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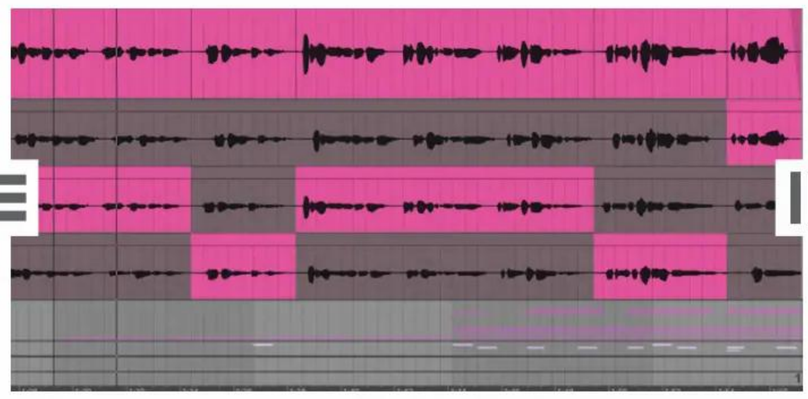
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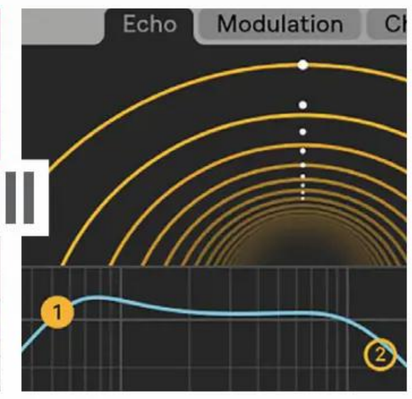
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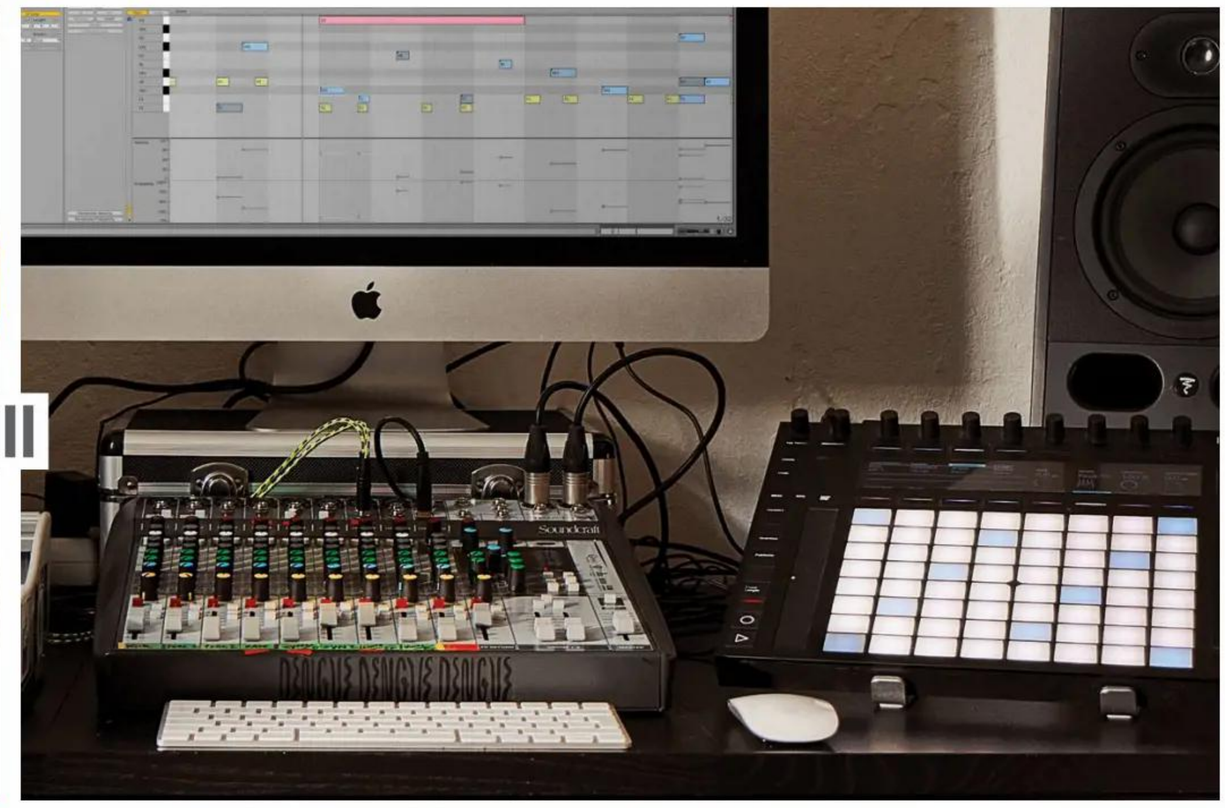


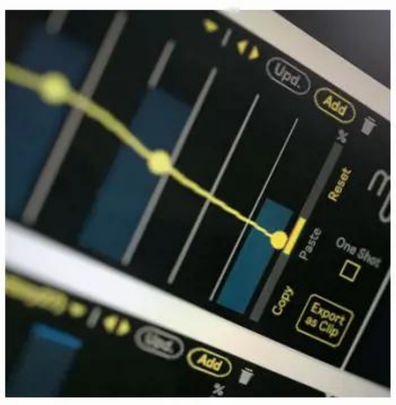


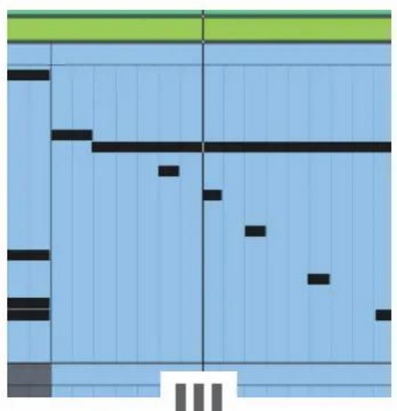


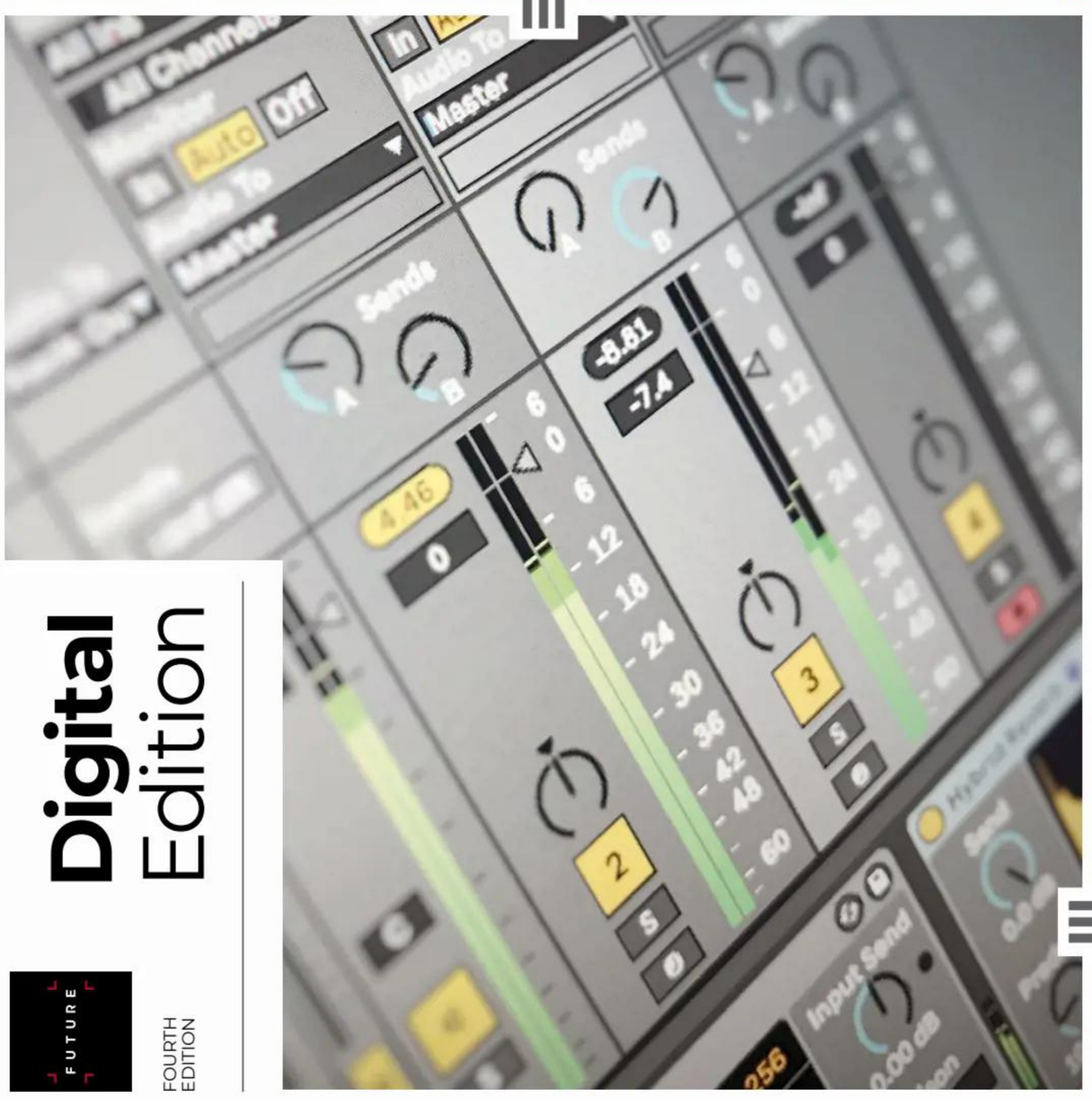












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MUSIC PRODUCER'S GUIDE TO ABLETON LIVE

Welcome to the Music Producer's Guide to Ableton Live, a complete guide to one of the most popular Digital Audio Workstations, as used by top producers, DJs, musicians and bands the world over.

Ableton Live has celebrated over 20 years of life, so this guide comes at a great time to mark this event. But whether you have been using Ableton's finest DAW for its entire lifetime or are new to this exceptional platform for creating music, there will be plenty on offer for you in this bookazine. Our main features start by covering everything you need to know about Ableton Live. There is a massive feature detailing the software on p10, which is a great place to jump to if you are new to Live, or to pick up workflow tips and tricks if you are a seasoned user.

In 2021, Ableton Live reached version 11, a superb update to the software that includes an incredible number of new features. Our in-depth look at Ableton Live 11 on p40 covers all the big new additions and explains how you can make the most of them to improve your production workflow and creativity.

Ableton Live can be used to make music in a huge number and variety of styles, and with that in mind, we show you how to do just that with a number of production workshops scattered through this guide, including tutorials to produce EDM, hip hop, trap, techno and many more genres.

We also get down to very specific production details in a set of Expert Guide Production workshops that cover everything from creating the perfect kick drum to programming great arpeggiations in Live.

Our star interviewees – like Jean-Michel Jarre and Roisin Murphy – reveal how Ableton Live has changed their production lives, while top producers like Sub Focus and C.A.R reveal both in print and on video how they produced and remixed specific tracks in Ableton Live. (You can find links to these special production videos in all of the features.)

The best part of this Music Producer's Guide To Ableton Live is that it is a totally 'interactive' bookazine. All of the instruments and effects you need to follow many of our workshops can be downloaded for free at filesilo.co.uk – over 90 free plugins! There you can also find audio files to enable you to hear what your tunes and productions should sound like, plus video files to help you if you get stuck.

In short, there's everything here to take your Ableton Live productions to the next level!

FUTURE

MUSIC PRODUCER'S GUIDE TO ABLETON LIVE

Future PLC Quay House, The Ambury, Bath, BA1 1UA

The Music Producer's Guide to Ableton Live Editorial
Editor **Andy Jones**
Designer **Mark White**
Compiled by **Drew Sleep & Thomas Parrett**
Head of Art & Design **Greg Whitaker**
Editorial Director **Jon White**
Managing Director **Grainne McKenna**

Computer Music Editorial
Editor **Andy Price**
Art Editor **Mark White**
Content Director, Music **Scott Rowley**
Head Of Design **Brad Merrett**

Contributors
Ed Strazdas, Neil Crockett, Jon Musgrave, Andy Price, Leon Bailey and Danny Scott

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International
Head of Print Licensing **Rachel Shaw**
licensing@futurenet.com
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Circulation
Head of Newstrade **Tim Mathers**

Production
Head of Production **Mark Constance**
Production Project Manager **Matthew Eglinton**
Advertising Production Manager **Joanne Crosby**
Digital Editions Controller **Jason Hudson**
Production Managers **Keely Miller, Nola Cokely, Vivienne Calvert, Fran Twentyman**

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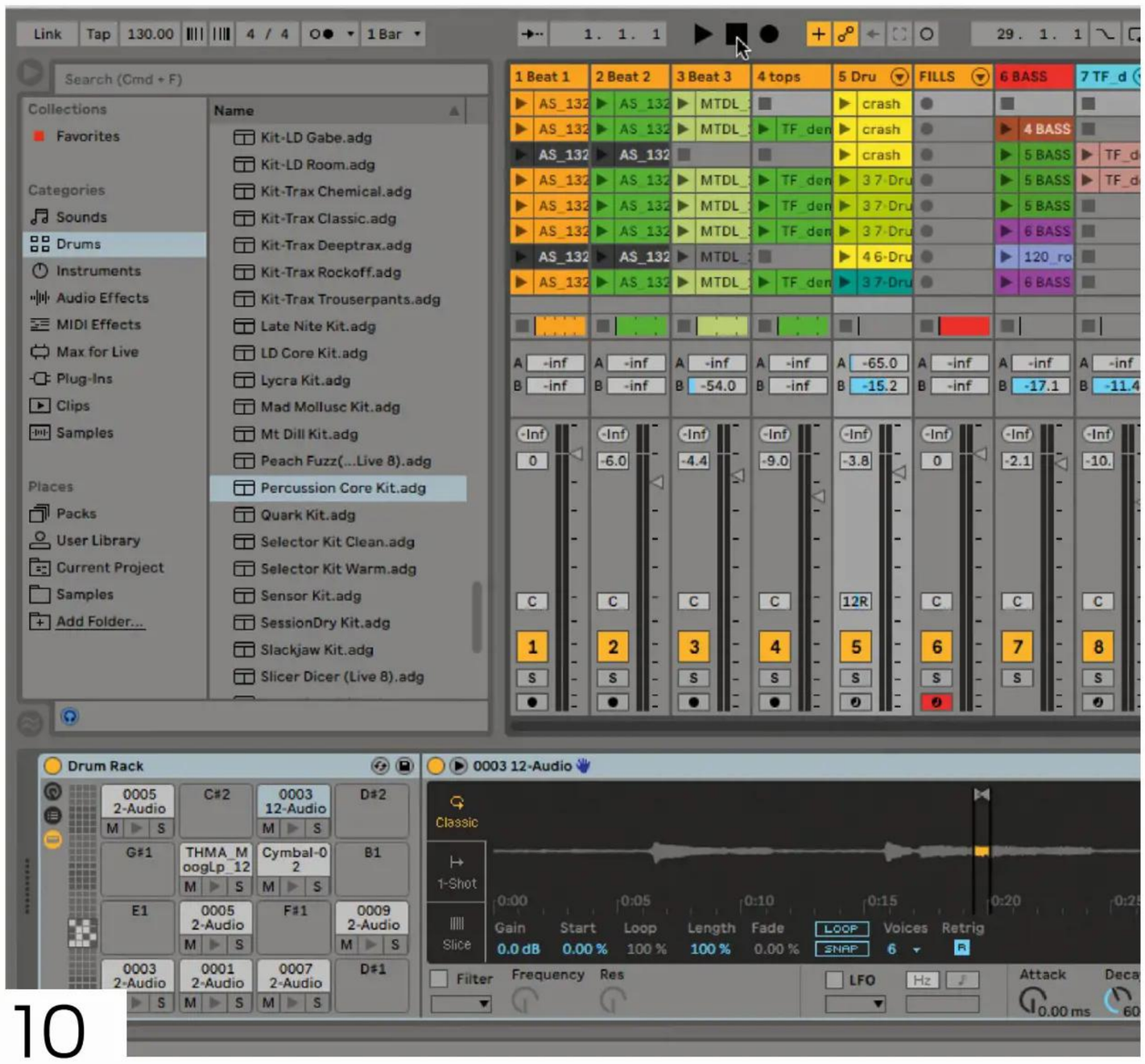
MUSIC PRODUCER'S GUIDE TO ABLETON LIVE

Hands-on workshops, in-depth tutorials and practical advice to take your Ableton Live skills and productions to the next level

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If you're new to Live or a seasoned music producer, here's a complete guide to Ableton's amazing DAW

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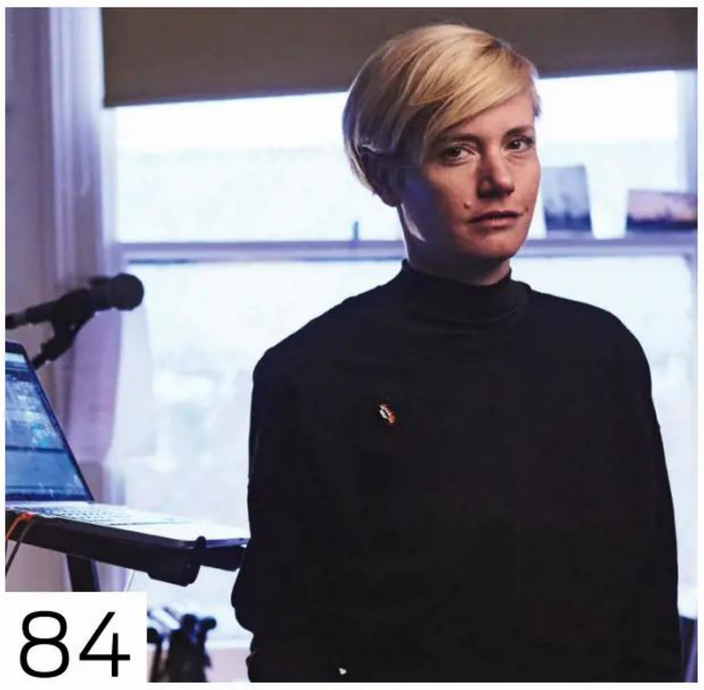
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How To Use This Guide

Your step-by-step guide on how to make the most of this bookazine, detailing all the videos, software and tutorial files that accompany each of the features, which offer you a completely interactive Ableton Live learning experience!

> Many of the features in this Music Producer's Guide To Ableton Live are accompanied by audio and video files to help you complete them, all available at at filesilo.co.uk. Audio or sound files will indicate how certain production techniques will impact on the tune you are making or the sound you are creating, and the videos will guide you through many of the workshops in case you get stuck.

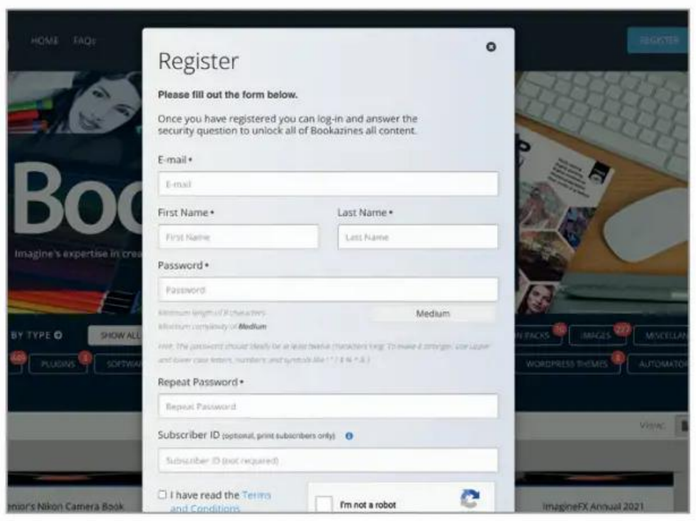
We have also included the world-famous *Computer Music* Plugin Suite, a set of over 90 instruments and effects that you can download and install into Ableton Live (either the Mac or PC version) completely for free. Many of these are used in the workshops in this guide – particularly the genre tutorials.

In order to access all of this additional content, go to filesilo.co.uk and register – see the Using FileSilo boxout below. Once you have logged in, you will be presented with all of this content, feature by feature (each folder listed by the feature's page number and title). Each folder contains all of the video files or audio files (or indeed both) related to the feature you need.

The *Computer Music* Plugin Suite of instruments and effects is in the Software section at filesilo.co.uk and comprises instruments and effects for Mac or PC. Simply download the plugins for whichever type of computer you use.

More detailed instructions on how to install these instruments and effects are included on the opposite page. Enjoy!

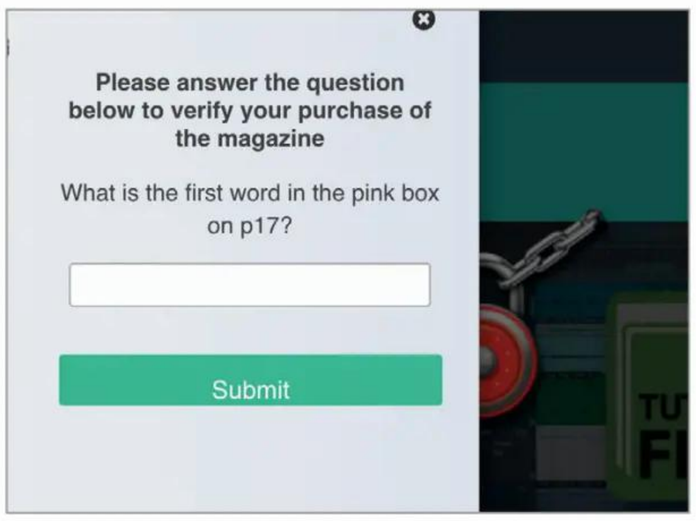
>Step by step Using FileSilo



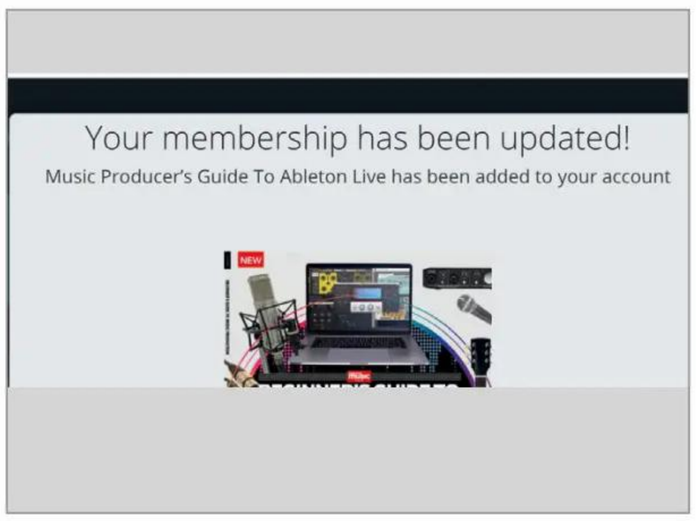
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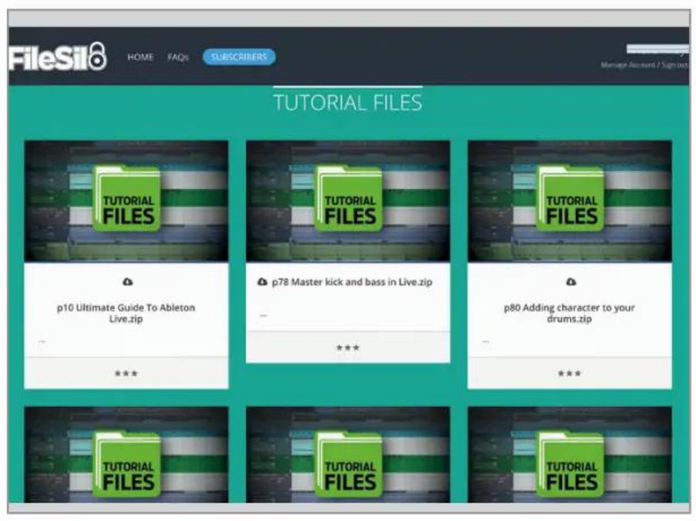
2 > Go to the Bookazines tab at the main filesilo.co.uk screen. Click this tab and you will see a list of recent Bookazines we have produced including The Music Producer's Guide To Ableton Live. Click on this – it will have the same image as the cover of this bookazine.



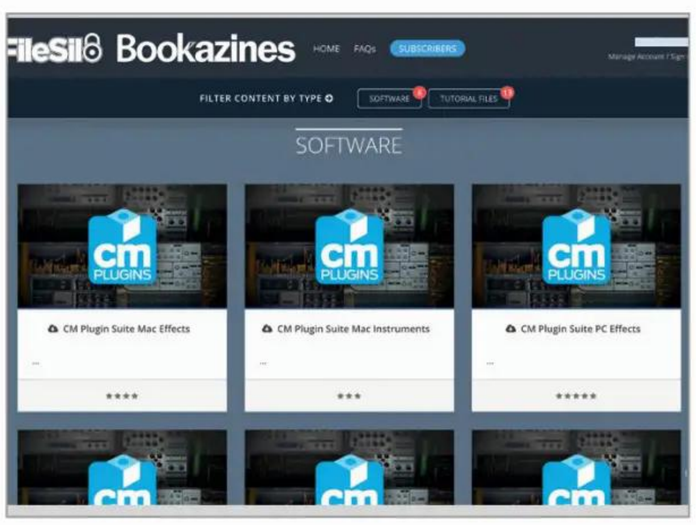
3 > Answer a simple question related to the content of this bookazine. The question will refer to a particular page number and word on it! You only need to answer this question once.



4 > Answer the question correctly and you will be granted access to all of the software, video and audio content. You shouldn't need to answer a question next time you log in.



5 > In the main 'Tutorial Files' section you will find all of the features listed by page number and title. Click on whichever one you like and then download ALL of the content – audio and video files – associated with that feature in one click. Beware, some of these are large downloads (up to around 4GB in one case), but usually less than 100MB.



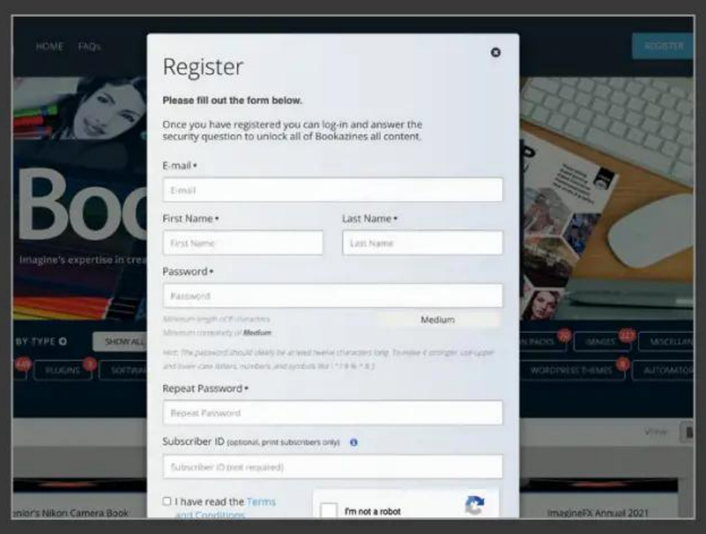
6 > Scroll down and in the main 'Software' section you will find all of the plugins in the *Computer Music* Plugin Suite. These are listed as Mac or PC instruments and effects. There's also a guide to the suite as a downloadable PDF. You can find out more information about installing them on the opposite page.

Installing your free plugins

How to access and install the 90+ free plugin instruments and effects from the *Computer Music* Plugin Suite!

>Step by step

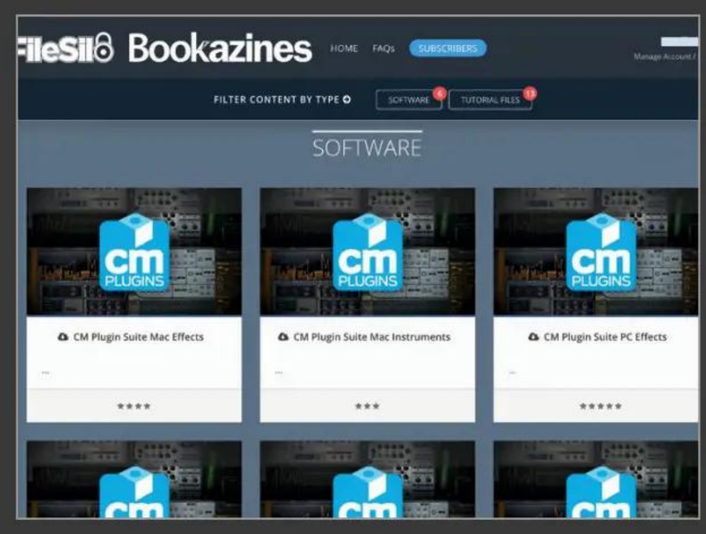
Accessing and installing the *Computer Music* Plugin Suite



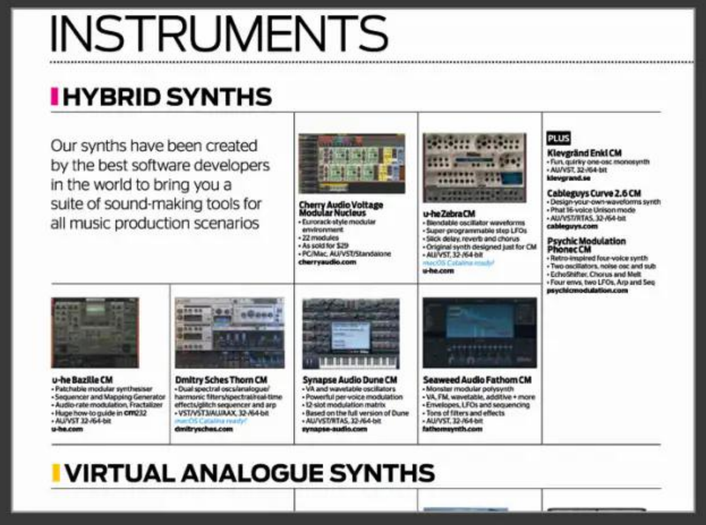
1 > If you haven't completed the steps opposite and it's your first time at filesilo.co.uk, it's time to create an account with your email and custom password.



2 > Head to the Bookazines section and The Music Producer's Guide To Ableton Live. Click on this to access your free content including the world famous *Computer Music* Plugin Suite.



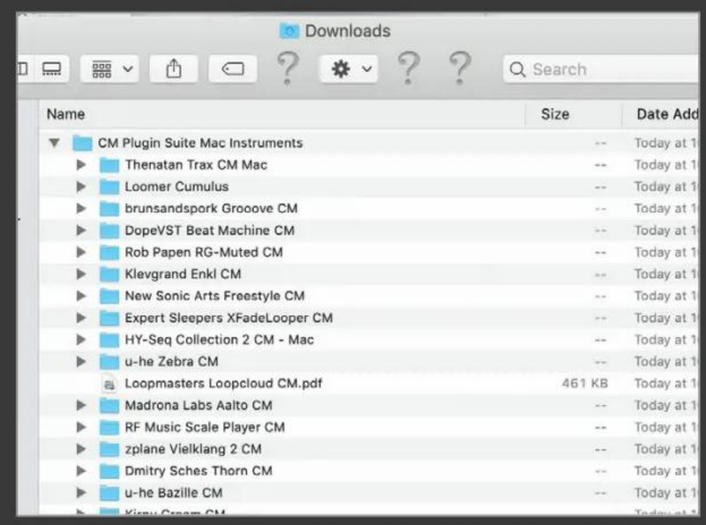
3 > You can find the Plugin Suite under the Software section. There are four main sections for Mac and PC instruments and effects.



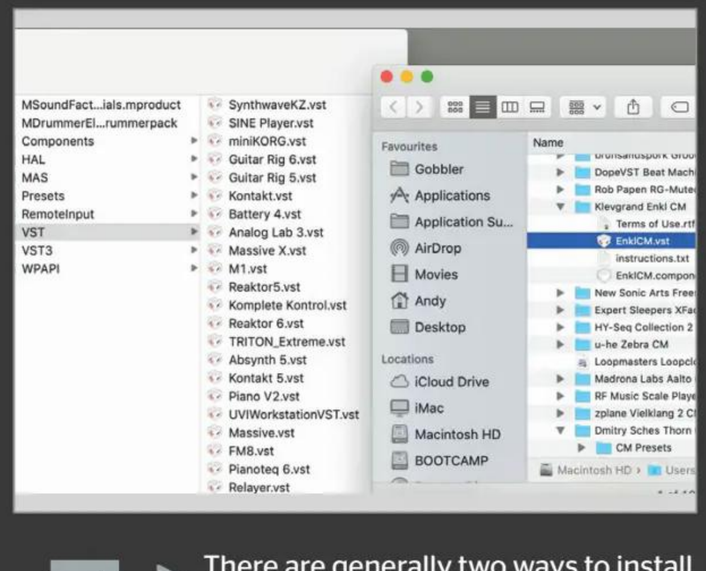
4 > There's also a PDF guide to download which is an accompaniment to the suite and details each and every one of the instruments and effects. It's well worth a download to guide you all 90+ of the plugins.



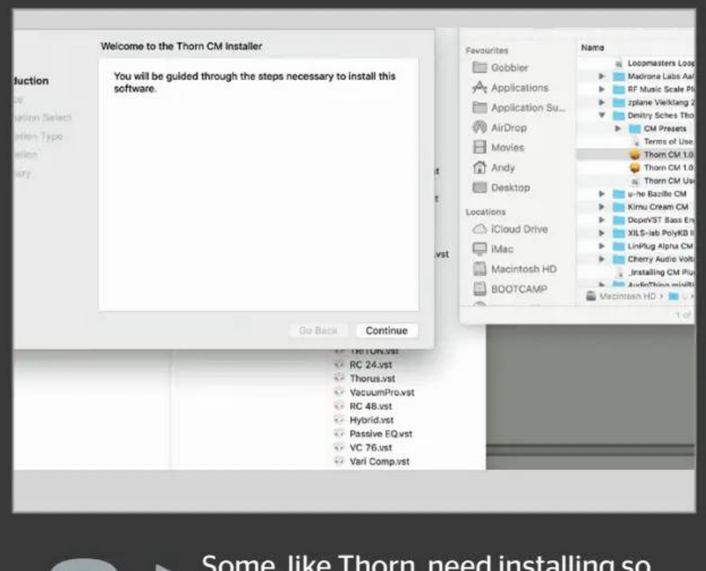
5 > Now simply download whichever instruments and effects you want in blocks. These are big downloads – 1 to 3GB – but you'll get the entire suite in just two downloads (either Mac or PC, depending on your computer).



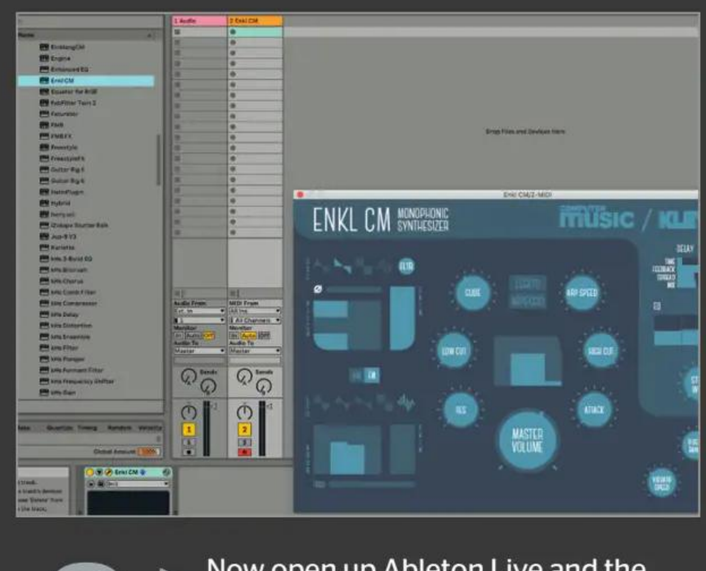
6 > The complete folder of instruments or effects will download as shown above (on a Mac). Open it up and select which plugin you want to install.



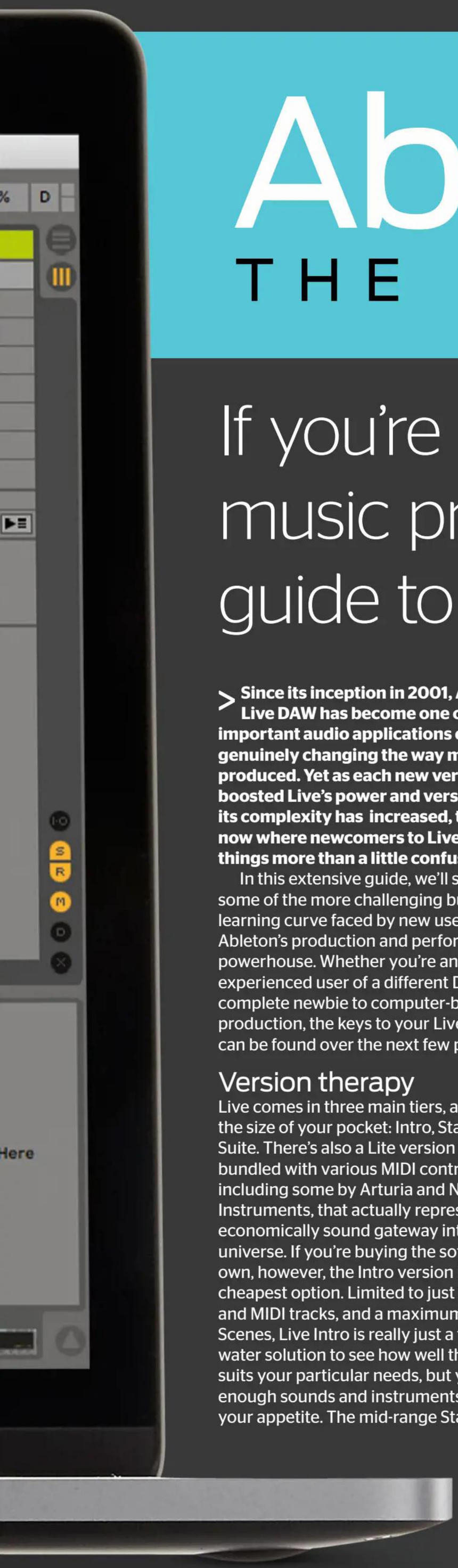
7 > There are generally two ways to install a plugin. If it is shown as a .vst file it is ready to simply place in your VST folder and should work straight away once you start Ableton Live.



8 > Some, like Thorn, need installing so you need to double click on the file and run through your standard installation procedure. The plugin should install into the correct location.



9 > Now open up Ableton Live and the installed plugins should appear in the VST folder. Simply drag whichever one you want onto a MIDI track and you are ready to go!



Ableton Live
THE ULTIMATE GUIDE

If you're new to Live or a seasoned music producer, here's a complete guide to Ableton's amazing DAW

> Since its inception in 2001, Ableton's Live DAW has become one of the most important audio applications ever made, genuinely changing the way music is produced. Yet as each new version has boosted Live's power and versatility, so its complexity has increased, to the point now where newcomers to Live can find things more than a little confusing at first.

In this extensive guide, we'll smooth out some of the more challenging bumps in the learning curve faced by new users of Ableton's production and performance powerhouse. Whether you're an experienced user of a different DAW or a complete newbie to computer-based music production, the keys to your Live journey can be found over the next few pages.

Version therapy

Live comes in three main tiers, according to the size of your pocket: Intro, Standard and Suite. There's also a Lite version that comes bundled with various MIDI controllers, including some by Arturia and Native Instruments, that actually represents an economically sound gateway into the Live universe. If you're buying the software on its own, however, the Intro version is your cheapest option. Limited to just 16 audio and MIDI tracks, and a maximum of eight Scenes, Live Intro is really just a toe-in-the-water solution to see how well the workflow suits your particular needs, but you do get enough sounds and instruments to whet your appetite. The mid-range Standard version comes next, with unlimited tracks and scenes, and a 10GB library of over 1800 sounds. The range tops out with Live Suite, which has a whopping 70GB sound library, 17 software instruments and 74 audio and MIDI effects, as well as Max for Live, a package that allows advanced users to customise and create their own devices for use in the DAW.

The basics: Sets, Clips, Scenes and Views

Live's main unit of currency is the 'clip', the basic building block from which a project or 'set' is constructed. Clips are essentially short recorded sequences of MIDI or audio, intended to be triggered, or 'launched', and looped for a set number of bars. Live also offers a clever Auto-Warp feature that enables clips to play in sync with the project tempo immediately with almost zero faff. In the standard workflow, clips might be recorded or dragged into the loop-centric Session View for experimentation with different combinations of sounds. These combinations can then be transferred to the linear Arrangement View, either by dragging and dropping or recording a 'live' performance, for further editing, arrangement changes and mixing.

In the Session View, each instrument or audio track in your set is arranged vertically and can house any number of MIDI or audio clips, only one of which can be triggered at a time. Clips can be stopped and started individually, or in collections called 'Scenes'. A Scene is simply a horizontal row of clips, all of which can be triggered simultaneously from one launch button.

The creative workflow of the Session View's grid-based layout can be enhanced and made 'hands-on' with the addition of a hardware controller that features trigger pads laid out in a grid. Ableton's own Push 2 controller is the perfect example of this, obviously, and is a very worthwhile investment if you're planning on making serious progress with Live.

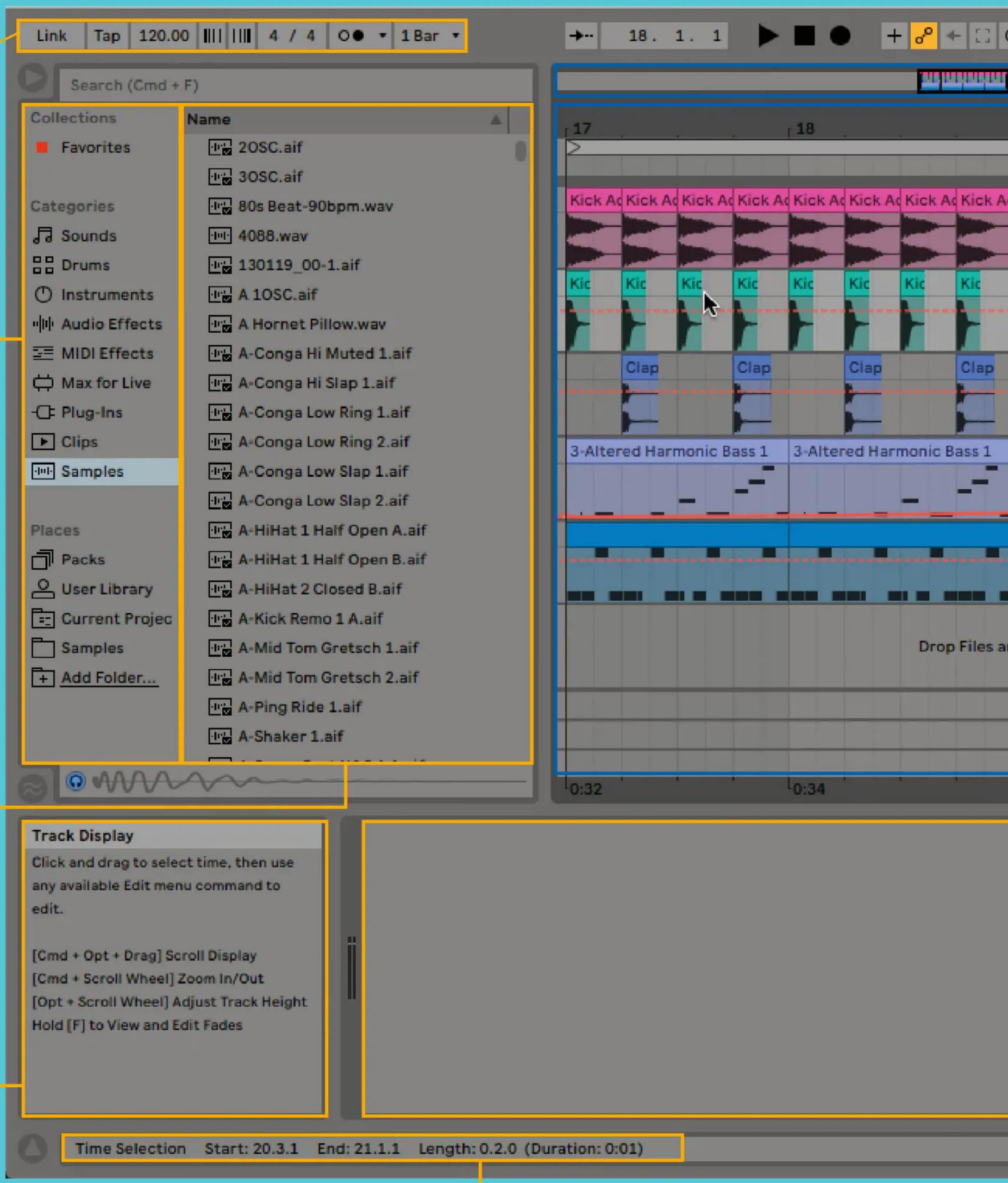
The Session View was originally built as an environment for live performance, and although it works well as a nonlinear means of playing around with clips and arrangement ideas, for most serious production tasks, you'll likely spend the majority of your time in the Arrangement View. This provides you with a more traditional, linear left-to-right workflow, with tracks arranged horizontally instead of vertically. You'll be more at home within the Arrangement View if you're transitioning to Live from another DAW with a conventional, timeline-based layout, such as Logic Pro, Cubase or Pro Tools.

Finally, bear in mind that Live is a true cross-platform DAW, meaning that it can be used with parity between PC and Mac. This feature was written using the keyboard shortcuts found in the Mac version, but all of our walkthroughs apply to both platforms – if you're on PC, simply substitute the Command key with the Control key when using any keyboard shortcuts.

LIVE 's INTERFACE EXPLAINED

ARRANGEMENT VIEW

Here's Live's Arrangement View. Items shown in orange are also found in the Session View, while those in blue are unique to the Arrangement View



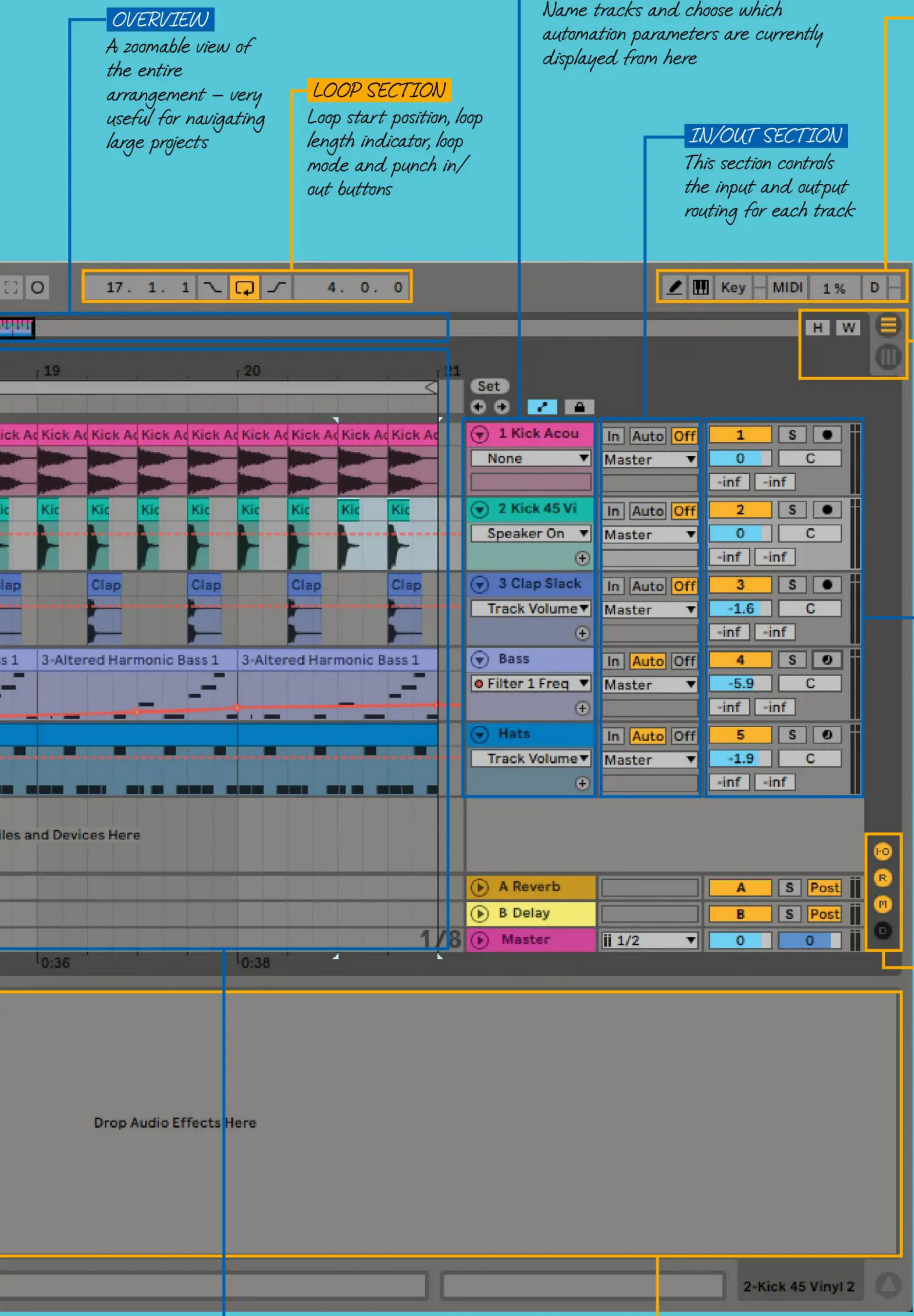
TEMPO AND SYNC
Controls for tempo, time signature, metronome and external sync settings

COLLECTIONS PANE
Click a tab in the Categories menu to view all types of content stored on your system. The Places menu can be used to navigate your hard drive

BROWSER CONTENT PANE
Scroll to audition items in the selected library category, then drag and drop them onto tracks in the main track display area to use them

INFO VIEW
Hover your mouse pointer over an item with Info View enabled and a handy explanation of that item will show up here

STATUS BAR
View info on the status of various current activities – selection length, cursor position, etc



OVERVIEW

A zoomable view of the entire arrangement – very useful for navigating large projects

LOOP SECTION

Loop start position, loop length indicator, loop mode and punch in/out buttons

TRACK HEADER SECTION

Name tracks and choose which automation parameters are currently displayed from here

IN/OUT SECTION

This section controls the input and output routing for each track

MIDI FUNCTIONS

On/off switches for MIDI Draw, Key Map and MIDI Map modes, the computer MIDI keyboard; and MIDI in/out, CPU load and hard disk activity meters

SWITCH VIEWS AND ZOOM

Switch between Session and Arrangement View, and zoom on content to fill the display with the W and H buttons

MIXER SECTION

Controls for each track's level, pan, solo, mute, record arm and sends, together with level meters

SHOW/HIDE BUTTONS

Toggle the visibility of the In/Out section, Return tracks, Mixer section and Track delay settings

TRACK DISPLAY AREA

Tracks are displayed horizontally on a linear timeline, with playback moving left to right. Copy, paste and edit MIDI and audio clips to create your arrangement

DETAILS VIEW PANE

Drag instrument and effect plugins in to add them to the selected track. This area is also used to display the piano roll editor for MIDI clips

LIVE's INTERFACE EXPLAINED

SESSION VIEW

Moving on to the Session View, items in orange are also available in the Arrangement View, while items in blue are unique to the Session View

SEARCH WINDOW

Type whatever you're looking for in here to find particular items in your library

PREVIEW PANE

Click the blue headphones button to have samples automatically audition as you select them in the browser

INFO REVEAL BUTTON

The triangular buttons hide and reveal various panes. This one reveals the Info View

TRACK DISPLAY AREA

Tracks are displayed vertically and contain audio and MIDI clips that can be looped in sync and triggered in combinations to form live performances

TRANSPORT SECTION

Live's transport controls, as well as the play head follow, MIDI overdub, automation enable, MIDI capture and session record buttons

CLIP SLOTS

Each slot can hold one audio or MIDI clip for triggering

SCENE LAUNCH BUTTONS

The buttons in this Master section are used to launch complete horizontal Scenes of clips

SCENE SLOTS

Each horizontal row comprises a Scene – use these to define song sections

TRACK STATUS INDICATORS

Each track's playback status is displayed as a pie graph for loops or a miniature view of the arrangement

SEND SECTION

Controls for adjusting each track's auxiliary send levels

MIXER SECTION

Laid out like a mixing desk, with faders, level meters, pan, solo and record arm controls for each channel

CLIP VIEW SELECTOR

A thumbnail of the selected clip,. Click it to display the contents in the Details View pane

DEVICE VIEW SELECTOR

Click to open the plugin chain for the selected track above

> Step by step

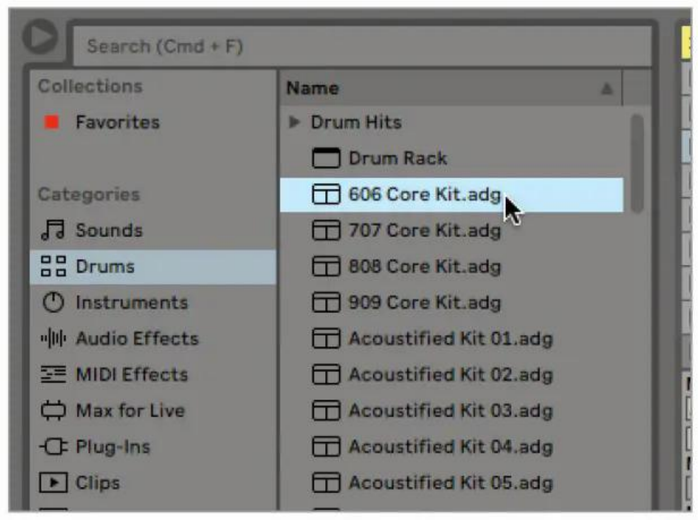
1. Recording your first MIDI clip using a factory Drum Rack



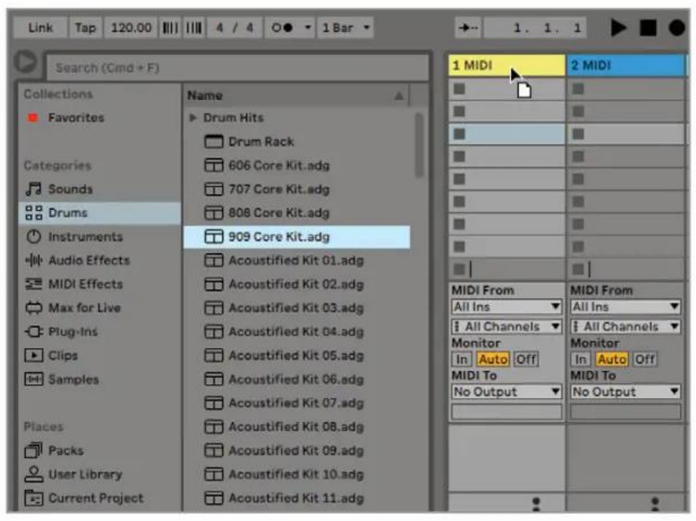
1 > Using the View switcher buttons (or your computer's **Tab** key), switch to the Session View if not already open. Live launches with an empty set loaded, containing whatever track layout is saved as your default. Out of the box, this is usually two MIDI tracks and two Audio tracks. In the Session View, these are represented vertically.



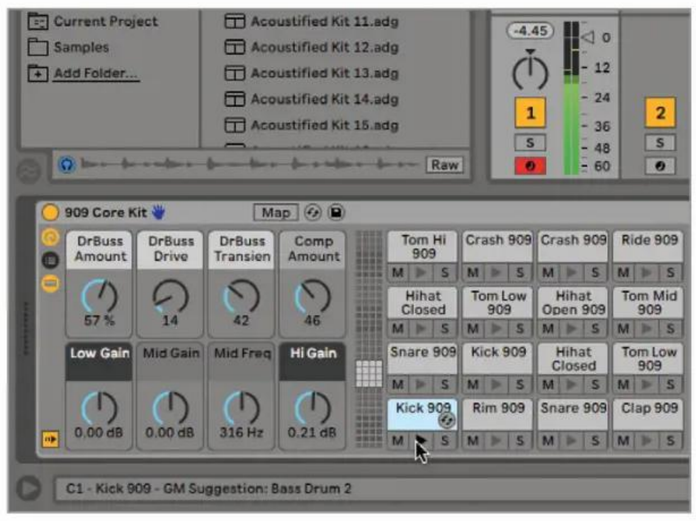
2 > To begin creating a beat, go to the **Categories** section of the **Collections** pane and click the **Drums** tab. This brings up a list of the factory default drum kits that are installed with Live. Make sure the small blue headphones icon is enabled in the lower left corner – this will play a preview of each kit when you click it.



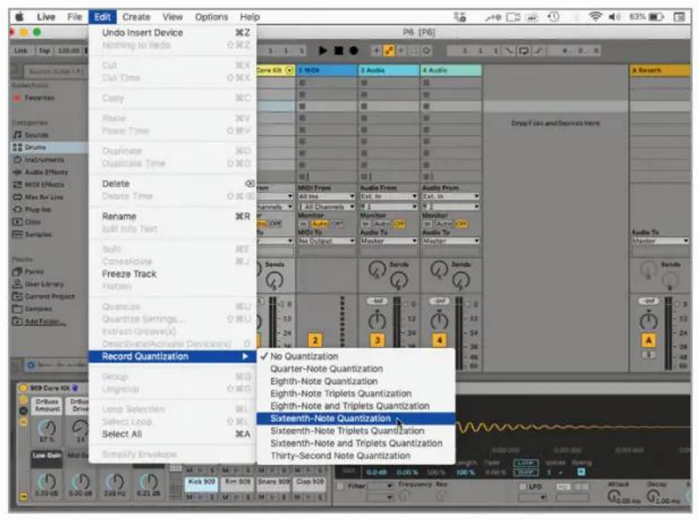
3 > Click the first kit in the list to audition the sounds. Once a kit is highlighted, you can scroll through the list using the down arrow key on your computer keyboard to quickly audition through the list. Alternatively, just scroll down with the trackpad or mouse wheel as normal and click any kit that you like the look of.



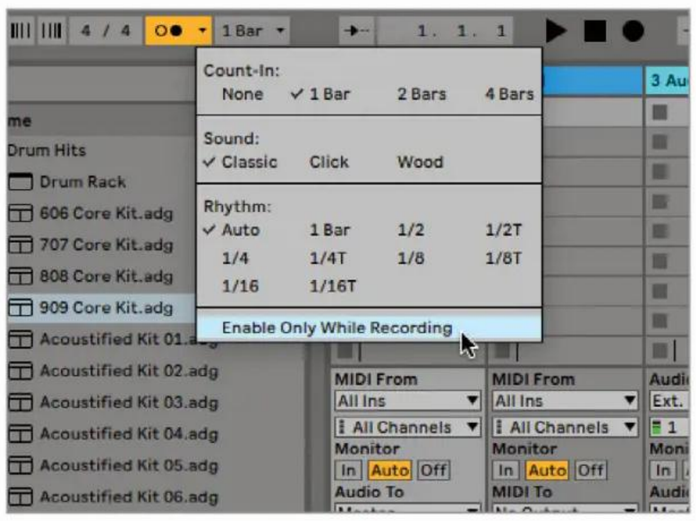
4 > When you find a kit that you want to use, there are a couple of ways to load it. You can drag and drop it from the browser onto a MIDI track, or double-click its name in the list to load it into the next available empty MIDI track. The buttons in the clip slots will change to circles once the kit has loaded.



5 > You should now be able to play notes on your MIDI keyboard (or pads on your controller) to trigger the drum sounds in the rack. The layout of the sounds in the kit, along with the waveform of the last played sample and a set of parameters with which to edit its playback, is displayed in the Devices View.



6 > The track should be record-armed automatically, as indicated by the red icon at the bottom of the channel strip. If not, click the button to turn it red. Before recording anything however, go to **Edit » Record Quantization** and select **Sixteenth-note Quantization**. Now, the notes you play line up in time with a 16th-note grid as they're recorded.



7 > Click the button shown here to enable the metronome. The default count-in is one bar, and you can select which sound you'd prefer for the click – choose from **Classic**, **Click** or **Wood**. Choosing the **Enable While Recording Only** option will avoid you having to keep turning the metronome on and off again as you record and play back new parts.

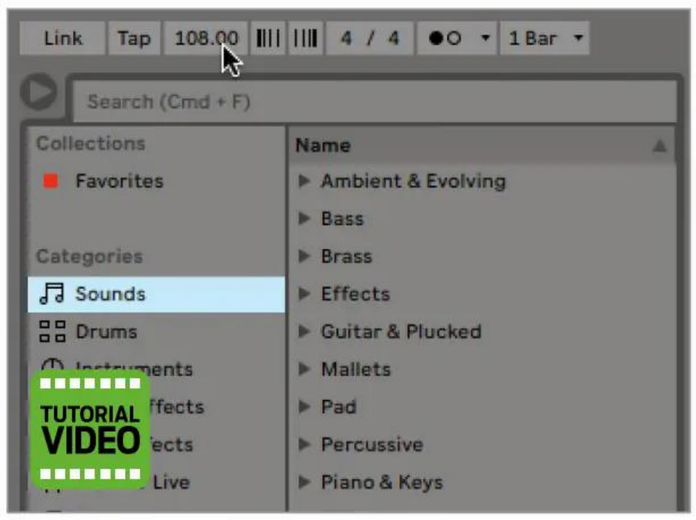


8 > To record your first clip, click the round button in the first clip slot on the MIDI track. Play some notes on your keyboard to program a beat, then click the round button again to exit record mode. The recording will begin looping automatically, but if you want to stop playback, hit the **Spacebar** when done.

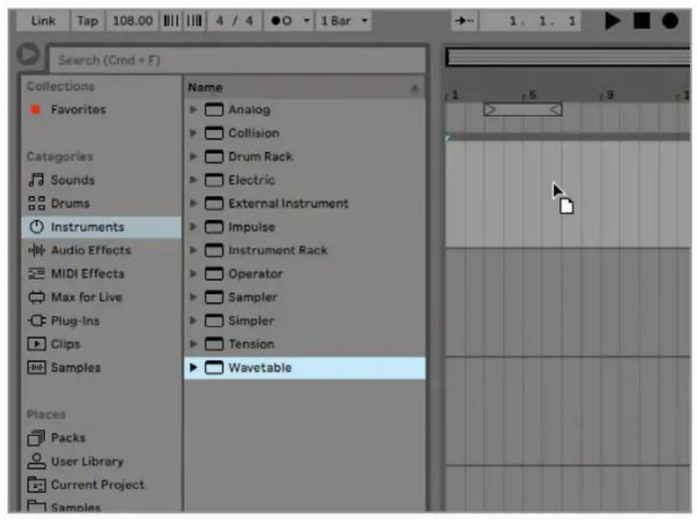


9 > Click the Clip View selector and the notes you played will appear in the piano roll editor, nicely quantised to the grid. From here, you can add extra notes, delete them or move them around. If you need to overdub more notes, click the **Session Record** button – this will drop into record and allow you to play new notes over the top of the existing ones.

> Step by step 2. Sequencing and editing a synth part in Arrangement View



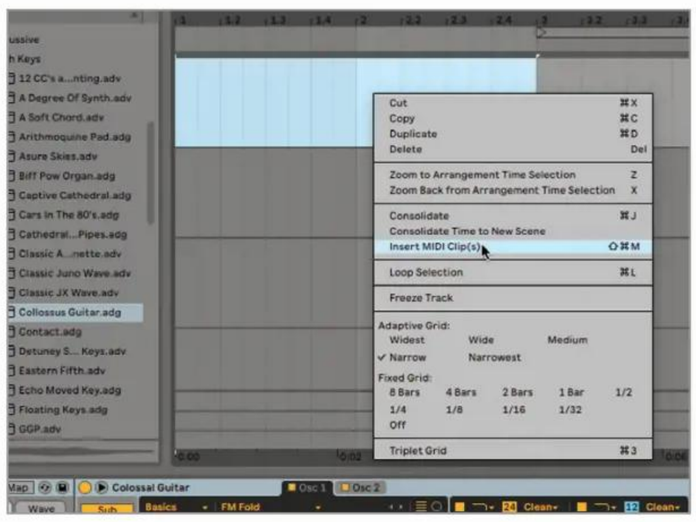
1 > In an empty Live project (create one by selecting **File » New Live Set**), use the View switcher buttons, (or your computer's **Tab** key) to switch to the Arrangement View. Set the tempo of the session to the required BPM (beats per minute) by clicking or dragging the field shown above – we're going for **108**bpm.



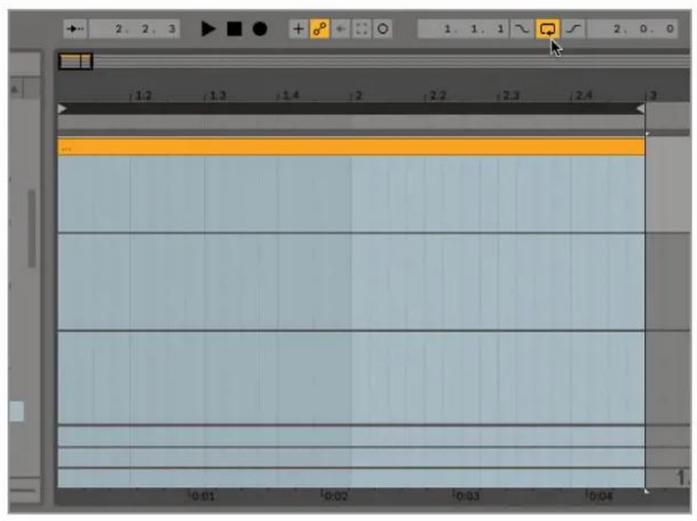
2 > In the **Categories** section, select the **Instruments** tab, then choose an instrument – we're going for the Wavetable synth. Drag the instrument onto the MIDI track to load it. Once loaded, ensure that the record arm button is lit up red so you can hear the sounds as you play.



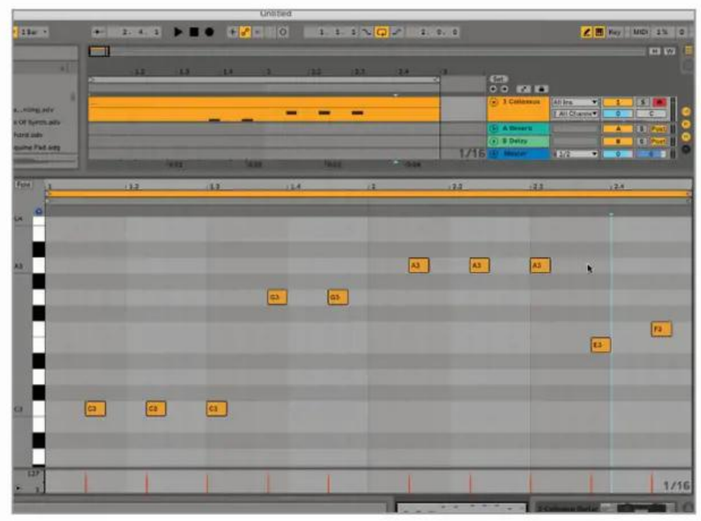
3 > Open the **Wavetable** submenu and choose a suitable preset – they're divided up by instrument type. Click the blue headphones button to enter Preview mode so that you can hear the sounds as you flick through them. We've ended up plumping for the **Collossus Guitar** preset from the **Synth Keys** section. Double-click its name to load it.



4 > Make a new MIDI clip by clicking and dragging on a MIDI track to the number of bars in length that you want the new clip to be – this one is going to be two bars long. Right-click the highlighted area and select **Insert MIDI Clip** from the menu, or use the **Shift/Command-M** keyboard shortcut.



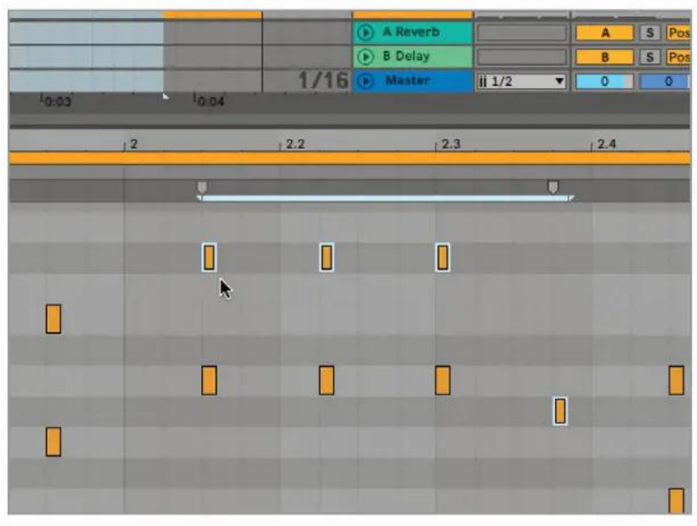
5 > The thin grey bar with triangles at either end in the ruler section is the Loop Bracket, or cycle region. Click and drag the loop bracket to position it, then extend it to the required loop length. To loop the clip, either right-click it and select **Loop** from the menu, or click the **Loop** button in the transport bar.



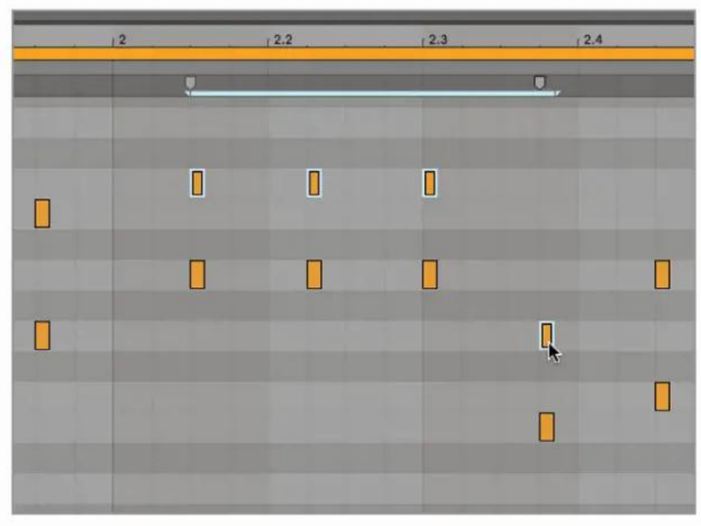
6 > Drag the Device View area's upper boundary upwards to expand the piano roll display. Press the **B** key on your keyboard to enter Draw mode and click to draw notes at the positions shown. Click the blue headphones icon above the keyboard to hear the notes as you draw them in. If you make a mistake, simply click an existing note to delete it.



7 > The notes are entered at the default length dictated by the current grid value, which in this case is 16th-notes. To change the length, use the **Command-A** keyboard shortcut to select all the notes, then drag the right edge of one of them to the left to shorten all of them to about half of their original length.

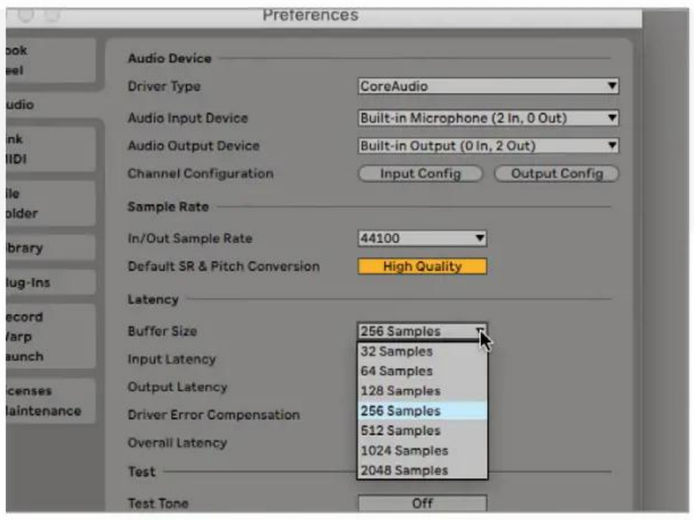


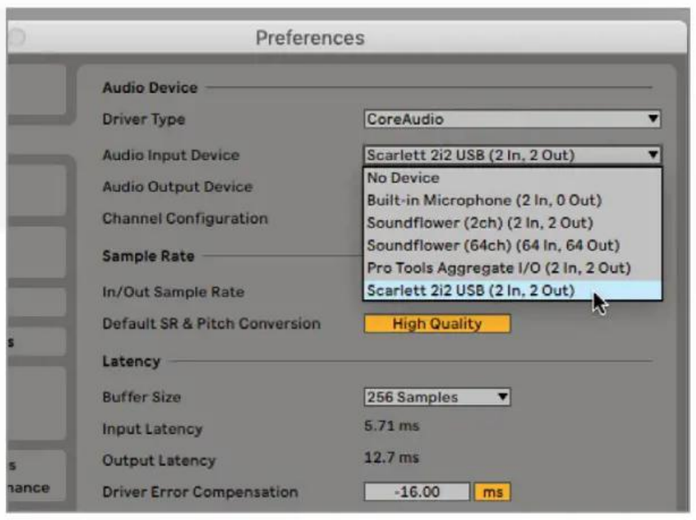
8 > With the notes still selected, hit **B** again to turn Draw mode off. Hold down the **Alt** (**Option**) key on your computer keyboard and drag the whole part up to the notes above, as shown here. This copies the single line you just programmed to make a series of two-note chords. But something's wrong – the notes highlighted here are the wrong pitch.

