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welcome

It's taken a while but we're finally unveiling v2.0 of the 'mighty' **cm** Plugin Suite. In reality this is more out of necessity rather than something we'd been looking forward to doing, thanks to many of the older plugins becoming either too clunky or simply not working on the latest operating systems. (aka 'Macs' as most of the older ones still work on a PC, which you'll find in a couple of 'legacy' folders.) I won't pretend it was an easy task, nor that I had much to do with it. Long-time contrib Jon Musgrave had the odious task of testing each and every one of them and this issue celebrates his hard work. So we've assembled some of the newer and better plugins for a feature (starting on p16), exploring how these can improve your music making, and on p82 we have a full guide to everything in the Suite. Observant readers might notice that we have sliced out more than we have inserted, but fear not, it was left to me to tell the various plugin developers that they were being excluded (thanks to Apple).

> "It wasn't an easy task, nor did I do very much…"

And by and large they have said that they will produce replacement or much updated freebies for the Suite – such is its stature I guess – so we'll be bringing you a surge of new plugins over the next few issues. Yes, I know that goes against my all-new 'less is more' philosophy when it comes to plugins and music production tools, but I have magazines to sell and kids to feed. 'Clever' philosophies never put food on the table did they, eh?

Andy Jones **Editor**
andy.jones@futurenet.com

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Cover feature

THE CM SUITE RELAUNCHED
80+ PLUGINS

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NEW RELEASES > COMMENT > INDUSTRY HAPPENINGS

Volt to Spark: UA's new electric avenue?

Spark service doesn't need UA hardware and includes new UA instruments!

> There was a time when Universal Audio plugins had to be purchased as companions to their (albeit fantastic) hardware. Then, with the release of their Volt interface a few months back, things changed. It was Universal audio hardware, without the *software*. Now with Spark, the trend continues. It's UA software without the *hardware*! No. UA. Hardware. Required. And with UA instruments! And while Spark is a subscription service (which we are always in two minds about), this is still headline-grabbing news to us. But that's probably just us... What about existing UA users? What of the future? Are UA entering the instrument market big time? Is this the end of UA accelerated hardware? And could you have come up with a better headline than we did? (Of course not.)

First the facts. Spark is an expanding set of plugins for $19.99 a month. Currently it is Mac only with PC compatibility coming this autumn. Then it will run in all major DAWs that support AU, VST3, and AAX. The current lineup is around 10 of UA's classic outboard emulators including Neve 1073 Preamp and EQ, UA 1176 Classic Limiter Collection and Teletronix LA-2A Leveler Collection.

More exciting is the inclusion of four instruments including the Moog Minimoog and Ravel Grand Piano only previously available on UA's LUNA system. The other

Spark is running on a Mac here, but PC compatibility is promised in 'the fall' ('autumn' in proper speak)

two are all-new instruments: the Opal Morphing Synthesizer (a wavetable/ analogue hybrid) and Waterfall B3 Organ. Knowing UA as we do, you can bet that the organ will be modelled to a tee on the original B3. However, as far as new synths go, there's little in the way of a track record to judge them on but Opal does look cool. It is an "analogue-meets-wavetable synth with continuously morphing oscillators, noise, filters, and LFOs" and includes UA effects like 1176-style compression,

Existing UA owners of hardware will get the native plugins for free that they already own. We have also pushed UA on their future plans for both instruments and their own accelerating hardware, but they have yet to get back. We suspect more of the former and less of the latter, but we'll keep you posted.

📖 **audiomodern.com**

No apologies: there's a lot about our plugin Suite this issue...

We update the CM Suite – get it now, free!

We've used this slot to write about our own news before so here goes. This issue sees the mighty *Computer Music* Plugin Suite updated for the first time in years to become sleeker, faster, more useful and that bit more '2022'. If you want give it a go, you've come to the right news story. We're using FileSilo for a couple more months before upgrading it so you'll still have to create an account, using this issue to get your password. The Suite can be downloaded there. Better still, download the text document with the WeTransfer links. Hint: it's faster.

📖 **filesilo.co.uk**

And you thought EZdrummer 2 was good

We recall going to the launch of Toontrack's EZdrummer 2 a few years back, and by the end of the demo thinking, 'is there anything this software *doesn't* do?'. (That said, we're still impressed with four/four beats so what do we know?) Anyway, as with all music software that is stuffed to the gills with features – as in, everything we use – you know by now that there is *always* room for more. Enter EZdrummer 3!

EZdrummer 3 claims to "reinvent the role that a piece of drum production software can play in a songwriting context", and when you dig a little deeper, it certainly does seem to be leading us into a drummer-less future. Maybe it should have been called Dystopian Drummer (or DDdrummer 3).

Features like Bandmate can come up with riffs on the fly for you, all based around a simple riff you might have. Meanwhile Tap2Fins reads your mind and comes up with grooves around what you're thinking. Actually not quite, but if you tap out a groove in your head, it will find some best matches for you. Then why not make an entire song out of that with Song Creator?

"Put the sticks down. I said put the sticks down. Now leave by the back door and never return."

It's that easy. Or EZ. Is your drummer looking nervous yet?

Toontrack say that everything has been rebuilt although the interface will be familiar to current users. Other features include a massive library of sounds (15GB), a full grid editor and mixer (it's basically a full DAW), different kits, different live rooms, and just about everything else to make your drum tracks easy. Price info was not available at time of writing but there is a comprehensive set of upgrade options from v2 to the many new versions of 3. Review soon.

📖 **toontrack.com**

Tracktion goes to 12

Cubase and Tracktion are going toe to toe with their version numbers, with Tracktion's latest v12 matching Cubase. And with both contenders sitting on so many different platforms, maybe it's deliberate. Or maybe the whole thing is a figment of our caffeine-raddled imagination...

Tracktion, though, do seem to be the most consistent DAW updaters around, with regular – and large – updates to their multi-platform DAW. Waveform 12 is no different, described as "the broadest update in ten years" to Waveform Pro. It appears to be more about opening the DAW up to make existing features more accessible and to improve workflow, so the main headlines are a new audio engine and Smart Browser.

That said, there are some important new instruments and effects too. There's a new BassOsc instrument, 15 refreshed effects, six new utility plugins and a guitar and bass amp simulator called Dual Guitar. They are also throwing in the DAW Essentials bundle of 16 third party effects.

Waveform Pro 12 starts at $149.

📖 **tracktion.com**
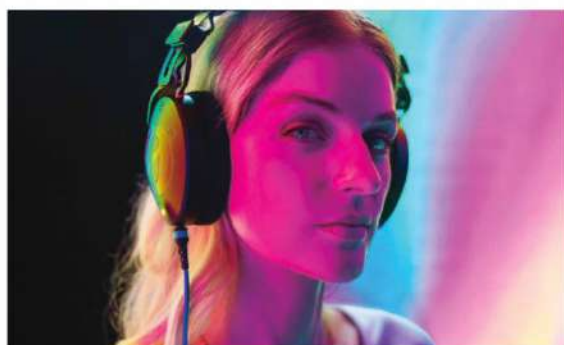
Røde enter headphone market with NTH-100

To most of us, Røde are well known for their microphones (and that annoying 'ø' if you're writing about it on deadline) and a few quite good podcast products. But now they are entering what you might call a 'busy' producer headphone market with the NTH-100, a set of cans that have apparently

been in the planning stages for decades and have been designed from the ground up to be exactly what you need for your music production. Of course they have! And they do seem to tick all the right boxes with an "accurate frequency response and low distortion" plus comfort levels designed for "the most arduous sessions". The headphones feature 40mm drivers, and "luxurious Alcantara on the earpads and headband; an ultra-high-quality material that is typically utilised in sports cars and high-end fashion." Røde's CEO Damien Wilson is in no doubt that these are the "best headphones in their class", claiming they're great for beginners and pros alike. And the price of just £149 is certainly cheap if the claims are true. We'll have a set under the spotlight next issue...

📖 **rode.com**

App watch

We report on the latest developments in phone and tablet music making

iPad Air

If you liked the look of the 11-inch iPad Pro but couldn't justify the high price tag, you'll likely be intrigued by the new 10.9-inch iPad Air. This uses the same M1 chip (the one that was used in the first wave of silicon Macs) and promises to be up to 60 percent faster than the previous model.

Other enhancements include an Ultra Wide 12MP front camera with Centre Stage (so it follows you when you move around), a faster USB port and 5G compatibility on the cellular models.

On the downside, the entry-level model, which costs $599/£569, has only 64GB of storage; the cheapest 11-inch iPad Pro, which costs $799/£749, has 128GB. apple.com

Popsicle

Numerical Audio have released Popsicle, a multi-effects processor that comes with 24 algorithms. The two effect engines can be used in series or parallel, and also split between stereo channels (you could have one engine processing the left channel and the second processing the right).

There's an XY pad that can control multiple parameters, and movements can be recorded and played back in sync with your host's tempo (Popsicle operates both standalone and as an AUv3 plugin). If you want to go deeper, you can use advanced mode and unlock a mod matrix with an LFO and envelope follower.

Popsicle costs $12.99. numericalaudio.com

Baby Audio

Baby Audio have opened their iOS account by releasing two of their fine freebies on iPhone and iPad. Still available without charge, these are a one-button Juno-inspired 80s chorus and a random atmosphere generator respectively, with the behind-the-scenes technical gubbins being derived from their Super VHS and Spaced Out effects.

Both effects run as AUv3 plugins, so you'll need a suitable host, but we'd say they're well worth picking up. apps.apple.com/babyaud.io

Get with the programmers

WA Production supplied our free sample pack this issue and also make some superb plugins. Here's CEO, Roman Trachta, to tell us more…

W.A. Production
Roman Trachta

cm How did you get into music software?
RT "It was thanks to my passion for music production. My main inspiration was Basshunter (who is still active) who used FL Studio. That became my DAW and from the moment I first used it, I was sure this was what I wanted to do. One day, I recorded a vocal sample pack with my friend just for fun. I reached out to ProducerLoops.com and they accepted it, and it was quite popular. I quit my side job to focus on sound design and as the brand grew, I started looking for plugin creators. It was a hell of a ride and I love it and am grateful every day. The community is amazing, and I'm proud to be a part of it."

cm How did you become successful?
RT "It's mainly thanks to constant releases of quality content for reasonable prices. Many producers are young, students, unemployed, or consider music production a hobby and don't want to spend hundreds of dollars on it each month. We also release a lot of free content (sounds, templates and plugins) as well as educational videos. W. A. Production is particularly well known for our MIDI plugins used by tens of thousands of producers worldwide. And with our artist signature plugins (created in collaboration with artists like KSHMR, Vinai, Jonas Aden, and others), we have a nice mix of unique, powerful, and versatile offerings that appeal to a broad cross-section of music producers. That's W. A. Production."

"Many producers don't want to spend 100s of dollars on production"

cm What makes your software standout in the market?
RT "We try to bring something fresh, whether it is an entirely unique MIDI tool or a cleverly built effect that no one has seen before. Our tools are here to help bring new ideas, make the process of creating your own masterpiece faster and have fun with it. One example is our KSHMR Essentials plugin, where we replicated all the techniques that KSHMR uses."

cm Tell us about your main plugins…
RT "**InstaComposer** uses AI to create layers of MIDI melodies based on their selected instrument type (bass, lead, pads, chords, etc), which all sound great together. You can create unlimited groups of gorgeous melodies in just a few clicks. **InstaChord** allows users to play various complex chords by hitting two keys. It allows anyone to play the selected chords and have them sound more organic, and offers an extensive selection of presets and chords – users can even build their own. **Chords** uses an intelligent harmonic progression system to effortlessly create beautiful chord progressions and modify each chord with a few clicks."

cm What would you like to see developed in plugin technology?
RT "More unique tools with fresh ideas and features. There are currently a lot of plugins that sound or look the same."

cm What have you got planned for the future?
RT "Many new MIDI tools, upgraded versions of current plugins, and new sound and video content. Go to waproduction.com and subscribe to our newsletter as we have something new happening every week!"

waproduction.com

IK add more bass end
IK have announced Modo Bass 2, the latest version of their physically modelled bass instrument. Modo Bass 2 adds eight new basses including upright and fretless, plus a new patterns feature that includes thousands of grooves and performances. These offer "more ways to enter the Modo Bass world", which, sounds like a slightly less interesting version of *Jumanji* where you fight off evil drummers with your companions Peter Hook, Sting and Mark King. Now that we *would* pay to see. And be in, to be honest. Modo Bass 2 is out now in different versions, the top one being €299.

ikmultimedia.com

Bass wars
And talking of bass, it's a bass-off! Clearly hearing that IK were releasing more bass software prompted United Plugins to send us their latest press release so we could describe it as a 'bass-off'! Bassment – love the name, better than yours IK – is the bass version of Electrum, and is "a multi-effect all-in-one bass solution with the most flexible bass amp". It has amp and cab simulation, a gate, leveller, compressor, EQ, sub-bass generator, modulation and auto-wah. So, really, you could actually quite easily use this alongside IK's software. Damn, that's ruined the drama. Price is €119.

unitedplugins.com

Come to play with NI
Native Instruments have been quiet of late – well, for them anyway – so we'll assume that their entire team has been developing this new Kontakt instrument. Playbox is designed to create happy accidents through randomisation. Actually NI say it better: "At the roll of a dice, it will randomise and blend between 905 immersive samples, 224 chord sets, and 217 effects presets, to help spark new musical ideas, and take tracks to the finish line." What with EZdrummer 3 firing your drummer, it sounds like us producers are being replaced now. Might as well meet the drummer in the pub. Price £129.

native-instruments.com

Fuse's 50s reverb plugin
Fuse Audio Labs have just announced VREV-140, a reverb inspired by the EMT 140, described (although not actually named) by this press release as "the holy grail of plates". We then get to learn what each of the controls on VREV-140 does before finally reaching the expected conclusion of our journey: "Ultimately, users who just want to sound a little bit more like The Beatles or Pink Floyd need look no further than VREV-140". Why didn't you just say that at the start? VREV-140 $59 and available right now.

fuseaudiolabs.com

10 years back

Our monthly shake-of-the-head at our earlier selves' news choices...

Propellerhead Software had its first stab at opening up the Reason Rack back in June 2012, announcing that it would now allow third-parties to develop for the DAW via its new Rack Extension format. It took another five years for the company to bow to the inevitable and implement actual VST support – Propellerhead liked to take its time over things, we recall – but it was a step in the right direction. Baby steps, and all that...

"If a piece of music isn't on the internet these days, does it really exist?"

Also in **cm**178, we reviewed u-he's Diva, a vintage-sounding virtual analogue soft synth that remains popular today. In fact, we'd say it's now a classic in its own right; maybe Behringer would like to make a hardware version?

Elsewhere, we had a guide to getting your music 'onto the internet' (if a piece of music isn't on the internet these days, does it really exist?), and we asked if the iPad 2, with its new A5X chip, was worth buying for music-making (summary: probably). Oh, and our resident sonic adventurer rachMiel donned his big powdered wig and discussed the sonata form – how very highbrow.

A colourful **cm**178 saw dubstep star Bill Posters team up with Deckscar, aka Dave Wallpaper

Loopcloud adds your Collections

Loopcloud is the easy way to make music with your own or Loopmasters samples, essentially a content manager crossed with a DAW that lets you audition samples from a huge catalogue directly over your music. It's a lot better than we've made that sound and, actually, their new Collections could be even better as it essentially "helps you find your sound, faster". It lets you curate your own favourite sounds into Collections and you can then share those with the Loopcloud World. So far a lot of artists have jumped on the idea and it all sounds like a world of love and inspiration to us. Peace everyone.

loopcloud.com

Ins & outs

RICK WRITIN'
He's one of the most successful producers of all time, so we're keen to read what Rick Rubin has to say in his new book. That said, we're not expecting *The Creative Act: A Way of Being* to be a technical manual; in fact, he describes it as "a book on how to be".

ARENA SHREDDED
The artists who have played there might have gone in with the stated intention to 'tear the roof off' the place, but it was Storm Eunice that did actually rip the tent fabric lid off London's O2 Arena last month. Unusually strong winds of up to 90mph were to blame.

BATJAMS
Actor Robert Pattinson has revealed that, while shooting *The Batman*, he filled his spare time on set by sitting in his suit and making what he describes as "ambient electronic music". We doubt that we'll ever hear it, but we're guessing it was suitably moody.

DENIED DONDA
Fans of Kanye West (now known as Ye) were left disappointed after it emerged that *Donda 2*, his new album, would only be released on his $200 hardware Stem Player. That said, reviews of the record haven't been great, so maybe they're not missing much.

DAFT FROM THE PAST
Not the comeback that fans may have hoped for, but a year on from their split, Daft Punk reminded everyone what made them great in the first place by streaming their 1997 LA gig. A 25th anniversary reissue of debut album *Homework* was also confirmed.

TIME'S UP
We were sad to hear that Time+Space, the long-standing British music software distributor, has ceased trading. The company was a driving force behind the sample CD boom in the late 90s, and was used by countless music producers at some point.

PURE HI-HATS

ANALOG HI-HAT SAMPLES

Sigala

His incredibly catchy blend of dance pop has lit up charts and dance floors globally and with 10 million worldwide sales, 3.5 billion audio streams, over 1 billion video views and eight UK top 10 singles, you could say that Sigala – aka UK artist and producer Bruce Fielder – must be doing something right. And he also knows how to tackle our 15 questions, dishing out some of the best tech advice ever...

> **If you ever want your music to be a global phenomenon – and, let's face it, who wouldn't want a slice of that – then you could do better than taking a leaf out of Sigala's notebook. Luckily, we have several leaves of it right here as he gives some of the best answers to our 15 Questions ever.**

Sigala got his first breakthrough when he grabbed a Jackson 5 sample and made a worldwide smash out of it with *Easy Love* in 2015. Since then it's been punch after punch in the chart hit stakes, with his debut album *Brighter Days* spawning no fewer than 10 singles, eight of which hit the UK top 10, not

to mention the many collaborations with artists including John Newman, Paloma Faith, KATO, Craig David, Sean Paul, James Arthur, Becky Hill and The Vamps. Forget all that, though, because we know that you want to know the answer to just one question: "What's your favourite EQ Bruce?"

1 **How did you get successful?**
Sigala: "When I signed my record deal to Ministry of Sound in 2015. I had just made *Easy Love*... and I could finally pay my rent. That was a success to me!"

2 **What is your production philosophy?**
S: "If it feels good making it, it will feel good hearing it!"

3 **When did you discover the computer music route to music production?**
S: "I downloaded some software called Cool Edit Pro, and learned to make music on that through watching Youtube tutorials. I didn't know anyone who produced music so I had to learn everything from those videos and a lot of trial and error."

4 **Tell us about the gear in your studio**
S: "It is a very simple setup – I do pretty much everything in the box, so all I have is a MIDI keyboard, Adam A77X Monitors with a sub and some Yamaha NS10s (speakers). I have a nice mic too. It's important to me that my vocals are crystal clear so I have a Manley Reference Cardioid mic which I love. I've also just invested in a new M1 Macbook Pro to replace my 9-year-old Mac Pro trash can. It's unbelievable how they can get so much power into a laptop.

"I do love the idea of having loads of live instruments and percussion lying around in the studio but, in reality, I'm just too impatient to record them properly so I end up doing everything in the box and then replacing it later on down the line with a real instrument if it works. This way I don't waste any extra time on ideas until I know they definitely work. Having loads of toys in the studio is more of a distraction than anything else, and I'm very easily distracted. I work best when I don't have to look away from my screen for a few hours."

> "Having toys in the studio is a distraction. I'm easily distracted"

5 **What are your favourite plugins?**
S: "My favourite plugins change on a monthly basis, I always get inspired by new plugins and use them for a few weeks on every channel then move onto something new. Saying that, there are a few that never fail me...
Fabfilter Pro-Q 3. Maybe a bit boring starting with an EQ but it's probably my most used plugin as it can be used for much more than just EQing. I often use it as a multiband compressor, a widener and even a multiband sidechain compressor. It's great being able to notch out harsh frequencies with the dynamic EQ function so it's only really cutting out sounds when they are most prominent. I could go on and on, but it's basically just a monster and although it's quite expensive for an EQ, it's honestly the only one you'll ever need.
XFer Records Serum – my go-to synth for those hard hitting sounds that you want to cut through. I use it mostly for bass and sub sounds. The only thing with a lot of these great softsynths, however, is that they are only really great if you are either a synth wizard and can create your own amazing sounds from scratch, or you have some decent preset packs. I have delved into the world of synthesiser wizardry but now I'm proudly grounded in the world of taking presets and moulding them into what I need. So this is an awesome and powerful plugin but only with the right tools.
XLN Audio RC-20 Retro Color – by far my favourite plugin to help bring sounds to life. I use it a lot while in the early stages of creating to help provide some vibe to sounds. It is amazing at making things quickly sound more lo-fi and organic, which is great if you have a lot of things fighting for centre space in the mix. I also have my own preset which I can just slap on most things to help them sound less robotic. It's subtle but when you use it a lot it really helps your track come to life.
Little Alter Boy – This is a plugin we have all heard a lot in pop/dance music recently, from Meduza x Goodboys to Tiesto The Business. It's been used a bunch on vocals to get that cool formanted sound we all love, but you can also get some pretty cool results using it on things like percussion and top loops to give them a crunchiness quite unique to Alter Boy. There are a bunch of other plugins that do the same thing; some of them actually do it better. A few I've tried and got great results with are: Waves Vocal Bender, Infected Mushroom's Manipulator and my personal favourite ElastiquePitch 2 which gives a bit more flexibility to achieve the perfect format with minimal artefacts.
Audiomovers Listento – I couldn't have lived without this over lockdown. It's a high quality audio streaming app that runs as a plugin so you can send and receive signals directly into your DAW from anywhere in the world. It's not zero latency but it's good enough and stable enough to work long distances with people, which I have continued to do since."

6 **How do you tend to start a track?**
S: "Most of my tracks follow a fairly standard pop structure, but I always experiment by moving sections around and trying to find the best way to make the track flow. Once I have a great hook and drop, it's just a case of how to best set up the hook for maximum impact. It requires a lot of trial and error. I often bounce several versions with different structures and come back to them another day with fresh ears."

7 **How do you know when a track's done?**
S: "My average time spent working on a track, start to finish, is anywhere between 50-100 hours. I never really think it's done to be honest. If I had the chance I would keep tweaking forever, but once it reaches a point where the label is on board then I have to work to a deadline. This is a blessing as it gives me a cut off point, so I have to make a decision on which of 100 different versions I'm going to use. I've found the most effective way to finish quickly is to work in short bursts and not over-listen to your own demos. If I listen to my own bounces too much then it becomes way more difficult to make important decisions, which in turn makes the process much longer and less fun. I allow myself maybe a week of space then listen to the track once or twice, make some notes, then crack on.

"A quick way to work out what's wrong with a track is to simply play it to people; you'll often find you hear things very differently. Chances are you'll know exactly what to fix before you've even heard their feedback, and if you find yourself making excuses for specific parts of the track, then it should be pretty obvious what you need to do."

8 **Do you have any production tricks?**
S: "I think something that defines the way I work and my sound is probably the fact I work in Pro Tools. It's a bit more geared towards live

XLN Audio RC-20 Retro Color – Bruce's favourite plugin "by far" for its enlivening effect

music and recording stuff, so that's the way I tend to work. I also play most things on the MIDI keyboard, so there's no drawing in chords on the MIDI roll. Not that there's anything wrong with that. I think this kind of gives it a human feel that you don't get from drawing in MIDI.

"One 'trick' I use a lot is layering sounds. It's very easy to go overboard with this and actually take away from the overall sound, but if you do it right it can be awesome. My latest track *Melody* has six different bass sounds all providing something different. Some of them provide mid range, some have a room verb on to give the bass width, or there's a sub to handle the low end and a super dry one with a clicky transient to help the bass feel percussive. Only the super low-end ones are side-chained; the rest are free to cut through. They're all sent to a bus with some processing on to help glue them all together."

9 **Were you involved in any collaborations for this latest project?**
S: "I love working with new artists, singers and musicians so this project was all about that really. I've had the chance to work with some amazing, well established people and also some exciting new artists and writers. Every song is a collaborative effort, and that's how I prefer to work. I find it way more fun to work with other people than on my own. I often work with other producers too as it's great to bounce ideas off each other and it's generally more fun."

10 **Which track do you wish you'd produced and why?**
S: "*Don't You Worry Child* – Swedish House Mafia. This song really marked a new generation of dance music for me. One of the guys who wrote the song played me the original demo that they sent to SHM and it was basically a guitar ballad version of the song we all know and love. The song is incredible and I also really respect how they turned a ballad into an absolute dance banger. I think the guitar version is online somewhere now; it's worth listening to."

11 **Do you have anything on your studio gear wish list?**
S: "The new MacBook Pro M1 has been on my wish list for a long time. I was so happy to get mine over this last Christmas. It is honestly the biggest game changer in studio gear for me for a long time. I've been so reliant on my Mac Pro trash can for many years. With this, it's nice not to be glued to the studio and be able to open a session on my laptop while I'm sitting in bed."

12 **What advice do you have for playing out live or DJing?**
S: "My live set varies quite a lot depending on the location or type of show. I have various different versions of my own songs which I can use for different environments. It really pays to do your research and try and work out what the crowd will go mad for. It's just important to be prepared so make sure you know your tracks, know your edits, rehearse some mashups or transitions so you have some tricks to pull out of the bag if you need."

13 **Any other advice?**
S: "Do what you enjoy. Don't follow the

> "If you find yourself making excuses for specific parts of the track, then it should be pretty obvious what you need to do"

crowd because you think you should. Make the music that you want to make, as it will sound way more honest and probably connect with people much more than if you are forcing it."

"Otherwise, be patient and work hard. Success can happen overnight, but when it does you need to be prepared. A lot of artists struggle when success comes too soon and they don't have the experience or they haven't put in the hours to know how to maintain it. So if it hasn't happened for you yet, think of it as an opportunity to prepare for when it does."

14 **What would you like to see developed in terms of music production technology or studio gear?**
S: "I wish Avid would fix the sidechain in Pro Tools. It's honestly the only downside to using the software. When you have plugins before your sidechain that cause delay compensation to kick in, it puts the side-chain out of time and they haven't been able to fix it. There's a few workarounds but it really does make life difficult, especially as I use sidechain so much! Anyway, that doesn't answer your question, but I needed to get that off my chest! If anyone has found a fix I'd love to know about it."

15 **What do you have planned?**
S: "I'm so excited that my new single *Melody* is finally out. It's a track I've put so much

love and work into and I really feel it represents where I am as an artist right now. My second album is coming out this year, which I'm very excited about. It's full of exciting collabs and feel good bops. I can't wait for you all to hear it!" **cm**

Sigala's Melody *was released earlier this year and his new album will be released later this summer*

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cm PLUGIN SUITE V2.0

We've updated the CM Plugin Suite with new titles and have stripped some of the older and less functional titles out. Here's our guide to some of the best new additions of what is still the greatest free resource in the world for music producers (and one which still comes free with this very magazine!)

> **Providing free content is very much part of our DNA here at *Computer Music*. Over the years we've tried our very best to bring you quality sounds and practical tools that you can use within your DAW-based music making.**

Nevertheless, many of the CM Suite plugins have been around for quite some time and although some have achieved classic status (Synapse Audio's Dune CM and EaReckon's CM-COMP87 to name just two), some no longer support current operating systems. This has been particularly problematic for Mac users, with the shift to 64-bit only, and authentication issues for the last couple of OS versions. Recently, we've been working hard with the developers to get problem plugins updated. This process has given us a chance to reevaluate the CM Suite and appreciate what's included, and this got us thinking. In this month's cover feature we've cherry picked 10 of the best plugins and we'll show you some of their great features.

First up, the synths. We're proud of the synths in the CM Suite. Often based on existing designs but with the more complex features stripped out, they don't compromise on sound quality and are sourced from some of the best developers in the business.

