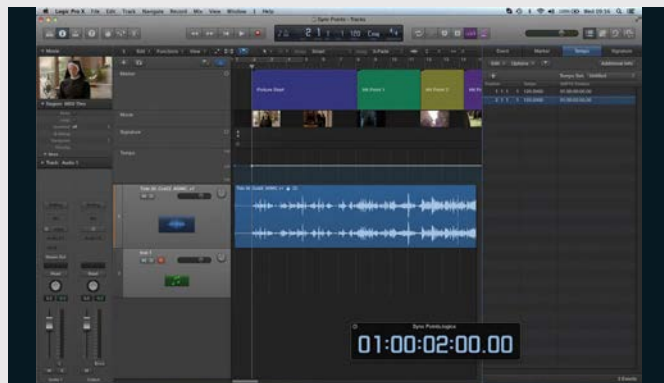
Before the invention of the DAW, composers used a variety of mathematical techniques to ensure their music aligned to picture. Even with a DAW, though, these techniques can still be a good way of finding a best-fit tempo, especially when you have a variety of hit points to match. Luckily a number of online calculation tools (like the one found at www.fransabsil.nl/htm/eventhit.htm) can help you in the task. Frans Absil's calculator lets you input a series of hit points in m:ss:dd format, which it then uses to calculate a number of recommended tempo suggestions, alongside an Error amount for each point. Remember that the music needn't be 100% sample accurate, so you'll be able to get away with more errors than you might first think!



→ MTF Step-by-Step Aligning your markers



01 Following on from the last workshop, you should have imported a video file and placed a series of SMPTE-locked markers. We've also allotted for a two-pop at the start, as well as marking the beginning of the picture.



02 We're using the first bar to cover the two-pop, so we'll leave this at 120bpm unless you want more silence before the music starts. On bar two, therefore, insert a new tempo event that will form the basic tempo of our cue.



03 Adjust the tempo event on bar two to find a 'best fit' for the given hit points. Ideally the markers should align themselves with a downbeat or a subdivision of the bar. 98bpm works well, but we're going to choose 128bpm for a faster cue.



04 In situations where the marker falls mid bar, you always have the option to spot the action with a music feature— say, a chord stab or percussive effect – on the accompanying beat. If the hit point needs more impact, though, this isn't a good strategy.



05 Where you want to align the marker to a downbeat, consider inserting a time signature change, such as taking a 4/4 bar to 3/4, or stretching it to 5/4. Executed correctly, the addition or removal of a beat shouldn't be too conspicuous.



06 For trickier alignments you can always use a small bar of silence before a given marker point, something that can also work to your musical advantage. To start with, place two tempo events at the beginning and end of your chosen bar.

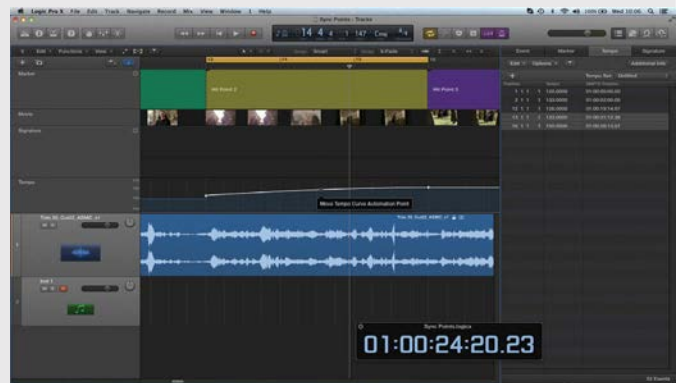
use of tempo changes as means of stretching or compressing the music ahead of a hit point. The issue with tempo changes is that they can start to become noticeable to the listener, unless you can keep them within one or two beats-per-minute of change. One interesting work-around is to align your tempo change with a bar of silence, or at the very least, a bar that's devoid of any noticeable rhythmic movement or pulse. When applied to an empty bar, the tempo change becomes like a form of elastic padding,

enabling you to slip in the subsequent musical material in a precise and relatively subtle way.

Used in a considered way (rather than just as a necessity), tempo can serve as both a musical tool and help you meet the next hit point. Raising the tempo of an action cue is a great way of adding tension, whereas gradual rises and falls of tempo can be a useful way of changing the shape of a cue, so that the music comes down from a 'high', for example, or that there's a subtle lift at the end. Don't forget

MTF Step-by-Step Aligning your markers... cont'd

- 07** Adjusting the tempo of your silent bar will enable you to precisely align the next marker. Raise the tempo to pull the marker closer, lower it to move it away. Consider using a reverse sound to fill the gap, or just leave it empty for dramatic effect!



- 08** Used carefully, tempo changes can be a useful tool to help pull your music into shape. A gradual *rallentando* or *accelerando* can discreetly pull your music into line, as well as changing the feel of the cue, arguably increasing or decreasing its pace.



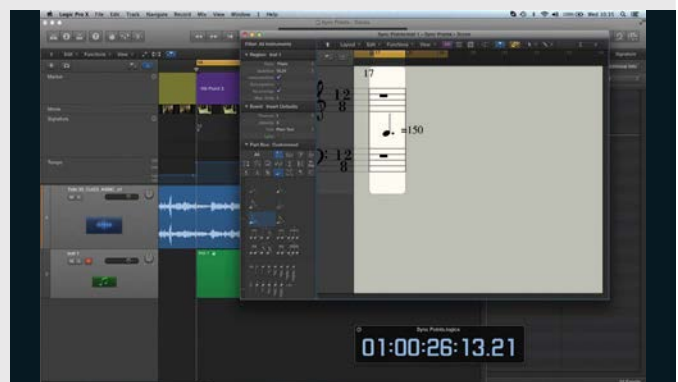
- 09** While it won't necessarily help align your music to a hit point, it's also interesting to contrast simple time signatures (like 4/4) and compound time signatures with a triplet feel (12/8). To maintain the 4/4 pulse, though, you'll need to raise the tempo.



- 10** Starting off in your original 4/4 tempo, insert a new region and then ensure that it is time-locked to SMPTE. Now, when you change to 12/8 notice how the region effectively becomes shorter than a bar, as the DAW is counting triplets as quavers.



- 11** Increase the tempo at the same point as you inserted a time signature event, raising it so that the length of the region is equal to the bar length. In this case, 150bpm in 4/4 becomes 225bpm in 12/8, maintaining the same 4/4 pulse but in 12/8.



- 12** Another interesting work-around is to use your DAW's score writing abilities. Inserting a metronome marking (on a dotted crochet setting) will enable you to see the equivalent 4/4 pulse. If your new tempo is correct it should match the old 4/4 tempo.

that even the slightest change of tempo can have a big effect on the feel of the music, even though the listener might not be completely aware of what you've done.

Whatever solution you adopt it's important to remember the role and function of the music and the need to make your transformations and tweaks in a transparent way. Ultimately, as soon as the listener hears the music being deliberately 'modified' in some way, you've shattered the illusion – the music is now subservient to the picture, rather

than the two forms working in conjunction. Establishing the correct 'grid' has a transformative effect on the rest of the process, enabling you to concentrate on the notes, harmony and arrangement, rather than being constantly distracted by the mechanics of aligning your music to picture. **MTF**

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Technique Producing Music To Picture, Part 3

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Requirements

Our Producing Music To Picture feature is illustrated using Logic but you can apply the principals to whatever DAW you use.

Creating a composing palette

Putting together an initialised palette of sounds can significantly speed up your composition process. **Mark Cousins** forms his own band.

Having dealt with some of the mechanics of writing music to picture, we thought it was about time that we explored some sounds that dominate screen music, and in particular, how best to work with them. Given the complexity of working with orchestral samples (which generally form the backbone of a score), and the need to work quickly, most composers tend to start with a pre-built palette of sounds. We're going to take a closer look at this process, examining strategies that are both time- and RAM-efficient.

Creating your own compositional palette is a matter of personal taste and preference, with composers often

Creating your own compositional palette is a matter of personal taste

taking a variety of different approaches that are depending on their set-ups and compositional requirements.

Unless you've got plenty of RAM to spare and feel happy waiting three minutes for a cue to load, you'll find it beneficial to take a more 'modular' approach to creating a composing palette, using a variety of techniques (such as Kontakt's Multi Patches, DAW-based track imports, etc) that enable it to be customised on a song-by-song basis.

While the modular approach is slightly less time-efficient, you can ensure you're only loading the instrument groups you need, and that everything benefits from a degree of pre-organisation.

First Kontakt

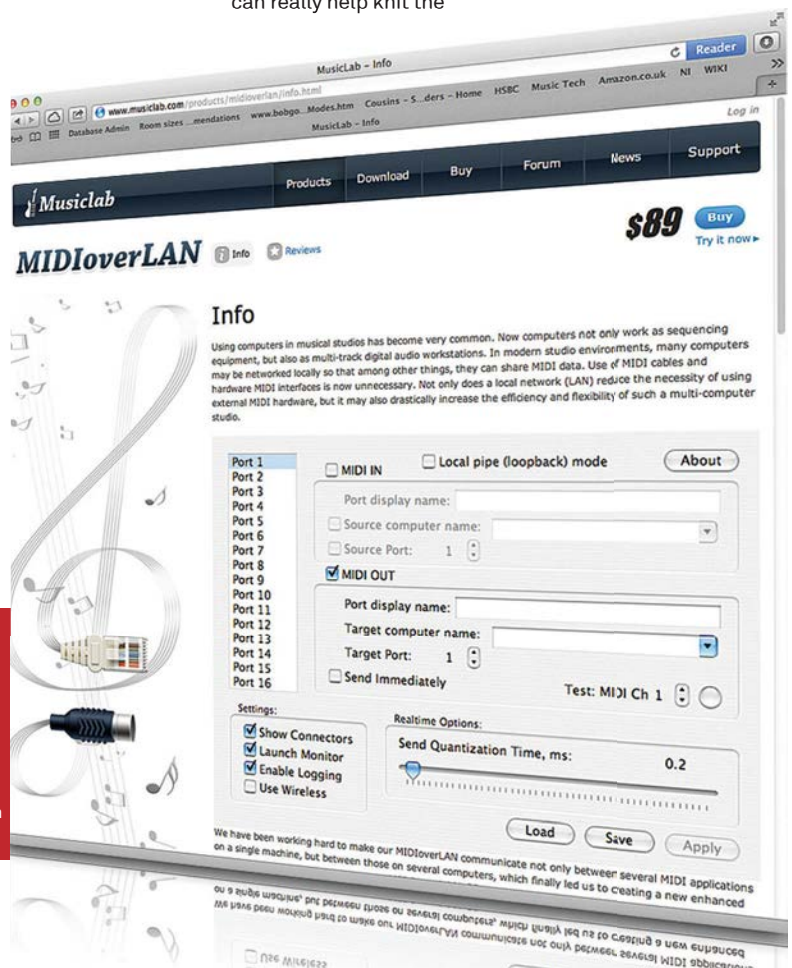
One key ingredient in the process of building your compositional palette is deciding how you want to work with Kontakt. The lazy approach is to use a separate instance per instrument or articulation, which can soon lead to a cumbersome and overbearing track

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ROM
Accompanying project file included on the DVD

count. Alternatively, use a combination of Kontakt instances and strategically built Multi Racks inside of Kontakt, either to group related instruments (a wind section, for example), or what I find most useful: a grouped set of related articulations.

Although some composers prefer using keyswitching for articulations, the Multi Rack approach has the benefit of level control for each articulation, for example making it easy to lift the amplitude of a spiccato sound while reducing the legato.

The benefit of using the Multi Rack system (as well as loading complicated banks of sounds quickly) is that you can also think strategically about mixing. As well as the aforementioned control over the articulation level, you also have the benefit of using signal processing across your selected group of sounds. For example, where you're moving between different articulations on-the-fly it's interesting to note how the application of compression can really help knit the



MULTI-COMPUTER SETUPS

If your eventual palette ends up super-sized, then you may want to consider a two-computer system, where one is used for sequencing duties and audio playback, while another machine is used solely for sampled instruments. Rather than using lots of MIDI cables, applications such as MusicLab's MIDIOVERLAN CP can stream hundreds of MIDI channels over a suitable network connection. Given the intensity of playing back lots of voices, you can ensure your second computer is optimised for sample streaming, with lots of RAM, a RAID drive array or an SSD hard drive with an ultra-fast access time.

MTF Step-by-Step Building a palette in Kontakt



01 Create a new instrument track, assigned to MIDI channel 1. Open an instance of Kontakt, which we're going to use to create a Multi for our Violin section complete with multiple articulations to cover a range of playing styles.



02 It's worth noting Kontakt's Quick-Load tab, which can be a useful way of accessing favourite patches (dragged across from the Libraries section), or as a means of browsing libraries that don't support Kontakt's Library system.



03 Start assembling your Kontakt Multi by dragging instruments into the Multi Rack area. In this case we're using a series of Violin articulations – found in the Individual Brushes folder – from Spitfire Audio's Mural (loaded from the Quick-Load section).



04 Now create a series of tracks (with an incremental MIDI assignment) that correspond to the instruments in Kontakt's Multi Rack. In Logic Pro, for example, you'd use the menu command **Track > Other > New Track With Next MIDI Channel**.



05 One interesting option, which we'll explore in a future workshop, is to leave one of the tracks in an 'All MIDI channels' setting. This is useful if you want to move dynamically between articulations in the same musical part.



06 With the other tracks named, you should be able to record your music using the various articulations, moving between tracks to select the desired playing style. Regions are then automatically named, making it clear to see how the music is being played.

performance together. Where you still need to split elements out, consider using a Multi Output version of Kontakt so that you can direct one or more instruments to individual outputs.

Once you've pre-assembled your collection of Kontakt Multis, you then need to consider how best to work with them. Saving the project as a whole is one solution, although of course this means the complete sound palette is loaded every time you start a new cue. A more RAM-efficient solution is to save the template on a per-Multi basis, either

using Kontakt's own Multi Save feature, or an equivalent function in your DAW that stores the current channel strip setting. Once saved, you can import complicated banks of sound with relative ease and efficiency.

For a solution that bridges the per-Multi approach and a complete RAM-heavy template, consider using a feature that lets you import or recall multiple tracks. Most DAWs feature some form of multiple track import from another project, so that your master template can be imported in a more piecemeal way, eg, adding just the string tracks rather →

→ than the complete orchestra. In Logic Pro X's case there's the Track Stack feature that enables you to save and recall groups of tracks rather than individual channel strips.

As we've seen from previous workshops, the skill of writing music to picture is as much about the intricacies and polish of your workflow as it is about your ability to write a good melody. Removing the barriers to your composition process – even if that's as simple as quickly finding the correct sound – ultimately gives you more time

to concentrate on musical decisions, which should really form the heart of your creative workflow.

Investing time in building your own compositional palette is time well spent, and will reap dividends every time you use it to start a composition! **MTF**

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MTF Step-by-Step Building a palette in Kontakt... cont'd



07 The advantage of working in this way is having control over the various articulations using Kontakt's mixer, while the instrument as a whole travels down a single DAW channel strip. Add compression, for example, to 'knit' the articulations together.



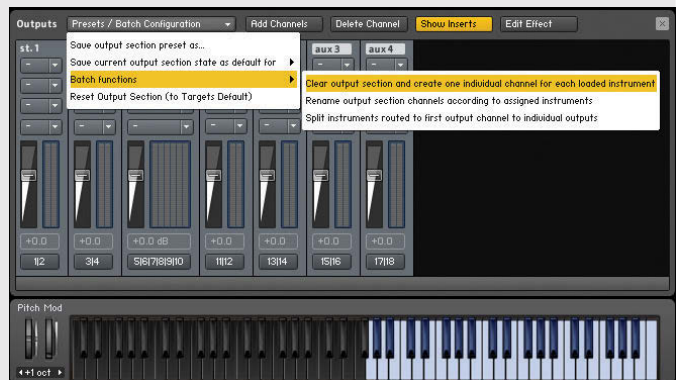
09 Once you've added the Multi Instrument version of Kontakt, you'll then need to create additional auxiliary mixer channels in your DAW for the corresponding number of outputs. In Logic Pro X, this is achieved by clicking on the small + sign.



11 As well as creating new Kontakt mixer strips for the instruments, note that Kontakt has also routed each individual instrument in the Multi Rack. If you want, you can change this assignment, possibly to route two articulations down the same path.



08 There are situations where you may want the articulations to address individual outputs, maybe to add some treble to the pizzicato, for example. To do this, you'll need to add a Multi Output version of Kontakt from your DAW's mixer.



10 Now we need to route the instrument in Kontakt. Open the Mixer screen and from the dropdown menu select Batch Functions > Clear Output Section And Create One Individual Channel For Each Loaded Instrument in order to route all the articulations.



12 Once you've created your Multi, consider the best way of saving the template. In Logic we've saved the set-up as a Track Stack, but you could also choose a selective track import, saving an individual channel strip setting, or saving the Kontakt Multi.

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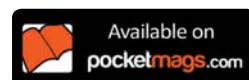
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NATIVE INSTRUMENTS Komplete Kontrol S-Series

Native Instruments has already set the music production world on fire with Maschine. But that was 'just' for drums. Now it's about to do the same for every other instrument. The Komplete Kontrol S-Series are just that – complete controllers – but also unlike anything you'll have seen before. **Andy Jones** has the first one in the world and thinks it might help change everything...

Details

Price **£25, £429**

S49, £499

S61, £599

Contact Native Instruments

+44 845 5272006

Web www.native-instruments.com

Key Features

Komplete Kontrol S-Series

- Native Map assigns key features
- Light Guide LED keys
- Smart Play section for keys and chords
- Nine screens, eight rotaries
- Navigation section for on-screen control

OK, so the line above was quite a dramatic introduction but it's not often that we 'hold the front page' of the magazine for a review of anything. The last time we did it was when we managed to get the world exclusive review of the much-hyped AIRA range from Roland. They turned out to be great and did what they set out to do – properly emulate some classic gear.

But Native Instruments' Komplete Kontrol Series could turn out to be a much bigger landmark within music making as they a) will revolutionise the way you control your music plug-ins and, as importantly, b) could revolutionise the way you learn and play music.

There are three keyboards in the S-Series range – fairly standard for 'ranges' these days. You get a 25-note,

49-note and, on test here, the 61. I would usually opt for a smaller one to test (mostly down to lack of space in my studio) but this time I specifically asked for the 61-note to explore some of the many playing options that I will come on to later.

First impressions

I wasn't as excited as I am now when I first saw the keyboard. It was powered down, looked like a black slab, quite slick but not hinting at the excitement to come. Like Maschine before it, though, (and thankfully an increasing amount of hardware these days, including the aforementioned AIRA range) the real action is revealed when you power the unit up. Electric life seemingly courses into it and, for an instance, this electricity sweeps through a set of multi-coloured LEDs, each positioned above a note on the

keyboard. I have to admit, when I first saw this at a demo in London I thought it was simply a cosmetic addition – Native Instruments trying to add a little colour to our keyboards. How wrong I was, as we will see (a lot more on this later).

So after this light show you're left with a couple of displays saying 'Connect Computer' in a rather understated and direct way – 'say please', I thought. Connect it up and all the LEDs above the keyboard light up blue and the eight screens reveal which controller data they are set up for. I was worried that the displays would suffer under high light conditions but, as I write this on a bright and sunny afternoon, they are perfectly visible and well designed – and they should be, as they are incredibly important to the whole Komplete Kontrol concept.



More than MIDI control

So at this stage with the keyboard connected via USB you can use the set-up simply as a MIDI controller – you'd be totally missing the point, but you could!

I happened to have Logic Pro X with an instance of FM8 open as I connected the keyboard. I expected to have to download at least a driver to get everything up and running, but I was pleasantly surprised to be playing my beloved FM8 straight away. Not much else worked, mind...

That is because, in order to get Komplete Kontrol totally off the ground, you *will* need to download software. Owners of Komplete 9 onwards need the free Komplete Kontrol software and if you want to use it as a regular MIDI controller with certain other software you will need to download the driver for that software (Ableton Live has another step too but this is detailed in the documentation).

Main features

So now we move on to the main features, and get ready for a whole lot of snazzy names for each section. First up we have **Native Map** (all of these should have the trademark logo after

them but we'll be here all day as there are so many). This is where those screens – which Native calls **Clear View** screens – become important. Connected to Komplete Kontrol software, you can step through the various instruments and these become automatically assigned to the eight most important parameters in the instruments (typically filter cutoff and resonance for synth instruments, for example). This kind of auto mapping

Native Instruments claims is the first of its kind. The company is not talking about lit keys to learn to play because that has been done before (see the box on p94 for more on that). Instead Native is talking about how the Light Guide LEDs interact with its Komplete software and other Kontakt or Reaktor instruments.

Anyone familiar with a typical Kontakt instrument will know that the keyboard is colour coded to

/// You could use them as **simple MIDI controllers**. You'd be totally **missing the point**, but you could... ///

has of course been done before but there's a certain elegance and sophistication here and the understated screens almost look like hardware labels, which as we'll see adds to the immersive software-to-hardware experience that the Komplete Kontrol system brings.