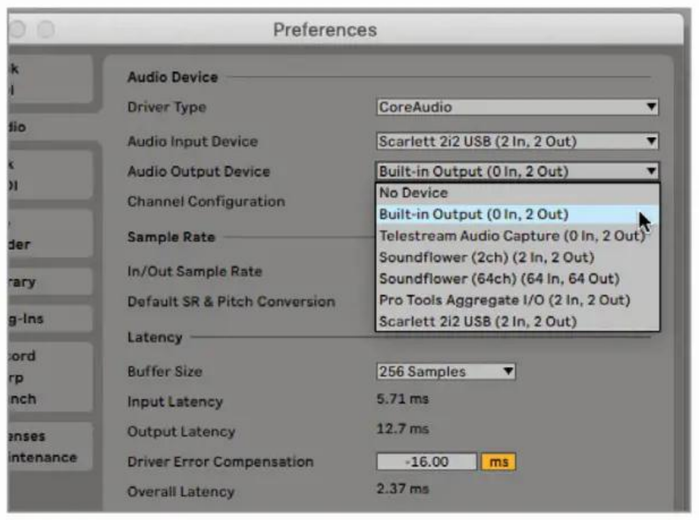


9 > Shift-click to select the incorrect notes, then, to move them to the right pitches, drag them to the correct position (one semitone lower). Alternatively, just tap the **Down** arrow key on your computer keyboard to nudge them down a semitone. Similarly, a tap on the **Up** arrow will shift notes up a semitone.

> Step by step 3. Setting up an audio track







1 > Click the **Audio** tab in Live's Preferences and select the **CoreAudio** driver for Mac, or **ASIO** for PC. A shorter buffer reduces latency when playing your MIDI keyboard, but is more demanding on your CPU. You can increase the buffer as your project grows, to give more power to the CPU for other processing tasks.

2 > Next, we need to select how audio signals get into and out of Live. For effective audio recording, you'll need an audio interface connected to your computer – we're using a Focusrite Scarlett 2i2 USB interface, which we select in the **Audio Input Device** menu.

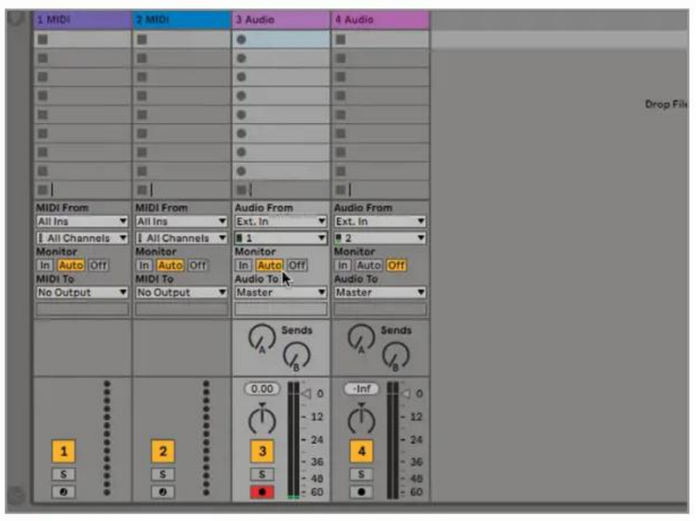
3 > If you're just monitoring via your computer's headphone output or built-in speakers, leave **Audio Output Device** set to **Built-in Output**. Otherwise, select your audio interface and the required output channels – Live's output will then be passed through these to your connected speakers.

Recording audio into Ableton Live

Although your computer's built-in headphone output can be more than adequate for monitoring the sound that comes out of Live, when it comes to successfully getting audio into the app (or, indeed, any other software), you'll need an audio interface connected to your computer. This is most often hooked up by via USB or Thunderbolt – you can pick up a decent, simple two-channel interface for around £70-100. Interfaces allow you to connect external instruments and microphones to your system, opening up a world of recording possibilities, from sampling random sounds to recording instruments and vocals. You can plug microphones into its mic inputs, and keyboards, synths, drum machines and guitars to line level inputs. An interface will also have a pair of balanced line outputs that you'll be able to hook up to a pair of monitor speakers – worth having if you're serious about mixing your tracks, have tolerant neighbours and/or want a break from wearing headphones for a while!

The walkthroughs on this page show how to set up and record a single audio clip into the Session View. Although, by default, Live is set up to record just a single track at a time, it is possible to record more than one simultaneously. To do this, right-click a track's record arm button and deselect the Arm Exclusive option.

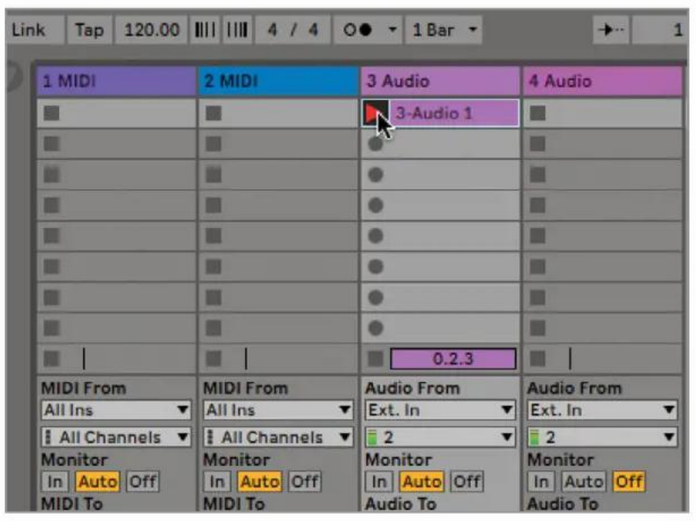
> Step by step 4. Recording audio clips in the Session View





1 > First, set the **Global Quantization** setting next to the metronome to **1 bar**, then arm an audio track for recording by clicking its record enable button. To hear the incoming sound, set **Monitor** to **In** or **Auto**. In enables monitoring constantly, while Auto activates it only when the track is armed for recording.

2 > Below where it says **Ext. In**, click the menu and select the input(s) on your audio interface that your microphone or instrument is plugged into. We've got a mic plugged into channel 2. Play the instrument or sing into the microphone and you should see the input level meters flash green.





3 > Enable the metronome and click the **Record** button in one of the track's clip slots to start recording into it at the next time division set in the **Quantization** menu (one bar, remember?). Live will perform a count-in, then the Set will begin playback and start recording audio into the clip slot.

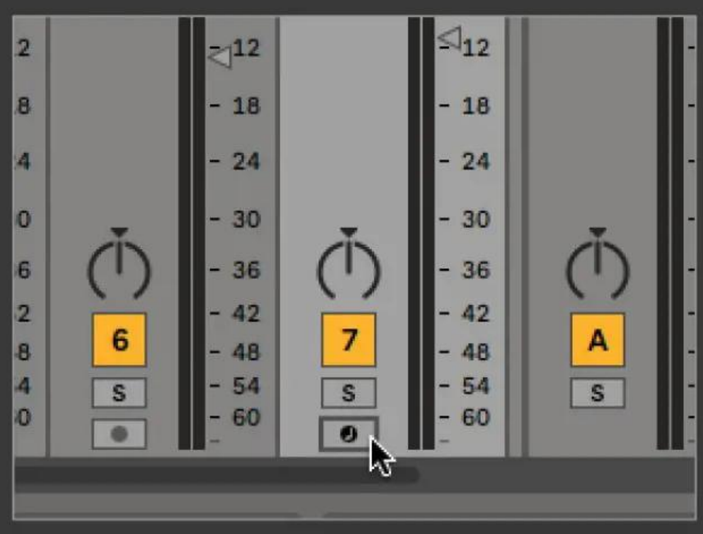
4 > The clip slot's Record button will turn red to indicate recording. Click it again when you've finished recording, and playback of the recorded clip should begin, seamlessly looping around at the Quantization note value. The audio you've just recorded will be stored in the Set's **Samples/Recorded** folder.

> Step by step

5. How the Session and Arrangement Views interact



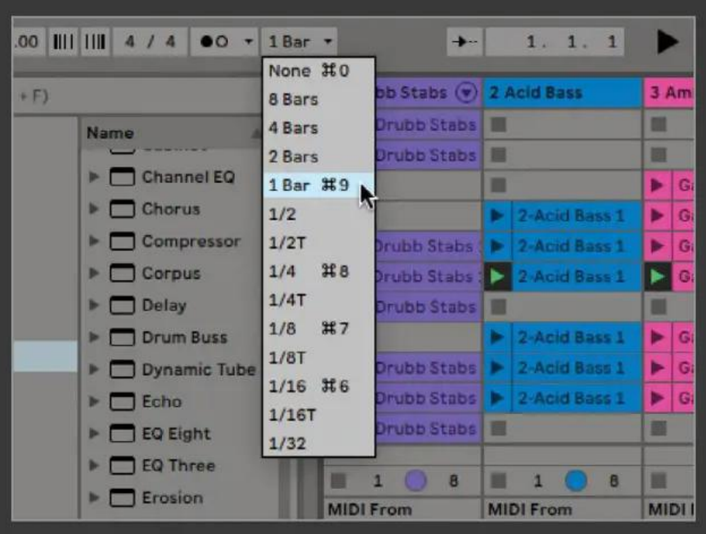
1 > We've seen that Live works in the two separate Session and Arrangement Views, but how do these two different views interact? To find out, here's a collection of tracks, each containing several clips. We've arranged them into horizontal rows, or Scenes, which we've renamed and colour-coded. Each Scene represents a different song section.



2 > We're going to transfer a spontaneous performance of these clips and scenes over into the Arrangement View by recording it in real time. First, make sure all tracks are unarmed by clicking any active record arm buttons to disable them. This prevents any accidental over-recording of existing clips when you drop into record to capture your performance.



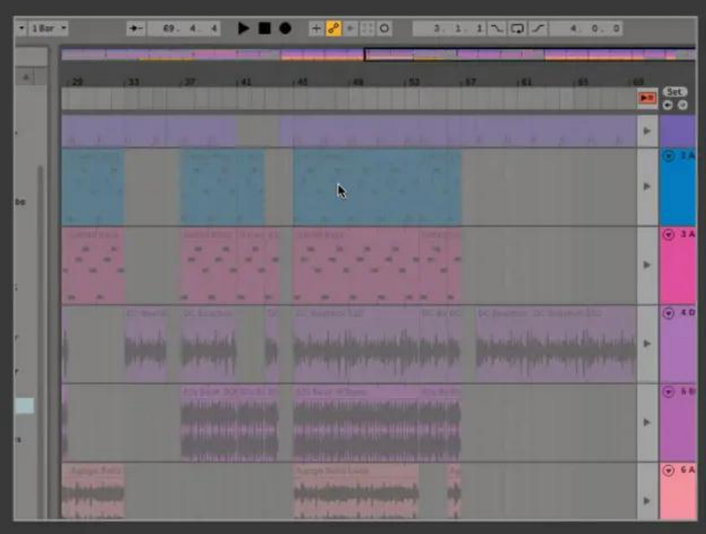
3 > To start recording your performance immediately, click the Session View's Arrangement Record button and start triggering clips. However, if you hold down **Shift** when you click **Record**, or turn off **Start Playback with Record** in **Preferences » Record/Warp/Launch**, Live will wait for you to launch your first clip or Scene before recording begins.



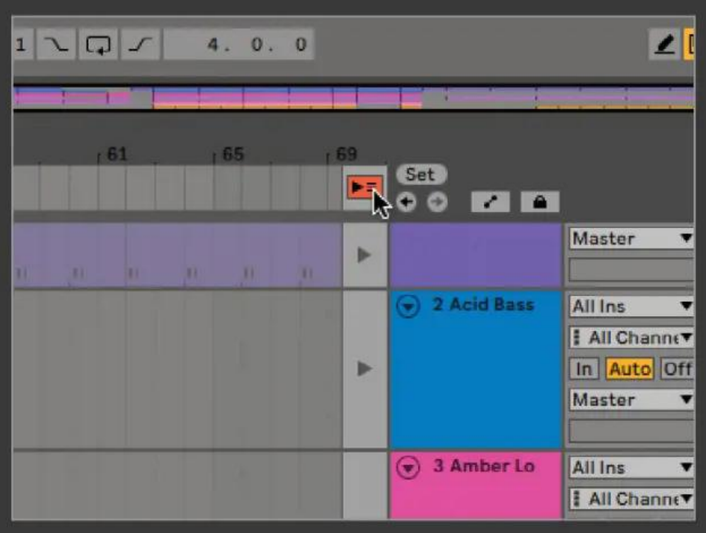
4 > You can launch clips and Scenes in any combination you like. The clips will fire off according to the **Global Quantize** setting set in the menu next to the metronome. Here we're set to **1 bar**, so as long as you hit the launch button at any time during the bar before the downbeat you want the clip to come in on, your next clip will come in perfectly on time.



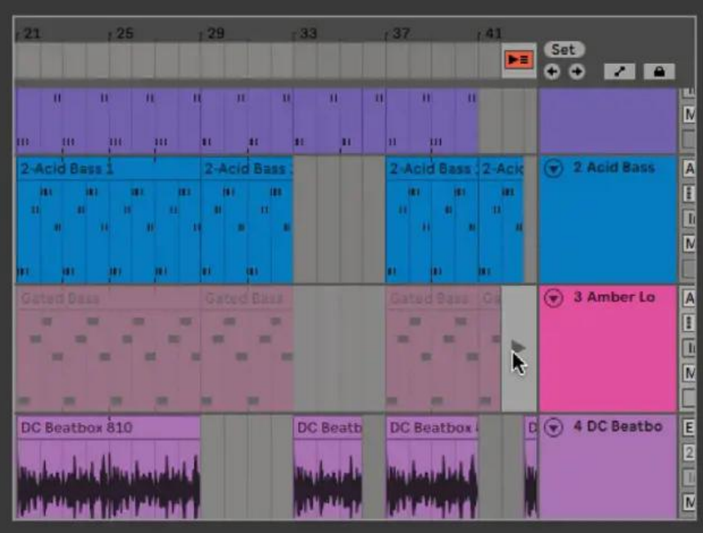
5 > If you launch a Scene, all the clips in that horizontal row will play at once, but you can add clips from other rows into the mix by clicking their launch buttons as the Scene plays. If you make any changes to a device parameter or mixer setting, these moves will also be recorded into the Arrangement View as automation.



6 > Once you've finished recording your ideas, hit the **Spacebar** to stop playback, then switch to the Arrangement View using either the **Tab** key or the View switcher buttons. You'll see your performance, including all triggered clips, cuts and automation moves, laid out horizontally in a full arrangement, ready to be tweaked and edited.



7 > At this point, all the tracks in your arrangement will be greyed out and won't play. To enable playback of your captured performance in the Arrangement View, click the orange **Back to Arrangement** button in the top right corner. The Arrangement View now has priority over the Session View, and Live will play back its contents as displayed.



8 > Launching Session View clips while the Arrangement View is playing will disable the tracks containing those clips in the Arrangement View. The Back to Arrangement button reappears to indicate that the current playback state is different from that in the Arrangement View. Click the triangle buttons to the right of the Arrangement tracks to re-enable them.



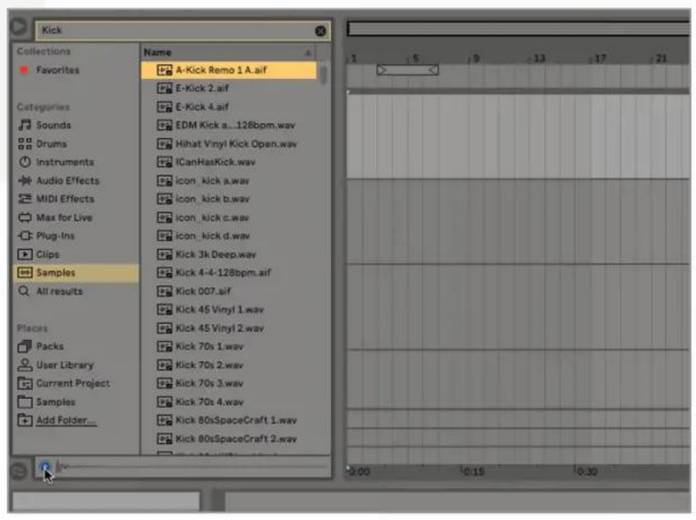
9 > To move clips from the Session View to the Arrangement View, select them and drag them over to the Arrangement View switcher button. As you hold them over the button, Live will switch to the Arrangement View, where you can place them anywhere on the timeline. This also works in the opposite direction, from the Arrangement View to the Session View.

> Step by step

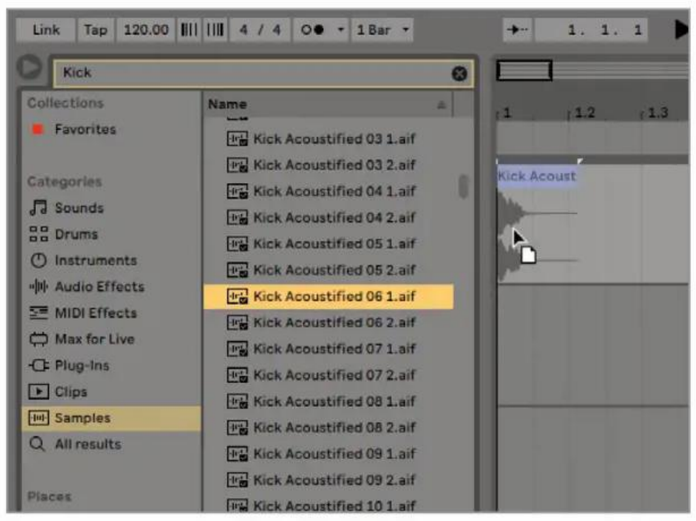
6. Building a beat with samples in the Arrangement View



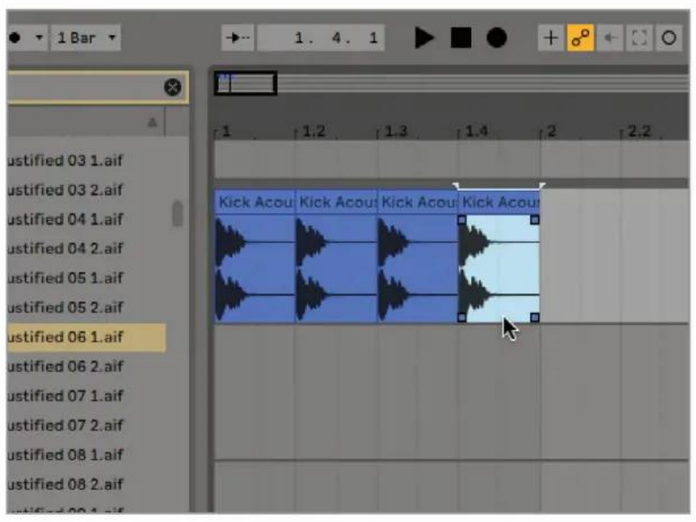
1 > Switch to the Arrangement View and select the **Samples** option in the **Categories** pane. This will pull up the list of factory one-shot samples that ship with Live. There are a lot of them, so type 'kick' into the Search pane at the top of the browser. This will drill down through the content and bring up a list of samples whose name contains the word 'kick'.



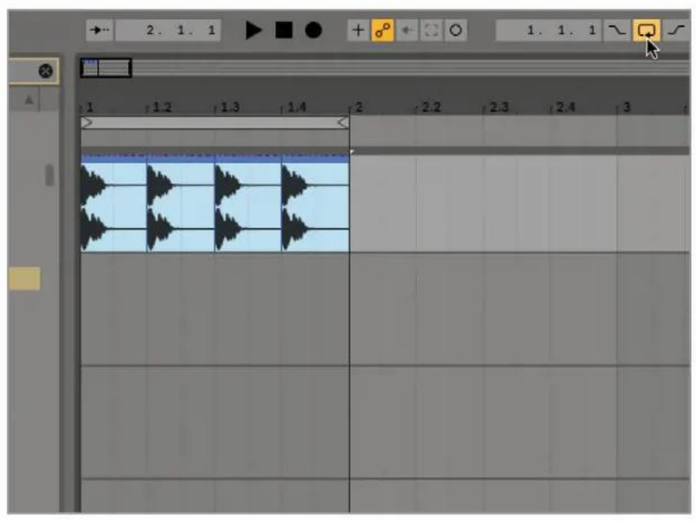
2 > The selection highlight turns yellow to indicate that an active search filter is being applied and remind you to turn it off once you've found what you're looking for so you can then find other stuff. Make sure the blue headphones icon in the lower left corner is illuminated – this shows that Preview is enabled, so the sounds will be played back as you audition them.



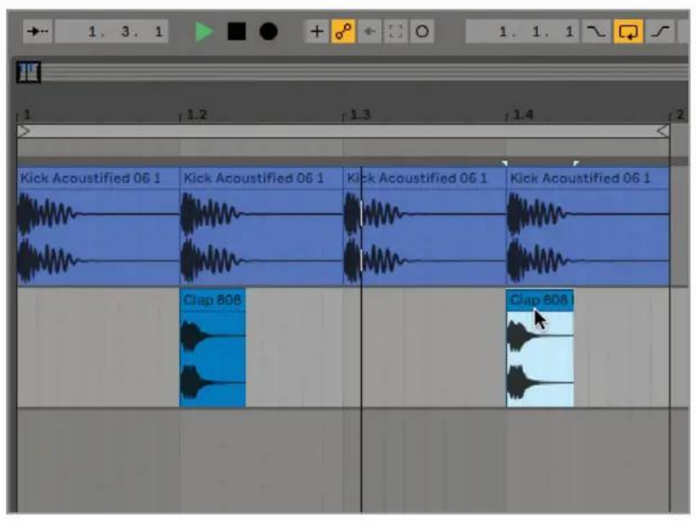
3 > Click the first sound in the list to audition it. You can click each sample to hear it, or speed things up by using the **Down** arrow key on your keyboard to flick through the list quickly, listening to each sound as you go. When you find a sample you like, drag it to the required position in the central tracks area. We've put ours on the downbeat of bar 1.



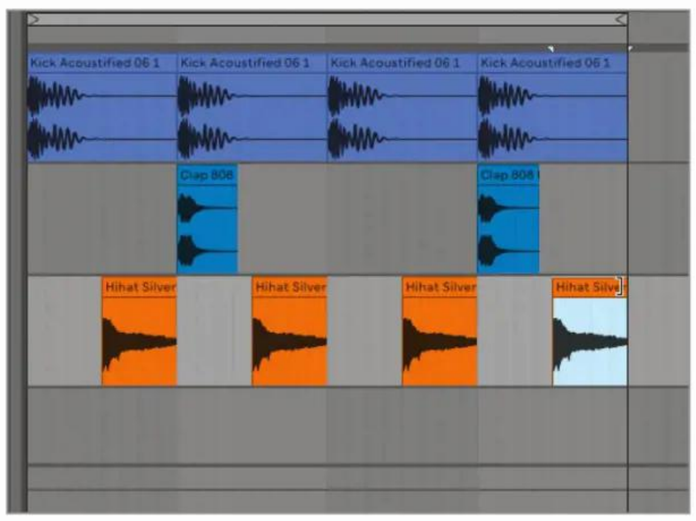
4 > If none already exist, a new audio track will be created with the sample in place on it as an audio region. **Alt**-drag the region to copy it onto the beats you want – if you're going for a four-on-the-floor vibe, draw a selection region to encompass one quarter-note beat and use the **Duplicate** command (**Cmd-D**) to fill the required number of bars with kicks.



5 > Drag the edges of the Loop bracket to set the range you want to loop (four bars in this case) and either use the **Cmd-L** key command or the **Loop** button in the transport bar to enable loop mode. Hit play and the clip will loop, allowing you to continually monitor your progress by listening to the loop as you construct it.



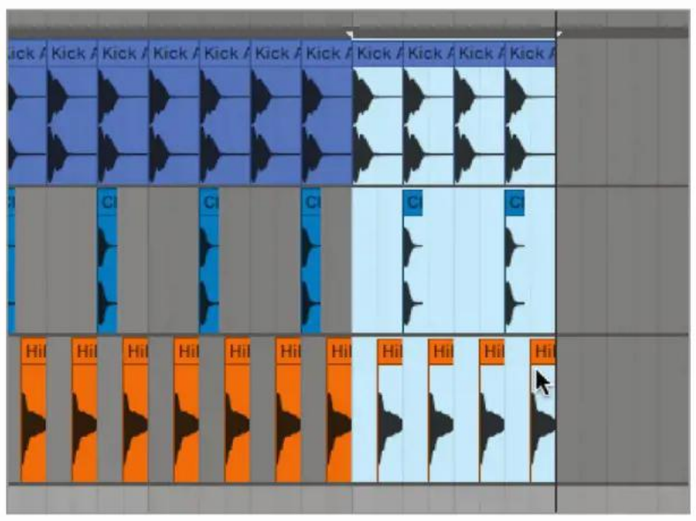
6 > Repeat the process, this time adding a clap sample. Type the word 'clap' into the search bar to search for a suitable sound – we've gone for **Clap 808 Light Quick**. Drag the sample from the browser onto the second blank audio track and repeat it so that a clap occurs on every other kick drum beat.



7 > Continue building your beat by dragging other samples onto new tracks. We've added some open 909 hi-hats by searching on the term 'hihat' in the **Drums** category and dragging **Hihat Silver Open** onto the offbeats between kick drums. The tail of the sample is too long, so we drag the right edge to the left, onto the beat, to shorten it.



8 > Use the tracks' volume sliders to balance the volume levels of each part as you build your beat. This is done by dragging downwards on the numbers in the blue boxes directly below the on/off switches in the track headers. Here, we've lowered the volume of the kick drum to **-2dB** and the open hi-hats to **-3.1dB** for a better overall balance.



9 > Once you have a four-bar section you like the sound of, you can select the entire loop by drawing a selection range across it, then use the **Duplicate** command to copy the section several times to form the basis of a rudimentary arrangement. You can then delete parts within this to create variation in the pattern as the track progresses.

Warping in Live

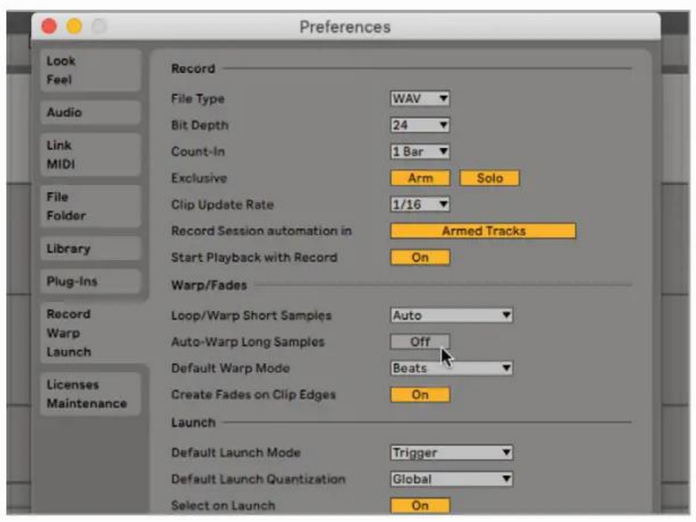
One of the things that makes Live so musically empowering is the transparent and user-friendly approach it takes to timestretching audio, or 'warping' in Ableton parlance. Timestretching revolutionised music production back in the late 80s. Before it came along, a sample's pitch and speed were intrinsically linked – if you sped a sample up, its pitch would increase to match, and if you slowed it down, the pitch would drop accordingly. Timestretching effectively severed that link, allowing untold levels of creative freedom for a new generation of producers and programmers. Way back in 1988, Akai's S950 hardware sampler was one of the very first widely available devices to offer timestretching. It allowed sampled sounds to be tuned up and down while retaining their tempo, or sped up and slowed down without changing their pitch. This was incredibly useful both as a tool for melding together beats and loops of different tempos, and as an extreme effect for vocal samples and suchlike, as heard in many DnB and UK garage tracks in the early 90s. However, dialling in the right percentage involved quite a bit of mental arithmetic to achieve the desired effect. Today, the algorithms built into Live and other DAWs are far more sophisticated and easier to use than those early efforts. Now, the software can automatically detect the tempo of a piece of audio and warp it so that it plays at the original pitch, but also perfectly in time with everything else in your project.

Live features several different algorithms for warping. The default Beats setting works well for drum and perc loops, Tones works better for pitched material, and the Complex modes (Complex and Complex Pro) are more suitable for full-mix material and full songs.

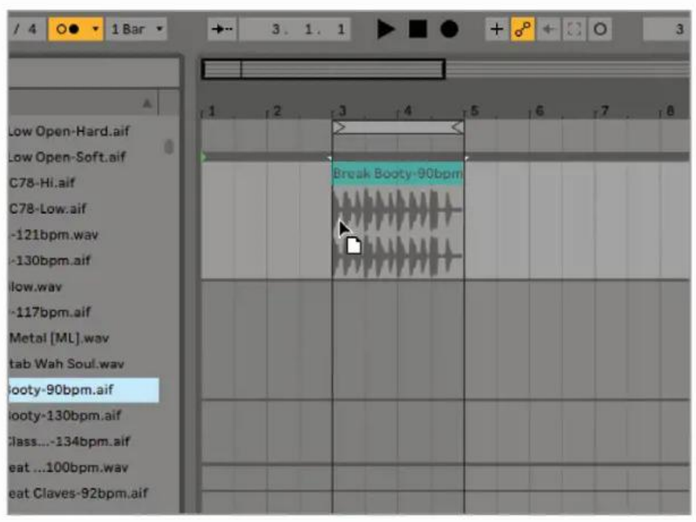


Once upon a time, timestretching samples involved wrangling with unintuitive hardware such as the Akai S950

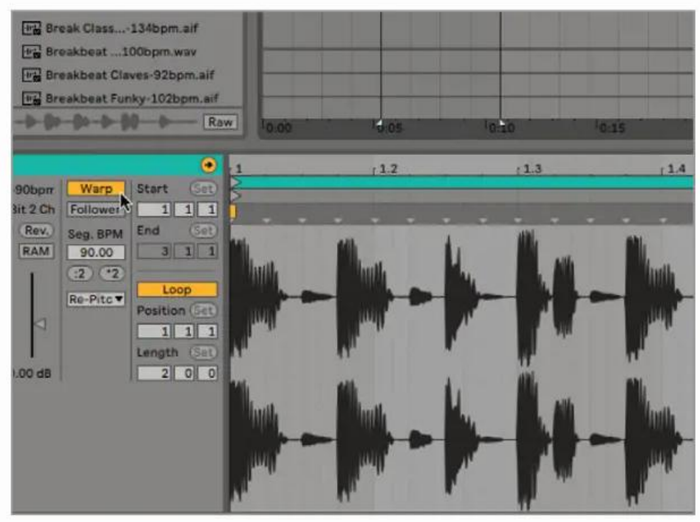
> Step by step 7. Basic warping in Live



1 > Warping is Ableton-speak for timestretching – changing the pitch of a sample independently of its speed and vice versa. Start by going to **Live » Preferences** and selecting the **Record Warp Launch** tab. Set **Loop/Warp Short Samples** to **Auto** and **Auto-Warp Long Samples** to **Off**. This gives you the freedom to warp full tracks manually.



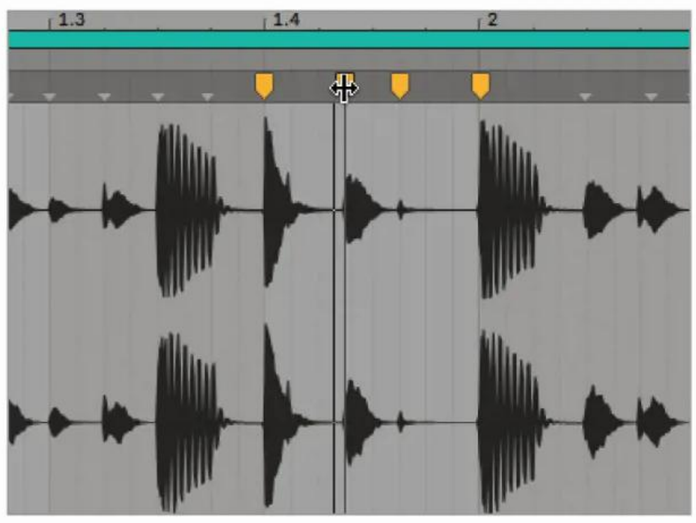
2 > In a blank 120bpm Live set, click **Samples** and find any sample with a tempo in its name other than 120bpm – we're using **Break Booty 90bpm**. Drag it onto an empty audio track and Live will automatically match the project tempo to that of the sample. Enable the metronome and click Play – the sample will play back at its original tempo in time with the click.



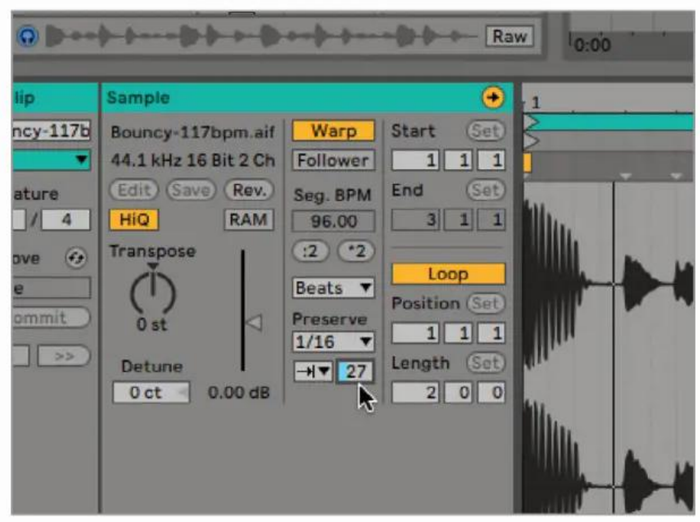
3 > Double-click the clip to open the Devices View. The **Warp** button should already be enabled as per the setting in the Preferences. If the clip is a drum beat with identifiable transients (waveform peaks) like this one, the warping process will have spotted these and placed triangular transient markers at the appropriate points in the waveform.



4 > Play the clip and change the session tempo to hear the audio speed up and slow down accordingly. Any samples you now drag in should be auto-warped to the current project tempo. Drag another sample with a different tempo in its name – such as **Bouncy 117 bpm** – onto a new audio track, and it should automatically play in sync with the first sample.



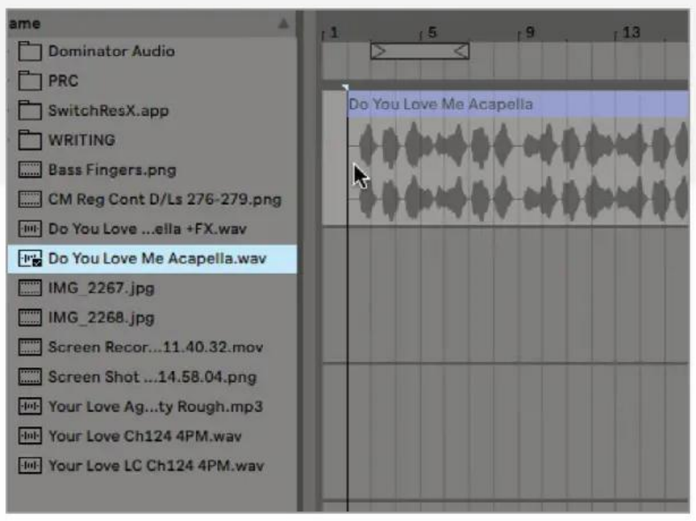
5 > In the Devices View, hovering over the transient markers turns them into potential warp markers. Turn a transient marker into a warp marker either by dragging it left or right, or double-clicking it. Each adjacent warp marker acts an anchor point, so you can move sections of audio around as if they were elastic to alter the timing of audio within a clip.



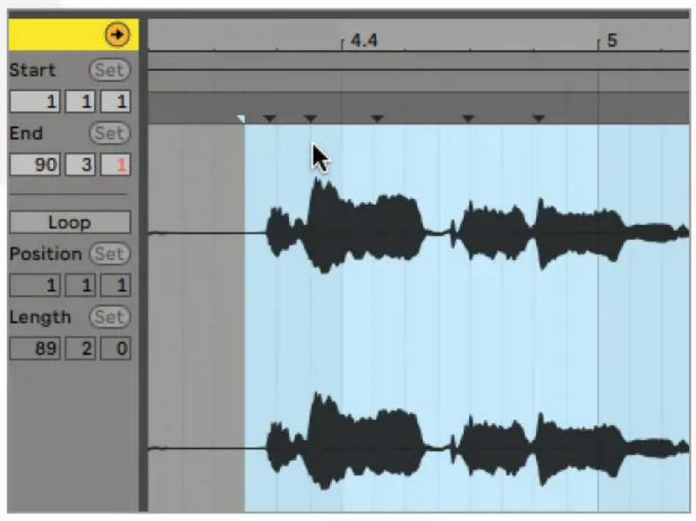
6 > You can use warping not just as a tool for editing timing, but also as a creative effect. For example, for a gated effect, try setting the **Warp Mode** to **Beats**, adjusting the **Preserve** parameter to **16ths** and the **Transient Looping** mode to **Off**. Then turn down the **Transient Envelope** value to shorten the decay of each transient in the sample.

> Step by step

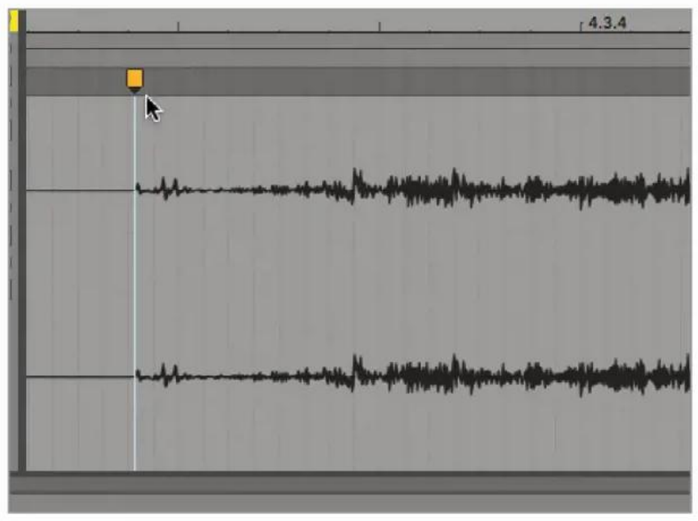
8. Warping an acapella for remixing



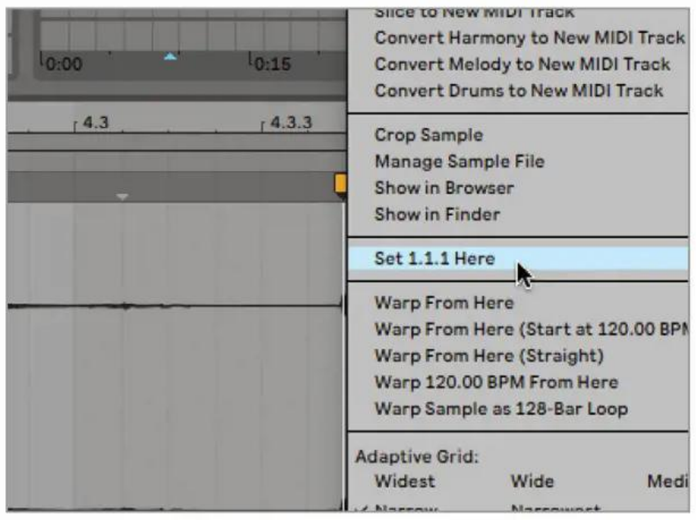
1 > Getting an acapella in time with Live's grid can be trickier than warping a drum loop, as it's harder for the software to auto-detect the rhythm of a vocal. Start by importing the file, either by dragging it in from Windows or macOS's Finder, or clicking **Add Folder** in the browser's **Places** section and browsing to the file's location on your system.



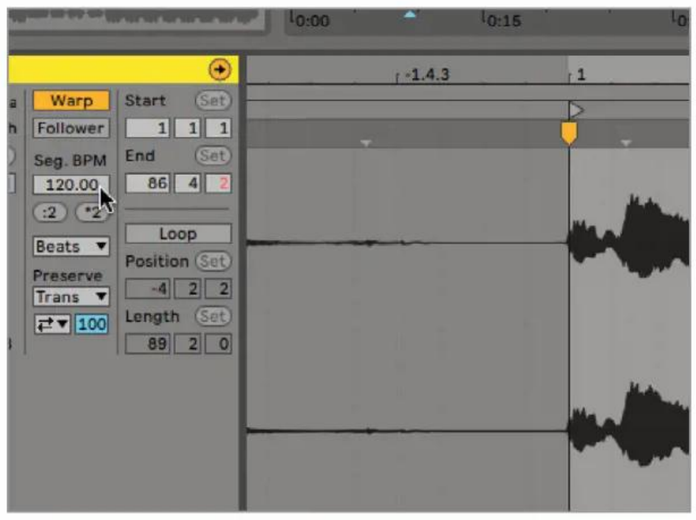
2 > Double-click the resulting audio clip to open the Clip View Sample box and click the **Warp** button to enable warping. Listen to the audio file to assess how the rhythm of the vocal works against the beat. Locate the first word that you think might fall on a prominent downbeat – ideally the first beat of a bar. Here, this phrase – 'Take some time' – fits the bill.



3 > Zoom right in and place the playhead at the point where the word's waveform crosses the zero-crossing point, and double-click to create a warp marker at that point. Zoom out and hit Play to check that you've captured the whole front of the word – to adjust the marker's placement, hold **Shift** and click it, then drag the audio to the correct position.



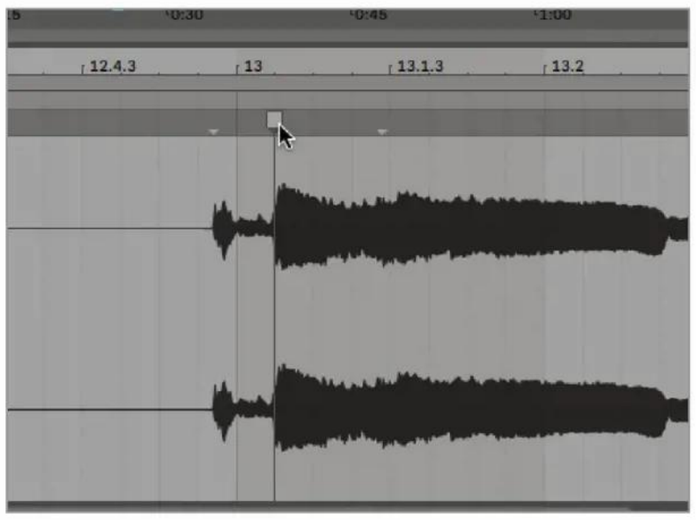
4 > Right-click the warp marker and choose **Set 1.1.1 Here** from the drop-down menu. This sets the warp marker as the point from which warping will start, effectively putting a pin into the acapella where we know that the beats definitely line up. Most acapellas are at a steady tempo, so we should only need this one warp marker



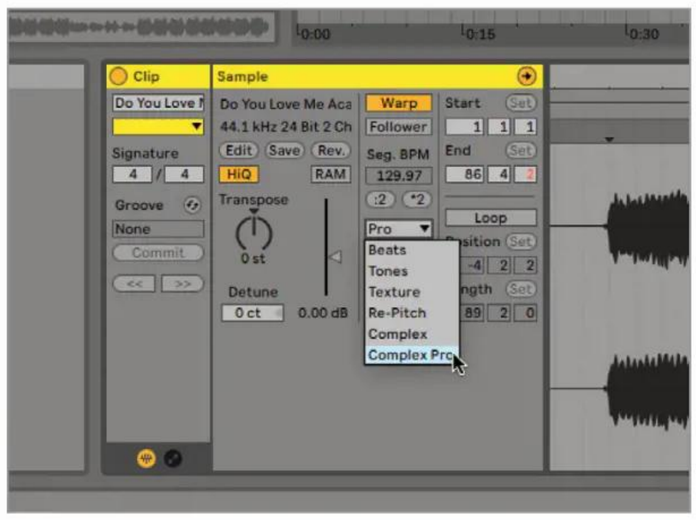
5 > In the Clip View's **Seg. BPM** field (short for Segment BPM), Live shows its best guess as to the tempo of the audio file. It's simply filled in our session tempo of 120bpm, since the audio hasn't been warped yet. Next, we need to pinpoint where the next obvious downbeat in the audio would fall, usually two or four bars further on from our first marker.



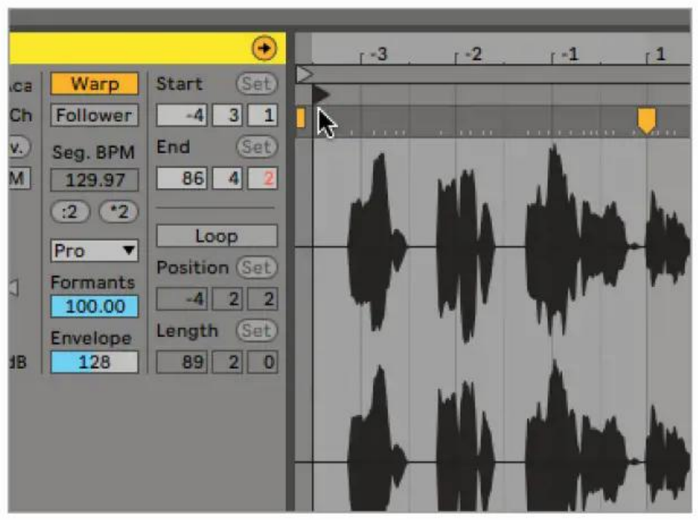
6 > The most likely candidate for this is the word 'tell' from 'Tell me', four bars later. We can stretch the audio around using that first warp marker as an anchor point by grabbing the transient marker for the 't' of 'tell' and dragging it so that it snaps to the required beat – the downbeat of bar 5. The rest of the audio will stretch by the same ratio.



7 > Check the results against the metronome to see if it worked, or visually by scanning the waveform peaks against the grid to see if the transient markers line up correctly with the beat. If things start to drift off-tempo later in the song, drag more transient markers to the correct positions on the grid. The rest of the audio should tighten up as you do this.



8 > The **Seg. BPM** field should now display a value closer to the file's original tempo. Select a **Warp Mode** by clicking the menu and choosing the appropriate option. For best results with vocals, use either the **Complex** or **Complex Pro** modes. These are more CPU-intensive, but tend to produce more accurate results with fewer artefacts.



9 > Lastly, move the clip's start marker back to accommodate the beginning of the file, so that clip starts from the beginning when launched. Click the **Save** button to save the current warp settings along with the clip. With your acapella fixed to the grid, you can set whatever tempo you like and the audio will move accordingly. Time to get remixing!

> Step by step

9. Warping in Simpler



1 > Simpler is Live's basic sampler, used for triggering audio samples via MIDI from a keyboard or other controller, and it has Live's warping algorithms built into it. Simpler is a MIDI instrument, so start by choosing an instance of Simpler in the library's **Instruments** category and dragging and dropping it onto an empty MIDI track.



2 > Find a sample to work with from the browser's **Samples** category. For illustration purposes, we've gone with a drum loop – **Dubstep Claps 70bpm**. Drag the sample from the library into Simpler in the Device View, where it says **Drop Samples Here**. The waveform will be displayed once the sample has loaded.



3 > Hold a key on your MIDI keyboard to play the loop back. By default, it will be played at its original pitch and speed on the key **C3**, but lower notes will play the sample slower and at a lower pitch, and higher notes will play it faster and at a higher pitch. This is because the sample hasn't been warped yet.



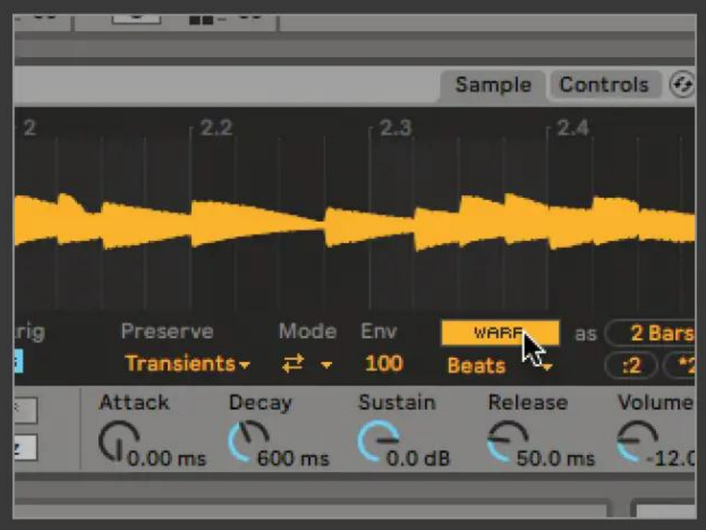
4 > Click the **Warp** button to engage warp mode. In the default **RePitch** mode, the loop will sync to the tempo of the session and play at its original pitch. If you alter the session tempo, the speed of the loop will change to match, but the pitch will also follow the tempo change – slower speeds will lower the pitch, higher speeds will raise the pitch, like a tape machine.



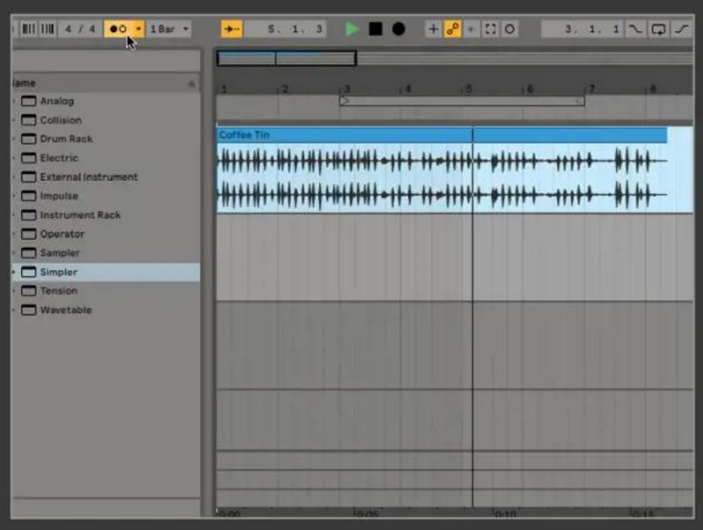
5 > Switch to **Beats** mode. Now, not only does the loop tempo match the session tempo, but if you change the tempo, the loop follows without the pitch being affected. You can play the loop back at different pitches from different keys on the keyboard, but it will always be in sync with the session tempo.



6 > Let's try a sample of a monophonic rhythmic synth sequence. Drop the file **Sequence.wav** (from the **Tutorial Files** folder) into a new instance of Simpler and play a single note to hear the sequence played back. Play a chord, however, and each note in the chord triggers the sample at a different pitch and playback speed, resulting in chaos.



7 > Enable warp mode and play the same chord again. Now all three versions of the sample are in sync, playing at the same speed but at different pitches, resulting in a clean, polyphonic sequence. Warping is enabling us to play the rhythmic sequence at the same length and tempo regardless of pitch, so the notes in any chord will now play in sync.



8 > You can also use this technique to get audio that you've recorded yourself in sync with the tempo of your Live project. Here's a blank set at 108bpm. Drag the audio file **Coffee Tin.wav** – a percussion clip that we recorded without a click – onto a new audio track. Enable the metronome and hit Play to hear how out of time it is against the current grid.



9 > Drag the Coffee Tin clip into a Simpler and move the grey triangular markers to set the start and end points of the section of audio that you want to warp. Then click the **4 Bars** button to warp the clip as a four-bar loop. Play a key on your MIDI keyboard and the tempo will match the set tempo, with the playback pitch determined by whatever key you play.

> Step by step 10. How to add an EQ







1 > To add EQ to a track, go to **Audio Effects** in the browser and pick either **Channel EQ**, **EQ Three** or **EQ Eight** from the list. Double-clicking a device will create a new track to house it, or you can drag and drop it onto the desired track. The Device View will open and display the controls (we're going for EQ Eight here).

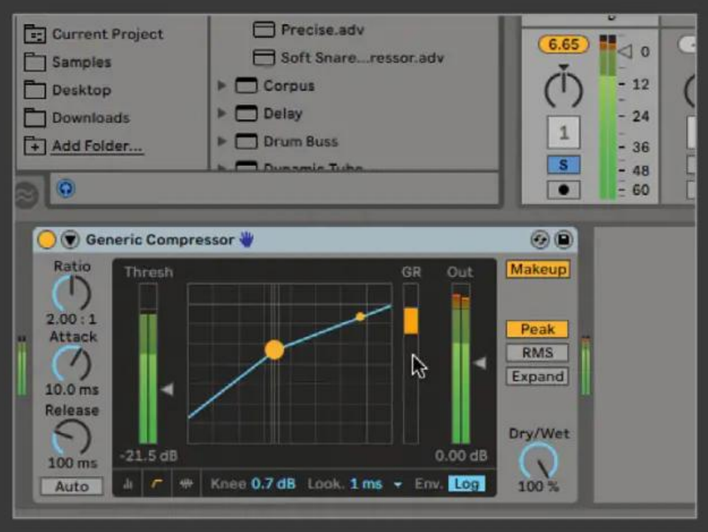
2 > The **S** button below the track's on/off button solos the track, and the graph displays the frequency response of the EQ'd signal in real time. Click and drag nodes to adjust a selected band's parameters – dragging horizontally changes the frequency, while dragging vertically sets that frequency's gain.

3 > Each node can be switched on and off or set to a different filter type in the menus below the display. For example, get an extreme band-pass effect by setting node **1** to **low cut** and **4** to **high cut**, then dragging the two towards each other. These parameters can be automated to add movement to your tracks.

> Step by step 11. How to add compression





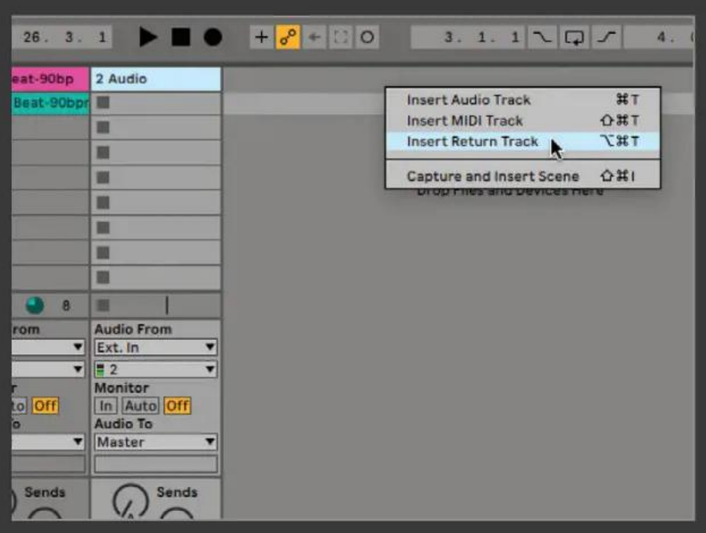


1 > A compressor is essentially an automated volume control that's sensitive to the input signal volume. It controls the level of dynamic sounds so that they're easier to balance within a mix. To insert Live's Compressor, go to **Audio Effects** and find **Compressor** in the list.

2 > This time, instead of just the default device, we're going to choose and load a Compressor preset. Click the small triangle to reveal the Compressor's preset list, then drag and drop your selected preset onto the required track. We're using the **Generic Compressor** preset.

3 > The Compressor levels out the volume of the beats, and the speed at which the gain reduction kicks in reshapes the transients so that they appear to hit harder. The makeup gain raises the volume after compression, making the whole thing louder and punchier.

> Step by step 12. Using an auxiliary effects chain







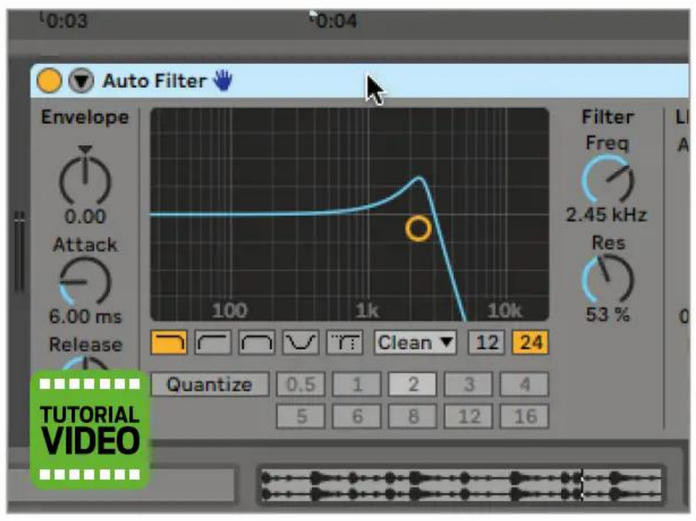
1 > Live's effects can be chained for serial processing, and using Return tracks, signals from multiple tracks can be sent to the same chain. Set up a new Return track by right-clicking the track header area and selecting **Insert Return Track**. A send to this track will appear in each of the other tracks' sends area.

2 > Drag several effects together into a chain in the Device View. Swap devices around by clicking their title bars and dragging them. The signal always flows from left to right, so the order is important – a compressor followed by a reverb will sound very different from a reverb followed by a compressor!

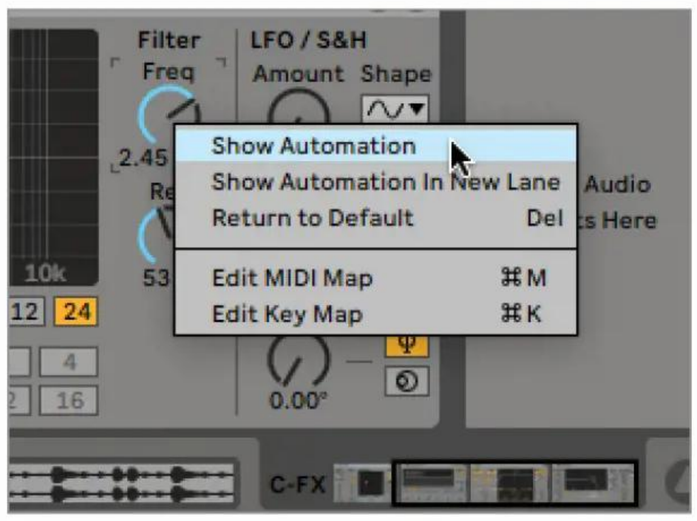
3 > Turn up the newly-created send control on any track to send a portion of its sound to the effect chain. To delete a device from the chain, just select it and hit **Backspace**. To move or copy any device to another track, drag it out of the Device View and directly onto another track in the Session or Arrangement View.

> Step by step

13. An introduction to mix automation and envelopes



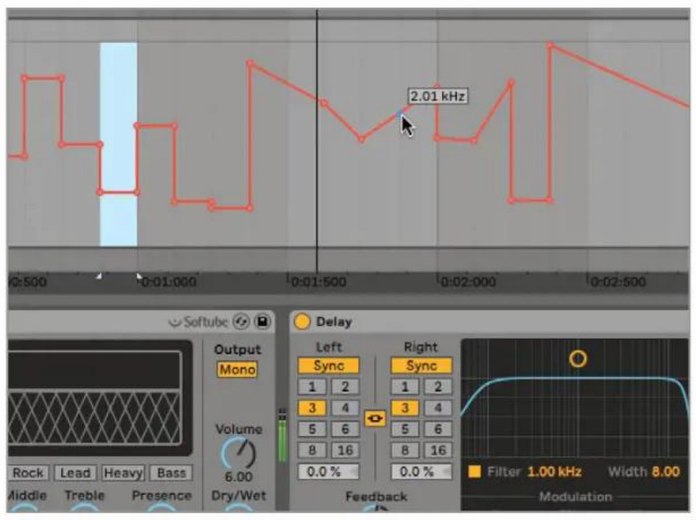
1 > Every parameter of every plugin and effect in Live can be automated, so that value changes can be recorded and played back over time, adding movement to the mix. Risers can build over four bars, filters can sweep, volume levels can rise or fall, all under precise control. First, open the control panel of the device you want to automate in the Device View.



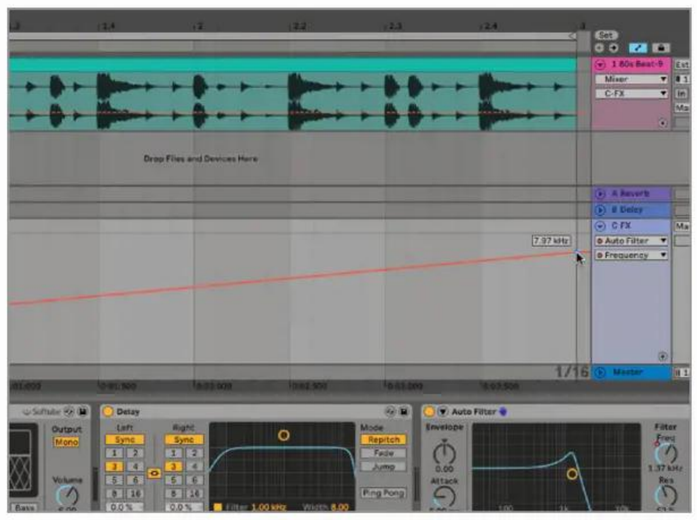
2 > We're going to automate the **Frequency** of the AutoFilter at the end of this device chain. Locate the parameter you want to automate, then right-click the control knob and choose **Show Automation**. A dotted red line will appear on the track, to indicate that no automation moves have been recorded for that parameter yet.



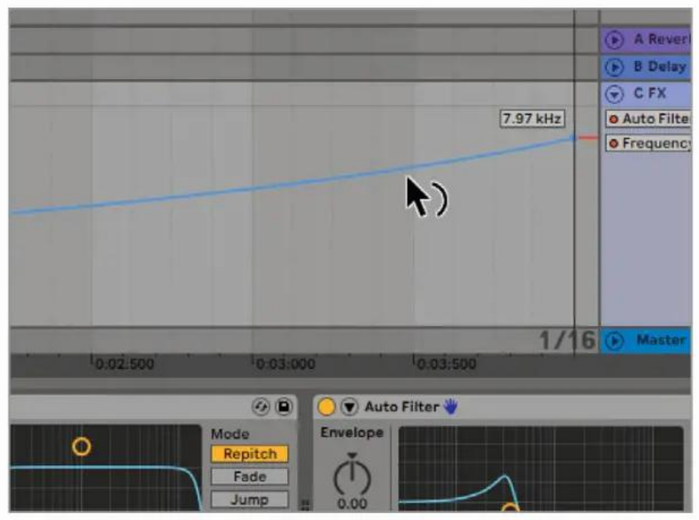
3 > You can input moves in various ways. One is to hit the **B** key to enter Draw mode, and use the pencil tool to draw in stepped curves at a resolution based on the current grid setting. This results in a jagged line resembling a cityscape. These lines or curves are known as Envelopes in Ableton-speak. The control knob displays a red dot to show that it's been automated.



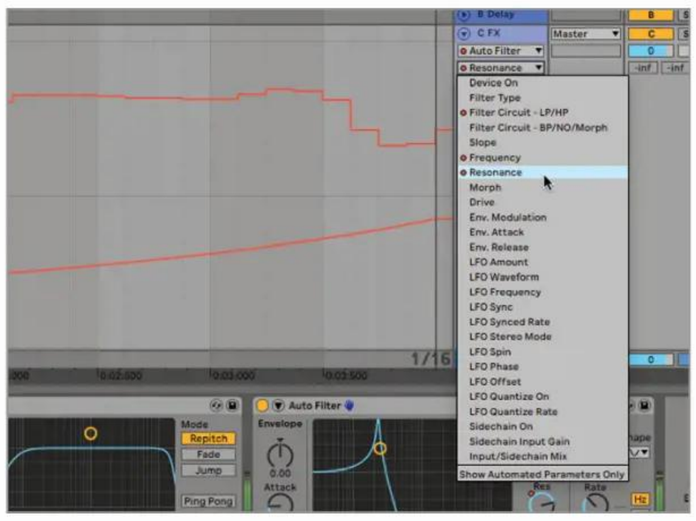
4 > Hit **B** again to turn Draw mode off and edit the automation nodes within the envelope to reshape it. Click a node to delete it, or drag to move it around. Delete whole sections of the curve by selecting a range and hitting **Backspace**, or right-click the control itself and choose **Delete Automation**. This removes all automation data for the selected parameter.



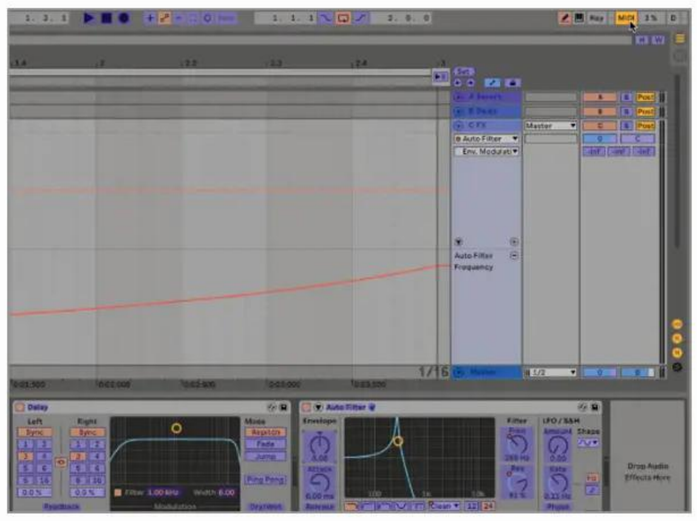
5 > Alternatively, draw automation envelopes freehand using just the pointer tool. With Draw mode off, click anywhere on the red line to add a control point, then drag it wherever you want to shape the line. This is great for creating simple sweeps, rises and falls. The example shown here fades the AutoFilter **Frequency** up gradually over two bars.



6 > Curves are often preferable to straight lines when drawing automation, as they allow more control over the onset speed of the parameter change. To create a curve from a straight line, hold down the **Alt/Option** key and drag near a straight line between two control points, pushing the line in the direction you want the curve to bend.



7 > Multiple parameters can be automated for the same device at once – just click the **+** button in an automation lane's lower right corner to view additional lanes. You can then select the required device and parameter for each lane by selecting from the menus. This can quickly lead to some crazy effects, so watch your ears/speakers!



8 > Lastly, if you have a hardware controller, assign a knob or fader to your target parameter and record the moves in as the track plays. To assign a control, click the **MIDI** button, top right, to enter MIDI Learn mode, click the desired knob onscreen, then move the control you want to assign to it on your controller.

POWER TIP

>Your inner artist

If you'd rather draw Envelope curves that end up looking more like a gently rolling prairie than the Manhattan skyline, turn on Draw mode with the **B** key, then either hit the **Command-4** keyboard shortcut, or head to **Options » Snap Automation to Grid** and disable the feature. Now you can use the Pencil tool to draw in smooth, wave-like curves completely freehand, unencumbered by the currently selected grid resolution.

11 indispensable Ableton Live tips

DUAL ASPECT

View both the Session and Arrangement Views at once in a split screen arrangement by selecting View » Second Window. Resize and place both windows side by side and you can mix in the Session View while arranging in the Arrangement View, or display the Clip View and Device View simultaneously – a great workflow enhancement, especially if you have a large monitor or dual displays.

FREEZE & FLATTEN TRACKS

Conserve CPU power and transform complicated sections of your project into audio files with the Freeze and Flatten functions. Select a track, right-click the track header and select Freeze to temporarily free up any processing on that track. Right-click the track header again and choose Flatten to permanently render your selection, including all plugin settings and any automation, to a new audio file.

CAPTURE MIDI

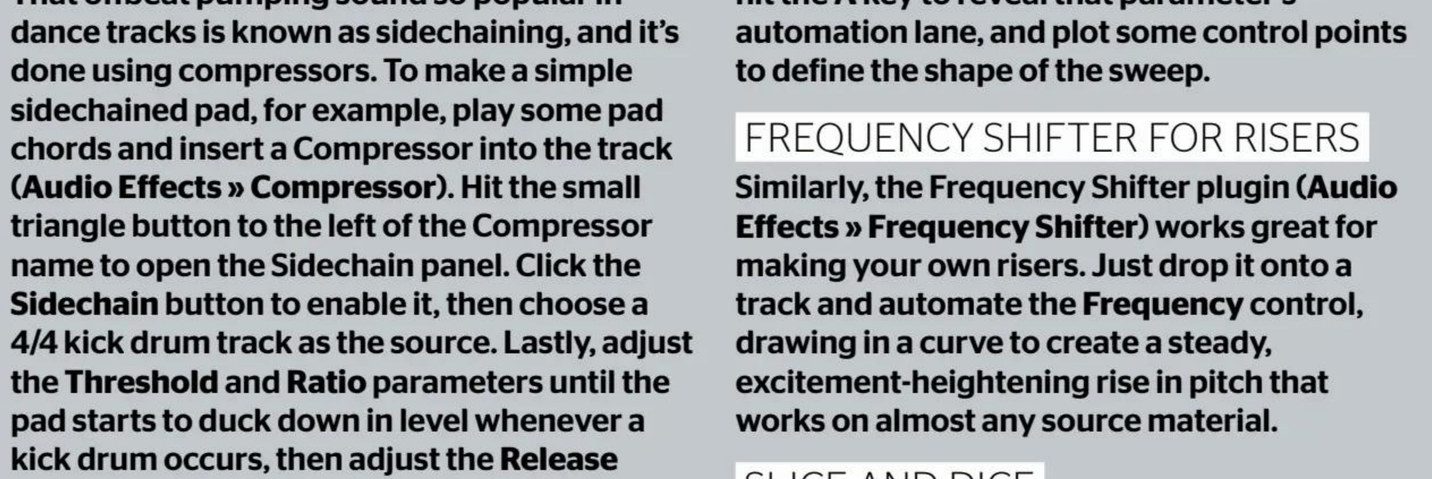
If you've ever been jamming along with your song and played something inadvertently awesome, then wished you'd been in record mode so you could have captured it for posterity, this feature is for you. Hit stop followed by the Capture MIDI button in the transport, just to the left of the Session Record button, and a clip will magically appear, containing everything you just played. Simply edit and tidy up the bits you want, then discard the rest – job done!

SIMPLE SIDECHAINING

That offbeat pumping sound so popular in dance tracks is known as sidechaining, and it's done using compressors. To make a simple sidechained pad, for example, play some pad chords and insert a Compressor into the track (Audio Effects » Compressor). Hit the small triangle button to the left of the Compressor name to open the Sidechain panel. Click the Sidechain button to enable it, then choose a 4/4 kick drum track as the source. Lastly, adjust the Threshold and Ratio parameters until the pad starts to duck down in level whenever a kick drum occurs, then adjust the Release parameter to fine tune the timing as the volume rises up again between the kicks.

REVERSE AUDIO

Reversing audio is a great technique for creating builds and risers to increase tension before a drop, and Live makes it simple to do.



Backwards in coming forwards? Quickly reverse samples with the Rev button



Quickly swap presets by switching the browser and device into Hot Swap mode

CAPTURE MIDI

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REVERSE AUDIO

Reversing audio is a great technique for creating builds and risers to increase tension before a drop, and Live makes it simple to do. Just select the clip you want to reverse and open it in the Clip View, then click the Rev button just below the clip title and properties. This replaces the clip with a new clip containing a reversed version of the audio, that can then be placed wherever you need it on the timeline.

AUTOMATED AUTOFILTER SWEEPS

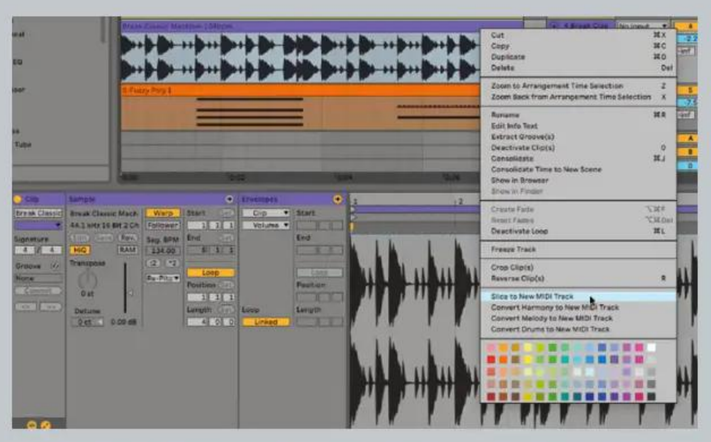
We all love a filter sweep, and Live's AutoFilter plugin makes it a breeze to create them. Just go to Audio Effects » AutoFilter and drag an instance of the plugin onto the track you want to process. Click the Frequency control, then hit the A key to reveal that parameter's automation lane, and plot some control points to define the shape of the sweep.

FREQUENCY SHIFTER FOR RISERS

Similarly, the Frequency Shifter plugin (Audio Effects » Frequency Shifter) works great for making your own risers. Just drop it onto a track and automate the Frequency control, drawing in a curve to create a steady, excitement-heightening rise in pitch that works on almost any source material.