For example, Urs Heckman (of u-he, a company well represented in the Suite), is an awesome developer who's been designing synths and effects for over 20 years. He focuses on designs that he and his team would want to use and this could explain why they find favour amongst the most demanding users. He has made two brilliant contributions to the CM Suite - Zebra CM and Bazille CM – and both are amazingly capable offerings based on his workhorse and modular synths.

Synapse Audio, as another example, burst onto the synth instrument scene over 10 years ago with Dune, a supremely capable synth that's super easy to program. They've gone on to produce some more great instruments, and Dune is now at version 3. Our own version, Dune CM, remains a great synth.

If modular is your thing, Fathom CM from Seaweed Audio should definitely be on your audition list. Recently updated to version 3.6 with some new features, its drag and drop methodology and signal flow visuals keep things nice and simple.

Cable Guys is a developer we have a lot of time for, and their plugins often employ intuitive graphic interfaces. It's the same story with their Curve 2 CM synth, which is both visually engaging and operationally creative.

For a slightly different take on oscillator editing, Thorn CM has some surprising tricks up its sleeve. Designed by Belarus-based developer Dmitry Sches, this slimmed-down version of the Thorn Spectral Polysynth is still very capable, with some fabulous real time manipulations and core editing options.

CM Suite is an Aladdin's cave of effects plugins, which makes picking favourites a tricky challenge. We've chosen some recent ones and some classics. Baby Audio Baby Comeback is a wonderfully simple delay plugin based on Baby Audio's Comeback Kid. Its delay features are coupled with some excellent one-switch flavour options, making it ideal for characterful delays. Meanwhile, Caelum Audio Flux Mini CM is a flexible graph-based effect with low and high-pass filters, panning and amplitude.

EaReckon has both a compressor and EQ plugin in the CM Suite and it's the latter, CM-EQUA 87, we're using here. Based on a traditional desk channel design, it's both powerful and incredibly easy to use.

Finally, Audified Tonespot CM is a multi effects processor based on Audified's many Tonespot processors. Its simple preset-based design has minimal controls, making it ideal for achieving quick results.

Remember, the CM Suite is available online here https://www.filesilo.co.uk/ComputerMusic/, and all you need to get the plugins is your copy of *Computer Music*. As ever if you like the CM versions of these plugins, why not take a look at the developer sites for more?

"It's an Aladdin's cave, which makes picking favourites tricky"

u-he Bazille CM

1. Get to know Bazille CM's wave options

1 u-he describe Bazille as their ultimate geek machine and our CM version is similarly blessed. The modular design is pretty easy to spot. Less obvious is that it actually combines two digital oscillators with an analogue modelled filter. It also has some rather excellent features, a couple of which we'll look at now.

2 Load up a fresh instance of Bazille CM and click in the data display at the top to reveal presets from the currently selected folder. Select the Init preset at the bottom. This basic preset has Osc 1 connected to Out 1. Play this and you'll see the oscilloscope displays the waveform of the sound.

3 The modules in Bazille CM include signal flow indicators, and to make connections you just drag between sockets. The outputs are red and inputs grey, and you can connect an output to multiple inputs, but each input only receives one connection. Connecting to an 'in use' input replaces the existing one.

4 Bazille CM's oscillators start with a basic sine wave, and this is modified to create more complex shapes. Osc1 has a Phase knob and a PD knob. For phase distortion select one or two wave types under the PD knob and apply the phase distortion amount with the PD knob.

5 For an FM-style configuration, connect the output of Osc2 to the input modulation socket, left of the Phase knob. The knob above the socket controls the amount and above it you can choose phase and frequency modulation options. Set to PM Medium for typical FM sounds.

6 Bazille CM includes a Mapping Generator with up to 128 steps, with reshaping modulation sources one possibility. But selected in the oscillator section, you can use it for a specific shape. Click TapMap1 just below the PD section to replace the sine wave as oscillator source.

7 Now click the Mapping Generator window to open its focus window. Right click the window and choose the Shapes sub menu where you'll find oscillator styles. Note that the lower resolution means these don't sound as smooth as the core Cosine and do have some aliasing.

8 The final oscillator aspect to consider is Fractalize. This packs multiple cycles of the current waveform into another wave (Saw, Tri or Max). The right hand knob defines how many cycles of the original wave are used and next to this is the wave type selector (Saw, Tri or Max).

9 To see how this works, check the oscilloscope. We've rolled back to the core sine wave, selected Saw and the number to about 3. The oscilloscope is handy here. Set oscilloscope Frequency to -4.60 and play note A. See the overall sawtooth shape. Adjust the right hand knob and see the changes.

> Step by step
2. Modulation sequencing with Bazille CM

1 > We've seen some great sequencers on our CM synths, but this one is particularly interesting. Designed primarily as a modulation sequencer, it's actually polyphonic, so each additional note can trigger its own cycle of the sequence (free or gate) or join the existing sequence (sync).

2 > Looking at the display you can see it actually has four outputs, so in addition to 16 straight steps, you can configure it as 2, 3 or 4 sections and these can control different parameters. The speed of the sequencer is handled by the Time Base and Divide controls and each section has a further speed factor.

3 > Finally, on the left-hand side you have a large knob that chooses between eight snapshots. With the snapshots loaded, you can use the Rotate parameter to control how Bazille CM morphs between the snapshots.

4 > Let's try some of these options. Load up a default patch and connect the second Modulation Sequencer output to the Osc 1 Tune knob with modulation depth set to its maximum value (50). Keep the resolution setting to the right on 50 Semi. We can now use the Modulation Sequencer to create a note pattern.

5 > Using the second Modulation Sequencer output delivers an 8-step pattern. If you've followed the settings in the previous step, for a pitched sequence, set the slider values to 24 for each octave. Check the data display in the top bar for values. Click the sliders to return to zero. We've created a basic octave pattern.

6 > Sticking with the default timing settings of 1/16 and Divide at its minimum (1.00), the eight steps are across two beats. Try adjusting the speed factor number next to the sequence output. Set to 2 and the eight steps are now 1/8ths across a single bar.

7 > Sticking with our basic pattern, let's try morphing some snapshots. The current sequence will be attached to whichever snapshot the knob is pointing at. Copy this sequence to the other eight snaps. Right click on the dial halo, select Copy and then right click on Watch Other Halo Positions and select Paste.

8 > With all snapshots the same we can now make a few modifications. For snapshot 5 we've adjusted step 1 to 70 and for snapshot 7 steps 5 and 6 to 24 and 44 respectively. If we now set a value for the Rotate, Bazille CM morphs through the snapshots. We've set ours to about +4.

9 > It's also possible to modulate the morphing rotation. As a final setup, we've connected LFO1 to the Rotate parameter, using the LFO random (RND) option with the LFO Rate at 2.0 with Sync 1/1, and the Rotate setting on 5.00.

Dmitry Sches Thorn CM

> ## Step by step
1. Editing the harmonics with Thorn CM
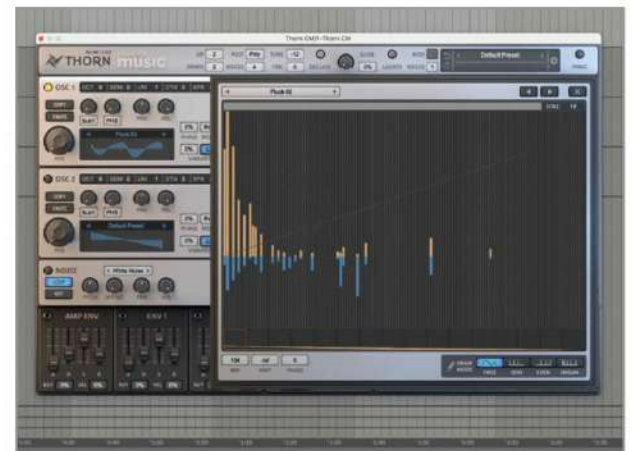
1 > Although it's a cut-down version, Thorn CM is still an amazing synth. At its core are two spectral oscillators, and their waveforms are built from a series of 128 harmonics. Load up an instance, click on the oscillator browser and you'll find a massive array of preset waveforms to choose from.

2 > Options include basic waveforms such as sine and sawtooth as well as FM types and instrument types (organ, bell and so on). With 80+ waveforms to choose from, you can create awesome patches really quickly. But it's just the start.

3 > Thorn CM's spectral capabilities are inspiring and deep. Try clicking on the graphic of your currently loaded oscillator. This opens the Harmonic Editor and you'll see vertical amplitude (orange) and phase (blue) bars for each of the harmonics.

4 > Try adjusting these on screen using the various draw tools, and you'll see the overall oscillator graphic updating as you do it. Alternatively, you can right click on the display to bring up a selection of preset commands, like Resonate.

5 > Thorn CM then provides this capability across 16 frames. Look at the bottom of the Harmonic Editor and click the little boxes. Each typically contains a slightly different version of the waveform. Click each frame and see the Position control next to the oscillator waveform move.

6 > Even a basic sine wave has multiple frames, each with different harmonics. What's great about this is that you not only move between each frame using the Position knob, but it actually morphs as it does so. Try this with the loaded sine wave oscillator to see what we mean.

7 > OK, we admit that morphing through the sine wave frames is a bit uninspiring. Instead, let's load something better designed for this treatment. We've loaded Saw Ensemble for both oscillators, panned them left and right and also added a small amount of detune to the second (about 30).

8 > To morph both oscillators together, select the Mod Matrix button on the right of the interface and make sure it's active (orange indicator). Load up LFO1 as Source into two slots and select Osc1 Pos and Osc2 Pos as the Targets. Set Depth as +50% and -50% and set the LFO slow – we've used four bars (4/1).

9 > Finally, we've finessed the overall sound by adding the Clean LP filter, set to about 1.8kHz with resonance at about 50%, and extended the amplitude envelope release slightly. You should now hear the morphing oscillators, with the left and right movement created by the opposing modulation settings.

> Step by step

2. Step sequencing with Thorn CM

1 > One of the great things about Thorn CM is its selection of onboard step sequencing tools. An arpeggiator is commonplace, but a Glitch Sequencer is more unusual. Here we'll load up a glitchy preset and peel it apart, showing exactly how the sound is created.

2 > Our chosen glitch preset is Short Circuit. There's a lot going on with this patch, but to demonstrate how powerful Thorn CM's sequencing tools are, try deactivating Glitch, Arpeggio, Effects and Mod Matrix. You're left with a very plain single Sawtooth tone.


3 > First, switch the Mod Matrix back on and open it. There are only three assignments but they make quite a difference. Most significant is the multi-stage envelope generator (MSEG1). This is in Step mode and affects both filter cutoff and Wah effect on Osc1.

4 > If we now switch on the Arpeggiator and switch off the Mod Matrix, we see the arp is adding the 16ths. It's as simple as an arpeggio gets, with the three-octaves creating the repeated three-note feel. Switch the Mod Matrix back on for a filtering effected pattern.

5 > If we now switch on just the Glitch Seq, we have six effects that affect filtering (high and low pass), sample rate, bit rate, gate and audio repeat. You have a choice of Steps (our preset has 8), Speed and also a Mix blend.

6 > With just the Glitch Seq active, it has a big impact on what's playing. Adjust the blue sliders to influence the depth of effect. Glitch Seq is actually influencing the main Filter, and its controls act as offsets. So, if you adjust the main Filter, Glitch Seq creates a different outcome.
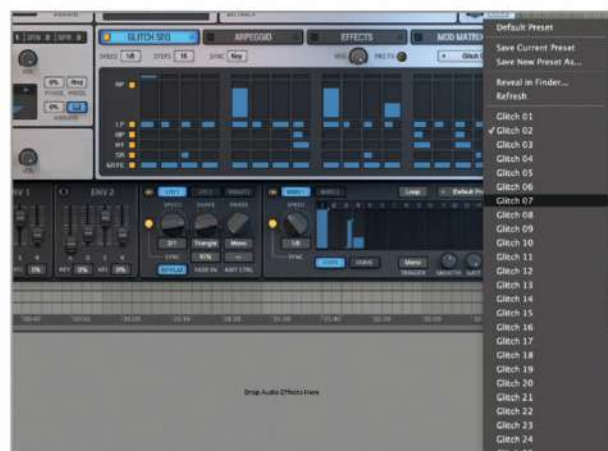
7 > As you can see, the Glitch Seq is incredibly easy to edit. But if you're not feeling particularly creative, there are a couple of things you can try. First up, the randomisers. At the right-hand end for each effect you'll see the R button. These randomise just that particular effect.

8 > For something more structured, you also have a bunch of presets. Click on the menu bar on the right to reveal the list of 16 presets. Each is 16 steps long, so you can of course shorten them as well. And if you like the results, save your own presets.

9 > Finally, it's worth remembering our original preset, Short Circuit, is also heavily effected, with three of the four modules in use. Switching this section back on, particularly the Distortion effect makes a big difference to the sound.

> make music now / cm plugin suite v2.0

Cable Guys Curve 2 CM

Instant fun with Macros in Curve 2 CM

1 > As much as we like building sounds from scratch, there's a lot to be said for a bit of instant gratification, and Curve 2 CM has this not only via its excellent oscillator designer, but also via its customisable Macros.

2 > Let's have a look at one in action, then create our own assignments. We're loading up Basic MKnight LE. With the Library browser open, you can see that once you have a preset loaded, you can try out the Macros on the right.

3 > Back in the main edit page, the three Macros are in the middle, and for our particular patch are labelled Sawish, Myth and Fatness. As we adjust the settings we can hear and also see from the other controls that each is influencing more than one parameter.
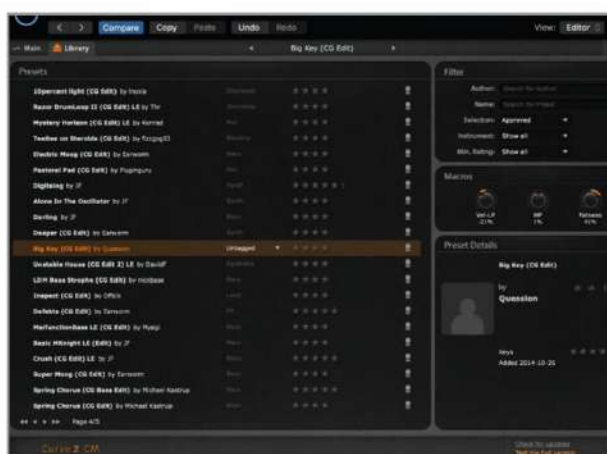
4 > To view the assignments, click the magnify icon. The whole top panel then switches and you see a column for each of the three Macros. Assigned parameters are listed on the left and the amount (up to +/- 1.00) on the right. At the top you can give each its own name.

5 > Now let's make some assignments. We'll start with a preset called Big Key. This has some quite basic Macros which we can either replace or modify. You'll see that the Macros are called Vel-HP, HP and Fatness. With the preset loaded look at the assignments panel.

6 > The first thing we'll do is delete the high pass filter assignments. Simply click on the x next to each assignment and double click the amount to return it to zero. You'll see the middle Macro knob is now greyed out on the display, as the macro is inactive.

7 > Now assign some parameters by dragging the macro icons onto your targets. You'll see as you grab the macro icons, the available target parameters light up with a halo. We've initially added the three parameters for Filter 1: Cutoff, Resonance and Drive.

8 > The Macros control relative values. We've set two depth controls to positive max (Cutoff and Drive) and one to negative maximum (Resonance). We've then changed the target parameters to taste. As we sweep the Macro control, the target parameters move accordingly.

9 > You can assign up to eight target parameters for each Macro. As a final assignment and to create a more edgy sound, we'll add the Osc1/Osc2 phase modulation target to our Macro. We set the amount to 0.14 and 0 offset when the Macro knob is centred.

Caelum Audio Flux Mini CM

1. Easy panning effects with Flux Mini CM

1 > Caelum Audio's Flux Mini CM is an expanded version of their free Flux Mini BPM-synced modulation plugin and can control one of four selected processes: amplitude, high/low-pass filter or panning. Load an instance then click the display to add pink break points and use white circle nodes to shape the curve.
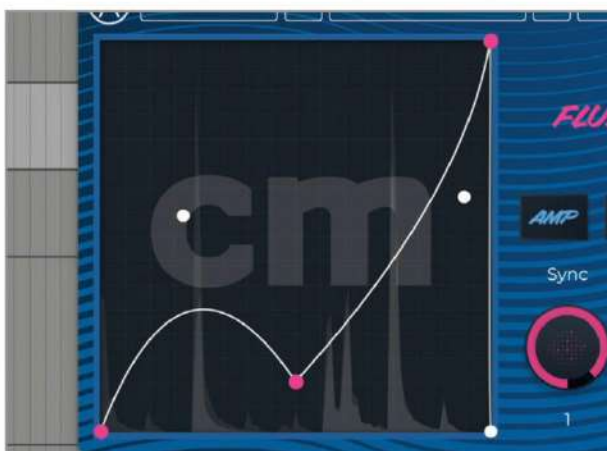
2 > The same graphic display and curve is used for all four effects. This is reasonably self explanatory, with time on the x-axis and effect parameter value on the y-axis. So for the filters the y-axis runs from low up to high frequency. For panning, hard right is at the bottom and hard left at the top.

3 > In terms of controls, simply select the button for the desired process. Below this are three controls. Resonance is only active for the two filter effects and Mix is a final stage wet/dry blend. As mentioned Flux Mini CM syncs to host bpm. Use the Sync knob to set a value from between 1/32 triplet and four bars.

4 > Flux Mini CM's exclusive feature is panning control and its curve-based and synced system offers a refreshing alternative to drawing automation. Let's try creating a few different panning effects. Starting with the default preset, select Pan. We're using some beats but use any sound you like.

5 > To create a regular timed pan from right to left, simply drag the top pink node to the top right hand corner. We've then selected Sync to 1 so the pan is over one bar. To make the pan move from left to right, simply move the left hand pink node to the top left and right hand pink node to the bottom right.

6 > Flux Mini CM includes a basic snap grid and this helps when making rhythmic effects. Now try a more complex pan. Here we've activated Grid Snap and switched the Sync to 1/2 a bar. By not using the most extreme settings we've created a sudden but more subtle synced pan from right to left.

7 > Now let's try a slightly different effect. We've loaded a pad sound and created a panning curve that gets less extreme and also gradually slows down. We've deactivated the Grid Snap option – so this feels less regimented – and set the Sync value to two bars.

8 > With the effect repeating over two bars, it does sound a bit too rushed so we've adjusted the Sync value to four bars. To make the transitions more defined, we've also used the shaping nodes to bend the curve a bit.

9 > To smooth out the effect and make it blend better, we've used the Mix control. Our setting is about 65%, but choose whatever works for you. Finally, so that the panning effect blends out on the tail of the sound, we've modified the curve to move to the left hand side.

> Step by step

2. MIDI triggering effects in Flux Mini CM

1 > Another key feature in Flux Mini CM is MIDI control. Before you get started, check out how your particular DAW routes MIDI into plugin inserts, as this is vital to what we'll be doing here. Once sorted, load up the default preset.

2 > Flux Mini CM has two MIDI modes accessed from the drop-down menu in the top left. One Shot triggers the curve from any MIDI note and it continues until it's completed its cycle. Its final position or value then continues as a static parameter. You can restart the one-shot at any time with another MIDI note.

3 > In Retrigger mode, the curve starts as normal when it encounters an audio signal. However, play a MIDI note and it will restart the curve at the beginning. This is quite handy for creating more complex rhythmic patterns from the underlying curve already in play.

4 > To try out One Shot mode, we're using a drone sound, and we're going to start with the low-pass filter. Start by selecting LPF mode and setting the Sync to four bars. We've also set the filter Resonance to about halfway.

5 > Now create a suitable curve for the cutoff. When triggered, our curve opens the filter and combined with the resonance creates a dramatic effect. Then the cutoff moves around the mid frequencies and ends up still above zero, so at the end of the cycle, we can still hear the lower frequencies from the drone.

6 > Let's try a similar trick with the high-pass filter. We've made some adjustments to the curve and also reduced the Resonance to about 3.5. As you can see, the curve starts and finishes at roughly the same frequency, so the effect can be retriggered very smoothly at the end of the cycle.

7 > Now let's look at Retrigger. Returning to a drum loop as our source sound we want to create a filter envelope that works well when retriggered. We're going for a short envelope with Sync set to half a bar and quite high Resonance (about half).

8 > In LPF mode, this creates a nice squelchy effect and we can quickly program up a MIDI pattern to trigger the effect. In fact switching over to HPF mode sounds pretty good as well, with only a few tweaks to the curve needed.

9 > Although the obvious choice for this type of retrigger effect is a filter, it can also be quite handy for amplitude effects and also panning. Try out the other settings and see what you think. Here we've simply switched our Filter Mode to Pan and made a quick change to the curve and it works quite well.

Baby Audio Baby Comeback

Using the Flavour and Ducker in Baby Comeback

1 > Baby Comeback is a scaled down version of their great Comeback Kid delay plugin and though not as flexible, still includes a lot of the features. The delay aspect includes synced and free options with a free delay time up to 2500ms. There is also a handy Ping-Pong mode.

2 > Here we'll look at two excellent aspects of the plugin: its Flavour settings and the Ducker feature. We've loaded an instance and set up a straight 1/4 note delay with ping pong. For audio we're using an electric piano playing short spaced out chords. This provides plenty of space to create a developing delay effect.

3 > The Flavour settings are mutually exclusive so as you activate one it deactivates the last one. First stop is Cheap. This adds some obvious low bit rate noise to the delay, but as the delay repeats you can also hear a gentle pitch modulation. This works well with a classic instrument like electric piano.

4 > Saucey is a mix of effects that combines algorithmic reverb and pitch shifting. In isolation you really hear the ambience in the effect, but combine it with the original and you get a fantastic swirly effect that adds great diffusion and smearing to our electric piano part.

5 > Next up, Analog. This includes analogue modelled tape saturation and filtering, using the same filters as Comeback Kid but with preset cutoff frequencies. For our electric piano this creates a darker, moody effect, and with no obvious pitch modulation it's a much simpler effect than the previous two.

6 > For the final effect, we've switched off the Ping Pong setting as it disguises the effect. Wide adds timing differences to the left and right delay signals, and it's the most subtle of the four flavours. However, it does serve a useful purpose of creating space in the middle of the soundfield as the delay signal spreads left and right.

7 > Duckers are usually used to automatically reduce levels, and in the context of a delay effect, this should work by reducing the delay while the source sound is still playing. This is particularly useful for lead parts, where you want the delay to feature in between phrases.

8 > Here we've loaded a lead synth part to show how this works. We've also inserted an instance of Baby Comeback across this track with a straight 1/8 delay setting, Dry level at 100 and the Wet at about 50. Now with the track playing, gradually increase the Ducker control. At about 30 the source clearly gets reduced.

9 > Keep increasing the Ducker level and you'll hear the delay signal almost as a separate sound (from about 50 upwards for us) as the source gets reduced much more. Finally, it may also be useful to look at the right hand meter as this shows just the delay aspect of the signal.

Seaweed Audio Fathom CM

1. Using the excellent screen to create sounds in Fathom CM

1 Fathom CM is a super flexible modular synth, and though its drag 'n' drop interface is intuitive, there are a few subtleties to make clear. Let's check out a few presets. It may not be immediately obvious, but to open presets you need to manually navigate to the main Fathom folder that's with the installer.

2 To do this, select the Browser button then either type the location in the top bar or use the browser arrow in the top left to move through your folder hierarchy. You should find four subfolders including Wave types, Modulators and Programs. Open the Program folder, and you'll see the preset categories.

3 Load the preset Crouching Tiger from the Acid folder. On the display you'll see its three audio components, and if you play the preset, at the bottom there's a representation of the notes played and in the middle a frequency analyser curve. Below this are some global parameters and a 13-band graphic EQ.

4 So far, so simple. Click on any of the audio component graphics and its parameters will occupy the lower half of the interface. There can be multiple pages of parameters as you'll see from the buttons with the Oscillator. If you want to load a specific oscillator or wavetable into your patch this is where you do it.

5 As mentioned, clicking on an audio component selects it. A second click will either bypass it if it's an effect (green) or deactivate it if it's an oscillator (red). A third click deactivates an effect. Here you can see we've deactivated the oscillator and bypassed the reverb.

6 Additional audio components can be dragged into the main signal flow window from the list and connected. Oscillators are hardwired to output stage, so if you're not applying further effects you can just drag an additional oscillator in as we have here and it automatically becomes part of the sound.

7 As well as audio components (oscs, filters or effects) the list also includes modulators. These are dragged to target parameters and once assigned appear in the Modulation Matrix list. Select fresh modulators (New), choose ones you're already using (Edited) and select front panel controls such as the XY pads.

8 Play the loaded preset, Crouching Tiger, and you can hear there's a sample and hold effect. Click on the dice icon on the modulation slat assigned to Frequency and it folds to show Random, Sample and Hold modulator parameters. Click the icon to close it and adjust mod depth with the little dial to the left.

9 Finally, you can choose from 16 different skins. Use the right hand circle icon in the top bar to cycle through them. In addition to this there are also auxiliary colour schemes which are cycled through using the left hand circle icon in the top bar.

> Step by step

2. Advanced modulation in Fathom CM

1 > Flexible modulation is one thing that makes Fathom CM such a powerful synth and we'll now look at a few ways we can use this. Let's start by loading a fresh instance of the plugin and creating a sound from scratch.

2 > We've grabbed an Analog Saw oscillator from the list and then added a State Variable Filter to put after it. By dragging the output node of the oscillator to the input node of the filter we have connected them. We've then adjusted the filter Cutoff and Resonance to taste (about 800Hz and about 3 respectively).


3 > To add envelopes to both the filter and oscillator we've dragged in two ADSR Easy envelopes, one onto the Cutoff and one onto the oscillator Volume. Conveniently, these have the ADSR controls on the modulation slat, but you can still open them up and edit them using the plot if required.

4 > Set the envelopes to taste, adjusting the Cutoff and Resonance accordingly. Let's add some more complex modulation to the filter Cutoff using a different method to add the modulator. Click on the Filter module so its parameters are visible, then click on the Cutoff knob and select the Add Mod button on the right.

5 > Now click the Select Modulator button on the new modulator slat and choose LFO. If you now increase the tiny Amount dial on the left of the modulator slat, you should hear the filter cutoff being modulated by the LFO. On the LFO parameters we've set the Trigger option to Note so the LFO starts on each note.
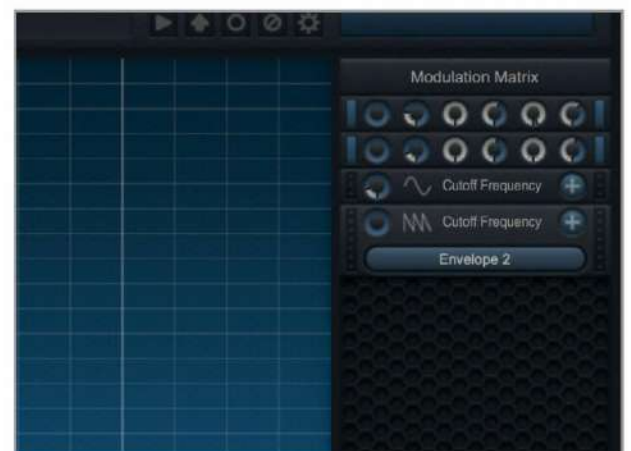
6 > We've set the Amount to 0.20 for a subtle effect. Next we'll stack a more extreme effect onto the same filter. Click on the Cutoff knob and once again use Add Mod. This time choose the Envelope modulator. We can use this for more specific rhythmic effects.

7 > Set the Envelope modulation Amount to about halfway, then on its parameters set the Division setting to 6. Make sure the Grid Units are set to Beats so you're following the DAW tempo. If we now adjust the curve to end on one of the main grid verticals, we should have a triplet feel modulating the filter cutoff.

8 > Let's now finesse this curve so the effect is more exaggerated. We can also set the Segments parameter to 12. In our track, which is at 73 bpm, the envelope is now adding a nice triplet feel to the filter cutoff and the cutoff also has a gentle modulation from the first LFO we added.

9 > Finally, we recommend you try out the recently added Fractal Reverb. We've simply added this after the Filter. Increase the Sustain Time and Decay Time for a more spaced feel. Use the Room and Dry settings for the effects balance and tailor the sound with the Freq Close and Freq Far parameters.