Next up we talk lights, and this is where the real joy happens. This system is called **Light Guide**, which

represent splits, key switches, zones or features typical to an instrument. With most vocal collections, for example West Africa, you select a sample over a set of green keys and then play that sample with a blue key. You've probably guessed by now that the genius of Komplete Kontrol is that the LEDs replicate this concept, so rather than staring at a computer screen you can look at what you are →



a SMART PLAY
This section is for scales and chords, enabling both to be changed and played easily in conjunction with Light Guide.

b LIGHT GUIDE
These multi-coloured LEDs show key zones and switches from Kontakt (and some Reaktor) instruments, so you don't have to always look at the software.

c NATIVE MAP
The Native Map technology automatically maps key parameters for Komplete instruments to these dials when the instrument is selected.

d CLEAR VIEW SCREENS
The nine screens on the front panel show the parameters assigned by Native Map. These are understated screens and work well in all light conditions.

d NAVIGATION
This is where you jump around your Komplete instruments selecting each and the presets contained within. Less time struggling with a mouse equals more time to create!

→ actually playing on a proper keyboard, which we (OK, I) are absolutely in favour of.

beyond normal controllers, offering a closer hardware experience with software. It's not totally perfect,

later in the *In Use* section for more on this). You can't, then, keep your eyes completely off the screen but the **Navigation** section does make selecting what's on it and moving around it very easy.

The final section is **Smart Play** and this is one of the areas I'm looking forward to getting into, as the demo I had revealed a lot of chordal and scale playing options.

The additions of **Clear View** and **Light Guide** feel like Komplete Kontrol is sucking software into the hardware

Light Guide is the backbone of Komplete Kontrol S-Series and with Native Map takes these keyboards

mind, as if I want the full 'hardware' experience I'd need the presets listed on the keyboard somewhere too (see

In use

So let's see if all these fancily-named features do the job. First up Komplete Kontrol, the software. You will need to install this but it's a free download, easy to use, and essentially a shell to bring all of your instruments together in one easy way for the Komplete Kontrol system to, well, control.

There's a guide to its main features opposite but if you consider it as just a way for the Navigation section on Komplete Kontrol to skip through your instruments by name or preset type, you wouldn't be far wrong.

You can use it as a standalone application or as a plug-in within your DAW. Simply select it as an instrument shell – it's essentially like Kontakt – and it acts as the link between the Kontrol keyboard and instruments.

You can, when it loads, select by sound type, so select Bass, for example, and all the bass presets from every Komplete Instrument you have installed will be listed. So you can bundle everything together or go by your favourite instrument.

LIT KEYS. HASN'T THAT BEEN DONE BEFORE? (IT'LL ALMOST CERTAINLY BE DONE AGAIN...)

At the launch of Komplete Kontrol S-Series I was so taken with the 'LED above the keys' thing that I was amazed that it hadn't been done before. Well it has. Sort of. There are a few keyboards on the market with keys that light up specifically for learning songs, notably those like the Yamaha EZ-220. I was also reminded that a mini-key Casio keyboard from my youth had lit keys (still available in the company's up-to-date LK range) so it's certainly not a new concept.

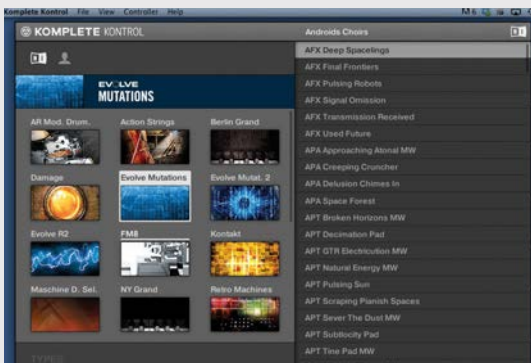
However, the way NI has implemented it not only to match the key split colours on its software but also to act as

a learning aid for complicated scales and chords (as well as, of course, simple learning to play) has not been done before. Certainly not on any pro keyboards that I recall and certainly not so elegantly. There's also the added bonus that a keyboard like this could also be used in low-lit live environments so you can actually see what you're playing – possibly not what Native Instruments originally conceived it for, but there you go.

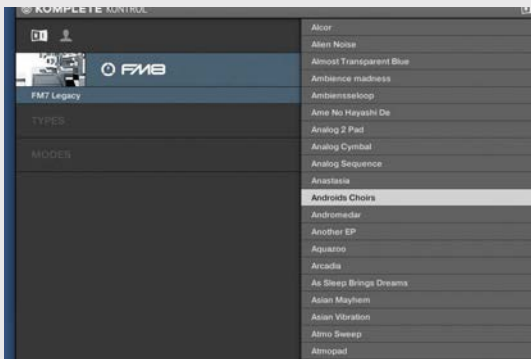
As to the future, are we going to suddenly see a slew of colourfully lit up keyboards? Maybe a range of synths that play different colours dependent on the kind of sound played? Well the music technology hardware world has certainly become a lot more colourful than it was when I joined it nearly 30 years ago, and thank the Lord, as I love a colourful light as much as the next man. It was all black, black, black back in the 80s. Mind you there were a lot more fields around back then too. Ah, gentler times...



Komplete Kontrol's keys are lit by LEDs shining on them, and are the first for a 'pro' keyboard. Other keyboards are available where the keys actually, light such as the Casio LK range (guess what 'LK' stands for...). For the iPad generation there's a cool app with not-quite-as-cool-keyboard called ION Piano Apprentice which helps you play via lit keys.

MTF Step-by-Step Software and the hardware

01 You'll need the Komplete Kontrol software. It's free, easy to install and is fairly underwhelming when you first boot up. Press the Browse button in the Navigation section on the keyboard, though, and suddenly all of your instruments are listed. Now you use the big dial control in the Navigation to select your instrument.



02 We're going to select the Android Choirs preset from my (beloved) FM8. We could have done this by sound type from the main browser which filters every type of sound from every instrument you have installed – very useful – or simply, as we have done here, load in the FM7 Legacy set and dialled down to it.



03 The beauty here is that once the preset is loaded you get the FM8 synth on screen to tweak, but also its main parameters are accessible from the keyboard's dials. Plus you get the name of the preset within screen number 9. It's not quite as intuitive a preset handling system as Push's but is still a great way to navigate around your software.



We've used the example of an FM8 preset which you can get to using the main rotary and cursors on the keyboard, either by sound type or simply by going through the FM8 banks with the cursor and dial. This is the important bit of the S-Series – as it makes it so easy to access key features very quickly – and Native has done it very well. It's intuitive, easy to manage and encourages you to use the

the instruments selecting presets, the addition of the Clear View screens and the Light Guide LEDs both replicating the main features of the software in such an attractive and clear way really does give the impression that the keyboard is sucking the software into the hardware. It isn't, of course, but the implementation is stunning and that is the feeling you get.

It's intuitive, easy to manage and encourages you to use the hardware rather than the computer

hardware to do it rather than the computer and mouse.

Once you've chosen your sound it is loaded in, complete with its parameters mapped (Natively Mapped) to Komplete Kontrol's S61's dials. The name of the preset also appears on the first (left) screen which has no dial, instead a left and right cursor to very usefully select more banks of parameters for the eight dials to control (in our case we had up to 17 banks to choose from but this will vary depending on preset and instrument).

It's an incredibly slick system and great to see the end result in the hardware. I've used Ableton's Push, where you get to navigate through the presets on the hardware rather than the software, and while that is a more 'hardware immersive' experience, Komplete Kontrol's is different. You're loading in each preset and a ton of parameters, so this is more about hands-on action. However, being able to select from presets listed on the hardware is a bonus, so maybe this will come in a software update for the Komplete Kontrol system.

So that is the Navigation and Native Mapping sections dealt with. They work, and the Clear View screens do them justice easily and quickly. In fact those screens have become my favourite parts of the keyboard (aside from the lights, naturally). They display parameters clearly and the simple bank left and right buttons enable you to get very deeply into a sound very quickly.

Again, this makes the Komplete Kontrol system experience more of a hardware one. As you step through

Before we move on to Smart Play, just a quick note on using Komplete Kontrol S61 as a DAW controller. There are transport controls on the left-hand side and I'm happy to report they worked brilliantly in Logic Pro X without any problems. As always with these things, though, you may need to download extras depending on the DAW you use.

So quickly on to Smart Play, and it's actually a simple two-button system that replicates the Scale and Arp buttons within the software that are usually switched off as you load the preset up. Click the Arpeggiator button and you have all the options listed on the Clear View screens (and there are many). Similarly the Scale button gives you options to obviously change scale, but also Easy Play which lets you play pretty much any chord or any scale without making mistakes.

You can change scales, play chords with one finger... do pretty much anything you like, but the overall attraction for me is that you can play it and never go wrong. It's great fun and a learning tool whereby you can quickly learn what notes make up chords and a whole lot more. It's a section that I will be exploring further as I now fancy myself as a bit of a player and am sure this section will confirm it!

Finally, phew, just a quick note on the non-conformist pitch and mod strips, which naturally have their own name: Touch Kontrol Strips! Needless to say these go further than your typical pitch and mod wheels (although you can do those) and can be assigned to loads of other functions for



The Clear View screens are just that – understated and clean

/// I'm an old duffer so you may not agree with me but I think that today's producers are spoilt ///

→ live hands-on performance duties.

So, any criticisms?

It's all sounding very positive so far but it can't all be good, surely?

When the range was announced some of our Facebook audience were critical of the price. '£429 for a 25-note controller keyboard!' and 'they are just controller keyboards' were a couple of comments. I'd agree that is steep if you were to use them just as controller keyboards but, of course, they're not really designed for that. With Komplete 10 this range becomes something else entirely. They add another dimension to Kontakt instruments and give you less screen time and more 'me time'. There are also at least two features: Smart Play and Light Guide that you won't find on any other MIDI controller that work so well with Komplete Kontrol software.

But there's the rub; you'll get the best out of the keyboard only if you own Komplete 9/10 software. The cheapest combination then is the £429 S25 keyboard and then Komplete 10 for £429 (Komplete Ultimate is now £849).

So that sounds expensive, right? Now I'm an old duffer in terms of having been around in this industry so you might not agree with me on the

/// A NOTE ON COMPLETE 10 AND OTHER SOFTWARE...



Almost obviously, there's no doubting that the Komplete Kontrol S-Series is at its best and most impressive when controlling Komplete (the software, that is). That's what it is named as after all. Software that is Kontakt compatible, ie, my favourite vocal collections from Best Service, still enjoys some of the features of Komplete S-Series including Light Guide, although Native Map might not be implemented (although could be with software updates). Even if you don't own any Komplete software you could just use it as a MIDI keyboard and controller (with the right driver) but that is actually an expensive option. It would be like buying a mansion and not using the top floor. Or the swimming pool because you don't have the keys... or something.

So, anyway, used with Komplete (the software) the Kontrol S-Series is at its most stunning so it's worth having a quick look at Komplete version 10, which was announced at the same time as Komplete Kontrol.



Top to bottom: Kontour, Polyplex and Rounds.

kit designer with random elements, and from what I heard this is going to be a winner as it makes more unusual kit choices – and therefore more unusual beats – just that bit easier. We'll be covering these over the next few issues of *MusicTech* magazine.

You can pretty much set your watches by a Komplete software update, and this time there's been some big additions. Both Komplete 10 (£499) and Komplete Ultimate (£999) feature six new instruments: three pianos and Rounds, Kontour and Polyplex. I've had demos of all three of the instruments and was pretty impressed with the scope of them. Rounds is a sound-design tool which enables you to morph and sequence in real time. Kontour is a synth designed by NI founder Stephen Schmitt and concentrates on organic textures and harder tones. Lastly there's Polyplex, a drum

following, but today's producers are spoilt. I'm going to do a bit of an 'in my day' dad rant now. The first synth I bought 25 years ago was £1035, about £5000 in today's money. It did about 0.5% of what the Komplete system and the 'basic' Komplete software bundle will do. Yes I know technology has brought all prices down but, come on, £858 for a superb keyboard and what is widely regarded as the finest collection of instruments and content ever produced is not expensive. But that's me talking, maybe you don't agree.

Incidentally, while we're talking about the 25-key version I'd probably recommend the 49 over it. It's only £70 more and you might find that with all of the playing features available within Smart Play will get you actually playing more, so you might want to opt for the bigger keyboard.

So what is the verdict?

Native Instruments has fast become an 'Apple' of the music production world – and yes I do realise Apple are still an Apple of the music production world too – in that the company is designing incredibly good looking

MASCHINE AND WHAT NATIVE INSTRUMENTS DID NEXT



When we reviewed Maschine back in December 2013 Liam O'Mullane was very much of the opinion that this beat-making beast was 'a hardware and software combo that feels like hardware.' He also created several great-sounding tunes and beats without using the computer screen, so with his similar conclusions to those I've made here it's clear that Maschine and Komplete Kontrol are sister products.

So it's also clear that Native want you to be making beats with Maschine Studio and doing everything else with the Komplete Kontrol S-Series. At the demo they were also very candid that the integration between Komplete software and the keyboard series would hopefully get them to sell more hardware *and* software. Of course they want that, though, they are a business like any other and I think they'll succeed at both.

But the release of the Komplete Kontrol S-Series also

how I used them previously and think that it was two dimensional and now

Left: Maschine won innovation of the year in the MusicTech 2013 awards

Below: The latest v2.0 Maschine software.
Bottom: Maschine Studio is also available in white



for example)*

And they don't have to be just Native Instruments ones. How about Komplete Kontrol Vokal where my favourite Elf, monk and Gregorian collections are bundled?

And Maschine started out life in black and you can now get it in white and a limited edition gold (I even spotted one in red). However I'm not sure this will be a path that Native will tread with Komplete Kontrol. Only Nord can get away with red. White, maybe, but gold? You'd have to be Elton John to get away with that one.

* If you are reading this, Native Instruments, you can have the name ideas – I'll only take a small cut.

There's the rub – in order to get the best out of the keyboard you will need to own a copy of Komplete 10

products that are solving problems we quite often don't know we have. But once we solve those problems using this incredibly sleek hardware and software, we find we really can't live without it. Having used Komplete Kontrol with my Komplete instruments within Logic it's not only brought them to life in a way no other controller has, but it's made me never want to use a mouse or pointer ever again... It even makes me look back at

it's a bit more 3D. Or maybe I'm just being a tad melodramatic with that...

So, are the keyboards a game changer? The answer is really that the game had already been changed with the likes of Push and Native's own Maschine. They started bringing software out of the computer. But the Komplete Kontrol series is an important release in the history of music production because it brings the joy of those machines to a much

larger audience of players who may be older, may be less dance orientated than Push and Maschine users, or are maybe just sick of poor software control. So you could say the S-Series has joined the game and could become the most important player.

Actually let's lose the game thing... Let's just say that with them we can finally let the computer do what it should be doing – computing! – and we can finally get on with what we should be doing: making music and playing music. **MTF**

Alternatives

There is nothing out there that does quite what these keyboards do, but there are some that do parts very well. One of the better controllers that I've looked at recently was Korg's Taktile. The 49-key version weighs in at £279 and it features pads, an arpeggiator and good DAW control. Perhaps a system that comes closest is Arturia's KeyLab range (from £169 to £319) which attempts to marry hardware with software by including a vast amount of presets from Arturia's software back catalogue which you can control using assigned knobs and sliders. If you want something that has lit keys, check out the Casios in the box on p94. And if you want something with nice lights, get yourself a lava lamp.



Choice

9/10
MusicTech

Innovation
MusicTech

MTF Verdict

KOMplete KONTROL S-SERIES

- + Amazing controller
- + Lovely Light Guide system
- + Rock-solid build
- + Auto mapping of key parameters is great and fast
- + Easy to use

- You'll need Komplete to enjoy it to its full

The Komplete Kontrol system brings Kontakt and Reaktor software to life, like having them all in hardware. An essential purchase if you have Komplete, and after seeing them in tandem you might just consider both as the ultimate music production package.

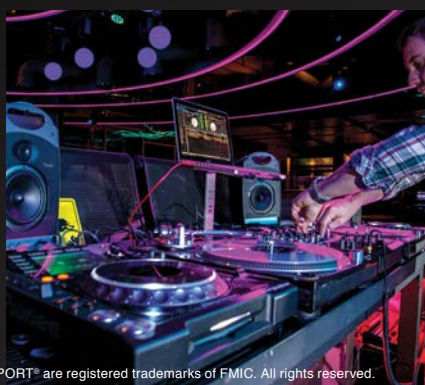
9/10



SOUND THAT TRAVELS.



Photo: Radek Barczak - E-MUZYK.pl



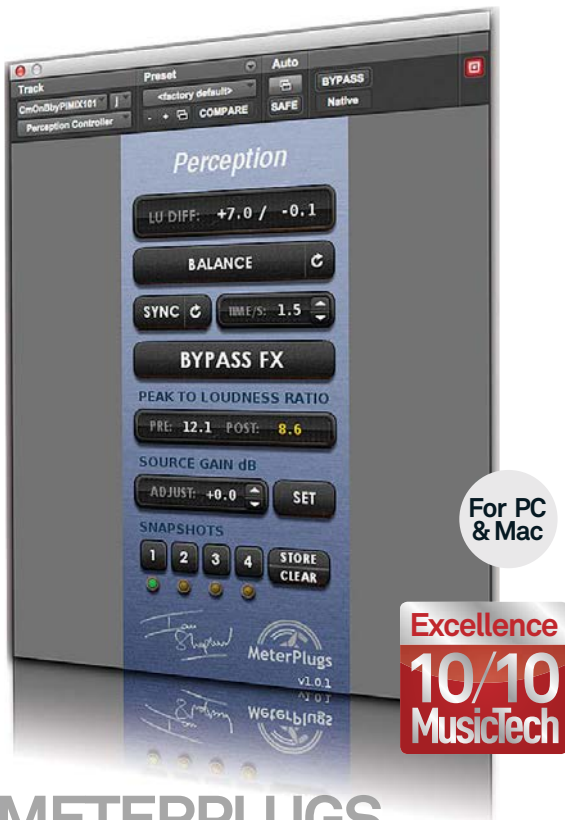
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METERPLUGS Perception

Meterplugs and Ian Shepherd are hoping to change the way we listen.
Mike Hillier brings a keen ear.

Details

Price \$149

Contact via website

Web www.meterplugs.com

Minimum system requirements

PC Windows XP/Vista/7/8, AAX or VST host

Mac Mac OSX 10.3.6 or higher, AAX, AU or VST host

Key Features

- Loudness matching
- Entire FX chain bypass
- Peak to loudness ratio
- Plug-in delay compensation

Perception is the result of a collaboration between mastering engineer Ian Shepherd and Meterplugs. Ian has long been a champion of more dynamic masters, founding Dynamic Range Day to promote awareness of the damage done by heavy-handed compression/limiting. Perception aims to give engineers a way of listening to the results of the processing being used without the increase in loudness biasing their opinion.

Take control

There are two parts to it. The first is the Perception Source plug-in which is placed first in the signal chain. Second, is the Perception Control plug-in which is placed last, with all other processes going between. If you use any parallel processing via busses, you'll need to sum everything back to a single (mono or stereo) channel, placing the Control part of Perception on that channel.

Once the two parts are in place, Perception then measures the loudness difference (using an RMS measure) between the Source and the Control, and provides tools to balance the two,

Alternatives

The TT Dynamic Range Meter and Brainworx bx_meter will both give you an idea of the peak to RMS ratio, and therefore a reading of your dynamic range – although they produce quite different values. However, Perception uses this to give you control over the level of your track and to compare it to the unprocessed original, which is unique.

by reducing (or raising) the level of the final signal to match the Source.

All the controls and meters are placed in the Perception Control plug-in. With all of your processing between the two plug-ins introducing latency, the Source and Control signals are often not in sync. This would make it difficult to make accurate comparisons, so Perception has a Sync button, which measures the latency between the two plug-ins and compensates internally. To keep the two signals in sync, this button needs to be used each and every time you add additional processing between the two parts of Perception.

Listening in

We've been using Perception on our mastering sessions for a couple of weeks now. Adding both plug-ins and hardware effects to the chain with no problems. At first we thought hitting the Balance button each time we make an EQ or dynamics change, in order to compare with the dry original, would have slowed our workflow, but in reality the opposite happened. Because we no

have the effect of pushing into any dynamics processing a little harder, resulting in a 'louder', less dynamic mix. You can then save different source gain levels as snapshots, enabling you to quickly and easily compare the effect of different amounts of dynamics processing on your master all at the same loudness level. This makes getting the optimal loudness setting for your track easy, and shows up the flaws of over-limiting in an obvious manner.

We've never been keen on overly heavy limiting and use a variety of different meters while mastering. But Perception is more than a metering plug-in, it is a tool to aid listening. We're convinced that not only has it had a positive effect on our recent mastering output, but it has also improved our efficiency, enabling us to get our masters where we want them faster.