SLICE AND DICE

Right-click any audio clip and choose Slice to New MIDI Track. This will detect the transients in the audio and slice the sample up within a new instance of Simpler, assigning each slice to a key on your MIDI controller and generating a MIDI clip to match. Now you can replay the



The Slice to New MIDI Track function turns an audio file into a playable set of sample slices

slices in any order you like. Perfect as a quick way to resequence a drum loop or chop up a vocal sample.

DUPLICATE ANYTHING

Live's powerful Duplicate command – Command-D on Mac, Control-D on PC – can be a real timesaver. You can use it to copy and paste almost any selected object in a single click. Select a region or clip, and Duplicate will place a copy directly after it. Select a track, and duplicate will create a copy of the track beneath it. Select a note or part of a bar in the piano roll, and Duplicate will make a contiguous copy of the selection.

LIMIT YOURSELF

If you work a lot in headphones, it's a good idea to start each new Live set by placing a Limiter plugin across the Master bus, preventing any clipping or potential ear damage caused by unexpectedly loud sounds when flicking through effect presets. Just go to Audio Effects » Limiter, drag it onto the Master track and consider your lugholes safeguarded.

HOT SWAP

If you decide you're not happy with the preset or effect you're using, quickly change presets on the fly with the Hot Swap button in the top-right corner of a device's Detail View. Click it and the browser will be flagged orange, indicating that any new preset you select will be instantly swapped with the existing one. cm

GET STARTED IN MUSIC PRODUCTION WITH OUR INTERACTIVE GUIDE

The Beginner's Guide to Music Production comes with exclusive access to all the software, plugins and video tutorials you'll need to start making music. You'll be recording, arranging and mastering your own tracks in no time!

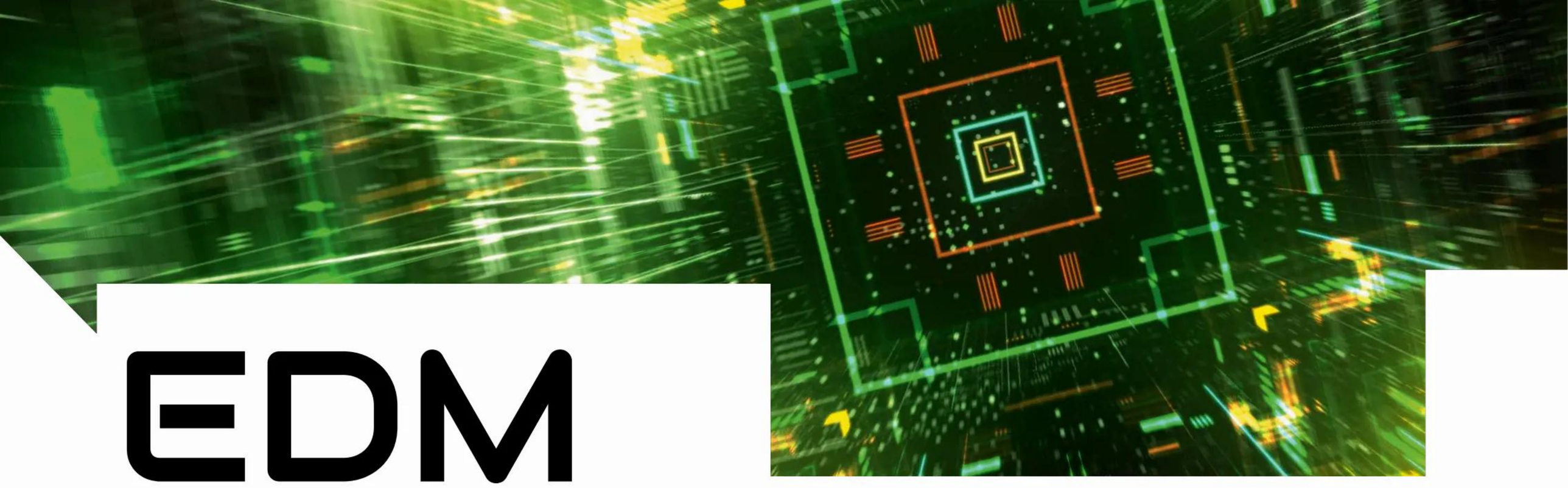


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EDM

> Although EDM (electronic dance music) is used as a catch-all term by many in the music scene to describe dance music (particularly in America), it also refers to the kind of big room-sounding music produced and played by the likes of Skrillex, Steve Aoki and Marshmello at huge festivals like Ultra, EDC and Creamfields.

While EDM shares similarities with styles like house, including a tempo ranging from 120-130bpm and the 4/4 drum patterns often used, there's also influence from styles as diverse as dubstep, RnB and pop, clearly heard in the arrangement, synthesis and vocal production techniques used. Although EDM music is heavily pitched towards club or festival situations, the catchy hooks and huge vocal lines make it well suited to commercial radio too, with the concise arrangements of many tracks being made for exactly this purpose.

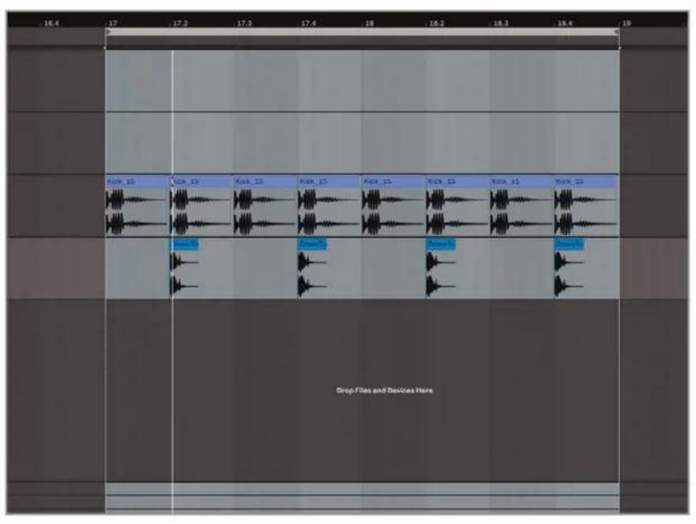
All of these elements have combined into a well-established music style that's dominating radio playlists and racking up billions of hits on YouTube and Spotify, as well as selling millions of tickets for events every year. If you're looking to start making your own EDM anthems, then we've got your back with our unmissable guide on how you can make your own EDM track for no outlay whatsoever.

Over the next few pages, we'll run through how to create an EDM track using Ableton Live plus the free **cm** Plugin Suite and samples which you can find at Filesilo (Bookazines/Music Producer's Guide To Ableton Live).

>Step by step 1. Making an EDM composition



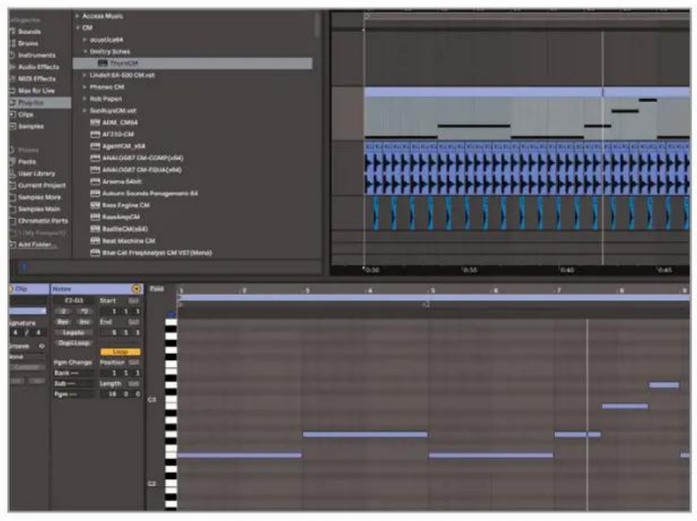
1 > Set your DAW's BPM to 128, and build a simple drum kit to lay your musical sounds over. Download the EDM Track Samples and MIDI files folder from filesilo.co.uk and get Kick_15.wav. This is a weighty, EDM-style kick that's a great building block. Reduce it to -6dB to keep your volume right, then copy the kick onto each beat over two bars.



2 > Let's add a clap into the mix. From the samples folder, import DownTown_Clap_01.wav. This is a tight-sounding clap, with a punchy attack reminiscent of a snare. Place it on the second and fourth beats of every bar then lower it to -9dB, so it sits better mixed with the kick. Next, add some percussion parts to give the drum track momentum.



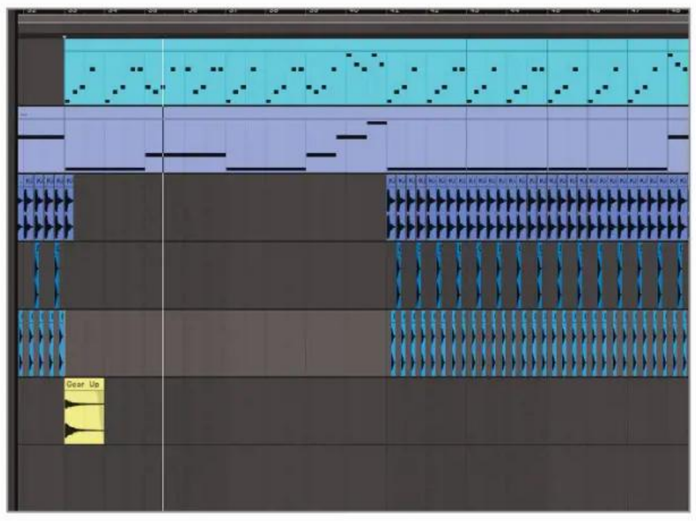
3 > Import 80s_Hat_02.wav from the samples onto a new channel, and duplicate it onto every offbeat. This hat has a tight sound out of the box, ideal for our track. Lower the channel to -9dB to keep the mix balanced. Extend the arrangement to 16 bars. Add Gear_Up_Crash.wav (again from the samples), and place it at the start of the arrangement.



4 > Lower the crash volume, then apply a fade to the end of it to tidy it. Now load the Dmitry Sches' ThornCM plugin (from instruments folder at Filesilo) onto a new MIDI channel, then select the SEQ Collider preset, a great arpeggiated sequence that we can use for our intro. Import Arp.mid (from the samples folder) to trigger ThornCM, and reduce the channel volume.



5 > We'll stretch our track to a full arrangement. Copy the parts to make another 16-bar section. Add ThornCM onto a new MIDI track, with the Lead-Planet preset selected; this is a huge-sounding lead, perfect for this track. Import Lead.mid onto the channel to trigger the synth, then turn the channel down to -2dB to keep the levels in check.



6 > Delete all of the snare and hi-hat audio from the first eight bars of our second section, so that the lead takes precedence. Mute all the kicks, except for the first one that we'll turn into an effect later on. We'll begin by making a build by looping over two bars of the arpeggiator and lead during the second eight-bar section, decreasing this to one bar for the last four.

RECOMMENDED LISTENING



MARTIN GARRIX
ANIMALS
This 2013 smash announced Martin Garrix to the world, with its slick production and arrangement accenting the unmissable lead synth line.

bit.ly/mg_anmls



DEADMAU5 & KASKADE
I REMEMBER
A beautiful piece of production, with warm synths and crisp perc complementing the haunting vocals perfectly. Definitely an EDM classic!

bit.ly/ddmskskd_ir



SWEDISH HOUSE MAFIA FT JOHN MARTIN
DON'T YOU WORRY CHILD
Commercial music fan or not, you won't have escaped this monster, with big synths and possibly the catchiest vocal of the 10s.

bit.ly/swhm_dywc



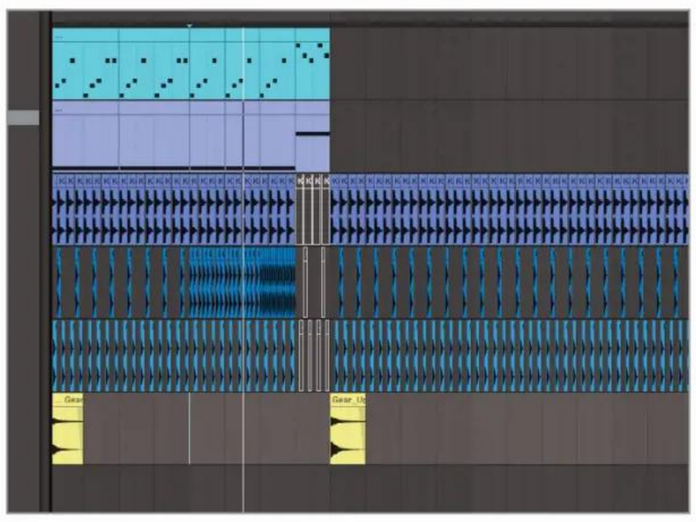
AVICII
LEVELS
The legacy of the late Tim Bergling (aka Avicii) as one of EDM's finest players lives on, with tracks such as *Levels* now considered to be genuine classics.

bit.ly/avc_lvls

PRO TIPS

DE-ESSING BLESSING
If you're using EDM-style one-shot effects or risers from the likes of Loopmasters or Vengeance, you might find that they start to add harshness to the high-mid frequencies of your mix, particularly when layered. Deal with this issue dynamically by grouping the effects, before applying de-essing. This effect, normally used for vocals, will remove the harsh high-mid frequencies only when its threshold is breached, giving a more natural sound.

SIZZLING SYNTHS
The kind of synths frequently used in EDM production have a full-range sound that, while filling the mix nicely, can cause harshness or frequency clashes in the bass and high frequency areas. Taking time to EQ these areas will give a smoother overall finish, while leaving room for the bass, kick and percussion to do their thing without unpleasant masking, giving your mix a fatiguing overall sound, particularly on a PA system.



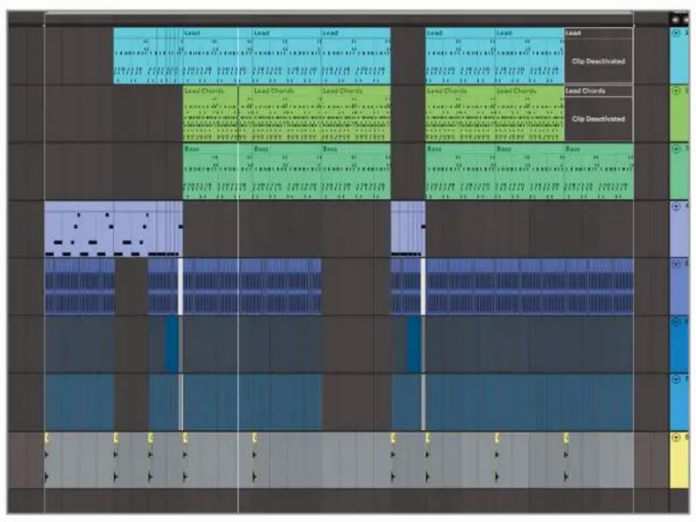
7 > Copy the crash cymbal over eight bars across, so it hits when the drums return. We'll mute the drums entirely from the last bar, giving the lead added impact before the drop. Create a clap build over the last four bars, so the clap picks up pace. Now, we'll duplicate the drums from the first 16 bars after the build section, so we can work on the drop.



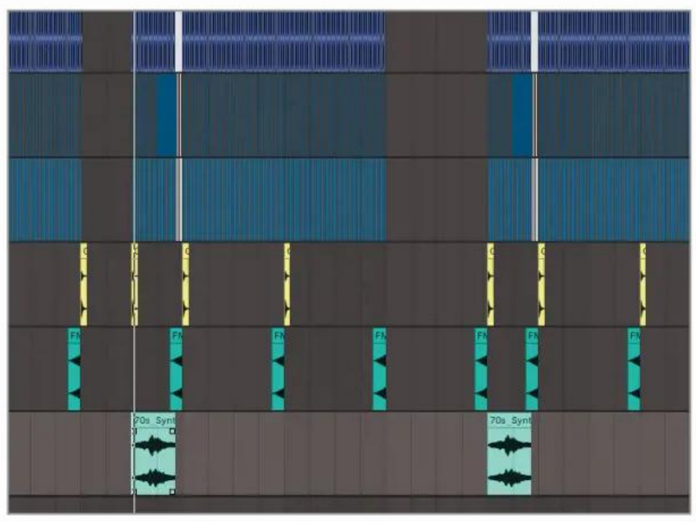
8 > Import Lead.mid onto the lead channel for our drop. Add a new MIDI track, with Synapse Audio's DuneCM loaded up. Drop Lead Chords.mid onto the track; this is a chord progression we've made to back up the lead line. Load the VengeanZ RL preset in DuneCM; a fat, unison, detuned lead to beef up the drop. Reduce volume to -7dB to keep balance.



9 > A synth bass will fill out the frequencies below the lead sounds, adding weight. Add a new MIDI channel, with Bass.mid loaded onto it. Call up u-he's BazilleCM, and select the Purr Bass preset. Now, copy the entire drop section so that it's 32 bars in length. We'll duplicate the lead, chord and bass MIDI parts again to start creating the breakdown.



10 > Grab the second eight bars of our build section, and copy it across to go after the breakdown. Place a crash cymbal at the start of the breakdown, then grab the drop audio/MIDI and place it after the second build. After duplicating the last 16 bars of the second drop, mute the lead and chords MIDI to create a cooled down final 16 bars to finish the track off.

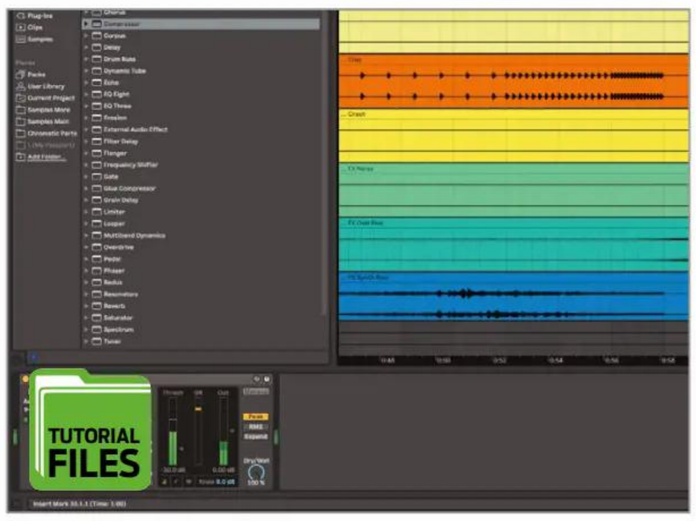


11 > Let's add effects. Import FM_Odd_Sting.wav onto a new channel, then reverse and place it at the end of each 16-bar section, making a subtle riser. Place 70s_Synth_Rise.wav from sample folder under both build sections to add atmosphere. Delete the last bar of the synth rise, then lower both effects to -3dB to preserve mix balance.



12 > A noise burst on the drop gives character. Place TapeNoise03.wav from the sample folder on the second beat of the drop. Fade out the audio, so the burst reduces to silence. To finish, add a vocal snip; grab Make_some_noise.wav and place it directly before each drop, pitched down by five semitones.

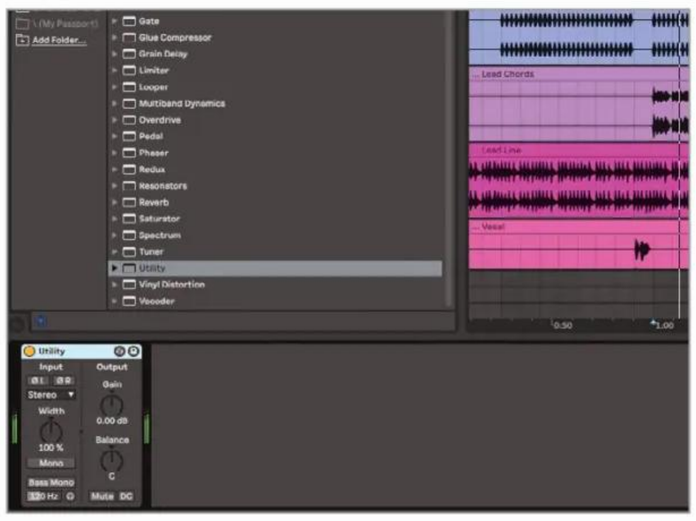
> Step by step 2. Sidechain gain: an EDM staple



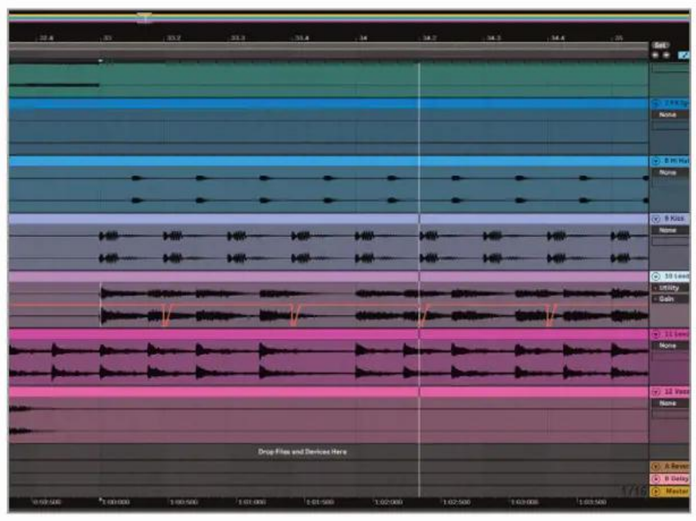
1 > Sidechain compression is an integral part of EDM, so let's put it into action in our track. Start by loading a sidechain compressor onto the FX Noise channel, with the kick selected as the trigger. Reduce Attack to its fastest, then set the Threshold at -30dB to increase the effect.



2 > Some sidechaining helps the bass and kick gel together. Copy the plugin from the FX Noise channel to the Bass channel, then reduce the Release to 20ms, so the ducking effect ends more quickly. Increasing the Ratio to 4:1 gives a more brusque sound to the effect.



3 > While sidechain compression using a dedicated plugin with sidechain input is simple and effective, sometimes it's more precise and controllable to instead program in the ducking effect using automation of a utility plugin; let's try this out for our lead chords. Add any utility plugin onto the Lead Chords channel.

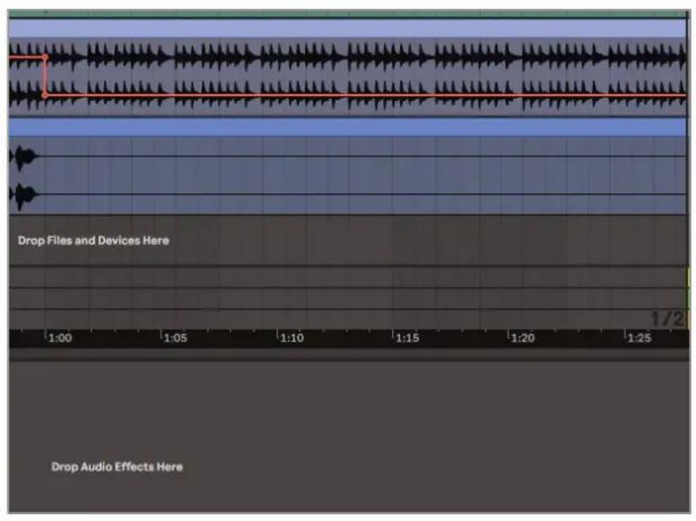


4 > We'll draw in automation of our volume on beats 2 and 4 of each bar, so that it ducks the lead chords when the clap hits. Copy the automation so it's on both drops. Now, when you bypass the plugin, you'll hear that the clap doesn't pop out as much.

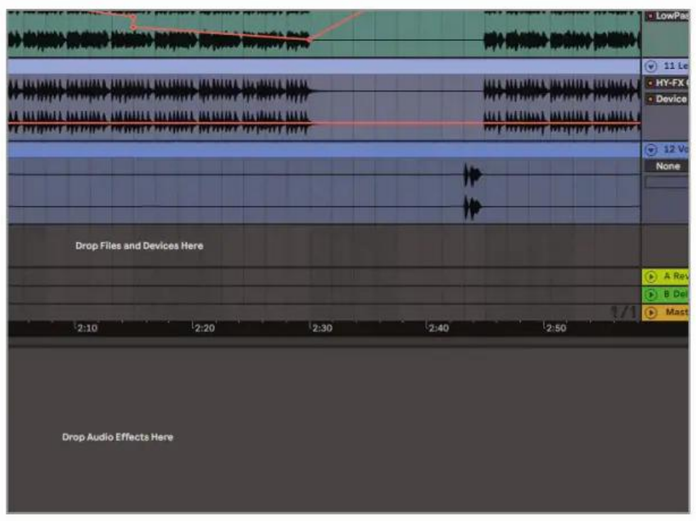
> Step by step 3. Automation nation



1 > Embellish the arrangement by automating some filters. Add Vengeance's VPS PhiltaCM to the Kick channel. High-pass filter the kick using some automation for the eight-bar build prior to the drop, so the bass fades in. Copy the automation to the second build.



2 > Adding a cool multi-effect to the lead line for the one-bar gap before the drop adds impact to the drop. Add HY-FX CM onto the channel, then select the Factory 03 preset, which adds cool filter modulation. Automate the effect so that it's bypassed except at this point.



3 > To finish up, filter the lead chords in the breakdown. Add VPS PhiltaCM onto the channel, then set the Slope to 48dB/octave for a sharper sound. Draw in some automation of the Low-pass frequency across the 16-bar section, so that the high frequencies fade out as the breakdown unfolds.

Sidechaining

A huge part of the production style of your favourite EDM anthems will be the use of sidechain compression in order to rhythmically change the volume of elements such as synths, bass or even vocals using another element in the track as the sidechain trigger. This can be particularly beneficial when producing music such as EDM that'll be later mixed and mastered to extreme levels of loudness, as dense sounds like lead synths or bass can be made to fit around the other parts of the song.

This technique will be familiar to most of us, as it's used heavily in contemporary genres ranging from house music, through to dubstep and beyond. While sidechaining is often used as a creative volume modulation technique, the main reason that sidechaining is so ubiquitous in dance production is because it's a simple way of moving one element away from another, creating extra headroom for important parts like the kick, snare or bass to take their rightful place in the mix.

> Step by step

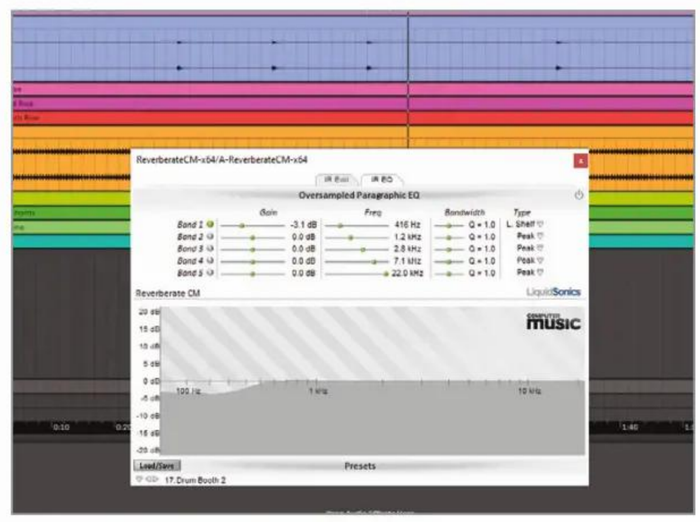
4. Mixing down your EDM track



1 > Let's start with a crash. The right channel is stronger than the left, so isolate it using a utility plugin. Load the plugin, and set the channel mode to Right, turning our crash into a mono sound. Add an 1/8th note delay, with the Dry/Wet mix at 40%.



2 > The delay adds a spacious, interesting feel to the crash while adding detail to the overall arrangement. Next, add reverb to the percussion and clap. Add Liquidsonics Reverberate CM onto a return track with the Drum Booth 2 preset loaded. Set the Dry/Wet control to full wet.



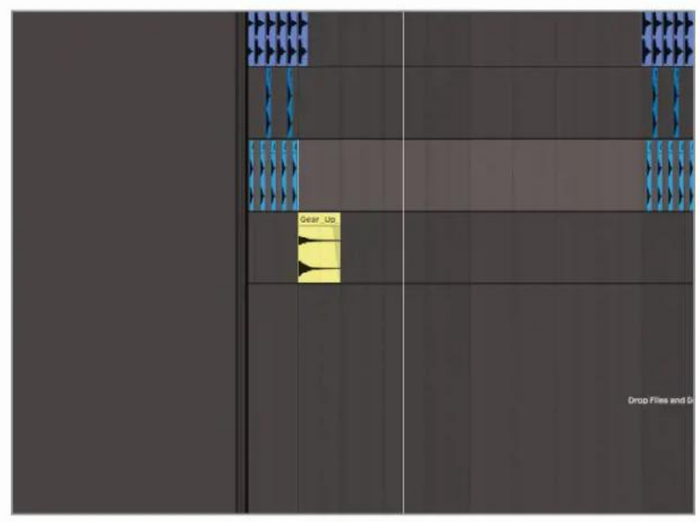
3 > Dial in some -6dB sends from the clap, crash and hi-hat to the reverb return track. You'll hear that the reverb is quite short, adding reflections without swamping the mix. Use Reverberate CM's low-shelf filter to make a -3dB cut at 400Hz, increasing low frequency clarity.



4 > Next, we'll add an EQ boost to the kick, so it cuts through the mix better. Load DDMF's LP10 CM onto the channel, and dial in a 3dB peak boost at 1kHz; you'll hear the kick poke through the mix. Now, group the lead chords and lead line.



5 > Add Eareckon's excellent CM-EQUA 87 to the lead group, and set the low-cut filter to 200Hz to make room for the kick and bass. A -2dB high shelf HF cut at 1.5kHz will dull the natural sharpness of the synths, making extra space for the percussion to shine.



6 > To finish, we'll use limiting to rein in our spiky lead line. Add ToneBoosters' Barricade CM to the channel, then set the Out ceiling to -5dB to get around 3dB of peak gain reduction. You'll hear the synth instantly gel with the mix, with extra room for the percussion.

Simplicity is key

Ever wondered why EDM tracks sound so massive? The answer is (literally) simplicity itself. Unlike styles like drum & bass that are constructed from painstakingly-layered drum, bass and lead sounds, EDM is constructed using bigger sounds, but fewer of them. This means that each sound has more room in the mix, and there's also more room for the trademark effects such as reverb and delay that are coated all over EDM sounds.

So, if you're feeling like your track isn't sounding big enough, what can be done? Firstly, we'd recommend selecting naturally bigger sounds as a starting point. While a subtle layer or processing can give the desired effect, you'll find that elaborately constructed layered kicks, snares and basses won't sound as powerful in comparison to naturally big sounds.



For big EDM sounds, keep things simple

Equally, while a bit of distortion or similar will beef up your synths, it's always worth looking at applying a bit of unison detuning or similar in the synth itself for a naturally huge sound.

POWER TIP

> For reference...

When you reference your EDM tune in mono, you may find that those huge synths sound weak due to phase cancellation, leading to an EDM track that lacks power when played back on festival/club PA systems, FM radio or even your iPhone. In this situation, use a mid/side plugin such as Voxengo's fab freebie MSED, which splits the stereo left/right signal into its mono and stereo spread components, to boost the volume of the mid (mono) channel accordingly, adding mono weight without compromising on stereo width.

TRAP

> Trap music is an offshoot from hip-hop, and originated in the southern USA during the late 90s and early 2000s. Generally starker than hip-hop, both in its lyrical content and production, trap takes its name from the trap houses in which illegal dealings occur, with crime being a key lyrical theme. Unlike many classic hip-hop beats that major heavily on sampled breaks and one-shots for the rhythm track, trap instead uses classic Roland TR-808 samples for the drum track, often with the kick and bass combined into one musical, yet percussive element.

Musically, trap records generally feature a lot of synth pads, drones and leads, with sampled one-shot stabs or loops also used in places. However, a basic trap rhythm track can work well with musical ideas from a wide variety of other genres, as evidenced by the influence of trap music on other strands of hip-hop, pop and dance culture. Many records across these genres make use of production techniques from the genre, ranging from trademark trap drum sounds, patterns and fills, through to manic chopped-up vocal samples or stabs.

Over the next few pages, we'll show you how to make a bona fide trap track using just this guide, Ableton Live plus the samples and the massive **cm** Plugin Suite we have available at filesilo.co.uk (under Bookazines/Music Producer's Guide To Ableton Live). Simply register an account at FileSilo and download everything you need for free!

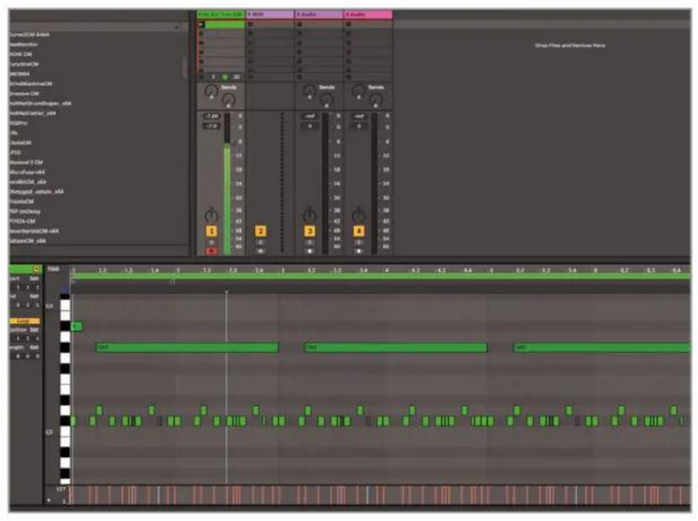
>Step by step 1. Through the trap door



1 > Let's kick off our trap endeavours by making a basic drum track. Set your DAW's BPM to 70, then call up Thenatan Trax CM onto a fresh MIDI track. Trax CM is a great source of one-shot drill and trap drum samples that'll be a great foundation for our rhythm section. Open the plugin, and select Kit 8 from the preset menu. Now, we'll put down a drum pattern.



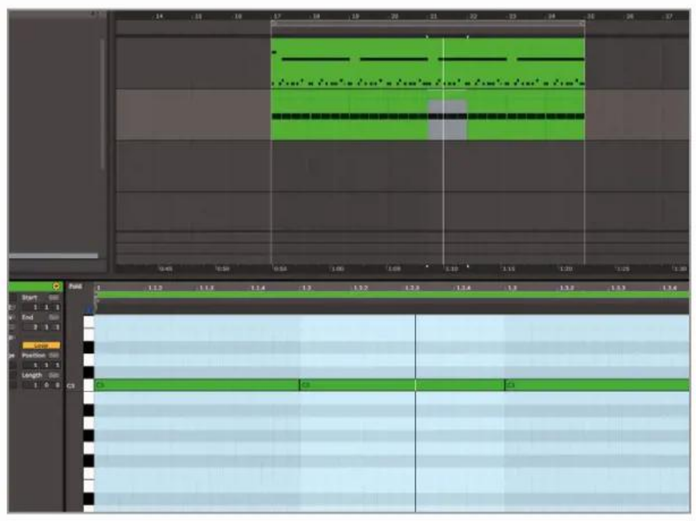
2 > Create a new MIDI clip, then draw in a kick and snare pattern of your choosing over four bars. We'll use Kick 2 and Snare 1 from our Trax CM kit, as they have the kind of sound we're looking for straight out of the box. The one-shots provided by Trax CM are pretty hot, levels-wise, so turn the MIDI channel's volume down to -7dB to preserve headroom.



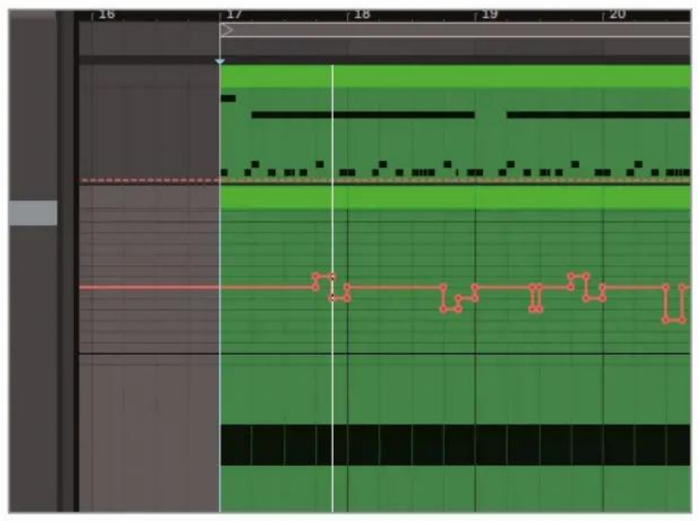
3 > As well as snappy drum hits, Trax CM also has sound effects included with each preset. Extend our drum pattern to eight bars, then add a crash (FX 1) to the start of the loop. Reduce the velocity of the crash, so it blends in with the drums. We'll draw in notes to trigger FX 2 (a vocal snip) so it plays on the second beat of every two bars.



4 > Now, let's create an authentic trap hi-hat loop. Load any sampler onto a new MIDI channel, then import 80s_Hat_01.wav from the Trap folder at filesilo.co.uk; this hi-hat sounds very like the TR-808 hats found in trap. Trap hi-hat patterns are usually fairly complex, so to minimise programming we use a MIDI arpeggiator plugin to quickly create ours.



5 > Add a new one bar MIDI clip to the hi-hat channel, then draw in C3 notes to trigger the hat on every beat. Next, copy the MIDI clip across our eight-bar drum arrangement. If it's not already velocity sensitive, set up the sampler so that the volume of each hat is controlled by the velocity of the MIDI note(s) played – we'll be making use of this later on.



6 > Now we use the MIDI arpeggiator to easily control the speed of our hi-hat by adjusting the Sync Rate. A bit of automation lets us quickly create an interesting pattern; using triplet settings such as 1/24th of a beat gives us that off-kilter swagger all great trap records have. Dialling in a little velocity randomisation gives us an even more authentic sound.

RECOMMENDED LISTENING



FETTY WAP
TRAP QUEEN
This 2014 hit is built on EDM-style lead riffs and bass, over a classic trap rhythm track and finished off by heavily auto-tuned vocals from Fetty Wap.

bit.ly/fw_tq



RICK ROSS
B.M.F
Epic orchestral stabs backed up by deep 808s and a snappy snare gives B.M.F a huge, neck-snapping sound: the ideal backing for Rick Ross's flow.

bit.ly/rr_bmf



BAAUER
HARLEM SHAKE
Harlem Shakes's booming 808 bass drums, sliced vocal builds and detuned lead line were a lot of people's introduction to the sound of the genre.

bit.ly/br_hs



KEYS 'N KRATES
DUM DEE DUM
Keys 'N Krates went all in on the slicing and dicing here, taking chunks of instrumental and vocal samples and replaying them into hooks over a thumping trap beat.

bit.ly/KnK_DdD

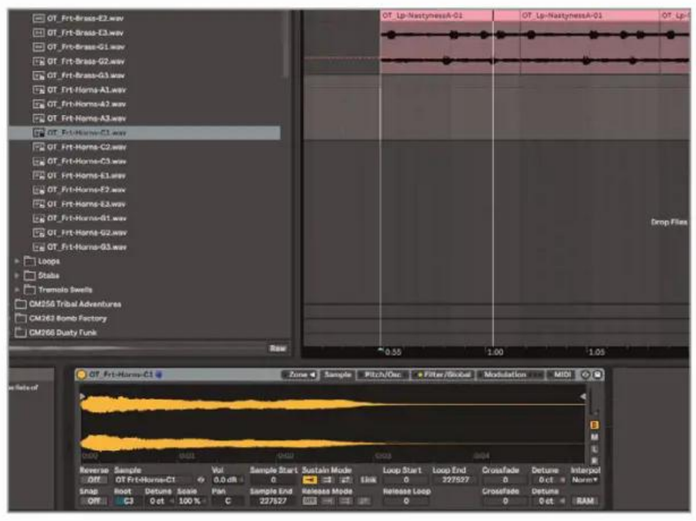
PRO TIPS

SIDECHAINING
An often used effect in trap production is sidechain compression, both for mixing and creative purposes. Using your bass hits as triggers for sidechain compression, for example, can make it sound like your bass is dominating the mix as the elements being compressed are reduced (or 'ducked') in volume. Or, you can instead use a silent trigger track to drive a sidechain compressor, allowing you to trigger the compressor with any drum pattern of your choice.

IMPERFECTION
Part of the charm of early trap music was the rawness of the production thanks to the low budget setups used by producers, so don't feel guilty for breaking the usual rules about gain structure, EQ or suchlike in pursuit of an authentic sound. For example, parts like 808 bass drums or synths would stand out for being too loud, or slightly harsh-sounding which contributed greatly to the aggressive, rough sound of the records.



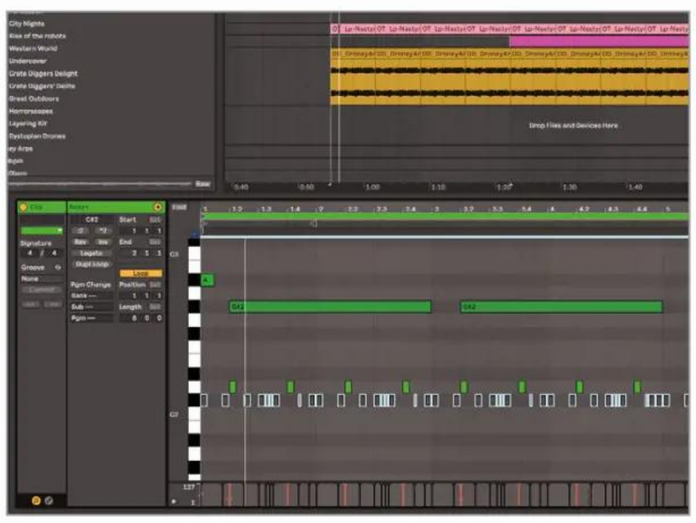
7 > Put the Velocity plugin after our arp, so it affects the patterns we've already programmed. Setting the Out Hi to 100, and Out Low to 80 gives a small range of variance between the loudest and quietest hi-hats. Push Random to 16. You'll hear the velocity of each hat change, adding dynamics to our drums. Reduce the hi-hat to -4dB to preserve mix balance.



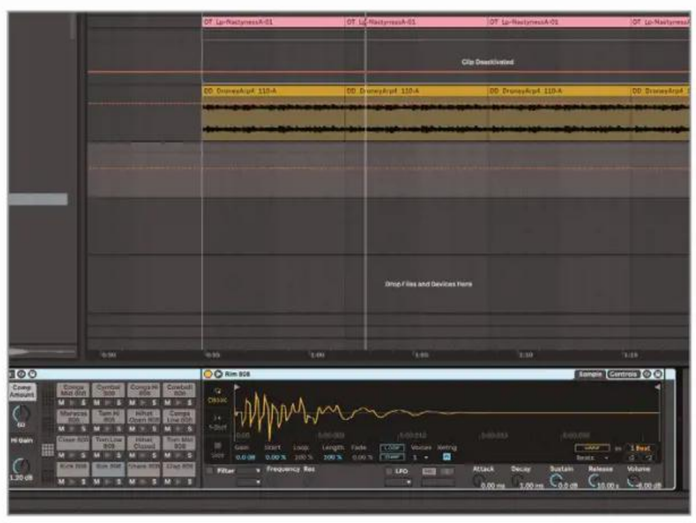
8 > Let's add other sounds. A noise loop from is an ideal start, so add OT_Lp_NastynessA-01.wav onto a new audio track. Turn the loop's volume down to -24dB, for atmosphere without swamping the mix. Next, we make a horn stab riff. Load any sampler onto a blank MIDI track, and import OT_Frt-Horns-C1.wav from the same Trap folder.



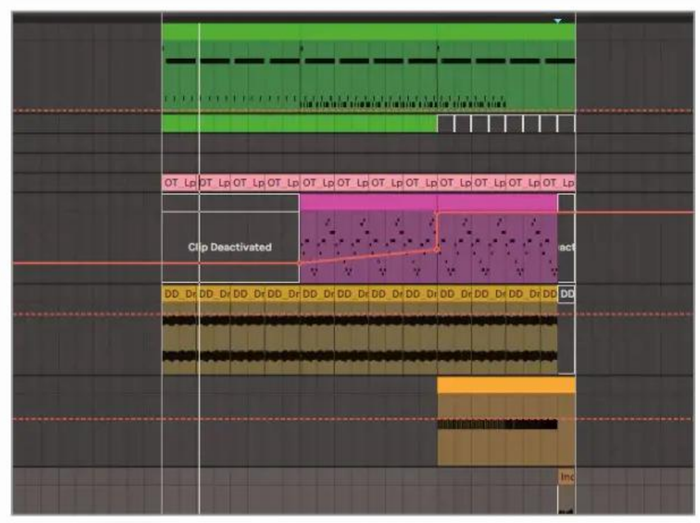
9 > Add Horn.mid from the Tutorial Files folder. The horn sound is a bit weak, so let's crunch it up using Cableguys' WaveShaperCM. Call up the Bottom Noise preset, then reduce the wet/dry mix to 5%. This adds bite, without over-distorting it. Turn the horn's volume down to -3dB blends it into the mix.



10 > A droney arp from the Trap folder adds another layer. Import DD_DroneyArp4_110-A.wav onto a fresh audio channel, then duplicate it across the arrangement. Now duplicate the entire arrangement twice, so we have a 24-bar section in total to use as our intro. Muting the kick drum and horn for the first eight bars helps with setting the scene.



11 > Low-pass filtering our horn for eight bars adds suspense to our intro. Call up Vengeance's VPS Philta CM, and draw in some automation of the low-pass filter. Now, we'll turn the last eight bars into a build to the drop; muting the hi-hats lets the listener know that the arrangement is about to change. Load up an 808 drum kit, so we can make a clap build.



12 > Add a MIDI clip, draw two clap notes in on every beat for the first four bars, before speeding up the claps for the second four. Automate the velocity, so that the claps gradually get louder. Mute the kick and snare for the final four bars, before muting the horn and keys from the last bar, making room for a vocal like the supplied bass_mode_deactivated.wav.

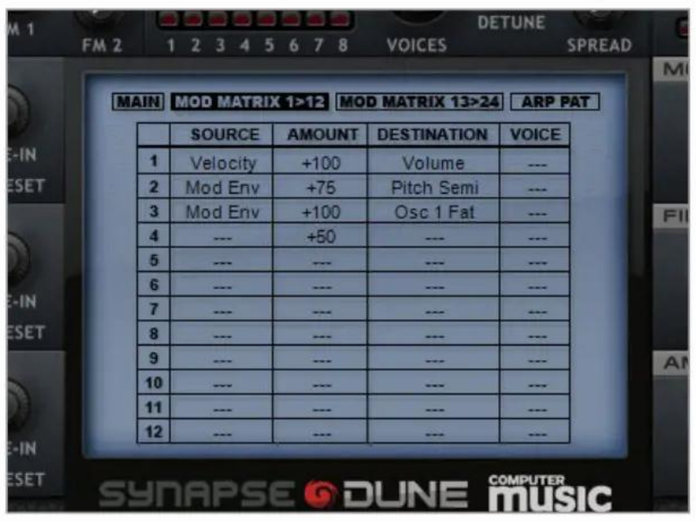
> Step by step 2. Making a trap riser



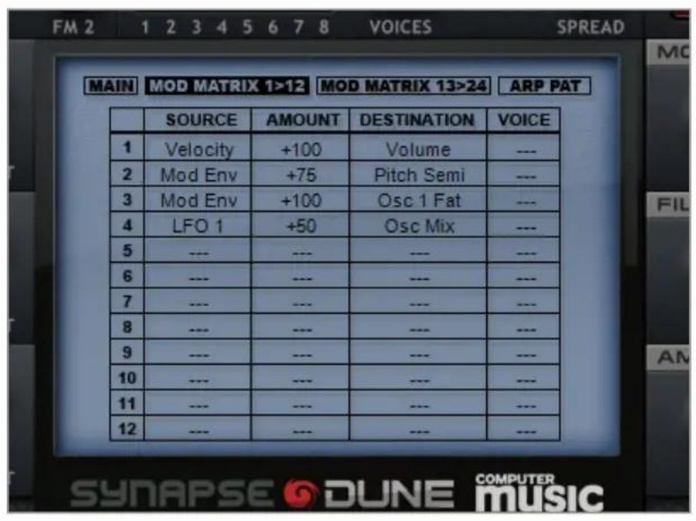
1 > Synthesise your own huge riser effect easily using Synapse Audio's DuneCM. Load the synth onto a fresh MIDI channel, then program in a seven-bar A1 note, starting from bar 17. This'll play our riser leading to the vocal snip before the drop. Reset DuneCM by loading the Init preset.



2 > Open the Mod Matrix, and choose Mod Envelope as the source. Make Pitch Semi the destination, with the amount at +75. Now, the Mod Envelope controls the pitch of our sound; push the Attack and Decay to max, and you'll hear the pitch rise and fall as the sound plays.

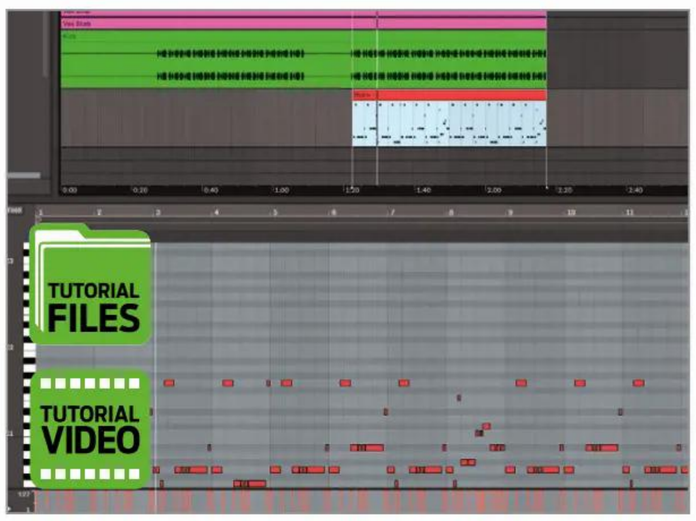


3 > We'll also use the Mod Envelope to fully modulate Oscillator 1's Fat control, giving a detuned sound. Turn DuneCM's output volume down to 15%, so that the rise blends into the mix. Pushing the Noise Oscillator's level to 20%, and colour to 100% adds white noise fizz to the sound.



4 > To finish, we'll assign LFO1 to modulate the Oscillator Mix control at +50. Set Oscillator 2's shape to Square with the Semi tuning at -12 semitones. The LFO modulation will mix the two oscillators together rhythmically, with the tuning-down of Oscillator 2 adding a nice undertone to our rise.

> Step by step 3. 808 bass with DopeVST's Bass Engine CM



1 > We'll add a bone-crushing 808 bass drum to our track, courtesy of DopeVST's superb Bass Engine CM. Load the synth onto a fresh MIDI track, then import 808 Bass.mid – this is a bassline sequence we made earlier. Next, turn down the channel's volume to -10dB to retain headroom.



2 > There are five 808 presets on offer, all of them modelled on 808 bass sounds from well-known hip-hop producers. Cycle through them, until you find one that you like best. We've gone for 2010's 808 Sucker, as it fits well with our kick drum and is rich in mid-range harmonics.



3 > We can give the 808 bass a tighter sound by reducing the sustain, decay and release to a minimum. Pushing the Attack up to 1 o'clock makes extra room for the kick's transient to poke through. To finish off, adjust the Glide amount to make our bass sound more unique.

Trap leads

Having a powerful lead line in your trap track will give it the OTT sound that trap music is famous for. Lead sounds in trap are varied, ranging from EDM-esque massive detuned synth leads through to sampled horn lead lines. How you achieve your trap lead is entirely up to you. You can make one from scratch using a synth; if you take this route, applying lots of detuning, and adding an extra high-pitched oscillator in the mix all helps with making your lead sound bigger.

Alternatively, you can use one-shot samples to create a heavyweight lead. Orchestral stabs, bells and synth bleeps are all great sounds to use, particularly if you can add some extra detuning and distortion in your sampler for extra attitude. Whichever way you make your lead sound, drawing for some epic reverb and delay will help with making the lead more of a standout part of your song – you can also automate these effects to add extra depth.

> Step by step

4. Making your trap mixdown



1 > Let's kick off by EQing the drone arpeggiator to make it fit more elegantly in the mix. Call up DDMF's IIEQ Pro CM, and set Band 1 to Low Shelf. Dial in a -2dB cut at 300Hz, and you'll hear less clashing in the low mid frequencies, increasing overall clarity.



2 > Reverb, courtesy of Ignite VST's AreenaCM, will energise the horn stab. Load the plugin, and decrease the reverb size to 40% so that reverb tails don't swamp the mix. Pushing the modulation to 70% creates an interesting, synthetic tone. Blend the reverb in by reducing the wet/dry mix to 20%.



3 > Group the drums together, so we can process them collectively. OverTone's PTH2A-CM EQ is ideal for shaping the tone in a similar way to how a classic Pultec EQ does it. Push the low boost and attenuate dials to 4, with the CPS set to 100Hz to make the low-end sound fuller.



4 > Tame the highs by boosting at 8kHz (KCS), while also cutting to create a musical curve that's unique to this EQ. We'll dial in a 5 boost, with a 4.5 cut. You'll hear that the high frequencies now sound bright, but with less harshness from the snare and hats.



5 > We can make the 808 bass stand out more by adding some distortion. Audio Assault's BassAmpCM is just the job. Load it up and reduce the Mix to 5, so our bass isn't too distorted. Boosting the Bass dial to 8, and Middle to 6 makes the distortion sound fuller.



6 > To finish, we'll add extra stereo width to the 808 clap fill. First, add JST's Sidewidener CM. Try the three modes out; mode 3 adds great mid-frequency width. Reduce the Width to 40, so the effect sounds less extreme. Increasing the Tone to 70 adds extra high frequency bite.

Drum mixing

Part of making convincing trap music is getting the kick and bass sounding on point, both in terms of the pattern and also how the two sounds co-exist.

A good trap kick/bass pattern will drive the track forwards and rattle the bass bins, while still keeping it danceable. It pays to work on this with some attention to detail, as the bass and kick groove lays the foundation for the musical and vocal elements to sit upon.

As most trap tunes mainly use an 808 bass drum layered with a kick as a combined instrument, it's crucial that the kick is pitched away from the bass, so that the fundamental frequencies of the two layers clash as little as possible.

While getting the pitch right is vital, it's also important to make sure that the kick's sustain is as short as possible so that it doesn't ring out over the 808 bass. By using separate kick and 808 layers, we can play a musical bassline using the 808, while the kick's pitch stays static.



Roland Cloud 808 is a great paid option for getting the trap bass/kick sound down to a tee

POWER TIP

> Drop everything

As with other styles of electronic music that are popular in the US, such as dubstep or EDM, trap often features over-the-top build-ups, before snapping into a relatively minimal drop. You can achieve this effect yourself using a number of techniques, one of which is looping over a short section of your intro's musical and/or vocal elements to lead into the drop. Or, you can use claps on each beat to add momentum, with effects such as risers and white noise swells also increasing the effect.

HiP-HOP

> Originally a product of block parties thrown by pioneers such as Kool Herc, the Black Spades and Grandmaster Flash in 1970s New York, hip-hop became a cultural and musical phenomenon worldwide during the 1980s and 90s. To start with, hip-hop music was created live at parties by the process of cutting together two copies of the same breakbeat record using turntables and a DJ mixer, making a danceable beat out of a short loop. Rappers would then add their lyrics over the music, telling stories while getting the crowd involved through toasting and shout-outs.

Hip-hop quickly caught on, and it didn't take long for artists to start creating this music in the studio, using early sampling equipment from the likes of Akai or E-mu to take breakbeat or instrumental sections of other records from a multitude of genres, and make them into a new composition, often with additionally layered synths or drum machines in the mix. The increasing affordability of sampling and sequencing gear during this period made hip-hop production accessible to a wide audience, and continues to today.

In the spirit of hip-hop's DIY aesthetic, and attitude to sampling, we're going to show you how to make an authentic hip-hop track using just Ableton Live, our legendary **cm** software suite and the samples at filesilo.co.uk (under the Bookazines/Producer's Guide To Ableton Live). Just register an account and download everything you need for free!

>Step by step 1. Beat-making and arranging



1 > Let's start our hip-hop endeavours by creating a neck-snapping, boom bap beat using DopeVST's exceptional Beat Machine CM – you can find this in the instruments folder at FileSilo. First set your DAW's BPM to 90 and load Beat Machine CM onto a blank MIDI track. Turn down the MIDI channel's volume to around -6dB.



2 > Beat Machine CM has 50 superb drum kits under the hood, so spend a little time auditioning them until you find one you like; we've plumped for the Hood Theory kit, which has a grimy yet snappy sound reminiscent of golden era hip-hop beats from Pete Rock, Trackmasters or DJ Premier. Now let's start laying down some drum patterns.



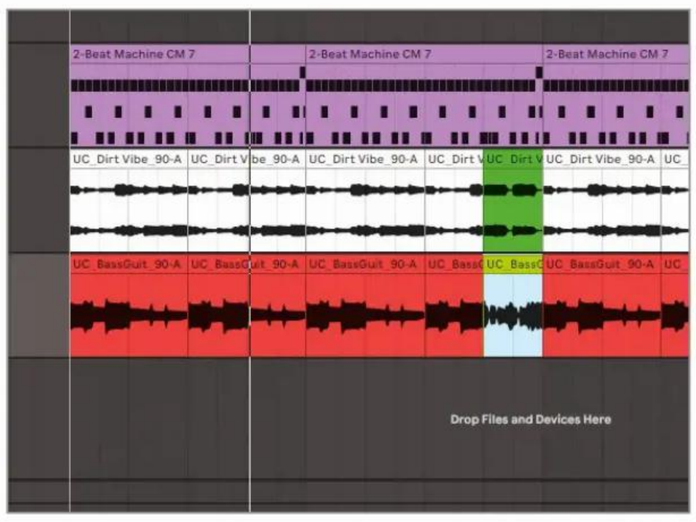
3 > How you lay down your drums is your choice; either program them directly onto the MIDI piano roll, or record them in using a MIDI controller of your choice – we'll program a four bar kick, snare and hat combo in. The pattern sounds great, but is a bit too rigidly quantised right now, so let's add some groove for that authentically wonky hip-hop sound.



4 > Some DAWs have 'swing templates' that you can apply to beats and melodies, adding a human feel to the timing. If you use Ableton Live, the NY Cut 1 template adds swagger to the drums; reducing the velocity of the offbeat hi-hats further humanises our beat. Don't worry if your DAW does not have these!



5 > After stretching our drums out into a 16-bar loop, add samples from the BGTMP folder at filesilo.co.uk (Hip Hop folder). Import UC_DirtVibe_90-A.wav and UC_BassGuit_90-A.wav. These consist of a grungy vibraphone riff, with a chunky bass guitar, both in the key of A. Reducing both volumes by around -5dB.



6 > Use alternate loops of our instruments in a different key to make variations of our main loop. Import UC_DirtVibe_90-C.wav and UC_BassGuit_90-C.wav, and place them on the last bar of every eight-bar section using the same volume and warp settings as before. Now that we've got a 16-bar section with extra flourishes, we can flesh it out into a full track.



RECOMMENDED LISTENING



EAZY-E
BOYZ IN THE HOOD
Eazy-E's laidback vocal style, with Dr Dre and Yella production. 808 drums are complemented by a piercing synth lead and extra scratches.

bit.ly/eze_bith



NAS
N.Y. STATE OF MIND
This track featured the legendary DJ Premier on the buttons, sampling Joe Chambers and Rakim over a Kool & The Gang breakbeat.

bit.ly/ns_nysom



MOBB DEEP
SHOOK ONES
Mobb Deep's classic, featuring clever manipulation of a sampled Herbie Hancock piano riff alongside sparse beats – and that killer first verse from Prodigy.

bit.ly/md_shkns



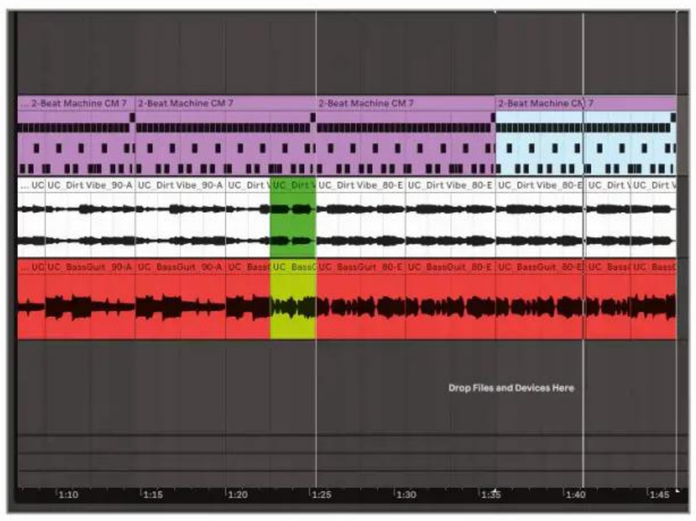
THE NOTORIOUS B.I.G.
JUICY
Produced by Poke and Puff Daddy, the laidback vibe of the Mtume sample nicely pairs with Biggie's effortless lyrics.

bit.ly/ntrsbg_jcy

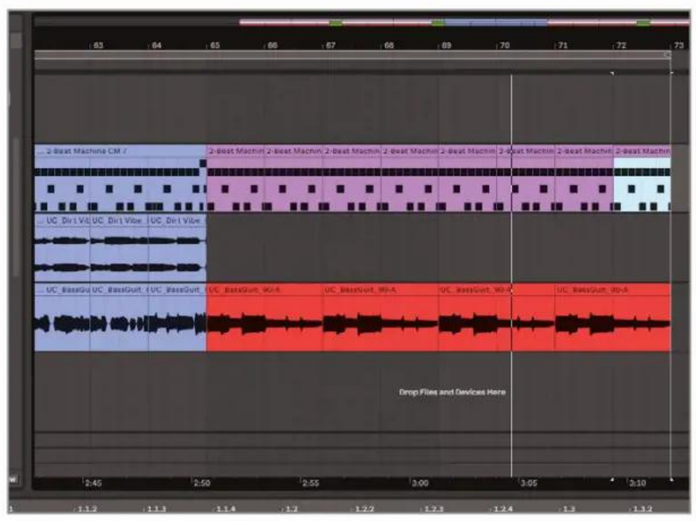
PRO TIPS

TIMING IS KEY
What gives hip-hop its authentic feel is the lack of rigid quantisation, particularly when making drums. While the track has to sound together syncopation-wise, don't be afraid to place things slightly ahead, or behind the grid if it sounds good. For example, moving percussion such as hi-hats or rides slightly ahead of the grid gives an urgent feel to the rhythm track, while moving behind gives a laidback feel.

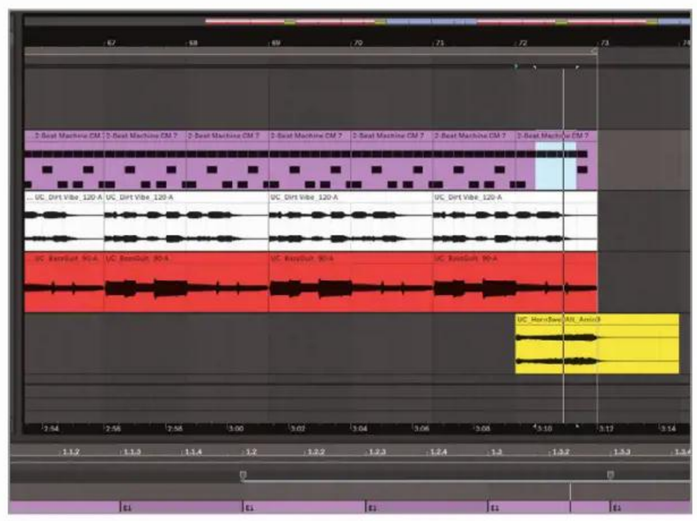
SAMPLETASTIC
One of the most fun things about hip-hop is finding cool and unusual samples, then creating something of your own from them. Our supplied samples from filesilo.co.uk have enough authentic-sounding sounds to get you going, but there are other options including sample packs from the likes of Equipped Music, or Arcade's Output loop synthesiser. This lets you manipulate royalty free, old school samples in tonnes of ways to make them your own.



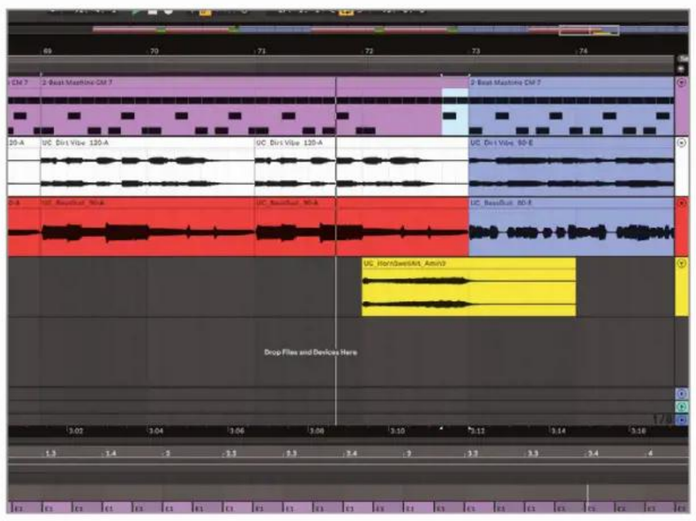
7 > The section created will be our verse, so let's make a hook to follow. Copy an eight-bar section of drums after the verse, load UC_DirtVibe_80-E.wav to the vibe riff channel, with UC_DirtVibe_80-A.wav as a one-bar fill at the end. Load UC_BassGuit_80-E.wav for the bass, with UC_BassGuit_80-A.wav to complement the one bar vibe fill at the end.



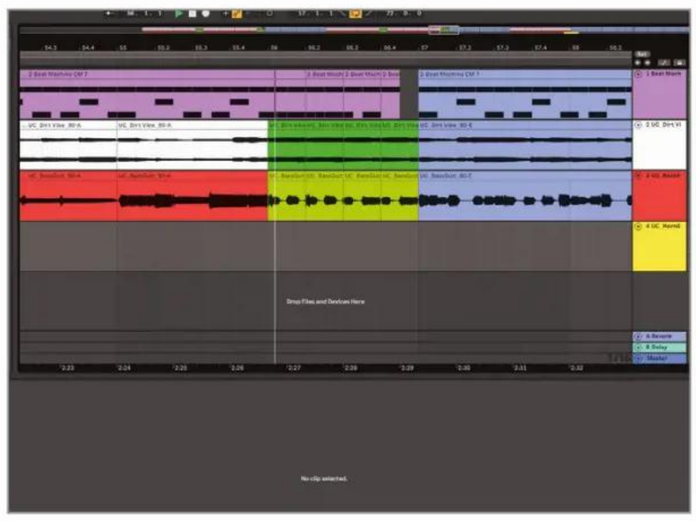
8 > The bass fill at the end of the hook section sounds slightly loose, so we'll use Live's warping to quantise the last three notes. The bass fill syncopates with the drums more tightly now. Add a second verse to the arrangement by duplicating the verse section and placing it after the eight-bar hook. Copy the hook section, and paste it so it repeats after verse 2.



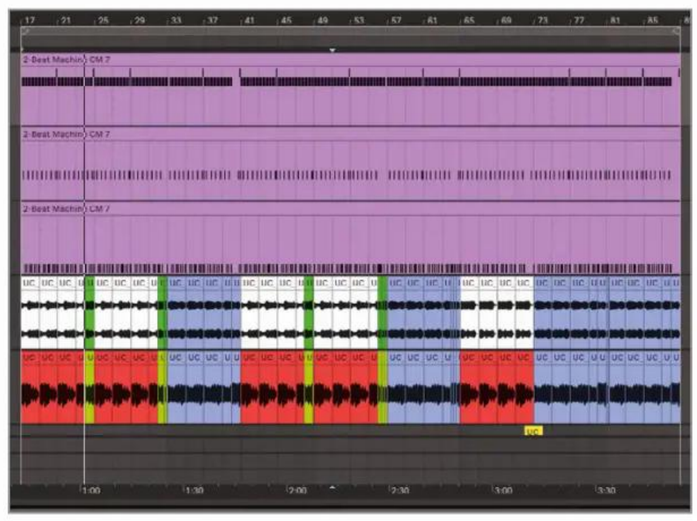
9 > An eight-bar bridge section changes the vibe of the track, before ending the arrangement on a 16-bar double hook. Copy the first bar of our drum loop, and duplicate it eight times. Using one bar of the drum pattern only for the bridge gives a different feel compared to the rest of the track. We'll use the main bass loop from the verse for the bridge as well.



10 > To create an interesting bridge, we'll grab UC_DirtVibe_120-A.wav, and duplicate it across the entire bridge section. Add a classic-sounding horn swell to the end by importing UC_HornSwellAlt_Amin9.wav, and placing it on the last bar. Muting the first snare, last hat and kicks after beat 1 creates a nifty drum edit to accent the horn further.



11 > To complete our arrangement, copy the eight-bar hook section twice directly after the bridge. This makes our track just over three minutes in total – ideal for a rapper or vocalist to work with. Adding some extra drum and sample edits at the end of each of the eight bars of verse and hook gives the distinctive, chopped-up sound hip-hop is famous for.



12 > Focus on the drum mix now. Bring all the drum MIDI clips into one. We can now duplicate the drum machine MIDI channel twice, and mute the appropriate MIDI notes so that the kick is playing from one, the snare from another and the hats from the third. You can now process each drum part separately; turning the hi-hat volume down by 1dB gives balance.

Arrangement antics

How you arrange a track makes all the difference to how it flows, and how it makes the listener feel too, particularly with sample-based music like classic hip-hop. A simple example of arrangement magic is Daft Punk and Pharrell's 2013 hit *Get Lucky*; by trimming the six-minute album mix to a more concise four, the most striking parts of the song were given greater focus, creating a monster.

So, how can you make your arrangements stand out? A great starting place is to analyse the arrangement of songs from your favourite artists. You can do this by placing the file in your DAW, and using markers to map out the different sections. Or, if you're more of a visual person, try drawing the arrangement of your favourite song on paper as a diagram. Going through this exercise will teach you how the professionals do it, while giving you fresh ideas to spice up your own arrangements.



> Step by step 2. Adding some effects





1 > Some effects processing will make the bridge section more unique. We'll use CrossDr CM (from the Effects at Filesilo) to change the tone of our vibe riff for the last two bars. Load up the plugin, and select the Basslane Warp preset. Automate the plugin bypass, so it only affects the last two bars.

2 > Turn CrossDr CM's output level down to -17dB, so that the effect is slightly quieter than the dry signal, and emphasising the horn swell. We'll use Vengeance's VPS Philta next, to filter some low frequencies from the riff. Add the plugin, then draw in some automation of the Lowpass filter's frequency.





3 > Adjust the Lowpass filter's Slope to 48dB/octave, so that the effect is more pronounced. Increasing the resonance to 10% gives the effect a more ringy tone that stands out from the dry riff. Again, we'll automate the filter's bypass so that it doesn't affect the rest of the track.

4 > To finish, we'll add lush reverb to the horn swell. Call up Acon Digital's CM Verb, with the Large Gothic Cathedral program loaded. Push the reverb time to nine seconds to make the tail longer, with the low cut-off set at 400Hz to reduce unwanted low frequency muddiness.

> Step by step 3. Setting the scene with a unique four-bar intro







1 > A four-bar introduction will not only give any potential vocalist a cue to drop in for the verse, but also gives the verse context in its own right. Cut a beat of the vibe riff, and place it on a new audio channel four bars before the track starts.

2 > Reverse the audio slice, then place PSP's CM Delay on the channel. Kill the Dry signal, so we just hear the wet effect. Turn on the delay's Sync, and set Delay Time to ¼ of a beat. Automating the Feedback level up to 100 makes our delay tail get gradually stronger.

3 > We'll automate the Wet level now, so that the delay fades in from silence across the four-bar intro, before cutting abruptly when the verse comes in. To fill the dead space, take a section of the verse drums and create a simple drum pattern that leads into the verse.

> Step by step

4. Drum mixing – adding beef to a kick



1 > Although the drums sound great right now, we can apply processing to sculpt their sound to our taste, enhancing the sound of the finished drum kit. Start by adding Eareckon's CM-EQUA 87 EQ to the Kick channel. Disable the high-pass filter, and add a 2dB LF boost at 60Hz.



2 > Adding this EQ boost fills the low end by giving the kick more of a low-frequency thump, without it swamping the bass. Applying a -4dB HF shelf cut from 2kHz upwards gives our kick a lo-fi, warm sound that complements the track nicely. Next, let's process our hi-hats.



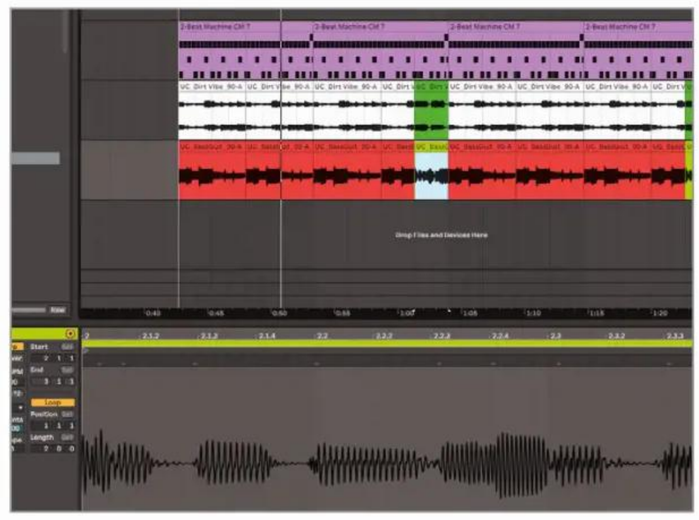
3 > Load up Audiffex's STA Enhancer onto the Hats channel; this is a modelled tube amplifier that we can use to grunge up our hats nicely. Setting the Low Process to 50%, and High Process to 25% adds depth and sharpness to our hi-hat track, with 100% saturation adding crunch.