EaReckon CM-EQUA 87 EQ

> Step by step
Easy EQing with CM-EQUA

1 > CM-EQUA 87 is a classic analogue-desk-inspired equaliser from EaReckon and is great at what it does. The interface may look pretty simple, but it's packed with useful features, which we're going to demonstrate using our drum kit and electric bass demo audio. (Download via FileSilo.)

2 > If you want to follow each step, load up the tutorial audio – five drum kit files and E Bass file. Let's start with the snare, so load an instance as an insert. First up, make sure the Analyser is switched on and also that the Limiter is switched out. Hit play and you should see the analyser curve.

3 > In solo, the snare sounds lifeless. The CM-EQUA 87 has three parametric bands, two of which can be peaking or shelving. Rather than add unnecessary high frequencies with a shelf, use a broad bell-shaped boost. We've set ours at 9kHz, +6dB with the widest Q setting 0.40. You can see the EQ curve via the analyser.

4 > The boxiness could be coming from the low frequencies. These are clearly visible on the analyser. Let's try using the cut filter. Make sure it's set to Low Cut and is switched in, then gradually increase the cutoff frequency. We've set it to about 135Hz. The effect is subtle but successfully clears away unwanted weight.

5 > The snare has a nice fatness around 200Hz. Using the MF mid band we've swept this region and pinpointed it to 230Hz. Then with a medium bandwidth (Q of about 2.4) we've boosted this slightly (2.5dB). Try bypassing the whole plugin to compare the difference.

6 > For our snare let's try driving the limiter. Switch it on, reduce the Snare fader (ours is set to about -6dB) and then boost the Output level on CM-EQUA 87. We've set this to +20dB. It's hard to A/B this because of the level differences, but it adds attack and fatness.

7 > Now let's look at the electric bass. Listening in solo, the bass notes seem consistent. However, there is one pitch poking through a bit. By boosting and sweeping the low to low mid frequencies we've found this at around 170Hz.

8 > To resolve this we've used the MF mid band. With the bandwidth set quite narrow (Q is set to about 7) we've then applied a pretty decent cut (about -9dB). By using the mid band we've freed up the LF band for use in the next step.

9 > Now we'll add a very gentle shelf to the low frequencies. We've set this at about 130Hz with the boost at about 4.5dB. This adds overall weight to the bass. Finally, we've used the HF band to add a few dB of presence at about 3kHz.

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AUDIO SOFTWARE

Audified Tonespot CM

> Step by step

Exploring ToneSpot CM

1 > Tonespot CM may look like a basic plugin, but it has lots going on under the hood. Its preset-based design has nine processors similar to those found in Audified's Pro and Express plugins, except you don't get to edit the parameters. That's why there are a bunch of target specific presets.

2 > The point and shoot simplicity has one caveat, and that is that you set up the input levels properly. So with an instance loaded, and some audio ready to process (we've loaded up a bass guitar part), select the spanner in the top right and choose the Set Calibration option.

3 > You'll now see a slider in the top bar and all you have to do is play your track and adjust the slider until the signal peaks roughly around 0dBVU. You'll see from the picture that for our bass guitar part this is roughly -13dBVU.

4 > Now let's load a preset. From the bass folder we've used Edge Bass. This brightens the attack and is an overall more polished sound. If we switch metering to gain reduction, we can also see that there is minimal compression. However, increase the input and we get some gain reduction and a gently driven effect.

5 > Let's try the next bass preset, Fat Bass. Straightaway we hear quite a bit of compression and this is confirmed by the meter (up to 10dB gain reduction). If it's too much, we could reduce the input. Alternatively, to mix in the heavy compression, use the Dry Mix blend.

6 > Tonespot CM has a number of drum kit focused presets. Here we've loaded up our tutorial drum kit sounds, and first up are the kick and snare. We've found a couple of suitable presets and then adjusted the Input levels to get the right level of compression. Also try adjusting the Dry Mix to get a better blend.

7 > For the room sound we're going for a lo-fi effect and the Room Destroyer preset is ideal. Once again we've reduced the Input level to control the amount of compression and used the Output as a gain make up.

8 > Let's finish up with some guitars. First acoustic, and the Clear Strumming preset from the Acoustic folder works quite well. It incorporates reverb as well as sweetening EQ and compression. We've used the Dry Mix control to get just the right balance of effect.

9 > Finally, for our electric guitar riff sound we've used the Atmo Ballad preset from the Electric folder. This is super spacey and the original delay setting is quite long (1/2 note). We've reduced this to 1/8 and again used the Dry Mix to get the overall effect mix we want.

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Synapse Audio Dune CM

1. Oscillator waveform flexibility in Dune CM

1 > Dune has one of the simplest synth interfaces around, and although more recent versions have swapped things around a bit, Dune CM is based on the original version with all main controls visible. In our first tutorial we'll look at a feature which may not be immediately apparent – oscillator waveforms.

2 > Load a fresh instance of Dune CM and head to the middle panel, selecting Bank B to initialise a new patch. Now look at the oscillator section at the top left. Here you'll see buttons for the three main oscillator types but also a Sel option. Choose this for both oscillators.

3 > This switches the oscillators so they are sourced from the waveform selector. Here you'll find 69 different waveforms and you select them either using the Up/Down buttons or by simply dragging the cursor inside the box. You'll see a small graphic indicating the waveform shape loaded.

4 > Try cycling through the available waveform options. You'll find a whole variety of sounds. Check out number 12 for example, with its complex harmonic content. As you get to the end of the list there are also a few impulse waveforms (68 for example) and we'll return to these in our second Dune CM tutorial.

5 > We can treat the waveforms like any other oscillator. But with a more complex core sound you can create more interesting patches much more quickly. As a starting point, we've selected waveform 13, which has an organ-like sound to it, and lengthened the amplifier release slightly (about 45%).

6 > Now to give this a richer, more swirly organ sound let's use Dune CM's Unison control. Set this to 4 Voices and then adjust Detune to taste. For a pitchy sound you want the Detune quite high (40 to 50%). But we prefer the more subtle effect at about 5%.

7 > Sticking with the organ vibe, let's now select the same waveform 13 for Oscillator 2. Rather than have individual oscillator levels, Dune CM has a balance control for Osc 1 and Osc 2. So, to create a blend of these two sounds you need to adjust the Osc Mix control.

8 > Now offset the pitch of the second oscillator using the Semi control. We've set this to +12, adding an octave above. If we now blend oscillator 2 to taste (ours is at about 30%) we can achieve a pretty typical two-stop organ sound.

9 > Finally we can make our patch more playable by assigning some kind of control to the oscillator mix blend. By right-clicking the control we've used the MIDI Learn option to assign CC 77 to this, and we can control the mix blend in real time.

> Step by step 2. Using the One-shot feature in Dune CM

1 > Dune CM's waveforms have another trick up their sleeve. But first let's create a core sound. We're going for the big 808 bass sound. Initialise the preset as before and set Osc 1 to its third option, which is a Sine wave.

2 > Over in the Output section set playback mode to Mono and also increase the Glide time to taste – we've set ours to about 40%. Playing the patch, it sounds a bit clicky and abrupt. Try extending the amplitude envelope Release – we've set ours to about 30%.

3 > The sound is very clean, which you may or may not like. But we'll add some harmonics to give it more presence in the low mids. Simply switching the filter type makes a difference – we've chosen LP24+Saturation. Note, we haven't actually adjusted the filter Cutoff yet.

4 > Also try the Filter Envelope. Set Decay and Sustain to about 30%, set the filter Env Amount to its maximum setting and then adjust down the filter Cutoff. We've set ours to about 35%. We now have a reasonably punchy sine bass patch.

5 > To take this further we'll use a very nifty and often overlooked feature in Dune CM called One Shot. This is a modulation matrix option that changes the playback mode of an oscillator from a continuous cycle to one.

6 > With a regular oscillator wave this may not seem much of a feature, but as mentioned in the previous page, some of the waveforms are actually impulses, and thus are great for adding clicky attack to sounds. Check out waveforms 66 to 69.

7 > To make this work, select the Mod Matrix 1 to 12 page. In the Source column select Arp Note and in the Destination from the Oscillators menu choose Osc 2 One Shot. Now if we select any positive value for the Amount, Osc 2 will only play one cycle of its waveform.

8 > To integrate this with our 808 bass sound we've selected waveform 66. Balance the two using the Osc Mix control. Getting this balance right can be tricky, and less is often more here. We've set ours to about 30%.

9 > Finally, we can tweak the oscillator settings for our Osc 2. The most impactful option is either to try one for the other impulse waveforms, or to simply adjust the pitch setting. Here we've set ours to +8 semitones for a different feel.

u-he Zebra CM

> Step by step
1. Morphing oscillators in Zebra CM

1 > Zebra CM is now on its second incarnation and the newly skinned version is much easier on the eye and easier to use. With an instance loaded up let's first focus on the fundamental toolset and those rather interesting looking oscillators waveforms.

2 > Initialise a new patch by right-clicking on the data display in the control bar and selecting Init. Now look at the display for each of the two oscillators. You'll see they each have a waveform. Now grab the outer halo and drag it round the edge. You'll see the waveforms change.

3 > Zebra CM has 16 core waveforms, but, significantly, the waveform selector actually morphs between them. Try playing and moving the selector at once. You'll hear the sound alternating between bright and dark. We can use this fundamental aspect in different ways to create more interesting sounds.

4 > First up, let's use Zebra CM's onboard modulation. Below the Wave Selector control you'll see a Modulation knob. In the drop-down menu below, choose a modulation source to apply to the Wave Selector control. We've chosen the mod wheel (ModWhl).

5 > Turn the knob to its maximum clockwise amount. This reads as 2.0 on the data display. At this maximum amount, you're morphing through two whole waveforms. We've set the Wave Selector to 9, which is dark-sounding. By using the mod wheel we can morph the sound to the brighter wave at 11.

6 > Obviously this basic concept needs a bit of finessing. First up, set the oscillator to Quad Unison mode (4) and set a Detune amount (we've gone for 10). Now duplicate the settings over to Oscillator 2 but set a negative Detune (-10) and a Tune offset (+12.00). Pan the oscillators in opposite directions.

7 > Levels are likely now a bit high. We've trimmed each oscillator Volume (about 50.00 for each) and also the global Volume (about 50.00). We've extended the amplitude release (Env 1 to 60) for a softer decay and finally set the Filter to LP 12dB with Cutoff set to taste (about 95.00 for us).

8 > We now have a pretty good morphing pad created using the core waveforms. However, the modulation limits us to the adjacent waveforms. For something more weird, we simply use a MIDI CC to control waveform selection. From Settings, select the MIDI learn (L) option and move your MIDI controller.

9 > Next, remove the mod wheel control – we've simply set the amount to zero for both oscillators. For a final layer we've activated the reverb, which is a double click on the Rev icon bottom right, and adjust the Wet level to taste. Now simply move your controller as you play.

> Step by step

2. User LFO options in Zebra CM

1 > Rather than use a modulation matrix, modulation control in Zebra CM is embedded in the interface. You'll find drop-down menus to assign modulation sources for target parameters and either dedicated Amount knobs (the Filter, say) or small dots (Oscillator Symmetry for example) for setting modulation depth.

2 > In this section we'll look at one specific modulation section: LFO. But first load a sound. We've selected the preset Orient Fretless. Take a quick look at the modulation options in the two oscillators and you'll see there are already some LFO assignments set up. We'll work on Osc1, so turn down Osc2 Volume.

3 > Dive in on Osc 1 and you'll see that the Oscillator Symmetry control already has LFO2 assigned. Try using your mouse over the dot to the right and you should see the depth halo around the Symmetry control changing. Try increasing the depth. You should hear the sound changing in a random way.

4 > Head over to the LFO section and select '2' in the top left of the display. You'll see that the LFO2 is set to Rand Glide. If you click on the drop-down window you'll see all the other LFO shape options, including sine, triangle, saw up and saw down.

5 > If you click on LFO G, you'll see this is actually set to the User LFO option. Each LFO can have its own User shape, and this is what we'll create for LFO2. So, reselect LFO2 and from the drop-down menu select User.

6 > Before we get into designing our LFO shape, let's choose a few basic parameters. We've set Restart to Gate so it retriggers for each note, Sync to 1/8, Mode to Steps, Rate to 100, and number of Points to 4. With a flat curve like this, the LFO should not affect the Osc1 Symmetry.

7 > Now create a basic shape by dragging the curve. In Step mode, as you might expect, this creates simple blocky steps. Here we've set ours to be full on step 2 and step 4. With the modulation Depth set accordingly (ours is at 70), you should now have a gated effect.

8 > Next, for a smoother effect switch the mode to Lines. By adjusting the curve we can now further influence the depth and complexity of the modulation. For starters, simply try making one of the curves smaller as we have here.

9 > Finally, increase the number of Steps – we've gone for 16. You can now create much more complex LFO shapes to really control the nature of the modulation. You might want to blend Osc2 back in for the final drone-like effect. **cm**

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A NEW EERA

Former Ninja Tune artist EERA, aka Anna Lena Bruland, has just supported Public Service Broadcasting on a successful and extensive tour, produced a session for BBC 6 Music and also released her second album, *Speak*. Here she explains how her love for Queens Of The Stone Age and the odd Russian synth all combined to help her create her unique sound

> Regardless of your personal view on things like fate and destiny, sometimes small gestures of kindness can allow incredible journeys to occur. For EERA (Anna Lena Bruland) this moment happened around the age of 15 when a friend gave her a burned CD of *Rated R* by Queens Of The Stone Age. "I'd constantly listen to it on my Discman trying to not let it skip when I was walking. I absolutely loved it. Before this I was listening to more Norwegian singer/songwriter folk artists like Ane Brun and Thomas Dybdahl. When I got

introduced to music from the States and the UK it completely changed my idea of what music could be. From there I moved onto Nirvana, diving deep into all the rock stuff and after Nirvana came Radiohead and PJ Harvey. I just took it all in. It was great."

It was at this point Bruland picked up her first guitar, developed an interest in songwriting and at 18 decided that in order to develop her craft it was time to relocate from her native Norway. "I always wanted to move to England because my favourite bands are English. I wasn't very inspired by the

music scene in Norway. There's lots of great schools for classical music and jazz but there's not really much for pop so I had to look elsewhere. LIPA (Liverpool Institute of Performing Arts) looked like fun so I thought 'why not?'."

That proved to be the catalyst to a music career and in 2017 EERA released her debut album *Reflection Of Youth* on Ninja Tune and Big Dada, moved to Berlin soon after, and in 2019 collaborated with Public Service Broadcasting on their latest album *Bright Magic*. At the end of last year EERA released her second album *Speak* and has been supporting PSB on their successful around the UK and Europe.

Gazing at shoes

Whereas *Reflection Of Youth* had a very stripped-back rawness to its sound, EERA's latest album *Speak* is a fuller, richer record with interwoven synthesisers used to add atmosphere and edginess. "I wanted to have a very unapologetic sound and I wanted to bring out the feel of the 90s," she explains. "Not that I couldn't with the first record, but I felt more confident with this one.

"If you listen to a Pixies record or a My Bloody Valentine record it almost sounds a bit flat at first. Then you realise they have a backbone over a bass. It's kind of a weird mind-fuck of a sound and I like the idea of having to listen over and over again to hear what's actually happening.

"I've definitely listened to a lot more shoegaze before this record," EERA continues. "I always loved the decade of the 90s in terms of rock music and I guess going into it I wanted to capture some of that sound."

Working alongside long-term collaborator and producer Allister Kellaway, EERA found the reassurance of working with such a close friend enabled an honest level of synth sound exploration. "It's crazy having him on board," she says. "He's a huge part of my sound image. He's so technically gifted and way more patient than I am. I'm more of a 'let's just get there' person and he's like, 'no, hold on, I need to finish the EQing'!"

"My friend has a wonderful studio in Berlin where she has tonnes of different synths, like the Juno-60, Yamaha CS-15 and Korg Delta, but also has these amazing things from Russia like the Polivoks that you look at and go 'what the hell is this?' It was so cool to go there with Allister and experiment with sounds."

"I feel comfortable with him. I can be completely honest in my opinion. I talk a lot in terms of texture. Maybe I might want a synth sound to feel like birds, or have a harsh undertone, but softness on top. He just gets it."

Photo © Tobias Humble

Playing out live

"I definitely write for the album and worry about playing it live later," EERA says when we turn to the subject of taking her sound out live. "I want to write, I don't want to have that limitation in my head. When I write a record that's always going to be challenging, especially if I want to play alone.

"My mate Doug who lives in Berlin has kindly agreed to give me lessons in Ableton. I want to create a solo set that represents me in a better way. I feel now when I play solo, it's fine, but I'm represented too much like a singer/ songwriter girl and I don't really see myself as that. That was me when I was 16. So he's going to help me to kind of create a cooler way to present myself by using Ableton and not much backing track, but some triggers and some sounds and then I can put my mic through different sounds and I can create that kind of shoe-gazey rocky world with me on stage alone. If I can do that, I think I'll sound a lot stronger and people will get what I'm about more which I'm excited about."

Photo © Tobias Humble

Top 4 plugins used on the record

Valhalla DSP
Valhalla Delay

"We used this a lot, mostly for making synth chords big and wide. We put a lot of synths through a Roland Chorus Echo, which came out in mono, so used this to make that echo more complex in stereo. It's got a great tape emulation and a lot of the time we would just send stuff through it so you could just hear the tape saturation and warbling effect. The synth arpeggios in the middle section of *Falling Between The Ice* are an example; the same part is on two channels, one with a big swirly delay and another dry with lots of tape saturation."
valhalladsp.com

TAL Software
TAL-Chorus-LX

"A great free emulation of a Juno stereo chorus. We put it on a lot of bass synths. The last section of *Midnight* is a good example. It's got a lot of low end, plus a Mix control so you can keep some dry signal in there too."
tal-software.com

Audio Assault
Headcrusher

"A fun little distortion. We used it a lot on guitars to make them pop out a bit more. It's got some good filter controls so you can pick out all of the right frequencies to distort."
audioassault.mx

Soundtoys
Devil-Loc Deluxe

"We would use this for really heavy distortions. It's on the bass synth in the choruses for *My Muse*, the darkness control is a great touch because you can take out the harshness without losing any character."
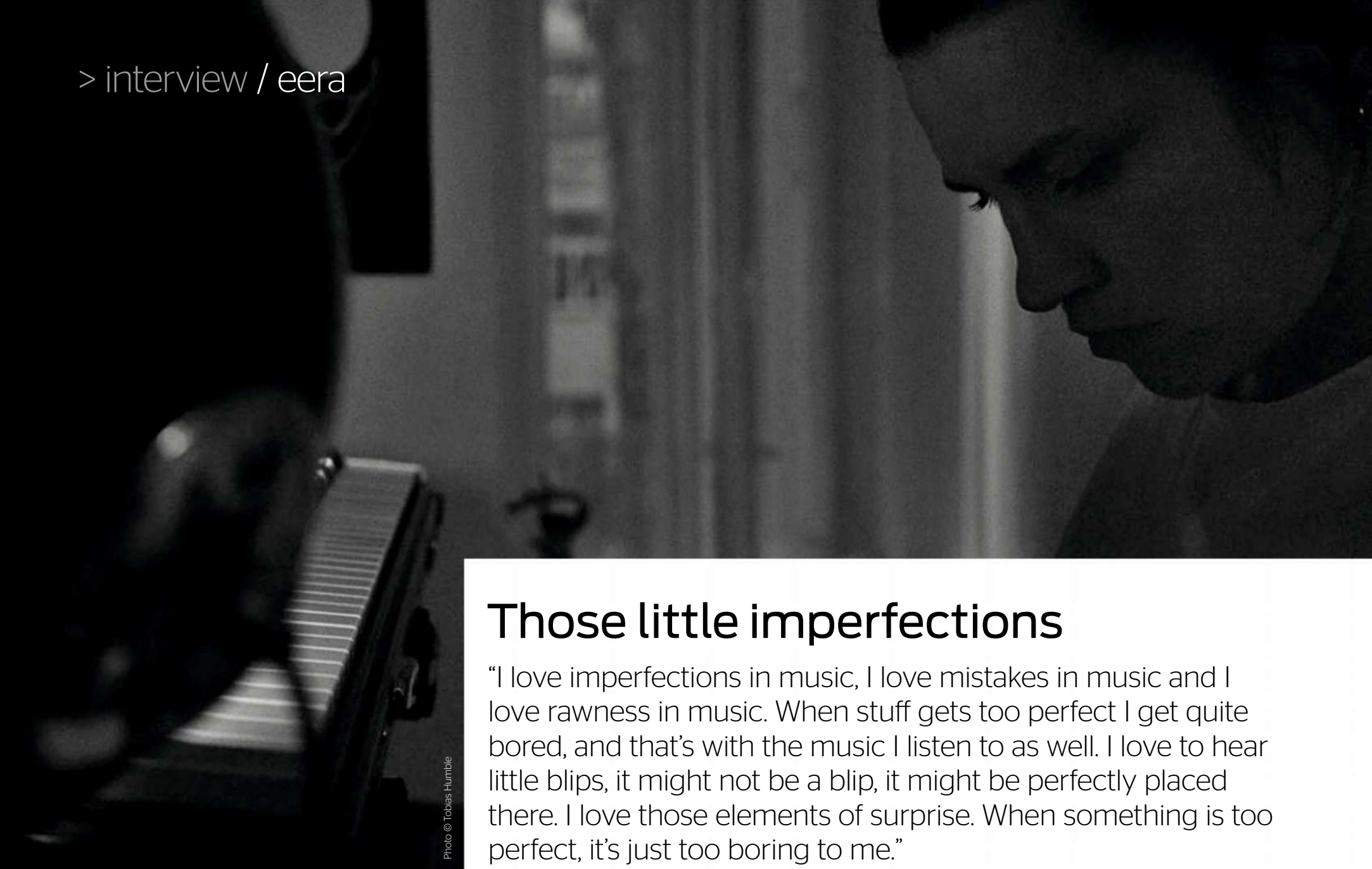**soundtoys.com**

Photo © Tobias Humble

Those little imperfections

"I love imperfections in music, I love mistakes in music and I love rawness in music. When stuff gets too perfect I get quite bored, and that's with the music I listen to as well. I love to hear little blips, it might not be a blip, it might be perfectly placed there. I love those elements of surprise. When something is too perfect, it's just too boring to me."

Using the beat

With a new direction in sound came a new way of writing: "I've recently really gotten into writing music from drums," says EERA. "My partner is a drummer and I sometimes ask him to send me files of rehearsals when he's been drumming or practising. I take them into Logic and I write from that rhythm. I also ask Allister to send me drum loops that he hasn't used. I won't necessarily use any of these for recording, but it's just a way to get moving."

"On the previous record I always wrote from guitar with a click track, whereas now it's more fun to play to drums. I can build it in a different way, start with synth or guitar over the drums and then build from that."

Alongside drum beats, plugins play a key part in the demo process, as EERA reveals. "My production skills are constantly evolving and it's really fun now because I can actually present demos that speak better in terms of what I'm thinking in my head. When I first started out years ago all I did was record guitar into Garageband with a laptop mic and it was hard for me to explain where I wanted to go with it.

"My process now is to record into Logic with my Korg Minilogue setup through the built-in Logic plugins, or my UAD sound card which has some amazing plugins on there. I have two different microphones set up: a dryish one with a little bit of reverb on it, and an overdrive mic. I have a guitar that goes directly into my interface to throw in some overdrive and tape delay, and my Arturia Drum Brute drum machine that I put through an amp plugin to make it sound more crunchy. Once I have all of those set up, I can just write from that perspective quite quickly because I like to work pretty fast.

"Don't go, 'I just want to get out there' and plonk tracks on SoundCloud, because that won't get you anywhere"

Working in a space

"I basically like to create a space that I like the sound of with my effects plugins and then I write in that space," EERA explains. "I don't want to find myself going 'oh, I want this' and then having to unplug something, plug something else back in, and set something else up over there. I get bored so I need to work extremely fast and I think this way of writing is great.

"Afterwards, I can sit back and go 'OK, I like that melody line, that guitar piece and cut sections out and just delete or mute them. I love a mute button," Anna says, laughing. "I like taking a shot of a WAV file, or bounce it and listen to that section muted and then I put it back in and move bits around like a puzzle. As a result I have tonnes of two-minute ideas stored on my laptop that will never see the light of day. I couldn't tell you what they are, but maybe if I get really, really famous and when I'm gone, someone will dig out my archives and release it as some crazy double LP?"

Plan for success

While discovering new songwriting techniques and experimenting with synths and plugins, EERA was also busy creating her own record label. "I can't take much of the credit," she pauses. "I told my management I wanted to do it and they helped me. Speaking to a lot of artists and friends I think it's the way forward, especially if you have great management, good PR and hopefully publishing."

"I was lucky because my first record with Ninja Tune and Big Dada got me out into places that I wouldn't be able to on my own. Having that platform meant I can build on my own. Just owning everything myself feels fantastic and not having to give a label money is great."

It's easy to think this is something that's only achievable with a well received record and established audience behind you. But, as EERA explains, with planning and patience anyone can do it. "Don't rush it," she states quickly. "If you're sitting on, let's say ten songs, you've got them recorded, in the mix and you think they sounds good. The main thing is don't go, 'I just want to get out there' and plonk them on SoundCloud, because that won't get you anywhere. You'll get disappointed, because even though you say to yourself 'I don't care if I don't get any plays, I just want it out there', That's a lie.

"If you're lucky enough to find management, that's great, but more important is PR. Get some money for PR because you want someone to help you to strategise a release plan. Without a plan, and without those steps and the PR's contacts it's impossible to get noticed. And it's better for it to go through a PR person that people trust, they know does good stuff for them and they'll be more likely to open the email. That's number one."

"Number two. There are loads of people out there who can help you set up a label. My management help me and I'm lucky to be in Germany because there's a lot of arts funds to be had. I know it's different in UK and that's really unfair. I think the government is being

horrible about that, but it costs money and if you're smart about it there are ways to somehow rustle up some cash. Again possibly over time so be patient."

"Finally make sure you have fun with it. Once you finish some songs, think how you want to represent yourself, what type of photography do you want? How many music videos do I want to do? Make it into a fun project rather than thinking, 'shit I need to make the music videos now, balls I need to start doing some photos'."

"For me anyway I love planning all of it, but don't rush it. You may need to sit on the music for a year, maybe two years rather than simply posting on SoundCloud."

Reflection of you

As our conversation draws to a close EERA leaves us with one more piece of advice that's helped her as a musician. "A friend told me a while ago to separate myself from my music self. I have my music self which is EERA, but then I also have myself Anna Lena. So if the music self EERA doesn't do quote-unquote 'well', I as Anna Lena won't be affected by that.

"I think because music is personal and I'm really honest in my lyrics and stuff, I had a period of time where I was so intertwined with my music self that I kinda forgot about my other self. That's really scary, because if you get a bad review, or two people turn up at a gig, or you don't sell any records, you can easily then feel sad as your human self. As soon as I separated into two, I realised, 'oh, I'm actually really cool as an individual self Anna Lena!' I know not everyone will like this. Some people are solely focused and driven by 'the music,' but for me it's been healthy to separate into two. The music itself was more fun because it didn't have as much power over me anymore." **cm**

What's a measure of success?

"I think the whole concept of success is a bit vague because I don't really believe in success," EERA says. "I feel like 'successful' can be anything from you writing your own songs in your room to you doing a support tour, sleeping on someone's floor to you being on a tour bus supporting arenas. It depends on how you look at it.

"So for me, I don't really feel my breakthrough point has happened yet. When I hit 30 I had to ask myself 'why do I do this?' It's very selfish what I'm doing, I just do it to write my own songs.

"This tour [with Public Service Broadcasting] now has been fantastic, I'm now at a place where I get an insight into quite comfortable touring. It's quite funny talking to the lads and they're like 'of course you get a hotel room!' I'm still not used to that concept.