Mastering yourself

Since adding Perception to our plug-in library, we've become almost addicted to it. It's now the first thing we add to all our mastering sessions, before any other plug-ins or outboard processors. Even the Peak to RMS ratio metering on it has come in handy, replicating some of the functionality of other meters, such as the TT Dynamic Range Meter, or Brainworx bx_meter.

Perception won't suddenly make your mixes or masters sound better. But

Perception won't make your masters sound better but it might make you a better engineer

longer have to manually balance the levels we have found mastering has become quicker. Furthermore, because Perception is accurate to within a tenth of a decibel, we are able to make changes with confidence, knowing that what we are doing is for the good of the song, not simply making things louder for the sake of it. Bypassing FX in Perception has become a part of our workflow. Where previously we'd do it by switching between two channels to compare the dry, unprocessed mix with our master, we can now do it inside Perception, and unlike our old method the two versions are now kept in sync, making comparison that much simpler.

Perception has one last string in its bow too. You can alter the source gain from the Control plug-in, which will

it might help you become a better engineer, and that has far more value. If this plug-in helps to point the way towards more dynamic mixes, then Ian Shepherd will have succeeded, and we all will benefit. **MTF**

MTF Verdict

- + Syncs dry and processed signals
- + Balances loudness
- + Compares different levels of processing with snapshots

- Takes up two plug-in slots

It's rare that a plug-in that doesn't do anything to the audio would get us so excited. But Perception is one such rarity.

10/10



For PC & Mac



ROLAND

Aira System-1

While the world and his wife went mad for the acid side of the Roland Aira range, it might well be System-1 that steals the show. **Andy Jones** plugs in. And out...

Details

Price £499 (includes free SH-101 Plug Out)
Contact 01792 702701
Web
www.roland.co.uk

Key Features

- 8 presets on the hardware
- 100 presets in the SH-101
- Monophonic
- 10 Scatter effects; 10 depths

Although, the heady days of Aira. As fans of music gear and technology I think we'll all look back on those days at the start of 2014 – days of secrecy, of hype, of mystery – with some fondness. It's not every day in any industry where you can feel people get genuinely excited by forthcoming products in the same way people did 'back then'. And to be involved, albeit as helping create the hype, was exciting, to say the least...

To those who don't have a clue what I'm talking about – Aira what? – where were you between December and February?! We're talking about a secret range of Roland hardware products that was revealed to music technology journalists as being pretty much what the world had been waiting for in terms of Roland hardware – i.e. reborn TB-303 bass and TR-808 beats machines – and then those journalists were told to keep

their traps shut under pain of death until the big unveil date.

What followed was childish excitement, hushed discussion about 'secret rooms', and general girlish squealing, giggling and breath-holding in a 'I know but can't say anything' kind of way.

And that was just me...

And the hype spread. I wrote a story about being one of the first journalists to see Aira – I was just passing the secret hotel room where they were on display – and it attracted more hits at musictech.net than the final review! Roland lapped up every inch of it all, of course. It wanted a range of products to turn the company's fortunes around and by all accounts it's done that with the TR-8 and TB-3 garnering great reviews in *MusicTech* and consequently selling loads.

But while the TB-3 and TR-8 were taking all the acid glory in that 'secret'

demo room, a small keyboard called System-1 was also unveiled. But at the time everyone wanted to hear the TB-3's bass and the TR-8's 808 and 909 beats. Few were that interested in the brightly lit *Tron*-like synth playing a bit-part left of stage, knocking on the door of the launch party while the 3 and 8 got all the drinks and the girls.

But, in fact, System-1 had me more excited than the TB-3 and TR-8 because it was touted as a synth that could be upgraded via optional 'Plug Outs' to turn it into other Roland classic synths, which interestingly can then be used, via the hardware, as virtual instruments within your software DAW. And of these, the System 100 was mentioned, one of many Roland 'hallowed be thy name' classics, which surely everyone wants, right? Or is it just me, the person who wanted to be in the Human League before they were famous and didn't have girls?

Anyway, I digress. Basically System-1 may be the synth knocking and waiting to come in, but when those party goers realize quite how cool it could be, well, it will be surrounded by





SH101

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The SH-101 is more than just another pretty face. It's a serious synthesizer — 33 keys, 11-octave range, you can go from deepset rumbling bass to screaming highs in a flash. Modulation Grip in combination with Bender lets you bend a note up, down or sideways.

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TAKES YOU WHERE YOU WANT TO GO.

Designed by retrosynthads.blogspot.com

Original adverts for the Roland SH-101 revealed a wide variety of uses for the portable synth. Personally we weren't fans of the strap-on nature of the synth but the fact you could take it skiing was obviously a massive advantage...

cocktail-drinking lovelies, laughing at its every punchline.

And here it is

In use, you have to explain System-1 on three different levels. First up it's a synth in its own right, with a sound engine, effects and (limited) presets. It comes with standard effects and those Scatter effects that are also present on the TB-3 and TR-8. Next up you'll use System-1 to control the Plug Out synth as a plug-in within your DAW. Use it this way and it's just like any software synth with a hardware controller. Roland is shipping System-1 with a free Plug Out which was recently announced as the SH-101. More on this later.

Thirdly, in use, there is Plug Out mode where you simply download sounds from the software SH-101 into the hardware unit. This is very easy: simply click the Plug Out icon, select your sounds and download them. Sadly you can only download eight into the hardware but you can then disconnect it and use the System-1 synth

independently of the computer, so play it live, or take it to another studio.

So let's look at System-1 as a synth in its own right. The keyboard does make its own noises — just not that

System-1 had me more excited than the TB-3 and TR-8 because it was touted as a synth that could be upgraded

many of them — and you can do a lot to them. With just eight sounds — yes eight, I couldn't quite believe it either — it is still a fully-fledged synth, albeit with fewer crumbs to make a meal of from the off. They're good sounds, don't get me wrong. I'll describe each one. You start with a fierce 'ai' vocal sound, all distorted and nasty. Then you get a nice, buzzing lead followed by a rounded bass. Number 4 is a simple, short-attack, punchy analogue lead; number 5, more a swirling-attitude lead; 6 a proper big bass; 7 an ambient pad and

Alternatives

We'd be foolish not to recommend using soft synths as alternatives as there are plenty of free and paid-for ones out there, and many are based on Roland classics. However there's little available in terms of a hardware shell that can be updated with software. Perhaps the closest is the Arturia KeyLab range of keyboards that costs between £189 and £649 and ships with thousands of presets from Arturia's software collection (based on classic synths like the Minimoog). An alternative to using System-1 in Plug Out monosynth mode is Novation's BassStation II, one of the finest monos around.

8 a distorted moving effect. Something for everyone, yes, but only if you know another seven people.

One other negative: I don't much like the keyboard. It's a bit spongy, flat and, while I'm no Richard Clayderman, I can see some players having issues.

On to the positives

System-1 lights up nicely, not in a garish 'look at me' TR-8 way, just a light green understated way, but with every knob and slider lit. This is an important factor for the Plug Outs as only controls relevant to them will light, which will obviously differ for each synth you 'Plug Out'.

Next up we have the Scatter effects. This is the same set of cool effects that comes with the TB-3 and TR-8 and is implemented slightly differently as this is a keyboard and not a drum machine or bass producer. Here you still get 10 effects and levels of up to 10 for each, but they are only implemented with the arpeggiator on.

The actual Scatter effect is selected with an inner dial and its level by the rather cool surrounding pitch dial. Effect wise these are better used on shorter bass-like notes. They are not quite as dramatic and in your face as the beat Scatters on the TR-8 but work

well if you adjust other parameters simultaneously, like the filter and resonant knobs for more obvious builds and falls (although if, like me, you have only two hands, you'll need to use the Key Hold button to keep notes playing).

Other notable sonic changes can be made with other, more 'standard' effects, which include reverb and delay and a dramatic Crusher and Tone shaper on the Amp stage. Other than that the layout is a fairly standard affair for an analogue synth, with dual oscillators, →

Future Classics

While we don't know what future Plug Outs for System-1 will be I've heard that they will all be based on *monophonic* Roland classics. The reason for the monophony is down to System-1's hardware processor power rather than anything else.

Once the power available to run them increases so will the polyphony – just like the old days of synths! Of course all of this is largely irrelevant if you are simply running the Plug Out as a software plug-in, as you can simply stack them together to increase polyphony, but used in Plug Out/hardware mode it does seem the existing hardware will always be monophonic. So whether we'll see a larger System-2 keyboard for extra polyphony remains to be seen but we're certainly looking forward to a Jupiter-8 emulation when the power becomes available. And a

JV-1080 while you're at it, Roland! For the more immediate Plug Out future you can safely assume the likes of the SH-2 and System 100 will be among the first releases (the latter presumably with some kind of modular implementation), and they are expected to sell for around £100 each.



→ an LFO, mixer, and filter and amp envelope stages.

The plug out

And so to the first plug-out, the SH-101 that ships with System-1. The original hardware synth was released in 1982 and won many a fan with its deep basses and searing leads including Aphex Twin, Thomas Dolby, Jean Michel Jarre and Vince Clarke. It was also released in different colours, which you can emulate in the software here with red, grey or blue options. Usefully you can also select a System-1 option that shows you how the controls are translated to the hardware, i.e. which are and are not used (those not used are greyed out).

Sound-wise I have to say I'm impressed. There's more effect programmed on the

presets than you'll find on the original but these are easily removed if you want a truer sonic emulation. Basses are very punchy and there's a great kick drum that could be used as the backbone of any dance track.

Many of the leads are very good as well. Prog Lead 2 and SY Reso Chord are two personal favourites – slightly unstable and buzzy but a sound that will cut through. In fact 'cutting through' mixes is what the original became known for and this certainly stands up on that score.

As a software emulation of the original hardware, then, this is really very good and just like the real thing (with a bit of tweaking). Indeed the only thing that it doesn't emulate from the original unit is the ability to wear it, holding it like a guitar complete with strap. Maybe a strap, handle and battery option is something

Roland might consider when System-2 rolls around?!

So, what do we think?

We'll forgive the spongy keyboard as this isn't designed for Jamie Cullum, it's for the EDM guys – triggering will do, playing properly is not needed. I can't help thinking, though, that having more presets when using it in hardware/plug-out mode would have been great. The ones on offer hint at what System-1's synth engine is capable of and I'd have loved to hear more dreamy pads à la number 7. It's not even like I can program more with the engine on offer and add them to the eight supplied as there are only eight locations, so any I do produce will have to overwrite the eight already there!

Of course, this isn't an issue if you are using the synth as a DAW plug-in as you can use multiple instances, but in Plug Out mode more presets would mean you really are getting two synth engines for the price of one. The rest of the Aira range has just had significant software updates so I'm hoping we'll see more presets added in the future. And as it is, for a shade under £500 you are getting a simple synth and a Roland classic plus the flexibility of being able to use it in both DAW plug-in and live Plug Out mode. You're also getting a base machine that is future-proof and ready to load up more Roland classics as and when they come, so this should be a purchase decision made not only on the system as is but with an eye on future developments as well. **MTF**



MTF Verdict

- + Great-sounding SH-101 emulation
 - + System-1 is a nice synth on its own
 - + Scatter effects add a lot of sonic weight
 - + Flexible Plug Out system means you can take sounds anywhere
 - + Like the different colours
-
- Only has a few presets available in Plug Out mode
 - Synth is monophonic-only in Plug Out mode
 - Spongy keyboard won't be to everyone's taste

System-1 as a hardware synth on its own lacks power and presets, but with the SH-101 Plug Out you have a good and flexible bundle and are secure in the knowledge that you'll be covered for Roland classic releases for some time to come.

7/10



FENDER FOCAL Passport Studio

Choice
9/10
MusicTech

Is this monitor system, which can be carried in one hand, the perfect lightweight solution for engineers on the move?

Huw Price checks in...

Details

Price **£490** (pair)
Contact **FenderGBI**
01342 331700
Web
www.fender.com

Key Features

- Frequency response: 50Hz-20kHz
- Input: TRS jacks and/or stereo mini jack
- Total onboard power: 75W per channel
- Onboard equalisation: +1.5dB at 75Hz and 7.5kHz
- Midrange: 5in Polyglass cone
- Tweeter: 1in TNB inverted dome
- Dimensions: 45.7cm x 35.6cm x 21cm
- System weight: 8.4kg

This is the product that would have been perfect back in the days of the jobbing freelance sound engineer. Many of us would box up our preferred monitors and drag them from studio to studio to get some sense of continuity from an endless succession of control rooms.

These days many pro engineers and mixers tend to work out of their own studios, but Fender obviously believes that enough of us are still nomadic to justify the development of a fully portable monitor system. What's more, they have collaborated with one of Europe's most respected studio monitor manufacturers to do it.

Like many computer-style monitor speaker setups, the amplification is contained in the left enclosure and the right speaker links up via a TRS jack cable. The spare space that's available in the right enclosure accommodates the power and link cables when the speakers are not in use and each enclosure gets a rear cover plate that's held in position magnetically.

Drive time

According to Fender UK the amplifier and driver technology comes from

Focal, and the woofers and tweeters get 50W and 25W each, respectively. The literature states that the 'Passport Studio houses a world-renowned Focal driver', which seems to suggest that the same drivers are used in other Focal monitors. We contacted Focal to ask for clarification and were told that the woofer was developed by their R&D team for Fender and it's an 'exclusive technology'. However, the inverted dome aluminium/magnesium TNB tweeter is the same unit that is used in Focal's CMS range.

The 5in woofer does have certain Focal features because its Polyglass cone is made by applying molten glass microballs onto a cellulose pulp cone to combine excellent paper damping with glass rigidity. It's claimed that the rigidity index exceeds even that of single-skin Kevlar and is almost ten times superior to polypropylene.

The back panel of the left speaker accommodates balanced inputs for left and right as well as the link output and power switch. Protected by a recess under the speaker baffle there's a volume control plus two mini jack sockets for auxiliary input and headphone output, and three-way

Alternatives

This is one of those rare occasions where we can't suggest any direct alternatives because the product is fairly unique. However, if the portability aspect is less of a priority and you don't mind boxing them up for transportation, you could consider more conventional monitors such as the ADAM ARTist 3 (£230 each), Avantone MixCubes (£387 pair) or Focal Alpha 50 (£200 each). Interestingly the Focal CMS 50 is available in pairs with a dedicated carry bag, but the bundle costs £870.

switches for frequency adjustment. The phones socket mutes the speakers and the aux and left/right inputs can be used simultaneously. So you could split the output of a preamp and connect one side to the Passport Studio's aux input for zero-latency monitoring.

Lock and load

The bass end packs a lot of punch and there's plenty of it when you consider that these are medium/small nearfields. There's also a pleasing absence of port chuffing although some roll off can be detected below 50Hz along with a slight lift in the upper bass.

Despite sharing the same tweeter, the Passport Studio can't match the CMS-40 for openness, and the treble sounds a little muted even with the treble boost on. Even so, the Passport Studio system has a smooth and easy-going sound with full midrange, although we did suspect there was a bit of resonance around the 1K region.

Judged purely as studio monitors, the level of detail and solidity of the imaging is certainly commensurate with the price point. However, more conventional competitors might offer an extra degree of user adjustment.

The defining feature is that Passport Studio system can be locked together and transported without the need to preserve the original packaging or buy a flight case. Then you simply split them, set them up and they're good to go. This is a cleverly designed, carefully thought out and affordable product that fills a niche in the market. **MTF**

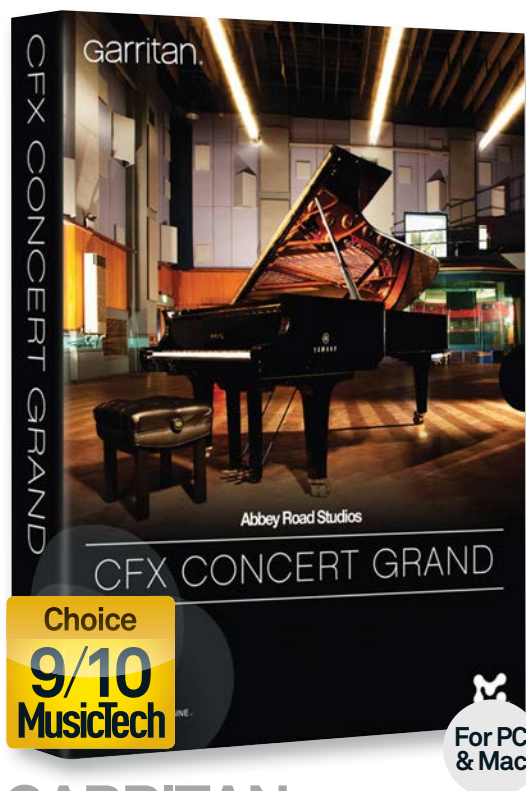
MTF Verdict

- + Quick and convenient portability
- + Real-world features
- + Ample power
- + Smooth sound

- Slight midrange colouration
- Lacks airiness in the treble

An interesting concept that's well executed and priced – and they sound pretty good too.

9/10



GARRITAN CFX Concert Grand

Garritan claims to have created the finest sampled piano ever. Could it be right? **Keith Gemmell** lifts the lid.

Details

Price £199
Contact Time + Space
 01837 55200
Web
www.garritan.com
Minimum System Requirements
Windows 7
Mac 10.7
4GB RAM

Key Features

- Hand-built Yamaha CFX Grand Piano recorded at Abbey Road Studios
- Three mic perspectives – Classic, Contemporary, and Player
- Plug-in or standalone player
- ARIA Player also included
- Ships on USB flash drive

There's been a gap in the Garritan range of virtual instruments since its highly acclaimed Steinway piano disappeared into the sunset in 2012. As a replacement the company has just released the Garritan Abbey Road Studios CFX Concert Grand, a recreation of Yamaha's nine-foot, hand-built grand piano. Because of its large size a download is not on offer. Instead it's supplied on a USB flash drive in 32- and 64-bit versions both as a plug-in and a standalone player.

To install the full version requires 122GB of free hard drive space, but there's also a compact version that only requires 24.5GB. Also, as usual with Garritan software there's a notation version and an efficient two-channel instrument as opposed to the other four-channel versions.

Gala performance

Composers and producers will most likely use the plug-in version, but for

pianists who just want to play, the standalone instrument is a better option. Pitch and transposition controls are always displayed, which is pretty useful if the instrument is used for gigging. You can also import and play MIDI files here and record audio clips of your performances.

Like most virtual pianos the CFX was recorded with different microphone setups (perspectives) for specific musical styles. A choice of three are available: classic (natural tone), contemporary (bright), and player (piano seat experience). Each one includes a set of editable presets with various mic, EQ and ambience settings as starting points.

Editing is provided in four different page views: main, piano, studio and advanced. A basic mixer with close and ambient microphone channels alongside a master control is always displayed, whichever one you have open. A simple-but-handly on and off limiter is available on the master control to prevent any clipping from occurring.

Clear and easy-to-operate instrument controls are found in the piano view with the usual resonance, release and pedal noise controls that you'd expect to find. Not so common, though, are the open, half open and closed lid positions. These were created from recorded impulse responses of the

The CFX piano is **superb, rich and powerful**, but also **capable of great elegance**

CFX grand as opposed to just using a low-pass filter.

Listen up

The stereo image, and by that we mean the two listening positions, Ambient and Performer, are switched between left and right speakers in the Studio view. A basic convolution engine is available here, too, with a selection of halls and spaces, and although many will use an external reverb with their DAW this is a very useful feature when playing standalone. Separate from the convolution reverb, unusually, pre-delay is available for the ambient mics – useful if you want to change the perceived room size.

In keeping with the minimalist approach to controls, a three-band EQ (hi, mid, low) provides two separate

Alternatives

Synthogy Ivory II Grand Pianos (£210) features a Bosendorfer 290, a Steinway D and a Yamaha C7 as does The Grand 3 (£200). That also includes an upright by Nordiska Pianofabriken and a Yamaha CP80 Electric Grand. The Vienna Imperial (€495) is a faithful recreation of a Bosendorfer Imperial 290.

channels for the close and ambient mics, which is all that's needed, really. For an extra touch of warmth there's also a saturation knob. Velocity curves, dynamic range, system RAM and more can be fine-tuned in the Advanced view.

An alternative to loading the CFX directly into a DAW is to load the Garritan ARIA player as a virtual instrument and then load the CFX into that. You might want to do this if you are using a notation program or to access Ambience, ARIA's algorithmic reverb. Or you may just want to add the CFX piano to ARIA's mixer.