4 > As STA Enhancer has no on-board gain adjustment, turn down the hi-hat channel to -5dB to keep the levels in check. Now, group the three drum parts together into one bus so we can process the drums as one entity. Start by adding Sonimus Satson CM onto our drums bus.



5 > Satson CM is a saturation plugin modelled on an SSL preamp; if you bypass it, you'll hear the difference it makes in adding analogue vibes, whilst subtly gluing our drums together. We can add some extra punch to our drum bus by dialling in a little compression using audioD3CK's SunRuysCM.



6 > Set the Ratio to 4:1, with attack and release times of around 20% to let part of the transients through, while releasing the effect quickly. A Threshold of -16dB gives us roughly 4dB of gain reduction, while applying 1.5dB of make up gain matches the wet and dry levels.

Drum mixing

Achieving a powerful, authentic-sounding drum mix when making hip-hop is not only important for making your track sound true to the genre, but is also loads of fun. While most electronic styles demand a more clinical touch when mixing, to achieve the desired end result, hip-hop allows more room for experimentation.

So adding low mid thickness to hi-hats and perc using EQ can give the drum track a chunky, full sound while adding prominence to any background noise present in the drum samples. Using narrow EQ bell boosts to accent the fundamental frequency of kick or snare hits is another good way of adding power, and a hyped tone, to your beat.

Driving your drums through saturation can also really help to give your mix added character. You can add subtle saturation to the drums as a whole bus to glue them together, or drive individual hits harder through some tape saturation to add a fizzy, distorted edge to them.



POWER TIP

> Authentic tone

As most classic hip-hop was made using whatever studio gear and samples the artist could get their hands on at the time, the imperfections and limitations of that contributed in part to the tone of the finished record. We can recreate this feel in our DAW using a number of techniques. Layering subtle vinyl surface noise behind clean sampled loops can make them sound more retro, while plugins like TAL's Sampler or Inphonik's RX950 emulate the functionality and tone of classic hardware sampling kits from Akai and E-mu.



Ableton Live 11
FEATURES IN DETAIL

Ableton released Live 11 at the start of 2021 and it was a major update. Here's everything you need to know about all the features



> There are several types of DAW update. The first is the complete rewrite, where a DAW is completely rebuilt from the ground up – a rare but revolutionary update that takes the best bits of an older system and re-imagines them without any of the old code holding the new version back. Then, at the other end, the point update which adds nice features or workflow improvements to gently nudge a DAW forward. Somewhere in between is the major update that offers significant changes across the board but doesn't reinvent the wheel. And that's where the last update to Ableton Live sits...

Version 11 *is* a significant update, even though it is so because of the sheer number of additions rather than any main headline-stealing features. Live 11's additions include many user-requested upgrades, new workflow tools, new content and plugins, but it is not revolutionary in, say, the way that Logic Pro X was.

In Ableton Live's case, this is a good thing. The core of the software hasn't changed since v1: arranging clips, throwing loops together, playing live and creating music in a fun, feature-packed environment. That philosophy is what made it so successful, so why change that?

Instead, Live 11 is very much a smooth and rounded Live experience, with all of the pro features you'll find elsewhere wrapped up in that comforting Ableton blanket. Any Live user from the last two decades will be at home with Live 11 and welcome these additions. And talking of two decades; can it really be so?

Still going strong

Looking back on that Ableton history, we're immediately surprised by how long it is. While many us still think of Live as the young upstart revolutionising how we made music, the first version actually appeared back in 2001.

The concept was conceived by Gerhard Behles and Robert Henke who together with Bernd Roggendorf took it to the NAMM show that year, during which time Hans Zimmer saw the first version and helped spread the word, after being impressed by the software's real-time audio time-stretching features.

Since then Live has blossomed, with MIDI clip support and sequencing arriving in v4 (released in 2004), not to mention the Simpler plugin. By the time v7 arrived in 2007, it featured the Drum Rack, loads of effects, Sampler, mp3 support and a lot more, and the Suite version was introduced with yet more options. Since v7, the number of updates has slowed, with a few years between each one – with v9 introducing audio to MIDI and v10 the Wavetable synth – and, of course, the software is now joined by the perfect hardware partner in the form of Push.

Take it to 11

And so we reach the latest version 11 and it's time to cover all of the significant updates that this it brings us. So, over the following 10 pages, we are going to bring you an extensive guide to what's inside number 11.

Finally, of course, Live is a true cross-platform Mac and PC DAW. This feature was written using a Mac, but all walkthroughs apply to both and if you're on a PC, simply substitute the Command key with the Control key when using shortcuts.

New in Live 11

The many new features, devices, effects, workflow tweaks and other improvements in Ableton Live 11

> It's difficult to know how to cover Ableton Live 11 as there are a lot of updates right across the board, so it's tough to know where to start and what order to reveal them. What we'll do, then, is just dive straight in with descriptions of the main features – starting with the new devices – and then run you through how they work with a series of workshops over the next ten or so pages.

New devices

Let's start with the main audio effect additions and a new device called Hybrid Reverb. This is a convolution and algorithmic reverb plus EQ section that allows you to route either or both reverb processes in series or parallel. There are seven Convolution Impulse Response categories (including Early Reflections, Made For Drums, Real Places and Halls) with some populated with more presets than others (on the beta, Real Places is lacking).

For the algorithmic side of Hybrid Reverb – with a different set of parameters to tweak – you currently get Dark Hall, Shimmer, Quartz and Tides modes, with another expected for the full release. These vary from the expected (Hall and Quartz are spatial) to more pulsing (Shimmer and Tides). Finally there's also a Vintage Mode which is still to be implemented but promises emulation of older digital units.

In use, there are a couple of outstanding features to try with Hybrid Reverb: firstly to drag any audio file onto the plugin which will then create a User Impulse Response, with an envelope defined by the shape of the audio file – particularly obviously with drum loops for some properly creative and rhythmic effects. We also love the Shimmer algorithm, especially combined with an aforementioned audio loop User IR which can create some haunting and quite scary pulsing reverbs.

Next up in the list of big additions in Live are two spectral effect plugin devices called Spectral Resonator and Spectral Time. Spectral Time is both a delay and freeze effect that produces combinations of these based on FFT technology. The Freeze side has Auto and Manual Modes, the former detecting transients of incoming signal and applying Freeze on each, and the latter allowing you to apply the effect using the Freeze button. Certainly playing with the Freeze Sync and Onsets controls allows for both wild and tempo-led freeze effects. Up the Sensitivity and bring in the Delay side and you're quickly entering leftfield and wild territories – definitely one to both push and be restrained with for a wide range of sounds.

Spectral Resonator is perhaps a more practical plugin for some uses, a tonal spectral processor based on FFT technology. Here there are Chorus, Wander and Granular modes with a main Frequency dial for pitch, Decay for impact and a Mod Rate dial taking you everywhere from extreme chorusing to computer/granular bleepery. Particularly pleasing is the Harmonics parameter that brings beautiful filtering to the proceedings.

While we are talking about Live effects, there are many more additions to cover. The Redux bitcrusher now has extra controls that give it a wider range of sounds, as Ableton say: "from harsh distortion to warm and saturated 8-bit textures".

> "In use, there are a couple of outstanding features to try with Hybrid Reverb"

Phaser-Flanger incorporates the previous single Phaser and Flanger devices into one and promises a 'lusher sound' with existing Earth and Space modes 'completely rewritten to be more expressive' and an added Doubler mode offers short, modulatable delays.

Similarly Chorus-Ensemble replaces the existing Chorus device and adds Ensemble and Vibrato modes for everything from analogue-style inaccuracy to wild pitch variations.

Recording features

The big news with Live 11 as far as recording goes is Take Recording and comping. Here you can make multiple recording passes of the same loop, for example, and all of them are displayed on top of one another so you can then, post recording, select the best bits and comp them together into the perfect take. It's great for vocal recordings where you can slice out words into perfect phrases. It has, as you may know, been present and correct in many DAWs for a while but it's good to see it finally in Live and it's very easy to implement with typical Ableton finesse to make it pretty much a joy to use.

With Take Recording, Live 11 will automatically create Take Lanes as you record passes, or you can manually create Take Lanes (Shift/Option T) for your multiple takes and as you repeat your recording, each will automatically fill with the latest pass. You can rename the Take Lanes while recording – and rename and reorder multiple Take Lanes.

Once you have made all of your recording takes, you then simply audition each Take Lane and use the draw tool on each one to select the best clips which then become part of the comp'd final take.

Another of the big new editing features in Live 11 is Linked Track Editing where multiple tracks can be edited in one go. You simply select the tracks you want to Link (use Option Click per track) and then Control click to bring up the menu now with a Link Tracks option. Select that and each track will have a Link icon graphic shown (which you can later click to reveal Linked Tracks).

You can then do things like arm all tracks for recording, resize, split and copy clips on multiple tracks, add synced fades and mix multiple lanes. Tracks can be easily added or unlinked



individually or as a group and group tracks can be added.

One of the best Live 11 features is that these two additions – take recording and Linked Track Editing – can be combined so you can set up Take Lanes and audition and record on multiple tracks, which is great if you are into slick band recordings. Inserting, renaming and deleting multiple recordings is possible and if you comp together multiple takes on one recorded track, you can even apply the same comp to multiple tracks. We'll show you more on this in a walkthrough later and while some might say both features are late in coming, they are certainly comprehensive in their coverage and a very powerful set of tools, especially when combined together.

Random events and more

Clip editing has had something of an overhaul in Live 11, with more detail shown and lots more options, with particular emphasis on chance events. There's a much clearer overview of all the detail with tabs for Note Parameters, Envelopes and MPE (more on this shortly).

Within the Notes tab you now get Velocity and Note Chance options. Both of these are great for introducing a human feel with percussion, for example, as velocity isn't robotically set at one level. Similarly Note Chance will play different events in a pattern as clip cycles, delivering an element of chance and making your clips sound less programmed. Both MIDI beat and note clips can be edited in this way as we'll see in our workshop.

MPE Extras

The new Live update also includes additional MPE (MIDI Polyphonic Expression) support, that is the more expressive side of MIDI as championed by an increasing number of hardware and software developers. A new tab has been added to the Clip Editor called Note Expression that essentially gives you access to the extra dimensions that MPE offers, including Slide and Pressure. We tested it using a ROLI Seaboard BLOCK and the company's (rather fabulous, if a little bland-looking) Equator softsynth. Ableton's own Wavetable, Sampler and Arpeggiator devices are all updated to support MPE with new presets that respond to the additional data.

Live 11 certainly opens up to the extra dimensions afforded by MPE, allowing you to draw in and make very expressive edits. We'll show you how we got on with Equator and show you some of Ableton's own ideas involving impossible-to-play but great-sounding pitchbending transitions between chords! MPE allows for whole new ways of playing and recording sounds and the new features in Live 11 let you capture it with ease.

More on the way

There are many more new features, including key and scale viewing in the MIDI editor and, importantly for live use, Live's tempo can follow incoming audio signals such as a live drummer, drum machine or external sequencer.

Anyway, now it's time to examine all the latest LIve 11 features in more detail as we go into 'workshop' mode, giving you in-depth, easy to follow walkthroughs and screen annotations covering all of the Live 11 greatness.

It's time to take it to 11...

LIVE 11's MAIN UPDATES

Latest additions

A focus on some of the multitrack comping and Take Lane features in Live 11, and the latest effect plugins...

TAKE LANES - TAKE 1, TAKE 2, TAKE 3
Beneath each audio recording track are the Take Lanes that contain all the different auditions you have made for each cycle of your recording.

COMPING
Choose the best audition by highlighting sections of the Take Lanes. These will be then selected to appear in the main audio track above.

LINKED TRACK EDITING 1
Tracks can be linked so that an edit or mix tweak that takes place on one will take place on all of them.



MORE LINKAGE
As the main audio tracks are linked, any resizing of one Take Lane will take place on all linked Take Lanes.

MULTI-TRACK COMPING
As all the tracks here are linked, comping that takes place on the Take Lane in the Drums takes place on the same Take Lane in Piano and Sax.

LINKED TRACKS 2
In this case, all Linked Tracks have multiple Take Lanes, so an edit that takes place on one Take Lane will take place on the same Take Lane in all Linked Tracks.

Hybrid Reverb

Convolution and algorithmic reverb

CONVOLUTION IRS

Seven Convolution Impulse Response categories (Early Reflections, Made For Drums, Real Places and Halls and more), plus drop-down presets.

ALGORITHMS

For the other reverb process, choose from four algorithms so far – Dark Hall, Shimmer, Quartz and Tides.

EQ

Click on the EQ tab to get more control over your effected sound.





ROUTE AND MIX

Choose either reverb type (convolution or algorithm) and how they route together (series or parallel) from a drop-down menu.

CUSTOM ENVELOPE IRS

Load in your own audio file – in this case a drum loop – and that becomes the envelope for the selected Impulse Response.

CONTROLS

Of the main controls, the Freeze option gives you maximum drama.

Spectral Resonator

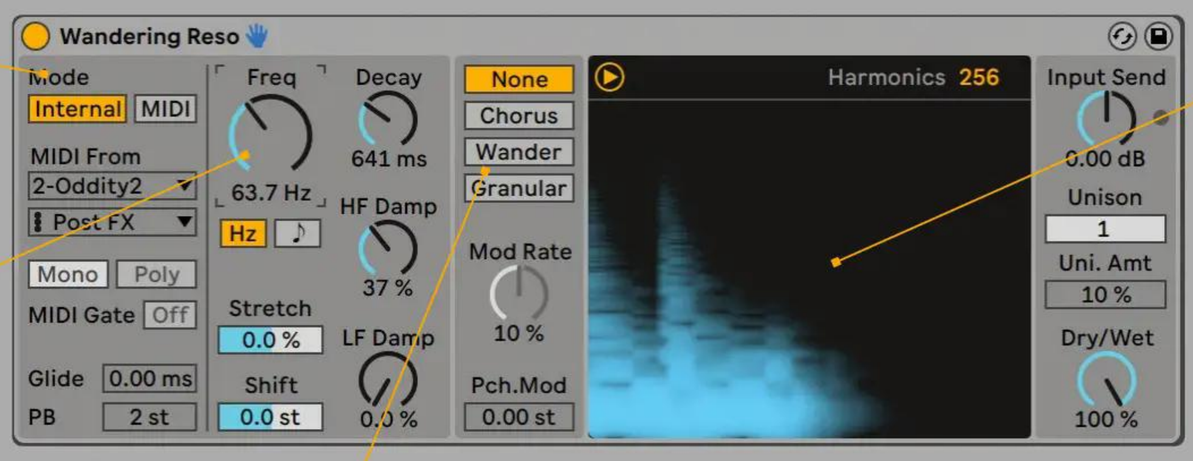
Frequency shifting, stretching and blurring

INPUT

Process incoming audio in key with MIDI information

MAIN CONTROLS

Adjust the frequency (by note or Hz) of the incoming signal and its decay, plus Hi and Low Frequency damping.



MAIN MODE

For Chorus, Wander and Granular effects.

SPECTRAL DISPLAY

Shows a visual representation of the processed signal.

Spectral Time

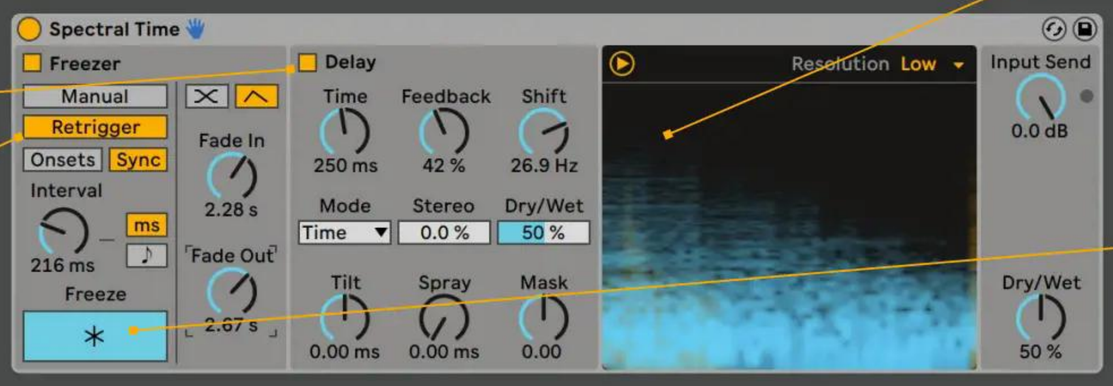
Frequency-based delay and Freezer

DELAY SECTION

Main controls for Time (delay time), Feedback and Shift (pitch) plus Delay Modes and more options.

RETRIGGER MODE

In Retrigger mode (either Sync or Offsets) you can get more rhythmic effects with pulsing effects set with the Fades.



DISPLAY

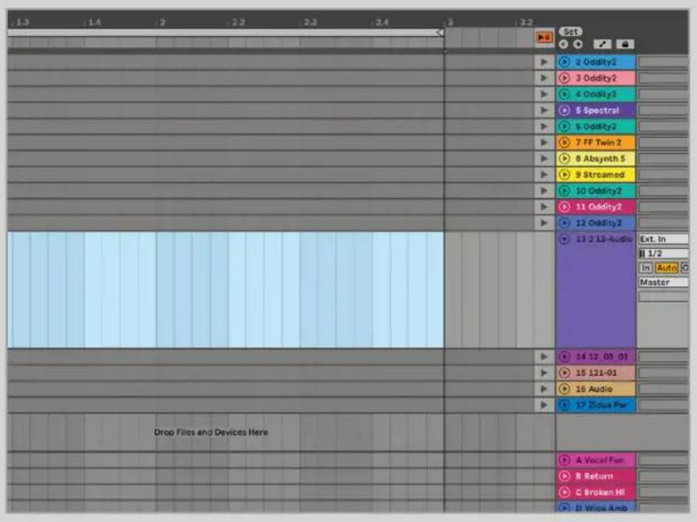
As with Spectral Resonator, it's a dynamic display that cycles as your clips loops.

FREEZE MODE

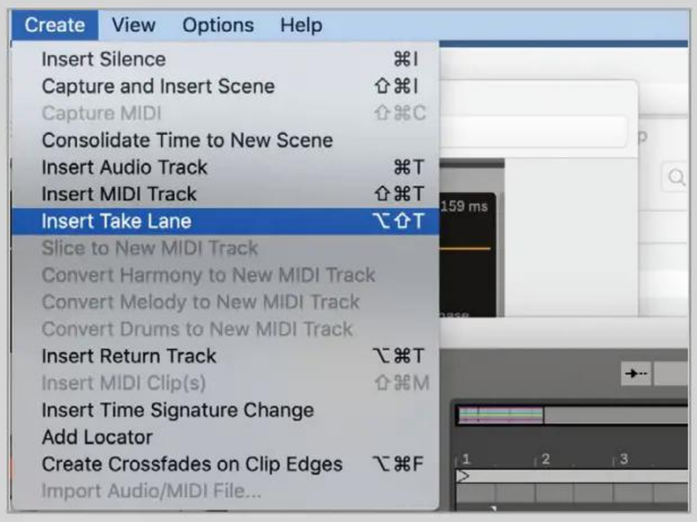
Press the Freeze button to 'capture' a slice of the input signal.

> Step by step

1. Take Recording and Comping



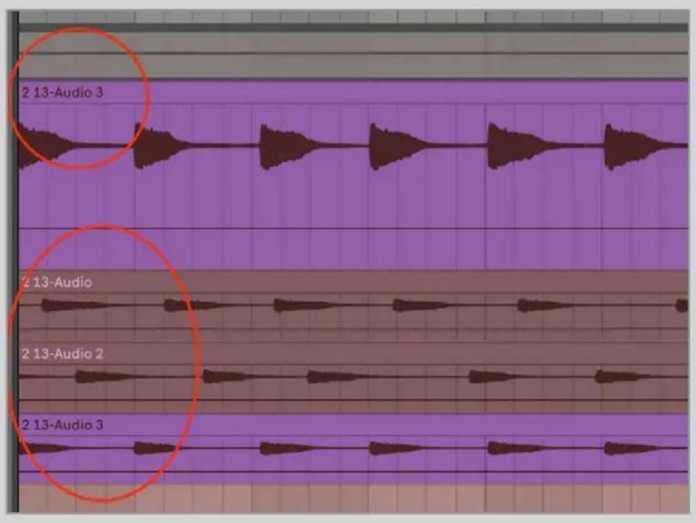
1 > A significant addition to Live 11 is Take Recording where you can make multiple passes of the same recording – great for either getting a perfect recording from one of the passes or comping the best bits of multiple takes together. Here we have an audio track ready to record.



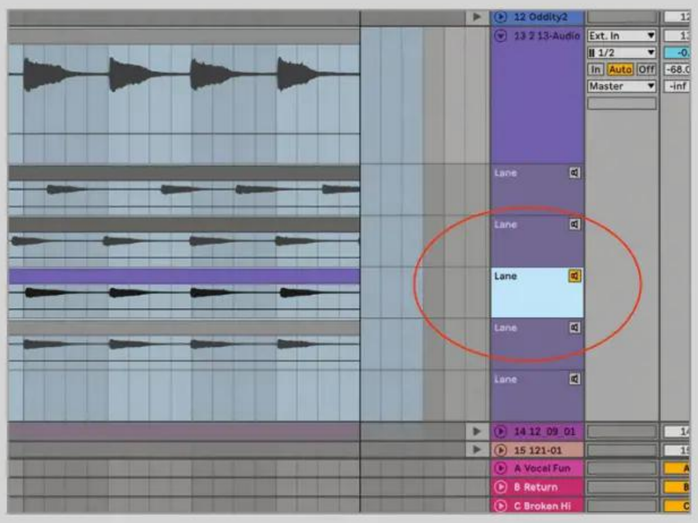
2 > Set your loop points and simply record your take around the loop points and Live will now automatically record each loop onto new Take Lanes. You can insert more from the Create menu or use the key command Opt>Shift>T.



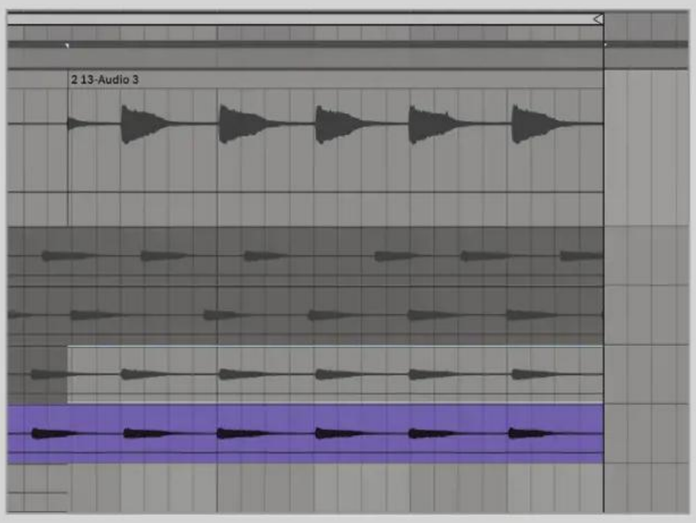
3 > Watch as you record your different takes over several audio Take Lanes beneath your main audio track.



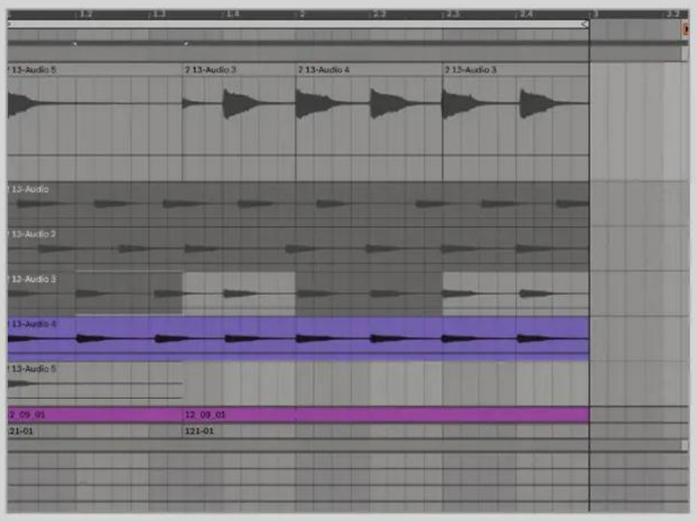
4 > Each different Take Lane now contains a different audio clip which increases in number as you record and add another take. The main audio track plays back the most recently recorded take, in this case Audio 3.



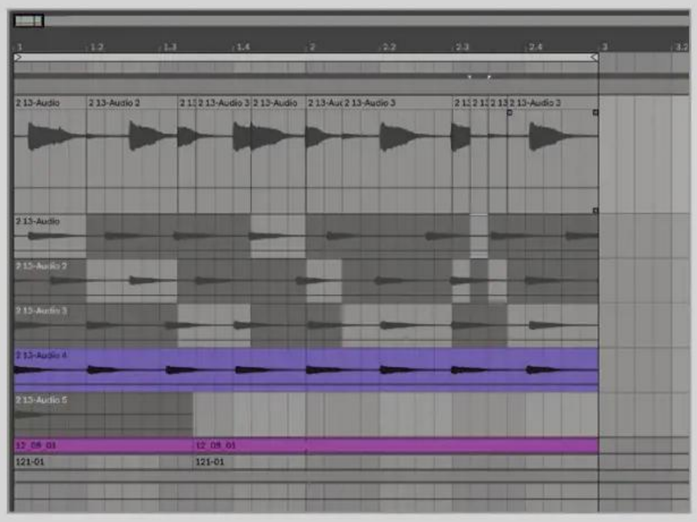
5 > Once you have finished recording your different takes – or, as in our case, simply given up playing midway through your final one – you can audition each lane by clicking the speaker icon within each Take Lane.



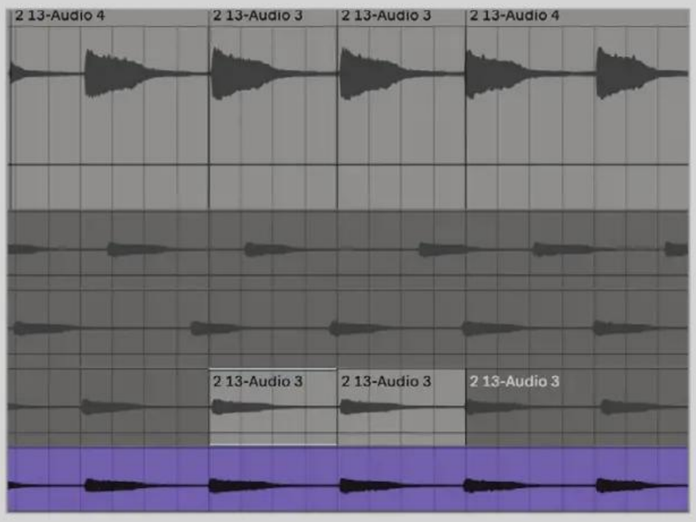
6 > You could simply select one as your main take, of course, but better still is to use bits of each one, comping, to create the perfect main take. Here you simply draw across the perfect parts on each take lane. In this case we've drawn across the last section of Take Lane 3. Note how it appears at the top in the main audio track.



7 > You can now comp together parts of each Take Lane and they will come together like some kind of audio Frankenstein's monster of an audio take at the top. But a perfect one, so not like Frankenstein at all.



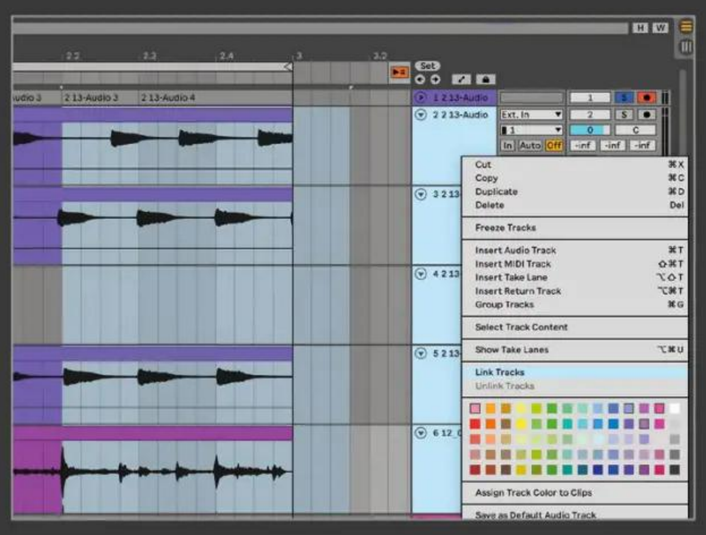
8 > Here we've comp'd together small sections from every lane in multiple areas to create havoc – just to show how it's done.



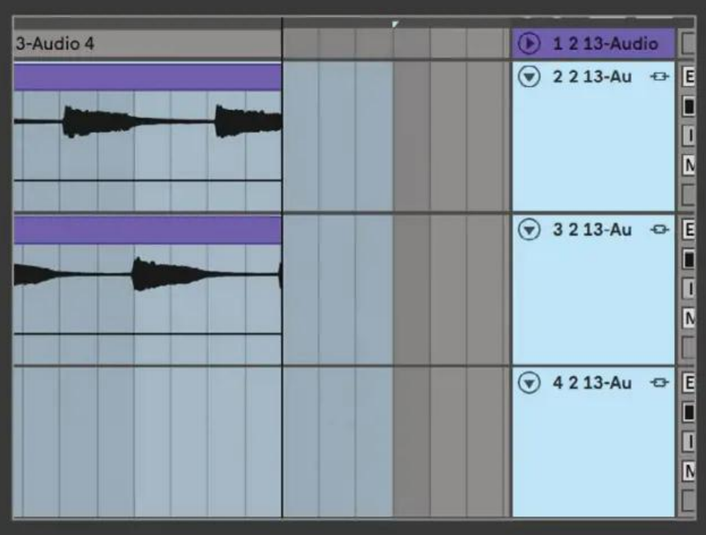
9 > But of course, all comping can be undone, and if you have some great notes on one or several Take Lanes, they can be copied and used as the main audio take. We'll also look at multiple lane comping later.

> Step by step

2. Linked Track Editing



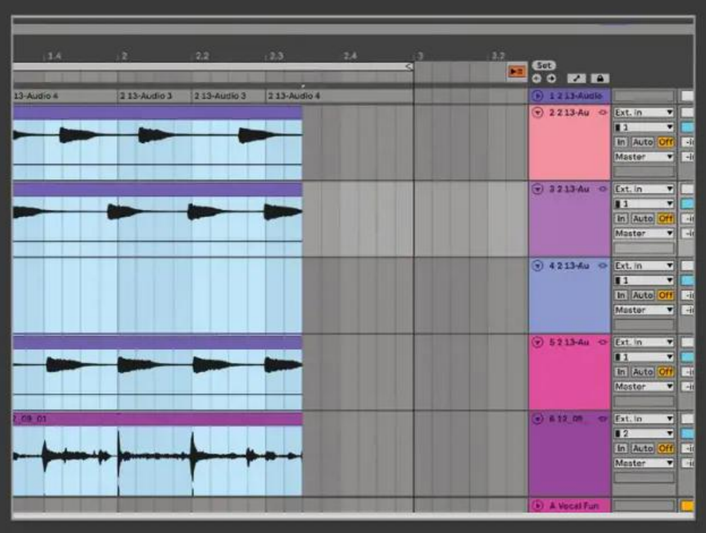
1 > Another great Live 11 feature is called Linked Track Editing where edits can be made on multiple tracks simultaneously. Here we've simply dragged across multiple audio tracks and then Control>Click and select the Link Tracks option.



2 > Note that each of the linked tracks now has a new Link graphic so you can see each one. Now, anything you do to a single track will be done to all of those highlighted with this icon.



3 > Here we've record-armed all the tracks simultaneously just by clicking one track. We also then solo them and you can also change the input and output of one track and it will apply to all.



4 > You can also add another Group Track to individual tracks and bring that into Linked Track Editing. Here we've simply dragged one track to resize all of the linked tracks



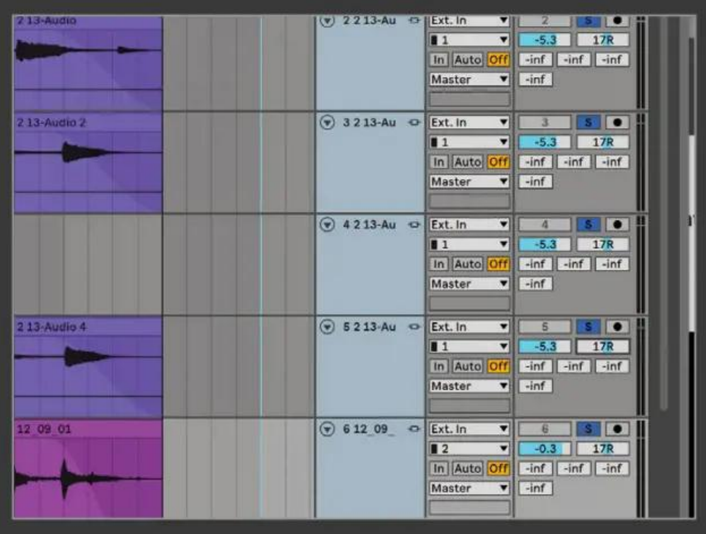
5 > And here we've cut one section of one piece of audio on a track, and duplicated it, but it applies to all of the linked tracks in the group.



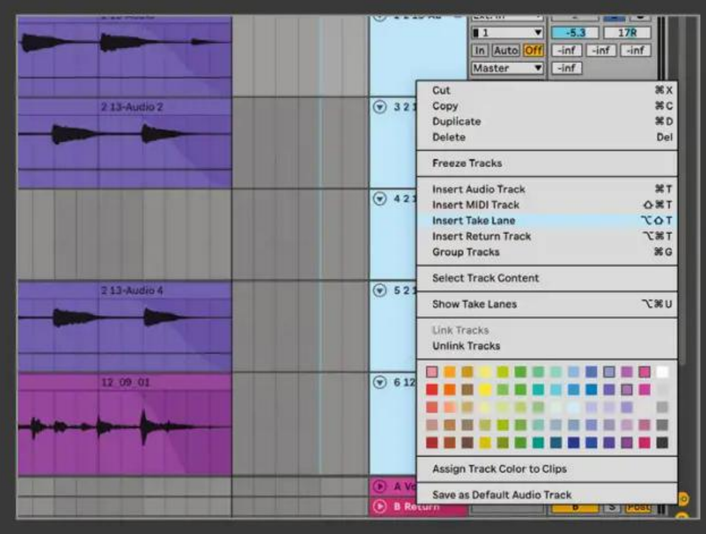
6 > You can apply edits like fades to one track and that will then apply to all linked tracks. It's also easy to remove a track from those linked by clicking on the individual one and unlinking as we have done here with the fourth track after making fades to all of them.



7 > Clicking away from the Linked Tracks does unlink them so if you do this by accident, simply click on one of the Link icons and all Linked Tracks will be grouped again. Here we've increased the vertical size of all of the Linked Tracks.



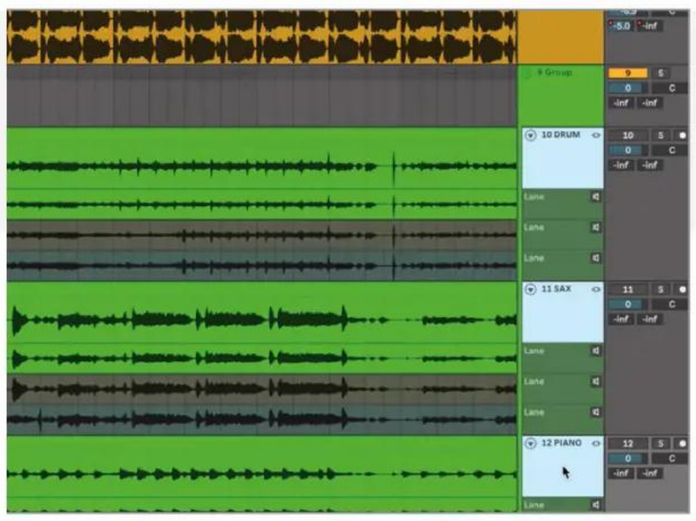
8 > You can also apply various mixing options to linked tracks, so here we've panned everything right and set the volume levels. It's a little like grouping tracks together (OK, a lot like it).



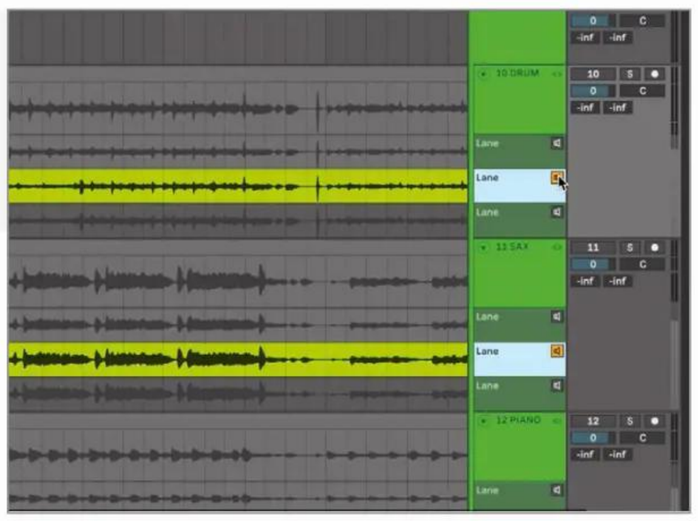
9 > Finally you can perform other edits from the Context (Contrl) menu such as creating Take Lanes for each of your linked tracks. Over the page we'll combine both of the new features on these two pages for multitrack comping.

> Step by step

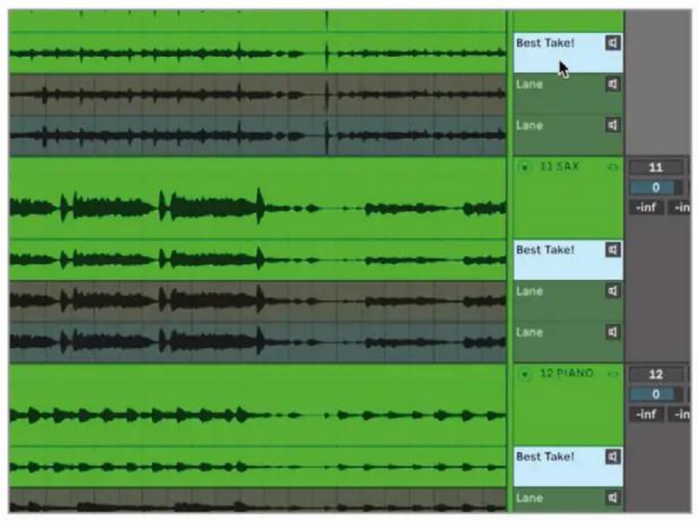
3. Linked Track Comping



1 > We love Take Recording & Comping tracks and Linked Track Editing and it might not surprise you to learn that Live 11 allows us to combine both! Select multiple tracks of multiple takes and link them as you saw with standard audio tracks in the last workshop.



2 > Select a lane to audition from one set of takes and the same lane in all selected multiple takes will be played back – very useful, for example, if your singer/guitarist was particularly strong on one take with both vocal and guitar recorded on separate tracks.



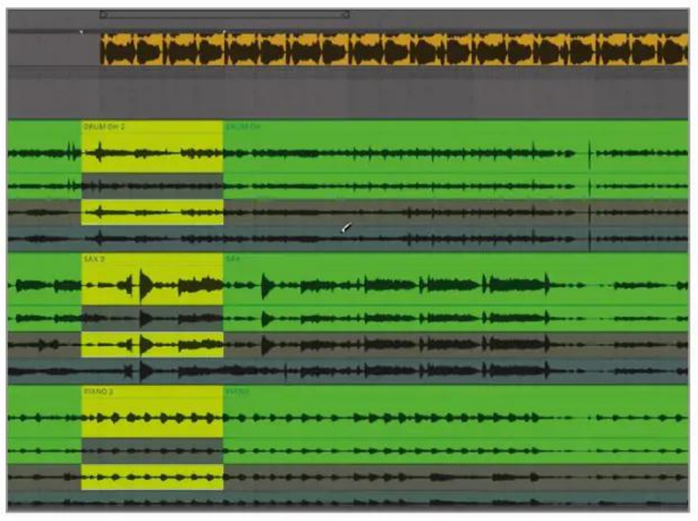
3 > And if you are sure that this round of takes was your best, why not congratulate said singer/guitarist by naming this set 'Best Take' and doing that by just naming one of them so that they all change? With all the takes linked, it is now easy to do this.

The extra recording features now in Ableton Live 11

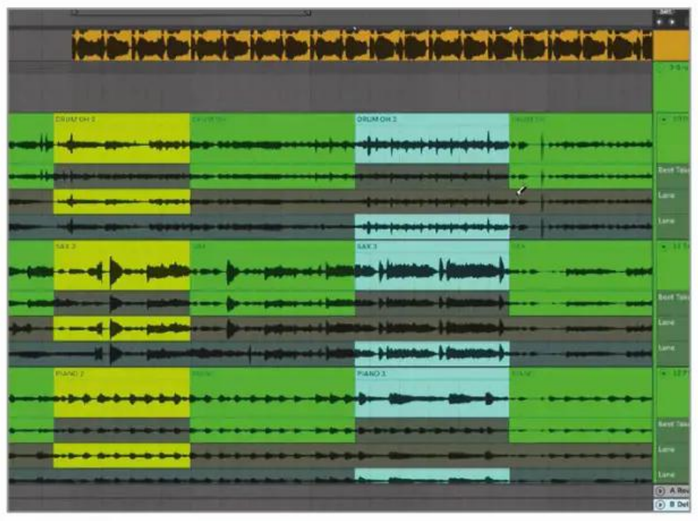
Comping and Linked-track editing are powerful new features that help Live break further out of its perceived main use (by some people anyway) as a loop and dance-focussed DAW. As good as that side of it is, people have often quickly assumed that Pro Tools and Logic are the big boys of multitrack recording but both of these new features should go some way towards showing that Live can be a powerful tool for audio recording and therefore your band's best friend.

And while, before the v11 update, you could have used workarounds to explore these features, they certainly now make the process much easier. Of course to take full advantage of the multiple and linked comping features you'll want to be recording multiple tracks simultaneously and that might mean upgrading your interface to one with multiple ins. But at least you are assured that Live can now handle everything you throw at it in terms of audio tracks, and edit the results in a typically straightforward and fast way.

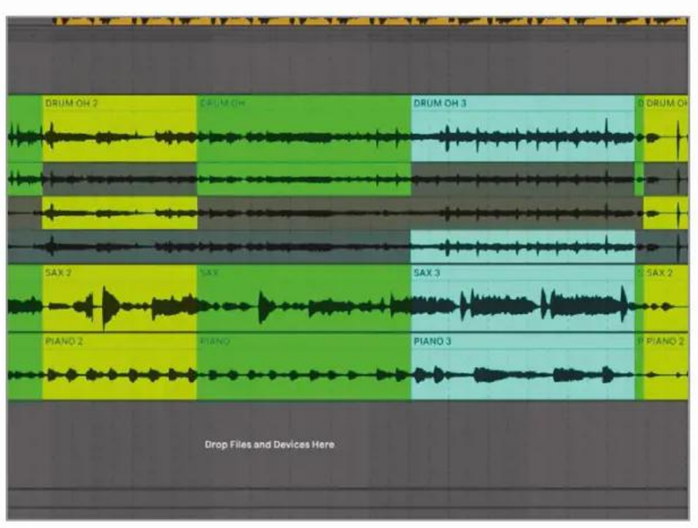
So while, to some, these might not seem like major additions, they actually put Live right up there with the pro recording DAWs. Logic gets its Live (Live!) Loops, and now Ableton gets good at multitracking. Touché!



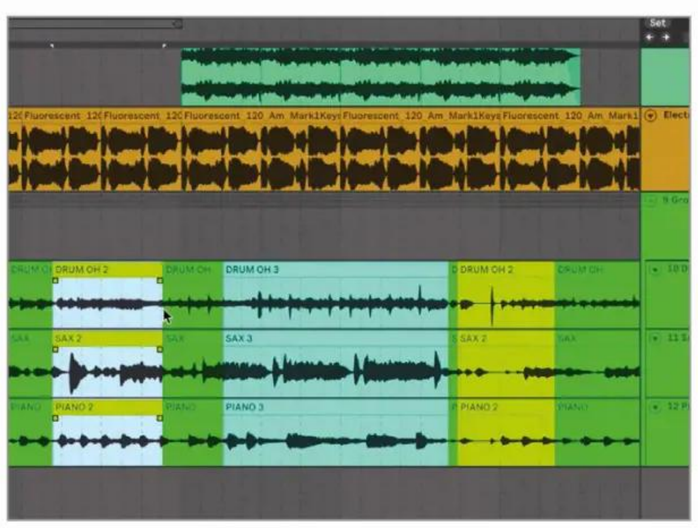
4 > Taking that one step further, you can dig deeper into this wondrous set of takes and perform multiple comps on it so that, for example, the first few bars can be pulled out of (as shown) the same take on sax, piano and drums to be used in your final take.



5 > And you are not just limited to that one take. Once you have selected the best bits from the first set, why not select the best bits from the second or third? You now get real flexibility to do this. It might not be that common a need in practice, but it's there!



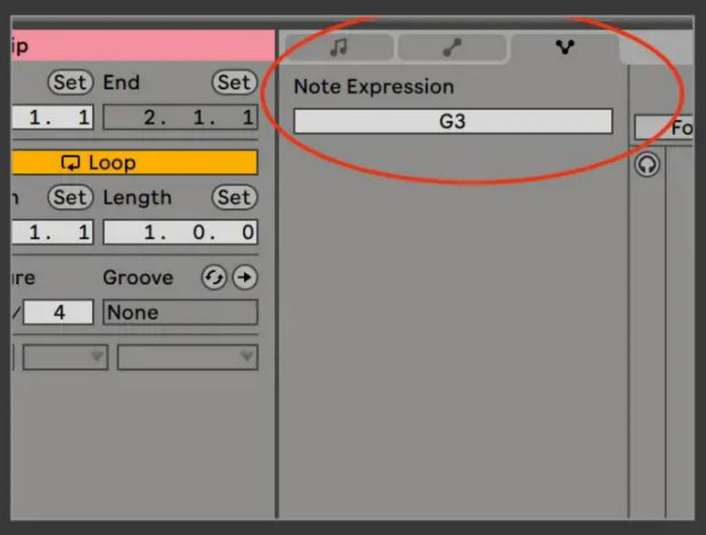
6 > You can even perform comping and other edits like resizing on the multiple lane you are auditioning when they're hidden (or folded up) as shown above. The top lane has its Take Lanes shown but the bottom two are hidden.



7 > And this leads nicely to the final feature in Linked Track Comping where you can have all of the Take Lanes hidden for every track you are working on and highlight a section and then step through the Take Lanes using the Cmnd>Up/down buttons to step between takes. Nice!

> Step by step

4. MPE additions



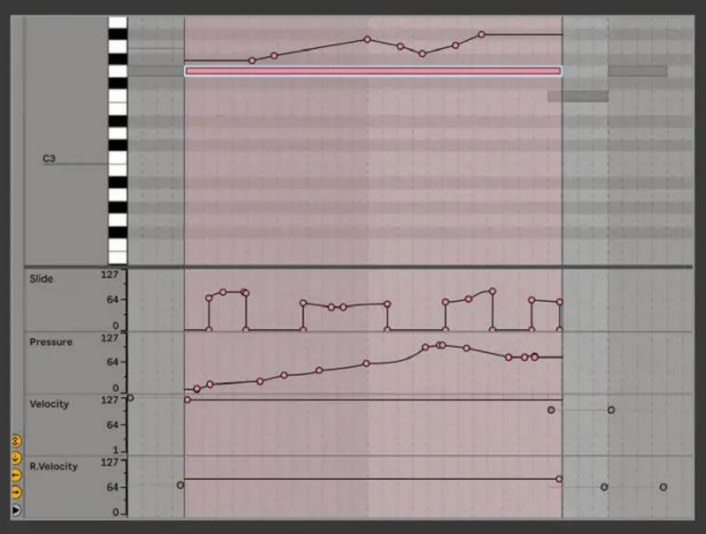
1 > The additional expression that MPE (MIDI Polyphonic Expression) can offer sound design and performance is now something you can tap into and tweak with Live 11. In a MIDI Clip you now get the option of a Note Expression tab. Open a MIDI clip and click on this.



2 > In this edit window you can see extra Slide, Pressure, Velocity and R Velocity options at the bottom left. These will trigger the 'extra dimensions of touch' (copyright ROLI!) that you get with MPE. You'll need an MPE instrument to hear them properly in action so we're using ROLI's excellent Equator synth.



3 > The extra lanes in Live then trigger the Modulation Dimensions in Equator (or whatever MPE instrument you have). These are Strike (how hard you hit a key); Glide (how your finger moves left and right to change the pitch while on it); Slide (how it slides up and down a key); Press (like aftertouch – how it hits a key); and Lift (the action of taking your finger off a key).



4 > Draw data in each Live lane using the pencil tool and it will be obvious which one triggers which MPE parameter. You'll need to click on the note to edit it. We also have data drawn around the note itself in the breakpoint editor which corresponds to pitch. Now we can see which of the Equator parameters these affect as they move or cycle.



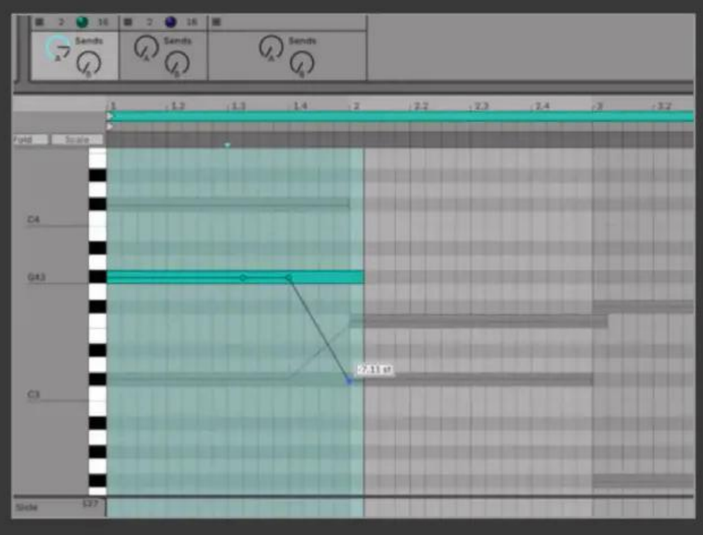
5 > As expected, Slide and Pressure move the Slide (3) and Press (4). The pitch (2) is the Glide (2) parameter and Velocity is Strike (1 – a constant figure as shown as it is one note only). Lift is not highlighted in Equator in our tests but it's the final parameter in Live, R. Velocity (Release Velocity - 5 on the screenshot).



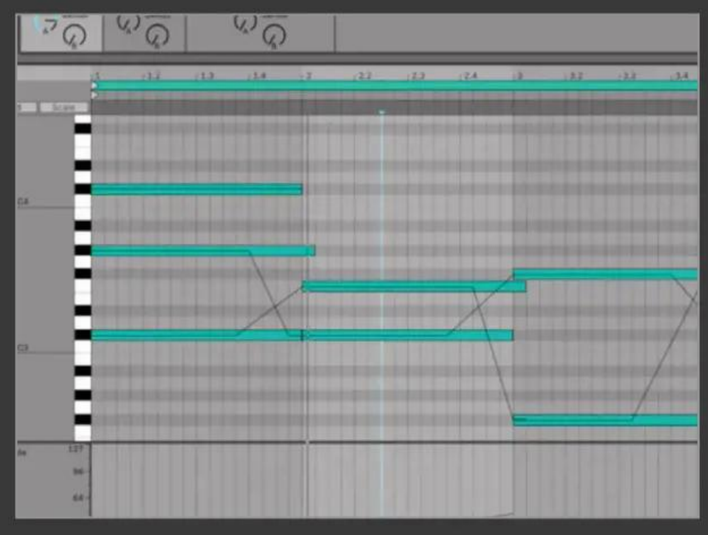
6 > As Ableton show in one of their videos, you can easily draw in very detailed breakpoint edits on each lane to not only give you very subtle pitch (Glide) changes but also very expressive timbral changes, depending on how your MPE sound has been programmed.



7 > And rather than drawing in these edits you can, of course, use an external MPE enabled device to record the MPE data as a performance. We used ROLI's Seaboard BLOCK keyboard. Slide up a key for the Slide data; press your finger on each one and move it to the left or right for Glide and so on.



8 > Ableton's Live 11 videos gives an excellent example of how this can be used in practice, using the editor to draw in some pitch bends between chords as straight lines, starting off simply (as shown above).



9 > And then adding a crazy amount of pitch bends between chords that you can't actually physically play after one another, and then adding extra Slide and Pressure edits to really spice up the sound for some incredibly dynamic changes.

> Step by step

5. Digging into Hybrid Reverb



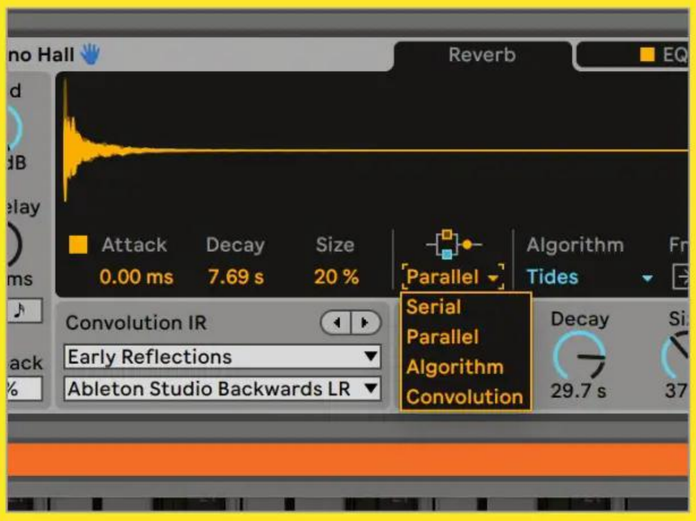
1 > We're liking Hybrid Reverb with its dual approach of Convolution and Algorithmic reverbs. Here we've loaded it onto a lead track and are stepping through its main features. Start with the left hand Convolution IR reverb and you get eight types.



2 > Each of these types has its own drop-down set of presets, some of which are filled more than others. Here we can see seven presets in the Early Reflections category, including Ableton's own recording studio room.



3 > There are five algorithms to choose from – Dark Hall, Shimmer, Quartz and Tides – with more on the way. We particularly love Shimmer, and Tides also offers something a little different in terms of ebb and flow.



4 > There's a central drop-down menu that lets you blend the two reverb types so you can choose either Convolution of Algorithm or route them together in series or parallel.



5 > If you want to go extreme straight away – and we did by accident – then hit the Freeze option. This sets the Decay Time to infinite so the reverb will sustain forever. Ours is still going as we type this.



6 > Want to go even further? Hit the Freeze In option and Freeze feeds the input to the infinitely sustained reverb tail. You can have endless (literally) fun just playing with these two options, like some kind of mad Brian Eno – there's an album or two right there.



7 > Going back to the Convolution section, one of the best aspects of the new Hybrid Reverb is adding your own audio file in to shape the envelope of the convolution. Here we've selected an audio beat loop.



8 > Simply drag it onto the plugin and you'll see its envelope applied in the Convolution IR window and it automatically becomes a User preset. The results can mean anything from rhythmic washes (when combined with the Algorithm section) to shimmering delays with the Predelay increased as shown.



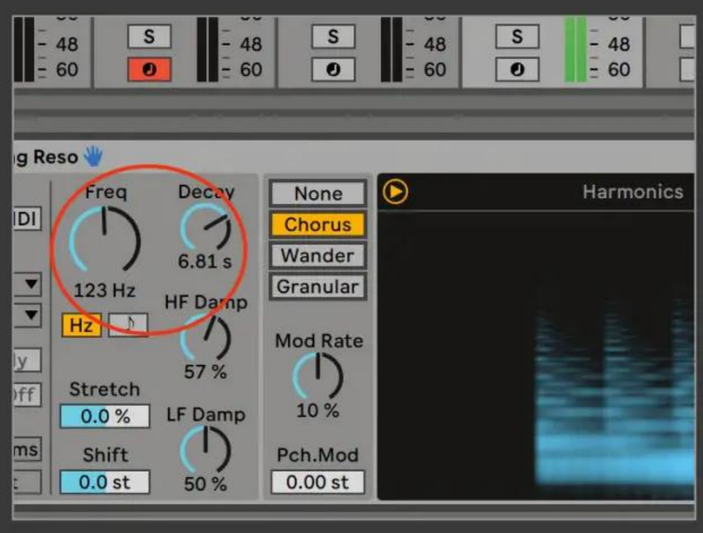
9 > There's also a useful EQ section on Hybrid Reverb. Here we've removed the bottom end of the shimmering delays we created with the drum loop in the previous step to create an even more delicate sound. So from infinite reverbs to more delicate flavours, Hybrid Reverb can cover a lot of ground.

> Step by step

6. Exploring Live 11's two spectral devices



1 > Spectral Resonator 'breaks the spectrum of an incoming audio signal into partials, then stretches, shifts and blurs the results by a frequency or note in subtle or radical ways'. We have the Wandering Reso presets loaded in for our experiments with the plugin.



2 > The 'frequency or note', as described in the previous step, can be changed with the main dial (choose either option beneath it). Increasing the Decay means the resulting resonating effect takes longer to fade.



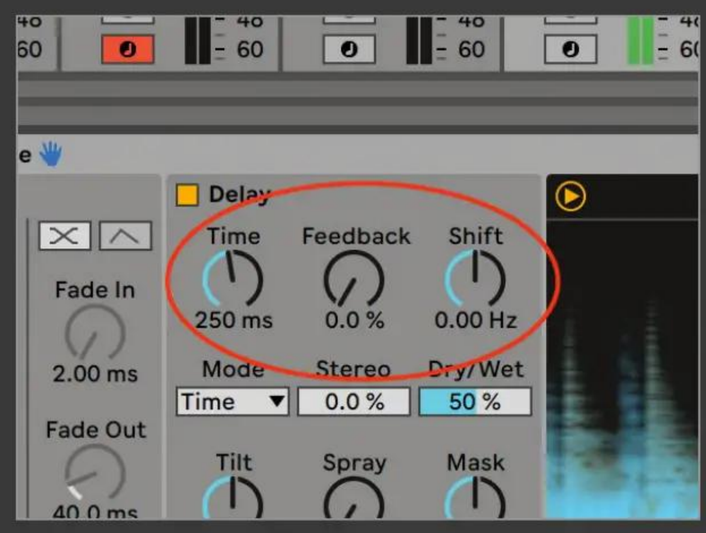
3 > Both of the HF and LF damp controls can be heard to a much fuller effect with either of the Chorus or Wander modes selected.



4 > The MIDI sidechain option will 'allow musicians to process material in key' although it doesn't seem operational yet. A very dramatic effect can be gained by adjusting the Harmonics value. Lowering it gives our bass sound a low-pass filtered sounding effect.



5 > Spectral Time offers a similar spectral display but a different set of processes, this time including both a delay and Freezer function. Click on either of the main icons to bring in the two functions.



6 > Spectral Time works by slicing the incoming signal into partials and then utilising the frequency-based delay. You get pitch-shifted echoes which are adjusted with the three main controls. Time adjust the delay time, Shift the pitch and Feedback how much of the delayed signal is fed back in.



7 > The Freezer option samples and holds a slice of the input signal when the Freeze button (shown circled) is pressed. A screeching effect fades in and diminishes when you release the button. The Fade in and Fade out dials determine how quickly this happens.



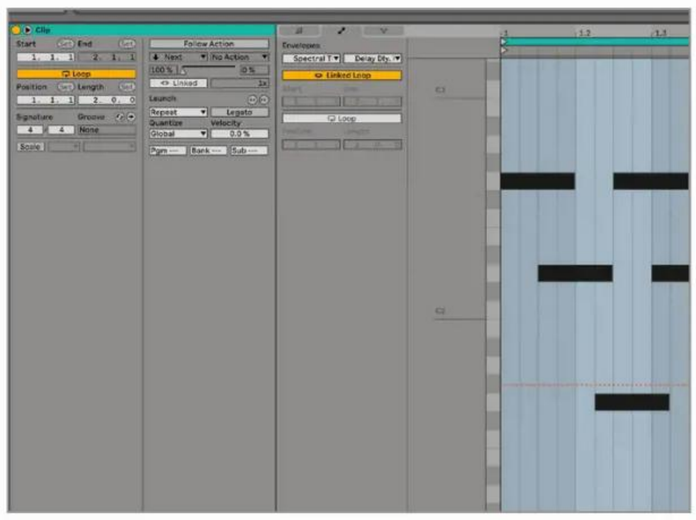
8 > Now with the Retrigger mode selected (as opposed to Manual), the Freeze effect becomes more like a pulse, the impact of which is determined by the Sensitivity dial.



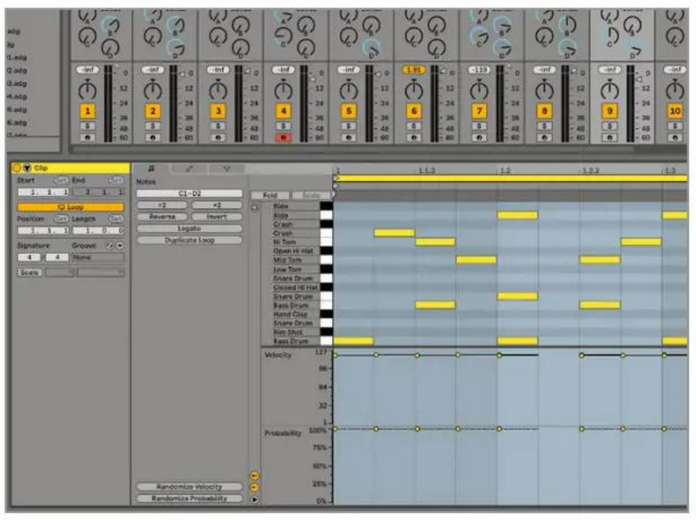
9 > Finally with the Sync option selected the plugin really comes into its own with the frozen pulses acting in time with the input signal. Lower the Interval option and you get shorter bursts. Adjust the Freezer Fade Shape to make them fade in and out differently and then bring in the Delay for maximum carnage!

> Step by step

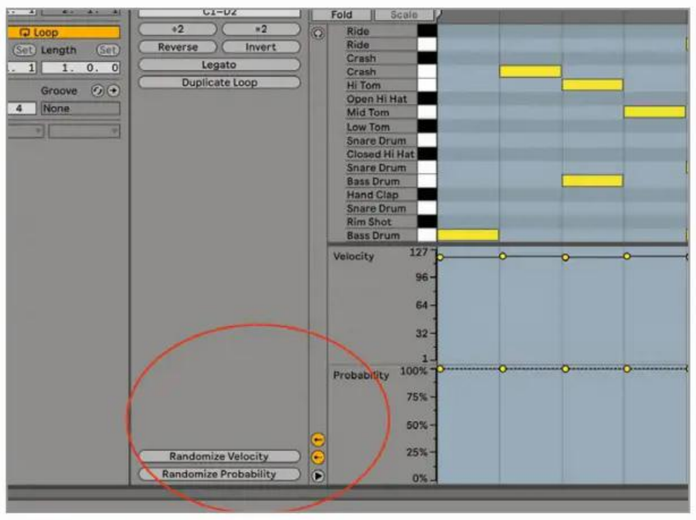
7. Extra Clip detail and chance events



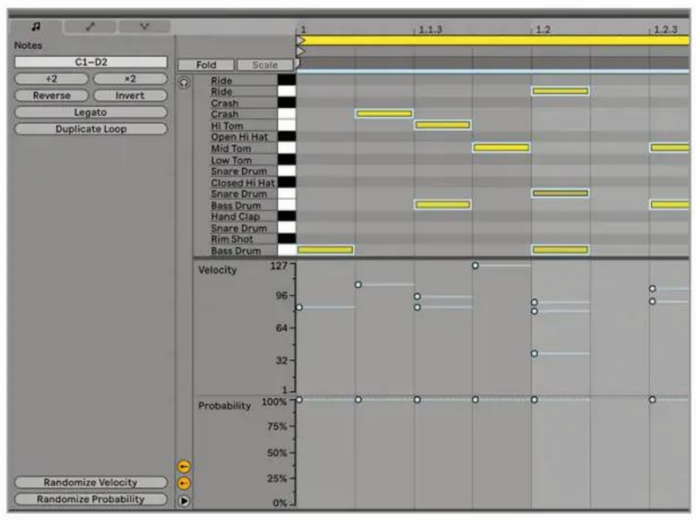
1 > In the Clip Detail View you now get a lot more options shown and with a more logical layout with extra tabs shown over on the right hand side.



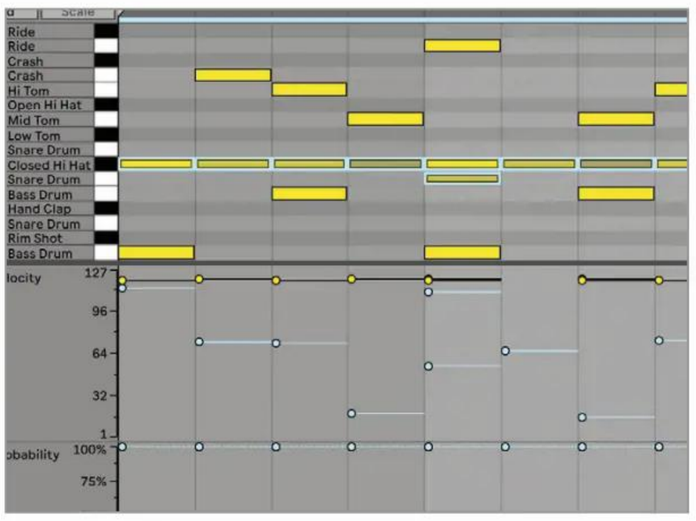
2 > We've covered one of the extra tabs in the Clip Detail View which covers MPE editing, but the note tab also offers some great additions to clip editing, including some designed to give you a human and more random feel to your beats and music. Here we have a drum kit and pattern in a clip.



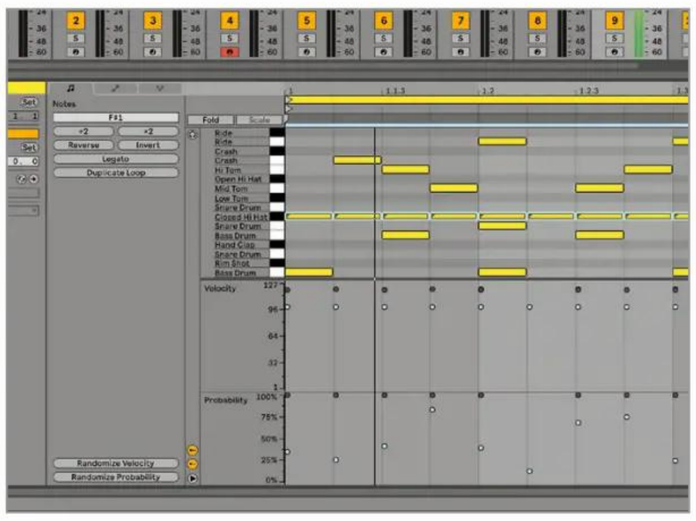
3 > Under the Notes tab, there are two Random Velocity and Randomize Probability (now Note Chance) options that can be clicked in and out by clicking the orange icons (circled in red).



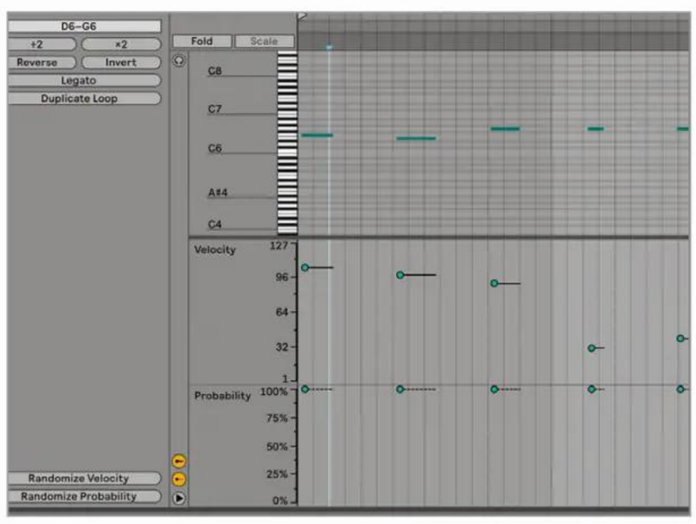
4 > Select all of your notes and hit Randomize Velocity and you can see all of the note velocities are randomised each time. This is great for adding a more human feel into your drumming.



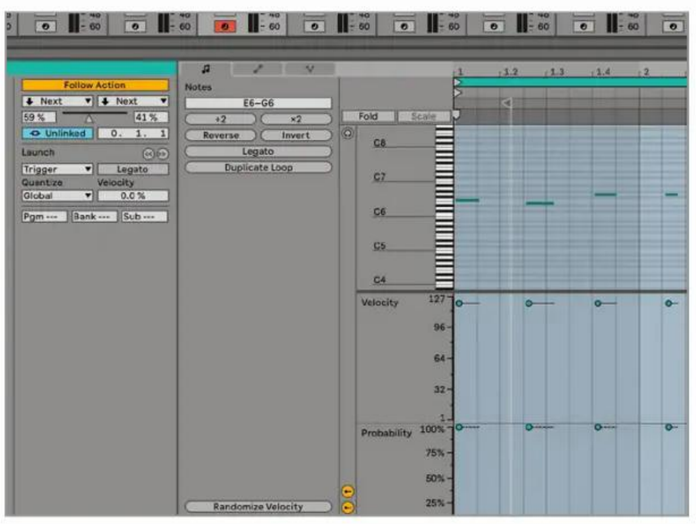
5 > If you want to do this on a specific sound – the closed hat, for example, which adds a very nice human touch – simply select that sound only and set a random velocity.



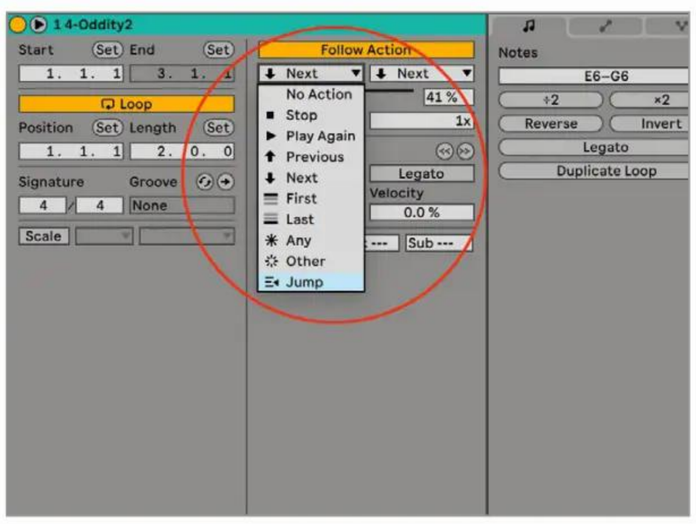
6 > You can take it one step further – and again the closed hat is a good sound to try this with – by clicking the Randomize Probability option. This randomises whether the hit will actually happen on every cycle, adding a great variation between loops.



7 > This random element is not just for beats – although very useful for them – as you can also apply it to MIDI melodic notes. Here we've applied it to a bassline to give it more of an acoustic feel rather than a synthetic one.



8 > While we're in this clip, we should also take a look at the additional Follow Actions that now feature an option to be linked to the Clip Length so you can create more dynamic sequences.



9 > Another new Follow Action option in the latest version is to be able to Jump to a specific clip or even a complete Scene which allows for a lot more flexibility when it comes to arranging.



Other new additions and updates

01 >

Redux, a very simple bitcrusher gets a tad more complex with more controls and a wider sonic remit, covering harsh, digital, warm, 8-bit and more. It now also includes a dry/wet control and can get very extreme-sounding, especially so on drums.



04 >

Some of the plugins have been given a makeover, so instruments like Collision and Electric have a new look but little else has changed (yet) in terms of their sound.