"I don't know if I'll ever get to a point where I'm like, 'here it is, this is it – I've got it'. I've also come to terms with the fact my music is not Beyoncé. The music that I do will not be for a person in that world and I've accepted that. It's good to have accepted that.

"Of course it would be nice to play in a venue where you have 1000 people looking at me and singing the lyrics back. I mean that would be amazing and maybe one day that will happen and I hope it does."
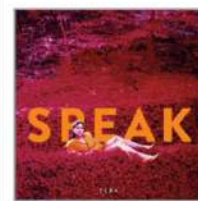
Photo © Tobias Humble

The 90s

As the 80s drifted from mostly analogue to largely digital, would the 90s be the decade when the synth scene settled? Not really...

> **The 90s: rave culture, Britpop and a cultural move from the right to the left,** all of which had an effect on the music industry at large. But as we cast our minds all the way back to 1990, the decade began with a period that felt like something of a wilderness for synthesisers. The late 1980s' dominance of the Yamaha DX series of synthesisers created a desire for ever cleaner and more digital sounds. Manufacturers, including Yamaha, were scrambling to find the next big thing.

One of the earliest of the new breed was released in 1990 from Korg. The Wavestation synth was a five-octave keyboard-based synth. Apart from an expanded polyphony of 32 notes, it also provided 16-part multi-timbrility, making it an ideal companion for your software-based computer sequencer. Moreover, it featured some very interesting synthesis elements. It employed vector synthesis, which allowed the loading of ROM-based samples in four locations, with the ability to seamlessly move from one sound to another, a little like a four-way mixer. It also featured some incredibly hypnotic sounds, in the shape of Wave Sequences. These machine-like and rhythmic sounds were loop-like, and liberally sprinkled throughout many chart hits from this era.

In an attempt to keep up with developments from other manufacturers, Roland released their D-70 synthesiser, which was a larger and supposedly more advanced version of the popular D-50. Regrettably, despite appearing to offer a lot, it didn't present the same charm as the D-50, and it was a bit of a flop.

The first great 90s synth

One year later, Roland triumphantly returned with a synthesiser that arguably changed the ultimate course of 90s synth development. The JD-800 was very much a digital synthesiser, offering 24 voices and a six-part multi-timbral format, but it was also big, laden with pots and faders, and looked like an analogue beast!

Being digital and sample-based, many of the sounds found therein were highly identifiable, and much like the Wave Sequences from Korg, would be heard across the pop music spectrum.

Meanwhile, Yamaha had been working on a series of machines that they hoped would be the next generation of DX. The SY99 was the very big brother to the SY77, which had been released two years earlier.

Providing a sound which was very similar to FM (frequency modulation), it was big and expensive, and sonically didn't seem to grab the mood of the musical nation. The best laid plans of mice and men...

It appeared, for a while, that we were in something of a synth wilderness. The following year, Korg placed their Wavestation in the SR-based Rack, which also set a tone for another trend of the time. Many synths were available in keyboard form, as well as an almost identical 19" rack-mounted form. The ideal format for any producer working in the bedroom, who may have been tight on space, but wanted to be big on sound. You could place a whole number of synthesisers in a rack, in half the footprint of a five-octave keyboard.

The 90s legends

In 1993, two synths would be released, but could be regarded as being the opposite ends of the synth spectrum. Waldorf had risen from the ashes of PPG, with a release called the Wave. It was huge, with the polyphony up to 48 voices, providing digital sound sources that were routed through analogue filters, but it was very expensive. At the opposite end of the spectrum, Novation released the first of their Bass Station series; likened to the sort of sound you could garner from a Roland TB-303, it was small, very capable, and could sound huge.

Not to miss out on the trend for rackmounted synthesisers, in 1994 Roland returned with the JV-1080; a rackmount work-horse, stacked full of very impressive and usable sounds, the JV became a huge hit with producers. Like previous machines from this decade, some of the sounds were highly identifiable, such as the iconic pizzicato strings, used by Faithless on their popular track *Insomnia*.

The hefty Roland JD-800 made a big impact on later synth design

90s icons: The Roland JP-8000, Korg Prophecy and Yamaha SY77

GM General MIDI

One of the biggest ideals in music technology during the 80s had been the development of the protocol known as MIDI. The ability to connect one MIDI-equipped device to another was proving very popular, but the concept came of age in the 90s, through the release of a number of products, led by Roland.

Steered by a Japanese tradition for entertainment like karaoke, the Roland SC-55 Sound Canvas adhered to the blossoming protocol known as General MIDI. To adopt the GM kitemark, products had to conform to certain capabilities. These included the ability to play 16 different sounds, with an additional eight percussion sounds, like a drum kit.

It had to offer a standardised set of 128 sounds, from pianos to pop and even sound effects, coupled with the requirement to control volume, expression, pitch wheels and a host of other elements which are still in use today, under the MIDI continuous controller (CC) protocol. Hence you could swap files from one GM machine to another, or purchase commercially available backing tracks, in the GM format. If you were lucky enough to own a computer with sequencing software, you could use that, but Roland saw the market as an opportunity to release the accompanying Sound Brush MIDI file player. Link the two units together, and you could import songs from 3.5" floppy disc in the GM format, and play them back exactly as the programmer had intended. Yamaha and Korg also responded to this market, but neither demonstrated the dominance amassed by Roland, with the SC-55.
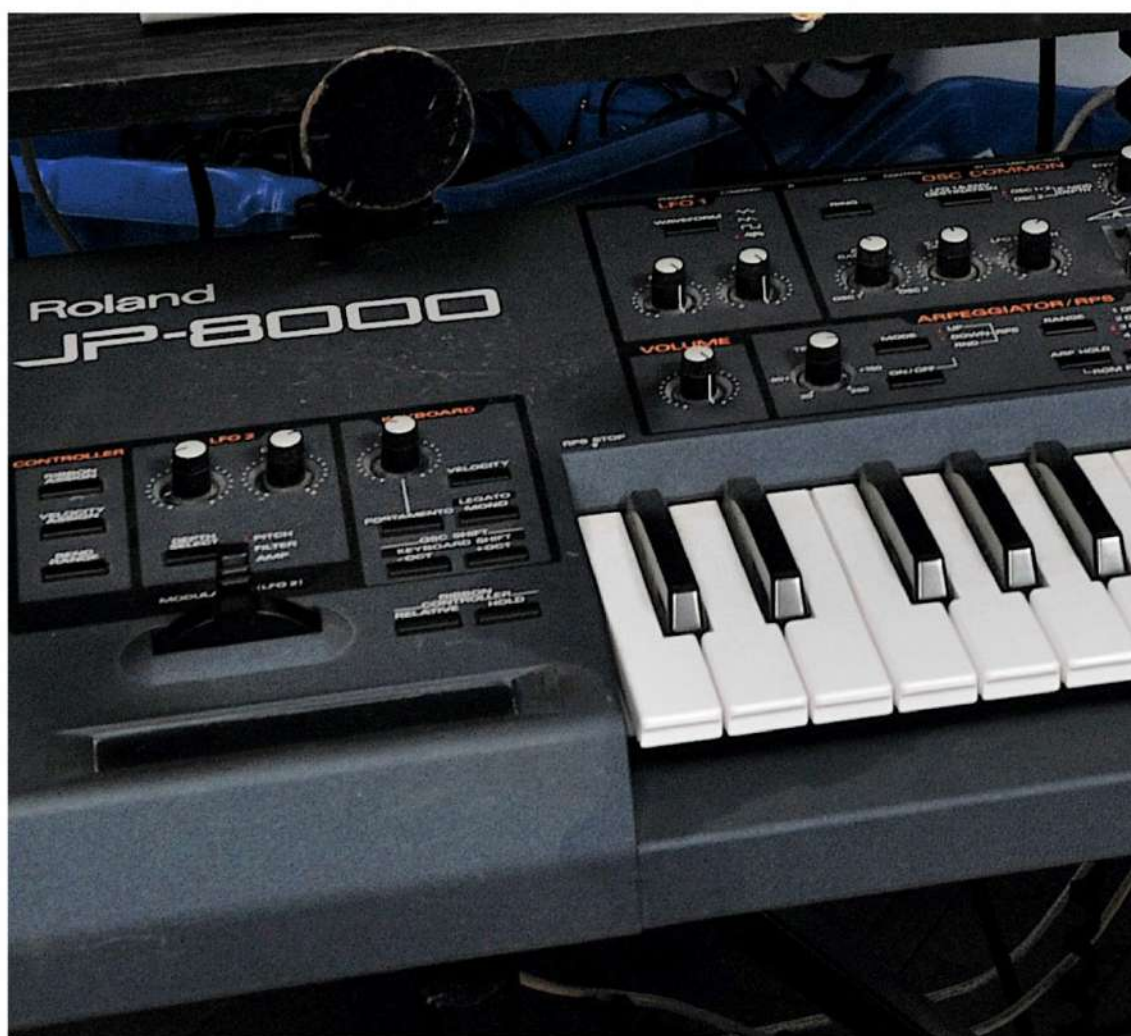
Highly prized by Liam Howlett from The Prodigy, Korg released the Prophecy in 1995. This bizarre and relatively small synth was deemed to be akin to a digital Minimoog. It was monophonic, but that's pretty much where the similarities ended. It used physical modelling to create some very interesting sounds, that could be controlled through the use of pitch and mod wheels, and a ribbon controller.

Roland revisits

Roland had found their feet earlier in the 90s, through the release of the JD-800. Subsequently discontinued, they revisited this format again, with the release of the JP-8000 in 1996. With clear reverence to the Jupiter series, the JP-8000 was digital, but laden with familiar subtractive-style faders, while being the first machine to fully explore wave aliasing, in what would become known as the supersaw. Based around a sawtooth waveform, this aliasing effect could be detuned, to create a timbral starting point that sounded enormous. It was a

huge hit, particularly with blossoming rave producers of the period. Moreover, it gave rise to what would become known as Virtual Analogue (VA) synthesis.

Grabbing the baton from Roland in the following year, a German company called Access released another VA machine, in a desktop format, known as the Virus A. The lack of keyboard, and relatively small desktop footprint, made it a hit with bedroom producers. It also employed the supersaw concept, and while employing subtractive and analogue traditions, demonstrated all of the virtues of a digital synth, sounding clean and sharp, but tinged with analogue warmth.

It seems that the tone had been set for the end of the decade, with Novation producing the polyphonic Supernova rackmounted synth in 1998; another dance-directed synth to give the Virus a run for its money. Not to be outdone, Access produced the classic Virus B in 1999, which for many remains the best of the Virus product line, even to this day.

Highly prized by Liam Howlett, from The Prodigy, Korg released the Prophecy in 1995. This bizarre and relatively small synthesiser, was deemed to be akin to a digital Minimoog

Top 10 of the 90s

The most important releases that powered this most digital of synth decades

01 ROLAND JP-8000

We begin our top 10 of the 90s with one of the most influential machines of the decade. The Roland JP-8000 was a virtual analogue synthesiser, employing digital waves and filters. By today's standards, the filter could be regarded as harsh and whistly-sounding, but its status for providing Supersaws placed this new sound at the front of commercial music for the latter part of the decade.

02 THE PRODIGY

The Prodigy were one of the most influential acts of the 90s. Predominantly under the musical direction of Liam Howlett, they produced three highly influential albums during the 90s, culminating in the exceptionally successful *The Fat of the Land*, which spawned tracks such as *Firestarter*. Not bad for a Roland W-30, TR-909, Akai Sampler and Korg Prophecy!


03 VST - VIRTUAL STUDIO TECHNOLOGY

VST is an acronym for Virtual Studio Technology, which is generically known as a protocol for audio plugins. This technology was first released in 1996, as a specification from Steinberg, the people behind Cubase. It was the trailblazer for other plugin formats, such as Audio Unit (AU) and TDM, initially offering a series of effects-based software plugins, for inclusion within your DAW-based productions.

04 DOEPFER

Doepfer is the brand created by industry legend, Dieter Doepfer. Having released a number of musical keyboards and MIDI to CV/gate-style devices, Doepfer released the A-100 modular analogue synthesiser system in 1995. This was the blueprint for what we would now call Eurorack, spawning a huge industry from hundreds of third-party companies, creating a flexible modular synthesiser system, encompassing all forms of module.
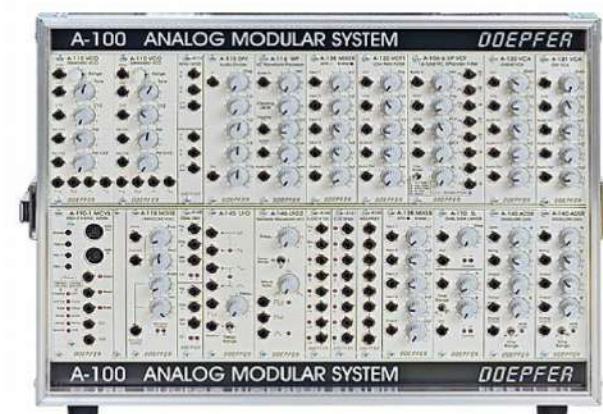
E-mu Systems SP-12

05 SAMPLING DRUM MACHINE

While drum machines were nothing new in the 90s, their involvement in the creation of music was enormous. Previously shunned machines, such as the Roland TR-808 and 909 formed the backbone to many musical styles, with outliers influencing underground genres such as garage. The E-mu SP-12 was the sampling drum machine of choice in this arena, rubbing shoulders with the classics from Roland.

06 DAFT PUNK

Electronic pioneers Daft Punk charted a route through music that began with the album *Homework* in 1997. Their debut took two years to craft, culminating in two of the most iconic hits of the era, namely *Da Funk* and *Around the World*. Much like other electronic bands from the 1990s, the productions relied heavily on older vintage equipment, but the sound was the benchmark of the decade, enforced by two Frenchmen who dressed up like robots.

Steinberg Neon VST synth

07 PLUGIN SYNTHS

In 1999, Steinberg updated their standardised protocol known as VST. The predictable move to VST2 paved the way for plugin instruments, the first of which was released as part of Cubase version 3.7 and branded 'Neon'. A relatively basic subtractive synthesiser, Neon was unsurprisingly an enormous success, but access to it was obviously limited to Cubase users only. It didn't take long for third-party companies to pick up the VST2 protocol, and the rest, as they say, is plugin synth history.

09 ROLAND GROOVEBOXES

As somebody from Roland once quipped, "we invented dance music!" Certainly from a sonic perspective, that point is difficult to dispute. It was therefore only natural that during the 90s, Roland would release a series of

08 APHEX TWIN

Richard D James, aka Aphex Twin, began his run of albums in the 90s, beginning with *Selected Ambient Works 85-92* and leading the IDM (intelligent dance music, a term he later denounced) pack. From his teens spent modding a Sinclair ZX81 for sound and playing raves, to full-on embrace of the tech that followed, James represents, in many ways, the spirit of 90s knob-twiddlerdom.

devices that would become known as grooveboxes. Drawing on sonic identities from the previous decade, the likes of the 303, 808 and 909, were all digitally re-packaged and placed in a box with a dedicated sequencer. So the Groovebox was born!

10 ACCESS - VIRUS

As we started our list with the classic Roland JP-8000, it only feels fitting that we should end our list with the formidable Access Virus. Its tidy desktop format, coupled with virtual analogue status and large patch capacity, made the Virus model A and B huge hits from the moment they were released. They managed to sound both clean and sharp, but exuded analogue warmth, with a recognisable capacity to easily edit sounds from the virtual analogue (VA) control interface. Still very much a classic today!

Access Virus, the only virus worth having back then

Air – Sexy Boy

For our first 90s sonic recreation, we create the formant filter effect from the opening of Air's *Sexy Boy* with a little help from Zebra CM

> ## Step by step

1. Recreate Air's *Sexy Boy* with Zebra CM

1 > Start by opening your DAW, and loading an instance of our fantastic Zebra CM plugin. Head for the menu/display at the top, click and hold, and select Init from the bottom of the menu. This will initialise the plugin, making it ready for us to create a patch.

2 > The source for the sound that we want to create needs to be relatively rich in harmonic content. The default waveform on Osc1 should be a sawtooth. It's always worth checking that this is correct at this stage, but you can expect to see this waveform already in place.

3 > The recognisable vowel effect is created using a formant filter. Thankfully ZebraCM is equipped with such a filter type, and you can select LP Formant from the filter dropdown menu.

4 > Once you've selected your filter type, we then need to adjust the Cutoff pot amount. Click and hold the pot and select a value of 100, as viewed in the upper display. This reduces the top end of our sound, which we can then control via some modulation.

5 > We also need to make slight adjustments to the Formant control, which we should set to 100. This is also the maximum, and serves to highlight the resonant quality of the filter, to make the vowel sounds clearer. Secondly, adjust the Vowel control to a value of 20.

6 > We will be using LFO2 to control the vowel sounds, so assign the User-defined pot to LFO2. Once assigned, set the value of the pot to 92. This amount dictates how much of LFO2 will head towards the filter cutoff.

7 > We want to take advantage of the syncing options available within the LFO section, so select LFO2 from within the LFO section, and set the sync dropdown menu to a 1/4 note value.

8 > We will be creating our own user waveshape, using steps to provide our vowel effect. From the Waveform dropdown menu, select user. Then adjust the number of points to 4, which you can do via the Points dropdown menu.

9 > We just need to adjust the value of each step; step 1 to a value of 100, step 2 to a value of -70, step 3 to a value of +50, and finally step 4 to a value of -50. When you now play a note, you'll hear the steps reflected by the vowel shapes of the filter. You can always adjust these values, to create any desired effect you'd like.

William Orbit - Barber's Adagio for Strings

The mid-90s was all about the supersaw; an iconic sound, used on one of the most iconic dance tracks of the era, by William Orbit

> Step by step   2. Recreating William Orbit's supersaw

1 > Load your DAW and the ZebraCM onto a spare instrument channel. We'll need to initialise the patch. Go to the display and menu at the top of the plugin, and select Init. This will also be a very loud patch, so reduce the master Volume to a value of 20 immediately.

2 > As part of the initialised default, you should see a sawtooth wave already deployed to Osc1. To supersaw this, press the number 11, which appears within the Osc1 section. This adds a total of 11 aliased waveforms to the overall sound, emanating from Osc1.

3 > As we're going to make this sound exceptionally thick, we are going to perform the same routine, with Osc2. Click on the number 11, within the Osc2 section, and then move to the Volume pot, increasing its value to 100.

4 > The art to creating the perfect supersaw is to detune it by the right amount. Too much and it will sound too wide, and too little, it will phase. Using the Detune pots within each oscillator section, set Osc1 to a value of +14, and Osc 2 to a value of -16.

5 > In order to create that super bright 90s synth sound, we need to choose an appropriate filter type. We really like the LP Xcite filter; select this from the filter section dropdown menu. Once selected, adjust the Cutoff pot to a value of 115.

6 > To maintain the brightness of our sound, while also instilling filter-based bite at the front of each trigger, we'll use Env2 to subtly modulate the cutoff frequency of the filter. Use the pre-assigned Env2 pot, within the filter section, and set it to a value of 35.

7 > Env1 is charged with controlling the amplitude/volume of our patch, but we can accentuate the overall effect by lessening the attack and lengthening the release. Adjust the Attack pot to a value of 24, then adjust the Release pot to 26.

8 > Our patch is almost ready, but will be helped considerably by back-end effects. In the effects master section, on the bottom right of the plugin, double-click on both the Delay and Rev buttons. This activates them both by highlighting them in turquoise. You will then hear both effects when you play a note.

9 > Finally, we will adjust the reverb setting; within the reverb section, adjust the Wet pot so that it is placed at a value of 20. Now just play some thick chords, or accentuated off beats, to get that classic 90s trance effect.

6 of the best plugins to nail the 90s sound

Superwave **P8**
PC £Free

The Superwave P8 draws its inspiration from the original JP-8000, providing supersaws through two oscillators per voice. With plenty of modulation potential through the use of four envelope generators and three flavours of filter, Superwave will provide plenty of 90s nostalgia via your Windows PC.

superwavesynths.com

Apple **ES-1**
Mac £FREE (Part of Logic Pro)

While arguably the ES-1 is a bass synthesiser with leanings toward the Roland SH-101, it is far from a million miles away from the Novation Bass Station too. It's a fantastic little synth, perfect for bass lines, with a very simple architecture which lends itself well to usage in the bottom register of your keyboard. Just add a 'phatt' compressor, for instant bass goodness.

apple.com

Roland **JV-1080**
Mac/PC $129

Continues to offer great sounds and value, and provides an exacting version of the original JV-1080, but in the convenience of a plugin. An entire complement of performance and patch-related sounds, you'll find beautiful pads and choral effects alongside plenty of recognisable dance sounds.

rolandcloud.com

Korg **Prophecy**
Mac/PC $149

The monophonic Prophecy was a favourite with late 90s dance producers. Despite being made by Korg, it could do more than a passing impersonation of a 303, with very interesting acoustically modelled sounds too. You'll hear many of the presets scattered across commercial 90s tracks.

korg.com

Roland **Sound Canvas VA**
Mac/PC $69

Roland's emulation of the original Sound Canvas is perfect for reincarnating old MIDI files. Surprisingly some of the old Roland canvas sounds, particularly from the sound FX section, are quite in vogue with current artists. Kitsch, but certainly useable.

roland.com

Korg **Wavestation**
Mac/PC $99.99

The beauty of this software reinvention of the Wavestation, is that alongside all the original presets and PCM content, you get the expansion card sounds too. Where the original synths allowed their wave sequences to wander, these sequences stay firmly in time with your DAW.

korg.com

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#03

Sidechain bass and drums

In this tutorial you'll learn how to use sidechain compression more effectively with your bass and kick drum

> **Let's start with the basics: compression squashes the loudest parts of an audio signal and boosts the quietest parts, ie reduces the overall dynamic range. Ideally, you should let a song breathe, meaning it should have some dynamics. But compression is a very useful tool used lightly.**

Sidechain compression is essentially when the level of one instrument causes a compressor to activate on another instrument. In this tutorial I'll be using Logic Pro X to show you how to use

sidechain compression on instruments that are competing for space in the same frequency range. There's no better example I can think of than bass and your kick drum, but you'll find this battle happening in other areas of the frequency spectrum too – such as your vocal sweet spot vs piano, synth etc. In the tutorial you'll see that by sidechaining the bass we're effectively ducking the instrument's signal to make sure the bass and kick don't fight, and to let the kick really thump in the track.

Sidechain compression is not just an effective engineering tool but also a creative one. Through the last decade and more we've seen this technique employed a lot in electronic music, particularly EDM. There's a very rhythmic feel to sidechaining that almost has a gated feel to it, and it's very common in danceable music.

Let me make clear that I'm using a very specific functional application of sidechaining. But you could creatively sidechain your bassline through any other component of your track.

>Step by step
1. Sidechain bass and drum in action
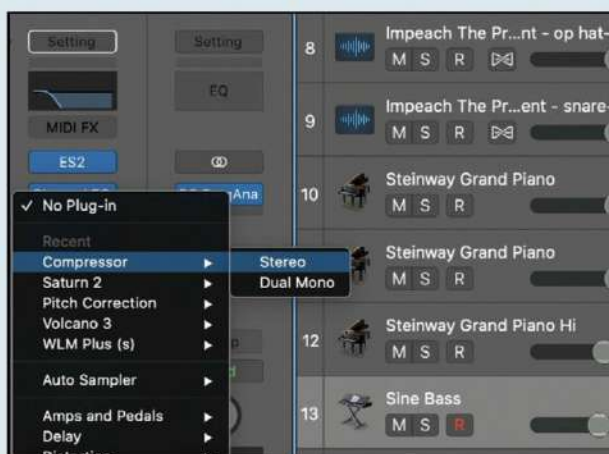
1 > So you have a new mix loaded up with your chords, a bass track and drum tracks. In its standard state, these elements of the track will probably sound OK, but you might notice the bass is masking the punch of your kick drum.

2 > Get a compression plugin on your bass track's channel strip. We're using this on the bass track because that will be the affected instrument, ie the compressed signal, momentarily reduced in its dynamic range.

3 > Select the sidechain dropdown in the top right of the compressor pane and select your kick as the instrument. This establishes where the input is coming from. This means the kick signal is going to the compressor on the bass track and the compressor will only act once that signal is received.

4 > De-activate the compression plugin at first and play back the song. Listen to how it sounds with and without. When you then activate the compression, you should be able to hear a sort of pumping effect. This is the sidechain activated so that the full sound of the kick comes through.

5 > To hear sidechain compression in its most extreme form, turn the Threshold dial on the compressor all the way up to -50 and turn your 'ratio' up too. This will exaggerate the effect so that you can see exactly how the bass is impacted.

6 > It should sound kind of like there's an attack on the bassline whenever the kick is triggered. In fact, there needs to be! Use Attack on your compressor and make sure it's set fast rather than slow. As a starting point, take the attack all the way down to 0 ms. You can then start adjusting the compression components to your taste and needs.

PRO TIPS
TOOLS OF THE TRADE

SHAPERBOX 2 FROM CABLEGUYS

Oh. My. Lord. Ever since I left Windows and FL Studio for Apple and Logic Pro X many years ago, I've been looking for a tool that matches the built-in plugin Grossbeat. Finally, though, I recently found something that's great for time effect, stutters, scratches, half time effects, filters and sidechaining. If you're looking for creative sidechain experimentation then this is a great tool. I am a little bit in love with it on the basis of what it's helped me accomplish, with minimal effort at that.

LOGIC'S BASS AMP SIMULATORS

I talked about recording bass into an audio interface last month. As I've been using Logic's stock compressor today, I also find it fitting to talk up Logic's stock bass amp simulators! You may be happy with your bass tone upon recording, but man oh man – the options in Logic make you think twice about sticking with what you have. Not only can you select the type of amp or cab you'd like, you get to mix and match between amp and cab styles, select the virtual mic placement next to the cone and use all of the individual features of whichever amp you choose to colour the sound.

Ashley Thorpe

Ashley Thorpe (aka Breezewax) is a producer and musician who has created electronic music for over a decade. He typically uses a mix of samples, field recordings, synthesis and live instrumentation in his work, which covers a variety of styles including hip-hop, chill-hop, neo-soul and RnB. He also works as a music facilitator and freelance audio engineer.

7 > Now change the Release dial. Similar to the attack, you also want a quick release time. The release is how long the compression stays active on the bass after it's come into effect. We just want to give the kick room but not to mask the bass.

8 > Bring the threshold back to about -25 and the ratio to about 3:1:1. While this is less extreme than before, because of the fast attack and short release window you'll still noticeably hear the punch of the kick and dip of the bass.

9 > The lower the threshold the more signal it takes for the sidechaining to activate. Find a good balance, bringing the threshold down, so that it isn't too overpowering. I also recommend de-activating and activating the compression plugin as you're working to hear what it sounds like with and without.

10 > By using that A-B comparison, you'll have a great gauge of how much sidechaining is best for the particular song you're working on. Subtlety can be key – if you're using sidechaining functionally you don't want the effect to stand out, just to give the drums that bit of space.


11 > Ratio will affect how much kick signal is coming through. You'll probably find that about 3:1:1 is where you'd want to be at. Just keep on adjusting the threshold to your taste depending on how extreme you desire the effect to be.

12 > Play your whole track through, using the A-B comparison to keep the changes you've made in focus. Hopefully, your kick is really coming through now but not to the detriment of the bass – just with a little ducking to make sure your low-end instruments are working harmoniously. **cm**

#14

Next level pad sounds

An essential part of contemporary production, this month we take our synth pads to the next level, with some pulse-width modulation
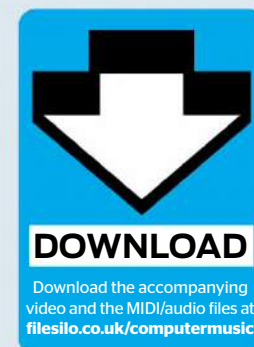
> **If there's one sound that polyphonic and plugin synthesisers can do really well, it's the pad.**

Originally intended as a facsimile of an orchestral string sound, the rise of the synth pad in commercial music goes back to the 70s, with the dominance of the string synthesisers that first appeared during this era. Before then, musicians were reliant on string sections, the history of which obviously stems back several hundred years, but the origins of the "swelling" nature of the sound are found therein.