Grand finale

Tonally, the hand-built CFX piano is superb, rich and powerful, but also capable of great elegance, all of which has been beautifully captured by the Abbey Road engineers. We also like the no-nonsense GUI, with simple well laid-out controls, and the optional system-friendly compact version, which is perfectly adequate for background piano tracks. Some regular Garritan users may well give it a miss, partly

because of the price, which is really quite reasonable, but more likely because of its size. However, they will be missing out on one of the finest virtual pianos available – simply beautiful. **MTF**

MTF Verdict

- + Superb tone
- + Simple GUI
- + Plays great
- + Optional compact and notation versions

- 122GB of free space required for the full version

A fine virtual grand piano with a beautifully rich tone, a no-nonsense GUI and essential controls. Up there with the best.

9/10

PLUGIN BOUTIQUE BigKick

The kick drum is at the heart of many kinds of music, and Plugin Boutique can help you get it just right. **Hollin Jones** kicks off...

There are a fair few software drum modules on the market but very few of them actually focus entirely on one kind of drum sound, opting instead to model whole kits. Most are very good, of course, but there are circumstances in which a producer may want to pay particular attention to a very specific drum element. For those working in electronic music, the kick drum is absolutely central to the sound and feel of a track, providing both the energy and drive of the mix and creating a foundation around which all the other elements of the track can hang.

Plugin Boutique, in association with Credland Audio, has come up with an instrument that deals with the minutiae of generating and tweaking kick drum sounds and those sounds alone. BigKick comes in all current plug-in formats for Mac and PC, with Pro Tools support in development. At a shade under £40 it's affordable and of interest to anyone for whom the kick is the very heart of a track. That is to say, anyone working in dance music.

Kicking off

Installation is straightforward and then you're free to call up the plug-in on an instrument track inside your DAW. Since it only does kicks, you will have to program the kick part separately from the rest of the drums or perhaps program a drum part in another instrument and then split the kick MIDI notes off to the BigKick channel, or extract them from a pre-made MIDI part. None of this is particularly difficult to do in modern DAWs.

The plug-in uses a combination of a sample for the basis of its sound and a number of synthesis stages to post-process it, and the result is that you have a huge amount of control over the results. It comes with a decent selection of kick samples, some from noted producers like Freemasons and Cutline, and there are selectable



Details

Price **£39.94**

Contact **Via website**

Web **www.**

pluginboutique.com

Key Features

- Sample library of kicks
- Load your own samples
- Easy audio drag to DAW
- Detailed sound shaping sections
- Add body
- Tune your kicks
- Tailored for EDM



presets for both the source sample and the attack model. You can also load your own samples, of course, so your existing library of kicks can be used easily via the slick browser system.

The plug-in has three sections. At the base is the master section where you set gain and access file loading, sample playback mode, autoplay and there's an original sample button to A/B sounds. The Edit button here opens a separate window where you can shape the sound with controls including width, attack pitch, drive, velocity sensitivity, body gain and high pass filters. Moving up to the top of the main window you'll find the Attack section and here you can shape the attack of the sound, so crucial to controlling the way a kick sound bites, or conversely has a more rounded attack.

Drag and drop

A waveform display helpfully shows you exactly what you're doing to the sound and clicking and dragging from this area into your DAW will place an audio version of the clip into a track. This is really handy and much easier than having to use your DAW's export function. There are many things you can do with an audio clip that you can't when the sound is still being generated by a plug-in, so this will come in useful



Alternatives

FXPansion's Tremor (£99) is a drum synth with built-in effects and a clever polyrhythmic sequencer for programming heavy beats. It doesn't use samples and doesn't offer the extremely in-depth kick tailoring that BigKick does, but it's nonetheless an excellent all-rounder if you're looking for a more complete electronic drum instrument.

for many people. You can also flip through attack presets easily to find something that works for your needs.

The central section is called Body and here is where a synthesized 'thump' is added to your existing signal. This is what helps to give the kicks a real boost and make them so good for electronic music. Attack, hold and decay can be set as well as the tonal depth of the synthesized sound and its curve – the rate at which the pitch decreases. If this all sounds a little dry, it's very intuitive to actually use as you can hear the results right away. By adding just the right amount of Body to a kick you can transform it from a regular sound into something much bigger and more weighty. There's another nifty trick here too – a menu that enables you to tune the kick to a specific note. If your song is in the key of E, for example, tune the kick to make everything gel.

If you think a plug-in that just does kick drums sounds limiting, you'd be amazed by this one. Yes, it's very focussed, but that's a good thing when it does what it does so well. Other modules will let you tweak and synthesize kicks, but rarely with this depth. When the kick is the core of your track you want to get it right, and BigKick certainly helps achieve that. **MTF**

MTF Verdict

- + Amazing control over kick sounds
- + Good bundled library of presets
- + Use and adapt your own samples
- + Clear and focused interface
- + Add huge depth to your kicks
- + Get the kick sound you want
- + Affordable

- Slight background hiss

Specialised but innovative and useful – as powerful a kick drum instrument as you're likely to find.

9/10



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DopeVST Bass Engine

Sometimes only a fat bass will do. **Hollin Jones** gets funky with this hip-hop-based synth plug-in...

For PC & Mac

Choice
9/10
MusicTech

Details

Price £60
Contact via website
Web
www.dopevst.com
Minimum system requirements
1.7GB Disk space
2GB RAM
Windows XP or above
Mac OS X 10.4 or above

Key Features

- AU and VST
- 32- or 64-bit
- 300 pre-EQ'd hip-hop basses
- 50 MIDI basslines
- Low CPU usage
- Pitch, pan and volume
- Reverb

DopeVST is a relative newcomer to the software development scene, and Bass Engine is just its second release. The concept is pretty simple: to give you some of the best and most classic bass sounds from the last three decades of hip-hop without burying you with sound-tweaking options. Although lots of controls can be a good thing, it isn't always the case. I've lost count of the number of times I would have traded ten oscillator controls for a patch that just sounded brilliant right away without me having to do anything to it. The company identifies this very issue and claims Bass Engine is the antidote to '30GB monsters'. But is it?

Down and dirty

Before we get to that, a few words on the technicalities. This plug-in weighs in at around 1.7GB and comes in 32- or 64-bit VST and AU versions for Windows and Mac OS X as appropriate. It's not massively complex and as such will run on systems as far back as Windows XP and OS X 10.4, and on relatively old processors. Authorisation is via a serial number and is done locally. The instrument itself is as straightforward

as it looks and uses samples to generate sound. These are stored within the plug-in file itself so can't be easily separated, but at just 1.7GB per instance they're not realistically going to present a problem for anyone's hard drive. There's an on-screen keyboard or you can of course trigger it from any kind of MIDI control surface and cycle through the 300 bundled presets.

Old skool

DopeVST has identified three eras of hip-hop bass, and the presets are prefixed with 1990s, 2000s or 2010s – 100 of each. This is actually a really useful approach because it cuts down a lot of time spent looking for sounds. Normally your presets will just have names, and not necessarily particularly illuminating ones. Here the preset names, by and large, give a good idea of the kind of bass you're going to get.

The 1990s presets really do sound properly 90s, for those who remember what many consider to be a golden age of hip-hop. So here you get lots of record crackle as part of many of the patches, along with upright basses, Moogs, live electric samples and abstract jazzy basses. The hip-hop of the time involved a lot of sampling of old funk and jazz records and that is replicated in these basses, so it's all very organic and sounds excellent.

Things changed in the 2000s where there was a move towards using hardware bass synths to get a deeper, punchier sound. So, accordingly, the presets here encompass E-mu MoPhatt patches, ASR-10 and MPC3000 sampler sounds, subs and fat Triton patches. By the 2010s, things have moved on again and everything has gotten more electronic and club-oriented. So here you will find 15 different 808 sounds, Moog Prodigy subs, Warm MS-20s and all sorts of other heavy, processed basses.

Low blow

The bass sounds are really excellent, very usable and just as suitable as DopeVST suggests for all kinds of hip-hop, from classic 90s crate digging to up-to-the-minute club bangers. You won't want to do much to the sound since they are pre-EQ'd, though you do get a few on-board controls. Probably most useful are attack, decay, sustain and release knobs that enable you to alter the envelope of each sound to make it more or less attacking, for example. There's a volume control and a fine pitch control, which would be useful

Alternatives

Rob Papen's SubBoomBass is a bass synthesizer that's probably geared more towards electronic styles, or the newer end of hip-hop at the very least. At €99 it's affordable and has lots of tweakable controls, so is more suitable for sound design. This may be the opposite of what you want, though, if the immediacy of Bass Engine appeals to you.



for detuning the sound to match some other sampled material. There are also pan and reverb controls, though these are slightly baffling since reverb isn't an effect you ever really associate with bass sounds, and panning basses off centre is also a pretty unlikely mixing technique. You don't have to use them, of course, but a distortion stage would probably have been more useful than reverb here. As part of the bundle you also get 50 MIDI parts, in a range of styles and keys that you can import into your DAW. These aren't particularly groundbreaking but could be useful if your playing skills aren't too advanced.

Bass Engine isn't really all that complicated. As the developer says, it's meant to be a collection of highly usable bass instruments for hip-hop, and in that it succeeds brilliantly. For anyone who has spent ages trawling through the preset lists of other, highly capable bass instruments looking for something that worked straight off the bat for hip-hop, this is excellent news. And for the price, 300 sounds, most of which will drop right into your projects, is a great selection. I'm still not entirely sure why it has a reverb stage or a pan control, but maybe that's not important since you don't have to use them. As a go-to, no-nonsense source for excellent hip-hop bass sounds, Bass Engine is a bit of a steal. **MTF**

MTF Verdict

- + Excellent sounds for hip-hop
- + Spans three ages in hip-hop production
- + Affordable
- + Low CPU requirements
- + Plenty of presets
- + Extremely easy to use
- + No messing about

- Full version of Kontakt 4 required

Simple but effective, Bass Engine is a no-nonsense collection of hip-hop-ready basses. Fat, warm and earthshaking, these are the basses you've been looking for.

9/10



NORD Lead A1



The Lead A1 is an accessible analogue-modelling synth, but Nord has also unleashed a creative monster, as **Andy Jones** discovers...

Details

Price £1,249 (Lead A1R costs £1,049)

Contact Sound Technology

01462 480000

Web www.nordkeyboards.com

Key Features

- 4-part multi-timbral
- 26 voices of polyphony
- Programs (7x50, 1x50 user) and performances (3x50, 1x50 user)
- 8 oscillator configurations
- Analogue and digital waveforms
- LFO with 5 waveforms
- 12, 24 dB low-pass, high-pass and band-pass filters
- Filter simulations of Mini and TB-303
- Effects: ensemble, chorus, phaser, flanger, ring modulator, drive
- USB MIDI
- Four outputs; pan on front panel

The Nord Lead A1 is designed as an analogue-modelling synth, but there's more to it than that. The interface has been streamlined to allow for fast-track programming as it moves away from the slightly more complex architecture of the Lead 4 and straight into the bare bones of analogue programming. (Not that I thought the 4 was tough to master – indeed, I thought many of its hands-on performance features were out of this world. Read my review at musictech.net).

The A1's design comes from the fact that people wanted something to program quickly and effectively. But don't think 'cut down' as, if anything, the synth is supposedly more analogue-sounding than the 4, as it has an all-new engine that 'recreates a total analog signal path with uncanny realism' and also features some new and clever tweaks to make things more interesting and instantly hands on.

The new stuff

The most important of these are what Nord call Oscillator Configuration Shortcuts. These are quick ways of setting up complex oscillator configurations – the heart of your

analogue modelled sounds. You get eight preset variations – with many sub variations – all ready to go.

As the building blocks, these are important so we'll run through them briefly. The first, Pitch, simply adjusts the pitch of oscillator 1; Shape adds extra wave shaping via the on-board waveforms (of which there are 47 to choose from); Sync adds a hard sync by way of the additional oscillator; Noise adds, you guessed it, noise; Detune adds the second oscillator; Sub Mix adds a second with waveform (with Sine, Tri Saw and Square wave options); FM adds the classic FM configuration where oscillator 1 is the carrier and 2 the modulator; and finally AM adds amp modulation by way of the second oscillator.

Other new features include 'Like', that simply allows you to store a sound you are working on in a temporary location. Sounds obvious, but how often have you liked something but have wanted to move it on to something else and lost that initial inspirational sound? Here you keep that first version (saved in one of 50 temporary slots) and simply

come back to it later. There's also a Multi Focus feature that controls all four sound slots that make up a performance. As an example, you can use it to change all four sounds in real time simultaneously.

Getting back to the main sonic architecture, the filter section from the NL4 is, fortunately, largely retained with the 12 and 24dB low pass, high pass, and band pass options; plus the superb additions of the diode and ladder filters that emulate those from the Minimoog and the TB-303 synthesizers; and finally you get the drive dial for even more dirt.

The A1's LFO has a choice of waveforms and a 3-stage ADR/ASR Modulation Envelope and LFO rate can be sync'd to the master clock. Two new effects are on offer: ensemble and chorus, modelled on vintage synths including the ARP and Solina. These are in addition to the reverb, delay, ring modulation, phaser, flanger, and drive.

So, some new features, a lot of retained features but a whole new engine and some new effects. That's got to mean it's time to try those sounds, right? Well, sort of...

OK, let's not

Like the NL4, there are no groups of sounds found in any particular slots – it's all pretty random.

But what comes across is a set of preset sounds that is more unified than those on the NL4; not as varied, obviously, but a collection that hangs





together better, all around a similar core engine. Oddly, because they are more focussed they come across as a little more useable to me, but I am a fan of this kind of sound – the sound of the pure synthesizer rather than the type where you literally get all the bells and whistles added. That's not to say it's *better* than the Nord Lead 4, just more an expert in one field rather than spreading itself over many.

So, right about here, I should detail those many excellent leads, arpeggiations, these deepest virtual analogue basses you will hear and all of that amazing analogue movement.

The Nord Lead A1R is, not suprisingly, the rack version of the A1 and costs a couple of hundred pounds less (but lacks the keyboard).

the A1's secret weapon. You're not just changing the sound, sometimes you are composing as you progress. Switch between some of the harmonic waveform variations, for example, and you find yourself creating note sequences which change note as the configuration changes. It's hard to explain in words but what you end up with are melodic riffs which change in both note and timbre – all of which amounts to very inspiring stuff!

I can't help thinking that the A1's simplicity and creativity will win it many, many friends

But... STOP!

Because I'm not going to talk about the presets, and that's never happened before. What could be an easy bit of writing – 'deep basses here, searing leads there' and so on and so forth – is simply not going to happen in this review. It's virtual analogue, and it's Nord, so you know they're good presets ok? And the truth is the A1 has them by the bucket load – of course it does – but it's what you do with them that counts, and counts more than ever before...

As I stepped through each preset, preparing to write and describe them for you, I found myself doing something rather unusual: programming. And exploring. I began pressing the hold key, triggering an arpeggiation and simply dialing dials. And this is where the A1 turns from your average preset buster, into what it should be used for: creation!

So I have a sound playing... pretty much any of the presets on offer. I play with the filter drive for extra dirt. I then change the filter type for bite. Everything is sounding great so far. I then do more obvious things like dial the filter and resonance controls (and yes, I am using the 303 filter at this point). But the real fun comes when I hit the oscillator section as switching between the Oscillator Configurations proves to be

Then hit the Osc Contrl dial and you can make the results scream or become more mellow. Hit the filter and resonance again and you have something altogether more expected, maybe, but in combination with what you've just done with the oscillators, you can get some very different stuff indeed. It's analogue magic!

I urge you just to play with all of the dials and hear the instant results. It's here that you also realize why they've put that Like features in – you'll fill those 50 spaces pretty quickly.

Conclusion

Which brings me too quickly to the end with little time spent on the other A1 features. Mutator and Morph are touched upon in the box and add even more fun to the sound creation side of things, and in Performance mode, read the above and multiply by four!

As to the A1 as a concept, I have to admit that I was initially a little confused as to where it fits in. But ultimately that doesn't really matter as overall it is simply one of the most creative synths I have come across because you get so much instant, easy, hands-on, real-time and dramatic access to any sound. The oscillator configurations are a genius way of

Performance features

The Nord Lead 4 features some great performance aspects that allow you to change the sounds in real time by flicking the odd switch or mod wheel. The Morph function, so common on other Nord keyboards, is also present on the A1. It is great and allows you to control several parameters at the same time – usually by mod wheel or velocity – to gradually (or quickly) morph a sound. Impulse Morph, the more instant, button-push variation of this, available on the Nord Lead 4, is not on the A1.

Mutator is on the A1 though! This was one of my favourite features on the Nord Lead 4 and allows you to instantly program new sounds based on an original preset. So dial up a sound you like, choose a 'Process strength' of between 1 and 5 (giving you the most dramatic variation) hit Execute and you will get a new version of the original sound. You can continue to create variations of the original preset instantly (or variations of the sounds you consequently create from it) or even a totally random version – just keep going until you get something you like. It's all great fun and a superb way of sonically exploring without *whisper* really knowing what you are doing.

changing the whole architecture at the twist of a dial and, used with the other controls and the morph feature, are simply inspiring. I want to use the A1 with my DAW in constant record mode and come back to some of the snippets I am recording which will then act as the building blocks for many ideas and songs to come.

So I am genuinely surprised by the A1. It's come from nowhere: a totally unexpected synth from Nord with one of the most 'instant' feature sets I've used. And while it's smaller than the Nord Lead 4 (in physical and sonic terms) I can't help thinking that its simplicity, its creativity and its down-right quality will win it many, many friends.

The A1 is definitely my kind of synth, as you can probably tell. If you have an analogue heart, hold a note, dial some dials and after five minutes, you will be won over too.... **MTF**

MTF Verdict

- + A creative joy
- + Will turn you into a programmer
- + Loads of great presets...
- + ...but you are not relying on them
- + ... as it's so easy to create your own
- + A genuine surprise

- Manual not great (tells you to turn to the page you are on for more info)
- Not immediately obvious where it sits in the Nord range
- You'll run out of Like space and disc space quickly!

A synth that came from nowhere and has genuinely surprised me. It is creative, addictive, simple and a joy. The NL4 was excellent. This is like a 'best of' tailored for people with valves as organs and wave-shapes as heartbeats. You can program a synth. This synth...

9/10

Alternatives

There are lots of virtual and 'proper' analogue synths to choose from. At the cheap end you have the monophonic Novation Bass Station 2 (£399) which does screaming basses and leads very well indeed. The Elektron Analog Keys (£1400) shares some analogue sounds and performance aspects but is that bit pricier and more complex. You also have to mention the Nord Lead 4. You get bags more sound types as it veers away from pure analogue so does offer more variation (for more cash at £1559). But none of these alternatives will put a creative smile on your face quite like the A1.



UNIVERSAL AUDIO Apollo Twin

Producing music in a small space or on the move doesn't mean compromising on quality, as **Hollin Jones** discovers after putting UAD's Apollo Twin through its paces...

Universal Audio is well known for its high-end audio interfaces and range of DSP-powered audio effects that model some of the most legendary hardware processing units ever produced. Its latest release is the Apollo Twin, a 2x6 Thunderbolt audio interface for Mac with on-board processing and the same top-flight internal electronics as its bigger brother, the rack mountable Apollo. The focus here is more on portability, but without compromising on quality. It's important to remember that you're not just buying I/O here, you get an internal 'brain' as well in the form of one or two cores for running the company's plug-ins.

Fit and finish

The Apollo Twin is smaller than you might imagine but extremely solid and rather fetching to look at. Finished in

sleek metal, it is extensively ported underneath and gets warm (though not especially hot) during use because of the significant quantity of electronics contained within. It connects to your Mac (Windows is not currently supported) over a Thunderbolt cable but this doesn't carry power due to the complexity of the device, so it must be powered from the mains via the bundled adaptor.

You don't get a Thunderbolt cable in the box which is a bit of a shame. It's true that they are significantly more expensive than USB or FireWire cables – and correspondingly more advanced and powerful – but if you don't already have one you'll have to factor an extra £30 or so in to your purchase price. There's only a single Thunderbolt port on the Twin itself so you won't be able to daisy chain devices through it, though all new Macs except the 11-inch

MacBook Air have two Thunderbolt ports so this shouldn't be a problem.

On the rear panel you will find Thunderbolt, a power switch and a locking PSU input which is a nice touch, plus combo mic/line inputs, stereo monitor outs, two further line outs and an optical input. There's no MIDI unfortunately though it's hard to see where MIDI ports could have been placed without making the box larger. On the front edge is a jack input for plugging in an instrument and also a headphone port.

The top surface of the Twin is an exercise in elegant simplicity, the same kind of approach that Apogee takes with its higher-end Mac audio interfaces. In the centre is a large, infinite level knob which is used to set the level of whatever parameter is currently selected. It can also be pressed to function as a switch to flip between input channels or to quickly mute when in monitor mode. On the left you'll see channels 1 and 2 together with a simple LED level meter and a switch to toggle between mic and line inputs for each. A Link button lets you connect the two to act as a stereo pair.