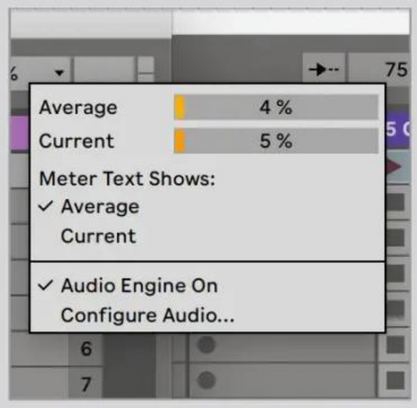


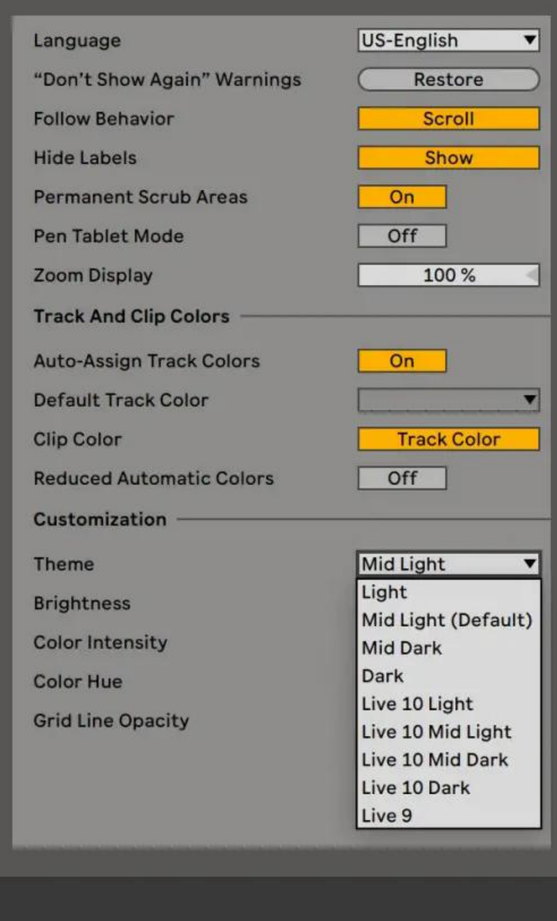
02 >

It's 'goodbye Phaser' and 'hello Phaser-Flanger' or, strictly speaking, 'Phaser-Flanger-Doubler as the plugin includes a new Doubler mode which trebles its usage. Confused? Don't be, it's a cracking 3-in-one plugin.

05 >

The CPU Metering display now shows both current and average CPU usage. Very usefully, you can also monitor per track, with meters showing which tracks are hogging the most power.





06 >

Finally, for now anyway, you can choose from four new themes, still called Light, Dark, Mid Light and Mid Dark but with some subtle variations over the Live 10 versions (which are still available, as is the Live 9 one).



03 >

Similarly Chorus-Ensemble is now Chorus-Ensemble-Vibrato and, like PFD, contains all three modes within easy clicking distance. Ensemble is especially great on pads and strings.

cm Producer Masterclass

SUB FOCUS

Sub Focus – aka Nick Douwma – shows us how Ableton Live's helped make him one of the UK's most respected drum 'n' bass producers

> We met up with London-based drum 'n' bass producer, Sub Focus – aka Nick Douwma – just before it all kicked off. The virus stories were already making headlines at this point, so we jokingly shook hands with our elbows and tried not to cough over each other during the interview.

None of us knew how strange things were going to get, but it was obvious which way this ill wind was blowing. Just before we sat down for the interview, Douwma received a call from his live tech. A well-known DJ equipment manufacturer was due to demo some new equipment and wanted to know if Douwma had recently been to Asia. If he had, the demo was cancelled.

We had a brief discussion about live work. Would it be affected? Neither of us could imagine that almost a whole summer's live shows and festivals would disappear.

It all seems so long ago, now.

Douwma has featured in **cm** a couple of times over the years, but a catch-up is well overdue. It's safe to say that Sub Focus is currently one of the UK's leading dance brands, boasting a string of top notch singles – like 2019's silver selling single, *Desire* – and a remix CV that includes The

Prodigy, Bring Me The Horizon and Major Lazer/ Nick Minaj.

Understandably, that success has seen a major change in his studio setup. Douwma is based in a large north London office complex that's also home to fellow producers, Culture Shock and Dimension.

"The last time you interviewed me, I was working out of my bedroom," he laughs. "But the great thing about that was having my flat mates on hand for listening sessions. They would offer advice on early mixes. 'Maybe you should do an edit there. Keep that bit shorter.' Constructive criticism is an important part of the musical process. You need another pair of ears that you can trust, otherwise you're in danger of getting too caught up in your own sound.

"Don't get me wrong, you need to be single-minded and believe in what you're doing, but also be open to ideas. It's nice having Dimension and Culture Shock just down the corridor. And I've been mates with Chase & Status for years. When you play a track to someone whose opinion you respect, it forces you to be honest about that track. Does it really work?"

Douwma has been working on some house-flavoured tunes for possible release sometime this year, but, as you'd imagine, it's drum 'n' bass that takes up most of his time and his most recent project has been a collaborative album with fellow DnB big cheese, Wilkinson.

***Computer Music*: Rumour has it that you started out as a rock kid, listening to Nirvana and early-90s grunge. How did you end up making drum 'n' bass?**

Nick Douwma: "Yeah, I started out in a band when I was at school in London, playing bass. But I was quite into computers and I'd managed

> "Looking back, I feel really lucky that I was getting into production in the early to mid-00s"

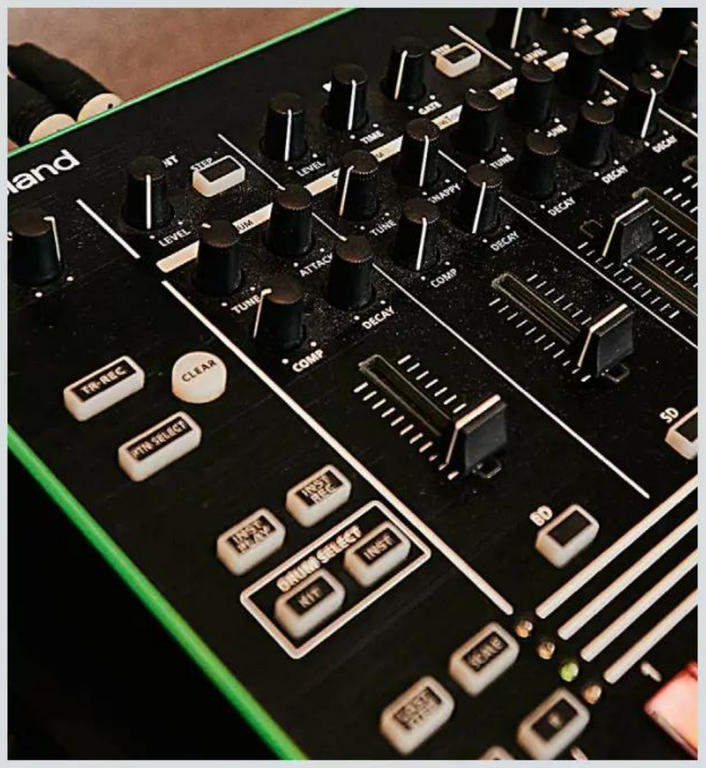
to get my hands on an old Acorn with a printer port sampler. It came with some very rudimentary music-making software where you had to arrange samples using classical notation – a ridiculous setup for making dance music looking back on it! This was around the time when bands like The Prodigy and Chemical Brothers were beginning to mix rock and dance music, which was then a natural segue into electronic music.

"Perhaps the real drum 'n' bass catalyst, though, was buying the first *Logical Progression* CD around 1996, put together by LTJ Bukem."

cm: Ah... dolphin jungle?

ND: "Yeah, I heard someone use that term when I was in Black Market Records at the time, but I had no idea what they meant. All I knew was that this atmospheric sound – Bukem, Photek and Goldie – really caught my imagination. Yes, it was electronic music, but it also had so much emotion to it.

"From there, I started investigating some of the techier stuff like Ed Rush and Optical, Bad Company. And the next step was making my own tunes."



A Roland TR-8, part of Nick's quest to keep hits 'bang-on'



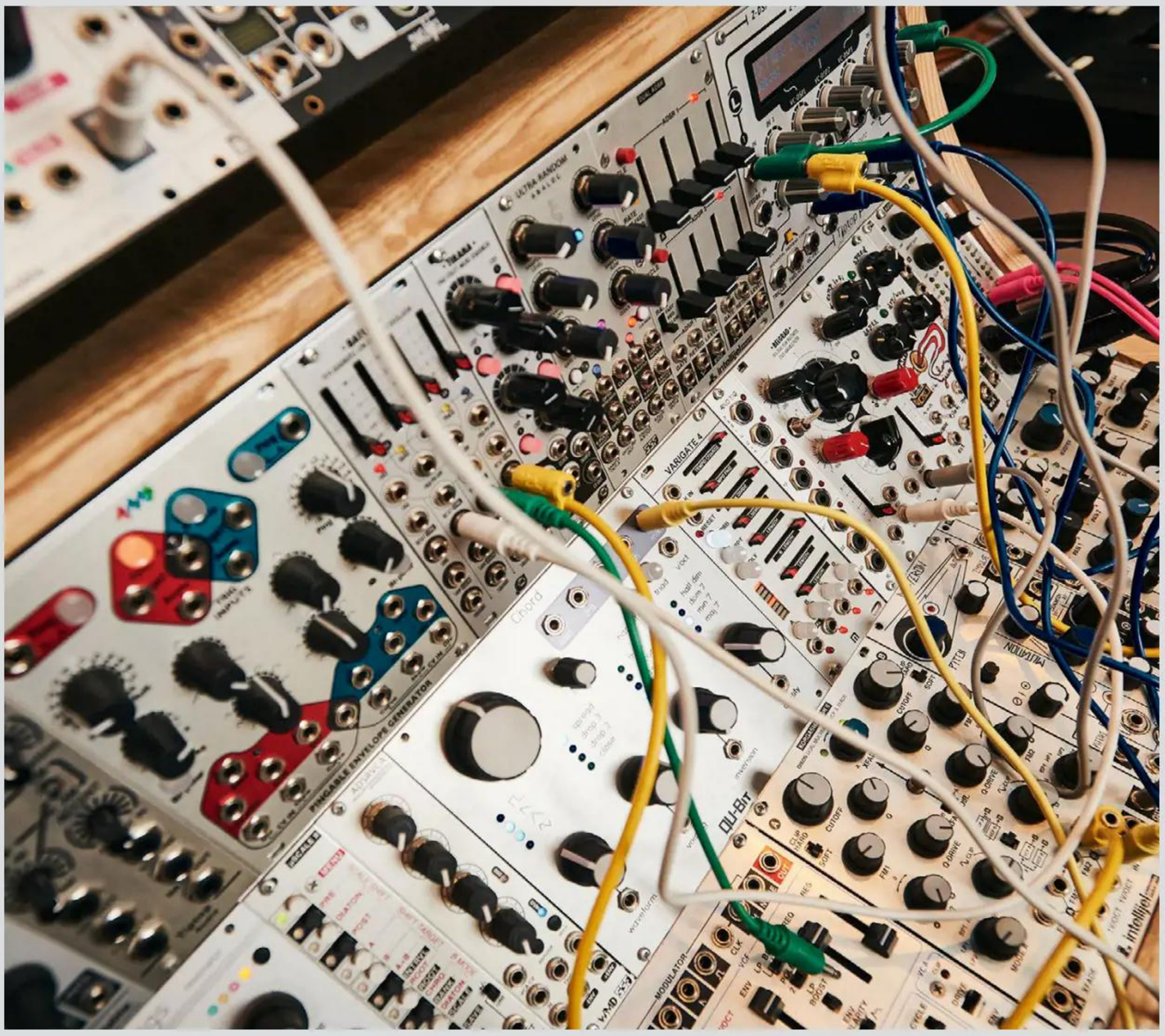
Sony Walkman, Korg Monotron, Pocket Operator are neatly organised in Nick's 'random items' section

WATCH THE VIDEO

In this exclusive video session, watch along as Sub Focus delves into the sci-fi stylings of the track *Solar System*...

Watch the video tutorial on your PC or Mac at...
bit.ly/sbfcs_ssstm





While Nick has a flexible attitude towards software, he likes to keep a broad palette of modular gear too

cm: Made on the Acorn?
ND: "I'd moved on to a newer PC around 2000 and I started using Cubase. Looking back, I feel really lucky that I was getting into production at that time... the early to mid-noughties was when you were suddenly able to make whole tracks inside the computer and the quality of software instruments was getting much better.

"When I started releasing music a few years later, I got to know some of the producers I looked up to, and they were still working with hardware setups. Big Mackie desks, outboard samplers, synths and effects. Because things were changing so quickly, I felt like I had a bit of an advantage. The whole idea of working inside the computer with VSTs seemed quite natural for me, but for a lot of hardware producers, it was a difficult transition phase."

cm: And there were quite a lot of arguments about whether or not plugins sounded 'as good as' hardware.
ND: "Exactly. But the sound quality was constantly improving and, of course, working with software was so much quicker and easier. I guess that move from being very hands-on when you're doing a mix to automating everything inside the box was quite a profound change. It took a while for some people to make that psychological leap."

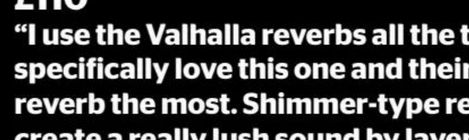
cm: And now you've switched over to Ableton Live... no more Cubase?
ND: "I started using Ableton for my live shows back in 2010, so it kind of made sense to make the move in the studio. Initially, I was attracted to the workflow and the lack of hardware dongle – handy when you're producing on the road. Preset management is also super-easy, I make folders of my synth presets, vocal chains and FX chains for quick recall. I also use a lot of the Max for Live plugins, like CV Tools, for controlling my modular synth.

"Another feature I use a lot is moving whole groups of audio between projects. Let's say I've got a drum mix that I really like on a particular song. I can take that and put it on a new song, which gives me a nice starting point to work from. A drum reference. When you're starting a tune from scratch, it can sometimes take a while to get the best EQ balance because your ears can quickly get used to a sound that is slightly off. If I introduce elements which already have a good tonal balance, it gives me a head start. It's great practice to always reference other people's music, too. I frequently have a mix reference group of tracks within my projects."

cm: Before we get onto the softsynths, I guess we are duty-bound to talk about the latest addition to your collection, a hardware

"That move from being hands-on to automating it all in the box was quite a profound change"

Nick's top 5 plugins



Maag EQ4
£175
"I love this EQ for adding brightness/treble to sounds. Specifically, I really like the air band, which adds super-high frequencies at stepped increments of 10k/20k or 40k. Great for vocals and getting dull sounds to stand out... without harshness."
uaudio.com



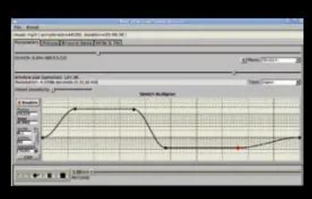
Valhalla Shimmer
£110
"I use the Valhalla reverbs all the time but specifically love this one and their Hall reverb the most. Shimmer-type reverbs create a really lush sound by layering feedback of octaved versions of the reverb tails. Strymon pedals are also a great one to check for this type of effect."
valhalladsp.com



RC-20 Retrocolour
€99.95
"Excellent plugin for making things sound aged or adding tape warble – features Vinyl/ Wow and Flutter and Tape emulation with a band-pass filter on the end. Great for mimicking the sound of a old record or tape or just adding pitch fluctuation."
xlnaudio.com



Xfer OTT
free
"I love all the Xfer stuff and use it all loads: Serum, LFO Tool and this. It's a plugin based around the OTT preset on Ableton Live's Multiband dynamics plugin. Great for extreme compression on leads and exaggerating reverb tails. I'll try this in small quantities on most sounds – with the depth turned way down – if they need to sound bigger or more controlled."
xferrecords.com



Paulstretch
"Not a plugin but an offline processing tool. This is an extreme timestretch that smooths any sound out into an ambient soundscape. Perfect for long, evolving pads and FX."
paulnasca.com

Sub Focus studio focus

As well as a mountain of plugins, Sub Focus has some incredible outboard gear, masses of modular and some brilliant new and classic synths. It's quite a pile. Here's a run-down...

Loads of modular
Too much to list but it includes the Mutable Instruments oscillator and Valhalla reverb used in the main lead sound on *Solar System*.

Great gear here!
Including a Roland Juno-60 synth, Moog Mooger Fooger effects boxes, plus a marvellous Moog Sub 37 synth.

Left rack
Another range of very different gear including an Access Virus A rack synth, Focusrite channels strip and a Prism Sound interface.

Main desk
Surrounding Ableton Live we have an NI Komplete Kontrol keyboard, Neumann monitors and Avalon channel strip.

Outboard/control
This rack has varied gear including room correction, speaker management and Neve mic pre plus a Shadow Hills monitor controller.

Synth and drums rack
Roland gear old and new (AIRA and D-50) plus an amazing Dave Smith Instruments DSI OB-6.

Selected kit list

MAIN DESK
Ableton Live
Avalon Channel Strip
Native Instruments KK controller
Neumann monitors

LEFT RACK:
Access Music Virus A
ART PB 4x4 Power Distribution
Focusrite Platinum Channel Strip
MOTU MIDI Express 128
Patchbay
Prism Sound Orpheus interface

CONTROL RACK:
Neve 1073DPA preamp
Shadow Hills monitor controller
TC Electronic XO24 speaker management rack
Samson amp
Trinnov Audio ST2 Pro room correcting processor
Universal Audio Apollo 16 Thunderbolt interface

MORE SYNTHS:
DSI OB-6
Moog Sub 37
Roland D-50
Roland Juno-60

PLUS!:
Masses of modular gear
Random bits and bobs like a Pocket Operator and Sony Walkman

Roland D-50. [It was delivered by courier and arrived in the middle of the interview. Douwma immediately plumbed it into the studio and got to work, tinkering around with the presets.]
ND: "I've been trying to keep a balance between digital and analogue in my setup. I've been in some studios where they've got a fantastic selection of vintage monosynths, but I prefer to have a bit more of a range of tonal characters.

"The music that really first drew me into drum 'n' bass was Goldie, LTJ Bukem... I love those pad sounds. Digital pads can be very different to anything you'll find on an analogue machine. Much thinner and shinier. Analogue pads sound fantastic, but they can also take up a lot of room in the mix with loads of low-mid. I like the idea of having lots of sounds from different eras at my disposal, and I love researching how different styles of music were made and how to recreate them."

cm: The early drum 'n' bass/jungle sound was quite digital.
ND: "Yep, samplers and digital keyboards. People might include the 808, but the only reason the 808 became so important to the overall sound was because somebody sampled it, and that allowed producers to pitch it up and down. On the original 808, the kick drum has a set pitch. It's quite funny, really. So many genres were influenced by that kick drum – trap, jungle, drum 'n' bass – but it was the sampling technology that made the kick so useful."

cm: Where do your drums come from? Samples you've collected over the years?
ND: "Mostly. Although I have been starting to get into drum synthesis lately. When I make new drums, I record them as blocks of audio, so I have banks of hi-hat grooves, kicks and snares and breakbeats at my disposal. My drum hits are ones I've layered up and processed over the years, and I have reliable favourites that get re-layered and reused in various ways.

"In other genres, you can sometimes let things be a bit looser, timing-wise, but with drum 'n' bass, the timing of the hits needs to be bang-on. The drums I'm working with are usually fast and busy with a lot of layers, so I don't tend to move away from the grid except on some 16th hits – ghost snares or shakers with swung 16ths. I'll either create the swing manually by moving stuff off grid or use swing presets in Ableton. This only works in MIDI or rendered chunks of audio though. It can be tricky to get this right and make sure the swing on all channels is lining up. The track I'm working on in the video, *Solar System*, is more of a marchy groove, so there are less swung elements and more patterns on eighth-notes.

"I guess the thing about drums – and the bass, as well – is that it all depends on the song. I've found that, with experience, you kind of get

The epic intro

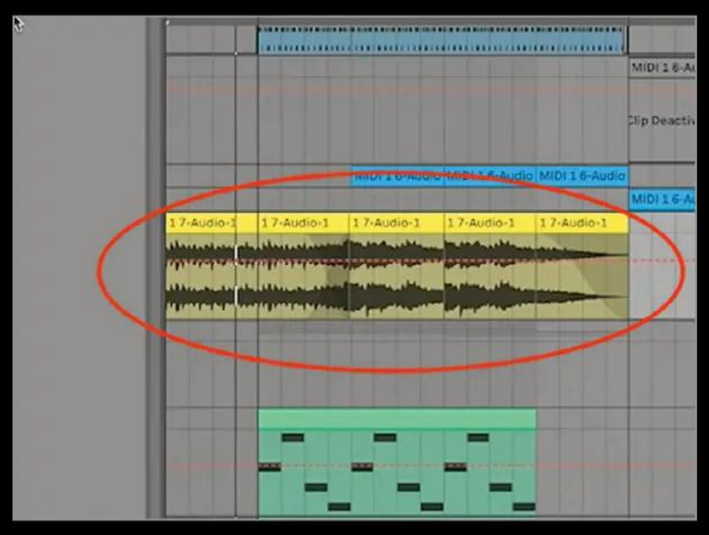
On video, Nick talks us through his track *Solar System* which was originally conceived for *Blade Runner 2049*, and has an epic sci-fi inspired intro...

> Step by step

How to build an epic intro to a drum 'n' bass tune



1 > Sub Focus often creates beds of synths to build atmosphere around his tracks and *Solar System* has an epic sci-fi inspired synth intro.



2 > In this case, Sub Focus uses his modular system, recording an arp sequence via a Mutable Instruments Rings oscillator and Valhalla Shimmer reverb.



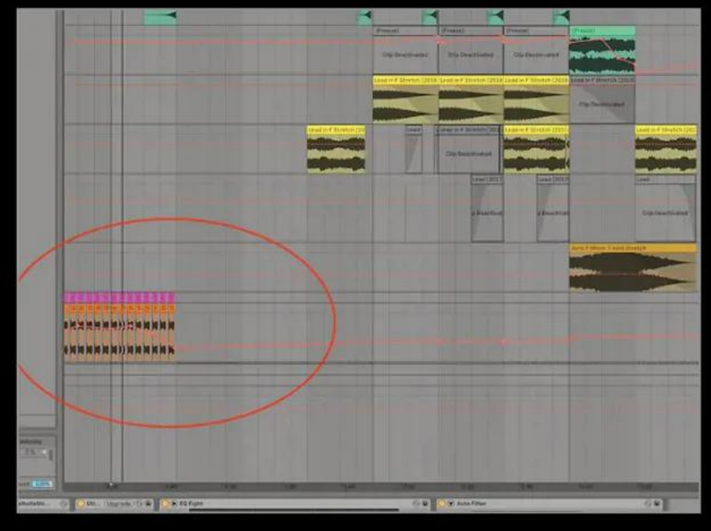
3 > He then uses a Memorymoon ME80 synth, that he regards as one of the best Yamaha CS80 (the synth used in *Blade Runner*) plugins out there.



4 > Serum then provides the huge, sweeping CS80-like lead sound and is put through a Fabfilter reverb for maximum impact and atmosphere.



5 > Serum is also used to provide a couple of bass sounds including a more percussive-sounding one, and both used to underpin that huge synth lead.



6 > Sub Focus then recorded a vocalist and used the results as samples over the intro, recreating the feel of sampling from vinyl.

a feel for what sounds right. Along with a few general rules that you need to be aware of. For instance, in drum 'n' bass, most of the bottom end comes from the bassline, so you keep the kicks a little bit higher up the spectrum. With house, it's the other way around. The kick tends to take up more of the bottom end, so you need to cut more out of the bassline.

"I often use the spectrum analyser in WaveLab as a secondary visual reference to see if the various elements are hitting in the right place. I'm especially looking at sub level, the level of drum hits and overall brightness, as it's often hard to read on speakers.

"At the bottom end, you also have to think about what key you're working in and whether there are certain sub notes to avoid. A lot of drum 'n' bass songs are in F, but more producers are experimenting with lower keys now, like D, and this can give a nice weighty character to your bassline. Benny L's *Vanta Black* is a great example of this. The low C is nearly inaudible on

"Playing with tuning on sounds can be really interesting and is often overlooked"

most systems, so a C# is normally as low as I'd go, but there are a few hip-hop producers who have started working deep into that semi-inaudible range of sub. The results are fascinating, but might not translate to a club very well.

"Playing with tuning on sounds can be really interesting and is often overlooked. Some producers – like Gesaffelstein – really pay attention to the tuning. And it gives his tracks a distinctive sound. Basically, he's not really pitched at 440Hz. All the synths are slightly out of tune and the whole thing floats around a bit like old analogue synths."

cm: Sorry, I got side-tracked, there. I was supposed to be asking you about softsynths.
ND: "The main ones I use at the moment are Massive, Massive X, Nexus, Omnisphere, Serum and Sylenth1. Most of my bass sounds are made in wavetable synths like Massive or Serum. Wavetables tend to have a bit more texture and crunchiness in the top end and that's great for mid-range bass.

"Often, I make my own synth sounds from scratch, but I also like to edit other people's presets as this can be a great way to learn, especially on a new synth. There are some amazing presets that can be downloaded from sites like Splice or Cymatics.

"I remember going into the studio with Pendulum way back in about 2005 and being blown away by how far ahead they were in terms of synths and synth-programming. I was still mainly working with samplers. So, I started teaching myself more about synth programming and tried to learn how to recreate

The build and the drop

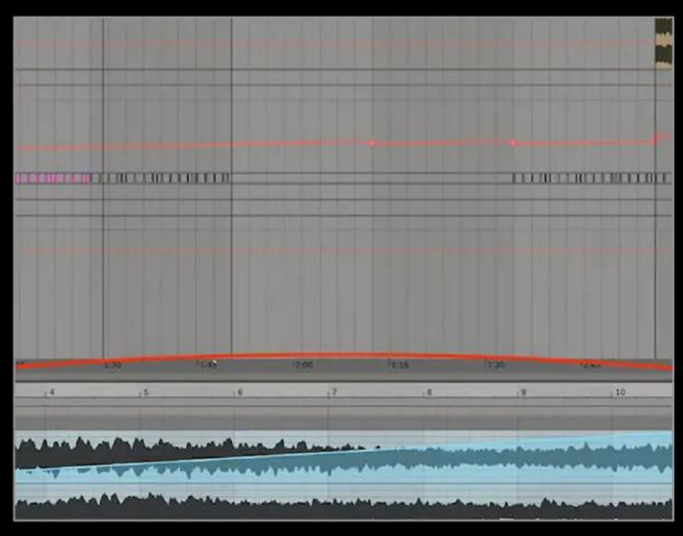
After such an epic intro, the challenge now was to produce build and drops to follow. Here are some of the main Sub Focus processes...

> Step by step

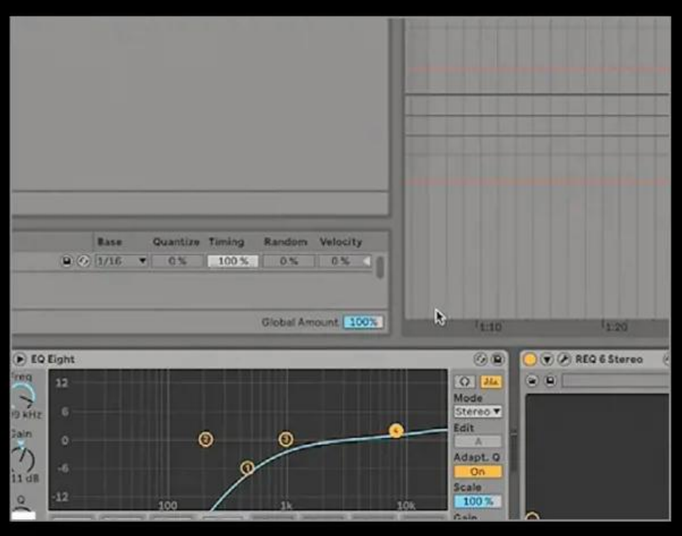
Programming dramatic builds and drops



1 > After such a big intro, a problem could be to maintain interest in other builds and drops – as Sub Focus says, they could sound cheap in comparison. The solution was to take a section of the big lead.



2 > The single note was then put into a clip in Ableton Live and a Transpose effect added in Complex Mode to then take the original note up an octave.



3 > Some of the effects used at this stage on the sound are an EQ and a couple of Sub Focus's favourite plugins in the form of XFer's LFO Tool.



4 > Sub Focus then takes the octave pitched-up version of the lead sound which is then used on its own as the next stage of the build.



5 > A couple of LFO Tools are used to create some sidechain-like movement and give the sound a rhythmic eighth-note kind of effect.



6 > Sub Focus spends a lot of time experimenting with LFO Tool and uses it to blend elements together more in the drops and for everything to be working around the drums.

"I try to find the notes that really matter and the ones that aren't really adding anything"

different sounds. Sampling is great for a lot of things and it's played a huge part in the development of drum 'n' bass, but when it comes to basslines, you need more control and freedom to modulate. Synthesis is key.

"I like quite a bit of movement in my basslines. One technique I often use is to put the same LFO on loads of different things like the filter, wavetable position, FM and EQ. Using the Max for Live Shaper and LFO plugins within Ableton, you can effectively LFO any parameter on any plugin. The sample & hold setting on this is a great way to introduce random values into your sounds, much as you would with a modular setup. I've even added them to reverb tails."

cm: Would it be fair to say that you like a *big* reverb?

ND: "Absolutely, although it can be harder to mix tunes with loads of reverb. I love all the Valhalla reverb plugins. In my early days of producing, I remember liking the Neptunes sound, which was very tight with hardly any reverb. But it feels like the trend has moved the other way now, with lots of people using bigger verbs. Obviously, bigger reverbs do make things harder when it comes to mixdown because they can take up more space. That's why I do a lot of rendering of audio. You can see how long the reverb tails are and make use of fades if you're getting any clashes. Also, sidechaining and using plugins like the LFO tool can really help to clear out space for these. There's often a lengthy process of simplification and taking away things when you're trying to engineer a dance track."

"That's something I find myself doing in other areas, too. Taking stuff away. When I'm first programming the chords for a song, I'll stick the root, third and fifth in there, then start the trial and error process of trying to work out whether they need some jazzy extensions. I also move certain notes around the octaves. Generally, a chord seems to get its feel from the top notes. But then I start taking notes out. Trying to find the notes that really matter and the ones that aren't really adding anything. Complex chords – especially with analogue pad sounds – take up a lot of space in a mix. As long as you're not damaging the song, reclaiming a bit of that valuable space is no bad thing."

The Sub Focus/Wilkinson single, *Just Hold On*, is out. The album, *Portals*, is also out now. Check out the video (link on p56) where Nick goes through the *Bladerunner*-inspired track *Solar System*.

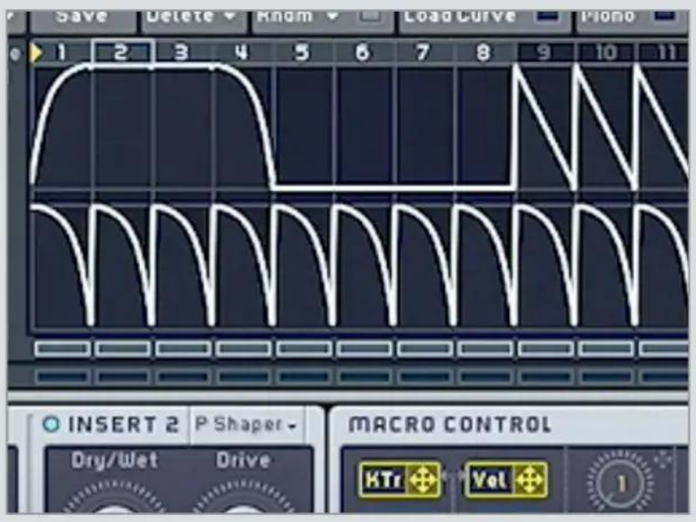
Bass processing

Sub Focus has one main bass/lead element which is heavily processed, and then several layers of other low-end sounds. Here's how he produces the main elements...

> Step by step
Processing tips for a great low end



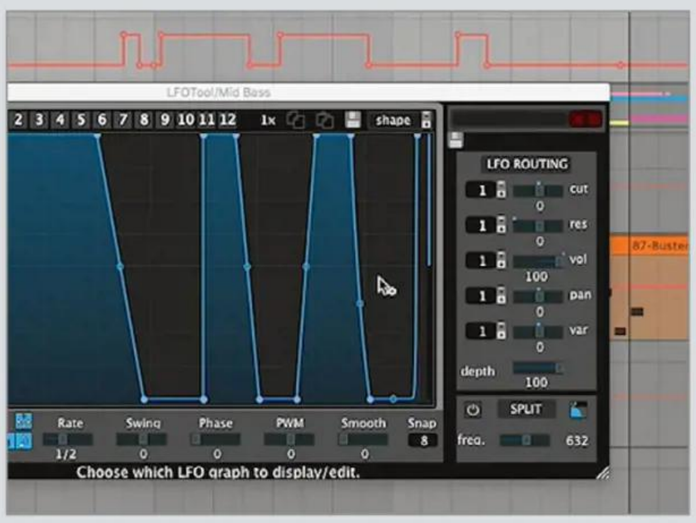
1 > The main bass element centres around one line inspired by a DJ Hazard tune and utilises Native Instruments's Massive synth.



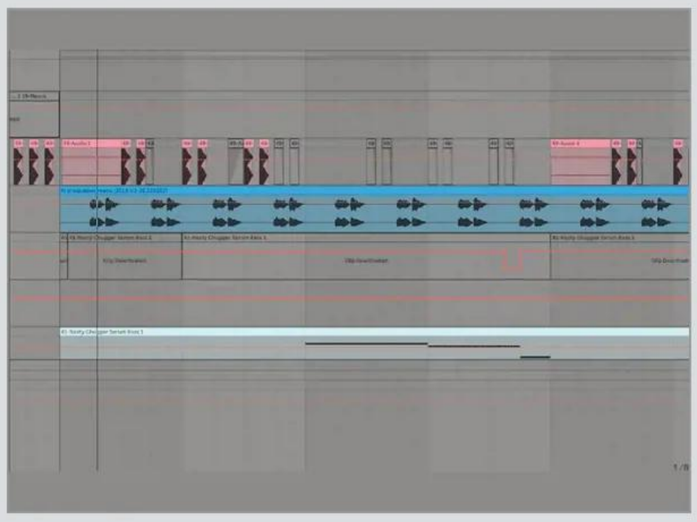
2 > Sub Focus uses that synth's performance LFO elements to give the sound a subtle pitch-bend effect, volume shaping and some filter movement.



3 > Some of the processing of this bass sound includes a Maag EQ and Waves's HDelay which is one of Sub Focus's favourite tape delay plugins.



4 > Automation is then used on a repeated bass section in conjunction with LFO Tool to automate the bass sound's volume, to give it a different overall feel.



5 > Other less important bass layers add interest, including both MIDI and rendered audio, in place where automation might be used to switch in and out of the channel.

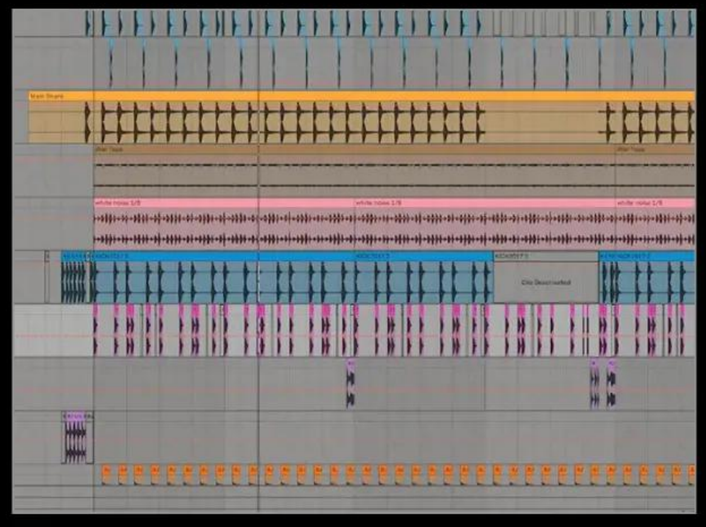


6 > The remaining bass layers also include a sub, for which Sub Focus uses a Serum sound based around a triangle wave for more harmonics which he then filters down.

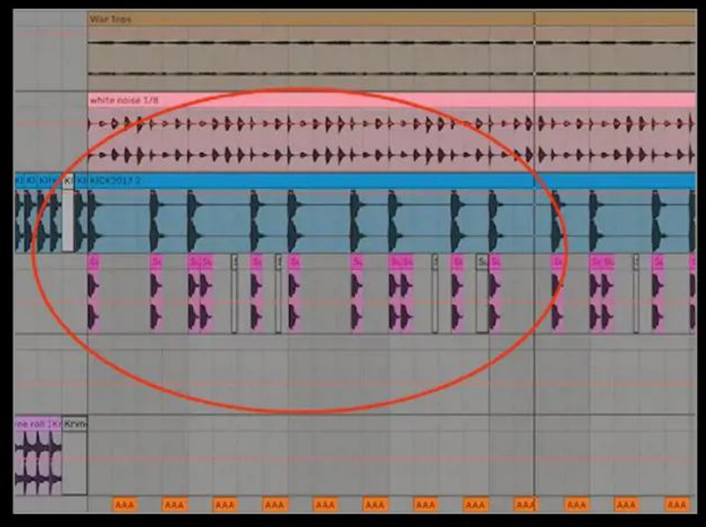
Producing the drums

Sub Focus uses a lot of beats and the odd loop from previous tracks, but recombines elements to produce all-new beats...

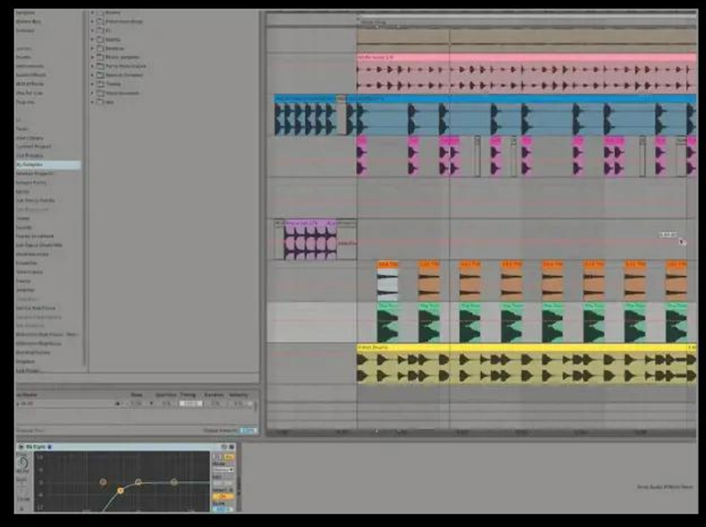
> Step by step Drum programming using composite hits and more



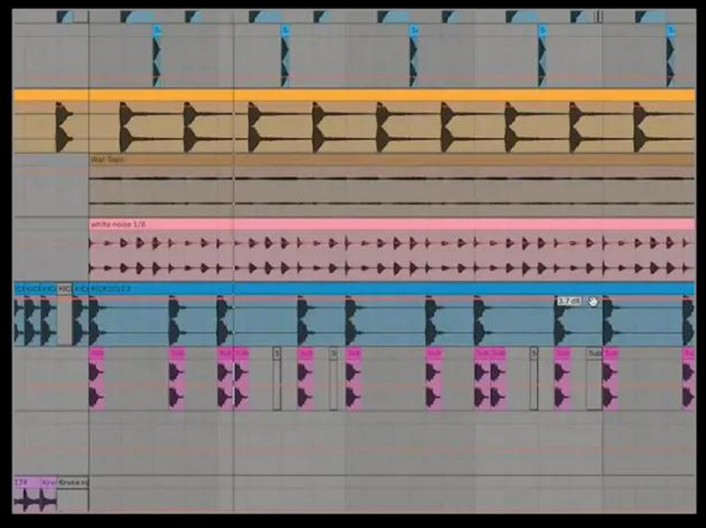
1 > Sub Focus often creates drum parts by layering combinations together that he has previously used. He'll use hits made of multiple elements and maybe change the top or bottom end of each.



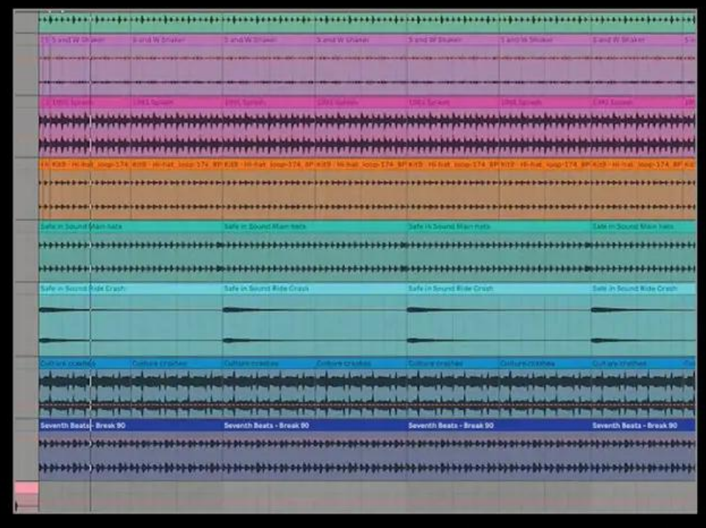
2 > In this track, for example, Nick is using an older kick as the top end of a new combined kick sound, the bottom part of which is provided by a newer kick drum sample.



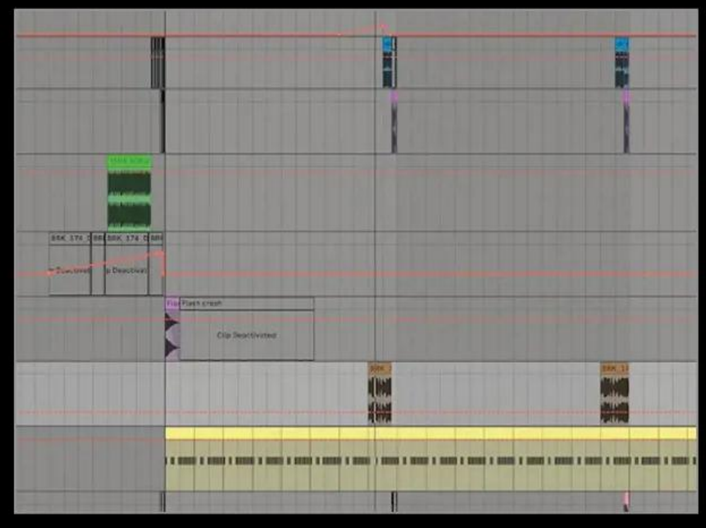
3 > And with the snare, he uses an 80s-type sound from an old track, *Timewarp*, as a reverb snare tail. Again, he then layers that with other snare sounds.



4 > Nick also creates his own loops in apps like Addictive Drums which help fill out some of the top-end frequency gaps you might get with drum 'n' bass.



5 > Some of the loops might also be created from older tracks and then blended in to the current mix as shown here (from the track *Safe in Sound*).



6 > One of the final percussive elements that Sub Focus employs is to use breakbeat loops as fills, in some cases with a flanger for added effect.

Lockdown thoughts



"On the financial side of things, it made a big difference. There was a huge loss of income for touring musicians because all gigs had been cancelled or rescheduled, and this is typically our main source of earnings. The upside was that it has given us all a lot more time to work on music without the distraction of being on the road. I'm just finishing a collaborative album project with Wilkinson, so I've been getting stuck into that over the last few weeks.

"Maybe the lockdown had an effect on the music we're making, too. I think we'll see electronic music producers being a bit more experimental and making stuff that's geared towards home listening, as opposed to the club environment. Ironically, this was a fertile time for creativity, despite the hardships that everyone was facing."

HEAR MORE



Solar System
bit.ly/sf_solsyst

Trouble
Sub Focus & Rudimental (ft. Chronixx & Maverick Sabre)
bit.ly/sf_trbl

subfocus.com
soundcloud.com/subfocus
twitter.com/subfocus
facebook.com/subfocus

DRUM & BASS

> DnB is a fast-paced style of music that has its roots in the 1990s London jungle scene. Early jungle records combined booming, reggae-inspired bass with heavily edited, pitched up funk breakbeats and samples taken from music styles such as hip-hop, ragga, jazz and techno. As jungle passed its peak in popularity a new take on the sound emerged, which was known as drum & bass.

While the two styles of music are closely related in terms of BPM, structure and production style, DnB in comparison is typically more refined, both in terms of drum programming and overall production values. Great importance is placed on sound design, clever sampling tricks and making the low frequencies weighty, without compromising on loudness or brightness.

Part of the undoubted appeal of DnB is the wide variety of styles and influences that make up the genre, ranging from the uplifting liquid sounds of producers such as Calibre and Brookes Brothers through to hard as nails, jump-up smashers from the likes of Hazard or DJ Guv.

With such a wide variety of colours in the DnB pallette, we couldn't think of a better idea than showing you how to make a DnB tune of your own. Over the next few pages we'll show you how to create a track in Ableton Live using the **cm** Plugin Suite and samples that you can find at filesilo.co.uk (Bookazines/Music Producer's Guide To Ableton Live). Time to up the tempo and get producing!

>Step by step

1. Creating a DnB-style track – a rapid-fire guide



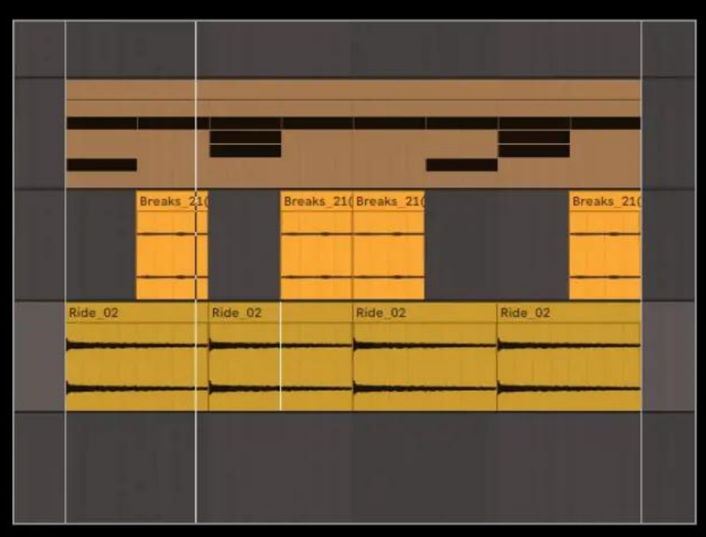
1 > Let's make a basic drum kit that we can build our track over. In a blank 174bpm project, add Brunsandspork's Grooove CM to a fresh MIDI channel; this is a drum pad sampler that's ideal for one-shots. Go to the Drum n Bass Folder at filesilo.co.uk, and import Kick_25.wav. To create room for our sub bass later on, pitch up the kick by five semitones.



2 > A finger click is the ideal basis for a light, layered snare; import Klick.wav into Grooove CM. We'll combine it with a real snare layer to give the finished snare power. Add Snare_10.wav in a blank lane. Finally, grab a live-sounding closed hat (we've used Closed_Hat_06.wav) and load it into our sampler. Now, create a drum pattern with these one-shots.



3 > Add a new MIDI clip to the channel, then draw in a basic 2-step drum pattern with the kick on beat 1 and offbeat of beat 3, snare/click on beats 2 and 4 and the hi-hat on 1/16th notes. To stop our drums running into the red, turn down Grooove CM's channel volume to around -6dB. Now we've got a basic groove running, we'll add a sampled breakbeat.



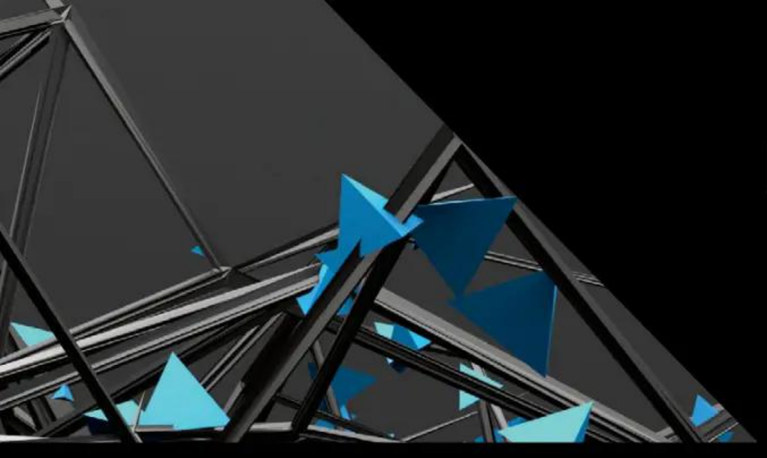
4 > Load Breaks_21(100bpm).wav onto an audio channel. We'll cut the shuffles from the break, and put them between the kick and snare hits. Adding the breakbeat shuffles gives our drums momentum; add splash to the high frequencies with a ride cymbal. Import Ride_02.wav, and place it on every beat. The ride's way too loud, so turn the channel down to -18dB.



5 > Add a fade to the start of each ride hit, so the initial transient doesn't clash with the kick, snare or hi-hat. Duplicate the drums across over 16 bars. Now, put some musical elements in. A drone sets the scene nicely, so import Drunk_Shadows_(100bpm).wav from the Drum n Bass folder. Reduce the channel's volume to -9dB, so it doesn't overpower the drums.



6 > Grab Piano_Delay_01_(120BPM).wav from the Drum n Bass folder, and place it on beat 2 of bar 1. This is a dystopian piano stab that goes with our drone. Copy the piano to the second eight bars, then turn the channel down to -15dB to keep the mix tidy. Import Statik_Rev_(120bpm).wav, and put it two bars before the loop's end, with the volume at -15dB.



RECOMMENDED LISTENING



CALIBRE
EVEN IF
A beautiful piece of production from the Belfast supremo. Beautiful strings, warm bass and crisp breaks with a great vocal performed by the man himself.

bit.ly/cal_ei



DIMENSION
RAVER
This 2018 banger channels the spirit of old school rave, with an intro that features classic pirate radio vocals, with snappy drums and an FM-sounding bass.

bit.ly/d_rvr



DBRIDGE & VEGAS
TRUE ROMANCE
One of the genre's bona fide classics, this is elegantly simple. A sampled break, and handful of stabs leave room for a warm, yet crunchy rolling bass hook...

bit.ly/dbv_tr



BENNY L FT INJA
VANTA BLACKIN
One of the recent DnB anthems, this combines a reverb-soaked foghorn bass, punishing lows and eerie atmospherics with well-timed vocal stabs from MC Inja.

bit.ly/BnyLftI_VB

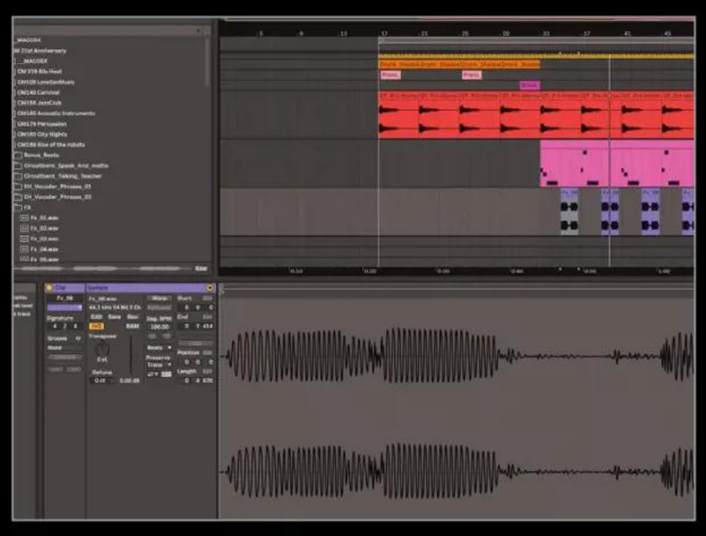
PRO TIPS

LOW-END THEORY
When writing a bassline for DnB, or most other bass music styles for that matter, it always pays to ensure that at least some of the notes are hitting between E1 and G1. While the notes in a bassline are dictated by what key the track is in, if the bass mainly plays notes above or below this area it can either sound flabby and low-pitched, or too honky and thin.

MIX AS YOU GO
A superb way to make your final mixdown both less daunting, and more fun is to treat mixing more as something you do from the start, and less as a process that follows on from producing the track. Making sure basics such as levels, panning and EQ are on point while you're making a beat will make the track sound more polished from the word go, while making the final mixdown less of a chore.



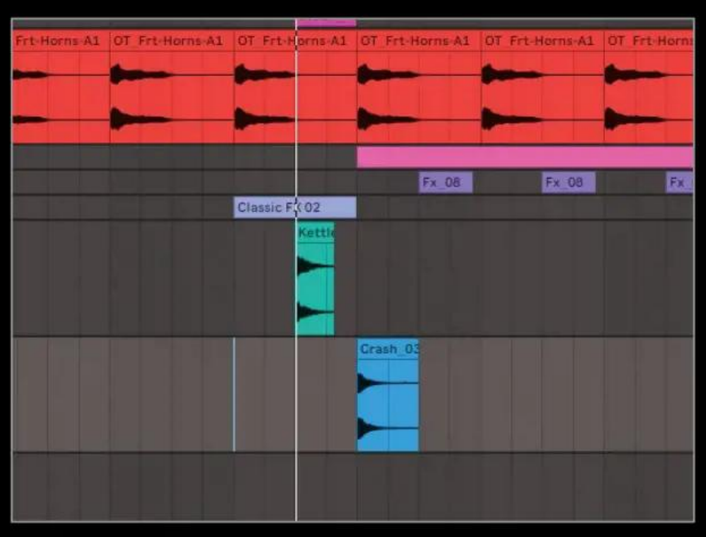
7 > To finish our intro, add a horn stab from the Drum n Bass folder. Place OT_Frt-Horns-A1.wav so it plays every four bars. Reduce the stab's volume to -6dB to blend it in. Copy the drums and horn stabs across to the next 16 bars, to start building the drop. u-he's awesome synth BazilleCM is great for making basslines, so add it to a new MIDI track.



8 > Open BazilleCM, and pick the Psy Subs preset; this is a weighty bass that'll get the speakers flexing. Reduce the volume to -6dB, so the bass doesn't overload the mix. Add Bass1.mid onto the channel, a bass pattern in the tutorial folder. Fill the gaps between the sub bass with a bass sample and load Fx-08.wav onto a new audio track.



9 > Turn down the second bass to -5dB, so it balances with the mix. Now, we'll make a transition from the intro to the drop. Delete the last two bars of drums from the intro, then add Classic FX 02.wav from the Drum n Bass sample folder. This is a sci-fi sounding effect that we can turn into a basic riser by reversing it. Again, reduce the volume to blend it in.



10 > The transition between the sections still sounds awkward, so let's add some perc hits to glue it. Grab Kettle.wav from Drum n Bass folder and place it at the start of our two-bar gap. We'll also add a crash cymbal; import Crash_03.wav, placing it on the drop. Turn down both the crash and impact sounds, till they blend into the mix nicely.



11 > The final piece of our transition puzzle is a vocal snip. Take the sample Another Dimension.wav from the Drum n Bass folder. Place the sample on the second beat during the gap, then add PSP's cmDelay onto the channel so we can process the dry vocal. Call up the Pipe preset; this adds a ringy, metallic effect to the vocal.



12 > To finish, we'll add some variations to the arrangement. Start by adding a drum edit of your choice at the end of eight, and 16 bars to the drop. Copy the crash cymbal, so it's also at the start of the intro. Duplicate the drop, then delete the last two bars. Copy the edit at the end of the intro across into the gap to create another edit to end the phrase.

Sound design

DnB is well renowned for the next-level sound design skills showcased by the top producers in the genre such as Calyx & TeeBee, Noisia and Mefjus, who are all known for creating basses, leads, sound effects and even drums from scratch in the studio as opposed to sampling them from other sources. This dedication to crafting original sounds is what makes one producer stand out from another, and is something that we would recommend you look into a bit more closely as part of your production endeavours.

Sometimes, if you're designing sounds as you actually make a tune, you might find that the creation process of one impinges on the other, reducing your overall productivity and enjoyment. In that scenario, why not try splitting the two tasks into separate sessions? Spending one session solely making sounds using your synths and plugins is not only more focused (and fun, too!) but then gives you a big folder of ready-rolled, fantastic sounds for when you're in your next writing session.

> Step by step

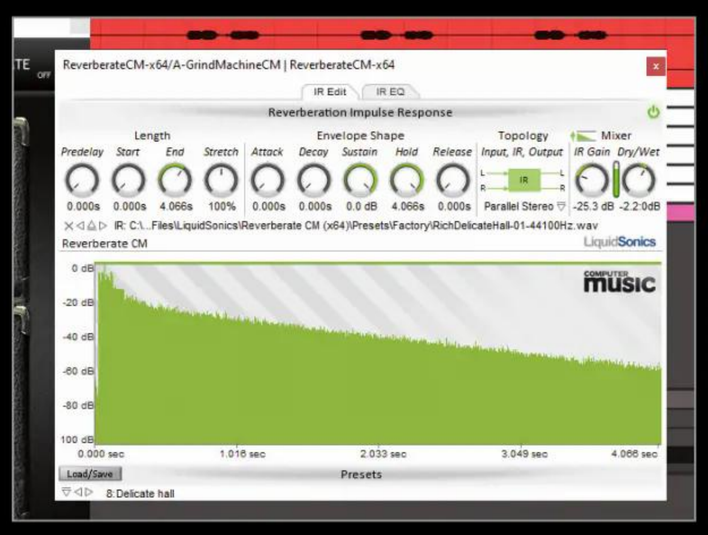
2. Adding bite to your bass





1 > We can use some weapons from the **cm** Plugin Suite to make our DnB bass stand out. Let's start by adding excitement to Bass 2, courtesy of some parallel distortion. Load up Djentbox's GrindMachineCM onto a new return track, and set up a -6dB send from Bass 2.

2 > The benefit of using effects in parallel on a return, as opposed to directly on the channel, is that we can process the wet signal independently of the dry bass. Set the treble and mid EQ in GrindMachineCM to 12 o'clock; this gives the distortion a richer, less sharp tone.





3 > Adding reverb will give a similar sound to the likes of Benny L and Loko. Place Liquidsonics' ReverberateCM after our distortion, choosing the Delicate Hall preset. Adjust the End time to four seconds, to reduce the reverb tail. Add more wet signal using the Dry/Wet dial, to reduce overall crunchiness.

4 > To finish things off, we'll EQ the return. Place DDMF's LP10CM after the reverb. We'll use a 300Hz high-pass, and 8kHz low-pass filter to make room for the sub bass, kick and percussion in the mix. Turn the return's volume down to -3dB, so that the distortion blends into the mix.

> Step by step

3. Dress up your drums







1 > Drawing for some creative effects will make our drums more interesting for the listener during the breakdown and intro. Start by looping over the second 16-bar section of breakdown. We'll group the drums together, so we can process them collectively. Add multi-effect HY-FX CM to the drum group.

2 > Select the Factory 3 preset; this is a filter effect that's modulated by a sample & hold LFO for some added randomness. Automate the cutoff, so it rises over the entire section. We'll also automate the Filter type, so it switches from low-pass to band-pass filtering over the second eight bars.

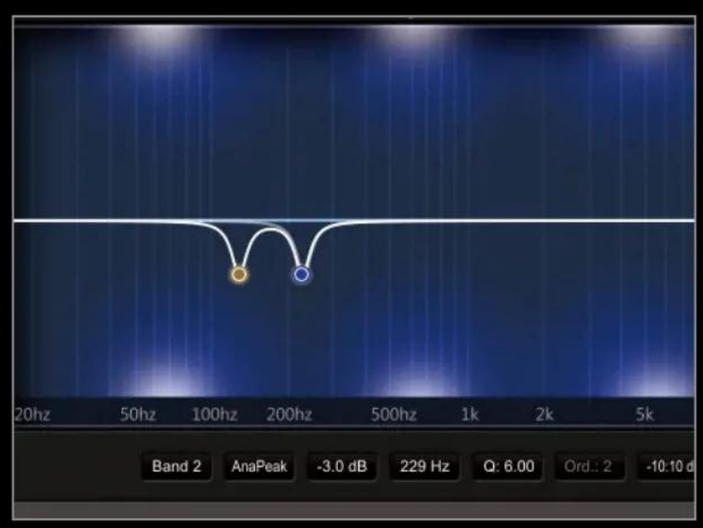
3 > Add Inear Display's Litote CM after the filter effect, so we can granulise our drums. Automate the wet/dry amount, so it gradually increases to create a futuristic, cinematic-style effect that works well with the breakdown. To finish, we'll automate both effects so they're bypassed for the rest of the track.

> Step by step

4. Perfecting your mixdown, DnB-style



1 > DnB producers pay a lot of attention to their mixdowns, so let's run through some techniques. Start by grouping the basses. We'll use a little EQ on the group, courtesy of DDMF's IIEQ Pro CM, to carve out some more room for our kick and snare to punch through the mix.



2 > Set up a -3dB AnaPeak on Band 1 at 130Hz, with the Q at 6. This makes a narrow cut that corresponds to the kick's loudest frequency, giving it breathing room. We'll also set up an identical cut at 230Hz on Band 2, to create space for the snare's punch.



3 > We'll also apply a -3dB high-shelf at 1kHz, so that the high-mid frequencies of the distorted bass are pushed back from the perc. Next, we group the drums to process them more. Add Sonimus Satson CM to apply subtle, yet needed warmth via analogue modelled saturation.



4 > Let's use ToneBooster's Barricade CM to limit the peak volume of our drum group, giving the mix a more cohesive sound. Set the Attack to 0ms, so that the limiter acts instantly. Pushing the Input gain to 7dB, and Out ceiling to -8dB keeps the balance of the mix intact.



5 > A little stereo width will make our drums pop. Add JST's SidewidenerCM to a new return channel, then set up -20dB sends from the ride, crash and finger click channels. Setting the Mode to 3, Width to 60 and Tone to 80 makes the effect seem brighter, and more exaggerated.



6 > To finish, we'll add a little extra depth and brightness to the entire mix using Acustica Audio's mastering-grade Pink CM. Add it to the master bus then apply a 1dB high-shelf boost at 7kHz, with a 1dB low-shelf boost at 50Hz to get the speaker cones pumping.

Breakbeat science

One of DnB's sonic signatures is the use of chopped drum breaks to create some, or all of, the rhythm track. Originally, the idea of using sampled breakbeats as the drum track came from hip-hop, with breaks used in hip-hop such as the Amen – sampled from The Winstons' *Amen Brother* – and Think break – taken from Lyn Collins' *Think (About It)* becoming staples for most DnB producers.

Want to use breaks? A great tip is to find the best quality samples of the break you want to use. You'll find that most songs containing well-known breaks are available on CD, so you can easily make a perfect digital rip. Another tip is to put your break into mono by picking one leg of the stereo pair, as most live drums are recorded using wide stereo mic techniques that don't translate well into dance music that's mostly heard in mono.





POWER TIP

>Space for bass

A key part of any pro DnB track is getting the relationship between the kick and bass right. A great rule of thumb is to make sure they occupy broadly different areas of the frequency spectrum; typically in DnB, the sub bass will be lowest frequency-wise (around 40-80Hz), with the kick's fundamental frequency above it at roughly 100Hz. If you're struggling, try placing a 200Hz low-pass filter on your master, so that you can hear how the instruments interact, without the mids and tops getting in the way.



BASSLINE

> Bassline music (also known as bass house) has been storming clubs and festivals worldwide over the last few years, with artists such as Holy Goof, Chris Lorenzo and Skepsis making music based on the classic sound of bassline tracks from the mid to late 2000s.

Their technique is to then add their own twist, taking influence from production methods and sounds used in styles ranging from rave, techno and grime through to jungle and DnB. Bassline tracks are produced with the dancefloor squarely in mind, boasting EDM-style drops, weighty sub bass, extreme mid-range and detuned mid synth leads, all creating a sound that can be intentionally abrasive but never fails to cut through in the rave. As the original bassline sound itself took inspiration from speed garage and uplifting vocal house there are strong influences in today's bass tracks from those styles, both in terms of the tempo which usually sits between 128-140bpm, and the energetic 4/4 drum beat.

If you fancy making your own bassline track, then we've got your back with our guide on how to produce one here using just Ableton Live, the **cm** Plugin Suite and samples from the Music Producer's Guide To Ableton Live folder at filesilo.co.uk (under Bookazines). We'll run through drum-making techniques, mid-range bass synthesis, arrangement ideas and all the other cool stuff you need to make your own bassline track. Videos and tutorial files are also available in the folder at filesilo.co.uk.

> Step by step 1. Bassline in 60 minutes



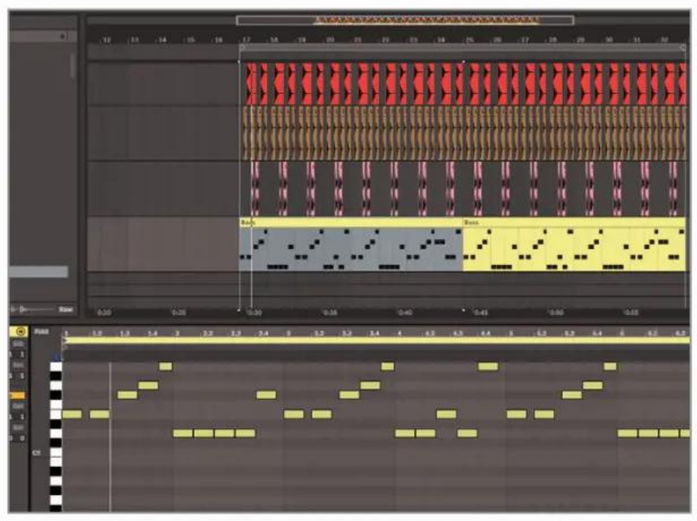
1 > Let's get started by making the drop for the track. Set your BPM to 130, and grab Chase_Kit_Kick09.wav from the samples Bassline folder; this is a beefy kick we can use for building our drums. Add it to an audio track then shorten the tail slightly, with a fade out to avoid any clicks or pops. Duplicate the kick sample, so it's placed on every beat of the bar.



2 > We'll turn the kick down to -6dB to avoid clipping. Next, we'll build a layered clap and snare to go on beats 2 and 4 in the bar. Add DownTown_Clap_02.wav from the Bassline folder, then turn it down to -10dB so it doesn't dominate the kick. Import Vice_Snare_09.wav from the same folder to layer with the clap; turning it down substantially gels the two layers.



3 > Some percussion will flesh out the kick and snare. We'll place a hi-hat from the Bassline folder (Load_Up_ClosedHat.wav) on every off beat, then turn it down to -6dB. Import a drum machine loop from the folder (CD_Drums_95-17.wav) onto a new track. We'll delete most of the loop, so that just a cool shuffle between the snare hits remains.



4 > Turn down the shuffle we've just added, so it is just a subtle part of the mix. Next, we'll stretch the one-bar drum loop out into a 16-bar section. Now add some synths with Synapse's Dune CM on a new MIDI track. From the tutorial folder at filesolo.co.uk Load Mid Bass.fxp – a bass patch we've pre-made – and add Bass.mid onto the MIDI track, to trigger it.



5 > To give the bass real power, we add a booming sub bass courtesy of u-he Bazille CM's Psy Subs preset. Turn down mid and sub basses to -9dB, so they don't sit in front of the drums. Add Audiffex STA Enhancer CM to the mid bass, with the Vintage XCiter preset loaded – this adds density, and harmonic excitement to our synth patch without going too crunchy.



6 > Let's make a variation on the bass, to use as a fill. Duplicate the Mid bass channel, then delete the MIDI clips. Move the last bar of MIDI to the duplicate channel, so the new synth is triggered at the end of the phrase. Open Dune CM, and change Osc 2's waveform to sawtooth, with the FM 1 dial at 20%. This makes our patch change to a more ringy sound.

RECOMMENDED LISTENING



SKEPSIS - *GOES LIKE*
One of bass music's biggest tracks in recent years, the mid bass in *Goes Like* is so sharp that it could cut titanium, while thumping drums keep the track moving along.

bit.ly/skpss_glt



DARKZY - *IT'S YOU*
Trance-tinged vocals and pads kick this off, into a savage drop that combines screeching bass and weighty drums. Undoubtedly one of Darkzy's best bassline tracks to date.

bit.ly/dkz_iy



DRAKE - *GOD'S PLAN (HOLY GOOF BOOTLEG)*
This took Drake's hit and turned it into a massive, bass-heavy banger by adding in some huge synths, fat drums and lashing after lashing of sound effects.

bit.ly/drk_gp_hg



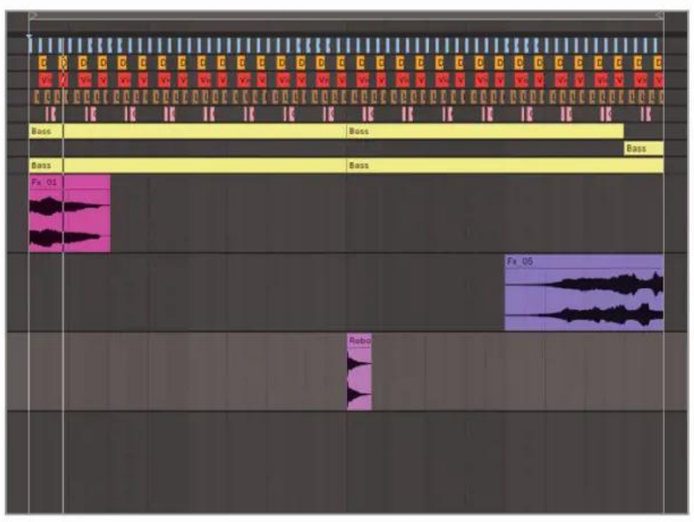
BRU-C FT WINDOW KID, JAMIE DUGGAN AND BOODA - *WEEKEND BOYS*
The original Niche vibe is bang up to date for this, with witty vocals from MCs Bru-C and Window Kid the track's main focal point.

bit.ly/brcwndwkd

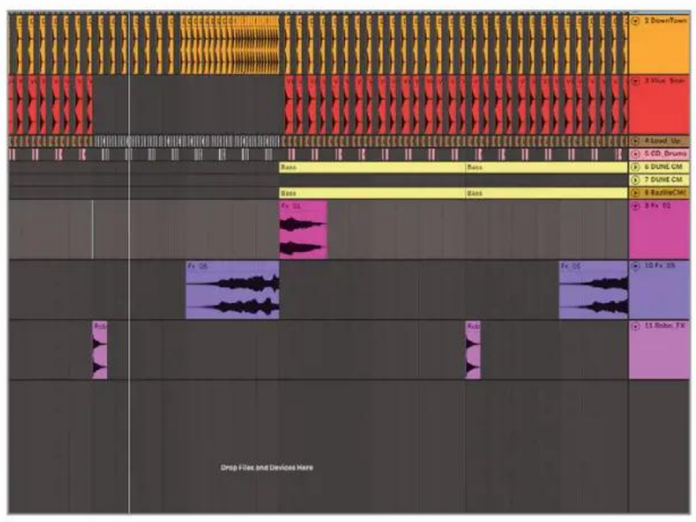
PRO TIPS

ALL IN THE TIMING
You can change the feel of your drums quite dramatically by using your DAW's channel time delay on various layers. This lets you make subtle timing changes by shifting sounds ahead, or behind the grid by milliseconds at a time. For example, try time delay to shift the offbeat hi-hat 5ms ahead of the grid to give a more urgent feel. Time delay is also great for shifting snare/clap layers to make them gel.

THINLY SPREAD
The kind of complex synth lead and bass sounds used in bassline (and many other dance styles for that matter) are often synthesised using unison detuning, alongside effects like reverb or stereo excitement. This can sometimes impact on their mono compatibility, which is not ideal for club PA, or smartphone playback. To get around this, try adding extra mono weight by mixing in mono saturation or distortion of your synth parts on a return channel...



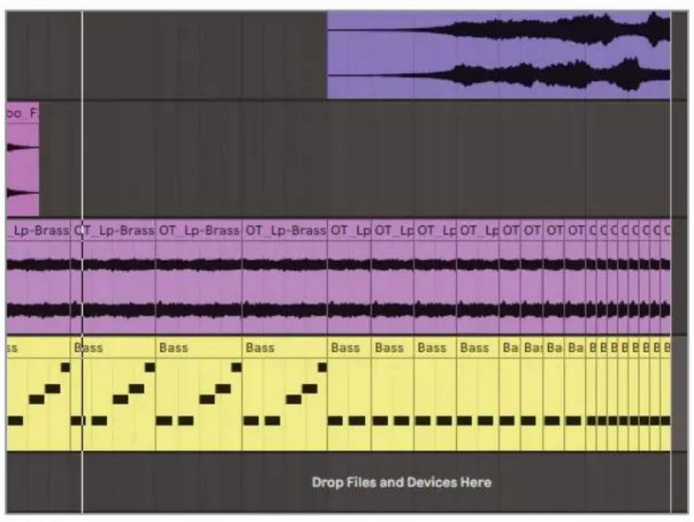
7 > We'll add a few one-shot sound effects to flesh out the arrangement. Grab Fx_01.wav from the samples Bassline folder, and place it at the start. We'll also take Fx_05.wav from the same folder. Place the effect on the last four bars, then reverse it to turn it into a fantastic riser. A final effect (Robo_FX_01.wav) placed on the second eight bars adds extra detail.