Steeped in so much history, the synth pad can go far further than a conventional string section, however impressive a string section may sound. Synthesisers are particularly good at applying modulation, from one section of the synthesiser to another. A good example of this is vibrato, where a low frequency oscillator can be employed to alter the pitch of the sound, and create a vibrato effect. This month, our patch relies on a very similar modulatory path, but instead of altering pitch, we will use a low frequency oscillator to modulate the width of a square wave. Apart from being a very common practice, it creates a unique sense of depth and interest in a pad sound.

We will also make use of a second oscillator to provide even more interest, so grab yourself a copy of our ZebraCM plugin, and read on!

>Step by step
1. PWM pad 12-stage walkthrough

1 > Let's begin by initialising a patch on the ZebraCM. Open your DAW and load an instrument channel, armed with an instance of the ZebraCM plugin. Once the plugin window is open, move to the central display at the top of the window, click to reveal the drop-down menu, and select 'init' from the bottom. This will initialise the patch.

2 > The patch we'll create will be relatively intense, in terms of overall volume. Rather than risk overloading the channel, let's turn down the master volume, located bottom right on the plugin. Place the pot at a value of 50. Remember, when we change values on ZebraCM, we're watching the selected amount in the upper-display, on the plugin window.

3 > Moving to the Osc 1 section, click and hold on the waveform icon, and drag upwards until you see a square wave, which should result in a value of 2 in the upper display. While we're in this section, reduce the volume amount, using the Volume pot, to a value of 70.

4 > Over at the Osc 2 section, by default, we should hear a sawtooth waveform, which is what we want. However we do need to change its pitch. Adjust the Tune pot to a value of +12. This relates to semitones, and will place the second oscillator one octave above Osc 1.

5 > Rather than setting the volume of Osc 2 manually, we'll use Env 2 to do this for us. Within the Osc 2 section, assign the Volume pot to Env 2, using the drop-down menu, then increase the modulation amount, by clicking on the small dot next to the Volume pot, and increasing the value to its maximum of 100.

6 > Next, we turn our attention to the filter. Using the filter drop-down menu, select the filter called LP 12dB. This is also known as a 2-pole filter, and is at the more aggressive end of filter timbre. Now adjust the Cut-off amount, to a value of 95.

Dave Gale

Dave Gale is an Emmy award-winning media composer, producer and orchestrator, with an enormous passion for synthesisers, in all their forms. His varied composing style embraces everything from full orchestral and hybrid scoring, to fully electronic scores, employing synths wherever possible. He also happens to own some of the finest synths in existence but we're not jealous, OK?

PRO TIP

GOLDEN VOICINGS

By nature, pad sounds can be slightly overpowering and swamp other instruments in a mix. A number of actions can alleviate this. Firstly, it's common practice to EQ the low end of string sections or pads. A straight reduction in the lower frequency bands, or even a more radical roll-off, will help keep your pad sound out of the way of bass and kick drum sounds. If your track is very reliant on the pad sound, in more of a soloistic capacity, you may want to leave the low end frequency range as it is: it could sound very cinematic! Another approach, in more commercial settings, would be to think about the way you're voicing your chords. Voicing refers to the space between different notes, within a chord. For example, a straight triad could be considered a very tight voicing, as all of the included notes are relatively close together. If you use the same notes found in a triad, but space them differently, you're altering the voicing. Some voicings work better than others, and experience, or trial and error, will provide clues as to the most appropriate route. To begin with though, keep to basic triads, and place them relatively high on your keyboard, so that it's out of the way of lower frequencies.

7 > Let's now move to the envelope section and Env 1; this adjustment will control the overall volume of our patch. Adjust the Attack pot to a value of 20 and the Release pot to a value of 35. The other pots can remain unchanged from their default settings.

8 > Now move down to Env 2; this envelope is going to be used to exclusively control the volume of Osc 2. Set the Attack pot to a value of 70, and the Release pot to 40. This will give the effect of Osc 2 fading in after Osc 1, which gives a nice sense of movement and build.

9 > We can now turn our attention to the pulse width modulation (PWM) side of the patch; ensure that you have LFO1 selected in blue. The default should be a Sine wave. Then select 1/4 from the drop-down menu. This means that the LFO will be in sync with your DAW, providing one cycle per 1/4 note.

10 > Having made the settings in the LFO section, we now need to select the modulation destination. Moving back to Osc 1, select LFO1 from the drop-down below the Wave pot. Then set the Wave pot to a value of 1.50. If you play a note now, you will hear the PWM in action, while Osc 2 creeps in above it.

11 > To further complement our patch, we'll use some effects to assist in thickening the texture. One of the classic effects in this scenario is the Chorus. In the Effects section, double-click ModFX to activate, then move to the ModFX section, and select Chorus, from the drop-down menu.

12 > While the texture should already be relatively thick, you can go further by adding an effect such as stereo delay. Try setting different note or timing values, to the left and right channels. This will add even further interest, while prolonging each chord as it's released. **cm**

Back to BASICS

The Pro Producer's Guide To LIMITING

After guiding you through the basics of compression a few issues back, it's time to look at its mastering brother in arms, the limiter, and all of its subtleties

> One subject that seems to cause more confusion than any other among beginners and experienced engineers alike is the real difference between compression (in its many forms and plugins) and limiting. Here, we'll build on your knowledge of compression to explain what these subtly different tools are, how they work and how they can help you.

Limiters, levelling amps and expanders

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

Occasionally you may also come across a levelling amplifier. This is really just an old-fashioned term for a compressor. It was most famously used on the legendary Teletronix LA-2A of the 1960s and crops up occasionally on new equipment. Thanks to the vintage link,

"The rule of thumb is that if the ratio is 10:1 or higher, then the unit is considered a limiter"

it's more closely associated with retro-sounding compressors that colour the sound of any signal they compress. However, this is only a very vague rule of thumb. In reality, the differences between compressors, limiters and levelling amplifiers are so small that they should really be considered different variations on the same basic idea. The good news is that this means the controls tend to work in pretty much the same way. If you know how the threshold, attack and release settings work on a compressor you'll have no trouble with a limiter or levelling amp.

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

Maximising

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

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

The subtle distinction between general compression and using a limiter to maximise a

"Understanding what you're doing to a signal's dynamic range is key to getting good results"

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

Limiting and dynamic range

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

Dynamics processors such as Flux BitterSweet keep your transients in check

Alternatives to limiting

In mastering, compressors and limiters can be incredibly powerful when it comes to shaping the transient envelopes of percussive sounds, but there is an alternative. Rather than requiring you to set ratios, thresholds and attack and release times in order to squeeze the sounds into place, transient designers offer you control of the amount of attack and sustain. It can be a much easier way of achieving similar results, allowing the effect to do the hard work.

The SPL Transient Designer is the most well-known transient-shaping hardware unit, but a plugin version is also available and a number of other companies make similar effects. It's most commonly used on drum tracks, to manipulate the amplitude characteristics of hits, but transient shapers can be just as useful on other sounds with a percussive element. Synths, guitars and even vocals can be tamed or twisted. There are plenty of options out there and some of our recent favourites include oeksound Spiff, KiloHearts Transient Shaper and Sonnox Envolution.

Limiting hardware is a studio essential but in-the-box plugins will do the job at home

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

Transient shapers

Secondly, on a smaller scale, let's consider the situation when we compress a bussed drum mix. When a drummer plays, some hits will be louder than others due to the drummer's emphasis on certain beats and potentially due to some degree of inaccuracy (accidentally hitting the snare harder than intended on certain beats or fluffing a kick drum hit). If we use a compressor to tame the dynamic range of the hits, we can smooth out the variation in level between each one. Louder hits can be squashed, making the level more consistent, and this allows us to push the level of the quieter hits up to match.

But as the drums are compressed harder and harder, the dynamic range between hits is

> "Jazz tracks or more gentle acoustic music would typically benefit from the greatest dynamic range"

reduced. This may be desirable in some cases, but care should be taken to avoid squashing the dynamics to the point where the drummer's expression is lost.

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

The desired amount of dynamic range may vary according to genre. Jazz tracks or more gentle acoustic music would typically benefit from the highest levels of dynamic range in order to retain a realistic, lifelike sound, whereas the (slightly controversial) trend in recent years has been for pop, rock and dance music to be more squashed. This would mean a lower dynamic range might be acceptable if it meant the track would have the loud, squashed sound which we've become used to.

The temptation with limiters and compressors is often to go overboard, but care should be taken to avoid the squashed, lifeless sound which often occurs. **cm**

How to get your free sample pack worth $24.90!

A free copy of Electric Chill by W.A. Production for every reader!

This month, every *Computer Music* reader can download a free sample pack worth $24.90! Yes this 3GB pack of samples and synth presets can be yours for absolutely nothing! Here's how to claim it…

When the world is going mad around you, you need to chill out and maybe make some calming music. Well, Electric Chill could well be the set of samples you need to kick-start that composition. It's a huge pack of samples, loops and synth presets from W.A. Production. Here's what they say about it…

"We've been getting a lot of requests for tools suitable for more relaxed musical styles, so we were inspired to create Electric Chill for you all! So settle in and enjoy what it has to offer.

"Soft keys, airy pads, and smooth basses are just some of what you get in this fantastic pack. Plus, there are five construction kits to help you learn how the pros design their tracks. And there's much more included, so download it today!"

In order to claim this amazing set of samples, for free, simply follow the steps to the right. Enjoy!

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5	**Construction Kits**
47	**Melody Loops + MIDI**
32	**Drum Loops**
50	**Synth Shots**
10	**Claps**
30	**FX**
30	**Cymbals**
10	**Kicks**
10	**Snares**
50	**Synth presets**
100% Royalty Free	
Unzipped size: 3GB	
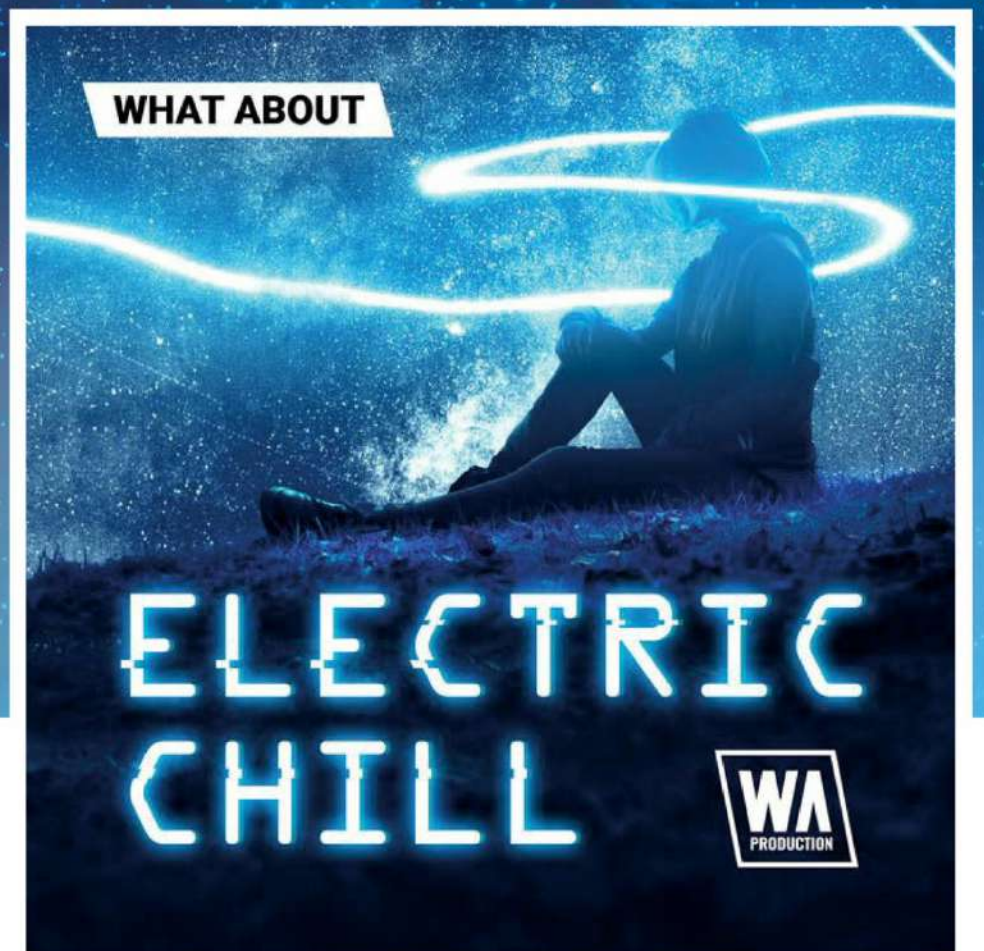
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The Electric Chill sample pack normally costs $24.90 but as a *Computer Music* reader you can download it for free!

1 Head over to WA production.com, register and search for Electric Chill or go direct to **waproduction.com/sounds/view/electric-chill**

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3 Click on the Shopping Cart icon at the top of the page. Remove any free collections that might appear.

4 Click 'Use Coupon' and enter **wa_cm_chill** as the discount code. Checkout and enter your email if asked.

5 Click the Terms box and Confirm Order. Now find the collection under My Orders on your profile page. Click View Order and download it here or wait for an email and click the download link.

cm/reviews

The latest computer music gear tested and rated!

Our promise

We bring you honest, unbiased appraisals of the latest computer music products. Our experts apply the same stringent testing methods to all gear, no matter how much hype or expectation surrounds it.

What the ratings mean

1-4 __ A seriously flawed product that should be avoided

5 ___ This product's problems outweigh its merits

6 ___ A decent product that's only held back by a few flaws

7 ___ Solid. Well worth considering

8 ___ Very good. A well-conceived and executed product

9 ___ Excellent. First-rate and among the best you can buy

10 __ Exceptional. It just doesn't get any better than this!

Awarded to products that challenge existing ideas and do something entirely new

A product has to really impress us with its functionality and features to win this one

If the product exceeds expectations for its price, it will receive this gong

In the opinion of the Editor, the best product reviewed in the magazine this month

Lurking beneath the retro-cool status of the dial-based interface, are a host of original and crafted Mellotron samples

Tape delay section

Patch memory menu

Filter and pitch controls

Spring and Modern reverb emulations

Tape direction and control buttons

Tape-speed brake, for wind-down effects

Lower manual for accompaniments

Balance control, between manuals

Sample loading menu

Upper manual for lead sounds

GForce Software   PC MAC
M-Tron MkII   £299.99

If vintage kudos and retro styling appeal to you, the latest update from GForce Software may provide some contemporary inspiration too

> Sixty years ago, when the 60s were really swinging and music technology was in its infancy, an extraordinary instrument appeared. Providing the unthinkable, you could have an instrument in your lounge, which would not be out of place with your home furnishings, that was literally a band-in-a-box!

The first sampler
The much revered Mellotron is considered to be the first sampler, long before digitisation took effect. Sounds were recorded, and stored on large numbers of tapes, with each providing a set of sounds that could be selected and played at will. The most commonly referred to sound can be heard at the beginning of *Strawberry Fields Forever* by The Beatles. The haunting flutes, generated by the Mellotron, have become iconic, but the Mellotron was capable of far more than just providing flutes. The dual-manual Chamberlin and MkI and MkII Mellotrons, provided a two-keyboard setup. The lower keyboard, or 'manual' as they're described, would provide accompaniments and rhythms, while the upper manual would provide lead sounds. We're all well versed with the Casio concept of the auto-rhythm within the lower

section of a home keyboard. Imagine the same scenario, but every time you pressed a note, you heard a full-on traditional rhythm section playing in a variety of different musical styles. Lest we forget, in the case of the Mellotron, every time you pressed down a note, a tape would roll and provide the audio, and unlike your old Casio, that's a lot of moving parts!

Plugging in!
It's hardly a surprise therefore, that good quality Mellotrons are rarer than hen's teeth. Enter GForce software, with their care and passion for vintage equipment, coupled with an

> "It's hardly a surprise that good quality Mellotrons are rarer than hen's teeth. Enter GForce software"

extraordinary capacity to reengineer vintage products in plugin form.

0782M-Tron MkII could be considered a sizeable update to their much adored Mk1 plugin. There is some degree of repetition, from the more familiar sounds, but it now offers a two-manual setup, which can be used across a full 88-note keyboard, or assigned to two smaller keyboards, if you want to go for that classic Mellotron combo look and feel.

In keeping with the traditions of the original machines, GForce have included all of the Mellotron sounds that were assigned across sections of tape, originally described as 'Stations'. The hardware models would scroll to the appropriate point on the tape, in order to produce the selected sound. Thankfully, that process isn't required here, but the concept has remained true. Hence the lower manual provides a full set of rhythms and accompaniments. Being of a certain era, these styles and accompaniments reflect the musical leanings of the age; you'll find plenty of swinging rhythms and bossanovas. In fact, the full 132 tapebanks are delivered through the authentic stylings of the new user interface, which includes more than 150 patches.

"M-Tron MkII is an incredibly appealing plugin, with a beautifully easy level of use"

While some of these patches have been heard before through the MkI edition of the plugin, the menus make it abundantly clear where the new content can be found, through the use of the MkII prefix.

Within the lower keyboard manual section, definition can be set between the rhythm section and accompaniments. The rhythm elements are where you will find the rhythmic musings of an acoustic band. The huge advantage of having these in plugin form means that you can synchronise them to the tempo of your DAW, and GForce have done a fantastic job of getting things to play nicely in sync. The accompaniment section, on the other hand, consists of elements such as organ and guitar chords, or even a string section. An indication of the original tempo is provided, so that you can move things to a new tempo that doesn't sound farcical, but by and large the synchronisation is effective and tight.

Taking the Lead

Switching to the upper manual, this is where you will find the lead sounds. There is plenty of choice in the shape of trumpets, trombones, guitars, violins, and far more. Of course, you also have the classic flute sound, with all sounds open to sample playback via DI or microphone captured samples.

The reworked GUI styling of the front panel is really beautifully done. Located centrally is a balance between the two manuals, while both of the manuals have independent control of a basic see-saw filter, which glides between low and high-pass filtering states. There is also a series of buttons to allow for speed alteration and direction of tape travel. In a somewhat related mode, but albeit performance related, the modulation wheel has been repurposed to provide a form of tape-brake. This is a really nice touch, as it allows the playback of a sample to be interrupted and slowed in real time, through the

The Mellotron has a hallowed place in music history

An accompaniment concept!

If there is one thing you can say about this plugin, it's that it is inspiring, in a weirdly nostalgic sense. While the lead sounds are unique and could certainly be regarded as being eerie in certain settings, the accompaniment and rhythm sections are a blend of musical, classy, cheesy and hilarious, and all in equal measure.

They form part of the time capsule element of this plugin and the M-Tron is all the better for it. There have been many pieces of music that adopt the samples as a backbone; Caro Emerald's album *Deleted Scenes from the Cutting Room Floor* places many of these

samples front and centre of not just the production, but the composition too.

It has also managed to infiltrate the wider world; you'll hear one of the rhythm samples used as the backbone to the theme song for the BBC series *Great British Sewing Bee*. With that level of inspiration, those date-stamped rhythm section outings could be just the thing to pique your inspiration, driving you to your next hit.

There are plenty of musical styles to call upon in the section, and who knows where your production inspiration and compositional prowess may end up taking you next.

Streetly Electronics workshop – the original home of UK Mellotron production

movement of the mod wheel, and it is highly effective indeed.

Tape-based performance

The M-Tron MkII is a heavyweight plugin; it clearly has one foot in the past, with the resplendent nature of the available samples which provide nostalgia, but with vast scope for contemporary inclusion in production work. There's a dedicated reverb onboard, in both emulated-spring and modern formats, alongside a delay channel, all of which may be assigned to either the lower rhythm/accompaniment manual, or the upper lead manual. Effects may also be applied to both of the manuals at the same time.

M-Tron MkII is an incredibly appealing plugin, with a beautifully easy level of use. Saving user patches is a simple procedure, and it's nice to see a layer of artist-based patches too, alongside a patch menu hierarchy. It makes it very plain where the original samples are held, alongside the curated patches. It holds a sonic immediacy when playing, with a stylish identity that clearly resonates with the vintage character of the source material. It's a highly recommended plugin for vintage aficionados and contemporary producers alike. **cm**

Web gforcesoftware.com

Alternatively

Logic Pro X – Vintage Mellotron
£Free (part of Logic Pro X)
You may already have access to the included Vintage Mellotron plugin. For a freebie, it's not bad at all

UVI – Mello
€99.00
The perfect little package, operating from within UVI's Workstation plugin

Verdict

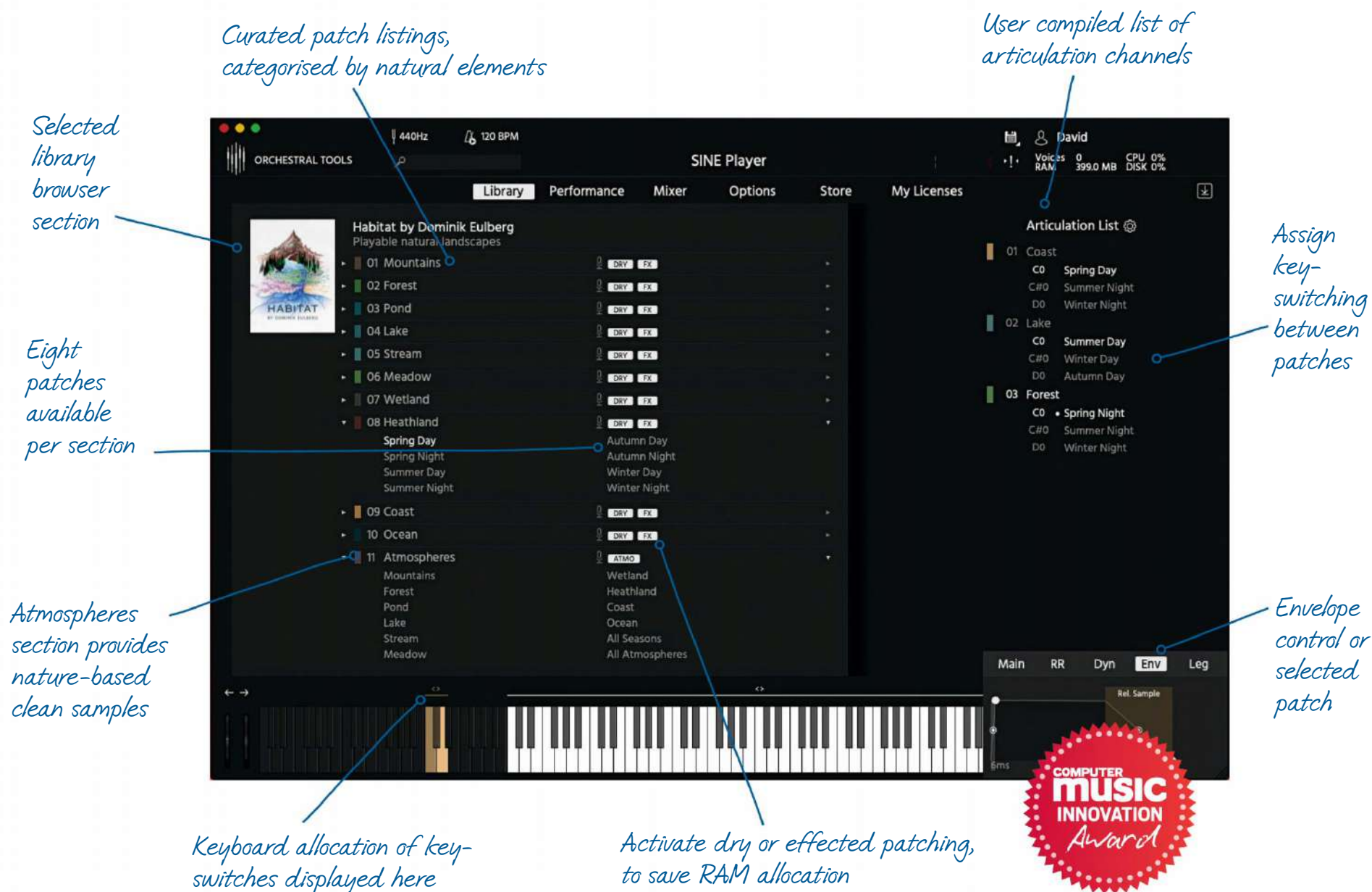**For** Classic reincarnation of the MkI/II version Mellotrons

Oozes retro cool and charm

The samples provide vintage character

Leads, rhythm accompaniments and artist patches, all included

Against Limited exploration options

If you want a Mellotron sound source with vintage character, this is the perfect fit, while providing plenty of inspiration

9/10

Curated patch listings, categorised by natural elements

User compiled list of articulation channels

Selected library browser section

Eight patches available per section

Atmospheres section provides nature-based clean samples

Assign key-switching between patches

Envelope control or selected patch

Keyboard allocation of key-switches displayed here

Activate dry or effected patching, to save RAM allocation

Orchestral Tools
Habitat €229 PC MAC

Linking synths, acoustic orchestral instruments and nature in exciting new ways, this is a great new resource for pads and creative textures

> Habitat is the culmination of a partnership between Orchestral Tools and polymath Dominik Eulberg; apart from his professional career as a producer working in electronic music, Eulberg is also a trained biologist, conservationist, artist and author. His working environment is heavily influenced by nature, being set in the heart of Germany's Westerwald mountain range.

Habitat operates within OT's SINEplayer plugin format, providing layering between synthetic and electronic sounds, and orchestral instrumentation. The brief for this suite is to create interesting textures and pads, but with an earthiness and degree of control that allows the user to sculpt the musical form very easily.

Analogue to orchestral
The patches are organised into 11 different categories; the first 10 contain instrumental elements for creating pads and textures, while the 11th category is entirely comprised of Atmospheres. These atmospheric elements from nature have been recorded on location by renowned sound recordist Jan Heft. Recordings from mountains, forests and streams are presents here in a literal form, although these elements are also scattered throughout the library, combined with some of the acoustic and electronics textures.

Heading back to the first 10 categories, these all conform to the same concept, each containing eight different patches based around one of the four seasons, with a day or night iteration. You are therefore presented with 80 musical patches, across the various naturalistic categories.

We begin with the first category called Mountains and the patch called Spring Day; layered with synthetic swells, and a sheen of acoustic strings, somehow the patch name indicates what we have here, with a bright and

optimistic outlook. In the performance of the sounds, it's vital to impress how important the use of the modulation wheel will be. All of the patches exist on two layers, with the modulation wheel providing a seesaw-style blend between the two. On top of this, there is a hearty mix of effects, which helps to amplify the overall textural construct. These are not sounds for melodies or basslines, but they are exceptionally interesting for creating impressive backdrops that can evolve and build, as you guide your harmony while balancing the layers.

Eulberg's stamp on this library is incredibly appealing. He has created an impressive hierarchy of synthetic elements, sourced from some of the classics of yesteryear alongside current models. These include classic polys such as the Prophet-5 and Jupiter 8, with modern offerings from the Moog One and Deckard's Dream Mk2. Where the original machines might only produce a monophonic signal, he has

"Moving through the library, you get a sense that it's been an enormous labour of love, for all concerned"

re-recorded the synth on a second pass, to create a unique stereo signal. You can hear this organic approach throughout the library, with the blend between the acoustic and synthetic elements often feeling very natural, despite the acoustic/electronic juxtaposition.

One such patch collection where these elements beautifully jar is within the Meadow section. The Summer Night patch crescendos, through the use of envelope-based pitch ascent, which is mirrored in both synthetic and acoustic layers. There's more aggression here, providing a degree of diversity against the beauty elsewhere, such as the Lake category, where you can hear the mild swell of the water lapping, with a glistening element, as though the sun is reflecting from the Lake's surface.

Effecting SINEs

Moving through the patch list in this library, you get a sense that it's been an enormous labour of love, for all concerned. The overall quality is undeniably impressive, bolstered within OT's SINEplayer, with the ability to control both the dry and effected instrument channels. As the Effect channel is sampled, these elements can be regarded as an intrinsic part of the sound within each patch, and we found that playing with the FX channel solo yielded yet another pallet of extraordinary sound design.