Quick controls

On the right, a Monitor button lets you quickly jump between working with the monitor output and headphone levels and there's a contextual level meter for each. Running along the base of the unit is a row of buttons and in addition to the Link button already mentioned you can quickly toggle input selection, a low cut filter, phantom power, a pad switch and a polarity switch. The simple and approachable design workflow makes the hardware a breeze to use, and even a beginner should be able to figure out how to connect things quickly and easily. Internally, the Twin operates at up to 24-bit, 192kHz and has premium quality mic / line preamps as well as Unison technology for modelling classic tube and transformer-based mic preamps in software.

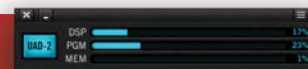
In order to get up and running, you'll need to download the UAD installer appropriate to your version of OS X, which installs multiple plug-ins, though you'll only be able to use the ones you

Details

Manufacturer
Universal Audio
Price Apollo Twin Han Solo: £699 inc VAT
Apollo Twin Dynamic Duo: £899 inc VAT
Distributor Source
Distribution
Contact
020 8962 5080
Web www.uaudio.com
System requirements
Mac with Thunderbolt port
OS X 10.8 or 10.9
2GB disk space
Thunderbolt cable

HANDS ON

By offloading the processing requirements of its own effects onto the DSP hardware in the interface, the Twin is able to run multiple UAD effects without taxing your computer's own processor. This is especially useful if you are on a lower or mid range machine, or want to reserve your native CPU power for other instruments and effects, the vast majority of which will run off your internal CPU.





Apollo Twin comes bundled with UA plug-ins, so it's a cheap way of getting these quality effects, and they won't add to your CPU load.

authorize. The Twin comes with the Realtime Analog Classics bundle which includes guitar and bass emulations from Softube as well as UA's 610 Tube Preamp and EQ. You also get Legacy versions of the 1176SE/LN classic limiting amplifiers, Pultec Pro EQs, Teletronix LA-2A Classic Leveling Amplifier, CS-1 Precision Channel and Realverb Pro reverb unit. Running on the Twin's own SHARC-based DSP, these processors provide a great set of tools for everyday tracking and mixing applications and there's no noticeable latency when using them either for recording or when mixing.

Loaded in your DAW just like regular plug-ins, they don't tax your computer's CPU and the bandwidth of Thunderbolt is easily sufficient to fire data back and forth. There are limits, of course, and some plug-ins use more power than others, so a list of how many instances of each plug can be run on the solo or duo Twin models can be found on UAD's website. Owning the Twin opens the door to purchasing any of UAD's other

effects since these will also run on the onboard DSP, so it's a relatively affordable way of getting into that whole world.

Software control

As is often the case with smaller hardware units, it's possible to delve much deeper into routing and configuration by using a software console. For the Twin this is a comprehensive set of tools that work with the box connected and that provides a detailed view of exactly what's going on. It essentially shows you all the routing and setup options available at the same time, in a friendly software window that lets you remote control the operation of the box.

Inserts can be added, channels linked, levels set, monitoring controlled and there's even the option to use aux and virtual channels. Virtual channels, of which there are four, let you route DAW tracks through the console for more processing and greater flexibility. There are also two independent stereo Aux busses. In the Console settings you can configure reference levels, delay compensation and the sample rate settings up to 192kHz. Helpfully, you can easily save setups so it's simple to switch, for example, between a vocal session preset or a live performance one. The UAD Meter and Control Panel app lets you view CPU usage, check for updates and manage and buy any plug-ins you choose.

Twin turbo?

The Apollo Twin is a beautifully-designed audio interface that works seamlessly and offers pristine audio recording quality over a single Thunderbolt cable. As a desktop unit it's small and unobtrusive but cleverly put together so you can access the most important parameters with a couple of button presses. Much more than that, you get access to the world of UAD's DSP-driven plug-ins, highly renowned for their character and fidelity.

You might ask why, with modern CPUs like Intel's i7 being hugely powerful already, you would need separate DSP processing when it costs more money. The dual processor Twin costs more than the single, though it's arguably a better investment given the extra power. If you don't want access to UAD's plugs, you can probably stick with your native effects. They do sound great though, and designing them specifically for the SHARC processors lets UAD optimize them as fully as possible and

Key Features

- Solo or Duo SHARC processors
- 2 mic / line inputs
- 2 analogue line outs, 2 monitor outs
- Thunderbolt port
- 24-bit, 192kHz operation
- Hi-z in, headphone out
- Lockable power input
- Realtime processing
- AU, VST, RTAS and AAX64 plug-in formats
- Realtime Analog Classics Bundle
- Software console

understand the signal path from end to end. From the developer's point of view, it's also a useful security measure to tie authorisations to hardware.

Add to this the fact that not everyone's Mac is top-end and you need your native CPU to run your DAW, your OS and other third-party instruments and effects, and the appeal of offloading high quality audio processing to an external, latency-free box which also happens to be your interface becomes clearer. This is an exquisitely made audio interface that also happens to expand your computer's processing abilities and opens the door to the world of UAD plugs. For anyone who is serious about audio fidelity, it definitely punches above its weight. **MTF**

Alternatives

Apogee makes some similarly high-end audio interfaces for the Mac including the Quartet at £1,099 which, although lacking DSP-powered plug-ins, has more I/O with four ins and eight outs as well as MIDI, iOS compatibility and USB2, making it more widely compatible with older Macs. UAD also makes the original Apollo, a rack mountable unit with 18/24 I/O and FW800 with the option to add a Thunderbolt card. It comes in duo and quad processor versions though as you might expect, costs more than the Twin, starting at around £1,669.



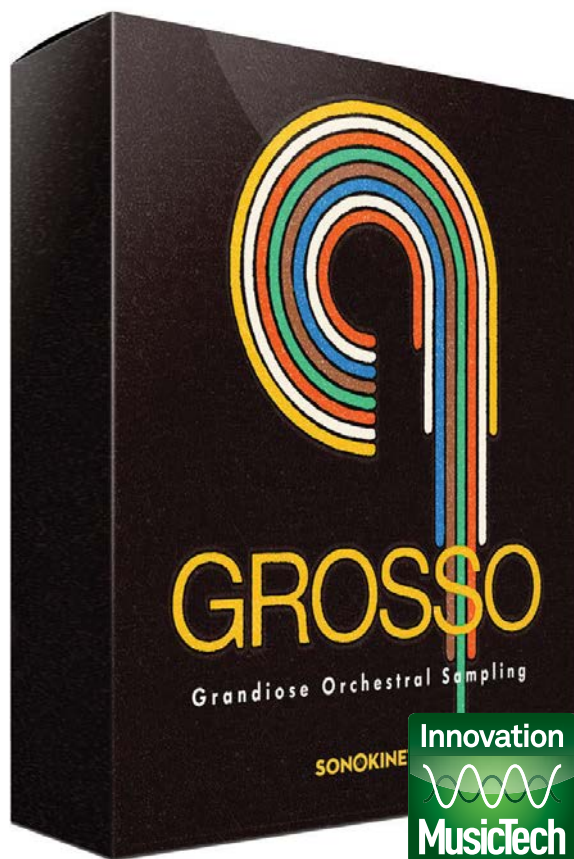
MTF Verdict

- + Solid, compact build
- + Beautifully designed, great workflow
- + Easy to understand
- + Excellent audio quality
- + Top-flight circuitry
- + Bundled plugs are great for tracking, mixing
- + Software console allows for detailed setup
- + Add plug-ins as required
- + Good integrated recording and monitoring solution

- No MIDI
- No Thunderbolt cable supplied

A serious little box that punches above its weight and offers excellent recording and monitoring capabilities as well as access to UAD's plug-in universe.

9/10



SONOKINETIC Grosso



Sonokinetic rate Grosso as their best orchestral phrase-based instrument yet. **Keith Gemmell** cues it up.

Details

Price €299
Contact via website
Web www.sonokinetic.net
Minimum System Requirements
Kontakt 5

Key Features

- 16- and 24-bit versions
- Six recorded orchestral sections
- Four recorded microphone positions
- Custom-designed GUI with score display
- Time Machine Pro capability
- Custom chord recognition
- Harmonic shift capabilities
- 'Intelligent' purging system

Sonokinetic's last phrase-based orchestral library, Minimal, received such a positive response that a sequel was inevitable, say the developers. Made up of tempo-sync'd orchestral phrases it was an instant hit with composers. Built along similar lines with a section-by-section approach, their latest product, Grosso, is a grand orchestral sample library for scoring action, epic fantasy and chase scenes. Being resource-hungry software, the content is available in both 16-bit and 24-bit versions.

Orchestral grandeur

The library is grouped into five separate Kontakt patches – strings, woodwinds, brass, percussion and choir. Strings and choir are split into low, mid and high sections, and woodwinds and brass into low and high. Percussion is divided into taiko and traditional percussion. There's also a transition builder for creating woodwind and brass segues.

Playing Grosso from a keyboard controller couldn't be simpler – you just



Method spot

A feature unique to Grosso is the Bar Sync option, which is triggered on and off using the E6 velocity-sensitive keyswitch. When switched on, Grosso's scripting will read and remember the bar position in your DAW. For example, if you trigger a phrase on beat one of a bar, the phrase will play from the beginning. Trigger the phrase from beat three of the bar and the phrase will cut in at beat three instead, missing out the first two beats.

play major or minor triads, and all inversions are recognized. There's an abundance of phrases, and you can mix and match different ones from the high, mid and low sections. You can switch them into half- and double-time and they're chosen using icons that graphically represent their melodic and rhythmic shape. Some may find this method odd (we certainly did at first) because they have no descriptive name, just a numerical one, which is not easy to remember. Unless you have the kind of mind that remembers shapes, finding a particular phrase means auditioning them one by one. If you read music, though, the notation is a click away and you'll find that far easier to remember. (A complete score containing all the phrases is available from sonokinetic.net, but at extra cost.)

Musically the phrases are minimalistic, and most rely heavily on

phrases we discovered the Harmonic Shift feature. Brought over from Minimal and expanded upon, it enables you to play phrases simultaneously in different but related keys. Triads are played, as usual, with the left hand while the right hand executes on-the-fly keyswitches that change the phrase or phrases being played by set intervals. It's a great feature and works brilliantly with two phrases playing simultaneously, one employing the harmonic shift and the other one left unaltered. Default major and minor interval settings have been defined by Sonokinetic but a matrix is provided for setting up user variations.

In the main GUI, which is both artistic to look at and functional, all the controls, including the main volume, panning, crossfade times and the different microphone positions, are easily adjusted. Volume for the fields

Anything from light strings to a symphony orchestra at full blast can be scored quickly

rhythmic shapes as opposed to melodic lines, which makes them ideal for accompanying action scenes and trailers. That said, they could just as easily be used in other genres. Although recorded in 12/8 time the engine has been configured to work in both 4/4 and 12/8. Compositionally, they have been ingeniously constructed to fit together across the entire orchestra, and the orchestration by Piotr Musial is faultless. As a result, pulsating orchestral backdrops – anything from light strings and delicate woodwinds to a complete symphony orchestra at full blast – can be scored very quickly.

Harmonically rich

Just when we began to tire of playing Grosso's standard major and minor

within a preset is assigned to the mod wheel by default (CC 1) but is easily switched off.

Keyswitching plays a major role in Grosso. After all, there are plenty of spare keys available. The playing range is less than two octaves and playing individual notes is not practical. Muting phrases, selecting presets, controlling harmonic shift, tuning, turning release samples on and off and operating other controls is all done with keyswitches. Also, because the instrument is split into separate Kontakt patches, the keyswitches have been laid out in such a way that when several patches are loaded together you can play them all on a single MIDI channel.

Four microphone positions are available: Close, Decca Tree, Wide and



Far (balcony). Only two positions can be mixed at once, though, which might be a bit limiting for some people. The default position is just a single Decca Tree but you can mix in one of the other options if necessary. If the 16-bit Lite version is used, a premix from four recorded positions is used instead to save CPU.

The hall reverb produces an excellent ambience but it's not adjustable. If necessary it can be tamed by using just the close microphone. A completely dry sound is, of course, out of the question and in this case not desirable anyway.

In transit

A completely separate patch is used for the Transition Builder. It's used to automatically build brass and woodwind crescendos based on various chords. Percussion fills and a taiko ensemble are also included.

Crescendos can be assigned to brass or woodwinds and, similar to the main Grosso instrument phrases, each one displays a graphical representation of the chord intervals that are building up throughout a crescendo. The more complex the graphic, the more notes are added to the crescendo, mostly one at a time, fanfare fashion, and the

speed at which they enter can be adjusted. Also, unlike the main instrument phrases, dominant sevenths, diminished, half diminished, augmented and suspended chords can all be played as well.

A large number of percussion fills, one-shots, rolls and short crescendos are mapped to the keyboard, as are the taiko and gran cassa samples which are laid out in octaves for two-handed playing. Mixable microphones are not available in the Transition Builder; instead, four positions are available plus a premixed tutti position similar to the one used in the Lite version.

To buy or not to buy

Many musicians are opposed on principle to the phrase-based approach to composition. After all, the user isn't really composing, just piecing together someone else's musical ideas. If you're in that camp, though, Grosso might just change your point of view. The sheer depth and flexibility of the software is breathtaking, and with so many phrases available across the entire range of the orchestra, hundreds, if not thousands, of combinations are possible if you take the time to experiment. With such a wealth of

Alternatives

It's strings only but NI's Action Strings (€299) operates on a similar principle to Grosso. Short ostinato phrases are selected with the left hand and pitch is controlled with the right. For variation, you can switch between phrases as you play at any point in the bar – much simpler than Grosso's Bar Sync method. Sonokinetic's Minimal, Vivace and Tutti (€200) are also performance sampling libraries, but there's nothing around at the moment to beat the grandeur, ease of use and scope of Grosso.



material at your fingertips, complete compositions can be achieved with Grosso alone. However, due to the lack of melodic material it's probably at its best when combined with other libraries and synths.

Although instant results are obtainable, even to non-musicians, Grosso should not be dismissed as a one-finger (three fingers, in this case) beginner's program. Experienced composers and musicians will find it useful, too, because the more musical knowledge you have the deeper you can go with features such as the Harmonic Shift and the Transition Builder.

Everything in Grosso has been thoroughly thought through musically, and cleverly implemented for fast scoring. At its most basic it's very easy to use but has the necessary musical depth to satisfy experienced composers. Mixing is basic but we found it easy enough to blend Grosso with other libraries, and if you need effects and so on you can always dive into Kontakt's editor.

Last but certainly not least, we think that one of the best things about Grosso is its ability to inspire. It's the kind of software that draws you in and before you know it hours have passed as you experiment with different section combinations, muting some, harmonically shifting others and so on. So if you're stuck for ideas Grosso might be just what you're looking for. **MTF**

MTF Verdict

- + It's inspirational
- + Fast orchestral scoring
- + Simple to control
- + Excellent orchestration
- Full PDF score costs extra
- Resource hungry
- Limited mic mixing

Grosso is the most comprehensive orchestral phrase-based composition tool around at the moment – great sound, well orchestrated, and if you're stuck for ideas, highly inspirational.

9/10



FOCUSRITE Saffire PRO 26

A good interface should be reliable and unobtrusive, so how does Focusrite's new model stand up? **Andy Jones** gets connected...

We're generally very positive when it comes to Focusrite interfaces. The company seems to have a sense of what we need in our studios – often before we do – and supplies solutions in practical, cost-effective and non-melodramatic ways. The Saffire range is largely FireWire and, the company states, Thunderbolt, although you will need to buy an adapter for the latter which is a shame as that's £25 and a couple of days' wait you might not have accounted for.

The interface itself is solid and compact – I like the feel and look a lot – and it's ideal for a desktop studio set-up where space is limited. It's not rack-mountable but just light enough to be a usable mobile interface (although you might want to consider the PRO 24 for an even more compact solution).

Having used a Saffire interface extensively, I'm instantly at home with the 26's layout – different inputs and outputs on the front and back panels with a useful meter display and rotaries to control levels. There are six physical inputs: one and two can be line (at the front) or mic (round the back); three and four are combination mic/line/XLRs, while five and six are line-ins. There are six line outputs plus a couple of headphone outs and additional inputs by way of an ADAT optical interface (offering another eight inputs).

Details
Price **£299**
Telephone
+44 1494 462246
Web **uk.focusrite.com**

Key Features

- 24-bit/96kHz FireWire interface
- Four preamps
- 18 inputs and eight outputs (four mic/line pres, two for high-impedance instruments; two headphone outs, six TRS line outputs; eight extra inputs via ADAT optical)
- 5-Segment LED meter
- Software Bundle includes Ableton Live Lite, Focusrite's Midnight and Scarlett plug-ins, Novation's BassStation synth plus 1GB of Loopmasters samples

There is enough going on (or, should I say, in and out) for a smallish project studio set-up – say, a singer-songwriter with guitars and mics or someone like me with a soft synth set-up and one or two choice hardware synths.

Easy boy

When you get up and running (now a pretty seamless operation) your software should, like Logic Pro X with me, simply recognise Saffire as a new interfacing option and instantly bring the included Saffire MixControl software into the frame, which is essentially your routing environment. It enables you to configure which audio tracks on your software are routed to which physical ins and outs on the interface. If I'm honest, I've used it in the past and thought it a little, and I'm struggling for the correct word here,

Alternatives

We've already mentioned the PRO 24 as being another compact solution and there are, of course, many other Saffire configurations to choose from depending on your connectivity needs. It's been around for a while but the PreSonus FireStudio Project is still available for the same price (street). It lacks some connectivity, is not as compact, but does have more rotary controls.

slept between sessions which turned out to be an issue with the (then new) Logic Pro X, but after a call to Focusrite's very good technical support staff the latest version solved the problem.

Now there are no problems whatsoever and I quickly had PRO 26 up and running and my hardware synths talking happily to Logic. Front panel controls are smooth to use and it's great to have total control on my monitoring right next to my laptop rather than reaching down to my rack as I have done. Am I just getting lazy? Yes.

There's just room to mention a fine suite of plug-ins that ships with the unit: Live Lite, Focusrite's own plug-in suites, a gig of Loopmasters samples, and not forgetting the rather great original BassStation soft synth – nice.

So we have another fine unit that plugs a gap in the company's range.

The interface itself is **solid and compact**, and **ideal for a desktop studio set-up**

unnecessary? What it does is something that you should be able to do in your DAW – the last thing I need is another layer of complication when it comes to computer music making...

But, seeing it from Focusrite's side, the company is taking away the main responsibility of the unit – rock solid interfacing – away from the DAW producer to make sure that it properly does what it says on the tin. And if that means using a layer of software in addition, then so be it. And it does it very well, if a little starkly. It's easy to select and route audio and control levels, although the latter task is something you'll prefer to do on the unit and largely what those front panel rotaries are for.

One final point of note with MixControl is to make sure you download the latest version (as I write, v3.4). I had issues with needing to reboot my DAW whenever my computer

PRO 26 is solid, compact and will sit on your desktop unnoticed and quietly getting on with its job, just like a good piece of interfacing gear should. **MTF**

MTF Verdict

- + Rock solid, sturdy desktop unit
- + Can be used for both projects and mobile recording (just)
- + Easy DAW set-up
- + Good software bundle

- You might need to buy a Thunderbolt cable
- I know why MixControl is needed but I'm not a huge fan

Versatile, compact, easy and reliable, Saffire PRO 26 feels like a trustworthy old friend coming around to your house, sitting down with you, cup of tea in hand, ready to solve any studio interfacing problems you have.

8/10



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For PC & Mac

PROJECTSAM ANIMATOR

While other cinematic libraries explore the darker side of orchestration, Animator takes a distinctly lighter, comical approach. **Mark Cousins** gets animated.

Details

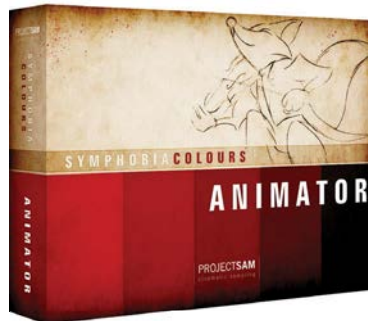
Price **£169**
Contact **Time + Space**
01837 55200
Web **www.projectsam.com**
Minimum System Requirements
Windows 7 or 8
Mac OS X 10.7 or higher

Key Features

- Instantly playable, pre-arranged articulations and effects
- Select solo articulations and effects
- Three concert hall mic positions with real-time mixing
- Tempo-synced runs & phrases

Along with Orchestrator, reviewed in *MusicTech June 2014*, Animator is part of a pair of Symphobia Colours products released by ProjectSAM. The aim of the Symphobia Colours series is to provide smaller, more focused libraries (by comparison to the full-sized Symphobia series), yet still retain the key ethos and sound that has come to define ProjectSAM. As such, Animator and Orchestrator are much more affordable than any of the three previous Symphobia offerings, but can they live up to the same high standards that we've come to expect?

The unique concept that defines Animator is the idea of fast, playable comedy scoring – think *Looney Tunes* or *Tom and Jerry*, in other words. Rather than providing single instruments, such as bassoon or clarinet, the patches included in Animator are largely recorded as an ensemble, either playing a given articulation, a short phrase or special effects. To help you navigate the library, the Kontakt Instruments are organised by application, with imaginative titles such as Wink Wink or Tiptoe that give a clear indication of the musical effect you can achieve.