8 > Turn down the effect channels to -18dB, so they are pushed back in the mix. Copy the drums and effects across to the previous 16 bars, so we can use them to build the intro. Mute the kick during the intro's first eight bars, and the percussion for the second eight-bar part. Duplicate the clap so it plays over the kick, before doubling up for the last four bars.
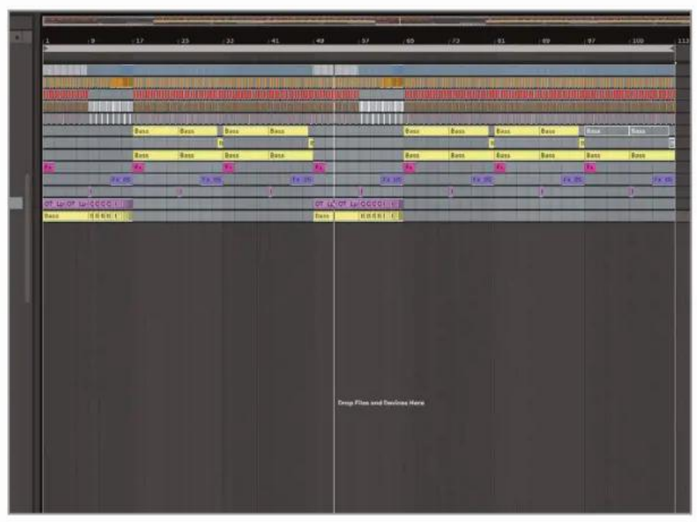


9 > Let's add some musical elements to the intro, starting with brass. Grab the OT_Lp-Brass-E3.wav sample and duplicate it across the intro. Turn it down to -6dB. Next, we'll make an intro riff from the bass notes. Add Dmitry Sches' ThornCM onto a new MIDI track, then duplicate the bass MIDI across. Use the LEAD Rush preset, as it complements our intro perfectly.



10 > We'll turn down ThornCM's channel to -7dB to retain a nice mix balance. Next, select the first bar of the brass and lead regions and copy them across the second eight bars of intro. This adds momentum to the build up, and we can embellish this even more by making the brass and lead loops repeat more quickly during the last four bars of intro, similar to a kick roll.



11 > Select the kick drums for the last two bars of the intro, then double them up. We'll double up the kick again for the last bar, creating a classic roll. Now, we'll high-pass filter the kick drum out before the drop using Vengeance VPS Philta CM. Add the plugin, and draw in some automation so that the kick's bass disappears before the drop, before snapping back in.



12 > To finish, we'll flesh the track out into a larger arrangement. Duplicate the 16-bar drop, then place the entire intro after it so we've got an intro, drop and breakdown. We'll then select the full drop, and copy it after the breakdown. We'll duplicate the last 16 bars of the second drop, then mute the mid bass so it's more of a cooled-off section to finish on.

> Step by step 2. Mid-bass synth using Dune CM



1 > Making a detuned, abrasive mid synth patch is a doddle with Synapse's fantastic Dune CM. Load the Init preset from Bank B to reset the synth. Set both Oscillator 1 and 2 to a square wave, for richer harmonics. Setting the OscMix to 50% brings Oscillator 2 into the mix.



2 > Beef up our sound by pushing Oscillator 1 and 2's Fat dials to 70%. Increasing the Ring Mod amount to about 60% adds a high pitched overtone. Now, when we adjust FM 2 to 66%, Oscillator 1 will modulate the frequency of Oscillator 2, resulting in a wobbly bass tone.



3 > Adding detuning will make our sound more abrasive. Set the Unison voices to 3, and Detune amount to around 80%. Tune Oscillator 2 up by three octaves, so the synth sounds more piercing. Set the Filter Env to 100%, so we can modulate the filter with the onboard filter envelope.



4 > Reduce the Filter cutoff to 10%. Setting the Filter Envelope for a medium attack and decay, with fastest sustain and release, opens and closes the filter quickly when a note is played for that authentic bassline sound. To finish, increase the filter's resonance to around 40% for a sharper sound.

> Step by step 3. Designer drops



1 > Let's add some individuality to our track using some clever plugin processing. Start by adding Vengeance's VPS Philta CM to the Lead Synth channel. We'll use the high-pass filter to gradually fade in the lead's low frequencies over the first eight bars of intro, for extra suspense.



2 > Add another VPS Philta CM to the Brass channel, so we can low-pass filter the brass out leading into the drop. Draw in the automation, so it takes a few of the high frequencies away for the first eight bars, with a more obvious fall in the second eight.



3 > Group the brass and lead parts. We'll use Subsonic Labs Wolfram CM on the group to process the musical parts together to lead into the drop. Load the CM Resonance Peak preset, then automate the Mix across the intro to gradually fade the effect in.

Arrangement hacks

When arranging, it's always good to go the extra mile and put your stamp on it. You can do this in lots of ways, including by using automation. For example, you could low-pass filter your drums during the intro so the high frequencies gradually fade in, adding a level of suspense. Another simple automation trick is to adjust the master volume so that it gradually reduces by 1dB just before the drop, before changing back to the original volume to give the drop a greater bit of impact.

Creating clever edits to parts of the arrangement can also add individuality. One of bassline's most common edits is the false drop, whereby the drums will be muted for the first two bars of the drop in order to make the bassline the focal point after the buildup. It's also worth doing some subtle edits to your drums, either by adding extra parts that come in during the track or by making pattern changes at the end of a phrase.

> Step by step 4. Bassline mixdown



1 > Let's begin by processing the sound effects we've used, so they work with the other parts more effectively. Start by grouping the three effects. Call up DDMF's LP10CM EQ, and set Band 1 to HP12. Setting the filter frequency to 200Hz will roll off the low frequencies, adding clarity.



2 > Synthesised sound effects of this type often sound sharp in the high mids, thanks to the resonant filters and noise used to create them. We'll deal with this using ToneBooster's SibilanceCM; this is designed for vocal duties, but it helps control high frequencies in any sound.



3 > Let's turn our attention to the drums. Group all the parts, except the kick. Load up Eareckon's CM-EQUA 87 onto the group, and set the high-pass filter to 150Hz. This'll make room for the kick to breathe. A 2dB HF shelf boost at 8kHz adds shine to the drums.



4 > Let's process the snare. First, set the channel time delay to 5ms, so the snare is delayed behind the grid to aid layering with the clap. Next, add Audiority's TS-1CM transient shaper. Set Gain A to 24, and Blend to 100% to remove the 80s sounding reverb from the snare.



5 > Group the clap and snare, so we can process them as one. Add Rob Papen's RP Distort to the group, then select the Mackie CH Dist RF preset; this emulates a retro Mackie mixing board. Reduce the dry/wet to 3% wet, so our distortion is mixed into the dry signal.



6 > To finish, we'll process the mid basses. Group them, and add Sonimus Satson CM. Set the high-pass filter to 9 o'clock, so it rolls off the low frequencies. Switch in the 12dB/oct filter, so it makes a sharper cut. Push the Gain to 1 o'clock to add drive.

Synth work

Sound design, and in particular bass synthesis, is a big part of the bassline aesthetic. Whilst you can use sampled basses to great effect, making your own patches using a synth will allow you to adjust the synth's tone as the track unfolds, creating interesting variations on your original sound.

As the sounds in bassline are very dense and detuned, it makes sense to use a wavetable synth with multiple oscillators as your starting point. Wavetable oscillators generally offer more harmonically dense waveforms, which can be combined together to create the attention-grabbing, complex tones we're after.

If you're still struggling for inspiration, you can always take signature sounds from other genres, such as 808 sub hits, jump up DnB bass hits or rave hoovers, and work them into the track alongside your own synth patches, either to use as the main bassline or as stabs.



Xfer's Serum is a great wavetable synth to use for sound design in genres like bassline

Using these kinds of sounds can give a timeless feel to your track, alongside an element of familiarity too.

POWER TIP

>Reining it in

You'll normally find that the detuned synth parts used in bassline have quite wild resonances between 300Hz and 2kHz or so, which is what gives them their unique character. The usual approach to these kind of issues is to reduce the resonant frequencies using EQ notches or multiband compression, but you might find that this can stop the synths cutting through correctly on a PA system. Instead, try and make room for these frequencies by making EQ cuts to the parts that sit in a similar frequency, such as pads, vocals or percussion.

QRTR

With a cinematic approach to the construction of her productions, Brooklyn-based QRTR – aka Meagan Rodriguez – has garnered rising acclaim for her debut LP *Drenched* and for her euphoric DJ sets. Here she reveals the tech behind them and her Ableton ethos

> Awash with lavish synth textures, mangled ghostly vocals and head-bobbing house beats, QRTR's debut album *Drenched* is certainly among the most characterful debuts we've spun recently. Built using a sound design ethos that resulted from years of professional study, merged with a love of transcendent house music, Meagan Rodriguez's electronic alter-ego has carved a beguiling sonic identity.

The three main facets of her life as QRTR – that of sound designer, gigging DJ and an experimental electronic artist – are all integral to her approach to making tracks that skirt around the dance music genre, while still diving headfirst into its tropes if she feels the need... Examples of which include the trance-like movement of the hypnotic *You Won't Return*, or the lo-fi synth stammers of *My Bad*.

Making up for lost time after 2020's Covid restrictions with a full schedule of live shows, we spoke to Meagan the morning after a particularly exuberant set, to share her story, talk tech and explain more about her process.

Live to studio

cm: Hi Meagan, firstly can you give us a bit of background on yourself and how you first started music-making?

MR: "I've loved music my whole life; I did music classes growing up in elementary school, and though I never specialised, I always loved it. My parents really encouraged it, too; they'd buy me different instruments every Christmas. They knew it brought me joy. Really, I didn't start producing music until I was in middle school. My Dad bought me a Sony VAIO tower PC. It came with a bunch of Sony creative software. I used the early version of Acid as my main music software, and I'd sample things using a little PlayStation 2 microphone!

"I'd sample noises that I made myself, or even songs that I heard on the radio. I would then mess with the frequencies and the EQ to remove the vocals from the track so that I could add my own in. I was only 11 at this point, so I didn't really know what I was doing, but it was fun. I'd burn CDs of me singing on top of tracks and force them on my friends on the school bus.

"I got my first MacBook in high school which had GarageBand, and I started making a few tracks in that. I never considered making music in any kind of career capacity. I actually ended up going to film school and focused on post-production. There I studied sound design and have been working in that capacity for ten years, and I still do some work in that domain. I'm still occasionally called on for music editing and music supervision jobs. It wasn't until around 2014 that I started going to my first music festivals and dived into the nightlife of New York City. DJing was just a hobby at first.

"Around this time, I first bought Ableton Live and then started dabbling and having fun with it. Totally organically, I had friends who were just like, 'hey, do you want to open our show as a DJ?'. Then I just started playing from there, and started taking it a bit more seriously, over the last six years."

> "I started dabbling with Ableton Live and then my friends said, 'do you wanto to DJ for us?'"

cm: So you never had sights on establishing yourself as an artist?

MR: "I never had any big visions about being a music artist, playing sold out shows or anything like that. It was entirely built around having parties and making a vibe and a good time. It evolved from there."

cm: How important is the cinematic mindset when writing? Is that still important?

MR: "I think it's huge. It was around 2017 when I started to take music more seriously. I decided to try and create a sonic ethos. This basically involved digging into my background in sound design and post-production, to create much more cinematic dance music – combining the two things that I was really interested in, even though they're quite contradictory. I wanted to make things more melodic and feel-based. I'd already acquired quite a few sound effect libraries over the years, from doing different jobs. So I used these a lot to add more dynamic feelings."

Crafting a cohesive sound

cm: Last year's *Drenched* had a lot of textural variety to it. It had a really distinct, ethereal atmosphere, with lots of big reverbs and delays. Did you start with a guiding concept



"I never had any big visions about being a music artist," Meagan tells us

Photo: Bren Haragan

for the album?
MR: "It was really the second track on the record, called *All Of My* that I'd recorded before everything else that unlocked the sound. I was approached by the label Dome of Doom to make the album, so I was trying to decide which direction to go down on the record, and was scrolling through some older tracks. I remember recording *All Of My* at the time feeling like it was maybe too much in the sound design world. But when I heard it again, the thought of really fleshing out that concept appealed to me. So that track informed the whole language of the record. I really wanted to dig into that etherealness, but still have those accessible dance-tropes within."

cm: How long did the whole production process take?
MR: "It took about a year, almost exactly. Dome of Doom reached out to me in March 2019 and it was released in March 2020. I finished it technically in November 2019, so a little less than a year – but there were some track ideas pulled from years prior, that I'd tried to reimagine, and then obviously there are new tracks I created specifically for the record.

"The big project, aside from obviously creating all the songs, was to design the sound so that each track sounded cohesive and consistent. That was where the whole conceptual thing came in, I started thinking about how the tracks could connect to each other."

cm: How does a writing session typically begin for you? Do you have ideas in your head fully-formed or do you go down more of a journey of discovery?
MR: "I would say both really. It does vary track-by-track. There's been plenty of times when I've been driving and listening to the radio, then suddenly I have an idea in my head, out in the world, so I'll record a voice memo on my phone (I have hundreds!) of melodic ideas.

"Sometimes if I have a day when I just want to commit to a session I'll begin with a clear melody, or just with a bed of percussion. It's all down to how I'm feeling. The trick is getting that one piece that suddenly puts you into a flow. Every artist is trying to do that when they're in the studio. Sometimes it can be immediate, other times it takes most of the day just to get there, then the last two hours are the most productive."

cm: We imagine that with the sort of flowing, organic vibe of *Drenched*, a lot of new ideas grew out of other ideas...
MR: "Oh, 100% – at some point early in my life as QRTR, someone told me that it made sense to have ready-made effect chains and custom sounds that were re-used quite a bit, so that you can throw these little pieces on to a track, and suddenly it's yours... if you're not feeling that the track is cohesive, you can jump into your bank and play around. I think *Drenched* was the beginning of that for me.

"Now I have so many folders in Live that are named 'QRTR', full of big massive chains that I can easily apply to projects.

"Making the album allowed me to grow so much in that regard, because now I can approach writing and thinking about how it



Photo: Bren Haragan

.WAVCAVE

Meagan is keen to connect with her fellow New York artists, and has built collaborative spaces and events where like-minded creatives can express themselves in a judgement free-environment. "We started it in 2015," Meagan tells us. "My best friend and I basically wanted to make a party that we wanted to go to. There was this kind of brooding, too-cool, atmosphere in a lot of electronic music nights in NY. We wanted to go, have fun, let our hair down and enjoy a variety of music without feeling judged. We started this thing basically as a monthly party. I'd invite some friends to DJ and perform as well. It became a little more sporadic in terms of when we'd do it. But we ended up opening a shared artist studio space in Bushwick, Brooklyn. That was 'The .WAVCAVE' – a brick and mortar space. We recently had to transfer it over to other artists because of Covid. It had a good few years though. We had mixed media painters and graphic designers who worked there, alongside musicians. We kind of morphed it into a kind of record label. I think at this point in its life, we'll consider doing some events down the line. It's really a bunch of people, artists, who are out to create together."

relates to the project as a whole. *Drenched* very much put me in that mindset. I'm proud of how I did it, because I still gave myself room to grow. Even though it is QRTR, it's eclectic in genre. I've got a lot of flexibility now, with that being my debut."

cm: Where did you make the album and what tech was essential to your process?
MR: "I was working out of my home studio in Brooklyn, actually across two apartments. The first apartment had my studio just in my bedroom, then I moved into a new place where I was able to actually have my own separate studio room.

"*Drenched* was written using a Hackintosh that I actually built for video editing purposes, and so it was all on there. I recently transferred everything over to a MacBook Pro so I could flexibly work in other spaces without missing my plugins!

"So it was on this Hackintosh primarily. Every track was recorded with Ableton Live and the Push was my primary performance instrument. I also have a Roland TR-8S that I used for quite a few drums and percussive sounds.

"I have an Arturia KeyLab 61 MIDI keyboard for melody writing, and I use Arturia Analog Lab 4 quite a bit. It's so huge. I love it, I've been using it since it came out. On every track that I've been working on there's at least one synth from it."

> "I was scared to upgrade but did, and there's so much great stuff in Live now"

cm: The opening of *And Still* has a nice gnarly lo-fi synth part, how was that achieved?
MR: "Ah well that was actually a real synth! That was done with my Korg Monologue, but the rest were all virtual really. I use Serum sometimes, but Analog Lab primarily. Some Ableton stock synths were brought in a bit, too.

"I feel like I'm more aware of the plugin world now I've finished making the album. I just bought Massive X, which I'm really excited to try out; I literally just downloaded it. I have a lot of effect processing plugins now that I didn't have before. I think honestly I use a lot of Ableton stock packs just chained together.

"I was using Ableton 9 actually when I started *Drenched*. I was scared to upgrade during the process. I figured I'd make the switch once it was finished. When I did I was a bit annoyed, there was so much great stuff in the Live now, like echo and reverb effects that are so much stronger. The newer reverbs have a lot of real complexity that I've started exploring more for a new project. I ran the gamut with the new Ableton stock. There's all the additional Max for Live packs which are so awesome. There's one that I've been using a lot called Dr Chaos. It's like these probability pack things; it is so cool and it's so great if you're ever stuck in a session. You can just play around in a track and introduce some chaos. It can steer you into new directions."



Meagan's studio space, where *Drenched* was created



Photo: Scott Hoffmann

A special joy

As last year's Covid restrictions meant a diary full of crossed out live dates, Meagan turned – reluctantly – to livestreaming to get her music heard. "It's funny, at the beginning I was really opposed to live-streaming, which was less to do with thinking it wasn't a legitimate alternative to a gig, and more the fact that it made me sad," she says. "I did a few initially and would get into it, interacting with people – get a little bit of that high of being in that community of people. It felt almost there. But then, the stream would stop and I'd be alone."

Her attitude began to change, however. "I did start to warm up to it a bit more, and started doing it more consistently over 2020. I started hanging out in some online communities that were really warm and inviting and fun; it was so nice to have that experience. It's not the same as seeing a dancefloor full of people, but it did help a lot. I think I got a special joy in seeing how people enjoyed it. I imagine that a lot of them had similar feelings of loneliness during that period. It was beautiful actually, to see people come together that way. People will always have that desire to share music."

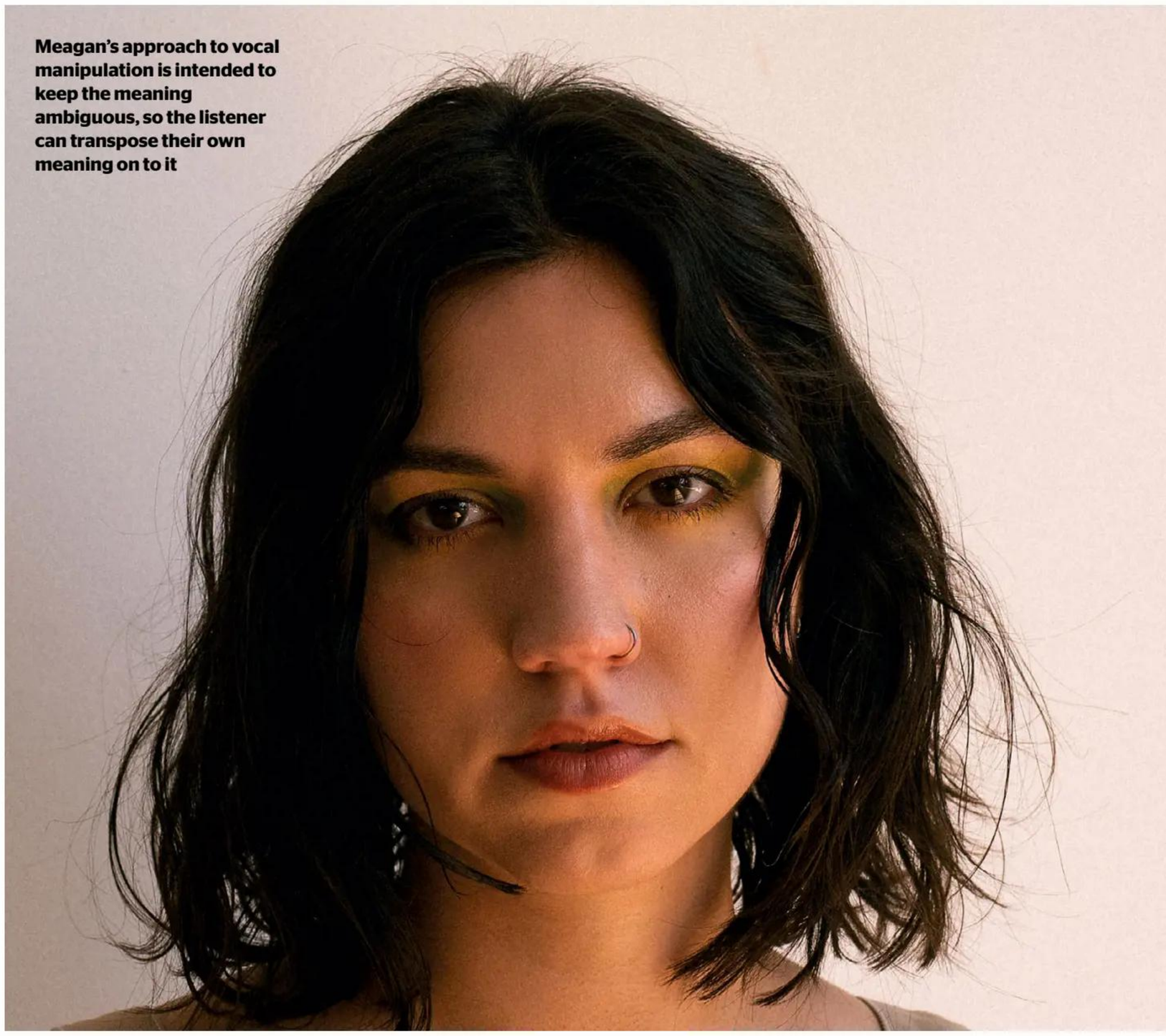
Creating meaning

cm: Vocal manipulation plays a part in quite a few of your tracks, like the backwards vocals on your single *Forest Sprint*, or the skittering vocals on *I Gave Up*. What do you use to mess with vocals, and do you see them playing more of an instrumental role in the mix?

MR: "It's rare that I finish a track and feel like it's fine without some sort of vocal. There's something about electronic music where having a human voice in there helps to pull people in. So, I tried to sprinkle them where I could. On my next project I'm doing quite a bit of my own vocals, and I did on *Drenched* as well.

"In terms of processing, I really like to chop things up and take the organic-ness of the human voice and bring it into the electronic space by manipulating it. The way I'd describe my fixation with chopping vocals is that I'd love for people to hear a track of mine in a club, and not be able to figure out what's being said. They then create little meanings in their heads, depending on their own state of mind. I find that really fascinating. Like what's in the audience's mind that they want to project onto these distant vocals?

"That being said, I am challenging myself a little more to bring in a more mainstream vocal treatment into the sounds that I create. I've been doing that with some remixes recently. I've done a collab with house DJ Benwah called *Lost In You* which has more of my actual vocals which I've processed together with his vocals, and you can understand what's being said there. But it's still treated. There's something about taking that organic sound and trying to reimagine it."



Meagan's approach to vocal manipulation is intended to keep the meaning ambiguous, so the listener can transpose their own meaning on to it

cm: The lines between a DJ and electronic producer are more blurred than ever now. Would you define yourself as one or the other, or both?

MR: "I would primarily refer to myself as a music producer. I see that in terms of what my goals are for myself down the road. That's where I want to put in the most effort, to excel as a music producer. I also absolutely think I'm a good DJ, too! I think there's a certain expectation that you have to do both in the electronic space, but I think some people are really good DJs and just aren't interested in producing or vice versa."

Overwhelming moodiness

cm: *Drenched* came out right on the eve of Covid sweeping the world. How did you spend lockdown, and do you think it has affected your music? It must have been tough not being able to get out there and play live?

MR "It came out literally right at the beginning of major lockdowns across the world. The concept of *Drenched* was very much trying to create euphoric moments within an overwhelming moodiness. It was actually really relevant to what we would all experience. In that way, I don't think that's changed in terms of what I'm trying to do with my music now. But to have the year to unfold as it did, was a very weird experience for me. It felt very on-the-nose! The last year and a half I've been working on quite a lot of music... that feeling of solitude and isolation has definitely seeped into the music I've been making recently."

cm: What advice would you give to any of our readers who are keen to become an artist like yourself?

MR: "There's a great quote from Caribou on that, that I completely agree with. He says, 'I don't claim any special insight into music, just enthusiasm – if I did it, you can too'. That's totally it... just do it to enjoy yourself, have fun and if you do have ambition to make it professionally, don't lose sight of those fun parts.

"I had a lot of imposter syndrome in the very beginning. You just have to shake it off because, y'know, it's dance music. If you're trying to make dance music then it's inherently supposed to be fun. So don't think too much about it. If you don't know where to begin, then YouTube (and tutorials) are a great place to begin."

cm: Is there any tech that you'd love to get your hands on, or any kinds of sounds/genres that you'd be keen to explore in future tracks?

MR: "Well I've been pretty wary of the hardware synth world, because I don't want to go bankrupt! But I think it would be very cool to buy a few more. I've been going to a few other studios of people who have more hardware synths and enjoying playing around and getting more into the synthesis world. The modular world is pretty interesting to me too.

"I've always been conscious of pigeon-holing myself in terms of the music I'm creating. I've got some new music coming out later this year which I'm really excited about. I think I want to experiment a bit more, and not be afraid to do that."

cm: What's next on your agenda?

MR: "This year I'm playing my first real festivals as a DJ and producer. One is on the West Coast called 808s and Heartbreaks, and another in Upstate New York called Luminescence. Then I have something really big happening, which I think will be a step toward something. But I can't reveal what it is yet!" **cm**

The QRTR album *Drenched* is out now.

HEAR MORE



Drenched (YT taster)
bit.ly/CM_drenched

You Won't Return
bit.ly/CM_YouW

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Production techniques
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Perfecting your kick and bass

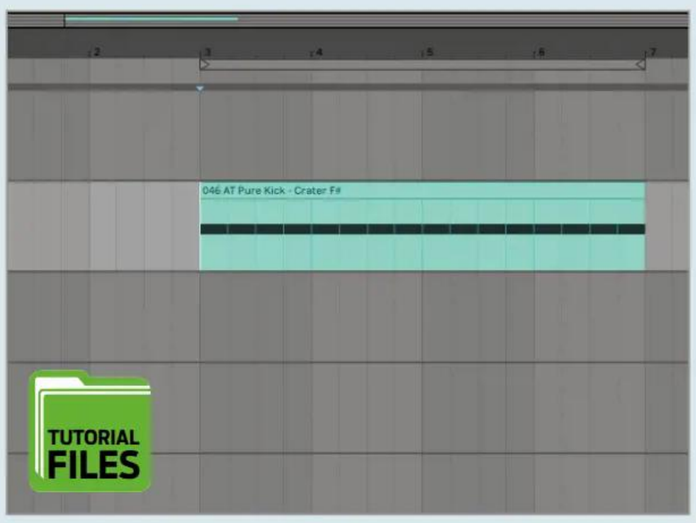
Getting kick and bass to complement each other can be one of the hardest production tasks. Master your low end in Ableton Live now!

> Mixing low end is one of the most requested topics to cover: a lot of producers struggle with it, mostly because the room acoustics and speaker setup isn't ideal. But there are ways to address overlapping frequencies, and here we'll use our favourite, tried and tested mixing techniques to get your low end thick and powerful. We'll start with the obvious – but often overlooked – level balancing and tuning of the bass. As always, fixing the sound at the source brings the best results. Therefore we first try to use tricks like shortening the release of the bass within the synth, before going extensively into processing. Shortening the release can make a huge difference as it tightens the bass and stops the decay conflicting with the kick drum.

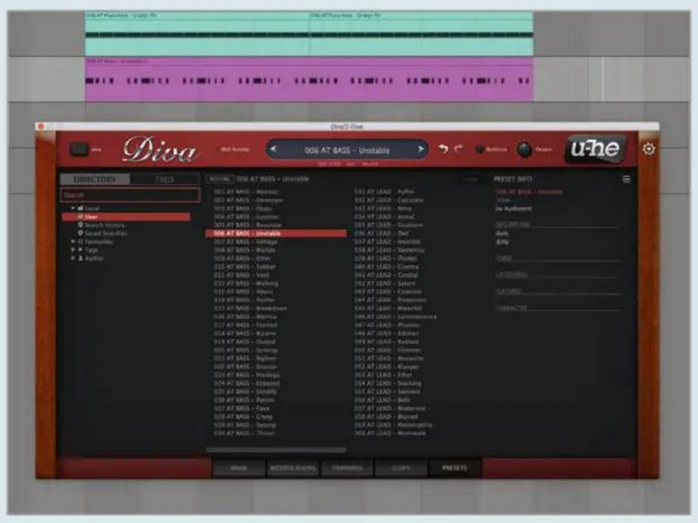
If you don't have full control over the synth parameters and are using an audio sample as a source, more traditional processes can be used to solve the problem. Sometimes a simple complementary EQ is all you need. If that doesn't help, we can further sculpt the balance of your low end by applying a frequency dependent sidechain. This not only helps to make vital space for the kick, but also leaves the upper harmonics of the bass intact.

The low end is the foundation of dance genres and it's worth dedicating studio hours to it. Get this key element right and everything else will fall into place a lot easier.

>Step by step Clearing out your low end



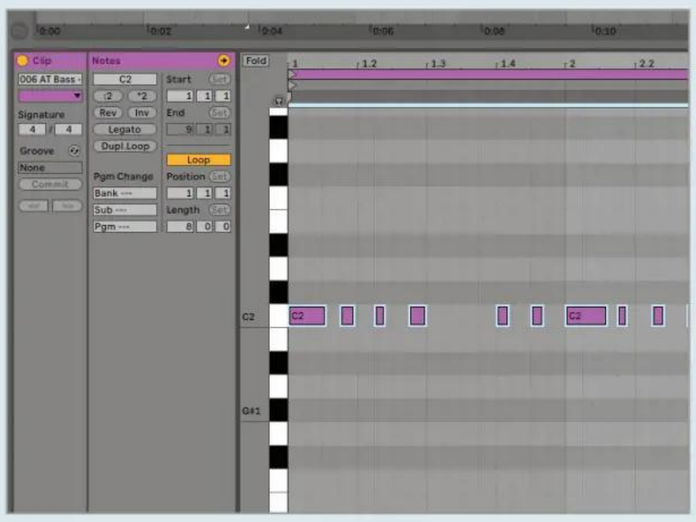
1 > To set the foundation for the track, import a kick drum into Ableton's MIDI Simpler device. You could also insert it directly into the arrangement as an audio file. We are using one from Audiotent's Pure Kicks library. These are all sourced from analogue drum machines and Eurorack modules. A clean sample is preferred to an overly processed one.



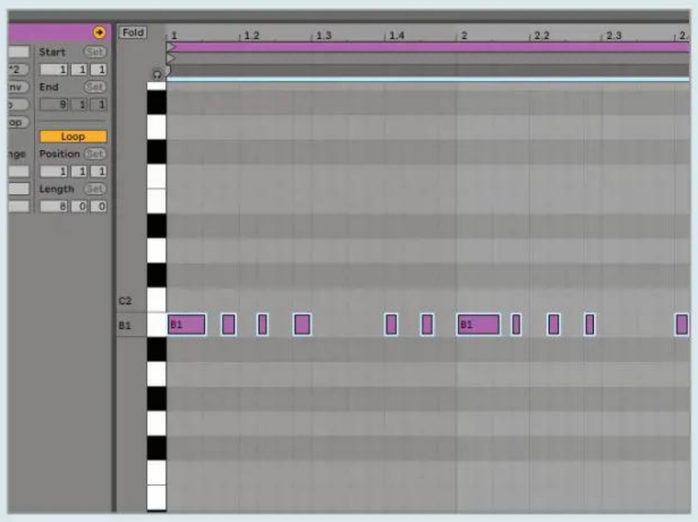
2 > Now, let's add a synth bass. One of our favourite instruments for the task is u-he Diva. Not only that but (plug alert!) Audiotent produce preset libraries for it so we've chosen one from our very own Rectify library. It sounds quite good already. However, the bass overlaps with the kick in a few places, so there is some work to do.



3 > The first and most important process of getting your kick and bass to play nicely together is to find the right balance between them. Generally, in the electronic dance music genres, we prefer to prioritise the kick drum. Bass is mixed slightly below in volume.



4 > One of the most effective ways to make kick and bass work together is tuning one of them till they work as a team. If possible, it's best to alter the MIDI info of the bass synth, rather than repitching an audiofile – some pitch algorithms may introduce undesirable artefacts.



5 > Here, we've pitched the bass up and down a few semitones to find a sweet spot in relation to the kick. Normally, if the kick is longer and has a clear tone, you'd tune the bass until the kick sits in a scale. In our case, we pitched the bass one semitone down from C2 to B1 as we plan to use a B minor scale. The kick is tuned to F♯ a perfect fifth in relation to B minor bass.



6 > As we said, it's always best to fix problems at the very source if possible. Since we have access to the original bass synth patch, we can try shortening the release part of the sound. This will prevent the decay of the bass interfering with the tail of the kick.

PRO TIPS

BASS IMAGING

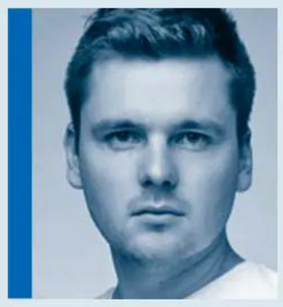
Keeping your bass in mono is vital if you want to achieve a solid mix. However, sometimes you might want a little extra width in your bass to fill out the panorama. Simply duplicate your bass and high pass around 250-350Hz. Next, choose your favourite imager, chorus or Haas effect plugin to increase the width of the bass. The result is a full-sounding low end while retaining the mono image in the subs.

BASS EXCITER

If your bass feels slightly muddy or undefined in the mix, why not try adding a subtle exciter in order to enhance the upper harmonics? This technique can often bring the bass to a more upfront position and give an extra bit of bite to help it cut through the track. Watch out for any undesired distortion in the lowest frequencies as too many harmonics in that area can also make the bass sound muddy.



Use an exciter plugin (subtly) for more upfront bass



Ed Strazdas

Ed is an experienced dance producer and sound designer, working in the scene since 2004



Neil Crockett

Sound designer and mixing engineer, Neil is a huge fan of Eurorack modular synths

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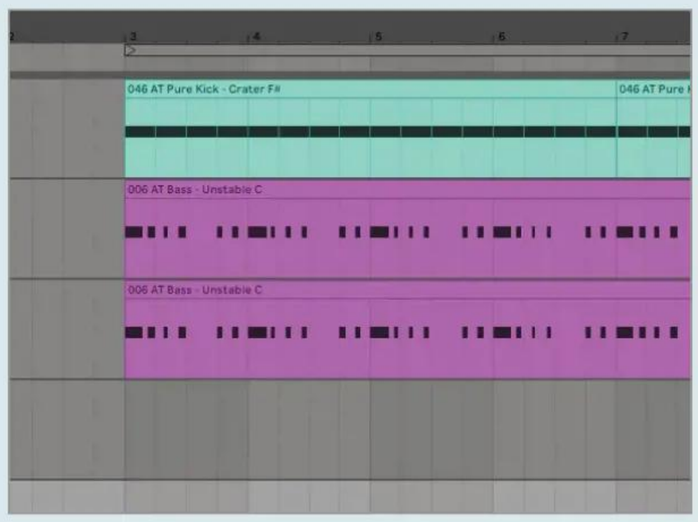
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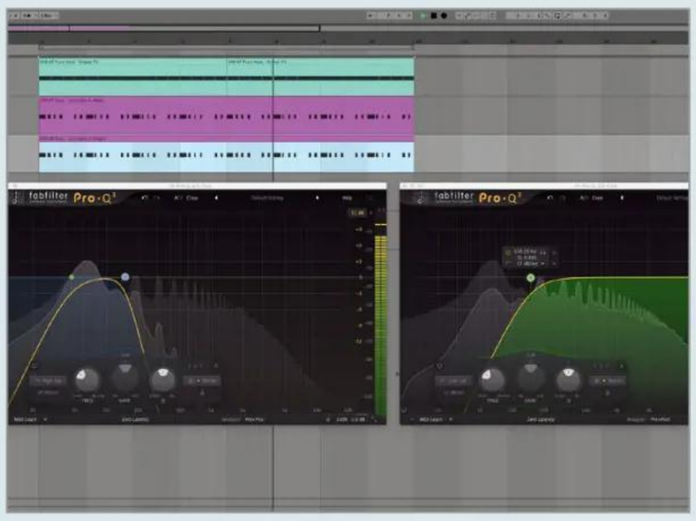
7 > Once you achieved a nice level and timing between the two elements it could be further refined with EQ. The kick seems to have a slight frequency build up around 260Hz. A 4.5dB cut at 264Hz was made to make space for the upper bass harmonics. A gentle 2.3dB boost at 46Hz further extends the fundamental frequency of the kick.



8 > Next, we follow the similar procedure for the bass. A high-pass filter is applied at 46Hz, rolling of the lowest unnecessary frequencies. This is a fairly high frequency to cut at, but since we don't have any notes lower than B1 for the bass, it's OK to cut here. Everything that's below this frequency is eating into our precious headroom.



9 > As a final process, a sidechain trick can be used to give room back to the kick. We won't sidechain the higher frequencies of the bass, with that obvious ducking effect. To achieve this, only the sub frequency of the bass will be sidechained. Therefore we'll have to duplicate the bass channel and use EQ to split them into separate frequency bands.



10 > Now we have two bass channels, the EQ settings can be adjusted on each to isolate the sub. First, for the 'sub' bass, low-pass filter at 150Hz is applied, cutting the upper harmonics of the bass away. Second, the 'high' bass can have it's high-pass filter raised to 150Hz. We then get a nice crossover point that won't intrude on the fundamental frequency of the bass.



11 > The sub frequency is quite dynamic and could benefit from a limiter to control its range of motion. 2 or 3dB maximum range of limiting is being applied, which seems like a nice sweet spot and sounds natural and controlled. The output volume is level-matched, so we are not tricked that louder is better.



12 > Finally, apply the sidechain compression to the sub layer of the bass. Ableton's Glue Compressor is perfect, due to its internal sidechain routing. With the compressor inserted, choose the kick as a trigger. Short attack and release settings help the compressor recoup quickly and cleanly. Threshold is lowered until we get the desired effect. **cm**

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Adding character to your drums

Learn how to use reverb, vintage EQ, and other effects to deliver character to your drums in this hands-on Ableton Live workshop

> Programming drums using multiple sound sources can result in them sounding incoherent. The solution? Apply a few processing techniques to a drum group.

In this tutorial, we will discuss the balancing of individual channels and sending all of the drum stems into one group ready for processing. Reverb will be used in order to imprint a distinct ambience and affect the way in which the drums will be perceived.

Before modern advancements in digital technology, vintage outboard equipment was used to shape and colour the signal path. Current digital emulations of sought-after vintage gear have come a long way, sounding extremely close to their predecessors. We can apply the same techniques and access a distinct character of the past without breaking the bank.

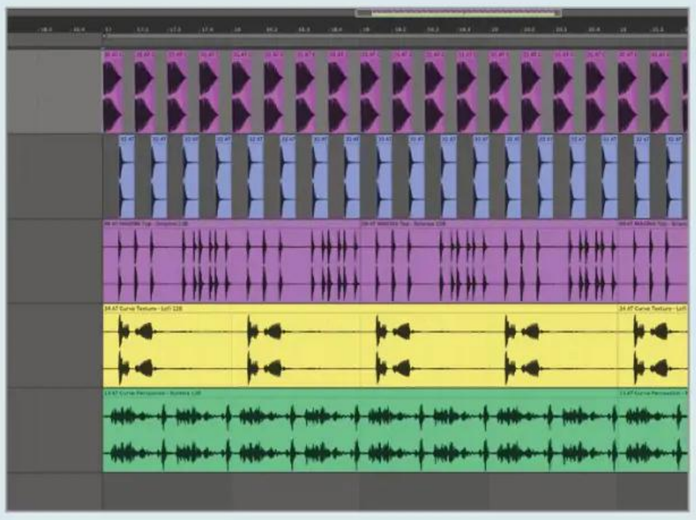
The main benefit of grouping is the ability to affect all the individual stems with the same processor. This is especially useful when the aim is to accomplish a more unified instrument group. More notably, it's the tools that introduce harmonic distortion are the ones that make the biggest change to the personality of the sound.

After reading this step-by-step guide, we trust you will be armed with the knowledge to add your own signature 'charisma' to your drums. Take this approach and don't be afraid to apply the same principles to other instrument groups.

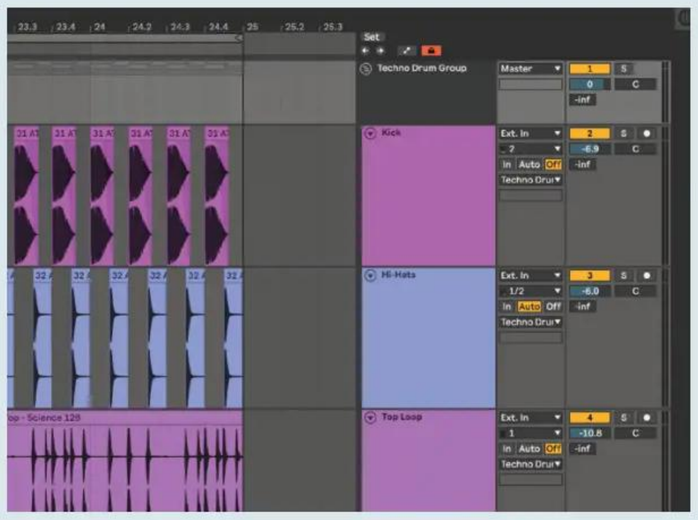
>Step by step Adding character to your drums



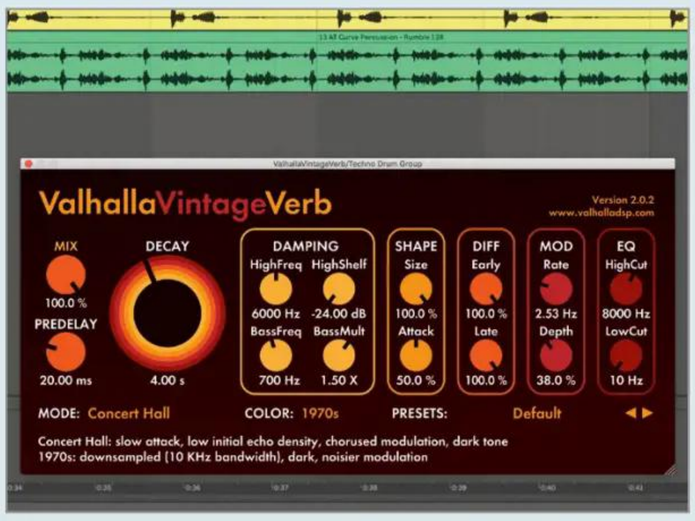
1 > In the first step we'll programme a techno-inspired drum groove. It consists of the following key elements: kick, hi-hats, drum top loop, low percussion and rumble. The BPM of choice is 128 to keep the energy peak time. All of the sounds are sourced from a variety of Audiotent sample libraries and in the tutorial folder at filesilo.co.uk.



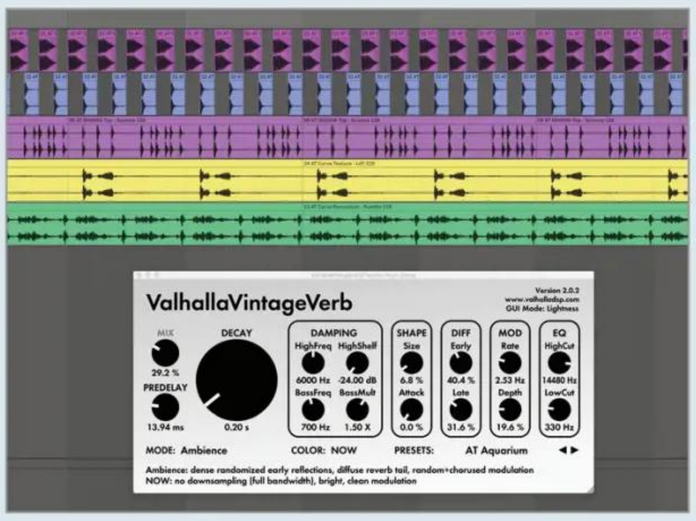
2 > The drums are sounding good, but they lack cohesiveness as each sample comes from a different source. Different equipment and techniques have been deployed to capture the audio. Our aim is to use modern mixing techniques to bring all drum layers together. This results in a unified drum group with its own distinct character.



3 > Let's start by selecting all of the individual channels and sending them into one group ('Techno Drum Group'). Before we go into the group processing, let's get the mix levels balanced nicely. Otherwise, for example, if you have your kick drum way too loud against the rest of the drums, it will drastically influence how the rest of the processing will react.



4 > One of the most conventional techniques you'll find to make a group of sounds unified is to apply a reverb. This gives the listener the impression that all of the drums were recorded in the same space. We are not looking for a long, cathedral-like effect, rather a small room which we can dial using early reflections of the reverb.



5 > Any reverb could work. We used our trusty Valhalla VintageVerb for unprecedented control over the early reflections of the reverb. Keep the decay time short: 20-80ms. We don't want the group to sound unnatural, so we are using a mild amount of the wet signal. We've chosen an Audiotent preset for Valhalla VintageVerb called AT Aquarium.



6 > Now that the common space is dialled in, let's address the character of the drums using an emulation of a vintage EQ. We're not trying to use a surgical EQ to fix any resonances. The aim is to use broad strokes (low Q values) to gently alter frequency balance. Note that a vintage EQ has a tendency to impart a certain colour which will help unify the drum group.

PRO TIPS



iZotope Ozone

GROUP MULTI-BAND COMPRESSION

Adding compression to a bus (group) channel can help to glue it together and create extra energy. Multi-band compression allows you to do the same while giving an extra control over the frequency ranges. You can, say, create energy by heavily compressing the top end and at the same time, gently glue the mid range.



UAD Softube Dyna-mite

TIGHT PERCUSSION

Percussion samples might have an excess amount of reverb and delay imprinted into the stem. A good processing technique is to use a gate. This will allow you to control the effect tails once they drop below the set threshold, resulting in a tighter sound.



Ed Strazdas

Ed is an experienced dance producer and sound designer, working in the scene since 2004



Neil Crockett

Sound designer and mixing engineer, Neil is a huge fan of Eurorack modular synths

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7 > The EQ of choice is Universal Audio's emulation of the Pultec EQP-1. We start by selecting a broad bandwidth setting, to give us the smoothest results. Next we add a small 1.5dB boost in the low end at 60Hz. Finally a generous boost of 4dB in the high frequencies at 5kHz.



8 > Compression can be a powerful tool when seeking a cohesive drum group sound. Firstly, the compression helps to make the transients consistent. Secondly, some vintage compressors, by design, have input or output transformers or tubes that can radically colour the signal. This is more noticeable if the signal path is pushed harder.



9 > One of our go-to tube compressors is the UAD Fairchild 670. Since our tempo is pretty fast at 128bpm, we choose the fastest setting so that the compressor has a chance to reset after each transient. Using high amounts of gain reduction can really affect the feel of the low-end. So we're compressing moderately, a max of 1 or 2dB of gain reduction.



10 > If compression introduces an undesired effect for your particular drum group – maybe the transients become too spiky – you could skip using a compressor and apply saturation instead. This will add the harmonic distortion required and level out sharp transients.



11 > For saturation we use the very flexible Saturn 2 by FabFilter. This is the last stage of the processing and only a gentle touch of colour from the harmonic distortion is needed. Sometimes auditioning different presets can give you instant results. The Light Saturation preset from the Audiotent Saturn expansion bank was a perfect fit for the drum group.



12 > When programming drums using a variety of sample sources, you run the risk of your drums appearing incoherent. To conquer this problem we can use tools such as reverb, broad vintage EQ, compression and saturation. These tools applied on the whole drum group will imprint a unique sonic character as well as making your drums sound unified. **cm**

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Perfect synth arpeggios

Arpeggios are common in many genres in music making. Here are a variety of techniques to make the most of them in Ableton Live

> An arpeggio is a chord or chords that is broken into a sequence of notes. The sequence can span from one to multiple octaves and most modern synths allow you to choose the order in which the notes are playing, so they might go up, down, play randomly and so on.

Synth arpeggios can be very diverse – short and plucky, full of sharp transients, all the way to softer, mellow and atmospheric – which means deploying multiple mixing techniques. As with most leads there is always room for an EQ to help tidy the sound up, cutting unnecessary low end or reducing a resonant frequency. We can also emphasise a frequency band, like a high shelf boost, to help the sound be more up-front.

Most arpeggios also have a large dynamic range, so transient designers can shape the attack and release stages. This can contrast with other elements in your mix, so if you have spiky drums, you could tame the attack portion of the arp to make them blend well together.

We'll also include some less conventional techniques such as pitchshifting delays and bitcrushers. The bitcrusher might not be seen as a great mixing tool, but due to its ability to introduce harmonics and noise, it can be an irreplaceable utility to position sounds in a mix.

Follow our workshop below for some great mixing techniques for perfect arpeggios.

>Step by step Mixing arpeggios



1 > Let's choose an arpeggiator synth preset like this one called Elegy from the Audiotent Rectify u-he Diva library. This sound contains a nice foundation and dream-like timbre, mixed with a touch of white noise. We're not going to cover the sound synthesis part, as this step-by-step guide will be all about the mixing choices for arpeggios.



2 > Arpeggios tend to have a natural sense of rhythm and we can emphasise that with the use of a transient designer like the Waves Smack Attack transient shaper. This plugin gives a large range of control over the Attack amount, sensitivity and shape. Using a small Attack boost of 37 allows the initial transient of each note to be heard clearly.



3 > When working with consistent rhythmical patterns, such as 1/8th and 1/16th notes, a regular delay will not necessarily bring the most noticeable effect due to the delay repeats being directly on the grid with the original source. A more practical approach in this scenario is to use un-synced delay times.



4 > One of our go-to delays is Valhalla Delay. From the default preset we change the Delay Sync parameter from Note to Msec. This allows us to dial in the Delay Time by ear. The Feedback was also increased, allowing the repeats to overlap one another. The Wet signal was increased to 41%, making it sit just underneath the Dry signal.



5 > If your arp'd synth is playing a narrow octave range, you can add additional harmonic content with a pitched delay. This allows us to have full control over the pitch of the delay tails. We set our Pitch Control to -1200 cents, equal to one octave below our dry signal. A Wet value of around 30-40% balances the amount of effect with the dry source sound.



6 > Chorus not only has the tendency to make the source sound wider; it can also soften the attack, opposite to what we did with the transient designer. This technique can be useful if you want your arp to sound less up front and take the backstage in the mix. Most stock DAW chorus plugins will give you a good range of options.

PRO TIPS

ARPEGGIATED HI-HATS

A great technique to come up with interesting hat rhythms is to use an arpeggiator. Use a MIDI arpeggiator (such as Xfer Cthulhu) as a source to trigger your hat samples. You can create interesting rhythm and velocity automations making your hats groovy and alive. This can also sit nicely on top of your synth arpeggio.



USING AN ARPEGGIATOR AS A MODULATION SOURCE

Most synth plugins have some form of arpeggiators built in. To come up with some interesting patterns, try to assign them to various different modulation sources such as pitch, filter cut-offs and effects returns. The possibilities are endless.



Arturia's Pigments has great arp features





Ed Strazdas

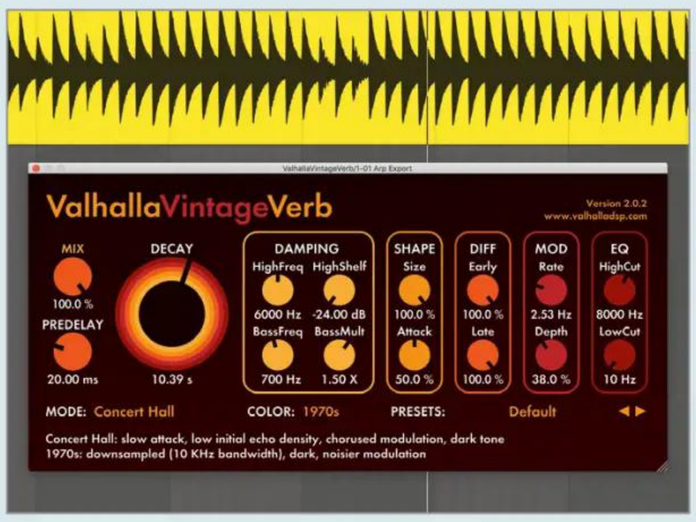
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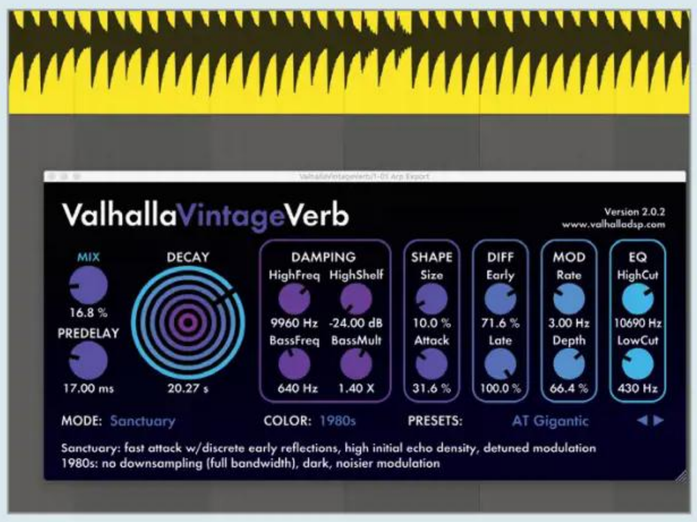
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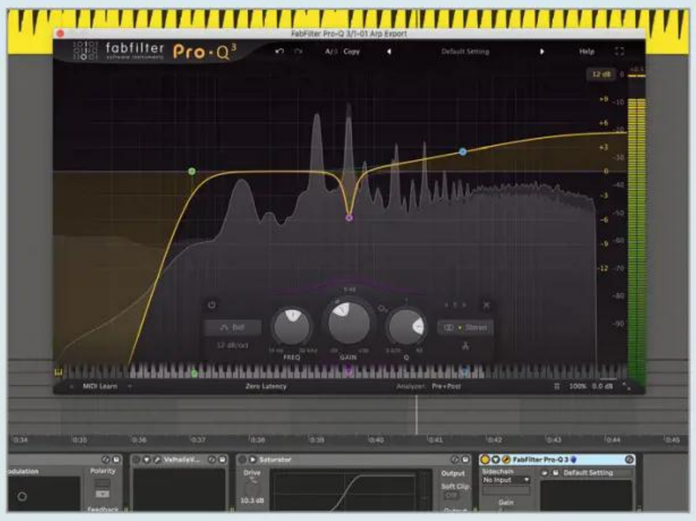
7 > There are no limitations to what size or type of reverb you can use for an arpeggiated synth; it's down to what feelings and emotions you are trying to convey. We tend to gravitate towards longer decay times that create drone-like textures in the background. This works especially well for intros and outros within the arrangement.



8 > We are using a preset called AT Gigantic from the Audiotent Spaces bank for Valhalla VintageVerb. The Decay parameter is extremely long – 20 seconds. This delivers the dreamy drone texture we were looking for. A little advice: taking time to dial in the EQ can shape the reverb and narrow its frequency range, making it sit better within the mix.



9 > If your arp sequence is getting lost, saturation can be the right tool. It is particularly effective when applied to simple sounds. Ableton's Saturation has a broad choice of algorithms, each with its own colour and response curve. There is a substantial amount of drive applied, which brings the arpeggiated synth forward while creating additional overtones.



10 > We can use EQ to our advantage for synth arpeggios. First we apply a gentle 18dB/oct low cut at 64Hz. This eliminates any low frequency rumble. Next we add a smooth high frequency shelf to bring up the bright noise presence in the patch. Lastly, a surgical cut at 629Hz is made to soften a particular resonant note that is present.



11 > The last tool for mixing arpeggios is a bitcrusher. This can be the most destructive if overused, but with the right settings, you will be rewarded. With Ableton's Redux we lower bit reduction to 8-bit which emulates old-school samplers. The Downsample mode is set to 5.8 to reduce the resolution and apply the bit-crusher sound to the high frequencies.



12 > Many of the techniques we cover here work well together, so use a combination to transform your sound and fit it into the mix. Try a transient designer going into the un-synced delay. This then feeds the long decay reverb and finishes up with a touch of EQ. The final result is a highly textured arpeggio and more alive-sounding sequence. **cm**

cm Producer Masterclass

C.A.R.

Chloé Raunet, aka C.A.R, is a producer, remixer and DJ whose output includes intoxicating electro pop and atmospheric electronica. In this Masterclass she applies her Ableton Live skills to two different remixes...

> London-based Canadian Chloé Raunet is currently making music under the moniker C.A.R. (Choosing Acronyms Randomly), although has been involved in music production since the early 2000s when she was asked to produce some demos for Two Lone Swordsmen Andrew Weatherall and Keith Tenniswood.

After a stint fronting the band Battant – with whom she toured and supported the likes of Ladytron – Raunet released her debut album as C.A.R. called *My Friend* in 2014, followed by *PINNED* (on Ransom Note) in 2018. Since building a reputation for producing "the weirder edges of electronic music", she has also become an in-demand remixer and DJ, and it's her remixing skills that we're focussing on in this Producer Masterclass. Raunet runs through two remixes of tracks by Ride guitarist Andy Bell under his Glok moniker, and US band The Imbeciles. But before we get into the machinations of how to add your own mark to two very diverse pieces of music, as Raunet ably demonstrates (both on the video on YouTube – see the link on the next page), let's find out more about C.A.R.'s life at the weird edge...

The C.A.R. journey

"I moved to London from Canada (via Marseille) when I was a teenager, and fell into this game by chance in the early 00s," Raunet explains. "Back then, I was totally immersed in the Shoreditch electro scene, going to parties like Haywire and Wang. I hadn't really thought about making music but started writing little songs for my pals on the dancefloor. It was just for a laugh at first, but after a drunken night in Paris which culminated in the perfect press shot, my friend Mole and I decided to try to do something a bit more substantial, seeing as we looked the part and all!"

Raunet and Mole's efforts eventually came to the attention of the late, great Andrew Weatherall, along with fellow Two Lone Swordsman Keith Tenniswood, and they were then invited to record a two-track demo.

"Pretty soon, these CDs were doing the rounds," Raunet recalls. "I remember being out in Barcelona during Sónar, walking into a bar and hearing a familiar sound coming from the speakers. It took a few seconds for me to clock it as one of ours!"

Soon after returning, she was asked to play live, so not only had to gather enough songs together for a set, but also get enough musicians to form a band, which turned out to be Battant.

"We enlisted the help of Tim Fairplay and over the space of a month we hashed out enough music for a short set. After releasing one EP on the Haywire label, we went on tour with Ladytron and Adult. I guess there was a bit of a buzz around us, but our formation of laptop, guitar and vocals wasn't what people expected back then, especially as we were writing songs instead of dance music. The lack of live drums definitely raised some eyebrows and we struggled to properly fit into any scene, at least in this country."

> "Our formation of laptop, guitar and vocals wasn't really what people expected back then"

Raunet and the band eventually found success across the channel, signing to Parisian night club Le Pulp's label Kill The DJ, and then releasing a debut album *No Head*.

"By this time, Mole had left and a new, young recruit and multi-instrumentalist, Joel Dever, had stepped in to man the synths and laptop. We did pretty well off it, especially in France, but being on the road can be strenuous. Eventually Tim went his own way, leaving Joel and me to write album number two. We were really close friends and it was an easy and natural process, but as good as things were in the studio, we struggled to nail it live. It seemed all the formations we toyed with lacked the energy of the original trio."

Events would then take an unpredictable, tragic twist: Joel died a few days before the album was due to come out. In the midst of that, Raunet had to proceed with plans alone. "It was brutal," she recalls, "but I decided to honour our bookings and hit the road with a session band. In retrospect I think I was motivated more by



The Arturia Microfreak gets a lot of wear

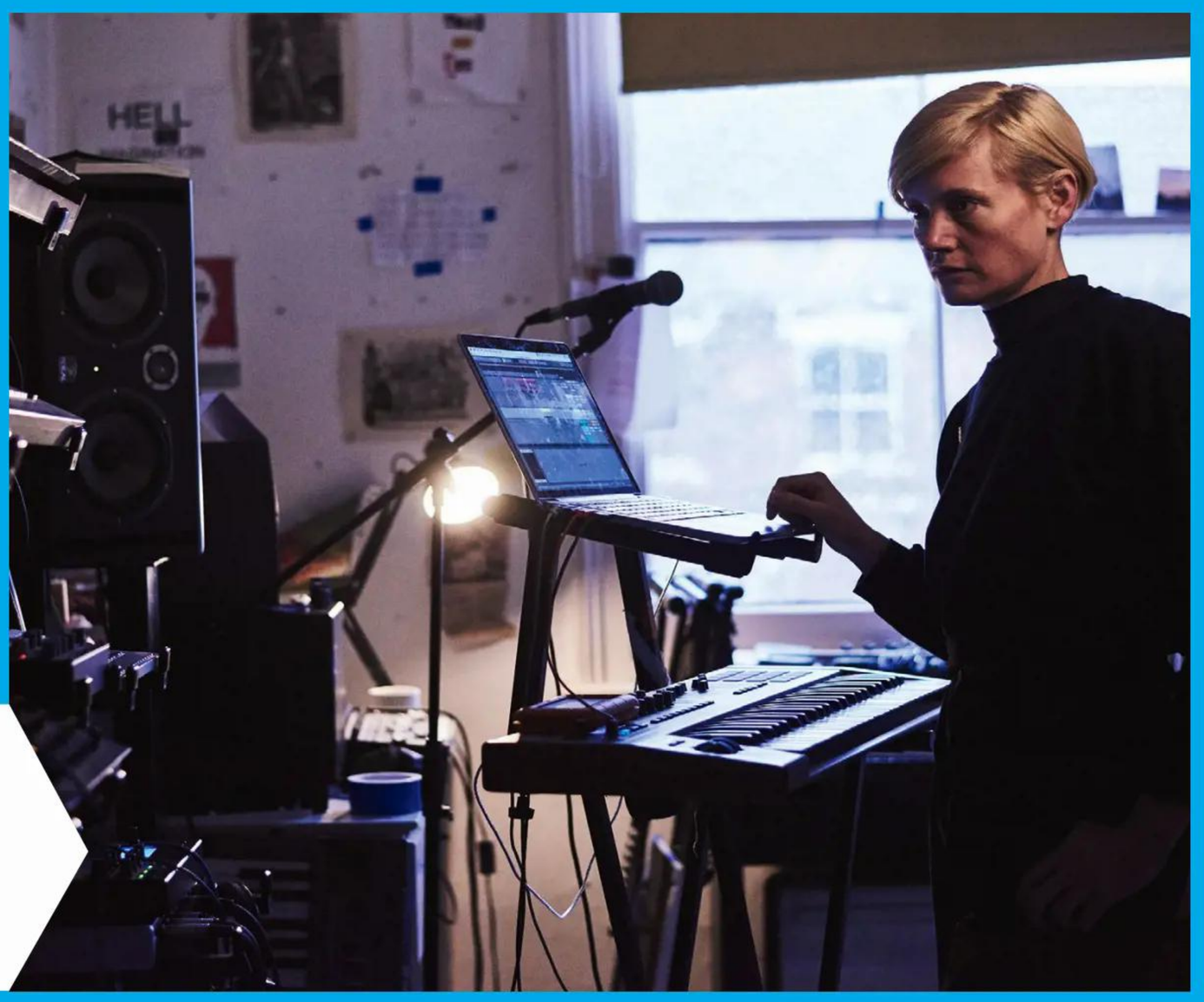


Raunet's bass has been with her since early days

WATCH THE VIDEO

In this exclusive video, Raunet (aka C.A.R.) goes through two very different remixes with two very different remixing strategies...

Watch the video tutorial at...
bit.ly/car_glk1mb





self-preservation than logic. Having something concrete to focus on and something to do would save me ending up the same way, but it was an absolutely horrendous experience. All I will say is it was down to all this, that C.A.R. was eventually born."

"I had a queue of pent up emotions to comb through and the best way I knew was through music," she continues. "Having never produced on my own, it was a sharp learning curve, but at that stage I couldn't fathom writing with anyone else. As a result, my first solo album *My Friend* was a pretty cathartic experience.

"Kill The DJ put it out and again, it did well in France and I managed to get a bit of money to mix my next LP with Steve Osborne out at Real World Studios. That was a super cool, 'pinch-myself' process. He's such an interesting guy and I learned loads from him. We finished *PINNED* at the end of summer 2015, but I had to move labels so it didn't come out until February 2017. Since then, I've been with UK imprint Ransom Note Records. I love working with them. Not only are they just down the road, but they're super enthusiastic and very proactive. It's great being with people who've so much energy and passion."

The whole experience sounds like an extremely emotional one, but it has left Raunet with a strong sense of where she wants to go with her music and a very clear production philosophy as well.

"Stay punk," she states. "I'm self-taught and have always tried to embrace my imperfections, allowing things to happen intuitively as opposed to pouring over hours of tutorials. I'm

"I had a queue of pent up emotions to comb through and the best way I knew was through music..."

Raunet's top 5 plugins



Soundtoys PrimalTap
$149

"I love playing around and transforming sounds with this. The 80s character and grit really suits my music and I find I can get some really interesting outcomes messing around with the modulation."

soundtoys.com



Sonic Charge Permut8
$79

"This is classic and a bit old school, but I still use it loads (especially with percussion). I rely on a lot of samples and it's another great tool for transforming them."

soniccharge.com



Valhalla Vintage Verb
$50

"This is a super affordable and very simple plugin. It's a good go-to reverb with no fancy vintage interface."

valhalladsp.com



Waves CLA Effects
$49.99

"This is also a bit old-school, but it's an all-in box and I use it on a lot of my vocals, especially when I'm in demo mode and need a bit of a quick fix."

waves.com



Sound Dust Ghost Dulcitone 1900
£30

"I used this a lot on my last album - it's weird, dreamy and doesn't sound like anything else, and has a lot of fun, esoteric controls."

dulcitone1884.virb.com

The C.A.R. studio up close

Chloé has access to a wide range of hardware, some of it shared with her flatmate, but all of it as esoteric and bespoke as you might imagine. Here's a quick tour...

Prophet V
Alongside the Moog Minimoog and ARP Odyssey, the Sequential Circuits Prophet V is one of the most desirable synths ever made...

Get groovy
A 'classic' Roland MC-505 Groovebox from 1998: a do-it-all, jack-of-all-trades sequencer, drum machine and synthesiser.

Arturia MicroFreak
From Ancient (above) to modern, the MicroFreak is one of the best small-form synths around.

By your command
Analogue Solutions Impulse Command is a compact and great-sounding analogue semi-modular synth with an on-board sequencer.

Three modules
Small but perfectly-formed modules from Elektron (left), Teenage Engineering (front) and a sequencer by Squarp Instruments. Oh yes.

Bass and drums
The MFB Tanzbär 2 is a great drum and bass synth while the Moog Minitaur supplied bass on the Glok remix that C.A.R. runs through.

Selected kit list (some borrowed)

Arturia V-Collection and Native Instrument Komplete bundles

HARDWARE
Analogue Solutions' Impulse Command
Arturia MicroFreak
Eventide H9 pedal
Korg Poly 800
Korg Polysix
Korg Minilogue
Korg MicroKorg
Moog Minitaur
Roland Boutique JU-06A
Sequential Circuits Prophet-5
Shure Beta 58 mic
Teenage Engineering OP-1
Yamaha CS01

PLUS
Red homemade bass
Electric piano
Jar of rice

PLUGINS
Soundtoys PrimalTap, Filter Freak
Little Plate and Little Primal Tap
Sonic Charge Permut8
Sound Dust Ghost Dulcitone 1900
Valhalla Vintage Verb
Waves CLA Effects

Apple Macbook
Running Ableton Live along with a very varied set of plugins, Chloé is easily able to add her own unique sound to any kind of remix.

Hidden!
Down the back here we can just recognise a small Akai controller, a Korg Poly 800 synths and a Yamaha CS01.

Take control
The main studio keyboard is an Arturia KeyLab 49 which comes with a software bundle covering a lot of vintage gear and sounds.

also not afraid to ask for help. There's only so much you can do as an individual and even when you're producing on your own, getting a fresh set of ears involved can be a good thing. For me, this happens at the mix.

"I also know what interests me (the writing/production side of things) and I know my limitations. If I wanted to hone the studio skills, I would've educated myself years ago. In fact the opposite is true. You could almost say I'm scared to lose the naivety of being DIY. If I know too much, maybe those happy accidents won't happen. The same goes for singing. I've lost count of the amount of people who've suggested I take lessons over the years. It used to knock my confidence, but now I think of my voice as an instrument in itself, one I'm happy to employ. It's unique and it sounds like me. Sure it's not for everyone, but I'm cool with that. I'd rather appeal to fewer people than sound run of the mill."

Here in my C.A.R.

By now we're getting the sense that Raunet is a fan of more left-field thinking, so you won't be surprised to learn that her introduction into the world of computer music production was anything but conventional.

"Back before Mole and I recorded our first demo," she recalls, "I'd been in Detroit filming a documentary on techno music. My then boyfriend and I had spent a few weeks interviewing all these legends – like Mad Mike, Octave One, Juan Atkins, Robert Hood and Ron Murphy – when we met [DJ and producer] Magda playing at a Minus party in the basement of our hotel. We wanted to interview her too, and ended up going out to Windsor [just over from Detroit, in Canada] where she was living with [Canadian DJ] Marc Houle. When he heard we were staying at the hotel, he insisted we pack our things and head out to his for the rest of our trip. Back then, he was still working as a graphic designer, but had this incredible studio with all these vintage synths. Despite my love of dance music, I didn't know much about them. He gave me a crash course and sent me back to the UK with a copy of Reason, and that's how I got started."

That's probably the coolest introduction to computer music production that we've heard, and since that Reason debut, Chloé has remained in the hi-tech studio world... with occasional dalliances into the very low-tech.

"For years I relied heavily on softsynths, caning the Arturia and Native Instrument packs," she says. "I also owned a Korg Poly 800 and a MicroKorg, an electric guitar and this wonderful, red, homemade bass with a distinct non-bassy sound (super prominent in the second Battant album and the first C.A.R. LP). I also had an electric piano and a load of cheap percussive bits, including a jar of rice and a squeaky chair, both of which made it into a lot

Remixing Glok's *Weaver* – first steps

On video, Chloé talks through how she starts a remix from scratch, on this occasion with the track *Weaver*, by Glok, aka Andy Bell

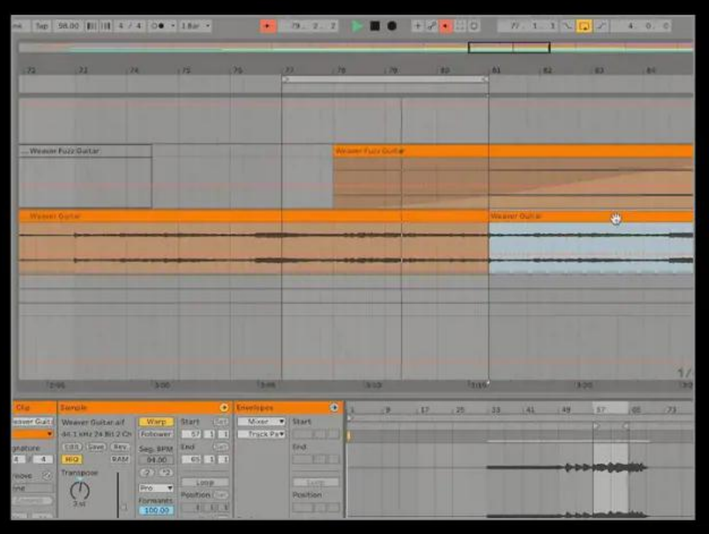
> Step by step **Remixing first steps**



1 > Chloé initially adds all the audio stems she is given – in this case quite a few – into an Ableton session. She finds the BPM using rekordbox DJ software.



2 > She'll then identify which of the audio stems she'd like to work with. In this case she was spoilt for choice but identified a great modular bassline.



3 > She also chose some of Andy's original atmospheric guitar parts which she took sections of to either loop or, in this case, pitch upwards.



4 > Chloé then took out a slide guitar stem to be her main component, lessening its Ry Cooder character with Soundtoys effects.



5 > Next up it's time to lay the foundation of the track with a kick drum. Chloé has quite a few different sample libraries which she utilises for kick samples.



6 > With chosen samples from the original, including a couple of guitar and bass parts, it's then a case of getting a simple arrangement together to build on.

"I had a load of cheap percussive bits including both a jar of rice and a squeaky chair"

of my tracks, heavily drenched in FX."

"Recently my flatmate's moved his studio into the house so there's a lot more to play with. His Korg Polysix and Yamaha CS01 are featured on my new album, as well as the Teenage Engineering OP-1 and my Korg Minilogue, which I also use live.

"Since setting up the studio properly, I've been getting a lot of use out of a Moog Minitaur, Arturia MicroFreak, Roland Boutique JU-06A and Analogue Solutions' Impulse Command, although I'm still trying to get my head around the latter. There's a Prophet-5 – it needs a clean but that hasn't stopped me from trying to get some strange sounds out of it. I also have an Eventide H9 pedal which I go through phases of using loads, before packing it back into the bag. It hasn't featured as much recently, but I know it's one of those super handy bits of kit I'll come back to soon enough. And of course there's my Beta 58 mic! I've been recording with it almost exclusively since Battant."