The SINEplayer itself is still in its infancy; by OT's own admission, it's still being developed, and while we found it to be very stable indeed, we love the way that you can organise patches for quick and easy switching. However auditioning patches and scrolling through them can feel slightly arduous and long-winded. There is a Performance page, which will make for lighter work of organising patches for performance, but overall we like the direction of

Dominik Eulberg provided the eco expertise
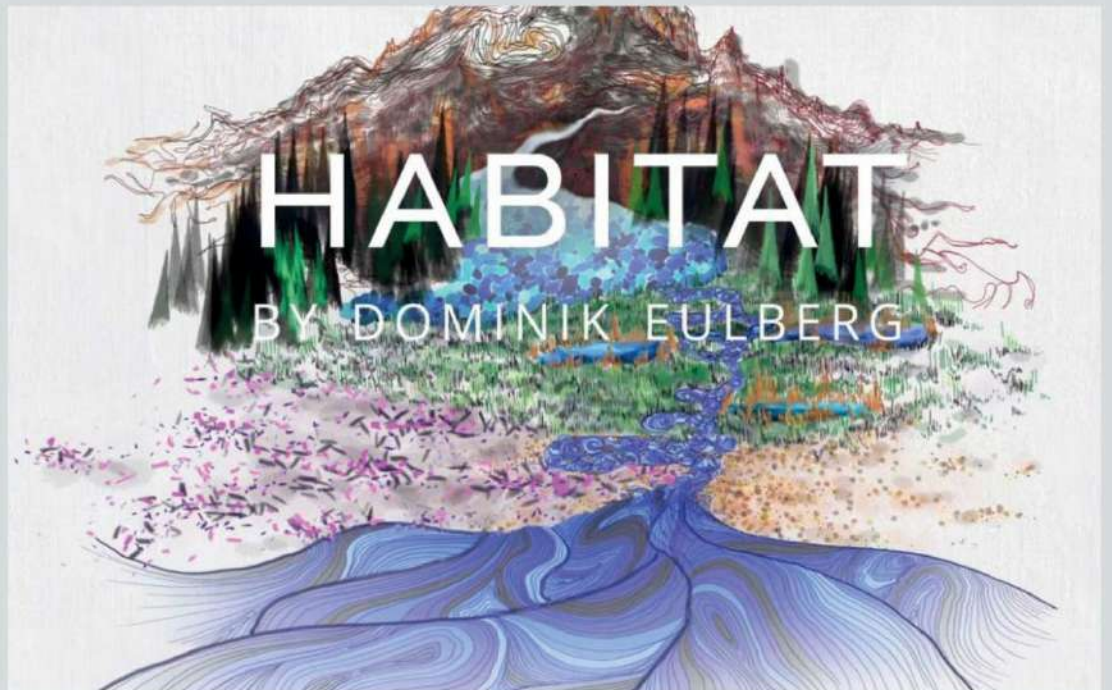
Pursuit of the perfect pads

The concept of the pad has arguably been around for hundreds of years. However, something of a revolution occurred in the 70s, as synthesisers and string machines provided greater sophistication and ease in polyphonic operation, and hence the synth pad was born. Consequently, it feels as though the pad has never left us, occupying a relatively central position in the production of electronic music, as well as ambient and soundtrack composition. Any product which brings a different shine to this arena is very welcome, and even more so if it bears the capacity to add interest to the concept. Where Habitat scores highly, is with its ability to blend two very different layers together. On the one hand, there is a vast supply of very high quality acoustic samples; recorded at the Teldex sound stage, the acoustic elements range from strings and wind, French horn, guitar and piano. These acoustic layers are organic in themselves, and bizarrely provide an influencing element to the electronic elements, which are also arguably organic, being overtly analogue in nature. The blend of instrumentation is sublime, and being compartmentalised through layering, provides a pad-based canvas that can evolve and build, as required by the user.

travel for this player, which is beginning to come of age.

As the sun sets....

While you could, in some ways, argue that this sort of adjective-based patch description might make it difficult to find what you want initially, the sounds and their names really do seem to make sense, in quite a literal way. Arguably, these names are no more opaque than the sort of patch names we are used to from other synths and plugins. You quickly get a feel for the sounds that you like, and learn to work and sculpt each patch, to suit your own musical purpose. You could be forgiven for thinking that much of this library might feel incredibly similar, but there is extreme instrumental diversity throughout, with a great mixture of calm and beauty, coupled with angst and agitation. Despite its overtly naturalistic origins, it can also sound very otherworldly and haunting. But there is no doubt at all that it is the textural control, through the use of MIDI CCs, that brings this library to even greater life, allowing the user to construct and sculpt as they go. In this regard, it is a highly unique library, and a strong testament to the creativity of Orchestral Tools and Dominik Eulberg. **cm**

Web orchestraltools.com

Alternatively

Spitfire Audio LCO Textures £249.00
Recorded in a huge aircraft hanger, coupling live instrumentation with natural, almost infinite acoustics

Native Instruments Straylight £179
Also provides layers, with granular control for unique, endearing pad-like cinematic constructs

Verdict

For Unique and engaging library
Blend of electronics/acoustic textures
The FX channel alone offers treasures
Patch elements conveniently available for individual purchase

Against Patch naming a tad esoteric
SINEplayer patch auditioning tricky

If textures and pads are a common requirement for you, Habitat is a class leader in sonic diversity and interest.

9/10

PROJECT WINDOW TOOLBAR
This easily configurable toolbar includes an array of key tools and information

STATUS LINE
Provides visual project settings and access to the settings pages

PROJECT ZONE
This is the main arrangement timeline area where you organise tracks and events

ZONES
Quickly select which of the zones are visible using the zone icons

LEFT ZONE
Here you'll find the context specific track Inspector and also the track Visibility list

AUTOMATION
New in Cubase 12, the multi-lane automation now includes sample accurate volume automation

RIGHT ZONE
Switch between Media Browser, Control Room, Meters and Instrument rack

SEPARATE WINDOWS
To break from panel layout, panels can be popped out

CONTROL ROOM
Access handy features like mono, dim and monitor level with this great feature

LOWER ZONE
This foldaway panel has five tabs for Chord Pads, Editor, Sampler Control, MixConsole and MIDI Remote

TRANSPORT PANEL
Visible below or standalone, this strip has all location and transport features
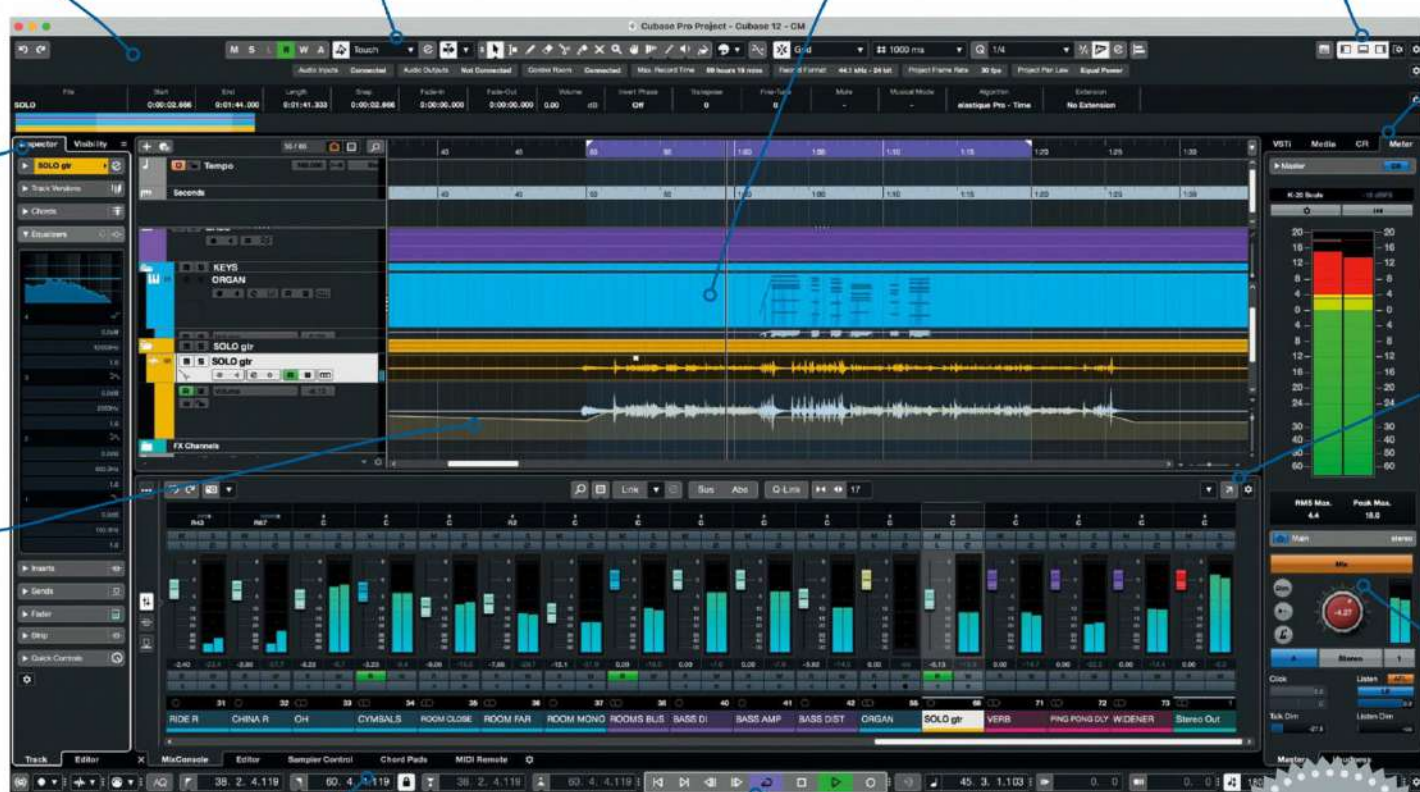
Steinberg
Cubase 12 £497 PC MAC

It's one of the major DAWs, with a wealth of awesome features. Let's see how the latest version 12 of this iconic application stacks up

> Cubase is one of the longest running and most successful DAWs available. In recent times it's successfully streamlined its performance, and through a succession of regular version updates added new and requested features.

Big news
In Cubase 11 we saw both new and improved plugins, enhanced content and many operational refinements. To some extent it's the same story in Cubase 12 and we look at some of these below. However, first some big news. Cubase has finally moved away from dongle protection to a new user-based system – Steinberg Licensing. We found the transition straightforward. The new system currently only applies to new versions of softwares, so you'll now find your Steinberg account includes two separate product categories, one for Steinberg Licensing and one for existing eLicensors. Once

we'd done our upgrade we were also left with a heritage eLicensor version of Cubase 11. One major advantage of the new licensing system is you can authorise up to three devices with your single licence.

More plugins
Cubase 12 includes two new plugins, Raiser and

"What makes FX Modulator special is that each module has its own customisable modulation curve"

FX Modulator. Raiser is a limiter and what marks it out from the crowd are five release modes. Four of these are automatic, but with different profiles. Some modes achieve really audible effects, which is great for drums. That said, you can also get more natural results, perfect for submixes and the master bus. We'd normally head for a compressor when adding flavour to our drums, but Raiser offers up a serious alternative to this.

FX Modulator is a wonderfully powerful multi-effects plugin with 14 modules and six slots. However, what makes it special is that each module has its own customisable modulation curve. This controls one or more of the module's parameters. Couple this with some of the more crazy effects such as Time Shifter or Frequency Shifter and you have a truly creative and slightly bonkers plugin, ideal for spicing up your audio. They've even thrown in 100 presets to get you started.

"Enhancements include support for high core-count CPUs and native support for Apple Silicon"

Verve is a new Halion-based instrument. Recorded at Yamaha's studios in Los Angeles, it samples a felt piano, which has a felt layer between the hammers and strings. It's arranged across a three-page interface – the core Piano, a sample-based synth layer (Texture), and Effects. Overall there's a pleasantly mellow theme throughout the 70 or so presets, and it makes for an interesting addition to the Cubase sound palette. We particularly like the twin delays (one for Piano, one for Texture), and general flexibility of the effects, which are great for creating spaced out patches. Next up, the SuperVision analysis plugin gets some new modules. For visual kicks, the Spectrum Keyboard, which maps frequency to a musical keyboard, is great, as are the beautifully rendered VU Meters.

Control

Cubase 12 introduces a new way to set up hardware MIDI controllers, including automatic detection for some devices. We set up an older controller from scratch, and the handy layout grid coupled with the Mapping Assistant and Functions Browser made this a pretty straightforward process.

Audio to Chords is a new analysis option. Using this is as simple as dragging audio from an audio track onto a Chord Track. Obviously, the analysis is dependent upon the complexity of the audio, but we found it reasonably successful at picking out quite complex chords. Sticking with audio and pitch, another new addition is Scale Assistant with VariAudio. You get Scale Suggestions based on the content, or can instead work from the Chord Track. There's snapping to pitch and we have to say the combination of features alongside VariAudio's excellent sonics make pitch correction easier than ever.

There are many further enhancements including support for high core-count CPUs and, of course, native support for Apple Silicon. AudioWarp can now be phase coherent for all events within a folder track, and there's now Free Warp audio editing directly in the Project

The excellent new FX Modulator plugin is included in both the Artist and Pro versions of Cubase 12

Versions

With three pay-for versions and two free bundled options (Ai and LE) Cubase 12 offers many entry points, and this can cause confusion, particularly when new headline features arrive. Find out more about the bundled versions here: steinberg.net/cubase/ai. Elements, Artist and Pro are all built on the same platform with a 64-bit audio engine and up to 192kHz operation. Track counts are unlimited in Artist and Pro, with Elements offering a very reasonable 64 MIDI, 48 audio, and 24 VST instrument tracks. Meanwhile Elements is limited to 24 physical inputs/outputs, Artist 32 and

Pro a whopping 256. There are, of course, differences in the number of included plugins, instruments and bundled content.

Thankfully a number of Cubase 12's headline features, including Audio to MIDI chords, the new MIDI Remote system, sample accurate volume automation, and of course the dongle-free Steinberg Licensing are found across all three versions. Meanwhile power features like the new export of selected events, and new limiter plugin, Raiser, are in Cubase Pro 12. For the new felt piano instrument and FX Modulator plugin you'll need Artist or Pro.

The Spectrum Keyboard is the most visually striking of SuperVision's new modules

window. For crossfades, there's now an advanced editor, while the workspace gains a fourth MixConsole. Time signature and tempo tracks can be imported from other projects and you now have two video tracks. The ever popular Quick Controls now get their own fold-down pane in the plugin window, and the Logical Editor has been revamped with new presets. Sidechained audio can be easily exported with its sidechain effect intact. There's also a new way to export selected events directly from the Project Zone and also a new dither option, Line One Dither. Finally, we await Dolby Atmos support, which will be in a forthcoming update. It's for Cubase Pro only, and despite the hype will likely not impact the majority of users. That said, it's clearly important that a professional audio mixing platform offers this feature.

As ever, existing users need to pay for the upgrade, although there is a grace period for recent purchasers of Cubase 11. As a guide, the upgrade from Cubase 11 Pro to Cubase 12 Pro is £85. Overall, we think Cubase 12 is a more significant upgrade than Cubase 11 was. Nevertheless, the key takeaway from v12 is that the DAW is more streamlined and better equipped than ever. **cm**

Alternatively

Presonus Studio One 5
From $100
One of the best DAWs you can buy, with some great content and slick Melodyne integration

Logic Pro
£175
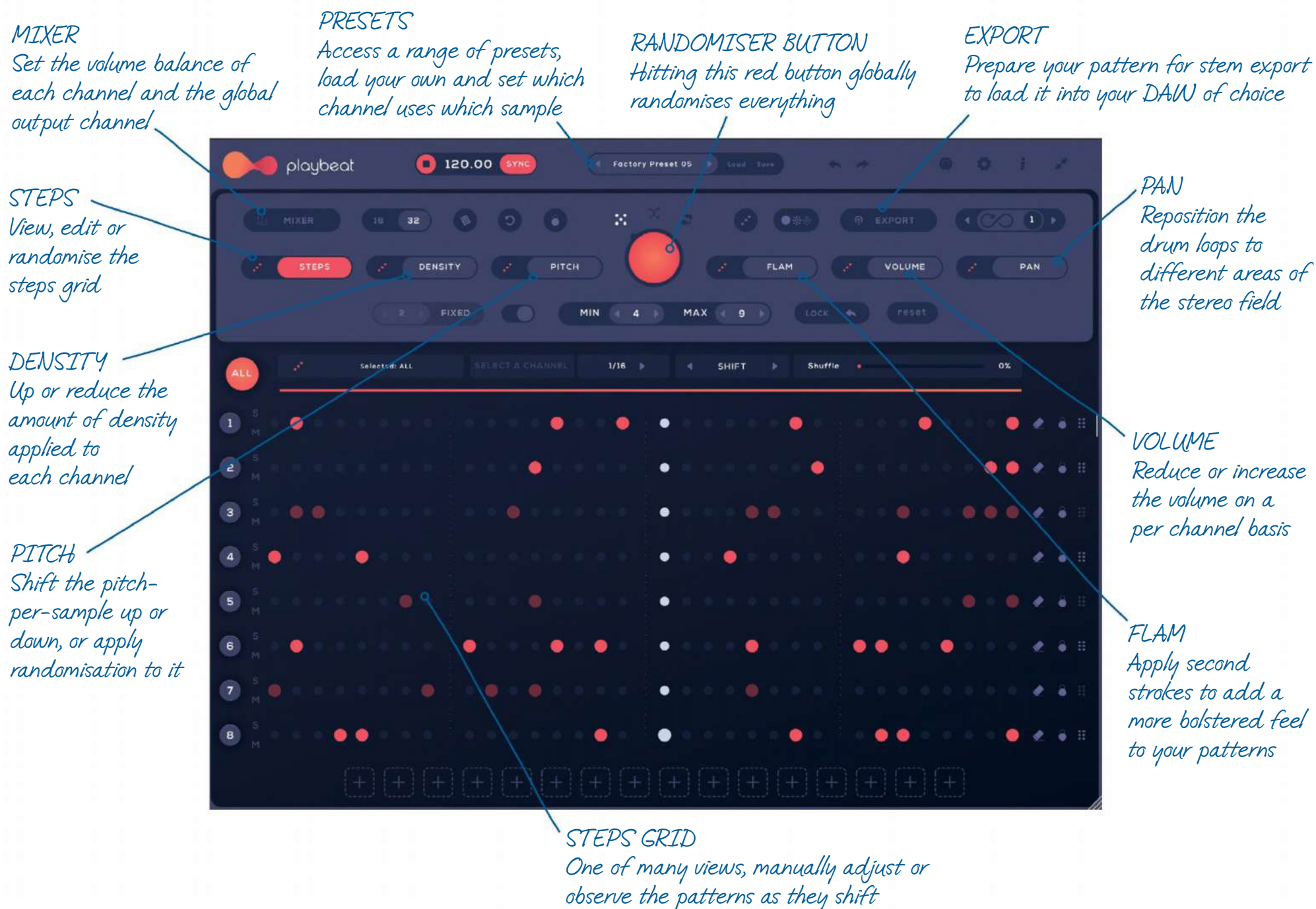One of the most feature rich DAWs available, and it's still drawing people to the macOS platform

Verdict

For Dongle free access at last
Up to three devices from one licence
Some excellent new audio plugins
Extension of Scale Assistant features to include VariAudio
Streamlined system for MIDI controllers
Extensive workflow improvements

Against Paid-for update

One of the strongest updates in recent times, offering a powerful, integrated experience across all three tiers

10/10

MIXER
Set the volume balance of each channel and the global output channel

PRESETS
Access a range of presets, load your own and set which channel uses which sample

RANDOMISER BUTTON
Hitting this red button globally randomises everything

EXPORT
Prepare your pattern for stem export to load it into your DAW of choice

STEPS
View, edit or randomise the steps grid

PAN
Reposition the drum loops to different areas of the stereo field

DENSITY
Up or reduce the amount of density applied to each channel

VOLUME
Reduce or increase the volume on a per channel basis

PITCH
Shift the pitch-per-sample up or down, or apply randomisation to it

FLAM
Apply second strokes to add a more bolstered feel to your patterns

STEPS GRID
One of many views, manually adjust or observe the patterns as they shift

Audiomodern
Playbeat 3 £50 PC MAC iPAD

A virtual drummer like no other, Playbeat 3 not only suggests rhythmic strategies, but opens an online ecosystem of creative sample sharing

> It takes your breath away to think just how far music technology has come in the last 40-or-so years. While its many evolutions – from 8-track mixers to DAWs say, or hardware synths to soft synths – have proven beneficial for most musicians (particularly those wanting to reduce clutter!). But, there are still those who look back misty-eyed at the era when manual input machines were all the home music-maker had to work with. It's likely that this type of nostalgist would find the algorithm-driven likes of Playbeat 3 an affront to their sensibilities. Audiomodern's updated virtual groovebox relies on multiple intelligent algorithms which can instantly take the lead, and if you so choose it to, they generate fresh beats instantaneously.

While this pattern-shuffling randomiser has been the USP of Playbeat since version 1 in 2019, version 3 takes the inherent 'cleverness' to a whole new level. With the introduction of the 'SMART' algorithm, Playbeat 3 now studies how you use it to make beats, pens some studious notes and applies these observations into its choices of randomised groove that fit your own style. Yes, Playbeat 3 is the latest example in a growing trend in essentially living, learning music technology. It's a trend that, for better or worse, is redefining the creative process.

Keeping time

But, let's not get bogged down in the broader issues of man vs machine. This perceptive third instalment of Playbeat has clearly been designed with the aim of fixing compositional hitches, and delivering routes forward, while still allowing a significant degree of manipulation and fine-tuning from the user. All this talk of a super-brainy, HAL-like observer might lead you to imagine a sizeable download, but Playbeat 3 conveniently comes in at a teeny 80MB. Loading

it into our drum track in Logic, we're thrust headlong into a circle-dominated world of circular steps. Playbeat's UI is relatively simple to get to grips with from the off. After loading a selection of drum samples into the 8-tracks (there are 196 factory samples bundled within the download) we're ready to go.

The main Steps Grid displays the current arrangement of the 8-tracks. Changes can be applied manually by selecting All or just an individual channel. Step editing is generally fairly simple, with self-explanatory controls for step quantity (with a max of 32), shuffle, shifting and duration. There's also the option to make sure that tight sequences you're happy with are firmly locked before you get too experimental with any global changes.

Across the top of the UI are arranged options to switch focus on editing the Density, Pitch, Flam, Volume and Pan of each sample. Most

> "Aimed at fixing compositional hitches, and delivering routes forward, while allowing significant fine-tuning"

prominent, at the top centre of the display, is a big, inviting red button. Hitting this allows Playbeat to immediately shuffle the parameters of all the potential options, while clicking the dice icon to the side of each button auto-switches the options for that chosen section in innumerable ways – moving samples around the stereo image in Pan, shifting the pitch characteristics in real time with Pitch, or spitting out a completely new rhythmic template by selecting the dice next to Steps. There is limitless scope. Quickly randomising any one of these eight sequencers results in immediate, hitch-free change. The Infinity Mode allows you to just sit back and watch as Playbeat generates a new pattern every time a new loop comes around, should you want to let Playbeat do the heavy lifting.

Get smart

While the software itself presents an easy-to-use, boundlessly creative launchpad for fresh rhythmic ideas, the ability to work with external drum machines and hardware synths opens up even greater scope to lean on Playbeat's smart deductive algorithms, and mine from an infinite repository of ideas to conjure forth new life from your dusty old physical arsenal.

Once you've built – or let Playbeat build for you – a sound and pattern that you're happy with, there's even more you can do to bring further colour or variation to your beat. The Remix option provides a way to build endless, sparkling remixes of your pattern. This not only can be used to add variation to your track, but can form the basis of something brand new. Selecting the icon (that elsewhere is universally regarded as 'Shuffle') provides you with an instant auto-remix, aka a slight adjustment to your existing beat, as opposed to a completely new pattern.

Deeper sonic tweaking can be achieved by accessing the Sample Editor; here's where you get a waveform view, with pleasing visual feedback allowing for the modification of start/end points, fades and the option to preview the sample in isolation as you work. There's not a whole lot of control here, but there's certainly

Audiomodern want you to use Playbeat to make your own packaged samples. Be rude not to…

One I made earlier

While Playbeat comes loaded with a nice bundle of free presets, it's worth noting that three sumptuous and flavoursome packs can be downloaded for free.

There's the dark techno of Refract, and the snarling compendium of loops found within Fuse and Fuse 2. The characterful packaging of these tailored beats might inspire you to create your own, which you can with ease. Drop any folder from your computer into Playbeat, and then slide across individual samples into any of your eight slots to build personalised kits. You can then save both samples and patterns and export with your own artwork and titling. It's easy to do and is a hell of a lot of fun.

Before you know it, those loops and hits are given a new lease of life within a vivid new sample pack.

Playbeat 3's patterns can shift dramatically, yet still feel delicately constructed

enough to feel like you're having an input into the overall sound, particularly if you're relying on Playbeat to form the pattern itself.

Playground

Playbeat 3 provides an alluring set of tools for anyone looking to launch their beat-making off into new directions, Audiomodern also encourage the creation, editing and packaging up of your own created preset sounds (with options to add artwork, titles and more) and share that with other users. This is a sweet way of not just presenting a tool, but maintaining longer term user engagement and prospective collaboration using the software.

In just a few days with Playbeat, we found ourselves working with rhythms we would not naturally build, exploring the hidden potential of even the flattest samples we'd had clogging up our hard drive for years. It's the fast lane for showcasing how creative beat-making and sequencing can be, and further demonstrates Audiomodern's knack for making captivating, creatively stimulating products. Another aspect, that nagging feeling that Playbeat has somehow got its eye on what you're doing, and is adjusting itself accordingly, adds to this at-times bewilderingly cutting-edge experience. **cm**

Alternatively

Slate + Ash Cycles
£275
An all-in-one sample grinding and bending machine

XLN Audio XO
£110
Smartly hoovers up your one-shot samples into a neat colour-coded cloud, ready for you to cherry-pick from. Superb

Verdict

For Super fast
Eight independently editable sequencers allow for deep tweaking
Encouragement to create personalised packs is a nice aspect

Against It's watching you…

Whether in need of fresh rhythmic inspiration, a new way to mold loops or seeking an aide to handle beats, you'll find what you're looking for – and more – here

9/10

Acoustic Samples
V Horns €199.00 PC MAC

Ever wanted to add some of that horn-like spice to your tracks? A virtual horn section may transfer your dream into reality

> When it comes to sampling, one of the hardest sections to replicate is the brass section. Layered with articulation and breath control, trumpets and trombones are notoriously difficult to reproduce.

The new section

Enter Acoustic Samples, who arrive at the party with a wealth of experience in replicating acoustic instrumentation. This library has been in the works since 2012, when they first started recording players with this title in mind – an indication of how long it's taken to get right.

The section we have here is not to be confused with the set of French horns found at the back of many orchestras. This instrumentation relates to that found in jazz, pop and funk settings. Horn sections, more often than not, include saxes. This is not the case here, where Acoustic Samples have prepared two trumpet instruments, two flügel instruments and two trombones. The reason for having two of each relates to the timbre of the instrumentation. Small details such as the colour of the instrument ie brass or silver lacquer, can drastically affect the tone of the instrument, hence Acoustic Samples have decided to offer two of each, by way of choice, allowing the option to work in a sectionalised capacity.

Each instrument also comes equipped with a healthy selection of mute samples, including straight, cups, buckets and plungers. V Horns is hosted by UVI's excellently reliable Workstation software, available in standalone and all the usual plugin formats.

Get down on it!

Beginning with the trumpet section, our opening salvo sounded pretty resplendent, but it becomes very apparent, very quickly, that you need to employ elements of real-time control, to get the best out of this package. Brass players exploit breath control, to allow for immediate and ever changing flow of air. This translates as volume, and hence dynamic tone. All of this is achievable, but it will take practice in playing a keyboard alongside a set of MIDI cc faders. Getting things perfect will most likely require some editing.