Cartoon world

Anyone who's explored the lighter side of Lumina, ProjectSAM's third edition of the Symphobia series, should be immediately familiar with the approach taken with Animator. Arguably, the instruments are a masterpiece of both orchestration and sampling expertise, with a range of articulations musically mapped across the keyboard. The In Disguise instrument, for example, starts off with double bass and ride, with different velocities moving between alternate lengths of articulation, and versions with and without ride.

Moving up an octave or two we then find a series of ensemble recordings, again using velocity to switch between three different articulations: Staccato, Short Note With Rides, and Falls And Long Notes. On the highest couple of octaves we find a series of trumpet samples, all played with a wah mute. Again, using velocity moves between two different lengths of articulation, so that low velocities produce a short wah and vice versa.

Slapstick sampling

While Animator's mapping might sound complicated at first, the clear, easy-to-read interface provides plenty of information as to the articulations you're triggering and what alternatives are available. Most importantly, though, it means that you have the musical content of a complete cue at your fingertips, without the need to load multiple instances of Kontakt or use anything more complicated than velocity to move between the samples. The results are instant, and thanks to some fantastic orchestration they really sound authentic.

As with all the rest of the Symphobia series, Animator is recorded with three different mic positions – Direct, Ambient and Wide – that really give you a lot of scope in how the library sounds. For example, the majority of patches default to a studio-like sound that favours the direct mics, but move the mix slider more towards the stage and you get a fantastically wide and open



Alternatives

Although it's not directly aimed at animation or comedy scoring, Sonokinetic's Vivace (£209) explores the lighter side of orchestral sampling. This is a distinctly phrase-based library, which is arguably more creatively restricting than Animator, although you do get to define the chord progression and tempo.

sound that could easily sit in a full-sized orchestral score. There's also a smattering of other controls – such as additional reverb, attack and release, and so on – that add further sound shaping possibilities.

Looney tunes

As a homage to the likes of Carl Stalling and Scott Bradley – two composers who really defined a golden age of animation scoring – it's hard not to be impressed by the artistry and attention to detail offered by Animator. Indeed, when you're playing the instruments in Animator it's hard not to visualise the action that's happening, which is testament to both the ingenuity of those original scores and the skill applied in orchestrating, recording and mapping these samples.

If you work in animation scoring or intend to explore a lighter 'comedic' sound, then Animator is an essential purchase. Beyond that it's hard to see Animator having the same appeal as Orchestrator, but maybe this is just a reflection of a niche-driven product rather than something that's designed to have mass appeal. Equally, it's arguably a product that works well as a companion to other libraries, adding colour to your music rather than completely defining it. **MTF**

MTF Verdict

- + Superbly orchestrated
- + Creative sample mapping
- + Perfect for animation scoring

- Musically prescriptive
- Limited appeal beyond its main application

Animator is a finely crafted homage to the golden days of animation scoring, but you'll need to work hard to define your own musical identity.

8/10



BRAINWORX bx_refinement

As the name suggests, the order of the day here is subtle polishing and embellishment. **Alex Holmes** gets buffing...

A lot of the time we talk about how to make tracks and mixes sound warmer and how to add the analogue vibe that makes things nicer to listen to. This is often achieved through stacking up various processors such as vintage EQs and compressors, carefully modelled analogue desks, or tape and tube emulations. However, bx_refinement from Brainworx takes a different approach: instead of trying to pile on the warmth it attempts to take out the aspects that make a mix sound harsh and aggressive, ultimately arriving at a similar, pleasant-sounding conclusion.

Damping down

The processor comes in a variety of plug-in formats and can be loaded direct onto a channel or buss, or placed across the entire mix in the mastering chain. On a basic level it is essentially a filter with a fixed curve around the 3/4kHz area, with a large dial for turning up the damping, a soft and hard switch for changing the steepness of the curve, and a mix knob for balancing the dry and wet signals. You also have a useful solo button, which lets you hear

Details

Price \$199
Contact
via website
Web www.plugin-alliance.com
Minimum System Requirements
Pro Tools 9 or higher
or a VST/VST3/AU-compatible host.
Supports both 32-bit and 64-bit
Mac: Intel CPU only, 2GB RAM, OS X 10.6 or higher
Windows: Intel-compatible CPU with SSE2 instruction set, 2GB RAM, Windows XP or higher

Key Features

- Finely tuned plug-in for reducing harshness
- Designed by Gebre Waddell of Stonebridge Mastering
- VST, VST3, AU, AAS, RTAS formats
- Works in M/S or just M mode
- Damping, tube saturation and presence controls
- Dynamic and LFO damping modulation



the region you're attenuating, and a switch to choose whether you're affecting the mid and the side channels or just the mid channel where most of the volume of the mix will likely reside (although which sounds better will depend largely on the source material).

Further controls at the bottom enable you to add modulation to the damping, either by adding dynamics to catch the louder peaks and turn it into a dynamic EQ, or by adding an LFO to create warming effects. The latter uses a sine wave to control the damping amount, which can be sync'd to tempo or left to run free, although in practice we found the dynamics modulation to be much more useful.

As a nice touch, the tube graphic in the middle of the GUI will light up in response to the damping you add, so you can get additional feedback from your modulation adjustments. Finally,

It's a very specific tool that has been incredibly fine-tuned to give great results

to give an extra flavour there's also a saturation algorithm for subtly bulking out the overall sound, and a presence dial that can add back in some air frequencies via a shelving filter.

At this point you may be asking yourself why a single plug-in with a fixed band and limited controls is commanding a \$200 asking price. We've always been a little sceptical of magic fix-it plug-ins, so approached our testing with a degree of apprehension.

First, we tried loading up several finished mixes that we deemed well-balanced and polished, then we added an instance across the entire mix. Flicking through the presets gives an idea of the kind of softening effects that the plug-in is capable of, but we thought best to start subtly, dialling in around 50% damping with gentle dynamic control, a little saturation and presence, and a 60% wet/dry mix.

After listening to the track for a while and getting used to the sound, we hit the bypass button and were shocked by how boxy the midrange seemed in

Alternatives

The bx_refinement is quite unique in the way it's been fine-tuned to transparently achieve the specific task of notching out harshness. However, you could try using a de-esser or multiband dynamics plug-in to get similar results, such as FabFilter's Pro-MB (£139), or Pro-DS (£124), which are an excellent dynamic EQ and a highly flexible de-esser, respectively. Alternatively, to fulfil the role of saturation, EQ and dynamic taming, you might consider iZotope's Alloy 2 (\$199).

comparison. We tried several more mixes and each led us to the same conclusion: bx_refinement makes things sound better, very quickly and very easily. Therein lies the answer to the asking price: it's a very specific tool, with settings that have been incredibly fine-tuned to give great results.

Care needs to be taken, of course, as overuse could result in a slightly dull and lifeless sound. We'd recommend this more for improving mixes that are already well balanced rather than mixing into it, which will likely add to confusion. It's hard to say if we'll still be using this plug-in in six months' time, as it's highly possible that in slowly tuning our ears to the

offending frequencies we may start to be more careful about adding them to our mixes in the first place. Even if this is the case, we'd still happily pay the price to learn the lesson and dramatically improve our tracks. **MTF**

MTF Verdict

- + Very easy to use and achieve great results
- + Transparent sound when used subtly
- + Retains punch of original material
- + Has the ability to magically improve mixes previously deemed finished
- Fixed frequency for dampening restricts flexibility
- Only one saturation model

A finely tuned processor that appears simple on the surface, but the results speak for themselves. Instant sonic improvement to audio that can help you achieve a rounder-sounding mix.

9/10

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For PC
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Alternatives

The physically modelled Woodwinds & Saxophones collection from Wallander Instruments (\$329) is the obvious alternative to The Flutes. They, too, are very responsive and satisfying to play using their own SE Player. As well as all the flutes it also contains oboes, clarinets, bassoons, saxophones and recorders in abundance.

enable an external high-quality alternative to be applied afterwards. The lower half of the GUI contains further controls for sound shaping such as breath and key noise, flutter, growl, overblowing and falls.

Open the Options page and there's a wide range of advanced controls for fine tuning legato transitions, vibrato rates, randomisation, portamento and many more.

Blown away

The playing experience and the results are excellent and far superior to using a sample library flute, especially in a solo context as opposed to orchestral woodwind section use. In that respect a sample library might be a better bet because in a classical setting, tonally we found these flutes less pure than their sample library competitors. It's no big deal, but one way to describe it might be a slight lack of that silvery quality typically associated with an expensive metal flute. That said, we obtained decent results on a number of classical snippets, and for pure expressiveness, especially in the jazz, funk and ethnic genres, they're a formidable force.

From a flute player's perspective this is about the closest virtual instrument playing experience compared to a real flute that we've come across. Of course they can also be programmed without any real-time playing as well, but you'll miss out on much of the fun. **MTF**

MTF Verdict

- + Great to play
- + Oodles of control
- + Good for jazz, funk and ethnic styles

- Tonally, they're less suited to classical playing

Samplemodeling's The Flutes provides a highly malleable playing experience and a great alternative to the traditional sample library flutes, which can be difficult to play in real time. Only slightly let down by a less-than-vibrant tone for classical styles, but great for jazz!

9/10

SAMPLEMODELING The Flutes

Samplemodeling has a reputation for creating realistic virtual instruments. So how do The Flutes shape up? **Keith Gemmell** takes a deep breath...

Details

Price **£228**

Contact via website

Web www.samplemodeling.com

Minimum System

Requirements

1.6GHz Core2Duo

Windows XP, 7, or

Vista

Mac OSX 10.6 to 10.9

Key Features

- C-flute, piccolo, alto & bass flute
- SWAM engine (no additional software)
- Expressive real-time playing
- Keyboard, breath or wind control

Virtual instruments usually come in one of two distinct types, those that use samples and those that employ synthesis. The former provides a faithful reproduction of the recorded instrument along with the articulations and expressions of the performer. Unfortunately they are not always easy to play in real time, and a fair amount of editing is required after a take to reshape the performance data. Synthesizers, on the other hand, are much more expressive but often fall short when it comes to producing a purely realistic sound.

In 2008 Samplemodeling took a different route and developed a range of brass instruments for the Kontakt platform fusing sampling modulation and AI MIDI processing techniques entitled Harmonic Alignment Technology. A saxophone set soon followed with yet another approach, Synchronous Wave Triggering. As this technique was not so well suited to Kontakt, Samplemodeling developed their own platform, SWAM (Synchronous Wavelength Acoustic Modeling), a sample-based engine with technical solutions derived from physical modeling. Their clarinet, saxophone and

double reeds collections all use SWAM, as does this latest release, The Flutes. Comprising C-flute, piccolo, alto and bass flutes, they are supplied as both 32-bit and 64-bit plug-ins.

Five live

Each instrument can be loaded in five different pre-configurations, two classical, along with jazz, funk and ethnic, each with a continuous parameter slider. Changes to the timbre correspond to either different instruments or mic placements. Articulations are automatic and respond to the player, but there are keyswitches for overblowing, falls, alternative fingerings and micro-tuning.

These instruments are designed to be played in real time, and a decent keyboard controller with plenty of knobs and sliders is recommended. An expression pedal is a good idea, too, but not essential. Alternatively a breath controller such as the new TEControl (www.tecontrol.se) or a wind controller can be used. The SWAM player has default settings for all three. The instruments load quickly and are instantly playable, provided that the expression control is moved and recognised first. They're remarkably pliable and very responsive straight out of the box with an excellent centre display that shows exactly which real-time articulations and controllers are being triggered.

The remainder of the main GUI is well laid out and implemented with all the bread and butter controls you would expect at the top (volume, pan, tuning and so on) along with reverb time and mix sliders. As the flutes are dry this feature enhances the playing experience adequately, although when recording it's probably best turned off to



FOCUSRITE iTrack Dock

Is this the missing link needed to hook up your portable and studio endeavours? **Andy Jones** finds out...

Details

Price **£169**
Contact **+44 1494 462246**
Web **uk.focusrite.com**

Key Features

- 24-bit/96kHz iPad interface
- Two preamps
- Height x width x depth (mm): 64x280x168
- Weight: 0.7kg
- Two mic/line inputs (one with instrument in) and two monitor outs
- USB MIDI connection
- Direct monitor/gain controls
- Free Tape app

Of course the iPad has, since its release, become a must-have device for so many reasons, not least music making. The last few NAMM shows we've attended (that's the US-based music gear show where new releases are announced annually) have resembled Apple Expos where equipment manufacturers have fallen over each other to get on the iPad bandwagon, with interfaces, add-ons, controllers and more. And, of course, there are all sorts of apps out there to create, record, mix and master songs.

But, for whatever reason, we're not getting a huge number of requests to cover more iPad gear, nor are we sent much music made using an iPad. If anything people seem to be using traditional desktop set-ups more than ever, with iPads perhaps taking the duties of scratchpad, idea generators. (Perhaps we're wrong, so if you do make music on an iPad, please send it in via the Send Us Your Tunes process at MusicTech.net and, as always, let us know what you want us to cover!)

But devices like Focusrite's new iTrack Dock might make us all think again. It's essentially a pro audio interface designed to turn your iPad into the central hub of a 'proper' music studio so you can boot up those DAW

apps (all are supported), play instruments into them, record and play the results out properly through your studio monitors.

Pad up

The first thing to report is that this is a lightweight interface: good for pairing with a somewhat heavier iPad to keep the overall weight combination to a minimum. The unit is only powered externally so can in no way be considered a mobile option. This might be disappointing if you'd ever considered the iPad as your 'do music anywhere' device but iTrack Dock has clearly been designed for studio use, not mobile – you get your ideas down anywhere and use iTrack Dock to transfer them or hear them properly.

If you, like me, have a nice protective case for your iPad you will have to remove it to fit the iPad into the dock. Focusrite really couldn't have designed iTrack to negate this issue as it would have meant looking at every protective case on the market.

A bigger niggle is the angle of the unit. I'd have definitely preferred an adjustable angle to take it anywhere from flat against your desktop to a full-on 60°+ so that the iPad is right there in front of you, almost upright – a missed trick, I think. The angle it is set at will suit most, for sure, but my iPad did once flip to its 'vertical' orientation and require me to lift the angle up to reset it to the correct 'horizontal'.

In use the iTrack Dock is excellent, though. Your sounds from those many musical apps you've been meaning to get around to using simply come alive when played through proper speakers, and iTrack Dock is the perfect way to get

Alternatives

With that bandwagon rolling it's more a case of 'check this range out' rather than specific models. Alesis, for example, do the IO range which starts at a £60 interface right up to a £180 recorder for the iPad. Check out IK Multimedia and Line6 too for their ranges of iPad and iPhone docks.

them there. Similarly, playing instruments into an app like Cubasis has, for me in the past, been a case of playing into the iPad mic. Now, plug in, play and sing for much better results.

Front panel controls make level adjustment easy and the whole experience feel more 'pro' and so much better than simply using the iPad touch interface. Indeed, it did make me think that while we all wondered at the glory of touch technology back when it first appeared, actually having a real knob to turn is better – will we ever be happy?!

So iTrack Dock will please a lot of musicians and recordists. The former will love to just plug in and access excellent recording apps like Auria (not supplied but one of the best recording apps out there), or the free Tape, a neat app made by Focusrite that resembles an old-school reel-to-reel but quickly enables you to get good recordings into your device. And if you own any sequencer like Cubasis or GarageBand, you will love hearing your compositions in your studio quickly and easily.

Personally I might use it for all the above and also simply as a synth audio interface for the many synth apps that I have. OK, it's probably not one of the main reasons Focusrite would have you use it for but it shows that the iTrack Dock can certainly integrate easily, however you wish to use it. And, few niggles aside, it should bring your iOS and studio lives closer together. **MTF**

MTF Verdict

- + Controls feel 'pro'
- + Great interface to get your instruments 'in'
- + Lightweight and solid
- + Easy to use
- + Free Tape app is good

- Adjustable working angle would have been good
- You'll need to lose certain protective cases in use

Despite a few niggles, iTrack Dock is a genuinely good solution to taking your iPad noodlings into your studio environment and also a great way to get your instruments in to that Apple device.

8/10



BEST SERVICE Altus

For PC
& Mac

Altus is the third in Best Service and Eduardo Tarilonte's mystical vocal collections. Can **Andy Jones** be any more excited? As they said in medieval times, 'non'.

Details

Price €149
Contact BestService
 +49 (0) 89 45228920
Web
www.bestservic.de
Minimum system requirements
 Windows 7 or 8
 Mac OS X 10.7 or 10.8
 2GB RAM

Key Features

- 1.3GB collection
- Over 3000 samples (44kHz/24-bit)
- Five legatos and portamenti (a, e, i, o, u)
- 26 words, two different articulations (fast and slow)
- Words split into 136 syllables
- 130 phrases
- 15 soundscapes

Regular readers will know about my not-so-secret love of donning cloaks and loading up Best Service vocal collections. So far I've loved Shevannai (The Voice Of Elves) and Cantus (the equivalent with monks), and have become a bit of a closet fan of Eduardo Tarilonte, the vocal sound designer who puts these amazing collections together.

Where Shevannai is the stuff of fantasy and Cantus the stuff of monastery, Altus is camped fair and square in the Renaissance period, so completes what you might call a medieval hat-trick. OK, so elves didn't really exist [eh? Sub-ed] and Gregorian vocals are spread across many a century, but you get my drift. All three of these instruments are fantastical, atmospheric and quite definitely part of a mystical vocal collection – indeed bestservice.de markets them together.

Game of tones

Altus concentrates on the countertenor voice and is a collection, as Best Service say, 'for your Renaissance and Baroque music productions, for films, documentaries, video games and new

age music.' As with Eduardo's other collections it includes words and phrases, in this case using the countertenor José Hernández Pastor as their source.

It's a 1.3GB collection, so not too large, and once loaded into the Kontakt environment Altus has two main folders: The Voice, made up of these word and phrase presets; and Soundscapes, comprising 15 presets. Load up the word preset and you get Wordbuilder, which enables you to choose and put whole words, parts of words and vowel sounds together to make phrases, some of which must mean something, and some of which will end up being pure gobbleddegook. There are 26 words, 136 parts, i.e. syllables, and of course five vowel sounds.

Putting words and phrases together is easy. Simply click on an empty block and choose from the words or parts with a dropdown menu. Play a key and the parts will be played stringing them all together as you repeatedly hit the note. Instant Renaissance!

Within this section you can also click off the Wordbuilder to play the different whole words at various pitches, controlling envelope times, reverb and so on with sliders on screen. Words include the obvious (Agnus, Amen, Corpus) and the not so obvious (Fortuna, Inferno and, er, Gloria).

The second preset covers the phrases, of which there are 130 across three key switches. As ever, recordings are pristine and each phrase lasts for usually between five and 10 seconds so

You can't fault Altus as a collection that sets out to do something and does it well

there's plenty of vocal meat to add to your tunes. The vocal itself is the same person across all words and phrases (the aforementioned José Hernández Pastor) so there's an argument to say if you don't get on with his voice you'll not get along with anything here, so check out the demo on the website first. Personally I find him very agreeable...

Soundscapes

This is an area where the other collections have teased you with some of the most beautiful textures you will ever hear, and when I say 'tease' I mean they offer them but not that many. Altus is the same – it's more about the voice

Alternatives

There are lots of vocal sample collections to choose from, obviously, but not so many with a fantasy bent nor any with as much flexibility in the word-build department, so it's Best Service's own collections that therefore come closest. We've mentioned Shevannai (The Voice Of Elves) and Cantus, so it's really a case of choosing the vocal type (elf, monk or knight) and going for it. Just like a fantasy role-playing video game, then.

than these soundscapes but I love them anyway. With names like Mysterious Lights and Horse Ride To Florence you get mystery by the bucketload, atmosphere by the gallon and imagination like a big long hazy drug trip. In short, they're brilliant, big textures and I want more. Maybe Best Service could release a collection of these on their own, and lots of them!

Altugether now

Again, you can't fault Altus as a collection that sets out to do something and does it incredibly well. The focus, again, is narrow, which is a huge strength but also a weakness as it obviously isn't going to appeal to everyone. But as I've continued to use Shevannai and Cantus since reviewing them I have found myself turning to them for all sorts of reasons and all sorts of different genres, and have been surprised at how important they have both become, even inspiring new genres of music (my 'spiritual house' album will be on sale next year, I promise).

Best Service has factum est autem rursum (done it again). Magna opus, fellas! **MTF**

MTF Verdict

- + Superb recording quality
- + Cool Wordbuilder function
- + Amazing soundscapes
- + Evocative phrases

- Possibly narrow in focus
- Could do with more soundscapes

It's another winner and a hat-trick of atmospheric vocal instruments for Best Service and Eduardo Tarilonte. We bow down to your soundscaping prowess and may you wear your cloaks with pride, as we do.