Anything on her studio wish list?

"Yikes, there's a lot of things I'd love to have, including a Roland CR-78 [vintage drum machine], EMS VCS3 [vintage synth], and Eventide H3000 [legendary effects box]. I think I need to win the lottery for most of that though, so for now I'm pretty happy with what I've got. I would really want that EMS VCS3 though; it's unattainable, but it would be great if someone could make an affordable clone (there are some out there but they're still in the thousands). From what I understand, getting the price down is easier said than done. There's also the fact a lot of replicants start sounding like softsynths. I don't really see the point in that."

The C.A.R. production philosophy

"I don't think I stick to a typical structure," Raunet perhaps unsurprisingly tells us when asked about her song-making ethos. "Sometimes I start with the drums, sometimes I'll get a little bassline in my head, sometimes I'll just open up a plugin synth and start messing about with sounds or melodies, and sometimes I'll start with the lyrics. I think this goes with my intuitive ethos. It also helps keep things fresh. When I'm struggling to find inspiration, that flexibility really comes in handy. I also have loads of starts to tracks I can delve into – little loops or sketches I mighta shelved ages ago which can trigger an idea."

"You should never throw anything away," she continues. "You might hate something at the time, but that doesn't mean it won't come in handy in the future. I can't count the number of times I've been stuck and opened up some random session I'd completely forgotten about.

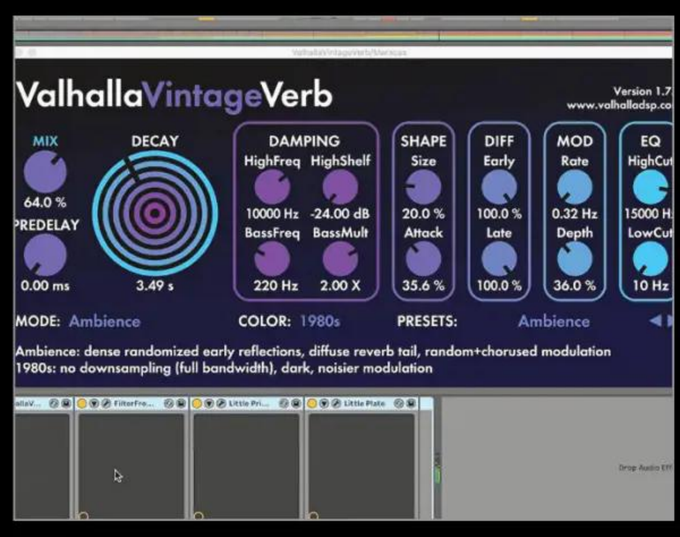
Maracas to melody

The second part of the Glok remix sees a simple maraca sound transformed as Chloé gets immersed in this more melodic remix

> Step by step Getting melodic with maracas



1 > It's as easy to go down rabbit holes when remixing as it is when producing and what Chloé thought might be the simple addition of some maracas ended up being a lot more...



2 > Chloé starts with some atmospheric reverb by way of Valhalla's VintageVerb: a 'post modern reverb inspired by the hardware of the 1970s and 80s', or so they say.



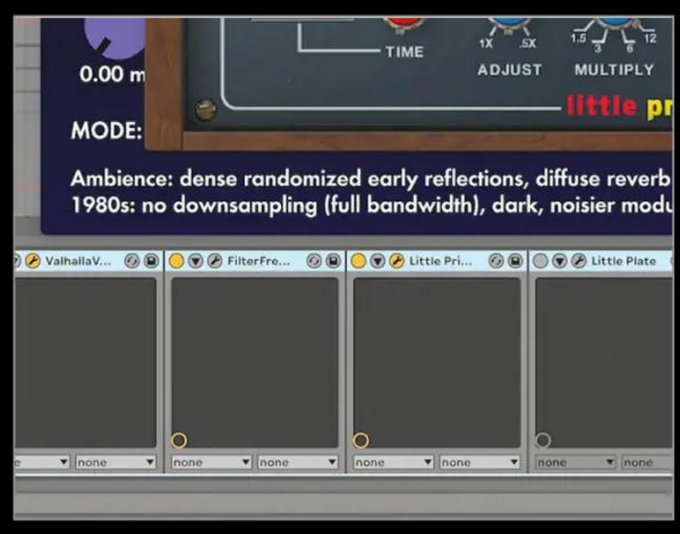
3 > Chloé then adds some modulation by way of Soundtoys' Filter Freak which she describes as "a quick and easy way to really change a sound".



4 > Another SoundToys favourite, Little Primal Tap is used here to give the sound a boing-like melody.



5 > Soundtoys score a hat-trick here with a third plugin in the form of Little Plate, a great reverb.



6 > Starting and finishing a signal chain with a reverb might not be wise but as Chloé says, "if I manage to get a sound that I like through a happy accident I'm not going to mess with it".

90% of it might be rubbish, but with fresh ears, a single part might be all you need to set you down a new, exciting path. Don't be scared to experiment and don't be frightened of failure. It's a cliché, but you learn a lot from messing up."

One standard that Raunet does employ more often than not is, well, not that standard: "I use my voice as an instrument as much as I do for lead vocals. It can be chopped up or looped into sequences, repitched or treated with harmonics. Also, anything can be percussion. I mentioned before that I had a squeaky studio chair which made it into a lot of my tracks. I've even used my cat's meow!"

With her booming career as a remixer and third solo album *Crossing Prior Street* out now, Raunet is clearly as busy as ever, and if you add the DJ-ing and band experience into the mix, she's in a great position to dish out some bits of great advice...

"Just do your thing and try not get to caught up in the whole game," she states. "The music industry is one of the toughest and if I've learned one lesson, it's that it's easier to bob along in the under-current than ride the waves. I'm not a household name, but I've managed to carve out a little niche for myself and survive in one of the most expensive cities in the world, doing what I love. I try to work on good things with good people, regardless of money and I get by through keeping my fingers in many pies - producing, songwriting, radio, DJing..."

"Never throw anything away. You might hate it but it might come in handy one day"

"*Crossing Prior Street* is a really personal one and probably the body of work I'm most proud of," Raunet says of her latest release. "Normally on an album release, I'm plagued with anxiety and sick of the songs, but this time round I'm still genuinely into it. I'll hopefully be doing a fair bit of touring and I also have quite a few collaborations in the pipelines. I'm currently working on an EP with the French artists Get A Room, and I'm doing vocals for a whole slew of others including Patrice Baumel, Roe Deers and Il Est Vilaine. Anna Lann and I have an ongoing project too. We've done enough tracks for an EP. Hopefully we'll get it together, now we're finally living in the same city."

Check out the accompanying exclusive tutorial video (see the link on p86), where Raunet reveals some of her remixing skills, working on two very different tracks. First up she takes on the more melodic and slow-paced track *Weaver* by Ride guitarist Andy Bell (as Glok), and then the more in-your-face track *Medicine*, by US punks The Imbeciles. Two very different tracks but both get a unique C.A.R. remix treatment.

Crossing Prior Street is out now on Ransom Note Records. For more info, visit c-a-r-music.com

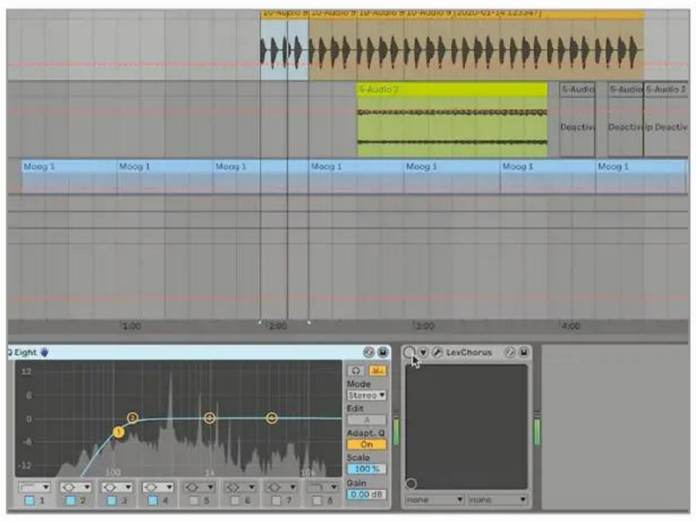
Vocals to hardware and back

As Chloé mentions in the main text, she very much uses her voice as an instrument, and then, of course, there's all that bespoke and vintage studio hardware to use...

> Step by step From vocals to hardware



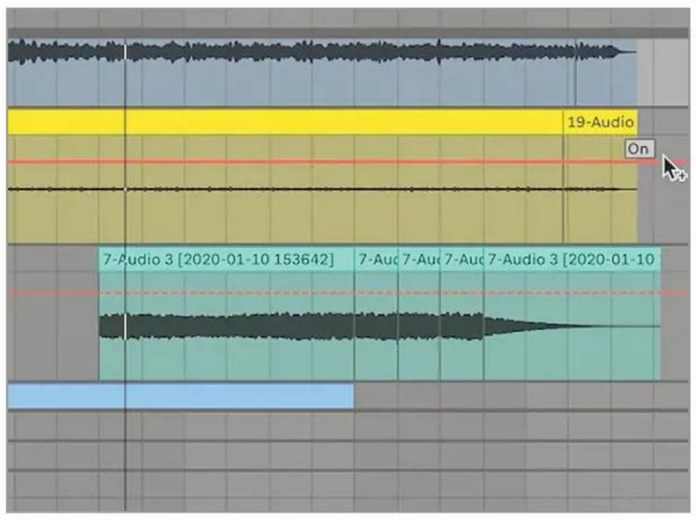
1 > Here Raunet records her vocal, following the melody line of the guitar and creating a kind of pad sound in the process.



2 > Chloé claims not to have a great voice but it certainly sounds the part with what she describes as a little wizardry, the first element being a gentle chorus.



3 > Now to get some of that studio hardware in on the action! Chloé uses MIDI arpeggiations to trigger the Arturia MicroFreak and records the audio back in.



4 > As well as triggering the MicroFreak with Ableton arpeggiations, she also plays another MF part and records it directly in onto another track.



5 > The final main part in the remix comes by way of another lush guitar track to which Raunet added another Soundtoys plugin, the Crystallizer.



6 > In fact, Chloé really was spoilt for choice, as she admits, by having so many melodic parts to play with in the remix of *Weaver*. It's a different story with the next remix – see opposite.

Remixing *Medicine* by The Imbeciles

For the second remix Chloé had a brief to use as many of the audio stems as possible, so she took the original punk ethos and warped it, C.A.R.-style!

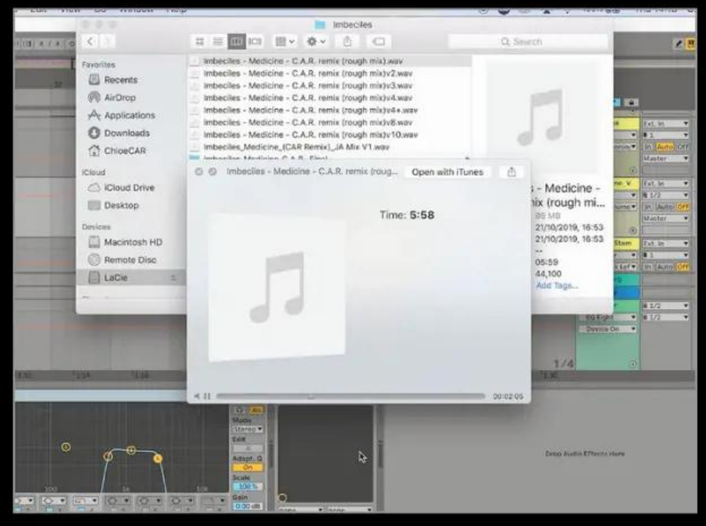
> Step by step Remixing an unfamiliar genre



1 > As The Imbeciles' punk style is not usually part of Raunet's universe she started off by choosing a simple and familiar drum part and looping it.



2 > Using that drum segment to create a new loop with a different feel, Chloé then added a small part of the original bassline and looped that too.



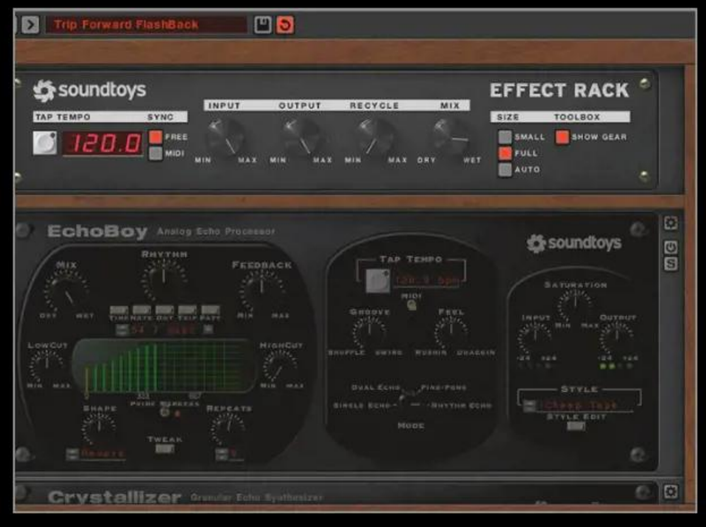
3 > Initially Raunet took snippets of the lead vocal, pitch shifted them and then recombined them to create a completely new chorus-like piece.



4 > As good as that sounded, the label didn't approve, so Chloé removed the pitch effects and went back to a standard vocal snippet, still forming something striking and new.



5 > The warped synth sounds came by way of Arturia's SEM, part of the V-Collection that Raunet uses a lot in her productions and remixes.



6 > It is then transformed by more Soundtoys effects. Chloé ended up with what she describes as a far more 'out there' track, inspired by the punk ethos of the original.



Live advice

"Keep things simple. I've experimented with live drum machines and lots of live synths, but there's nothing more terrifying than loads of bits going wrong or falling out of sync during a performance. I run most of my live stuff through Ableton, as it's so much more stable. And make sure everything's gaffered, especially if you're playing on a stage stuffed with bass bins. I send MIDI to the MicroKorg and Minilogue, alternating which I play live. I have a Roland SPD-S to bash for visual effect but the core of my music is imported into the session. That's not to say I'm just running playback. I still have a lot of structural flexibility and rely heavily on my old APC40. It looks arcane but I know it by heart and have it mapped with my FX. Also be as self-sufficient as possible. I always bring all my leads, so you're not relying on venues to provide things. You never know what smaller places will have."

HEAR MORE



Incognito
bit.ly/carincog

Sore Loser
bit.ly/carsrlsr

c-a-r-music.com
https://soundcloud.com/c_a_r
twitter.com/c_a_r_music
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TECHNO

> Originating from the melding of synth-driven pop music from the likes of Giorgio Moroder and Kraftwerk alongside American music styles like house, funk and soul, techno has transcended its Detroit roots to become one of the world's most enduring and leading dance music styles, with artists such as Carl Cox, Adam Beyer and Jeff Mills in constant demand for both their productions and live sets.

Characterised by a tempo of between 120-150bpm, a palette of sounds heavily influenced by now-revered 1980s Roland kit like the TB-303 bassline and TR-808/909 drum machines, as well as a deliberately electronic, dystopian sound, techno has influenced many other music styles to varying degrees, including the UK rave scene which took inspiration (as well as a stab or two!) from the Belgian techno records that were being made during the late 1980s.

As early techno tracks were laid down using rudimentary equipment like inexpensive mixing consoles and four track tape recorders, the genre traditionally has a crunchy feel that's great fun to recreate in 2020. While techno seems very simple in construction, it can be harder to make than you think. However, we have a superb guide on how to make your own techno track using just Ableton Live, samples and the **cm** plugin arsenal that you can find over at filesilo.co.uk (Bookazines/Music Producer's Guide To Ableton Live). There are also videos, tutorial files and audio examples to help you follow along with ease.

>Step by step 1. Techno beatmaking



1 > We'll start by building a drum kit; set your DAW BPM to 128. From filesilo.co.uk, get the techno samples/MIDI files folder and load Kick_15.wav into a blank drum rack. This is a synthetic-sounding kick that works perfectly in a techno track. Draw MIDI notes to trigger the kick on each beat. Next, we make a rumbling, warehouse techno reverb from our kick.



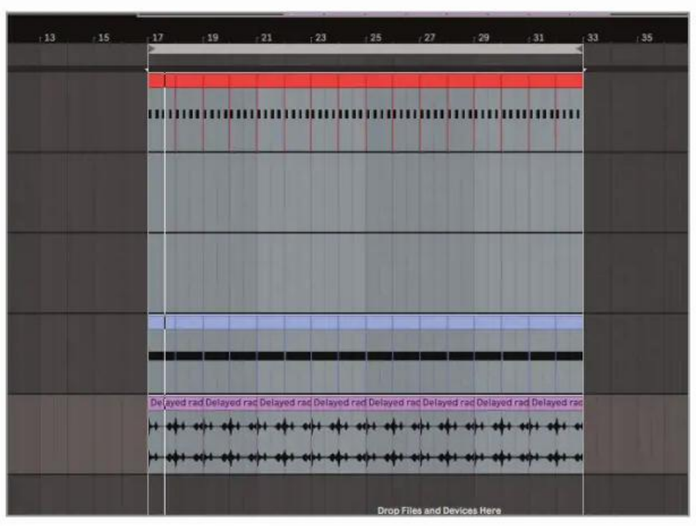
2 > Add Cableguys' WaveShaperCM to a fresh return track. Set a -6dB send from the kick drum to the return, then select the 2-BIt preset in WaveShaper. Hear the kick crunching, in a gabba-esque tone. Load Acon Digital's CM Verb after our distortion. Use the Medium Chamber preset, then turn off the dry signal to leave just reverb-soaked distortion.



3 > We'll turn the reverb send down to -9dB, so it blends into the mix. Now, let's add perc into the mix, courtesy of Audiorealism ADM CM's great emulated TR-606 drum kit. Load ADM CM to a fresh channel, then switch Sync mode to Host, so ADM CM's playback is triggered by our DAW. Let's use the onboard sequencer to create an open hi-hat pattern.



4 > Hit the Pattern Write/Clear button, and let's program our own pattern. Select the OH (open hat) instrument, then dial in an open hi-hat on each offbeat. Add a new MIDI clip to the channel, then draw in a one-bar note to trigger our pattern. We'll reduce the open hat's Decay to 100ms, for a tighter initial sound that we can open out with automation later on.



5 > Let's create a longer arrangement. Duplicate the drums over 16 bars, so we can get non-perc elements in. From the samples folder, import Delayed Radio Loop 02.wav onto a fresh audio track; this is a vocal snip that's very techno. Reduce the channel's volume to -15dB, then duplicate the audio across the entire 16-bar section.



6 > Time to add another sample for a more dystopian sound. Add TV_Talking_(100bpm).wav at the end of each eight bar section. Reduce the channel to -6dB to retain balance, then load Subsonic Labs' Wolfram CM. We'll fire up the CM Beer In My Farfisa preset, adding a sustained delay tail to our static sample and making it feel part of the track.

RECOMMENDED LISTENING



PHUTURE
ACID TRACKS

One of techno's blueprint tracks, this has the signature sounds of modern acid techno, and wouldn't sound out of place as a fresh vinyl release today.

bit.ly/ph_at



JOEY BELTRAM
ENERGY FLASH

In a genre driven by technological development, this 1990 cut still sounds fresh in 2020. One of many cult tunes from R&S Records.

bit.ly/jb_ef



JEFF MILLS
THE BELLS

All the ingredients of a techno classic, including the crunchy drums Jeff Mills is known for, alongside the Roland hi-hats that adorn most techno tunes going.

bit.ly/jm_tb



APHEX TWIN
DIDGERIDOO

Aphex Twin's trademark running, breakbeat-like drums, alongside a manipulated didgeridoo sample that's equal parts Australian outback and dystopian techno.

bit.ly/at_ddgrd

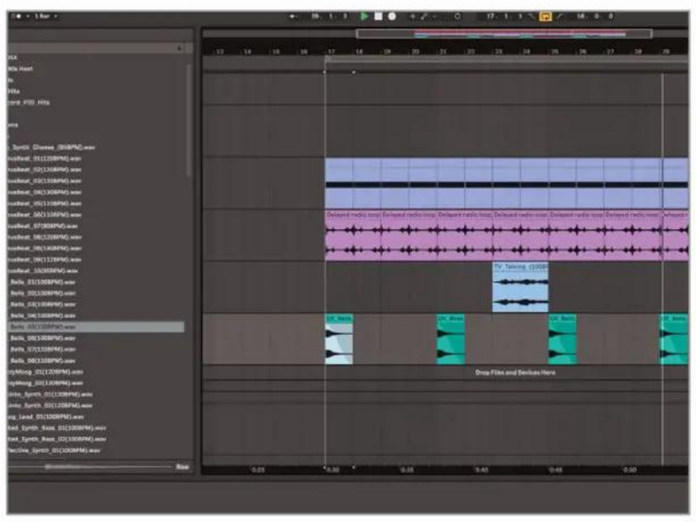
PRO TIPS

SIDECHAIN GAIN

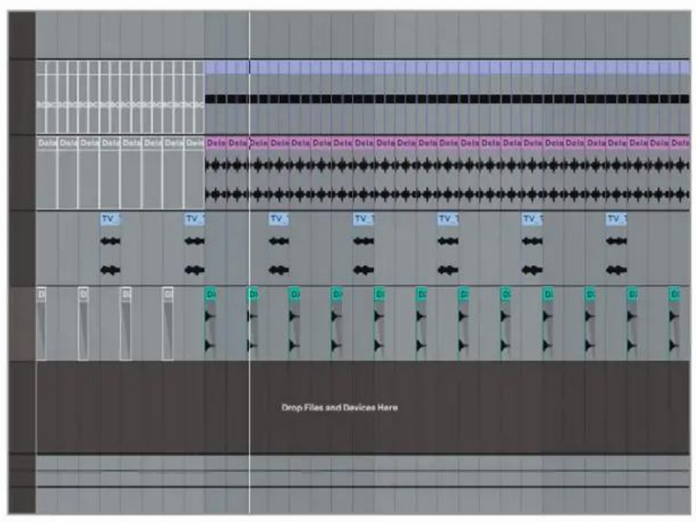
A superb way of adding unique flavour to your techno productions is to use a kick triggered sidechain compressor on a constant field recording of ambience, but reverse the compressor's curve so that the ambience pumps along with the kick, rather than around it. Either simply reverse your kick drum on a silent trigger channel, or use an infinitely configurable modulation plugin such as Xfer Records' LFOTool.

ONE STEP BEYOND

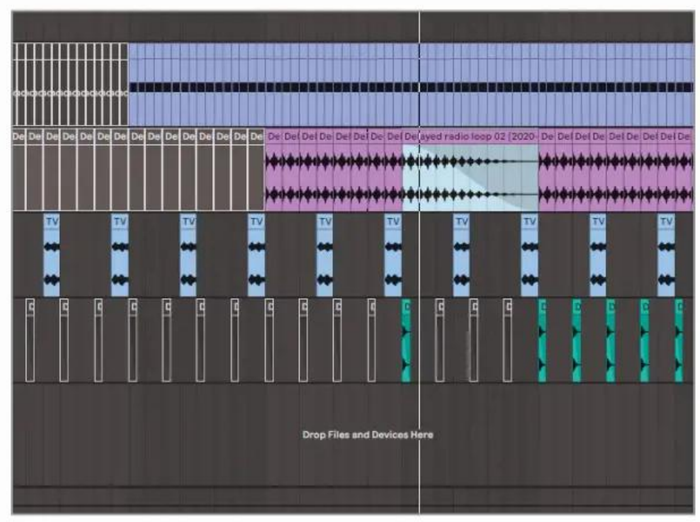
If you're making a stereotypical techno beat using TR-909 samples, try triggering them using a MIDI step sequencer, instead of placing them directly on the arrange page. As this was how techno was produced originally, you'll achieve a more authentic sound, particularly if you use your sequencers' on board swing control to add groove. HY-Plugins do a great MIDI step sequencer called HY-MPS2 that comes in either free, or paid for flavours.



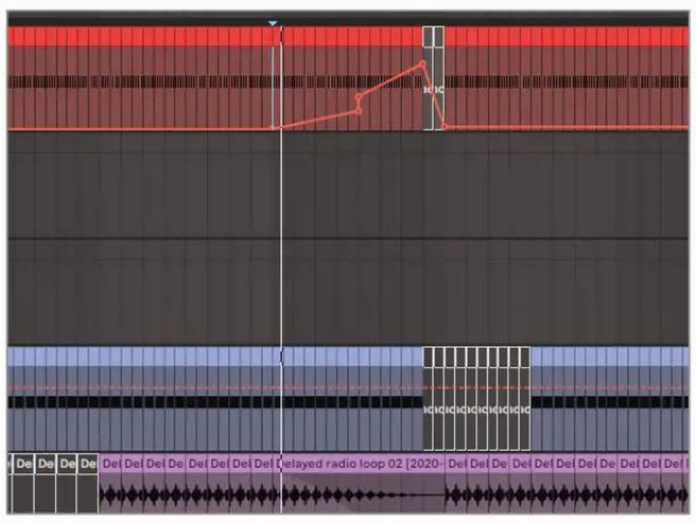
7 > Another element fleshes things out. Grab DX_Bells_05(100bpm).wav from the sample folder, and place it on a new audio channel. Shorten the clip to one bar, then apply an aggressive fade out. Copy the audio snip, so it plays every four bars. Reduce the channel to -7dB, so our mix balance is preserved. Next, we start building our full arrangement.



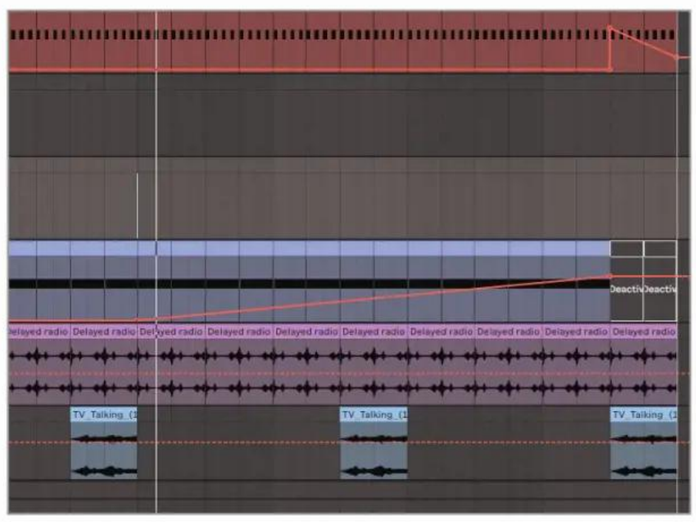
8 > Unlike other styles of music that are more focused on building to a drop, techno is arranged in a more progressive manner, with emphasis placed on making the sounds in the arrangement evolve. Let's build our arrangement. Duplicate the parts we've added already to create a 64-bar section in total. Mute the open hat, bells and vocal snip for the first 16 bars.



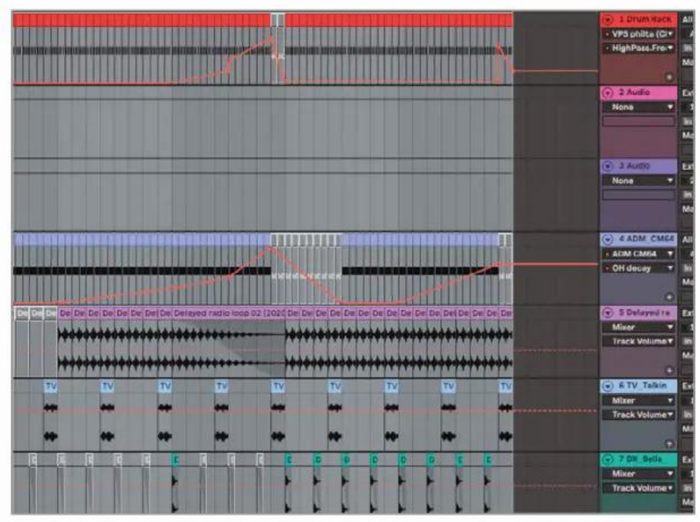
9 > We'll mute the vocal snip for the second 16 bars, with the bells muted for 32 bars. Duplicate the final 16-bar section twice, for use as the basis for the drop. Let's strip back the previous section now. Mute all the bells except the first one, then consolidate the vocal snips into one. Apply a fade to the vocal, so it disappears over 16 bars.



10 > Mute the kick and open hat for the last two bars before the drop, so the sound effect we added earlier is emphasised. We now use Vengeance's VPS Philta CM to filter the kick. Add it to the channel, then draw in automation of the high-pass filter so the kick sounds increasingly hollow during this section. Next, mute the open hat from the first eight bars of the drop.



11 > Make the arrangement evolve by automating the decay of our open hat. Draw in automation, so the hat becomes more intense as the intro develops, before snapping back to a tight sound on the drop. We'll ramp it up for the second 16 bars of drop, before muting the hat for the last two bars. Automating the kick's filter for the last two bars creates a fill.



12 > Automate the kick's reverb return volume leading to the drop, so it increases to 0dB before snapping back to its usual -9dB after; this makes the reverb swell into a cool effect. To finish, add a crash cymbal to the start of each 16-bar section to mark them out. Head for the sample folder, and grab 80s_Cymbal_04.wav. Reduce the channel to -18dB.

> Step by step 2. Creating a techno-style ‘stab’





1 > Let’s create a cool techno stab using Dmitry Sches’ superb ThornCM. Load it on a fresh channel, then import Stab.mid (from the techno samples/MIDI files folder at filesilo.co.uk) to trigger the synth. Open ThornCM, and set Oscillator 1 to a square wave; this has lots of harmonics and is an ideal starting point for a techno stab.

2 > We’ll use Oscillator 2 to modulate the frequency of Oscillator 1. Turn on Oscillator 2, and turn the Volume to 0%. Set Oscillator 1’s FX type to FM, and push the amount to 50%; you’ll hear the stab’s tone change. Tune Oscillator 1 down by an octave to add character.





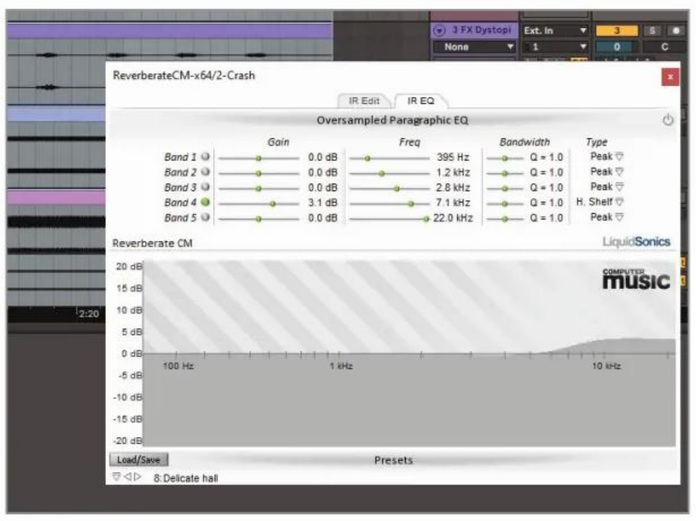
3 > Modulating the filter shapes our sound. Set the filter mode to Dirty LP, with the Env 1 dial at -100%, so that Envelope 1 controls the filter cutoff. Adjust Envelope 1’s Attack to 40%, with the other three sliders all at 50%; you’ll hear the stab become less open-sounding.

4 > Let’s shape the sound more with the Harmonic Filter. Choose the Bass Contour 1 preset, and dial the Shape in at 60%; you’ll hear the filter remove a little weight from our stab. To finish, push the Filter Drive to 3dB or so; a little drive adds volume and thickness.

> Step by step 3. Adding effects







1 > We make our techno track sound a little bit more complex by adding in some effects processing. Start by loading PSP’s cmDelay onto the Bells channel. Turn the Sync on, and set the Delay time to ¼ notes. Automate the Feedback aggressively from bar 49 until 63, so that the bells swell in volume.

2 > The delay tail gets overly loud during the break, so automate cmDelay’s Wet level so it decreases by around 6dB as the breakdown unfolds. Let’s now turn our attention to the crash cymbal, which ends abruptly right now. Add Liquidsonics’ ReverberateCM onto the channel, and pick the Delicate Hall preset.

3 > The reverb preset that we’ve selected has a long tail, and disguises the short crash brilliantly. However, it sounds a little dull in the mix, so open the IR EQ tab, turn on Band 4 and set it to a High Shelf. Boosting the band to 3dB adds high frequency sparkle.

Rumbling reverb

Reverb is an essential part of the techno recipe, and can really set your track apart from others in the genre. Often used to create a sense of space in a more minimal production, or to add that trademark rumbling bass tone that fills out the low frequencies around the kick, well used reverb simply sounds great in a typical, echoey warehouse techno rave.

A great tip when using reverb in your own production is to be very aware of mono compatibility. Generally, reverb is used to mimic the acoustic properties of a space, and phase cancels to a degree when collapsed into mono. Meanwhile, techno is primarily intended to be heard in a club setting, on some kind of chunky mono PA system.

These two conflicting things can be hard to balance well, so try using mono reverb for at least some parts if you want the reverb sound to translate faithfully to the rave, particularly if it’s a rumbling reverb applied to a kick drum.

> Step by step

4. Mixing your techno masterpiece



1 > First, we'll use your DAW's sidechain compressor to duck the kick reverb when the dry kick hits, increasing low frequency clarity. Add the compressor, setting the kick as the sidechain input. Decrease the Attack to its fastest setting, and adjust the Threshold until you hear the ducking effect kick in.



2 > The bells stick out of the mix slightly, so turn them down to -3dB. We'll EQ them too, so they gel with the mix nicely. Add Eareckon's CM-EQUA 87 to the channel, switching the Cut filter to Hi Cut. Set the frequency to 5.5kHz, so the highs are tamed.



3 > We'll carve out some breathing space in the low mid frequencies now. Set the LF band to a shelf, with the frequency at 450Hz. Dialling in a -6dB cut gives added clarity to the low mid area, without bluntly removing the bell sound's richness like a harsh filter can.



4 > Now, we'll add crunch to the mix for a more authentically techno sound. Start by placing Rob Papen's beastly RP Distort CM on a return track. Select the 909 Mackie Ch Dist preset; this emulates the crunch of a classic Mackie mixing board like those used back in the day.



5 > Set up some -18dB sends from the kick, crash and open hat to our distortion return. The distorted effect adds bite, drive and character, but overpowers the mix, so turn the distortion return channel down to -24dB. Next, we'll work on the synth stab we created earlier.



6 > Add Surreal Machines' Microfuse onto the channel, and select the Hybrid Bouncing Hall preset. This adds a spacious feel to the stab. Reducing the Size to 20% makes the effect gel with the track better. To finish, reduce the Regen to 30% so the effect doesn't overly feed back on itself.

Automation nation

The very best way to turn your own arrangements from a generic soup of samples and synths into something with life, character and flair is to use automation to evolve the sound of your track as it progresses. Automation is used in pretty much every professional music production you hear in numerous ways, ranging from the age old trick of boosting the master fader slightly for a song's final chorus, all the way through to the evolving delays and reverb used in dub mixing.

Originally, automation of mix parameters and effects was done live by the mix engineer as the song's final mix was dubbed to master tape, adding a level of pressure to get it right the first time. Now, we can program automation into our DAW, allowing us the time and space to get it sounding the way we want. If you've been looking to get a more human feel from your automation, then why not think about recording it in using a suitably equipped MIDI controller?



Using a controller like the Akai LPD8 can help add a human touch

POWER TIP

> Bassy toms

Roland drum machine sounds from the likes of the TR-808 and 909 are a staple in most house and techno tracks, as the original hardware is from the same era. So, a great tip if you're looking to create a cool bass for your techno track that's slightly different to others, is to grab an 808 or 909 tom, and pitch it down to the bass register using a sampler. As the toms are synthesised using similar circuitry to a kick drum, they carry plenty of weight when pitched down.

Fast guide to arranging in Ableton Live





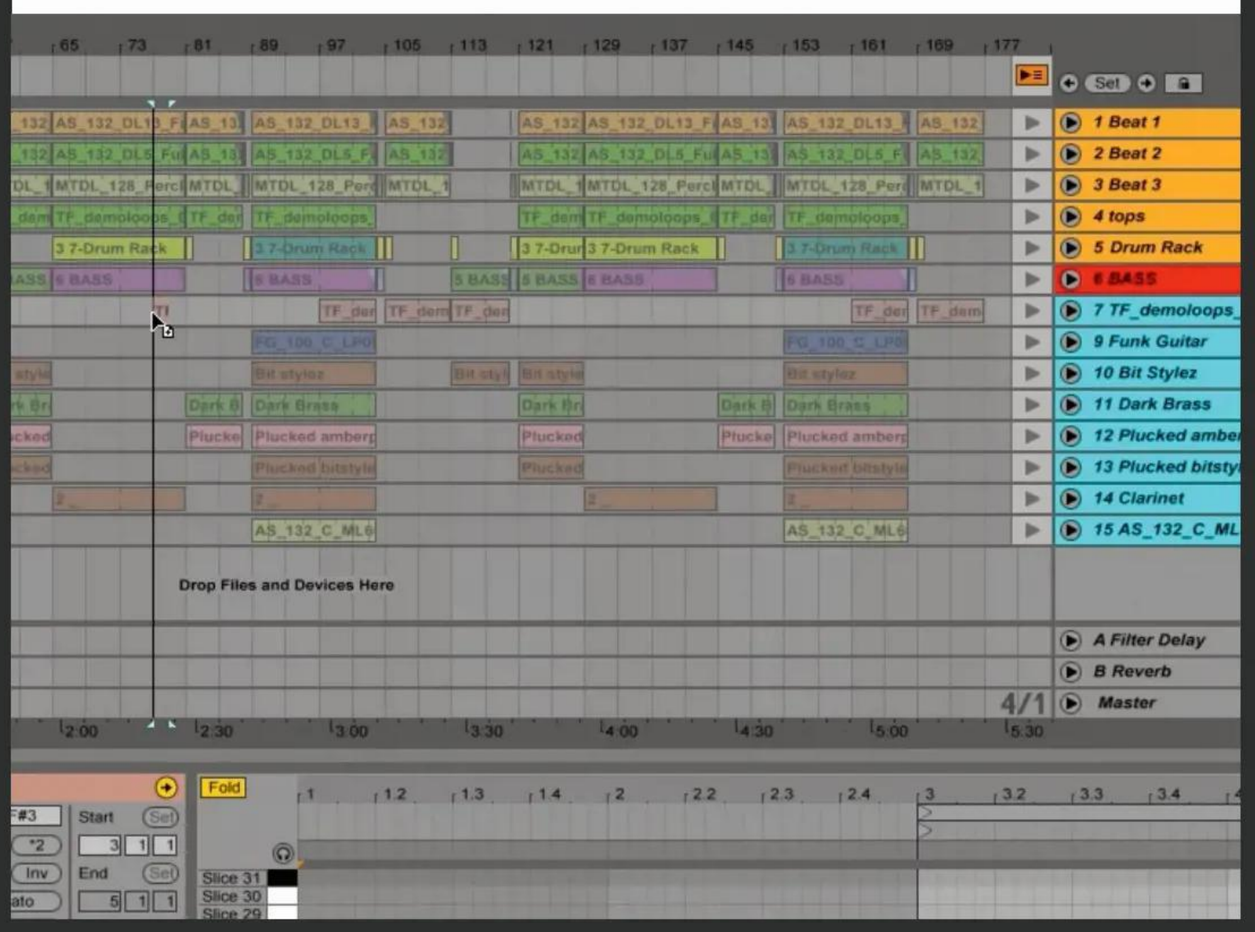
Start here!

Seasoned Ableton users know that Session View is great for assembling clips into multitrack sequences. But if you've just started using Live, having perhaps got used to a traditional, linear-based DAW, Live's loop-based nature can at first seem restrictive when it comes to developing ideas into fully arranged tracks.

This is where the Arrangement View comes in, enabling you to move things around and generally finesse your project into something that sounds like a finished record, with a proper beginning, middle and end, rather than a set of repeating loops. But how do you get clips into the Arrangement View to start with? Here are the two main methods to consider...

Method 1 – Drag and drop via Tab key

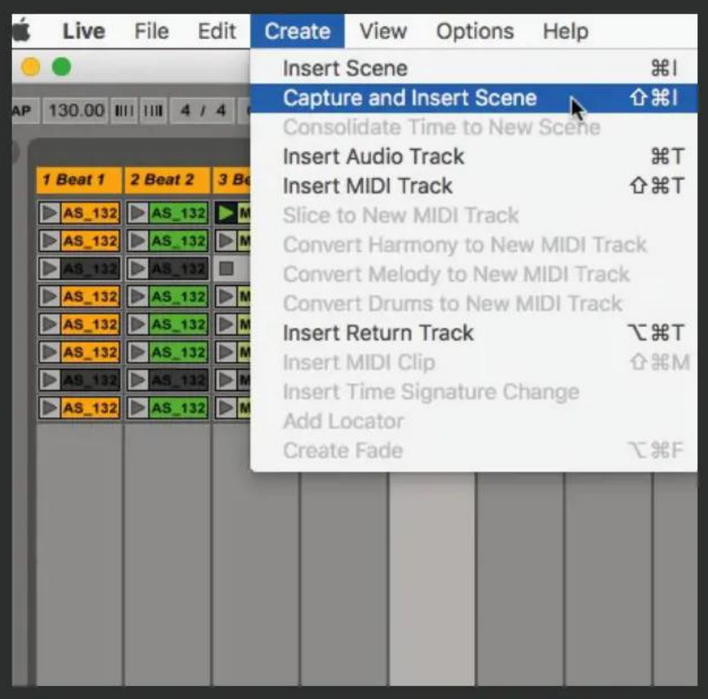
The default hotkey for switching between Live's two modes is your QWERTY keyboard's Tab key, and you can use it to transfer clips from one view to the other and back again. In Session View, click to select the clips you want to transfer – individual ones or a multiple selection – and click-hold on one of the selected clips. While holding, hit the Tab key to switch to Arrangement view, then drag the clip to the desired position in the timeline and release – simple! The ability to select multiple clips at once lets you build up a solid arrangement fairly quickly using this method, and the bonus is that it also works in reverse. If you record a new idea directly into the Arrangement View that you want to experiment with further, you can drag it into Session View using the Tab key in exactly the same way.





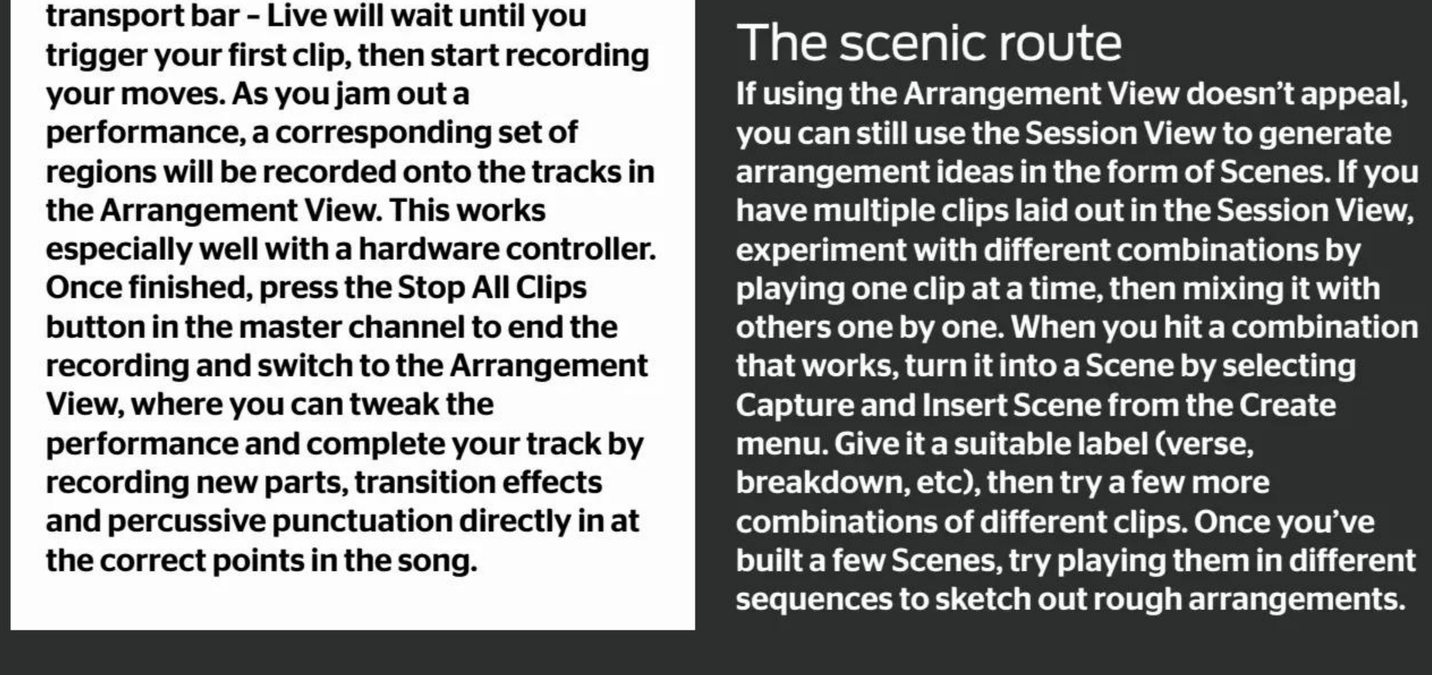
Method 2 – Arrangement record

You can also trigger Session View clips on the fly and record the result directly into the Arrangement View. Ensure all tracks in the Session View are disarmed for recording, and that the Arrangement View's Cycle mode is disabled. Hold down Shift and click the Record button in the transport bar – Live will wait until you trigger your first clip, then start recording your moves. As you jam out a performance, a corresponding set of regions will be recorded onto the tracks in the Arrangement View. This works especially well with a hardware controller. Once finished, press the Stop All Clips button in the master channel to end the recording and switch to the Arrangement View, where you can tweak the performance and complete your track by recording new parts, transition effects and percussive punctuation directly in at the correct points in the song.



The scenic route

If using the Arrangement View doesn't appeal, you can still use the Session View to generate arrangement ideas in the form of Scenes. If you have multiple clips laid out in the Session View, experiment with different combinations by playing one clip at a time, then mixing it with others one by one. When you hit a combination that works, turn it into a Scene by selecting Capture and Insert Scene from the Create menu. Give it a suitable label (verse, breakdown, etc), then try a few more combinations of different clips. Once you've built a few Scenes, try playing them in different sequences to sketch out rough arrangements.



Consolidation service

Live's Consolidate command (Cmd/Ctrl-J) is really useful for tidying things up in the Arrangement View, especially if you've ended up with loads of tiny little clips scattered everywhere – it replaces a selected range of material on a track with one new clip. Not only does this look tidier, but it's also useful when, for example, you have a linear sequence of clips that work well together as a part. Consolidating these into one long clip allows you to drag its edges to create further repeats. On audio tracks, Consolidate renders the selected clips into one single piece of audio, replacing the existing clips in the Arrangement View.

Ableton Live arrangement tips



KEEP 'EM SEPARATED

If your project contains a lot of tracks, create a blank track and place it between two distinct groups of tracks as a visual separator. This keeps things tidy and lets you home in on specific areas of your arrangement more quickly.



COPY THAT

Live's Duplicate command (Cmd-D on Mac, Ctrl-D on PC) is a handy tool for knocking out arrangements quickly. It essentially duplicates the selected area directly after the selection – in other words, it's brilliant for repeating sections.



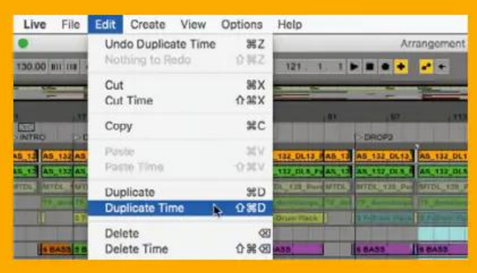
FOLD IT UP

For a quick tidy-up of the Arrangement View, Alt/Option-click one track's fold button to fold all the tracks in your set. Find it next to the track name in the track header column on the right of the screen.



MARKER RESPECT

Use markers to mark where specific song sections occur. Create them by clicking a track, hitting Set above the track headers, moving the marker flag to the desired position, and renaming it.



TIME TRAVEL

The Duplicate and Delete Time commands not only work on the region highlighted by the loop bracket, but move subsequent regions earlier or later, extending the track or closing up gaps, depending on which command is used.

DOWNLOAD
Get the tutorial files and video on your PC/Mac at:
filesilo.co.uk/computermusic

The perfect techno kick

The kick is a fundamental sound in many genres of dance music, especially techno, so here's a Live guide to the perfect techno kick!

> **If you find yourself browsing through your drum library in the search for the perfect kick, it can often be very time consuming and inefficient.** The solution is to craft your own iconic kick using a variety of samples, each targeting distinct frequencies. Here, we will get into setting up the channels, applying the correct EQ crossover points and mixing the final sound to perfection. All sounds we use are sourced from the Audiotent Pure Kicks library.

A big part of techno production and mixing is the use of reverbs for the kick drum. Surely, it's not a textbook technique for any other genre, however it's a signature stamp for techno. Different producers have their own take on this method as it's not as simple as just applying a reverb. There is a fair amount of processing in order to fit it in the mix.

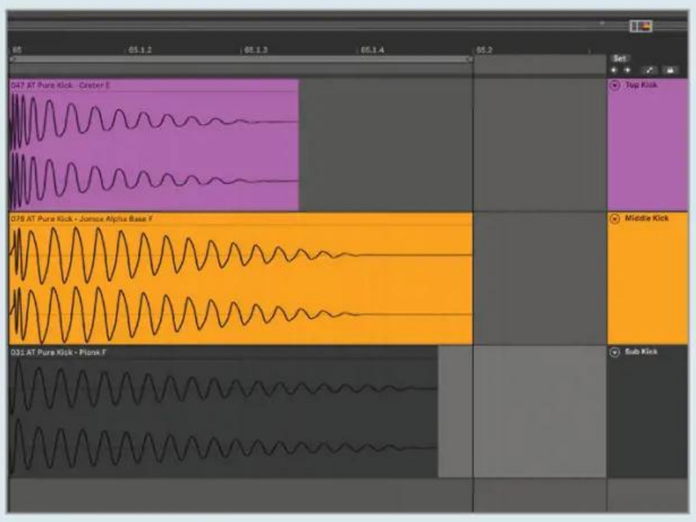
Once the layers are carefully selected, we can further enhance the sound by applying additional processing. Saturation for the extra harmonic content and cohesiveness of the layers. Final mixing processes are being taken care of with the help of EQ. Compression is the last step to give that extra punch and definition to your new kick drum.

If you haven't tried making your own kicks before, you're in for a treat! Follow along and you will be quickly making and mixing your own kicks in no time...

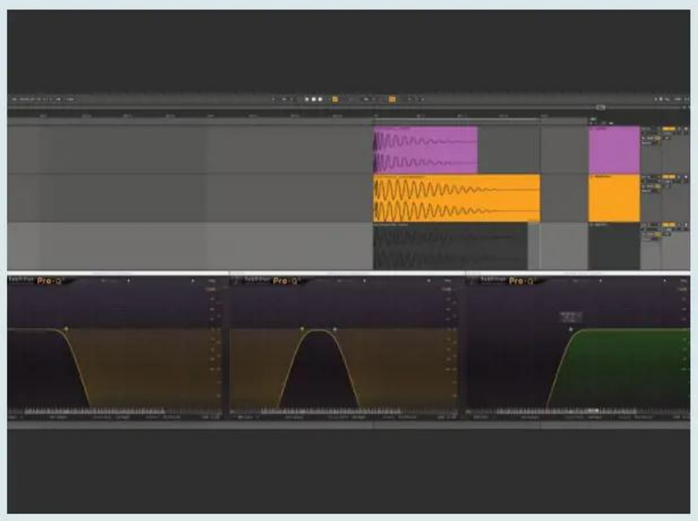
>Step by step Creating and mixing your own kick drums



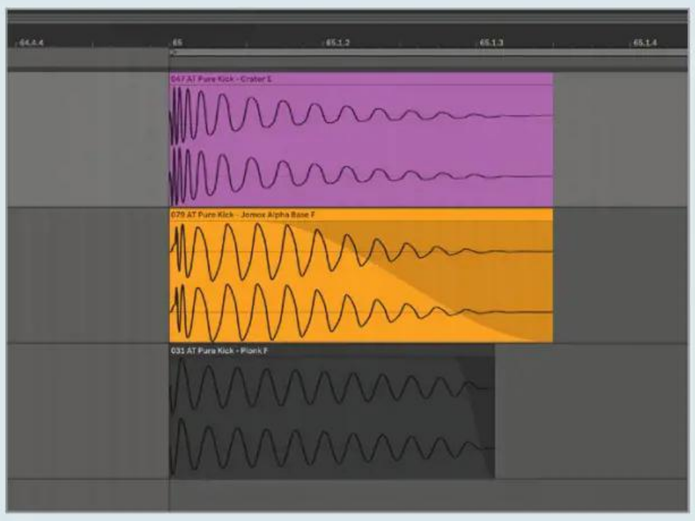
1 > The first step here is to create three blank audio channels in Live, one for each of the kick drum layers. Let's label these Top Kick, Middle Kick and Sub Kick at the bottom. For quick reference within the arrangement, we will colour each channel individually.



2 > We can now pick the right sample for each layer. For the Sub Kick layer, choose a sample with a solid sub frequency. Middle Kick needs to be punchy and tight. Don't worry if the low-end is not ideal on this layer; we will be cutting this area with EQ. Top layer is the identity of the kick and helps it cut through the mix.



3 > At this stage, we will isolate each layer with its own frequency band. The EQ crossover points can vary depending on the samples used. However a good starting point for each band would be: Sub Kick – low pass at 120Hz. Middle Kick – band pass 120Hz to 400Hz. Top Kick – high pass at 400Hz.



4 > The energy level of the sub layer can be adjusted by shortening the sample length. You don't want the Sub Kick to be too long, as there will be a reverb mixed in at a later stage for a more authentic techno kick sound. Around half of the beat should be a nice balance between impact and tightness.



5 > Start by setting the level of Sub Kick around -8dB and then mix in the Middle and Top Kick until you get a natural -sounding cohesive drum sound. You can always re-adjust the balance later, to fit in with the rest of the elements of the track.



6 > Next, it's a good idea to group all three layers together so they can be processed as one single entity. Once the layers are grouped, we will now be able to adjust the overall volume of the kick drum with one simple fader.

PRO TIPS

SYNTHESIZED LOW-END OF THE KICK

If you have a nice-sounding kick, but the lowest (sub) frequencies are not strong/clean enough, try replacing them with a solid sine wave. First, add a high-pass filter to your original kick, set the frequency around 50-90Hz.

Next, layer the kick with a clean sub tone sample or synthesise it from scratch. Any synth with a sine wave should do the trick. Make sure the kick sub tone is in the right key with your track. Use ADSR amp envelope to get the perfect length for the kick sub.

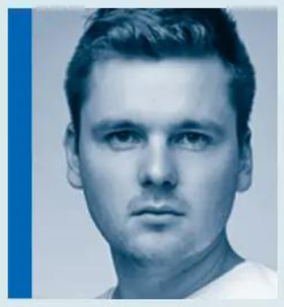
SOFT/HARD CLIPPING KICKS WITHIN YOUR MIX

Most of the time clipping is an undesired digital distortion. However, there are a few exceptions where soft/hard clipping can be used as a mixing tool.

First, add the clip plugin on your kick channel. Next, start clipping a little to increase the body and sharpen the transient of your kick. Be careful not to overdo it, since it can lose the punch if pushed too hard. Try to be aware that this technique is very source-dependent and it might not work well with all kick sounds. Trust your ears for the final decision.



Waves Smack Attack offers control over transients



Ed Strazdas

Ed is an experienced dance producer and sound designer, working in the scene since 2004



Neil Crockett

Sound designer and mixing engineer, Neil is a huge fan of Eurorack modular synths

About Audiotent

Our Production Technique experts are from Audiotent, a team of creative producers and sound designers who provide inspirational tools and education for professional artists worldwide. They focus on both techno and progressive genres, offering presets, samples, templates, MIDI files and production tutorials. More from: **audiotent.com**



7 > Saturation can be a key mixing tool to inject some unique character to your kick drum. A small amount can go a long way. Not only pushing the sound upfront, furthermore making the three layers more unified. In this example we used the Saturation Knob by Softube. Its Keep Low setting does exactly what it suggests, keeping the low-end of the sound intact.



8 > A reverb is an integral part of the anatomy of an authentic techno kick. Different artists have their own ways of mixing reverb within their kicks. Here is one way of achieving it. Use a send/return FX in your DAW to send the Kick Group to a dedicated reverb channel.



9 > It's good mixing practice to keep the low-end elements in mono, therefore we can apply a simple utility tool to make the reverb mono. Next step is to insert an equaliser and apply a low-pass filter around 120-150Hz. This way we get rid of any unnecessary frequencies that would otherwise interfere with other elements in the mix.



10 > The level of reverb needs to be fairly moderate. However, you may still notice the reverb overlapping the kick. To sort this, we can use a classic compression sidechain technique. The setup varies from DAW to DAW, but the concept stays the same. Apply the compressor to the reverb return channel and set the Kick Group as the sidechain input.



11 > Final mixing. Apply a few gentle EQ cuts to remove unnecessary frequencies within the kick group. Most common areas are often within a range of 130-250Hz and 700-1000Hz. Opposite to the cuts, we can apply sweetening boosts to add extra roundness to the kick body. You can't go wrong with a classic Pultec-style EQ, boosting 60 or 100Hz.



12 > There are two main mixing objectives when applying compression to a techno kick. First is to make it punchier and this requires a fairly medium-slow setting on the attack of the compressor, letting the transient poke through. Reason two is to increase the loudness of the kick drum sustain. For this, use fast attack and release settings on the compressor. **cm**

> interview / roisin murphy





ROISIN MURPHY

The former Moloko songstress – whose "dicking around in the studio" translated to a slew of international chart-topping hits –has music flowing through her DNA....

> "I didn't discover music," insists Roisin Murphy. "It discovered me. It was there, waiting to jump on me. A part of my life for as long as I can remember."

Murphy – formerly one half of Moloko, but successfully solo for the best part of 20 years now – grew up in Arklow, a smallish town just south of Dublin. It's perhaps a cliché to imagine that every Irish house is full of music and song, but for the Murphy family, this seems to have been the case.

"Any reason for a drink and any reason for a song, that's what the house was like. When I look back, it feels like the singing never stopped. It sort of blends in with the way we talked to each other. If we were sad or happy, music was communication."

Her parents moved to Manchester when she was 12 – just as house music was beginning to take hold of the UK charts – but ended up moving back just three years later. Roisin, still only 15, decided to stay, living with schoolmates until she was old enough to sign on and get a place of her own.

There was plenty happening in Manchester – Murphy watched the Madchester scene unfold – but it was a move to Sheffield in 1993 that finally nudged her into a recording studio. One of the first people she met was Mark Brydon, former bass player with the industrial funk band, Chakk. Along with other Sheffield bands like the Human League, Heaven 17, Cabaret Voltaire etc, Chakk were pioneering the use of machine-driven dance music in the early-80s. They had limited success, but it was enough to allow Brydon to build the impressive FON recording studio.

"Me and Mark had started a relationship," explains Murphy, "but we were also dicking around in the studio during down time. Just making shit up. That was the start of Moloko, really. Very amateurish. But, somehow, Mark's manager got us a meeting at a record label in London and we suddenly had a six-album deal. It was mad! I'd hardly sung a word since I'd left Ireland, but I was now a professional singer!"

Although they were lumped-in with the trip hop bands of the mid-90s, there was a sinister, disjointed funkiness to their debut album, *Do You Like My Tight Sweater?*, that was very much their own. Imagine Funkadelic had got the gig as house band in Arkham Asylum!

Singles like *Sing It Back* (1999) and *The Time Is Now* (2000) gave them hits in Europe and the US, but as Murphy and Brydon's relationship began to fall apart, so, unfortunately for fans, did the band.

Her solo career was kicked off with 2005's *Ruby Blue* and album number five, *Roisin Machine*, was released in October – co-produced by her long-term collaborator, Richard Barratt, aka DJ Parrot/Crooked Man and former member of All Seeing I.

> "When I first heard Joy Division, it sounded like disco music. It made me want to dance"

The weirdness is still very much in evidence – one track is called *Shellfish Mademoiselle* and the scattershot vocals regularly catch you unawares – but there's also that deep, flowing, bass-heavy vibe that aims Murphy's music squarely at the dancefloor.

cm: Did you have any interest in dance music as a kid back in Arklow?

RM: "I liked disco, yeah. And I think you can hear that on the recent album. But my idea of disco is huge. It's not just Sylvester and Chic, it's also... Joy Division. When I first heard Joy Division at 10 or 11 years old, it sounded like disco music. It



Photo: Burak Cingi/Redferns

made me want to dance.

"My Uncle Jim used to be in a jazz band. He was a brilliant band leader, great singer – pitch perfect – and could play a whole ton of instruments. In the summer, they would do weekend shows at a hotel down the road and they'd play five-hour sessions. Everybody from the town would go there and the whole place would go fucking mad. There would be people dancing on tables, couples swinging each other around like whirlwinds.

"Is that dance music in the way that we understand it today? Maybe not. Does that matter? Of course not! I saw some YouTube footage recently of a little lad who was in a gospel choir and he was throwing some proper, proper moves. He could only have been about five or six, but he was totally lost in the music. It made me so happy to watch him. You can see the joy on his face.

"If a piece of music can make you feel like that, then, as far as I'm concerned, it's dance music. And you can see that all over the world. It's not just an Irish thing or a gospel thing. Sounds like a cliché, I know, but music is a universal language."

cm: Was there a point where you went from being a kid who liked music to someone who took it seriously?
RM: "I always took music very seriously. By that, I mean that music mattered to me. Like I said before, music was a kind of communication in our family. When I think of certain relatives who are long gone, I hear the songs they used to sing. Didn't matter who wrote the song or if a band had a hit with it, that song would become Aunt so-and-so's song. It would become part of their identity."

cm: What was your showstopper?
RM: "*Don't Cry For Me Argentina*. My Uncle Jim was surprised when he heard me sing because he didn't rate me. He always refused to take me under his wing because he said I had 'no discipline'. And he was right. I spent too much time fucking about.

"And that's kind of how it's always been. Even when I met up with Mark in Sheffield, it was all about having fun. We were in love and off our faces. Lying on the floor, giggling and going off into deep space. And occasionally recording the results. There was no pressure, and we didn't expect anyone to listen to it, but maybe that was the secret. Maybe that was why we came up with something that people did want to listen to.

"Mark taught me everything I know about being in the studio. He is an amazing musician, a ridiculously inventive bass player, an incredible engineer and an off-the-scale programmer. I used to sit there watching him dig into the heart of the very early computer we had at the time. Creating pieces of music that would inspire me to write shit and do a bit of singing."

cm: The way you talk about your childhood makes it sound very traditional. It was all about real voices, people playing fiddles and guitars. Human beings making music. It didn't bother you that there were machines at the heart of the Moloko sound?
RM: "Sorry, but I disagree with you! There was



"He sends me over the music, I stick it in Ableton and... the words come to me like magic."

nothing traditional about my childhood. Let's take the years I was in Ireland – 1973 to 1985 – and look at what was happening. The politics, the religion. It was a fucking war! My parents, like a lot of people in Ireland, weren't interested in looking back. They were forward-thinking, the true modernisers of their generation.

"They were actually turning away from tradition and turning away from religion. They were more interested in throwing parties and all the new stuff that was happening. They were insanely curious. There were different people and different classes coming into their world and they loved it. By osmosis, all this new stuff was being absorbed by the Irish people.

"My mum told me a story about when she was pregnant with me. She came home from work at lunch for a bit of how's-yer-father with my dad. Anyway, she comes downstairs half-an-hour later and there's a priest sitting at the table. He'd let himself in! He says, 'Now, listen here, Rose. This behaviour can't go on. If you don't stop, we won't be baptising the child up at the church'. My mum says, 'She's being baptised in Dublin. Now get out of the house and be on your way'.

"Culturally, Ireland is always in a state of flux. Everything can change overnight. And I was born right at the start of that change. Traditional childhood? No way! I thought I was living in the space age. We had electric fucking curtains, for God's sake!"



cm: So, going back to the original question, sounds like you didn't mind making your music on computers!
RM: "Ha ha! No, I definitely didn't mind making music on computers. Even though Mark was the one who looked after the tech side of things, it didn't take me long to work out how the studio worked and what it could do for me. Back then it was samplers and outboard effects, but a lot has changed since then. And I've gleefully embraced every new technological development. This looks interesting, what does it make me sound like? Is it dangerous? I like dangerous! Is it a step into the future? I'll have some of that!

"If you think about it, computers and machines have been part of the music I've been listening to ever since I moved to Manchester as a kid. Early house music, 808 State, all the stuff from Sheffield. All the songs I heard in clubs were made on machines. All the little labels that were appearing like Warp and Creed. It was part of the new story... a new sound. I was proud to be part of that family."

cm: Do you have a studio of your own?
RM: "It's not quite a studio. I've got an Ableton rig at my house in London, which is purely for recording and working on vocals. In the past, I would have needed a mixing desk and all of that shit, but now I really just need a laptop, an interface and a mic. There's a fantastic example of how much easier technology has made it for us right there.

"The way we worked on this album was that Parrot would put the music together at his place in Sheffield, send the track to me, I'd record a vocal, then send it back. There were a couple of times when he didn't think the vocal was quite good enough, so I went up to his place... this was right in the middle of lockdown!

"It was creepy. Travelling through a deserted London to a deserted St Pancras Station, getting on an empty train and arriving in a deserted Sheffield. Walking down deserted streets and being totally freaked out. I'm sure some of that intense feeling found its way into the songs."

"Computers were part of the new story... a new sound. I was proud to be part of that family"

cm: How does the lyric-writing work? Do you sit and listen to Parrot's music and write to that, or do you try and match pre-written lyrics with a particular piece of music?
RM: "That would never work for me! Trying to force the words and music together? It's the music that will tell me what it wants me to write. For instance, I've just been working on some stuff with Mad Professor. He sends me over the music, I stick it in Ableton and... the words come to me like magic. The mood and the shape of the words is already there, so I just have to follow the path. The lyric is etched into every beat and bassline. It allows me to find a lyric very quickly.

"Perhaps the only thing I do have pre-prepared is a bank of single words. If I come across a certain word and I like the sound of it, I put it in the bank. Then I pull them out during the recording process and use them as puzzles or marker posts. Just saying a word over and over can sometimes show you which door you should be going through."

cm: You mentioned the lockdown creeping onto the recent album? Does it matter if a lyric has a 'message'?
RM: "It's not as overt as all that. I don't feel particularly comfortable putting political statements in songs or telling people how to live their lives. I tend to find that my lyrics are a bit more Freudian. I ponder and play with words. It might lead somewhere, it might not. And if it does lead somewhere, I might end up understanding what I was thinking about, or I might not. I'm just going on a journey, trying to delve inside my mind."

cm: Has working on Ableton made you want to start writing your own music?
RM: "No. I'm not a musician in that sense. I've been lucky enough to work with amazing people like Mark Brydon, Parrot and DJ Koze – who's on my next album. I'd like to think I am involved in the music, but it's more of a conceptual thing, rather than working out how we're going to shape the bassline.

"I have no desire to write music because I get all this incredible music pouring into my life. Ideas and sounds that I could never come up with. It's probably best for everybody if I stick to what I'm good at."

The album *Roisin Machine* is out now

HEAR MORE



Kingdom of Ends (from the new album)
bit.ly/rm_koe

Overpowered
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cmProducer Masterclass

BEARDYMAN

The champion beatboxer, acclaimed comedian and national trinket is a big Ableton Live user... and a very different one

Box fresh

From the famous *Kitchen Diaries* YouTube hit and audience-sampling Battlejam nights, to festival appearances around the world and even regular appearances on Radio 4, Darren Foreman (aka Beardyman)'s combination of quintessentially British comedy and utterly authentic electronic music is gloriously individual. On stage, his formidable vocalisation talents provide the fuel for an elaborate live rig that enables extraordinarily deep on-the-fly sampling, looping, processing and synthesis, and is one of the two subjects of this Producer Masterclass, the other being the production of his single, *6am (Ready To Write)*.

Rewinding back to the other end of the Beardyman timeline, though, where did it all begin? "I've had the stage name Beardyman since around 2004," says Darren. "Then I'd been beatboxing since I was a toddler, but never thought I could earn a living from it. I started doing shows at tiny bars when I was at uni, and the first one I did was a mate's girlfriend's birthday party. I literally didn't give a fuck at that time, and that defined the kind of entity I was on stage. I deliberately trolled the audience — and I still do!

"Now, I have to go out of my way to remember that it doesn't matter what I do on stage. I take a moment before every show to remember how little it's OK to give a fuck when you're on stage, and that's such a great thing to have in your life. To go on stage and be a fucking idiot for an hour, deliberately trolling strangers that are lapping it up, saying, 'Thank you – troll us again!" is amazing. You're turning them into a pack of animals, basically, and it's great to get on stage and scream at the audience before dropping some savage techno on them. It's a weird thing to be able to do, and a blessing. I love to add elements of comedy to my show, like you mess up on stage, but as it's framed as comedy, no one minds."

> "You're turning them into a pack of animals, before dropping techno on them"

Funny business

Having transitioned from competition-level beatboxer to an eclectic and idiosyncratic musical remit (albeit still with beatboxing very much at its core), Darren's artistic influences are as catholic as they come. "Beatboxing-wise, I used to listen to people like Killa Kela and Faith SFX, who were the vanguard of the day, and an artist who I'm really feeling right now is an amazingly talented kiddie called NaPoM, who made an entire album with just his mouth! No looping or layering, and the bare minimum of effects – literally just a bit of compression, reverb and perhaps some slapback delay.

"These days, I'm less influenced by beatboxers, and take more influence from other artists. I enjoy listening to Marc Rebillet, as he literally doesn't give a fuck. I love how he combines music and comedy. I enjoy Bill Bailey for similar reasons. Ed Solo is also an inspiration, he's such a talented producer and has been for years – the guy's quite simply a scientist in the studio."

As you'll see in the video, a meticulous degree of planning and preparation goes into every aspect of Darren's live performance rig, but ultimately it's all about enabling an improvisational approach on the night. "I don't have a single way of making a track," he explains. "Sometimes, I like to catch a vibe from the crowd and work with that. If something makes me laugh and makes them laugh too, then it's all good. I do enjoy making tracks live in real time, as it's a great way of capturing the moment. You never quite know what's going to happen."

Now, fire up the accompanying masterclass and bonus performance videos to see and hear this unique musician in action. And look out for a lot more Beardyman. "You're the first people to hear this," he whispers, "but I've got a huge project coming up. I'll be releasing a track every single week onto all the main streaming platforms, with accompanying videos. As that's around four albums worth of material, it's going to be a busy year."