An Auto Time feature introduces a degree of vibrato immediately into the playing. We weren't overly fond of this, as it sounded a little fake, but controlling it via MIDI certainly yielded a better effect. The articulation at the front of each note feels secure, but the backend of notes feels less believable, even in a legato setting. Don't get us wrong, it isn't bad, but not the real thing just yet.

The flügel and trombone samples are a similar deal. The trombone didn't sound that believable in the lower pitch register, but it certainly looked effective on the screen, as the slide of the instrument moves around with each note played, even though some slide positions didn't seem to be correct.

Any package like this will sound weak when exposed, but if layered as a group section, and in context, it could sound highly believable. Each instrument is equipped with heavy-duty advanced editing features, and we found that using the additional microphone signals, set up at more of a distance, could benefit the sound in a more forgiving way. Impressive tech, but it will take practice to get the most out of it. cm

Web acousticsamples.net
Info Also available as individual instruments €99 each)

Alternatively

Sample Modelling Trumpet/ Trombone 3
£126.00 (Each)
Also employ some clever modelling software to provide scope for realistic performance of brass.

EastWest - Hollywood Pop Brass
$299.00
A completist, sample-based section, brimming with licks.

Verdict

For Effective software brass
Full contingent of mute samples too
Virtual Space and mic settings
Can feel highly realistic

Against Auto Vibrato gets tiresome
Trombone less realistic in low registers

A very clever suite, which employs some great tech to recreate that horn section sound, but it'll take some practice to get the best from the package.

7/10

EWI and breath control

If you're lucky enough to be able to play a sax or woodwind instrument, you could consider using some form of wind controller to play V Horns. The Electronic Wind Instrument (EWI) was originally developed by Akai back in the 80s, and has now developed into a relatively cost-effective device, equipped with USB and MIDI. There are now other versions of the EWI, from other companies, like the Aerophone from Roland, although the Akai model allows for fingering to correspond with existing wind and sax instruments. Also consider using a MIDI breath controller, although using this alongside a keyboard takes practice. These scenarios offer the ability to play the samples as a brass player might, and ultimately create a better perspective on programming. All that said, very respectable results are obtainable, via a keyboard and set of MIDI faders. This is by far the most common practice these days, and works for many existing keyboard players.

cm mini reviews

A rapid-fire round-up of hardware, samples, and much more

Shure
SRH840A £135

Web shure.com
Gear Closed-back headphones

Best known for their microphones, Shure are also significant players in the world of studio headphones, both in the consumer and pro audio sectors. Their redesigned SRH440A and SRH840A edge towards the former category, but are still competitively priced. We have the latter on test here which are designed for recording and content creation. They include a nice long (9-foot) cable – this locks into the left-hand earcup with a twist – a threaded gold stereo 1/8-inch to 1/4-inch adapter and a carry bag. These are closed-back cans, and come with 40mm neodymium dynamic drivers, and the overall feel and level of build quality is better than you'd get at the entry-level. These are comfortable cans, too – light enough for you to wear for long periods at a time, but not so featherweight that you'll forget you've got them on. They are solid performers across the frequency spectrum, revealing plenty of mix details but we wouldn't say that their response is completely flat. Good isolation too, so we'd put these in as good all-rounders and very decent for the cash.

8/10

Beyerdynamic
M70 Pro X & M90 Pro X

£219 & £249

Web beyerdynamic.com, polar.uk.com
Gear Dynamic broadcast and studio condenser microphones

We've been loving Beyerdynamic's new DT Pro headphones of late and now it's time to look at both of their latest M Pro microphones. Each has very different target audiences, but both of these might be you. With a similar build quality, design and bundle that includes a well-built stand and a very nice pop filter, they are clearly cut from the same cloth (you even get the same cloth type carry case), but look closer and differences are obvious. The M70 Pro X is a dynamic mic aimed at vocalists and streamers, with a grill that invites top down recording and a response that certainly delivers rich and deep vocals, whether sung or spoken. The M90 Pro X is more of a general studio workhorse condenser, with vocals, guitars and acoustic instruments its priority. It has more of a clean, clear and crisp mid and upper end for such tasks, but still delivers solid low end and isn't hyped in any way. Both mics do a fantastic job, then, but will stretch into each other's territories, so we'd say the 90 is the more versatile if quality instrument recordings for your DAW are a priority. Both are well priced for what you get too.

8/10 & 9/10

512 Audio
Limelight and Skylight

£145 & £190

Web 512audio.com
Gear Dynamic broadcast mic and studio condenser mic

In one of the strangest coincidences, we have another pair of mics aimed at the vocalist/broadcaster and studio recordist. 512 Audio are a new company, related to Warm Audio, so have the design calibre but the prices are perhaps keener. Limelight is the dynamic vocal mic and comes with a built-in pop shield. It is indeed great for podcasting and even singing but its main USP is that it does this in any environment – your room doesn't get in the way of the recording. It's well built, and only ever really falls down when you get too close but has an LF filter to remove the ensuing boominess. Otherwise a very decent, good value podcasting option. Skylight is still tuned for vocal recording but will do more than that, with a smooth top end we found great for acoustic instruments. Its more expensive price tag does get you more: a suspension cradle, a clip-on pop shield and more mic weight. And while it gets you great vocals, Skylight is, again, our choice of the two, simply as the more versatile recording option. Both look fantastic and are great value too.

8/10 & 9/10

Meters by Ashdown Engineering
OV-1-B-Connect-Pro

£289

Web metersmusic.com
Gear Bluetooth headphones

We tested our first Meters a couple of issues back – a relatively new company with distinctive meters on each headphone driver. It's a prominent feature but we're not convinced, simply as you can't see them! This set does allow you to change their colour by way of an app so that's something (we love colours). Their real standout features are bluetooth compatibility and noise reduction. There's also a 5-band EQ which indicates these are more about music listening than mixing as, really, you want a flat response to hear your mix in all its glory. That said, you could tweak it to be flatter and you will need to do that as we noticed a slightly pushed bass and treble. Wireless operation is good though – around 14-16 hours on a full charge; a couple if you use the quick charge option. Isolation is great too – another good option if you like to focus on your mixing rather than the outside world. This is thanks to the noise reduction feature which really does help close you off and concentrate. They're a little 'hot' for lengthy mixing and while more design-focussed over accuracy, they certainly distinctive and will stand out in any studio... especially with the lights out!

8/10

Soundware round-up
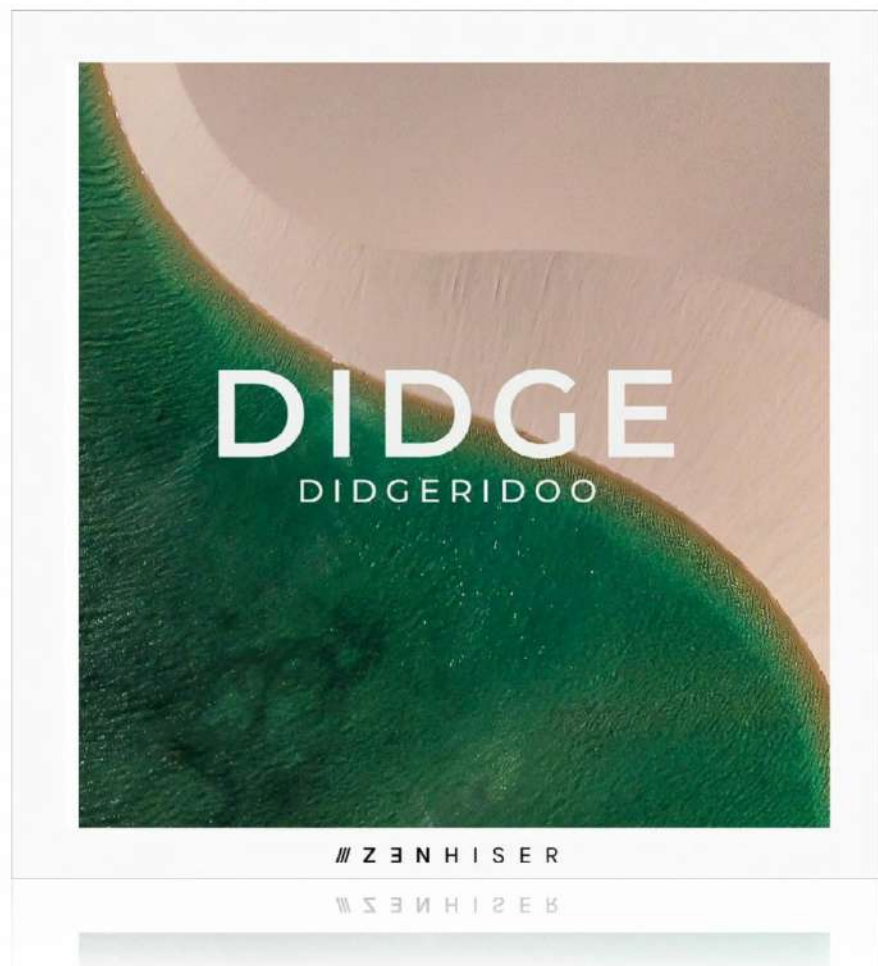
Zenhiser
Didge – Didgeridoo £33

There aren't nearly enough didgeridoo packs out there. But, hold on to your oversized hat: that stops today. The super classy crew at the Zen HQ have come back off their gap year, and laid down some sweet parps from the didge – and the results are corking.

The throaty burbling coaxed from this traditional instrument is notoriously difficult to recreate, digitally. So, this collection is a godsend for any producers wanting to add its distinct, deep and hypnotic energy to their tracks.

The playing runs through all the styles and phrasing you'd ever need, leaving you with the fun task of setting it to some throbbing club beats. G'day, indeed.

zenhiser.com

9/10

Mode Audio
Dispersion £18

More swirling, mood-enhancing soundscapes to fog up your moody electronica. The nebulous noises in this beefy, but budget pack, are real pea soupers – thick and funky, with flanks of them dark and dense and others, bright and ethereal. The music comes from a fair collection of dangerous drones, pungent pads, silken strings, and billowing bass rumbles, built from the ground up to melt and mutate before your very ears. The findings are packaged neatly next to some MIDI files, and a more than decent stock of complementary drum samples, too.

modeaudio.com

8/10
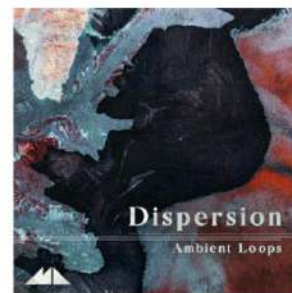
Mode Audio
Burst £16

There's been an explosion in the drum machine factory! Luckily, you're a first responder and don't mind the messy clean up. There's sounds galore, all over the floor. And a shedload of tweakable channel strip presets and serious sampler patches, waiting to be scooped up. Elsewhere, crisp claps, open and closed hats, snares, killer kicks, and plenty of percussion litter the ground. So, roll up yer sleeves and fill them boots. Once the dust settles, you'll have saved quite the library of synthesised tub-thumping for your troubles.

modeaudio.com

8/10
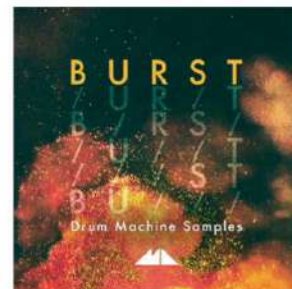
UNDRGRND Sounds
Analogue Disco Basslines
£14.95

Sometimes a sample pack title gives you a little shiver in the spinal region. 100 (count 'em!) super slinky, fat and funky basslines from the era of mirror balls and sore noses. It's the kind of slapping, stomping, freaking, tweaking grooves that are itching to get all up in your DAW business. And, with the entire lot repped in MIDI form too.

undrgrndsounds.com

8/10

UNDRGRND Sounds
Raw Techno £19.95

Pulsing, punishing, and perfectly processed: the hard as nails techno treats in this stomping sample set will have your beats whipped into shape, quick time. The tough, kick-heavy drums force the path of progress forward, as the hypnotic bass and synth work channels the mind to a razor shape point. It's not for the fainthearted. But, if you like your sounds strict, lean, and mildly terrifying, then this is the right can of analogue whoop-ass to open gleefully on your next unsuspecting dancefloor.

undrgrndsounds.com

8/10

W. A. Production
Quirky Character Voices
$12.45

Another kooky collection of weird and wild vocal loops and hits from this frankly certifiable sample house. The 370 utterances tucked away in this curious little cluster come from a mix of squeaky chipmunks and low-pitched ghouls. Perfect, if you're looking for bizarre dialogue lines, off-beat noises, and strange phrases to add mood, build a theme, or offer curveball punctuation before your next well-executed freaky bass drop. There are ten sets to choose from, with three dozen samples in each.
waproduction.com

7/10

Audiotent
Ether £37 − £67

Cosmic collection of presets for Arturia's Pigments synth. This 107 set wide library gives the sample and harmonic engines a real ragging, pushing out an expansive set of sonics from deep within.
Twist and terrorise the four smartly mapped macros, and coax a cacophony of crazy cool sounds for your next masterpiece, why not? The sound design is exemplary, and sure to please. This title comes in three editions, ranging from the Standard for producers who just want the presets. To the Ultimate set, stocked with MIDI, WAVs, and bonus project files.
audiotent.com

9/10

RAWthentic
Barato Bounce Vol.1 £15

The first sample pack from industry vet, Nathan Barato (who founded the RAWthentic brand back in 2004). The Toronto native sets the bar high for this new series, digging into his hot and heavy crates of house and tech house track-starters. The basslines shimmy and shake, and feel ripped clean out of one of his many club-rocking releases of late. And all the drums punch way above their pay grade on such a budget pack. "Barato" may translate as "cheap" (thanks, Google), but, there's nothing cut-rate going on here.
samplemarket.co.uk

8/10

Loopmasters
Off Grid Soul £24.95

Glitchy grooves and off-kilter frequencies to the fore in this futuristic set of sultry funk-drenched samples. Freaktronics and lopsided beats also muscle their way in, as layered percussion and stoned vocals look on from the back. It's a real mulch of double-dipped beats and riffs, with everything a little sunburnt, and a tad tipsy off the liquor. Speeds start in the mid-80s, and top out around 115bpm. But it all feels like the chill pills were laced with something a little special. Perfect partners, then, for your neon and neo soul adventures in paradise.
loopmasters.com

8/10
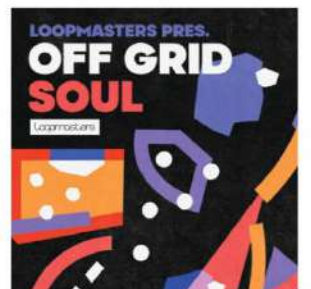
SoundGhost
Abstract Drums £10

Five serious-faced drum kits for left-of-centre beat bods to freak and tweak. Each star turn contains a batch of one-shot hits, a smattering of super useful MIDI files, pre-formatted software presets for all the top DAWs, and your audio loops. Each kit has its own distinct style and tone, and the range offers up everything from live and organic to tight and techy. Real kits and their electronic brethren provide the knocks. And the whole lot come in crisp, and with a quality to brag about.
soundghost.net

7/10
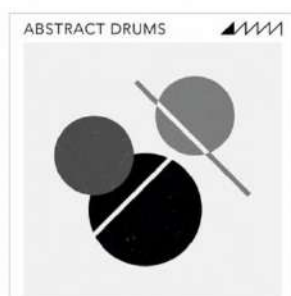
Sample Diggers
Lo-Fi Beats & Cuts £29.95

You can almost see the palm trees and feel the warm breeze as you leaf through this glorious spectrum-spanning set of phat track matter. It's chilled LA-centric hip-hop, with a crusty, hazy, lo-fi goo and glory stirred through. Deep keys, heated bass riffs, and loose and layered drum programming make up the first attractions in this 1GB pack, with muted trumpets and other subtle brass selections sailing slickly up, next. Loops run between 70-85bpm. So, if that's your speed, you'll know how to lean into this languid lot.
loopmasters.com

8/10

Bingoshakerz
Twisted Tech House $19.95

Crowd-pleasing collection of song kits for your consideration. Each one full to the tippy top with pounding drums, analogue tops and lows, and some finger-snapping percussions lines. And, as with this format, all the drag 'n' drop loops laid out for you have been processed and mixed, so they are raring to get going. The finely polished sounds come correct in WAV and REX2 formats. And, to get your grin that extra bit wider, they also bundle up all the MIDI you'll be wanting, too. Classy-ass stuff, and a real hoot to pull apart.
bingoshakerz.com

8/10

12inchsounds
Raw Tech House £19.95

Oi! Oi! Having a good night, mate? Where you from? I'm all over this Raw Tech House sound. The price? Same as the year... It's like the proper old skool era, mate. They know the legacy, yeah? Remember warehouses and mystery car rides to outdoor raves? White labels! 12" records! My back's knacked! Yeah yeah. Proper job. Massive drums. Dub sirens. Phat analogue basslines. It just sounded better. Kids these days have no idea. Huh? Hang on...This is my jam! Catch ya laters, yeah? Sorted. *[TLDR the writer is expressing approval of the pack's authenticity – Eds]*
loopmasters.com

8/10

cm / downloads

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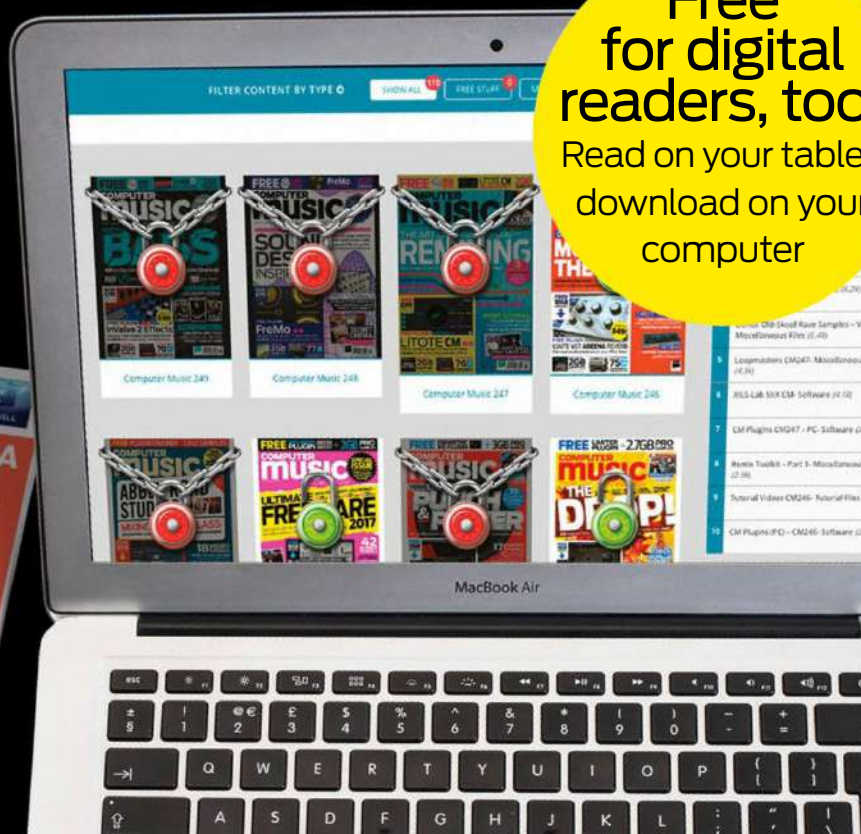
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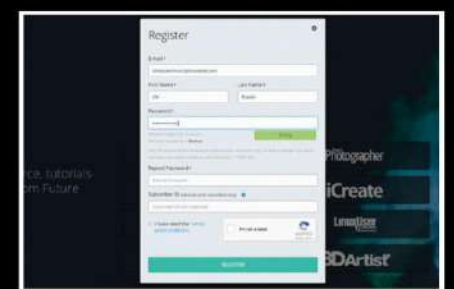
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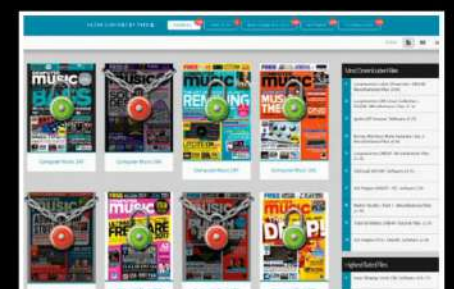
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cm PLUGIN SUITE

cm SUITE V2.0

The **cm** Plugin Suite is world famous for delivering the instruments, effects and utilities you need to make music, and you get it free with every issue! Here's your guide to v2.0

> The **cm** Plugin Suite is a collection of complete, limitation-free instruments and effects. It's an incredible resource, boasting more than 80 pro-quality Mac and PC plugins that, in most cases, you won't find anywhere else, all in VST and AU formats. The included software is created exclusively for us by respected commercial developers such as D16 Group, u-he, AudioRealism, KV331 Audio, Cableguys, XILS-lab, AudioThing, Vengeance-Sound, Rob Papen, zplane and more.

FREQUENTLY ASKED QUESTIONS

Enough talking! Where do I get these plugins?
You can grab them all from FileSilo (see **p81** for instructions on how to access). There is a simple text file there with WeTransfer links for a faster download too.

How do I install cm Plugins?
It depends on the plugin. Some have dedicated installers, while others just drop into your plugin folders. There's a bit more info below and on p84, and there are installation instructions for each in the **How To Install** file in the **CM Plugins** folder.

What do I need to use them?
A PC or Mac and a music program (aka DAW) to host them. You need a DAW that can host VST or AU plugins, such as Ableton Live, Reaper, FL Studio, Cubase, Sonar (PC), Logic (Mac) or GarageBand (Mac). A totally free and great option is Tracktion Waveform Free.

What happened to...?
As of **cm**209, almost all **cm** Plugins are 64-bit compatible. The few older **cm** Plugins – such as Amplifikation CM, Rhino CM and KR-Delay/KR-Reverb – are now included in **32-bit only** subfolders. These require either a 32-bit host or a suitable 'bit bridge' (eg, jBridge) for use in a 64-bit DAW.

**More questions? Full FAQ here
bit.ly/cmpluginsfaq**

Plugin folder locations

So how does your DAW know where to look for your plugins? Actually, it might not. Mac users have it easy, as there are OS-specified folders into which plugins are installed. These folders can be found by going to your Library folder (if you can't find it, go to the Finder's **Go** menu, hold **Alt**, and a **Library** option should appear). Find the **Audio** directory, and then the **Plug-Ins** folder within. There you will find more folders still. One will be labelled **Components** – this is where your AU plugins reside. Other folders will be found alongside it for **VST** and **VST3** plugins. If you're a Pro Tools user, you'll find your plugins in an Avid folder. If your installers don't automatically install the plugins into the proper folder, you should manually copy them into the relevant folders listed above.

One caveat: there will likely be two sets of folders under two different Library locations. One is for all users, the other is for administrator use. If your DAW has trouble seeing a plugin, you might need to move it from one Library to the other, though the system folder is usually the one to use. Uninstalling plugins from OS X usually requires little more than putting the Component or VST file in the Trash. Sometimes an uninstaller will be offered to you, though, alternatively.

On Windows, you can choose the location of your VST plugins folders. Some DAWs will create one automatically when you install them, but both DAW and plugin installers often give you an option of pointing to the plugin directory that you'd like to use. It usually looks something like C:\Program Files\Steinberg\VST Plugins.

Some plugins are delivered as only DLL files, and need to be copied to your chosen directory. Once you've installed your plugins, think twice about moving them. Some plugins rely on support files installed into the same directory. To duplicate plugins elsewhere on the drive, use shortcuts on Windows (right-click to create one) or aliases on Macs (Cmd-Alt-dragging).
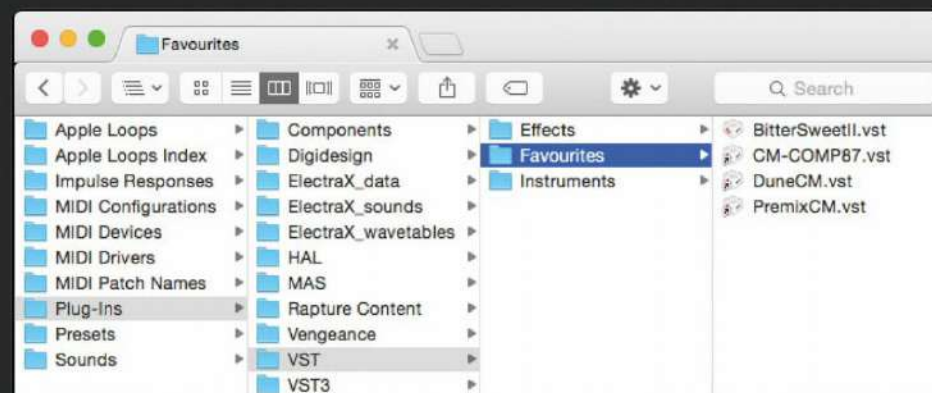
If you're using Apple's OS X, all your VST, VST3 and Audio Units go into pre-determined locations

THE CM SUITE V2.0
INSTRUMENTS

HYBRID SYNTHS

Our synths have been created by the best software developers in the world to bring you a suite of sound-making tools for all music production scenarios

u-he Zebra CM
• Blendable oscillator waveforms
• Super-programmable step LFOs
• Slick delay, reverb and chorus
• Recently updated
• Original synth designed just for CM
• AU/VST, 32-/64-bit
u-he.com

u-he Bazille CM
• Patchable modular synthesiser
• Sequencer and Mapping Generator
• Audio-rate modulation, Fractalizer
• Recently updated
• AU/VST 32-/64-bit
u-he.com

Dmitry Sches Thorn CM
• Dual spectral oscillators/analogue/harmonic filters/spectral/real-time effects/glitch sequencer and arp
• VST/VST3/AU/AAX, 32-/64-bit
dmitrysches.com

Synapse Audio Dune CM
• VA and wavetable oscillators
• Powerful per-voice modulation
• 12-slot modulation matrix
• Based on the full version of Dune
• AU/VST/RTAS, 32-/64-bit
synapse-audio.com

Seaweed Audio Fathom CM
• Monster modular polysynth
• VA, FM, wavetable, additive + more
• Envelopes, LFOs and sequencing
• Tons of filters and effects
• Recently updated
• AU/VST, 32-/64-bit
fathomsynth.com
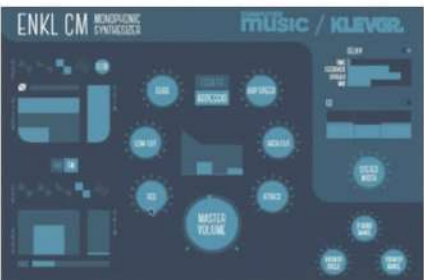
Klevgränd Enkl CM
• Fun, quirky one-oscillator monosynth
• AU/VST, 32-/64-bit
klevgrand.se

Cableguys Curve 2.6 CM
• Design-your-own-waveforms synth
• Phat 16-voice Unison mode
• AU/VST/RTAS, 32-/64-bit
cableguys.com

Psychic Modulation Phonec CM
• Retro-inspired four-voice synth
• Two oscillators, noise osc and sub
• EchoShifter, Chorus and Melt
• Four envs, two LFOs, arp and seq
psychicmodulation.com

Cherry Audio Voltage Modular Nucleus
• Eurorack-style modular environment
• 22 modules
• As sold for $29
• PC/Mac, AU/VST/Standalone
cherryaudio.com

VIRTUAL ANALOGUE SYNTHS

Get the sounds of sought-after circuits with our classic collection

LinPlug Alpha CM
• Dual oscillators with wave blending
• Mod matrix, slick chorus effect
• Polyphonic glide between notes
• Based on the commercial Alpha
• AU/VST, 32-/64-bit
linplug.com

XILS-lab PolyKB II CM
• Models the ultra-rare PolyKobol
• Packed with mix-ready presets
• Assign knobs to main parameters
• Based on XILS-lab's PolyKB II
• AU/VST/RTAS, 32-/64-bit
xils-lab.com
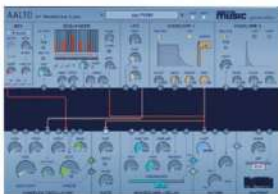
Madrona Labs Aalto CM
• Unusual oscillators with FM
• Intuitively patchable modulation
• Onboard reverb • Step sequencing
• Based on the full Aalto synth
• AU/VST, 32-/64-bit
madronalabs.com

XILS-lab XILS 3 CM
• Modelled on the EMS VCS 3 modular
• Authentic circuits of the original
• Pin matrices to 'patch' signal flow
• AU/VST, 32-/64-bit
xils-lab.com

DRUM MACHINES

Groove boxes and drum machines for perfect beat production

XILS-lab StiX CM
• Drum synth with sequencer; load preset kits/grooves; apply effects, mix sounds; polystep modulation and more; AU/VST, 32-/64-bit
xils-lab.com

Thenatan Trax CM
• Sample-based drum machine
• 20 awesome preset kits
• Noise layers and distortion
• Pitch, Filter and Reverb
• AU/VST, 32-/64-bit
thenatan.com

brunsandspork Grooove CM
• Load in two samples per sound
• 50 built-in **cm** Micro Kits to play
• AU/VST, 32-/64-bit
brunsandspork.com

AudioRealism ADM CM
• Old-school-style drum machine
• Emulates Roland's TR-606
• Also contains custom **cm** samples
• AU/VST, 32-/64-bit
audiorealism.se

SAMPLERS

Import, slice and loop your audio files with these creative and highly customisable instruments

Expert Sleepers XFadeLooper CM
• Creative crossfade-looping sampler
• Hard Sync mode and modulation
• Saturation section, flexible looping
• AU/VST, 32-/64-bit
expert-sleepers.co.uk

OTHER INSTRUMENTS AND CREATIVE PLUGINS

Sequencers, scale players and other instruments to help your creative flow

Loopmasters Loopcloud CM
• Sample management system with instruments and much more
• Free pack of over 2.5GB of samples
• Audition samples in your music
• 100 credits to spend
• VST, AU or AAX, 64-bit
loopcloud.com

zplane vielklang 2 CM
• Pitch-correct and retune audio
• Harmonise melodies with ease
• Level and pan harmony voices
• Algorithms by zplane's experts
• AU/VST, 32-/64-bit
zplane.de

RF Music Scale Player CM
• Play scales in new, creative ways
• Set a 'home' note and scale
• Play other keys to alter settings
• Based on the full Scale Player
• AU/VST, 32-/64-bit
rfmusic.net

HY-Seq Collection 2 CM
• Analogue-inspired sequencer
• 16-step MIDI instrument
• Up to 12 global snapshots
• Three reorderable FX modules
• AU/VST, 32-/64-bit
hy-plugins.com

Rob Papen RG-Muted CM
• Create realistic funk guitar grooves
• Onboard sequencer
• Effects and modulation options
• Based on Rob Papen RG
• AU/VST, 32-/64-bit
robpapen.com

Eisenberg Einklang CM
• Morph between a trio of oscillators
• Envelope and timbre controls
• Modulate tone with the LFO
• Based on the full Einklang synth
• AU/VST, 32-/64-bit
eisenberg-audio.de

Loading plugins in your DAW

Though there are a wide variety of DAWs, each with its own unique interface, there are similarities when it comes to loading up and using plugins, and most stick to one of two approaches. The first – as seen in Steinberg's Cubase, Apple's Logic, and Cakewalk's Sonar – involves insert slots on a track or mixer channel. These are used in the same way as an insert effect would be used on a hardware mixer. In other words, the effect is placed 'in line' on that mixer or track channel.