8/10



PRESONUS Eris Series

PreSonus has entered the entry-level monitor market with the Eris series – a no-compromise collection that is packed with features and quality components. **Huw Price** cranks them all up...

Details

Price

Eris E4.5: £169 (pair)
Eris E5: £124.99 (each)
Eris E8: £219 (each)

Contact Source Distribution

020 8962 5080

Features

Eris 4.5

- 4.5in Kevlar woofer
- 25W Class AB amp per speaker
- Balanced 1/4in TRS, unbalanced 1/8in TS, RCA inputs
- 1/8in stereo headphone output
- Aux input

Eris 5

- 5.25in Kevlar woofer
- 70W Class AB bi-amp
- Balanced XLR and 1/4in inputs plus unbalanced RCA inputs

Eris 8

- 8in Kevlar woofer
- 140W Class AB bi-amp
- Balanced XLR and 1/4in inputs plus unbalanced RCA inputs

The Eris E4.5 is a crossover product that is ideally suited to computer speaker duties, but can be called into action as

a bona fide studio monitor as well. A 4.5in Kevlar low-frequency driver combines with a low-mass 1in silk-dome tweeter with a protective grille, and they're driven by two 25W Class AB amplifiers that are housed in the left speaker enclosure.

Audio inputs are all on the left speaker too – balanced jack or unbalanced RCA – and the right speaker is connected to the left by a length of traditional speaker cable with base-tinned wire at each end. Because of this the 4.5 is only sold in a pair with all the necessary cables supplied. Both enclosures are rear ported.

Stepping up to the Eris E5 we have a 5.25in Kevlar driver with a 1in silk-dome tweeter powered by 45W and 35W Class AB amplifiers, respectively. Frequency response is rated at 53Hz to



The Eris 5 will provide you with soaring treble and thumping bass that can also easily be tamed for subtler mixing duties. And don't be fooled by the low price – they more than hold their own against models with a higher cost.

extended to down to 35Hz. All three enclosures are made from vinyl-laminated MDF.

Although it's the baby, the Eris 4 has the same comprehensive feature set as the 5 and 8. The difference is that the

above 4.5kHz with a range of ± 6 dB. The Mid control does the same job at frequencies centred on 1kHz, extending around an octave above and below that frequency. The Low Cutoff switch rolls off low frequencies below two selectable frequencies, 80Hz or 100Hz, at a slope of -12dB/octave.

Perhaps the most interesting feature is the three-position Acoustic Space switch. This activates a second-order, low-shelving filter that cuts the level of all frequencies below 800Hz by -2dB or -4dB to compensate for boundary-induced bass boost that may occur when monitors are placed next to a wall, in a corner, or both. And of course there's a 0dB setting too.

All three Eris monitors feature RF shielding and over-temperature protection, current-output limiting to prevent damage in the event of a speaker terminal short circuit and

These are **not expensive** monitors but they **punch well** above their price point...

22kHz, and this time the enclosure is front ported.

If bass frequencies and high volume are critical for your needs then check out the Eris E8. It's like a scaled-up Eris 5 with an 8in Kevlar woofer and a larger 1.25in silk dome tweeter. They are driven by 75W and 65W Class AB power amplifiers, and bass response is

volume control and power switch are on the front panel, along with auxiliary input and headphone output sockets.

Space control

The Acoustic Tuning section includes High and Mid frequency controls plus a Low Cutoff switch. The High control provides boost or cut at all frequencies



The Eris 4.5s (above) are well-suited to computer-based mixing duties, and can also be integrated into a hardware studio set-up. The larger woofers of the Eris 8s (right) help to pump out some serious bass and get the treble ranges singing. And no it isn't the same picture as the 5 (left)!

filtering of very low-frequency vibrations that could interfere with the woofer. The amplifiers also have 'soft startup' to prevent pops on power up.

Box checking

The Eris 5s produce a bold and up-front sound with clear treble and solid bass. With flat settings in our test room the bass thump was ever so slightly too much, so we tried out the Acoustic Space feature. With only a 2dB reduction the bass tightened noticeably, but the more surprising thing was the

story with the -2dB Acoustic Space setting, and we actually ended up running them at -4dB, but the 8s sounded smoother and sweeter in the upper frequencies than the 5s.

The 8s can certainly pump some bass into a room but, as with so many large near-fields, the trade off is a degree of sluggishness. Consequently dubby rhythmic basslines tended to sound a bit blurry in our room, but things may be better in environments that have more bass trapping. Even so, they're vibey and fun but we'd prefer to

/// We hadn't expected **that much** from the Eris 4.5 but the **sound quality was remarkable** ///

way the soundstage seemed to clear up and gain depth.

Capping things off with a bit of treble roll off and a very tiny midrange boost, the Eris 5s were almost able to match the tone of the Focal CMS 40s we generally use for reference. The Eris 5s weren't quite as refined and the imaging wasn't as three-dimensional, but they certainly came close. Lastly we followed PreSonus' instructions for emulating a cheap radio tone. Frankly we weren't convinced because the Eris 5s still sounded pretty good – and that's no bad thing.

Predictably enough the Eris 8s present a noticeably larger and more spacious acoustic image and filled out the room effortlessly. It was a similar

use them in conjunction with some other monitors when making critical mixing or mastering decisions.

And finally...

In some ways we have left the best to last. We hadn't expected that much from the Eris 4.5s because they most closely resemble computer speakers and are priced accordingly. Given those caveats the sound quality was absolutely remarkable. Although they have all the tone-shaping controls of their bigger brothers we felt less inclined to tweak them as the 4.5s sounded so good straight out of the box.

Of all three Eris monitors the 4.5s probably had the finest bass definition, but it is possible to detect some roll off



at the lowest frequencies. The imaging was also remarkably crisp, and although the obvious application may be use with computers we'd have no compunctions about integrating them into our studio monitor setup.

These are not expensive monitors but they punch way above their price point. They're perfectly suited to rock, pop and electronica, but critical acoustic recordings, particularly strings, do reveal their limitations when compared to high-end monitors. This standard of real-world frequency adjustment controls is unusual for entry-level speakers and the same can be said of the looks, build quality and sound.

The Eris range has something to suit many set-ups at a great price. **MTF**

MTF Verdict

- + High build quality
- + Comprehensive set of equalisation controls
- + Impressive sound quality
- + Can get loud
- + Decent imaging

- Power switch on back (5 & 8)
- No auto-standby

Three entry-level active monitors with professional features and sound quality. Tremendous value for money.

9/10

Alternatives

At the E4 end are the ESI nEar 05 (£142) and Samson BT5 (£142). The Yamaha HS5 (£121 each), Samson SE5 (£119 each) and KRK RP5 G3 (£239 pair) sit with the Eris 5 and the Eris 8 goes up against the Fostex PM841 (£196 each) and the JBL LSR308 (£218 each).

Method Spot

According to PreSonus the equalization controls serve a dual purpose. Firstly, they are designed to enable you to adapt the Eris monitors to your working environment. Given that location recording is so prevalent, this will be a big plus point for many of us. Secondly, the controls enable the monitors to broadly approximate the sounds of different types of speaker. To emulate a car stereo, try turning the mids right down, and to emulate a portable radio, turn them up and filter off the low end. The bass roll-off can be used to integrate the Eris monitors with the PreSonus Temblor T10 subwoofer.



VIR2 Acou6tics

Acoustic guitars have always been hard to do in software, but could Vir2 have cracked it? **Hollin Jones** strums away...

Details

Kit Acou6tics
Manufacturer Vir2
Price £289
Distributor
Time + Space
Contact sales@timespace.com
Web
www.vir2.com
Minimum system requirements
Mac OSX 10.7.3 or later
Windows 7 or 8
Intel CPU 2GHz Core Duo or faster
13GB hard drive space
2GB RAM

Key Features

- Six guitar models
- Recorded in stereo and piezo
- All articulations on all strings and frets
- Kontakt format
- Adjustable mics
- Multiple effects
- Chord and strum engines
- AI for chord translation
- Advanced vibrato engine

Some instruments have always been tricky to recreate convincingly digitally, usually the ones furthest removed in playing style from the keyboard. So horns and guitars, when attempted in a truly 'playable' format rather than just looped, have often sounded a little artificial. The trick isn't in recording the samples, it's in getting the playback engine right.

Vir2 has a great track record with sample-based instruments and its latest is Acou6tics, an 11.5GB collection that runs in Kontakt or Kontakt Player and really pushes the envelope of what NI's technology can do. As ever, the files can be off loaded to a secondary hard drive and the library authorized in Kontakt. The standard 2GB RAM is listed as a basic requirement, but you'll want more than that when working with any big Kontakt libraries.

Choose your weapons

There are six different acoustic guitar instruments in the collection: steel string, 12-string, nylon string, ukulele, mandolin and guitarele recorded in a mixture of plectrum and finger-picked playing styles. The quality of the sampling is faultless and you get to use both Blumlein stereo and piezo-based sources for each instrument, with no phasing issues when mixed down to

mono. All articulations are available on all strings and frets with between 3,000 and 7,000 samples per instrument.

There's a huge amount to work with, so the way you interact with the instrument is crucial. The way you play a keyboard and a guitar are very different, which is why some sampled instruments don't sound right: playing a chord on a keyboard often doesn't translate to the guitar chord you expect.

Acou6tics deals with this by using a fiendishly-clever playback engine that analyses the keys you press in real time and interprets them based on the current patch settings, resulting in something that sounds much more like a guitar than a computer has any right to. As is standard with Kontakt, the keys contain a range of functions denoted by colour, so blue notes are playable, black notes switch presets and other keys perform a range of modifier functions. In polyphonic mode you can play chords and there's an advanced chord detection system that can convert almost 25,000 keyboard chords into the appropriate guitar version. The AI chooses the best string and fret choices based on your input and you can use the modifier keys to introduce muting, reversed pick direction and many more variations. Numerous slides, 'chukkas' and other percussive effects are available in addition to individual notes.

Alternatives

Acoustic Samples' GD-6 at £123 runs in the UVI workstation and has some similar features in the form of strumming and picking support, chords and a fair number of samples. Based on a Guild D-40 electro acoustic guitar, it has a correspondingly different sound, and models a specific instrument.

There are, of course, many loop collections available if what you're after is pre-built parts rather than a fully-playable instrument.



For PC
& Mac



Tailor your sound

It's an incredibly-versatile system and almost magical in its realism, though you will want to spend time learning in order to program advanced parts. It's all configurable and the key switches can be customized, with the Playback section letting you tweak string and fret selection, noises, release and vibrato as well as chord pick speed and many more parameters. The Chords section lets you program your own custom chords and in Mics and FX you can add up to six effects each with variable controls and use the Distance and Room options to move the virtual mics around as well as working with the stereo mic and piezo signals.

The instruments are almost infinitely tweakable and, though it will require a little practice, you can achieve amazingly-realistic guitar parts without actually being able to play a guitar. As well as the more obviously impressive rhythmic strumming stuff it's fun to play around with the mandolin and ukulele, where the sound engine is able to add slides, squeaks and articulations for a truly realistic end result.

Acou6tics is an excellent way to bring the warm, organic and involving sound of these instruments to your productions. The translation of keyboard input into guitar-style playing is something to behold and with a bit of careful programming, nobody will be able to tell that the tracks weren't played by a real person. **MTF**

MTF Verdict

- + Beautifully sampled
- + Excellent range of articulations
- + Amazing chord/strum engines
- + Detailed control over playing style and sound
- + Great on-board effects
- + Good design and workflow
- + Very believable results

- Best results will require some investment in programming

A brilliant way to bring the sound of acoustic guitars to your tracks. Hugely tweakable, and sounds like the real thing.

9/10

Deep and Raw Techno

Manufacturer **Loopmasters**

Price **£29.95** (download)

Contact **info@loopmasters.com**

Web **www.loopmasters.com**

Techno is a genre that has undergone many subtle shifts over the years, from its industrial-sounding beginnings to the deeper and more cerebral sounds of modern techno. This new pack from Loopmasters sees long-time contributor and MT favourite Andy Lee take the helm once again, with a collection of gritty beats, haunting synths and deep basses inspired by labels such as AUS and Hotflush.

The pack is available in the usual formats, and contains 376 loops and 63 sampler patches, with tempos ranging from 120 to 130bpm. A variety of classic and modern hardware instruments were used to craft each sound, with further processing applied via high-spec outboard gear. It's clear a lot of attention has gone in to the overall

Choice
9/10
MusicTech

Key Features

- Modern techno sounds inspired by Adam Beyer, Scuba, and Midland
- Produced by Loopmasters veteran Andy Lee
- 933MB of 24-bit Audio
- 376 Loops in Wav, Apple Loops, REX2, Live and ReFill formats
- Drum and instrument hits with 63 sampler patches



finish of the pack, as there is a very consistent and warm sound throughout. On the loop side, the basses are big and rounded, with plenty of low-mid energy but filtered down tops to allow space for other elements. Lee is also not afraid of using reverb to add a sense of space and character, but used carefully so as not to muddy up the sub frequencies. The synths have a similar powerful, but warm sound with a mixture of deeper washes and more stabby and sinister chord riffs, whilst the drums feature heavily-driven kicks, minimal-style snares and hats, and frantic, percussion-laden tops.

Our only criticism is that the drums aren't really broken down enough into smaller, usable layers, and there's not a great deal of variety in the overall sounds on offer.

Arguably the highlight of the pack, however, is the superb collection of fat-sounding drum hits, which includes additional folders of distorted kicks; low, atmospheric rumbles; and vinyl percussion sounds. You'll also find plenty of solid bass and chord hits, with good use of short delays to give movement, character and life. Finally, there is a small handful of decent FX hits, although we would have liked to see a few longer riser-style FX for build-up sections.

Lack of variety aside, this is an excellent pack of usable sounds and loops, with a warm and punchy, club-ready finish. **MTF**

MTF Verdict

Andy Lee returns with another beautifully-crafted and processed collection of up-to-date techno sounds with a perfect balance of character and usability.

8/10

Beat Scenics

Manufacturer **ModeAudio**

Price **£15** (currently reduced to **£12**)

Contact **info@modeaudio.com**

Web **modeaudio.com**

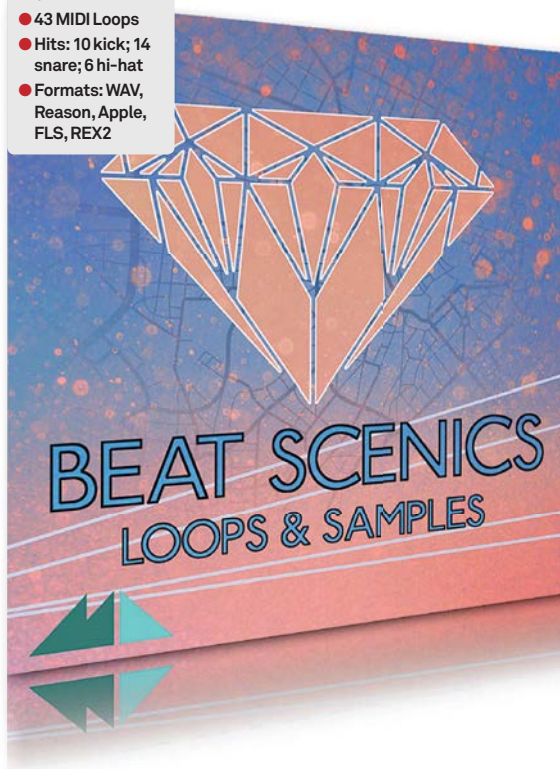
Beat Scenics is a collection of loops, percussion and effects inspired by LA's Beat Scene. Think Route 1 at sunset, laid-back grooves, jazzy progressions, a bit of keyboard noodling – that kind of thing. You get mostly lower tempo'd beat loops all excellently programmed for a chilled hip-hop feel.

Each is named – Angel City, SwampFonk, and so on – and comes with variations or fills. With the basslines we did have visions of them being the kind of horrific slap funk lines used to link scenes in US sitcoms but they are mostly electronic, often dirty, and named the same as the beats so you can start matching samples together to make tunes immediately. Some of the synth and instrument loops start taking you on stricter melodic journeys and so will perhaps

Key Features

- 416MB download
- Loops: 18 bass; 36 drum; 19 synth; 16 instrument; 15 percussion; 16 SFX
- 43 MIDI Loops
- Hits: 10 kick; 14 snare; 6 hi-hat
- Formats: WAV, Reason, Apple, FLS, REX2

Value
££\$
MusicTech



take you down a more genre-static route, whereas the beats and basslines can be applied to almost any genre.

Having said that, some are unusual and very inspiring, so if the idea of LA music at sunset doesn't appeal – maybe you live in Swindon and it's raining – there is still stuff to use.

Usefully, the MIDI files are also supplied, so you can easily apply the great programming to more local soundscapes. Currently the collection is just a dozen of your British pounds, but even at the full £15 it's well worth a punt. ModeAudio aims to 'deliver audio tools that sound incredible, are available instantly and that will integrate seamlessly with your favourite music software.' And on this evidence we find it very hard to argue with that claim. **MTF**

MTF Verdict

Laid-back, jazzy, hip-hop vibes and also some interesting and inspiring electronic grooves mean this collection could take you down more sonic routes than it initially suggests. Great value too.

8/10

Snugs Solo in-ear monitors

Manufacturer **Snugs**

Price **£159**

Contact **info@snugsearphones.co.uk**

Web **www.snugsearphones.co.uk**

In-ear monitoring is common place in music production and performance these days, but it's also associated with great expense.

On the cheaper side of things you can invest less than £100 in some reasonably well-fitted earpieces that may work for mobile production work but won't be a sealed enough fit to combat high levels of external noise, i.e. loud sound sources such as monitoring, drum kits and other amplified sound. Without high levels of noise rejection, you'll be forced to combat it by ramping up the volume of your in-ear monitoring, which in turn opens up the possibility of hearing damage. On this note, don't forget that having a sealed earpiece also acts as hearing protection from loud external noise as well.

We've looked at quite a few different moulded earplugs over the years here at MTF and they generally come in around the £300 mark – so quite an investment. The Snugs Solo earplugs we've been testing here are

considerably less in cost and are also moulded around your existing headphones so you can use a monitoring system that you know and trust.

The production process involves a visit from one of the many UK-spread audiologists working for Snugs who take your ear impressions, then your headphones to send back with the moulded Solo earpieces. One advantage of these moulds is that they are detachable from your headphones, so there's no permanent alteration made to your cherished headphones. One disadvantage of this is that the headphone

and plug are easy to detach from one another, and although we had no issues when in use we did have our moulds fly off the headphones a few times when pulling them out of our bag for use. So an extra level of care is required in their handling, unless you don't mind hunting around on the floor for them in a dark recording studio or live venue environment.

The Snug Solos come in a variety of colour choices, and being the tech nerds we are we chose white for left and red for right. This turns out to be very practical, though, as it's easy to make out which is which by their contrast in colour in even the poorest of lighting conditions. In use, they provide very high levels of noise rejection. We managed to produce laptop music very peacefully on a noisy coach trip and found them to be very useable for a gig as well. **MTF**

Key Features

- Custom moulded for any in-ear headphones of your choice
- Variety of one or two colours to choose from
- Visiting impression-taking service
- Optimum external sound rejection



MTF Verdict

These moulded in-ear monitors have a great advantage in price, and that you get to choose the headphones you want to use with them. Their weakness is how easy it can be to detach the moulds – with a careful approach, these are an affordable solution that will save your hearing in the long-term.

7/10

Power Tools

Manufacturer **ModeAudio**

Price **£15 (currently reduced to £12)**

Contact **info@modeaudio.com**

Web **modeaudio.com**

Thank the lord this isn't the collection of power tool samples we first feared that it was (although we're pretty sure some people might actually lap such a collection up). Instead, ModeAudio has recognised the power of the tools you need (see what we did there) to put blistering beats together. So what we have here is initially quite simple: tuned and straight kick sounds, snares, claps and percussion. Which for £15 isn't bad – we all need a good collection of hits, after all.

But that's not quite the end of it. As is becoming clear with ModeAudio, the company goes just that little bit further to make using its samples and sounds

in your DAW of choice that little bit easier. So you can download the samples not just as WAVs but as packs especially for Live, FL Studio, Reason and even Maschine. We tried the Logic pack which goes even further: one simple install and your Logic channel strips and EXS sampler are set up for you and there's a Logic project file to boot up to show

Power Tools off to its fullest. You get a nicely programmed 90bpm MIDI file on loop so you can audition the ten kits and 20 tuned kick kits, and it's at this point that the collection comes together.