Kit List

HARDWARE
Apple MacBook Pro
Apple iPad x4
Novation Launchpad
Boss RC-505 looper
M-Audio Keystation 61

SOFTWARE
Ableton Live
Polyverse Manipulator
Expert Sleepers Crossfade Loop Synth
Expert Sleepers Augustus Loop
Sugar Bytes Turnado
Sugar Bytes Artillery
Sample Sumo SaltyGrain
AudioRealism ABL3
Slate Digital plugins
Oeksound Soothe
Spectrasonics Trillian
Spectrasonics Omnisphere

WATCH THE VIDEO

In our exclusive video, Darren talks us through his live setup, and deconstructs *6am (Ready To Write)* feat Joe Rogan

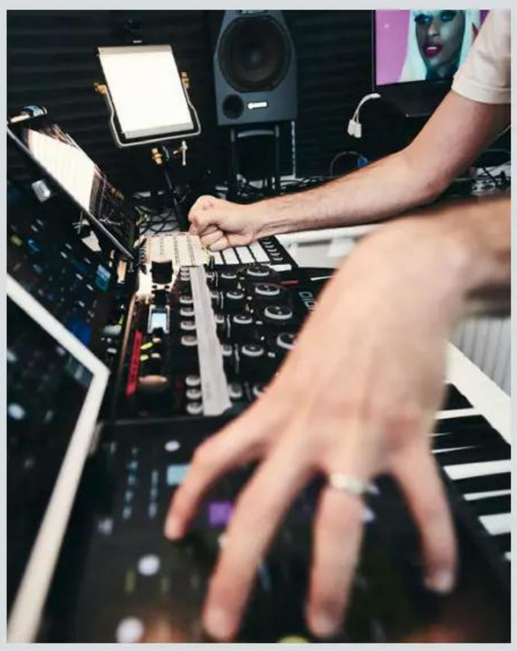
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The Beardyman live rig

A very cool custom setup is now at the heart of a Beardyman performance





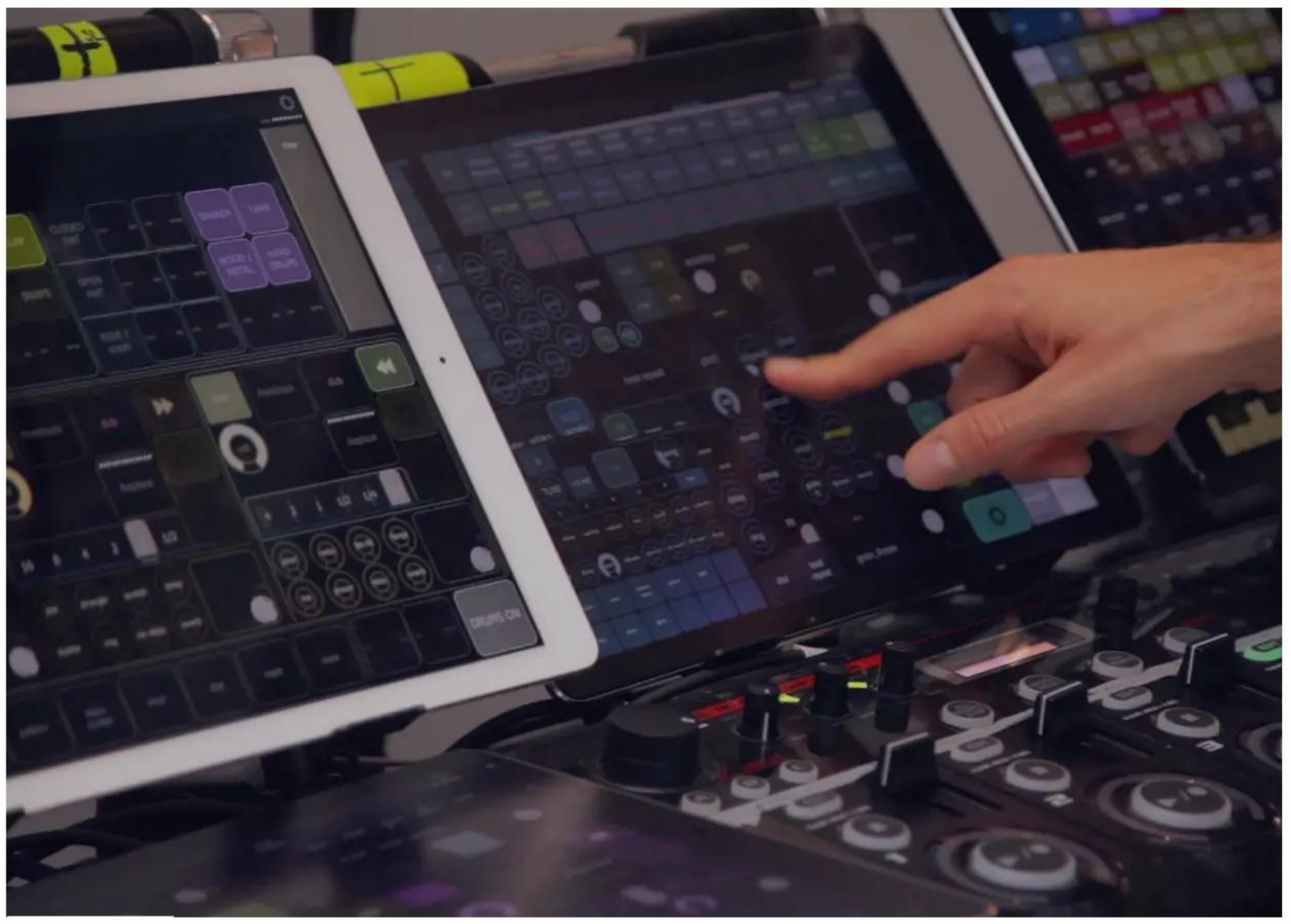
The framework of the rig

02.08 Darren's rig is an incredibly complex-looking combination of hardware and software that he's honed over the last year to perfectly serve his exacting live performance requirements. "I've made a sort of live production system based around Ableton Live," he begins, "and this is the fifth – or something – iteration of my live rig. It used to be hardware when I started out – I was using Kaoss Pads, other things like that – and my gear grew and grew, and got heavier and heavier, and more accident-prone and difficult to manage and use. And every piece of new hardware that I wanted the functionality of would degrade the signal path further. So I decided to make my own software with Dave Gamble, from DMGAudio. He's a genius, and he built me this live production system from scratch in C++.

"It's like four iPads, a Novation Launchpad and a looper by Boss – the RC-505 – and all of that works with this laptop [MacBook Pro], which is running Ableton. And I've got this immense Ableton [set]... I say immense; maybe it's not the biggest in the world, but it's a bit mad. It's basically a drum machine and multiple loopers, all splayed out into different categories of instrument."

The first iPad in the chain is used for live processing of Darren's incoming vocals. "So, there's a ring mod, which is available at any time. There's drive available at any time, spectral weirdness, vinyl things – there's all kinds of stuff. But they're one-finger, two-fingers-at-a-time things."

Keeping things manageable with presets



03.38 **Darren's custom software makes many parameters available for tweaking, but banks of instantly switchable presets speed up the workflow.**

"It's like a Nord keyboard, in that there's nothing hidden," he explains. "In the previous iteration of my live rig, there was – you had to go into menus to do stuff. But now, everything is squeezed onto a page, so I can turn my voice into... [he sings into the mic] a choir. I can switch to any one of these 20-something presets, and each one changes all these settings. I can edit the setting as I go – everything is always available to me. I want to mould as I go, so each preset is just a starting point."







Crossfade Loop Synth, Manipulator and Turnado turn vocal noodlings into a tasty melodic soup

Crossfade Loop Synth

06.16 For instant capture and transformation of his voice into basses, pads, leads and other non-percussive tones, Darren turns to Expert Sleepers' Crossfade Loop Synth alongside Manipulator. He quickly demonstrates, recording a vocal 'Ah' and playing a melody with it on the keyboard, then adding a beat and a bassline. It's impressive stuff.

"So there, I just used a bass preset, which is Manipulator, and then I was playing in a vocal line that I just recorded," he says. "It's just Crossfade Loop – it's really amazing to me how little you need to do to get that. You can have the most amazing synth in the world, but you can be really impactful just from a very basic sampler, which Crossfade Loop essentially is, and Turnado by Sugar Bytes, which is what's after it in the signal chain. They're very basic effects – it's not meant to be like an effects workstation, but that's what I use it as, because it's really low latency, and that's really important. This rig is really, really heavily optimised for live use, but it's also a production environment as well; a giant, spidery template of every possibility that I could want."

"Iterative sampling" with Augustus Loop

12.53 **Another key element of Darren's live shows is something he calls "iterative resampling, although both those terms, I think, are mathematically incorrect. I don't know what to call it, but essentially you have a signal path going back into itself, like a delay line, but it goes through effects and gets resampled back into a looper."**

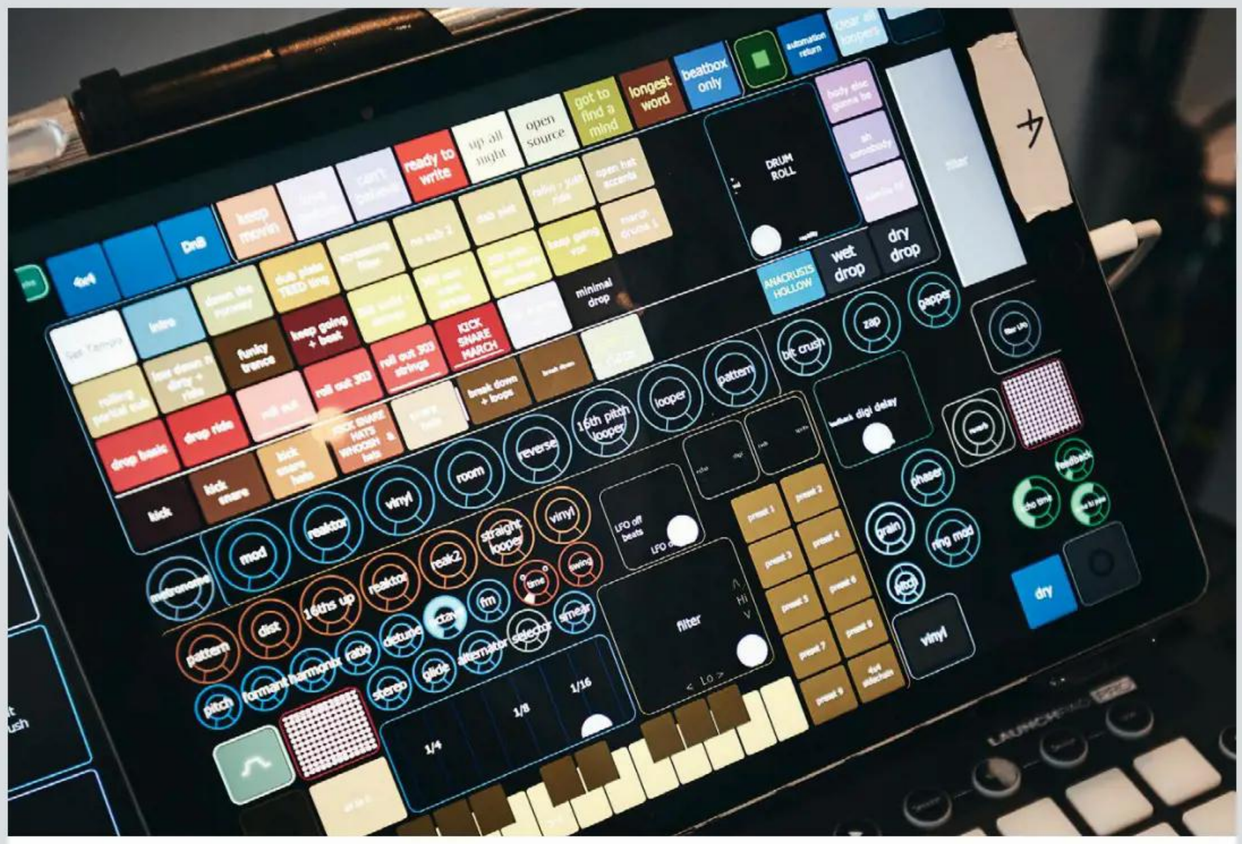
The plugin looper in question is another Expert Sleepers offering: Augustus Loop. "There aren't really any good VST loopers. There's standalone stuff, there is hardware, but it you want something meaty that's a VST that you can use in Ableton, your only real option at this point is Augustus Loop. And the reason for that is that it compensates for latency. You'd think that a DAW would do that anyway as part of how VST works, but Ableton's Looper does not compensate for latency. So I have to use Augustus Loop, which is fine, because it's amazing."





The RC-505 sits beneath the iPads and its looping features are used to the full



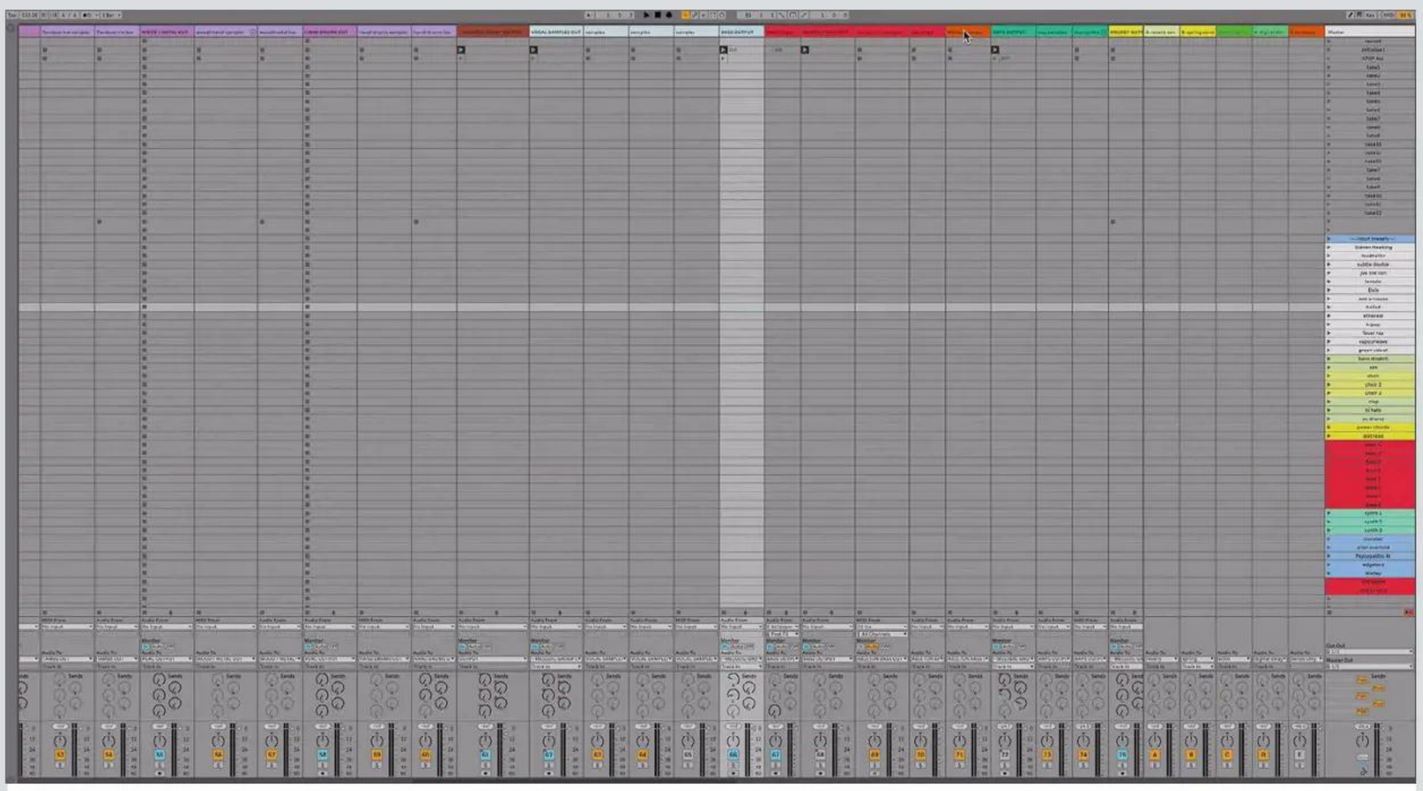


The “melody group” iPad

15.49 **The right-most iPad in the bank of four controls a wide range of melodic sounds. “Bass, melody, pads – it’s a combination of the Ableton pads, which is pre-recorded stuff, synthesis and stuff like that, pre-recorded melodic stuff, pre-recorded vocal samples, a 303 emulator... All of that is grouped into a big bus called ‘Melodic Group’, and I’ve got another set of effects here, which is actually Turnado and another instance of Manipulator, so I can do mad granular stuff. There’s so much in here that it would be difficult to show all it can do, but the short and the long of it is that there are loopers and effects, and there’s pre-configured stuff. Everything is adaptable – there’s nothing that’s hidden from these interfaces, which is why they’re so crowded.”**

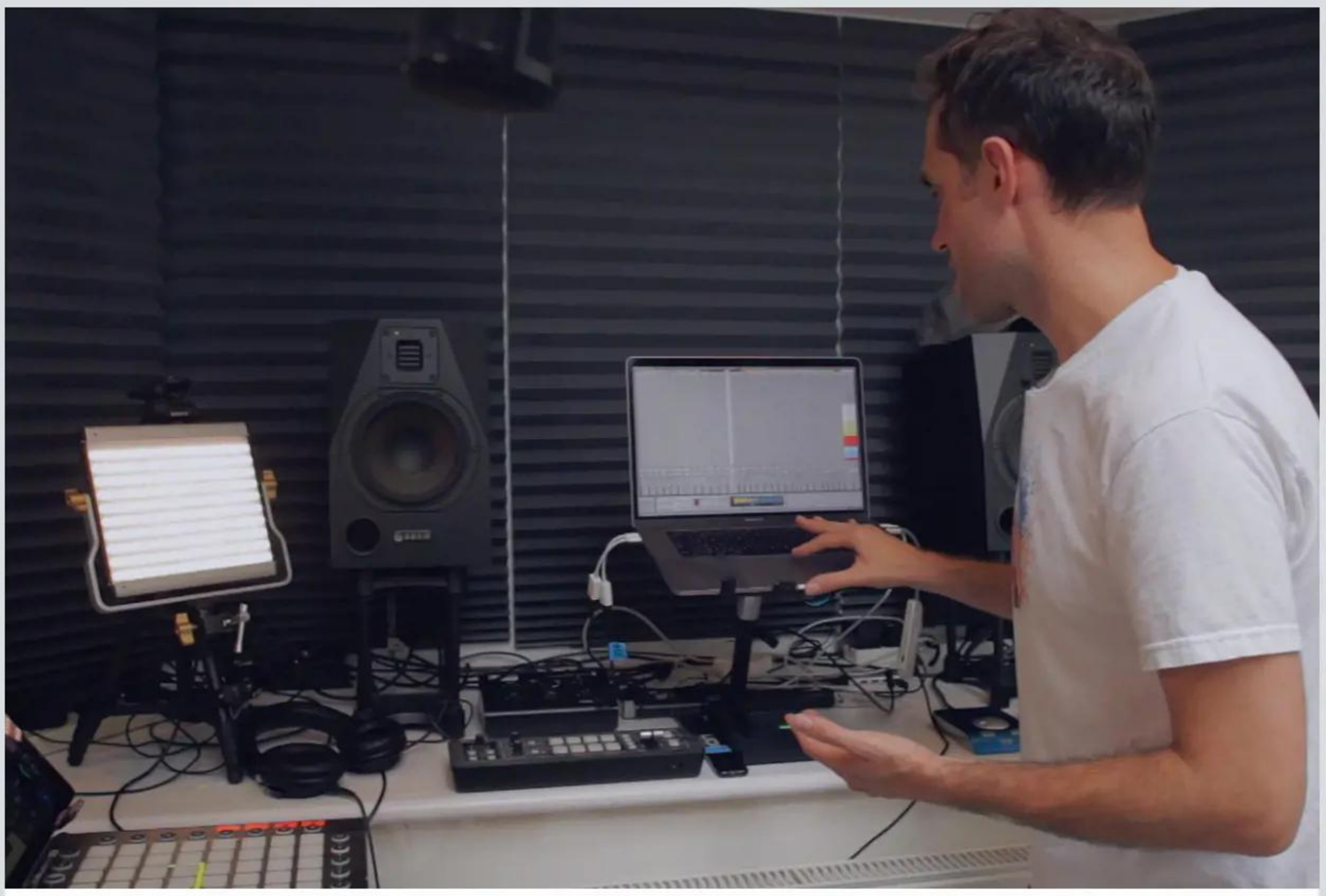
Remixing full tracks on the fly

17.16 As well as the arsenal of live sampling, synthesis and processing options at his fingertips, Darren's rig also enables him to work real-time remixes of full productions into his set. "These presets are tracks that I'm working on that I play live," he says, before demonstrating the system in action. "You can endlessly sample things back into themselves. If you want to go deep and techno-y with this stuff, you can; and if you want to do quick and dirty, you can. You can also use it as a production system as well – you can just record a bunch of stuff, and snip bits out of it and stick it in the other parts of Ableton Live."



The Ableton Live set

20.21 **Moving to his laptop, Darren shows us around what can only be described as one of the biggest Live sets ever. "This is how the session looks," he grins. "I did have everything grouped into Groups, but I kind of got it in my head that the Groups were adding latency. I don't know whether that's true – I probably should have found out. But also, there were some quirks in the way this was working, which meant it was more straightforward just to colourise sections and manually group them. So, for example, these channels here are all bass, and they all feed into there [another audio track, rather than a Group], so it's just manually routed in Ableton."**



Managing CPU usage

23.05 **"As you'd imagine, stability and extremely low latency are crucial to Darren's monumental live setup – indeed, without those two things, the whole thing just wouldn't be feasible.**

"There are way better effects than I have in this system that I actually own, but I can't use them in this live rig, because they either introduce just a little bit of latency, or a little bit too much CPU," he confirms. "There's nothing in here that takes up more than a percent or two of CPU. I've spent a good year optimising the hell out of this, so it's just 64 samples of throughput latency, which, considering everything it does, has been difficult to achieve. If it's not a live performance set, you can use expensive plugins, and it'll sound sweeter and you can do better things. But there's always going to be a compromise when you're trying to reduce the latency and the CPU usage. There's a lot of native Ableton stuff that does the job, is stable and doesn't really introduce latency."

Darren's five favourite plugins



Native Instruments Kontakt
cm 170 > 9/10 > £339
"I love Kontakt, as it can become anything you want it to be. It's almost cheating to use it, as it sounds so good. It gets used for drums a lot when I'm creating music."
native-instruments.com



u-he Zebra 2
cm108 > 10/10 > €199
"Again, this sounds brilliant and is something I use a lot."
u-he.com



iZotope Ozone
cm277 > 10/10 > £444
"A great little plugin that you can update with loads of different presets from third parties as well. It's a synth that lots of producers use."
izotope.com



Spectrasonics Omnisphere
cm220 > 10/10 > £349
"A desert island synth – vast and sounds amazing. I really like their bass synth, Trillian, too. The quality of the presets is so high, and the tweakability is beautiful."
spectrasonics.net



Expert Sleepers Crossfade Loop Synth £48
"Andrew from Expert Sleepers is coming to my show tonight – they make the best sampler. You can make these very sharp sounds quickly and easily with it. I use it to build drums and synths live. You can get so much variation from it."
expert-sleepers.co.uk



Meanwhile, in the studio...

Darren might be best known for his dazzling beatboxing skills and mind-blowing live performances, but he's equally serious about his studio work. The second half of his main Producer Masterclass video sees him dissecting his new single, *6am (Ready To Write)*, which features dialogue sampled from video of American comedian Joe Rogan. Put together in another absolutely enormous Ableton Live project, it's a straight-up banger that fully capitalises on Beardyman's characteristic mad humour.

"I know this is a weird tune," says Darren. "If you're going to be making some dance music, you wouldn't do any of that. There are other mixes of this that follow more dance music tropes, and that are better for the dancefloor and all that kind of stuff, but it's kind of a skit built around this sample of Joe Rogan reading out Hunter S Thomson's daily drug routine.

"It's nothing that complicated – I deliberately didn't want to introduce all kinds of crazy elements. There's a couple of synths, there's your drums, there's your effect elements... I wasn't very fastidious with the naming of tracks or anything like that. If I was doing a really well planned-out track, I would fastidiously label every single element and group things in a logical way that was easy to navigate; but with this, I just threw it together, so it's a bit scrappy for that reason. So don't do any of the things that are in this tune!"

This time, the size of the project itself – it really is immense! – is due to the bundling together of multiple versions of the track in the one epic Live set. "Instead of just having a different project for each version of the tune – because I was going backwards and forwards changing things on one tune then wanting to transfer to the other – I've ended up just doing one gargantuan session, which is every single possible version of the tune: extended mixes, radio edits, clean versions, dark techno remixes... it's insane!"

As wayward a workflow as this might sound, it's one that Darren would actually recommend, partly because of the places it can take you, and partly because it's the easiest way to navigate multiple versions of the same track. "It makes a session quite unwieldy, but in Ableton, I can't think of another way of keeping changes across different projects. It looks mental, and it is. It sort of forces you to make a decision and stick to it."

Beard' and wonderful

The anarchy doesn't end with Beardyman's philosophy on project management, either – one of his favourite production techniques involves putting completely different instruments and sources on the same track in the name of artistic liberation.

> "I'm just trying to justify the fact that I'm a slapdash idiot and I don't know what I'm doing"

"There's a rule that I like to break a lot, because it's fun," he beams. "You're not really supposed to put multiple elements on the same channel, because it's confusing and it doesn't really help in the long run, and if you want to change one element, you end up changing the other. But I like the fact that as soon as you've used a channel for more than one thing, you then can't change the settings on that channel. It's kind of the same methodology as continually bouncing down, so you're dealing with audio rather than lots of automation. And also, I just like the fact that as you're working on the track, you end up memorising what the effects chain is on any particular channel, and then you can use that very quickly to throw things into, so that you've got sonic continuity between different elements. It's not necessarily a good way of working, because you can end up getting very confused, but it means you can make things quicker. I'm just trying to justify the fact that I'm a slapdash idiot and I don't know what I'm doing. Do as I say, not as I do."

Darren's endearing modesty continues with his summing up of *6am (Ready To Write)* at the end of the video session. "It's just a really silly tune about doing loads of cocaine in a hot tub. There's lots of detail, but it's detail to try and achieve a result that is just banging, rather than beautiful. It's ugly, but sometimes ugliness can be beautiful. If you take nothing else from today, take that."

Latency – a critical issue

25.02 Understandably, Darren is keen to stress the importance of achieving super low latency with any software-based live performance setup. "Building a live rig, it's a completely different task to producing a track, which only lives in your studio and is not required to be performative. If you want to have sound going through a session, you've got to keep latency low and if it's beatboxing, you've got to be bang on, because you've got to hit the exact transient as close as you can. If you're just a singer, you can afford to give yourself loads of latency – you can give yourself like 128 samples, 256 samples even – but you can't do that if it's beatboxing."

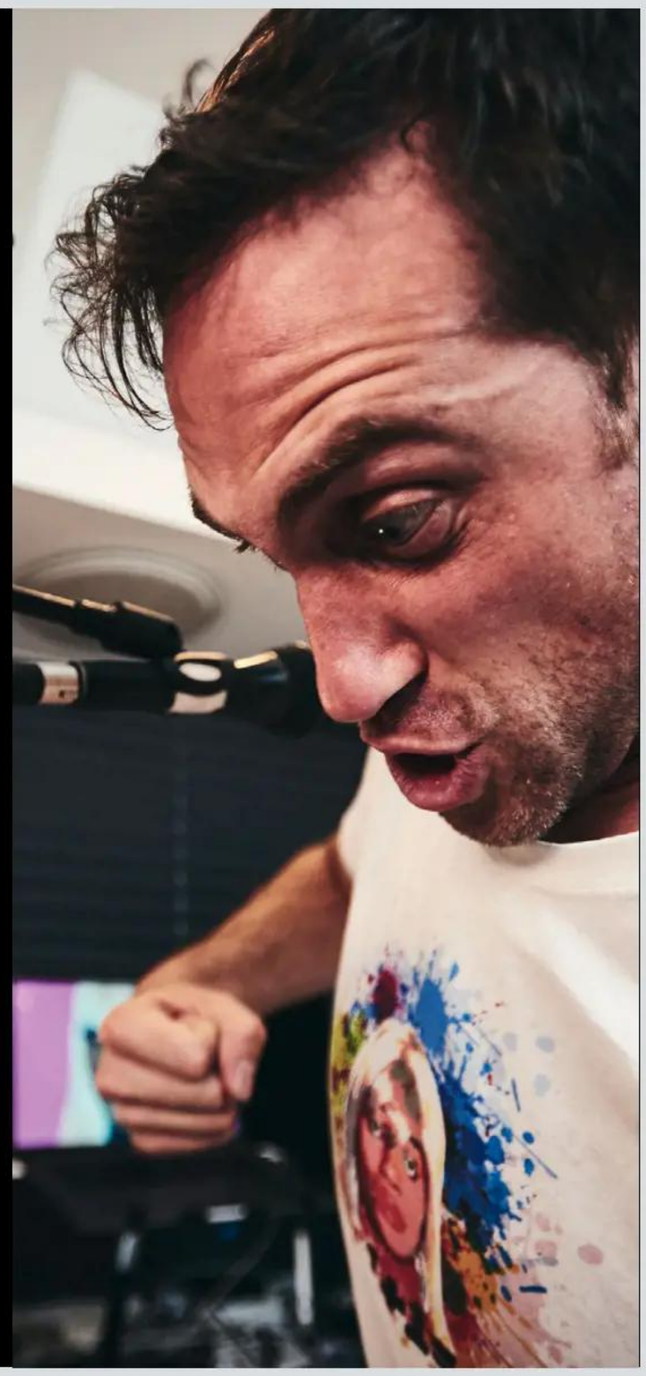


Sorting out the hi-hats

29.30 The drums and percussion in Darren's set come from various Live Drum Racks, the most tricky of which to set up was, surprisingly, the one dedicated to hi-hats. "That was weird," he recalls, "because I wanted closed hats to be able to choke open hats, but I quickly found that it was going to be tricky to turn the closed hats on or off. I decided to forgo having open hats choked by closed hats, because on a drum machine, sometimes you just want to have them both going at the same time. In dance music, you don't necessarily have closed hats always choking open hats. I thought a lot about whether or not it was necessary, and I was like, 'Well, it's mostly electronic music that I'm doing, rather than emulating an actual drum kit', so that was my reasoning for grouping them like that. But there's no one way to do this – it's possible to imagine a version of this where I went with my first instinct and just piled on through and tried to find a way."

Max for Live – or the lack thereof

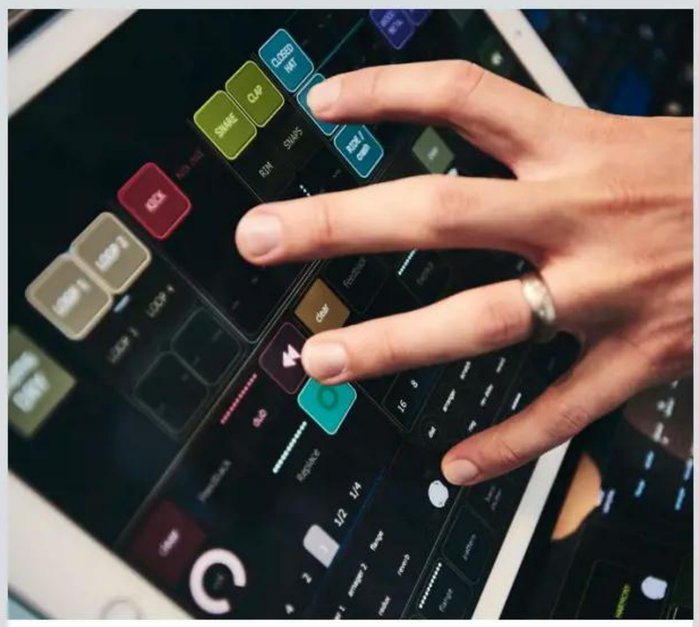
30.40 Given that it's centred on Ableton Live, it might seem odd that Darren's setup doesn't feature Max for Live, Ableton's modular device construction environment, with innovative and amazing live performance tools that can be built within it. It comes down to speed and stability again. "You can build Max for Live devices but often they're not super pro, they're a bit shaky, they can destabilise the system, they can add latency... There is no Max for Live in here, none. Like I wanted to do preset morphing, and found loads of preset morphers. But then they'd lose their compatibility with an update of Ableton, or they only work a certain way, or they just don't quite work... A lot of time has been wasted in my life looking through Max for Live libraries and trying to instantiate them."





TB-303 sounds with ABL3

33.51 Bringing a touch of old-school synthesis to the setup is AudioRealism's fabulous Roland TB-303 emulation plugin, ABL3, which Darren calls on for those acidic basslines and leads that you just can't get from any other instrument. "For arp elements, I'm using a 303 emulator," he affirms. "I did some research to find out which was the best one, and by a country mile, it seemed to be this one – I'm open to suggestions of others if people think there are better ones. Maybe there are some 303 emulators that do more, that do stuff that a 303 couldn't do, but this one is about as faithful as you can get, and in all these sound tests it comes out on top. It is dope."



Keep it simple, stupid

34.39 Once he abandoned his original dream of a single all-purpose setup, building his perfect stage rig became as much a reductive process for Darren as a constructive one. "I had more synthesis in here, when I was thinking I'd make this an all-singing, all-dancing production rig, with which I'd only ever have to use this one template – but I think that's mental. Giving yourself one template and never using any other is stupid. Doing that, you can't keep the latency down, so much of the time, I will produce from scratch." **cm**

HEAR MORE



6am (Ready To Write) ft Joe Rogan
bit.ly/bdyman_rtw

Reggae Country Fusion
bit.ly/bdyman_rcf

beardyman.co.uk
soundcloud.com/beardyman
twitter.com/beardyman
facebook.com/therealbeardyman

90s RAVE

> The 1990s was an exciting time for the UK musically, with many scenes and genres being hugely popular and influential, both on a musical level and culturally too.

One such genre was rave music, with huge parties springing up across the UK during the early 1990s featuring thousands of people dancing until dawn to futuristic electronic music comprised of sampled breaks and stabs, alongside uplifting vocals and crazy arrangements. For a few years, rave music drew a massive following and influenced popular culture, with the clothes and logos sported by rave-goers becoming fashionable even outside of its original confines.

As rave music could be made using relatively basic computer and sampling equipment for the time, there were few barriers to entry, with bedroom producers across the UK becoming stars of the scene. The original tracks from this era from labels such as XL Recordings, Suburban Base and Reinforced Records are now considered classics in their own right, with this particular style of music later splintering off to inspire the creation of well respected UK dance genres such as jungle/drum&bass, hardcore and new school breakbeat.

As there's currently a massive 90s revival happening, we thought it'd be a great idea to break down how to make your own 90s-style banger. Over the next six pages, we'll show you how to use your DAW, a selection of samples and a combination of commercial plugins and those from the **cm** Plugin Suite. All the plugins and samples plus tutorial files and videos are at filesilo.co.uk under Bookazines/Guide To Live.

>Step by step 1. Beat creation



1 > Let's get the ball rolling by layering a couple of breakbeats up using TAL's excellent Sampler. By using this instead of what our DAW has under the hood, we can instantly print a retro 1990s sound onto our breaks. Load TAL Sampler onto a new MIDI track, then create a one-bar MIDI region with a C3 note in it to trigger the sample. Now, let's drop a break in.



2 > Set BPM to 140, then open TAL's Layer A tab. Import DF_BeatD_120-04.wav from the Beat Creation folder at filesilo.co.uk, then move the Loop End marker to the end of the break. Change the High/Low key to C3, so only one note triggers the sample. Timestretch the break to the track's tempo by setting Stretch mode to Cyclic, with Stretch at 16%.



3 > We'll add the same break to Layer B. Turn on the layer, and load in the break with the Root, High and Low keys set to D3. Set the Stretch mode to Cyclic again at 16% Stretch, then move the Sample start to the first snare. We can then play notes C3 and D3 interchangeably, allowing us to start the break either at the kick or snare for greater variety.



4 > We can use TAL Sampler's Resampler to print the classic Akai S1000 sound to our break. Set mode to S 1000, then reduce bit depth to 12-bit with sample rate at around 22kHz. Dialling in some Saturation alongside this will give our break a full, fat sound. Reduce the channel volume to -6dB to keep the levels in check. Now, let's throw down another break.



5 > Add another TAL Sampler instance to a new MIDI track, then copy the MIDI region from our first track to trigger the sample. Open TAL Sampler, and import DF_BeatB_120-01.wav from filesilo.co.uk into Layer A (a bass-heavy break that layers brilliantly with our first one). Move the Loop End to the sample's end, and set Root, High and Low keys to C3.



6 > Timestretch the second break by setting the Stretch mode to Cyclic, with Stretch amount at 16%. Now, you'll hear the two breaks layer together. Turn on Layer B and import the second break again, with the Root, High and Low keys set to D3. Set the Loop Start to the first snare. Apply the same timestretch settings as Layer A, so the break plays in time.

RECOMMENDED LISTENING



RACHEL WALLACE
TELL ME WHY
One of many 90s classics from UK label Suburban Base, *Tell Me Why* serves lashings of chopped up breaks with uplifting piano chops and great vocals.

bit.ly/rw_tmw



AWESOME 3
DON'T GO
Built on a sample of Bobby Byrd's *Hot Pants* breakbeat, the piano vibe evokes memories of big raves, white gloves and Kenwood puffa jackets.

bit.ly/awsm3_dg



LIQUID
SWEET HARMONY
With its instantly recognisable piano riff (from CeCe Rogers' classic *Someday*), *Sweet Harmony* adds layered breakbeats, bass and strings to devastating effect.

bit.ly/lqd_swthrmny



SL2
ON A RAGGA TIP
Spending three weeks at no.2 in the UK charts, SL2's Jah Screechy-sampling anthem was one of the few crossover tracks that brought rave culture to a wider audience.

bit.ly/sl2_oart

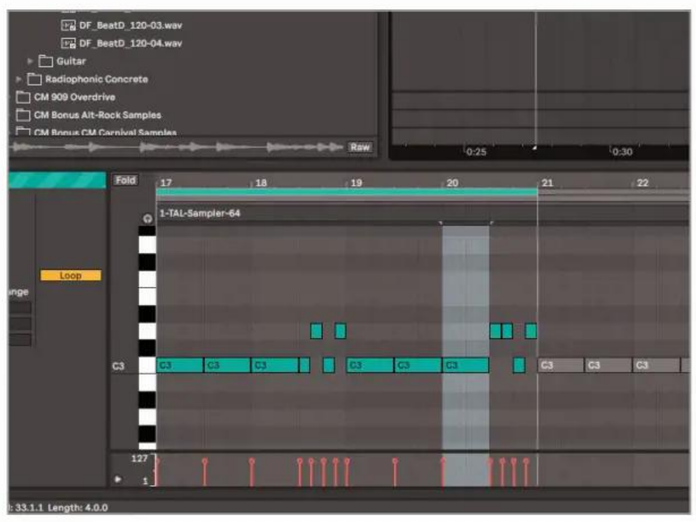
PRO TIPS

RETRO EMULATION
If you're triggering stabs, breaks or suchlike from a modern sampler then the timing will normally be rock solid. However, a lot of basic 1990s studio gear would sometimes drift out of time by a millisecond or so, thanks to ancient computers with less than perfect MIDI clocks. Emulate this in your DAW by automating the channel's time delay by 1-2ms every so often, so that the samples still sound in time, but not perfect.

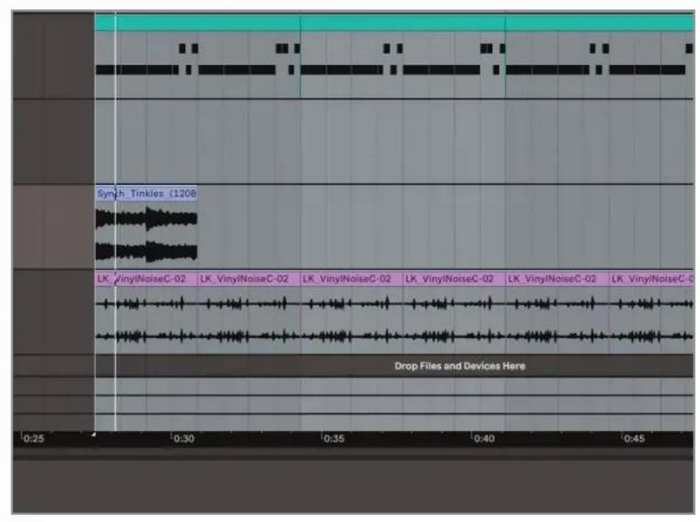
CHIPMUNK VOCALS
The pitched-up vocals used in lots of classic rave tracks sounded like that as they were speeded up in a sampler, rather than timestretched to fit to retain the original pitch tuning. If you're recording vocals, try pitching the instrumental down in a sampler by 5 or 7 semitones before recording over it. Then, pitch up the finished vocal recordings by a corresponding amount to achieve the desired effect, while still keeping the timing tight.



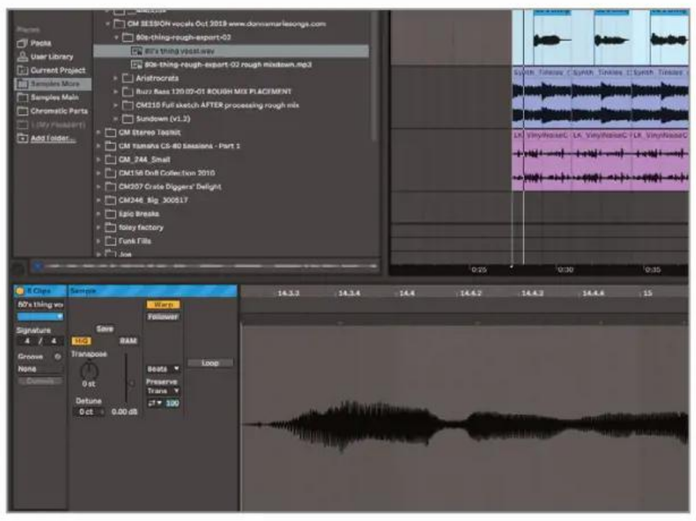
7 > Turn the sampler channel down to -6dB, so that both our breaks balance together. We'll colour our second break differently to the first, selecting the Emu II Resampler, with Sample Rate at around 22kHz, Hiss at 0.6 and Jitter at 0.8. This gives our break a hissy, crunchy sound reminiscent of classic 90s rave records. Now, let's map out a longer drum track.



8 > Extend the MIDI region on the first break channel to four bars. Now, draw in notes to create your own drum pattern using the variations of the break we've set up. After creating your pattern, copy the MIDI onto the other sampler track, so both breaks are triggered in unison. Duplicate the MIDI regions over 16 bars, so we can add some other sounds into the mix.



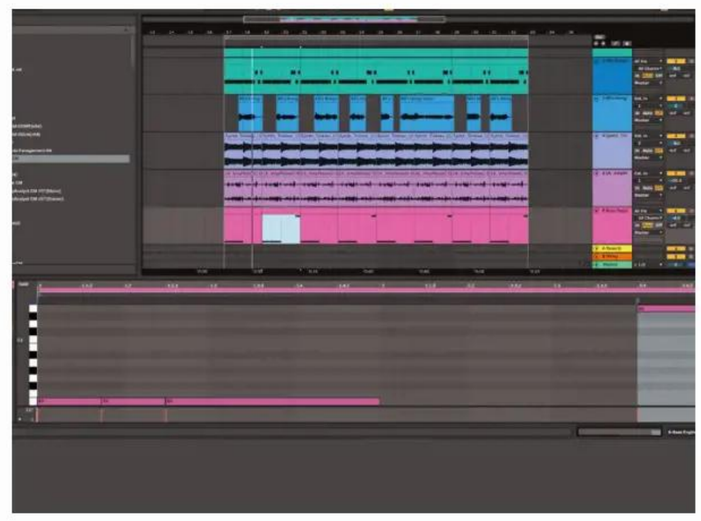
9 > Vinyl noise from the Layering Kit pack adds atmosphere, like on a vinyl rip. Add LK_VinylNoiseC-02.wav to a new audio channel. Duplicate it across the arrangement, then turn the channel down to -20dB to stop the noise dominating. Next, add a musical sample from filesilo.co.uk; put Synth_Tinkles_(120bpm).wav on a new audio track.



10 > Set the synth sample's Warp mode to Complex Pro, to reduce artefacts. Turn the synth channel down to -9dB. Next, add a female vocal from filesilo.co.uk. Import Vocal.wav to a new audio track, then delete everything but the first 16 bars of audio. Chop the vocal into individual segments, so each phrase is a separate piece of audio.



11 > The vocal gradually drifts out of time as the 16-bar phrase opens up, so go through and quantise every part until it flows nicely with the track. Next, we'll add an 808 bass hit to give our section some sub low power. Add a new MIDI track, then call up Dope VST's Bass Engine CM. We'll select the 2010s 808 Clinical preset, as it's the most authentic on offer.



12 > Add a new two-bar MIDI clip to the channel, and draw in a few E0 notes to create a bass stab to layer underneath the rest of our parts. Copy the clip across once, then add an E1 note to the end of the second clip to create a variation. Duplicate the two clips across the arrangement, then turn down the channel to -4dB to keep the levels balanced.

> Step by step 2. Adding a rave bass





1 > Let's try and make a rumbling rave bass using Native Instruments' classic synth Massive. Add Massive to a new MIDI track, with the file Bass.mid (from filesilo.co.uk) loaded to trigger the synth. Select New Sound from the File menu to reset the synth's parameters.

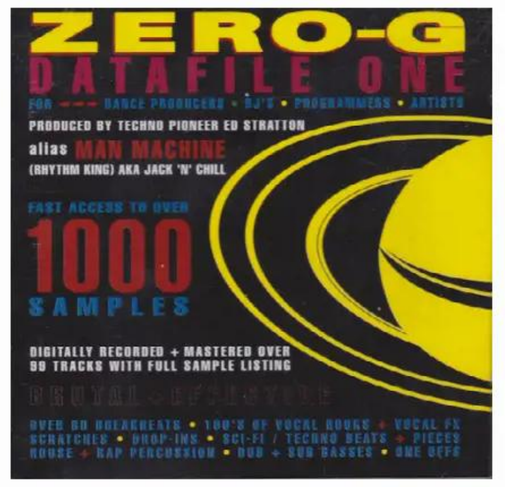
2 > Set all three oscillators to Sin/Square, with the Wavetable Position dials set to the left. Turn on Oscillator 2, then tune it down by 40 cents with Oscillator 1 tuned up by the same amount. You'll hear the two oscillators phasing against each other, creating a cool modulated bass.





3 > Turn on Oscillator 3, then tune it up by 12 semitones (one octave). This gives the bass an overtone that's reminiscent of the beefy basses used in many a rave classic. Reduce Oscillator 3's Amp level to 12 o'clock to reduce the overtone's volume, blending it into the mix nicely.

4 > To finish, we'll use Inphonik's RX950 to give our bass some classic Akai sampler vibes. Load the plugin, and set the Input Gain to 10dB with the Output Gain at -10dB. This'll drive the bass, adding crunch and character in spades. Set the Filter to 30 to tame the distortion.



Sample sauce

It pays to have the right ingredients to hand when creating a 90s flavoured track. For example, those hi-fi sounding loops you've just bagged off Splice will probably be too shiny for a 90s rave homage, so looking at the sample sources used by producers at that time is a great way around this.

As well as the obligatory signature sounds such as sampled funk breaks, techno stabs and classic Reese/808 basses, a lot of producers at that time took their sounds from the many sample CDs available at the time, including offerings from Akai that were included with their samplers as well as classic packs such as Zero G's Datafile and music technology magazine *Future Music*'s early sample discs.

The best thing is that you can often pick these up for a song from eBay or second hand shops. Many companies have reissued their classic packs online to buy, saving you the tedium of ripping off CDs.

> Step by step 3. Creating a rave piano stab







1 > Let's make a piano stab that we can turn into a riff. Start by loading up your DAW's stock piano. We'll add a new MIDI clip, and draw in one-beat notes on E3, G3 and B3 to create an E minor chord, which is in key with the track.

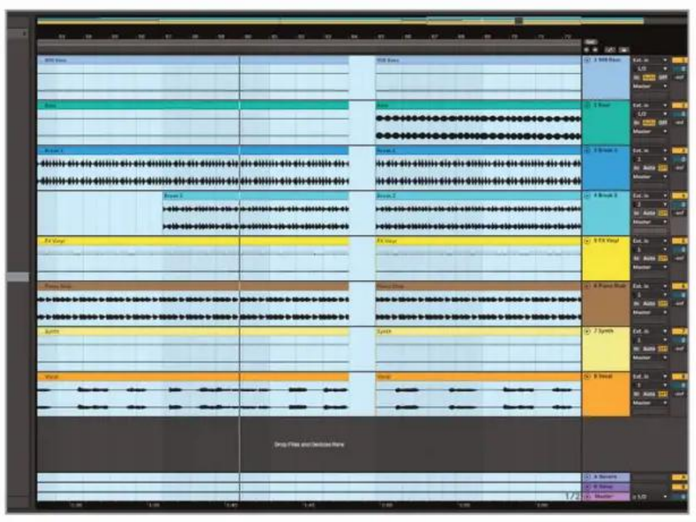
2 > Export the chord to audio, then reimport it into any sampler of your choosing. After muting the piano, import Piano Stab.mid onto the channel to play the chord stab back in a riff. You'll hear the chord take on a slightly dissonant tone as the riff's notes change.

3 > To finish, we'll add some characterful distortion to the sound using SoundToys' Decapitator. Load the plugin, and set the Style to E (based on a Neve preamp). Push the Drive amount to 7, then reduce the Wet/Dry mix to around 50% to blend the distortion into the clean sound.

> Step by step 4. Starting your arrangement



1 > After loading in the tutorial files to a 140bpm project, you'll hear that we've got three sections of the track to work with: the intro, piano breakdown and drop. We'll kick off by extending the intro's length to 32 bars, muting Break 2 for the first 16 to add suspense.



2 > We'll mute the 808 Bass for the first eight bars. Now, let's double the length of the piano breakdown to 32 bars. Copy Break 1 and 2 over to the second 16-bar section, then mute Break 2 for the first eight. And mute the last bar of the breakdown entirely.



3 > A vocal snip from Insideinfo's CM194 sample pack adds some impact to the drop. Load in Coppa3.wav, and delete the second bar. Turn the channel down to -6dB to balance the levels. Copy a bar of Break 1 into the gap, then reverse it to make a fill.



4 > Duplicate the drop section twice, so it's 48 bars in length. Mute the vocal and piano from the last 16 bars. Now, let's pitch-shift the female vocal using SoundToys LittleAlterBoy. Load the plugin, link the Pitch and Formant then set them to 7, giving an instant chipmunk vocal.



5 > Delete the last bar of the drop, then copy over the reverse break and MC vocal fill from the breakdown in order to replace it. This'll break things up, leading on to the next section of the track. Take the second 16 bars of the intro, and place it in after the drop.



6 > To complete our arrangement, grab the second 16 bars of the breakdown as well as the whole drop, then copy it over to the end of the arrangement. Mute the drums from the first eight bars of the second piano break to make this section different from the first one.

Stab in the dark


Human Resource - *Dominator*

A signature sound of 90s music is the stabs used to create piano riffs or crazy mentasm loops. Whilst these sounds were often sampled from sources like classic funk tracks and house or techno records, you can create interesting stabs from scratch using appropriate synths alongside the tools in your DAW.

For just one example, you could take the hoover used in Human Resource *Dominator*. As this was originally created using a Roland Juno, you can reach for a Juno emulation such as Audiorealism's ReDominator to recreate the sound, with the added benefit that you can manipulate the sound to your own liking (check cm262's *Rave Design* feature for the lowdown).

Another way to make a cool rave stab is to sample a chord, before replaying it into a riff via any sampler. As the chord is being pitched up and down by frequency rather than by using musically correct chords, the resulting sound has the slightly dissonant feel that we've come to expect from a classic rave riff.



Make a tidy hoover with AudioRealism's ReDominator

POWER TIP

> A bridge too far?

Part of the charm of old school rave records was the randomness of the arrangements, with three minute piano sections often giving way to crazy, mentasm-filled bridges with little or no warning. As modern music generally isn't arranged in this way, it can be lots of fun to take a less considered approach to arranging, with greater focus on the individual sections rather than making the entire track flow slickly from one part to another. To see what we mean, try checking a few old school rave tracks yourself!



Mixing 90s style

A key part of making your mix authentically 1990s is understanding how mixes were done back then. As clinical, digital mixing in a DAW was many years off at this point, tracks were instead mixed on a console, with a randomness that we can recreate in the digital domain.

For example, volume faders would have been set using your ears only, rather than by typing exacting gain levels in, so to mimic this effect in the box, get your mix levels to where you'd like them then slightly adjust them manually so they're not perfect. This'll reduce the overly precise sound associated with a DAW, giving a more human feel.

Another way you can add this kind of randomness is to not set your pan pots precisely. If you've got a sound panned 15 degrees to the left, and another that's exactly opposite, try adjusting one of them so that it's panned two degrees or so out from the other channel.

> Step by step 5. Drum mixing



1 > Let's work on our drum mix. Start by grouping Break 1 and 2, so we can process them as one. Add Sonimus SatsonCM to the group, then place a utility plugin after it, set to -9dB gain. Now, increase SatsonCM's Gain to 3 o'clock, adding some great-sounding analogue-style clipping.



2 > Reverb will add lushness to our drum track. Call up Liquidsonics' Reverberate CM onto a new return track, and select the Simple Drum preset. Set up a -9dB send from the drums group to the return channel. Next, we'll roll the low end from the reverb return to add clarity.



3 > Load DDMF's IIEQPro CM onto the return, and set Band 1 to a HPF12 filter. Setting the Frequency to 200Hz and Q to 0.7 rolls off the boomy lows, reducing frequency clashing. Next, we'll compress our drums group using Ignite VST's Vice One CM; load it onto the group.



4 > Set the Ratio to 2:1, then increase the Attack to around 9 o'clock, so that a little of the drum's transient snap is let through before the compressor begins to act. Pushing the Makeup Gain to around 9 o'clock balances the volume level of the wet and dry signals.

> Step by step 6. 808 distortion using RP-Distort CM



1 > We can add some period-correct, crunchy distortion to our 808 bass using Rob Papen's RP-Distort CM. Load the plugin onto the 808 Bass channel, then select the 909 Mackie Ch Dist RF preset. This is an emulation of the classic Mackie mixer that was used by many producers of the time.



2 > The effect RP-Distort CM has on the bass sounds pretty great, but it's a bit on the aggressive side right now. Firstly, turn the channel down to -12dB in order to stop the bass dominating the mix. To tame the distortion, we'll set the Filter's Low Pass dial to around 100Hz, rolling off the upper harmonics.



3 > To finish, we'll make an EQ notch in the 808 so the kick pops out. Call up DDMF's LP10 CM, and set Band 1 to Peak. Dialling in a -3dB cut at 100Hz with a Q of 3 makes room for the kick, without taking power away from the bass.

>Step by step 7. Completing your final mixdown



1 > Let's start the mixdown by adding your DAW's limiter to the master output, so we can drive the mix into it later on. Now, we'll work on the piano. Start by reducing its volume to -1dB, so it sits more comfortably with the rest of the mix.



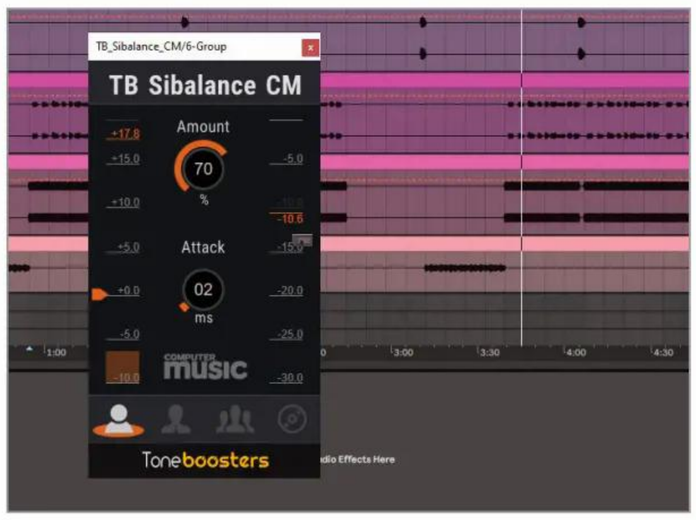
2 > Add PSP's cmDelay to a new return track, then turn off the dry signal, leaving just the wet effect. Set up a -6dB send to the delay return from the piano. We'll sync the Delay Time, then set it to ¼ notes. Increase the High Pass Filter's frequency to 300Hz.



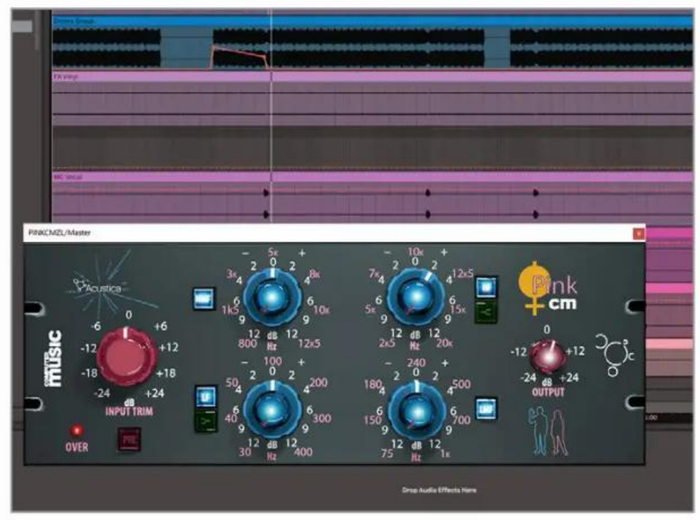
3 > The delay has added much needed flavour to the piano. We'll move on to a little automation now. Add Vengeance's VPS Philta CM to the grouped drums, then automate the High Pass filter so it gradually fades in the low frequencies of the drums during the breakdown, adding extra detail.



4 > Let's add some vocal processing. Add Acon Digital's CM Verb to a new return track, and choose the Medium Chamber preset. Disable the Dry Level, then set up a -6dB send from both vocal tracks to the reverb. Turn the female vocal up by 2dB, so it sits upfront in the mix.



5 > We can smooth the sibilant frequencies in both our female and male vocals using ToneBoosters' SibilanceCM. Group the vocals together, then load the plugin onto the group. Set the Amount to 70% and Attack to 0.2ms so the sibilance gets dealt with, without removing too much high frequency detail.



6 > Add Acustica Audio's PinkCM to the master output before the limiter. Dialling in a boost at 10kHz adds high frequency air, while pushing the Output gain up to around 1 o'clock overloads the master limiter, giving a sound similar to overloading the analogue to digital converters on a DAT machine.



Plugins like TAL-DAC rough up your signal like in days of yore, with tweakable bit-depth/sample rate

90s signal path

After that bona fide 90s tone for your mix? It's worth considering the signal path that producers would have had in their studio. For rave music, this consisted of a hardware sampler, routed into a mixing desk with the final mix recorded to a DAT tape.

As many samplers were either 12-bit or 16-bit back then, an easy way of kicking off is with a plugin like TAL-DAC to reduce the bit depth and sample rate of your sounds, taking away the high def sheen that many samples have out of the box. Then, apply some analogue saturation of some kind (our own Sonimus SatsonCM is perfect for this) to embellish the effect.

Lastly, get the sound of an overloaded DAT machine by using a clipping plugin such as SIR StandardCLIP on your master to indiscriminately reduce the peak gain before exporting to a 16-bit WAV, similar to clipping the analogue to digital converters on an old DAT recorder.

POWER TIP

> Look no further...

If you're looking to get that classic 90s sound when making music, then it's worth exploring what modes your existing plugins, samplers and synths have to offer. For example, Native Instruments' Kontakt and Battery samplers both offer MPC-60 emulation modes, giving their internal algorithms the sound and feel of a classic Akai drum machine. Similarly, plugins such as Valhalla's Vintage Verb let you set the reverb type by decade, allowing you to use the kind of 70s or 80s reverb that would have been in commonplace use in studios during the 1990s.

JEAN-MICHEL JARRE

Jean-Michel Jarre is very much 'The Godfather' when it comes to electronic music, having released classic albums since the 70s. Here he reveals why he is using Ableton Live at the centre of his setup

> "I am pleased to be talking to you," says Jean-Michel Jarre after realising he is going to be questioned about studio technology. "You see, I have spent far more of my life with computers and machines than I have with human beings. I think that people reading this will understand my situation. It's a good situation as far as I'm concerned. I always feel comfortable with my machines!"

The Godfather of Electronic Music is one of those phrases that always sparks intense debate and, occasionally, bitter argument. For some, it's Kraftwerk. Others favour Pierre Schaeffer and the Musique Concrète movement. Perhaps you'd prefer Stockhausen or Subotnick. Or Delia Derbyshire – the Godmother? Then, of course, you have to throw Moroder, Numan, Detroit, Chicago and Krautrock into the ring. And King Tubby. And Bambaataa. And Morgan Khan. And Eno. And... Jean-Michel Jarre.

Whatever your musical preferences, there is no denying that Jarre has had a huge and groundbreaking impact on the development of Electronic Music. His best-known album, *Oxygène*, was released in 1976, a time when synthesisers and drum machines were seen as little more than musical gimmicks.

"Back then, people bought synthesisers to make some silly noises on their next album," laughs Jarre.

But Jarre was intent on proving that machines needed to be taken seriously by the music business. And, as we all know, the only way the music business will take something seriously is if you shift units. So that's what he did. *Oxygène* topped the French album charts, made Number Two in the UK and was Top Ten



©EDDA

across Europe. To date, it has sold 13 million copies, and is the best-selling French album of all time.

The album's single, *Oxygène, Pt. 4*, went to Number Four in the UK, which meant that, excitingly for enthusiasts, synths were all over *Top of the Pops* and burbling out of breakfast radios in Billericay, Mansfield and Swindon. Thanks to Jarre, the VCS 3, the ARP 2600 and the Korg Mini Pops were now part of the mainstream musical landscape.

Sipping water in his London PR's office, Jarre looks ludicrously healthy and could easily pass for mid-50s – he's over 70! Well over four decades after that initial success, he must have talked about music and technology thousands of times before, but the mention of Arturia's Solina V string machine, Ableton Live or the latest MacBook Pro seems to light up his face and he's off... excitedly explaining a story about his grandfather's home-made portable turntable or the all-round capabilities of Kontakt software.

Jarre has certainly kept up with music and technology; in fact you can mark many of his releases and successes over the years with significant and historical technological themes: from panning hard stereo in *Oxygene* to wowing (literally) millions with 'laser harps' across the world in incredible concerts, to exploring sampling in his later albums, to then shifting his entire analogue synth collection on the road for an intimate tour of *Oxygene*, the technological story is almost as fascinating as Jarre's.

And he's kept up with the music too. 2018's *Planet Jarre*, is perhaps the best way to explore the Jarre legacy for a newcomer, with everything from back-catalogue tracks to newer collaborations with the likes of Vince Clarke and Armin Van Buuren.

"These albums are helping me celebrate 50 years of making electronic music," he says. "Thank God I never listened to my mother. She told me that music and machines would never be a good partnership. She wanted me to learn the violin!"

> "Finding Ableton Live was as important for me as seeing my first multitrack or my first synthesizer"

You've been making music for six decades now, but isn't it true to say that you were actually tinkering with noise even as a young kid in the late-50s and early-60s?

J-MJ: "Yes, I was. My main inspiration was my grandfather, an engineer and fantastic inventor of strange things. He made one of the earliest mixing consoles that was used in France... and he also invented the iPod!"

Hang on a minute...

J-MJ: "OK, I'm not being completely serious, but he made me a portable turntable that ran on batteries. I could sit in the garden and listen to my favourite records. It was an exciting moment. Like a kid who's getting his first Walkman or iPod.

"I used to love visiting his workshop because it was so full of imagination and ideas. He would tell me about a new device he was working on or explain how an amplifier worked. This was the atmosphere I grew up in. Technology was part of my everyday life.

"One day, he gave me his old Grundig reel-to-reel tape machine. It was very small and portable, so I would record all sorts of strange sounds on there. By accident, I played one of the tapes backwards and... wow! I heard a whole new universe of sound. At the time, I was a member of a few local rock bands and I started to introduce this backwards music into my guitar solos. I tried to find melodies and fills that would sound better when they were being played backwards.

"This led me to other kinds of investigation. I was no longer just interested in the notes... I was interested in the sound itself. Processed sound. My friends began to notice this and one of them said, 'My father knows a place where there are lots of people like you. You should go there'. It was 1968 and this place was the Groupe de Recherches Musicales in Paris, run by Pierre Schaeffer." [The GRM came into existence in 1958, following the dissolution of the Groupe de Recherche de Musique Concrète, which itself had been formed by Schaeffer and fellow pioneers, Pierre Henry and Jacques Poullin. During its short life, the GRMC attracted a long list of musical innovators including Stockhausen, Messiaen, Pierre Boulez, Edgard Varèse and Michel Philippot.]

So that's when and where you first started experimenting with sound?

J-MJ: "You have to remember what was happening in 1968. There were riots not only in Paris, but all over the world. Revolution was in the air. For me, making Electronic Music was part of the revolution. It was rebellion; it was punk rock. We were trying to fight with the traditional world of music... against classical and mainstream rock.

"My big argument was that music does not always have to be about the notes. There were people at the Groupe de Recherches Musicales who could not play a single instrument. Mathematicians, philosophers and painters who had no traditional training, but they were brilliant musicians. They didn't approach music with notes – they approached it with sound."

But you also studied 'traditional' classical music... wasn't your tutor from the famous Conservatoire de Paris?

J-MJ: "Yes, yes. Of course. But I was always in trouble with my tutor because as soon as learned a new piece of music, I wanted to improvise. I heard new ideas and melodies in my head. I couldn't understand why music had to be in this rigid framework. Why do I have to play this over and over in the same way? There were times when it was almost destroying my love of music. I could not just stay in the same place... I was already keen to know more.

"And that is probably the main reason why I had so much faith in electronic music. At the time, people thought that we were just stupid kids playing with machines, but I was absolutely convinced that electronic music – the mix of technology and music, working together as friends – would become the major genre of the 21st century. We are curious creatures, and electronic music offers us another way to explore the unknown.

"At first, there were only a few people who felt like this, but the prophecy has come true. Technology and music have become a partnership. As technology develops, it pulls



J-MJ is one of the few people who can pull off the 'key-tar' look

©Erik Voake



Jean-Michel splits his time between his studio in LA and this one in Paris

music into the future. Because we must never forget that, throughout history, it is the technology that has dictated the musical style. It was the violin that led Vivaldi to his music. It was the 78 RPM record that dictated the length of a song. Elvis sang three-minute songs because that's all the information he could get on the record. It was the long-playing album that allowed groups like Pink Floyd and myself to create concept albums.

"And once we introduce the computer into the list of technology, the doors are smashed open. The computer is as important as Gutenberg and his printing press almost 600 years ago. It has fundamentally changed our lives. And, for us musicians, it has changed the way we make music. Technology gives us the impetus to make our ideas become real."

You've also argued in the past that there are inherent problems that come along with new technology...

J-MJ: "Hmm... yes, yes. Definitely! How can I explain this? OK, so I come from Lyon in France, which is one of the great centres of French cuisine. These days, we know that cooking is a real art, because you're mixing different flavours and ingredients... you are adding your emotions in there too. You are cooking with your soul.

"There are some people who are in the kitchen and they say, 'I must get this book because it will help me be a better chef. It will solve all my problems'. Thanks to Gutenberg, the bookshops are full of cook books, so that person will have plenty of choice. Unfortunately, even though the book shops have many books, not all of them will be useful. Some of them will never be opened and go straight to the recycling plant.

"But even when you find a useful book, it will not solve all your problems. That book alone will not make you a brilliant chef. Attempting to make some crazy recipes will not make you a brilliant chef.

"It is the same with music. Like cooking, it is an art. Instead of vegetables and spices, you have samples and reverbs. In cooking, you have cookbooks, and in music you have plugins. There are lots of them. There are some that will be uploaded at the time you start reading this interview and they will be already obsolete by the time you finish. If you fall into the trap of thinking that one hundred new plugins will get you a career in music, you are finished. You run the risk of murdering your creativity.

"My advice is – and this is the same for hardware or software – choose carefully. Take

> "Technology gives us the impetus to make our ideas become real"

(Very) Selected kit list

HARDWARE

MacBook Pro
Ableton Live
ARP 2600
EMS VCS 3
Moog Sub 37
Dave Smith OB-6
Mellotron M4000D
Digisequencer matrix sequencer custom-built by Michel Geiss

SOFTWARE

Arturia V-Collection
Synapse Dune 2
Korg Legacy collection
Native Instruments Kontakt and Reaktor
iZotope Ozone 8



Photography Mark Tso

Oxygène and its simple setup

"Of course, I've always been very pleased with *Oxygène* and I'm proud of what it has achieved. I wanted to create real songs with machines, and wanted those songs to exist as a proper album. This music was not a joke to me.

"I had no studio. Just a spare room in my home that had been the kitchen. I took all the kitchen equipment out and installed my musical equipment... very minimal. There was the VCS 3, the ARP 2600, the Eminent 310, an RMI Harmonic synth, a Small Stone Electro Harmonix guitar pedal, a Korg Mini Pops for the loop and my Revox which helped me create the delay. I have always said that the biggest trick on *Oxygène* is creating a big delay on the right, a delay of the dry left signal. That, for me, is what caused 50% of the album's success.

"Ah, there was one other instrument: a broken old Mellotron. Only a few of the notes actually worked, so I had to choose my chords and melodies from the notes that were available to me. Just because you are limited by notes, does not mean you have to be limited musically."

three or four instruments and use nothing else for six months. Get to know them. That is the best way of nurturing your creativity. That is how you will learn to express yourself... the music will be guided by the technology, but it will come from inside you. It will be filled with your emotions."

And of course, you are now a big user of the latest software to make music, and have gone from Pro Tools to Ableton Live?

J-MJ:"Pro Tools went over the top. It all became too expensive. Every year, they were making big changes and you have to surround yourself with all the extra hardware, otherwise nothing would work. Then I tried Ableton and... yes, it changed my life. Finding Ableton Live was as important for me as seeing my first multitrack or my first synthesiser. It has made my time in the studio so much easier.

"In fact, I no longer need to be in the studio, or even on the ground. When I was finishing off this new album, I was listening to what I thought was the final master on a plane to the Middle East. I heard two or three very tiny changes I wanted to make. With Ableton Live and my laptop, I made the changes, sent them to one of my production team while I was changing planes, and then had the new master ready by the time I arrived at my destination. It's crazy... crazy, but wonderful.

"I think Ableton 8 was the first version that held my attention, but it still felt a little bit too much like a DJ tool. The sound quality wasn't quite as I would like. But, from 9, it has been perfect. Lots of people say that the sound quality of Pro Tools is better, but I compared a bounce from Ableton and Pro Tools, and Ableton was more transparent. None of that 'phasing' effect. One of the tracks on the new album had 110 tracks, but Ableton remained stable and very flexible. Even when I was adding more plugins. With Pro Tools, you only need one bug and the whole thing crashes. Then it takes 20 minutes to get everything set up again!

"I have been working with the Ableton team, trying to improve and contribute a little bit because I think it's a fantastic platform. Pro Tools started to feel like you must pay to play. Every year, you must give more money... a bit like Dolby used to be in the early days. Pay a yearly rental or it won't work. You are making a Faustian pact and I don't like that."

And what about other software?

J-MJ: Synapse Audio Dune, the Korg Legacy Collection. Native Instruments Reaktor and Kontakt – if I could only use one plugin, it would be Kontakt because it offers you so many possibilities. The Arturia V-Collection, of course. Their latest version of the ARP 2600 is so close to the real thing. I am a big fan of the ARP... and I have been using one for a long time, so I do know what I'm talking about!"

Presumably a lot of hardware too?

J-MJ: "Always! The ARP, VCS 3, Moog 37, Dave Smith OB-6, the new Mellotron M4000D. I like to keep my old string machine, too, the Eminent 310. That is maybe the one area where digital tech has not been able to match the sound of analogue. The Arturia Solina V is pretty good, but then again, there is something that happens inside the hardware... something with the chorus that cannot be reproduced. Yet it will happen eventually. In five or ten years, we will see the technology.

"We have to accept that, sometimes, there are delays with technology. Look at 3D in the cinema. I don't think it will be accepted until people can access it without those terrible glasses. And 5.1. I have re-recorded some of the tracks on the new album in 5.1 because I think it is fun, but I know that not everyone has the luxury of being able to sit in the middle of all those speakers. I'll say it once again, technology is delayed in this regard, but it will catch up one day. It will evolve naturally for your mobile and your headphones.

"What an exciting period in history, eh? And, more than that, what an exciting time to make music. In the past, we were limited by the technology we had, but now... the only limit is your imagination."

HEAR MORE



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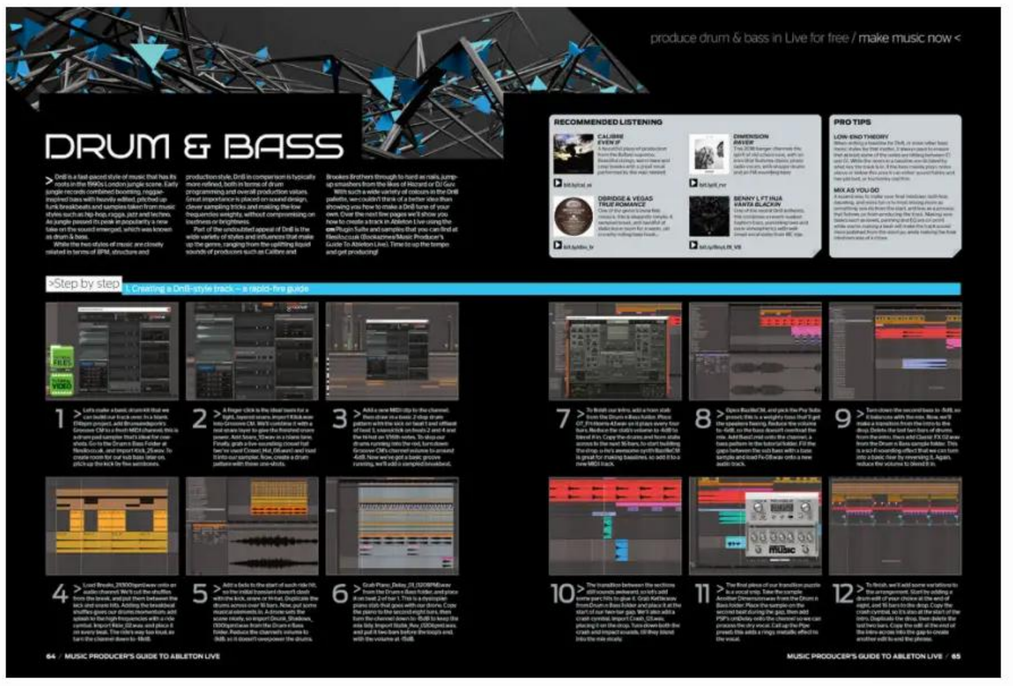
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