The beats are great, and the kits nicely varied – mostly electronic and all powerful. There's enough kick action to please anyone and lots of additional percussion to fill things out. So like we say, for the money it's great value just for the 330 samples – £15 is almost silly money even for that. But with the hard work of setting them all up for you taken out of the equation – especially in the Logic environment – this is simply a must buy. Power to the tools! **MTF**



Key Features

- Hits: 70 kick, 50 snare, 30 clap, 60 hi-hat, 40 percussion
- 80 tuned kicks
- 10 drum kit sampler patches
- 20 tuned kick sampler patches
- 5 channel strips (drum processing)
- Formats: Logic, Live, WAV, Reason, FLS, Maschine



MTF Verdict

ModeAudio has provided the sounds and even set them all up for you – a superb collection for lazy producers everywhere!

9/10

Synth DNA: Korg MonoPoly

Manufacturer **Loopmasters**

Price **£17.95**

Contact info@loopmasters.com

Web www.loopmasters.com

Loopmasters' new DNA series aims to capture the building blocks of a range of vintage synths, with the first tackling Korg's 4 VCO MonoPoly instrument. The pack offers up 54 multi-sampled sampler patches focusing on providing the raw analogue waveforms in a number of oscillator combinations, plus several custom patches for bass and lead sounds. If you're looking for complex ready-made sounds, then this collection may disappoint. However, for sound designers seeking high-quality oscillator waveforms to use as a starting point this is an intriguing proposition. **MTF**



Key Features

- 54 multi-sampled patches from the Korg MonoPoly
- Raw and layered analogue oscillators plus custom sounds
- 1.5GB of 24-bit audio, 3200 samples
- Patches for Kontakt, EXS24, HALion, NN-XT and SFZ
- Ableton Live Pack with additional channel strips

Choice

9/10
MusicTech

MTF Verdict

As long as you're willing to put in some sound design work and aren't put off by the lack of round-robin sampling, then this pack is an excellent way to bring the raw sound of the Korg MonoPoly into your tracks.

9/10

Low End: The Definitive Guide for Producers

Manufacturer **Samplecraze**

Price **\$25**

Contact info@samplecraze.com

Web www.samplecraze.com

Drum layering master Eddie Bazil sets his sights on unveiling the secrets of low end, with this new ebook aimed at dance, pop and urban producers. The PDF book is divided into 11 chapters covering side-chaining, filtering and EQ, parallel processing, phase, compression and limiting, saturation, M/S processing, 808s and 909s, and more, with over a GB of before and after audio examples. Although we found ourselves getting a little lost in places, especially with matching up the audio files, this is a tip-filled gold mine of highly advanced bass mixing techniques that's packed with useful real-world examples. **MTF**



Key Features

- 310-page ebook on mixing bass and low frequencies
- Written by Eddie Bazil
- PDF format with plenty of screengrabs
- Over 1GB of 24-bit/44.1kHz example audio
- Uses a large range of up-to-date VSTs

MTF Verdict

Slightly muddled layout aside, this is a great resource for intermediate and pro level producers looking for next-level bass mixing tips and techniques.

8/10

Deep House & Garage

Manufacturer **Wave Alchemy**

Price **£34.95**

Contact info@loopmasters.com

Web www.loopmasters.com/labels/4-Wave-Alchemy

Wave Alchemy presents their take on the current deep house scene with a slightly harder and more techno-influenced pack inspired by the likes of Dusky, Shadow Child, and Hot Since 82. There are folders of drum, bass, synth and keys loops, plus top & groove and chopped vocal loops all at 122 and 124bpm. You'll also find chord and bass MIDI patterns, and a handful of excellent bass and drum hits. Everything here has a satisfying crunch and weight to it, with subtle but innovative production that manages to sound current yet original, and avoids some of the clichés we've heard in other deep house packs. **MTF**



Key Features

- Drums, top loops, synths, bass, vocals and FX
- Inspired by Dusky, Disclosure, Justin Martin & Shadow Child
- 805MB worth of 24-bit audio
- Comes in WAV, REX2 and Apple Loops formats; Live 9 and Maschine versions also available
- Includes 168 MIDI loops and 16 sampler instruments for Kontakt, NN-XT, Battery, HALion and SFZ

Excellence
10/10
MusicTech

MTF Verdict

An expertly produced pack of inspiring and useable loops and sounds, with a crunchy, modern finish.

10/10

Egoist

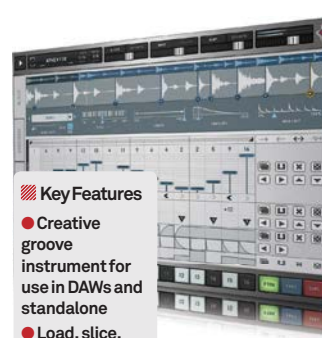
Manufacturer **Sugar Bytes**

Price **€99**

Contact info@sugar-bytes.de

Web www.sugar-bytes.de

Egoist is a user-friendly groove instrument with a slick GUI that's divided into three sections: the Slicer, for arranging and manipulating a sample into 16 slices; a Bass & Beat page for sequencing basic ideas using the built-in beat box and synth; and lastly there's an effects page where you can step sequence seven different FX. Clearly the star here is the sampler section, which is where you'll spend most of your time and where the real fun and creativity occurs. The effects section is also excellent, and although the bass and drum sequencers are a little limited they are a nice addition for sketching out ideas when working outside of a DAW. Egoist is well worth checking out if you're in the market for a handy musical sketch pad. **MTF**



Key Features

- Creative groove instrument for use in DAWs and standalone
- Load, slice, sequence and manipulate samples
- Move and randomise sequences for instant variations
- Play patterns and sequencer steps using the keyboard
- Onboard bass, beat and FX units for sketching out ideas

Choice
9/10
MusicTech

MTF Verdict

A beautifully-designed, fun and inspiring groovebox that can help kick-start your creativity.

9/10

Break: Symmetry Drum & Bass

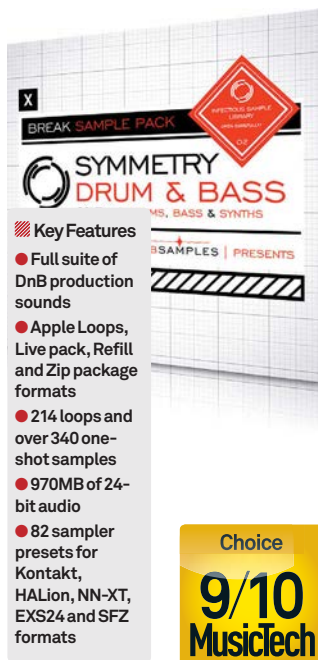
Manufacturer **Loopmasters**

Price **£29.95**

Contact **info@loopmasters.com**

Web **www.loopmasters.com**

Spanning across both loop and one-shot formats, drums, bass, keys, synths, SFX and more there are plenty of varied DnB samples and the quality level is excellent throughout. There's no fixed style to the drums except that they all have a rich, and pardon the pun, break-like texture to them for that sampled drums sound. A good range of heavy bass tones is included, as well as some rich and animate string sounds. The keys section is interesting with plenty of jazz-like, discordant chords to set a dark mood for your tracks. **MTF**



MTF Verdict

A very well-produced sample pack that will serve any DnB head's audio toolbox for a long period of time. Loads of drum textures and some incredibly rich musical instruments to play with.

9/10

EDM Hooks and Drops

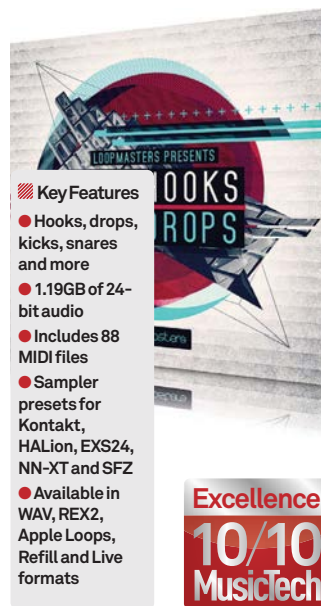
Manufacturer **Loopmasters**

Price **£29.95**

Contact **info@loopmasters.com**

Web **www.loopmasters.com**

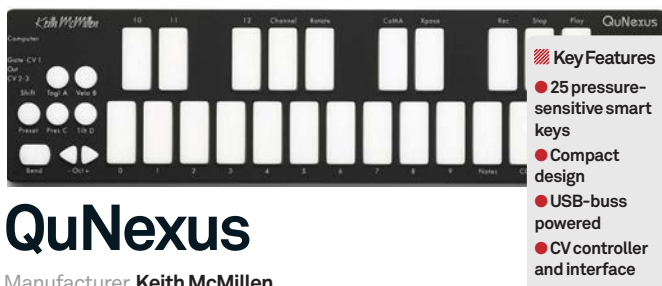
EDM and general bass music sound designer Dan Larsson has made a very well-produced EDM package, which offers both a large range of complete production kits for you to arrange and jam with and a collection of sample-based instruments to program with your own musical ideas. Huge-sounding and tuned kicks and snares dominate the mix for a solid groove and come in a variety of flavours to place your big-room lead on top of. MIDI files are also included with various hooks for you to use or modify. These sounds are huge and buzzy, and the production level of each sound is ready to go and satisfying to use. **MTF**



MTF Verdict

An excellent pack for those who want a lot of pre-prepared musical material to craft into their own productions or use within DJ/live sets. The sound is right and there's a lot of musical starting points included for the price.

10/10



QuNexus

Manufacturer **Keith McMillen**

Instruments

Price **£139**

Contact **MSL Professional**

0207 118 0133

Web **www.keithmcmillen.com**

Though it may seem pricey for a very slimline 25-key controller, there's so much packed into this unit that it could prove to be great value for particular needs. The first unique aspect is the rubberised keys that output pressure and can be used for modulation control. They're velocity sensitive and feature a control called Tilt that enables you to move your finger up or down a key during play to control pitch data – a fantastic expression tool! The other trick up this device's sleeve is its ability to send out

gate and three other CV signals to sequence and modulate external CV-based hardware, so you can get some very expressive control with analogue synths or just use the device as a hub between your hardware instruments and your DAW. We've had a lot of fun with this and it makes the unit a worthwhile consideration for studio or live use. **MTF**

MTF Verdict

Another unique device from KMI that offers more than the norm within a compact keyboard controller. It's worth checking out if you want a higher level of expression within a very small footprint.

8/10

Conductr

Manufacturer **Patchworks**

Price **Basic version: Free**

Complete upgrade: £15.49

Contact **via website**

Web **www.conductr.net**

It's been just over a year since we first assessed Conductr, and the latest 1.2 update is worthy of a re-look. This controller app for Ableton Live covers normal functionality such as clip launching, master controls and a mixer module, but the real gem here is the new XY-4D controller. This XY pad offers custom control of any parameter and uniquely uses pinch and tap gestures as well as the usual movements. This uses a very simple learn system that enables you to click the desired parameter in Live and map it as you please to the various 4D controls. Devices can be mapped to turn on from touching the pad, then the other three parameters are able to be mapped however you like, making this a very versatile controller. **MTF**



Key Features

- Full, split or quartered screen views for 1, 2, 3 or 4 modules
- Easy to use and map XY-4D controls
- iPad 1 compatible and upwards
- Works over Wi-Fi network or ad-hoc set-ups

MTF Verdict

A simple yet powerful app for controlling Live without too much information on your iPad at any one time. We recommend trying the free version to see if it ticks your boxes before upgrading.

8/10

Analogue Workshop Vol. 2: Dark Ambient

Manufacturer **Ian Boddy**

Price **£34.95**

Contact **sales@timespace.com**

Web **www.timespace.com**

As good as software synths are, there's always going to be a hunger for the kinds of weird and wonderful noises that are recognisably taken from creaky old monster hardware synthesizers. Sound designer Ian Boddy has recorded over 300 samples from his collection of vintage analogue and modular synths, covering the darker recesses of ambient and electronic music. It's a 750MB download and works in Kontakt 4.2.4 or higher, though not in the free Kontakt Player. Even without Kontakt you can access the samples, though obviously this isn't as flexible. The patches can be opened inside Kontakt but they're not in library format, so you have to navigate to them using the browser.

Dark Ambient is a pretty accurate name for the sounds on offer and they

Choice
9/10
MusicTech



Key Features

- 300 samples at 44.1kHz, 24-bit
- Kontakt interface with FX
- Individual samples also accessible
- 500 patches
- Sampled from vintage synths

run the gamut from subsonic drones and pads to strange, evolving atmospheres and percussive synth hits. Grouped into categories, they share a scripted Kontakt interface that enables you to alter various parameters such as LFO, filter, envelope and a range of effects including distortion, phasing, flanging, delay and some reverbs with impulse responses taken directly from classic hardware to complement the synth patches.

Patches are provided in raw and treated versions, and the effects are

good. The list of instruments sampled is impressive, including Roland's System 100-M, Doepfer A-100, VCS3 and a bunch of other stuff you've probably never heard of.

What we got from playing these patches was an overwhelming sense of how good they would be for the kinds of edgy, minimalist TV and film soundtracks that are so popular these days. Composers will often opt for obscure hardware synths for their textures and tones, and by using this collection you can do much the same without all the hassle of using real hardware. The drones and sweeps are menacing, ethereal and supremely usable for any kind of atmospheric composition work.

The collection is very affordable too, and you're getting access to some great sounds. Check out the website to hear a few of them. **MTF**

MTF Verdict

This collection is an affordable way to get some authentic and decidedly dark electronic sounds for your soundtracks.

9/10

Midiclock

Manufacturer **E-RM**

Price **£169**

Contact **info@midiclock.de**

Web **www.e-rm.de**

With the recent resurgence of instrument hardware in the studio and on stage, an inherent desire to incorporate this type of gear with a laptop performance workflow has arisen. When it comes to anything that has its own sequencer on board, or is a sequencer itself, the topic of synchronisation is a hot one. Though software can output MIDI clock to sync various other devices to a laptop, the jury is still out on the stability of software MIDI clocks due to something called MIDI clock jitter.

Unlike latency amounts where the delay is constant, jitter is when evenly spaced events or notes from a steady clock signal turn into random ones, which can cause all types of timing issues. Jitter is extremely unsettling for a musician as the inconsistent timing and unpredictable changes from event

Key Features

- Live and Normal tempo switching modes
- Two 5-pin MIDI output ports
- Solid timing performance
- Sturdy case design

to event can make it sometimes impossible to work or play with. Jitter can be reduced using MIDI event time-stamping, but not all DAWs or MIDI drivers use this feature. This is where the midiclock comes in.

The midiclock is a small and compact unit that produces a very accurate and stable MIDI clock – reducing MIDI clock jitter from milliseconds to nanoseconds. With two five-pin DIN MIDI outs, the clock can be distributed to two destinations with a possibility of more by using a standard MIDI THRU box. Synchronisation is started and stopped with one button



and there is also an incredibly useful 'Resync' button that provides the option to correct any drifting device on the fly without having to stop the clock. Two modes called Normal and Live can set the desired BPM. Just the turn the dial to choose the BPM in Normal mode, then push down to select and switch to the new BPM – great for punching in a fixed tempo change. Live enables you to change the BPM continuously on the fly with all your devices flawlessly marching in sync, so you can create gradual tempo changes over time.

We tested the unit using the arpeggiators of a Bass Station II, Virus TI Polar, a Korg Volca Keys pattern sequencer, Bass Bot TT and two laptops running Ableton Live 9 – everything kept beautifully in sync, which isn't the case when trying to sync directly from software. **MTF**

MTF Verdict

If you are looking for a cost-effective, stable hardware MIDI clock with an extremely useful Resync functionality, the midiclock is definitely worth considering.

8/10

MusicTech Focus

Logic Pro X is still one of the best investments a music producer can make, with a huge library of instruments, effects and samples, plus ultra deep editing facilities and features. With so much to learn it can all seem a little daunting, but luckily we've got you covered with a jam packed DVD to help you. There's over two and a half hours of pro tuition covering a range of techniques, along with the latest software demos, freeware plug-in tools and promo videos. You'll also find plenty of Royalty-free loops, samples and patches from Loopmasters and Samplephonics plus all the files you need to follow along with the workshops at home.



MTF On the disc Over two and a Half Hours of Pro Video Tuition



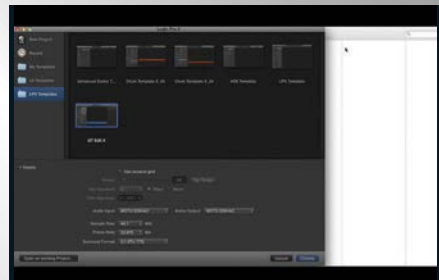
01 SIGNAL FLOW

The experts at Groove 3 have provided a selection of pro tutorials to help guide you through Logic X. First we have videos looking at pre amps, and choosing the right audio interface, plus how to best set up sends and FX in the mixing desk view.



02 TIPS & TRICKS

Next we have three slightly more advanced videos that explore the Track Stacks feature, which allows you to quickly layer up combinations of instruments and stems, plus a video on how to create a gated snare reverb effect using an array of dynamics plug-ins.



03 TEMPLATES & KEY COMMANDS

Finally, we've got a batch of useful videos for improving your day to day workflow, including suggestions for template ideas, how to easily import data from one project to another, and a look at how to work with key commands and keyboard shortcuts.



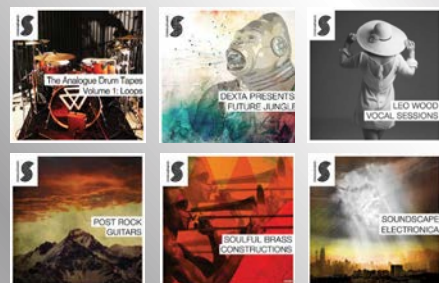
04 MIXING SUB BASS

Head of Point Blank Music School JC Concato takes an in-depth look at theories and techniques for mixing sub bass, oft considered one of the trickiest areas of music production. There's also a video with John Watson giving advice on a student's track.



05 LOOPMASTERS FREE SAMPLES & PATCHES

Loopmasters has provided an amazing collection of Apple Loops taken from its best releases, with samples from Leftwing and Kody, Leon Switch, Mortem, the Cube Guys, UMEK and more, plus fine-tuned instrument and mixing channel strip settings.



06 SAMPLEPHONICS FREE SAMPLES

A hand-picked library of beats, riffs and loops in 24-bit Wav format, including ambient guitar textures, crunchy analogue tape drum beats, soulful vocals and brass licks, deep sound designed electronica, and dark jungle bass lines and synths.

MTF Your Disc

MTF DVD37 Logic Pro 2015

PROMOTIONAL VIDEOS

We've got over 800 MB of videos showcasing the latest plug-ins and hardware including a range of cutting-edge synths and software instruments from Roland, Native Instruments, Garritan, Plugin Boutique, Sample Modeling, Vir2, and Sonokinetic. You'll also find high-end processing and effects from Brainworx, MeldaProduction, and UAD, plus top of the range audio interfaces, studio monitors and controllers from Akai, Alesis, Focusrite, PreSonus, and Universal Audio.

USING OUR WORKSHOPS

Whether you're looking to brush up on your programming skills, delve into Logic's new features, or improve your mixes, we've got you covered with a host of Logic workshops. Where appropriate you'll find hi-res images, project files and audio on the disc so you can follow along at home. Be sure to copy all the files to your computer before opening a project.



SOFTWARE DEMOS

Although you're spoilt for choice with Logic's built in instruments and effects, you may want to expand your library with specialist tools. From cutting edge processing tools and innovative effects, to analogue modelled instruments, we've rounded up a range of demo and freeware software for you to try out. You'll find plenty of synths, EQs, compressors, limiters, filters, delays, reverbs, stereo tools and saturation plug-ins to help craft your tracks.

AUDIO LOOPS & PATCHES

We've got a whole load of royalty-free samples from Loopmasters, and Samplephonics to help inspire you with your tracks. There are a mixture of 24-bit Wav, and Apple Loops formats, from soulful vocals and rocking guitars, to deep house synths and DnB beats. You'll also find a handful of instrument presets and mixing channel strips for use directly in Logic X.



MusicTech focus DVD ROM

YOUR DVD CONTENT FILES

ZIP FILES

To maximise the amount of content we can bring you on each DVD, the video, tutorial and samples files are supplied compressed ('zipped'). Mac users should be able to decompress ZIP files simply by double-clicking on them; PC users may need to download a utility such as WinZip (www.winzip.com).

TUTORIAL FILES

The software tutorials that feature in each issue of MTF are almost always accompanied by files and audio so you can work through them on your system. These files are zipped to reduce the space they occupy on the DVD.

Download them to your hard drive and unzip them to access the individual files (remembering to eject the DVD to prevent your computer from slowing down).

WHAT IS ROYALTY-FREE?

Any MTF DVD content marked 'royalty-free' can be used in your own original compositions (even commercial ones). You may not, however, resell these samples in any other form.

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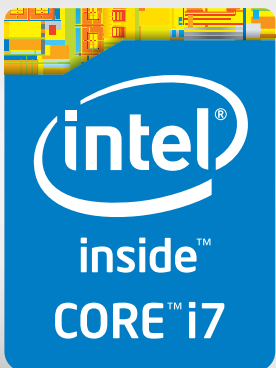
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