Plugins might be loaded in by the use of a dropdown menu tree or by right-clicking in the effects slot. Clicking in the insert or effects slot in certain DAWs – Cockos' Reaper, for instance – will reveal a dedicated browser from which the desired plugin may be then selected.

It's common to stack multiple effects plugins together to form an effects 'chain', much in the way a guitarist might connect various stompboxes together to form a custom sound. In some DAWs, these effects chains may be saved and recalled at a later time.

If your DAW uses a sidebar browser, here you can find your plugins displayed and possibly arranged into categories. The plugins may be dragged into the project and placed directly onto a track or channel. Ableton Live, Bitwig Studio, Cakewalk's Sonar and PreSonus Studio One can all open effects and even instrument plugins in this manner.

On the subject of instrument plugins, we should discuss the different methods you might encounter when loading up instruments. As mentioned, sometimes they can be dragged and dropped from a browser onto a specific track. However, many DAWs distinguish between instrument and audio tracks, so you'll need to keep this in mind. Those that allow you to drag instruments in from a browser might offer the choice of using an existing instrument track or creating a new one. Some DAWs (Cubase, Sonar) allow you to open instruments in a 'rack' and then connect to them from MIDI or instrument tracks. Others (Logic) make a plugin menu available from the track itself.

EFFECTS

DYNAMICS

From classic compressors to modern digital creations, we've got everything you need to shape your signals with this huge collection

Toneboosters Sibalance CM
• Pro de-esser and de-harsher
• Four modes for different use cases
• Reduction and Attack parameters
• (AU/VST, 32-/64-bit)
toneboosters.com

eaReckon CM-COMP 87
• Slick, punchy compressor
• Mix knob for parallel compression
• Limiter to keep the output in check
• Clear VU- and LED-style metering
• AU/VST, 32-/64-bit
eareckon.com

SKnote Snap
• Boost or tame transient brightness
• Brighten or dull a sound's sustain
• Uses two intelligently-linked filters
• Not based on any existing plugin
• AU/VST, 32-/64-bit
sknote.it

LVC-Audio Transector CM
• Transient tweaking and saturation
• Define and process envelopes
• Useful metering and visualisation
• (AU/VST, 32-/64-bit)
lvcaudio.com
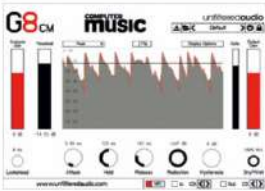
Unfiltered Audio G8 CM
• Get tight dynamics or creative FX
• Includes advanced gating controls
• Real-time waveform display
• Use MIDI as a trigger or output
• AU/VST, 32-/64-bit
unfilteredaudio.com

WA Production Outlaw CM
• Gain-rider plugin
• Set an RMS Target level
• Razor-sharp metering
• Gate and wet/dry Mix
• AU/VST, 32-/64-bit
pluginboutique.com

HoRNet DrumShaper
• Instant EQ & compression for drums
• Dial in effect amount and in/out gain
• 7 algorithms: kick, snare, loops, etc
• Based on HoRNet TrackShaper
• AU/VST, 32-/64-bit
hornetplugins.com

WA Production Puncher CM
• Three-pronged mixing multieffect
• Boost transients for punch
• Four-band multiband compressor
• Weighty parallel compression
• AU/VST, 32-/64-bit
waproduction.com

HoRNet Fat-FET
• FET-style compressor
• Similar to the classic Urei 1176LN
• Ultra-fast attack as low as 0.02ms
• Based on HoRNet MultiComp
• AU/VST, 32-/64-bit
hornetplugins.com

D16 Group Frontier
• Superb mixing/mastering limiter
• Set Threshold and Output
• Choose detection and release styles
• Soft Clip control for drive/distortion
• AU/VST/AAX, 32-/64-bit
d16.pl

Ignite VST Vice One
• Talented compressor sold for $49
• Choose between analogue or
  digital response characteristics
• In/out and gain reduction metering
• AU/VST, 32-/64-bit
ignitevst.com

Toneboosters Barricade CM
• Intelligent mastering-grade limiter
• Dynamic response controls
• Stereo options, versatile metering
• AU/VST, 32-/64-bit
toneboosters.com

WA Production MultiBender CM
• Multiband tempo-synced delay
• Additional saturation, bitcrush and
  detune effects
• AU/VST, 64-bit
waproduction.com

audioD3CK SunRuys CM
• Characterful bus compressor
• Dry/wet mix and blend controls
• Advanced options to go deeper
• Based on the full SunRuys plugin
• AU/VST/RTAS/AAX, 32-/64-bit
audio.d3ck.net

ANALYSIS

Rule the waves and make your music come alive before your very eyes with the help of this pro-visualisation tool selection

Blue Cat Audio FreqAnalyst CM
• Pro-quality, feature-packed analyser
• Numerous customisation options
• Based on Blue Cat FreqAnalyst
• AU/VST, 32-/64-bit, RTAS 32-bit
bluecataudio.com
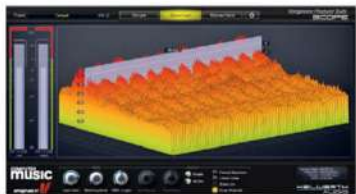
Vengeance-Sound Scope
• Spectrum for frequency analysis
• Oscilloscope for waveform view
• Stereo phase and level metering
• Tons of advanced analysis options
• AU/VST/AAX, 32-/64-bit
vengeance-sound.com

cm PLUGIN SUITE

EQ/FILTERS

From basic clean-up to juicy, analogue-style and creative effects, sort your spectrum with these great signal-sculptors

eaReackon CM-EQUA 87
Three-band EQ with high/low shelves (AU/VST, 32-/64-bit)
eareckon.com

Acustica Audio Pink CM
• Analogue-modelled API-alike EQ
• Four EQ bands, two with shelf toggle
• Output adjusts to match Input Trim
• Cut from the full Pink channel strip
• AU/VST/AAX
acustica-audio.com

DDMF CM EQ Pack
• Two superb equalisers
• IIEQ Pro CM: 19 filter types
• LP10 CM: Linear phase EQ
• Based on commercial DDMF plugins
• AU/VST, 32-/64-bit
ddmf.eu

Vengeance-Sound Philta CM
• Dual high- and low-pass filters
• Four slope settings: 12/24/48/96dB
• Resonance and width controls
• Link function and notch mode
• AU/VST, 32-/64-bit
vengeance-sound.com

AudioThing The Orb CM
• Morphing vowel formant filter
• Choose five vowels from a list of ten
• Move the dot to change the sound
• Smooth, Gain and Mix to refine
• AU/VST, 32-/64-bit
audiothing.net

AudioThing ValveFilter CM
• Gorgeous filtering and drive
• Low-pass filter circuit emulation
• Vintage valve saturation section
• Based on Valve Filter VF-1
• AU/VST, 32-/64-bit
audiothing.net

Minimal Audio Rift Filter Lite CM
• Next generation morphing filter
• 24 types of filter in four categories
• Move between filter shapes
• Offer also includes sound packs
• AU/VST, 64-bit
minimal.audio

Overtone DSP AF2-10 CM
• Four-band EQ with ten filter types
• Band gains adjustable +/-24dB
• Flatten and clear curve, resize GUI
• AU/VST, 32-/64-bit
overtonedsp.co.uk

OverTone DSP Program EQ CM
• Pultec-style vintage EQ emulation
• Dual bass boost/attenuate knobs
• Tube amplifier circuit-only option
• AU/VST, 32-/64-bit
overtonedsp.co.uk

DELAY/REVERB

Add space and ambience, or throw your sounds into a completely new dimension

Baby Audio Baby Comeback CM
• Delay plugin with several modes
• Free mode to select delays between 0.01 and 2500ms
• AU/VST, 32-/64-bit
babyaud.io

PSP Audioware cmDelay
• Modulatable delay with LFO
• Dial in delay time, filtering and width
• Feedback and ping-pong operation
• Based on the full stompDelay
• AU/VST/AAX/RTAS, 32-/64-bit
pspaudioware.com

JMG Sound/United Plugins Hyperspace CM
• Algorithmic reverb
• Three modes, nine parameters
• Edit using a Character XY Pad
• AU/VST, AAX, 32-/64-bit
unitedplugins.com

LiquidSonics Reverberate CM
• Convolution reverb
• Import your own impulse response
• AU/VST, 32-/64-bit
liquidsonics.com

Acon Digital CM Verb
• Based on Acon Digital's Verberate
• AU/VST, 32-/64-bit
acondigital.com

Ignite VST Areena
• Beautiful algorithmic reverb
• AU/VST, 32-/64-bit
ignitevst.com

Surreal Machines Microfuse
• Delay/reverb hybrid plugin
• AU/VST, 32-/64-bit
surrealmachines.com

MULTIEFFECTS

Get your creativity all in one place with these all-purpose plugin effects

Audified Tonespot CM
• EQ, saturation, punch compressor, leveller with distortion, multi effects and finalizer
• Point and shoot 'instant' plugin
• AU/VST, 32-/64-bit
audified.com

HY-FX CM
• Choose one of 22 processors
• LFO, Envelope Follower and Sample & Hold modulators
• Wet/dry mix for parallel processing
• PC/Mac, AU/VST/VST3
hy-plugins.com

Tek'it Audio CrossDr CM
• Three independent bands of drive
• Drive, Warp, Crush and Clip signals in three parallel bands
• AU/VST, 32-/64-bit
tekit-audio.com

Subsonic Labs Wolfram CM
• Pitchshifting, distortion, phase-shifting, panning, delay and filter
• Flexible modulation
• AU/VST, 32-/64-bit
subsoniclabs.com

LVC-Audio T-Chain CM
• Take your choice of six effects
• DynoPhuzz CM distortion effect
• Two dynamics processors to try
• EQ, ClipShifter and filter effects
lvcaudio.com

DISTORTION/SATURATION

Warm up your signals with these saturators, waveshapers, clippers, guitar amp/cab sims and more

Klevgrand Stark CM
• Guitar/bass amp with 3-band EQ
• Dual-mode cabinet section
• Ambience stage with three sizes
• Pedal FX slot with 14 processors
• AU/VST/VST3
klevgrand.se

Kuassa Amplifikation 2 CM
• Twin-channel guitar amp
• Three cab models
• Flexible mic positioning
• AU/VST/VST3/AAX, 32-/64-bit
kuassa.com

NoiseAsh SpeakerSim CM
• Four speaker models
• Onboard EQ and HP/LP filters
• Internal limiter and distortion
• In/Out level, Mono/Stereo
• VST/AU/AAX, 32-/64-bit
noiseash.com

Audiffex STA Enhancer CM
• Valve-style signal exciter/enhancer
• AU/VST/AAX, 32-/64-bit
audiffex.com

Sonimus Satson CM
• Classic mixer channel emulation
• Subtle warming saturation
• Gentle, musical high/low filters
• Full Satson Buss also available
• AU/VST, 32-/64-bit
dsp.sonimus.com

Rop Papen RP-Distort CM
• Five crunchy distortion algorithms
• EQ, dynamics, widener, modulation
• Filter and parallel processing controls
• AU/VST, 32-/64-bit
robpapen.com

Audio Assault GrindMachine CM
• Five amp and ten cab emulations
• 3-band EQ plus depth and presence
• Djentbox to tighten low tunings
• AU/VST, 32-/64-bit
audioassault.com

Audio Assault BassAmp CM
• Ampeg-inspired bass amp sim
• AU/VST/AAX, 32-/64-bit
audioassault.com

Mercuriall U530 CM
• Emulation of ENGL's E530 preamp
• AU/VST, 32-/64-bit
mercuriall.com

HoRNet Graffio CM
• Flexible three-flavour distortion
• AU/VST/VST3/AAX/RTAS, 32-/64-bit
hornetplugins.com

Lindell 6X-500 CM
• Classic preamp emulation with EQ
• AU/VST, 32-/64-bit
lindellplugins.com

Shattered Glass Audio Inferno CM
• Two analogue preamp models
• AU/VST, 32-/64-bit
shatteredglassaudio.com

OTHER

More esoteric and incredibly useful plugins

Auburn Sounds Panagement CM
• Psycho-stereo toolkit plugin
• Place sounds with Binaural Pan
• Edit perceived distance and width
• Stereoise mono sounds
• AU/VST, 32-/64-bit
auburnsounds.com

Caelum Audio Flux Mini CM
• Volume, filter and pan modulator
• Draw in levels on screen
• Creat complex or subtle movement with ease
• 36 presets
• AU/VST/AAX/RTAS, iOS, 64-bit
caelumaudio.com

New Sonic Arts Freestyle CM1.5
• Host and chain together your cm Plugins VSTs
• Route and split signal paths
• Event Player for simple sequences
• Save snapshots of whole setups
newsonicarts.com

Nyrv Agent CM
• Create custom effects chains with this valuable utility plugin
• Host your VST/AU plugins
• Design your own interface
• Based on the full Agent plugin
• AU/VST/AAX, 32-/64-bit
nyrvsystems.com

Dotec-Audio DeeMonitor
• Handy monitoring utility plugin
• Emulate NS10, Genelec and Auratone 5C speakers in your DAW
• Invert and Solo left and right feeds
• Mid/Side balancing + Output gain
• AU/VST, 32-/64-bit
dotec-audio.com

Inear Display Litote CM
• Granular effect to slice and dice signals on a microscopic level
• Tweak speed and introduce jitter
• Adjust the Timbre Frequency, Feedback and Diffusion
• AU/VST/AAX, 32-/64-bit
ineardisplay.com

HoRNet FreMo
• Mini frequency modulator effect
• Oscillator frequency can be set manually or follow input pitch
• Scale the oscillator from 1x to 10x
• Set mod amount and osc waveform
• AU/VST/AAX, 32-/64-bit
hornetplugins.com

JST & Boz SideWidener
• Add stereo width to mono sounds
• Signal retains mono compatibility
• Goniometer for stereo visuals
• Three widen modes, Width & Tone
• AU/VST/AAX/RTAS, 32-/64-bit
joeysturgistones.com
bozdigitallabs.com

4 New Synth Packs!

After last issue's vintage synths of the 60s, 70s, 80s and 90s, we have four all-new 21st century synth packs! Get them from **filesilo.co.uk** or **wetransfer**

21st Century Monos

Robbie from Cyclick has cooked up two packs of 21st century synths, dividing them neatly into monos and polys. Here's what he has to say…
"Previous decades have defining synth features, be it the self-contained analogue beasts of the 70s or the buzzy wavetable/PCM digitalia of the 90s, but the the 21st century has seen a mixture of new hardware workstations, the advent of the VST and softsynths, and a whole series of rediscoveries of synths of the past. With this in mind, these two packs cover a variety of these sounds and approaches across the only universal synthesis formats: monophonic and polyphonic.

"For the monophonic pack, though most of the synths used are capable of polyphony, they've been employed here as monosynths, whether that's one-voice or multi-voice unison. The instruments are presented as looped lines in six tempos and include basses, leads and arpeggiations. Some of the instruments used have been captured as multisamples with SFZ files to drop into any compatible sampler."

GEAR USED
Kurzweil K2600R synth/ sampler/FX monster
Arturia V Collection synths
u-He Zebra 2 synth
Cableguys ShaperBox 2 and Curve 2
UAD plugins Eventide plugins
Soundtoys plugins
(continued right)

21st Century Polys

And on his Poly pack of 21st century sounds, Robbie adds…
"These samples haven't been split into pads, hard synth, brass, etc, as these categories can get a little subjective, plus it's nice to go for more of a lucky dip, maybe letting the enigma of the naming guide you.

"14 of the 23 instruments have contributed a set of three chord hits each, while ten have offered themselves up as multisamples (see below). The chord names follow the standard nomenclature with the symbol '-' replacing the usual '/' as that isn't allowed in filenames.

"The multisamples (mostly) run from C1 to C5 and have their sustain loop points embedded into the WAV file for easy transportation into samplers. A set of SFZ files are also included to save any manual key mapping. All multisamples are run with four even spaced notes per octave (C, D#, F# and A)."

GEAR USED (Continued)
FabFilter Timeless 3
iZotope Ozone 8 (plugins) and Neoverb
Unfiltered Audio Dent 2 and Fault
Valhalla FreqEcho
LiquidSonics Seventh Pro Heaven
Sonic Charge Echobode
Steinberg Nuendo 11

C21 Hard Synths

Now it's time for Oli from Groove Criminals to detail his two synth packs which again have been neatly divided, this time by hard and soft...

"We've concentrated on a few synths that we love: Korg Volcas, TE Pocket Operators, Behringer reissues, Arturia Microfreak, to name a few.

"Sadly the Prophet Rev 2 is only on loan to us but it's a lovely modern polysynth with a proud history. We love the ease of modulating any of the controls: everything from spiky rhythmic percussion sequences to lush moving pads. We love the Mother 32 and Monologue monosynths for their powerful sound and quirky nature. The Mother 32 with its extensive semi-modular patchbay easily talks to our Eurorack/CV setup. For modern synths there's our Soma Lyra-8: eight voices, paired in four groups of two and played using touch contacts rather than a keyboard, it's a drone/noise/strange texture machine and we love it. We've also included a few textures fed through a Moogerfooger LPF with various expression inputs being controlled by the OBNE Expression ramper."

GEAR USED

Sequential Prophet REV2

Korg Monologue

Moog Mother 32

Roland TR-8

Soma Lyra-8

Moog Moogerfooger LPF

Old Blood Noise Endeavors Expression Ramper

C21 Soft Synths

Oli from Groove Criminals turns to the soft side now with our final new pack of 21st century synth samples...

"And finally, to pair with our 21st Century hardware synths sample pack, we have the software synth version! The last couple of decades have been just as kind to lovers of software synths as it has to hardware fans.

"Although there have been hundreds of great softsynths releases since 2000 (and we regularly use dozens of them), we have chosen arguably (in our personal opinion) two of the most influential, Native Instruments' Massive and Xfer Records' mighty Serum.

"Both of these softsynths have their fingerprints on several genres of electronic music and we love the modulation options and workflows on both, as well as the distinct differences."

"Massive has the samples arranged by atmospheres, FX, loops and pads while Serum has drones, effects and loops. There's also a Multis folder with eight multisample setups."

SELECTED GEAR USED

NI Massive (V1)

Xfer Records Serum

FROM THE **cm** VAULT

DOWNTEMPO DREAMS

522 CLASSIC SAMPLES

including...

275	BPM-synced loops
30	Beat loops
88	Drum hits
5	FX
16	Bass loops
37	Melodic loops

We're going back to issue 260 (October 2018) for our classic Vault sample pack this month and enjoying the relaxed vibe that comes with it. It's hand-crafted by Cyclick and Groove Criminals and full of blissful chords, drones, soundscapes and FX, along with a raft of BPM-synced melodic loops and drum grooves for good measure.

> Step by step   How to get your free sample packs

1 > Now we are DVD-less, there are two ways to get your free samples. The first is, as ever, from FileSilo at filesilo.co.uk. Create an account there if you haven't already, and select *Computer Music* from the main page.
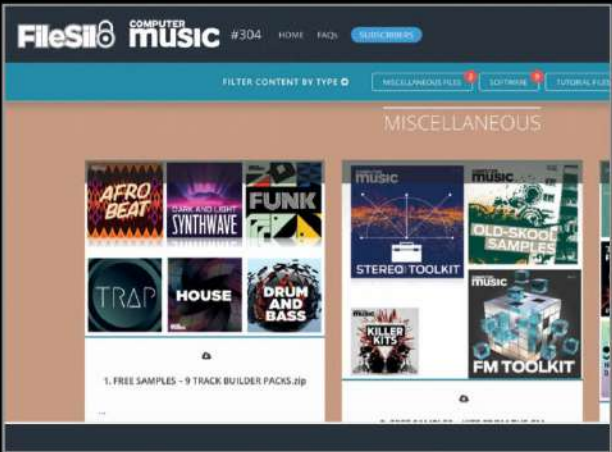
2 > Click this month's cover and answer the simple question related to a word in this issue (not the one shown above!). This will get you access to all of the samples and plugins to download directly.
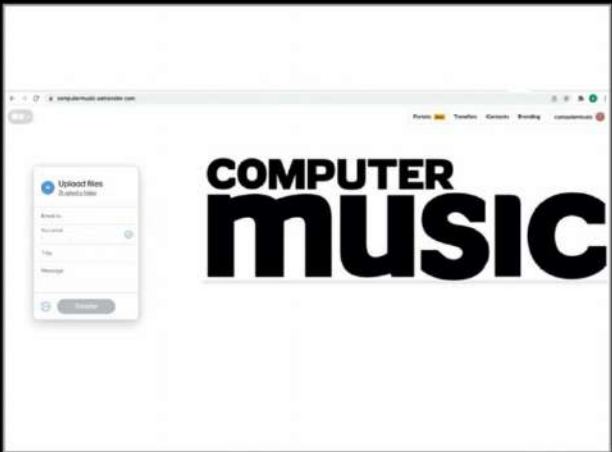
3 > If FileSilo is running slowly, simply download the text file called "Speed issues with FileSilo". This has links to all of this issue's content via our WeTransfer page. These will be larger files but you should be able to download them faster using this method.

loopmasters

Loopmasters cm308 samples

01 **Ghost Syndicate** Carbon Drum & Bass
02 **5Pin Media** Organic House 2
03 **RV** Raw Hypnotic Techno
04 **Mask Movement** Tarantino Guitars 2
05 **LM** DJ Trax - Deeper Drum & Bass
06 **ZTEKNO** Unknown Light

MODE AUDIO

Mode Audio cm308 samples

It's another set of demo samples showcasing the latest releases from Mode Audio. There's a free pack of demo samples from six titles including Crush – LoFi Drum Samples, Stasis Melt – Synthwave Loops and Plasma – Granular Texture Samples.
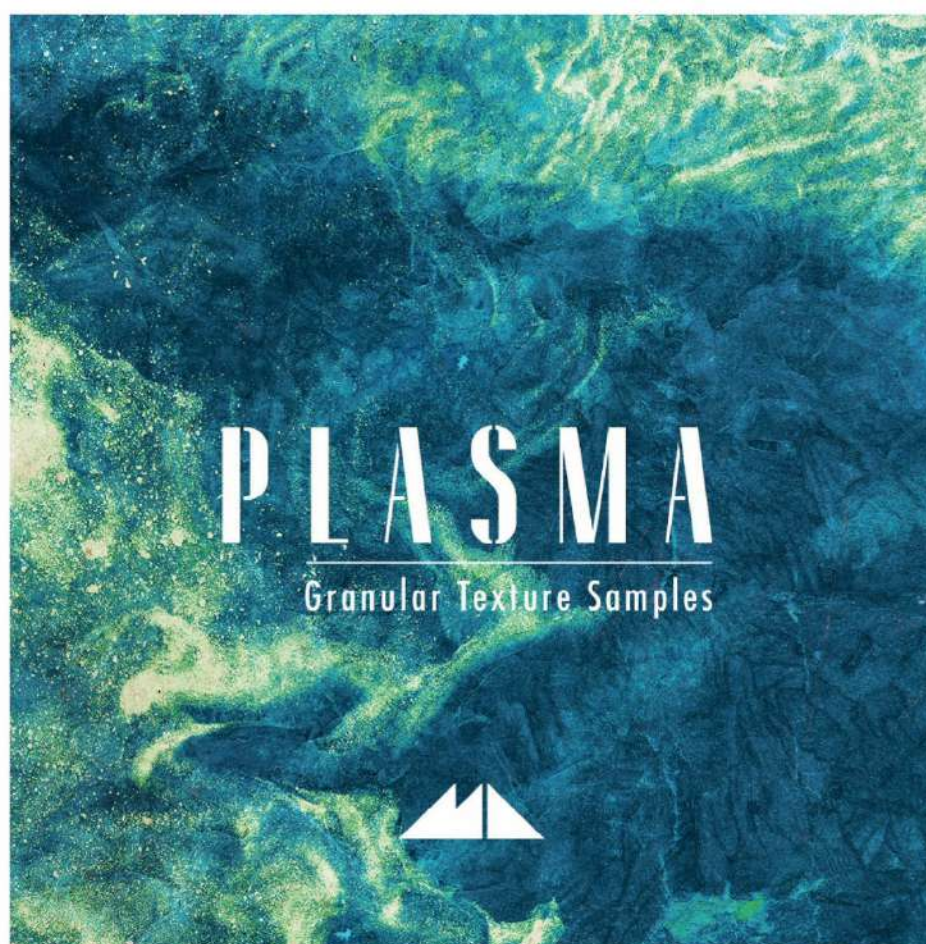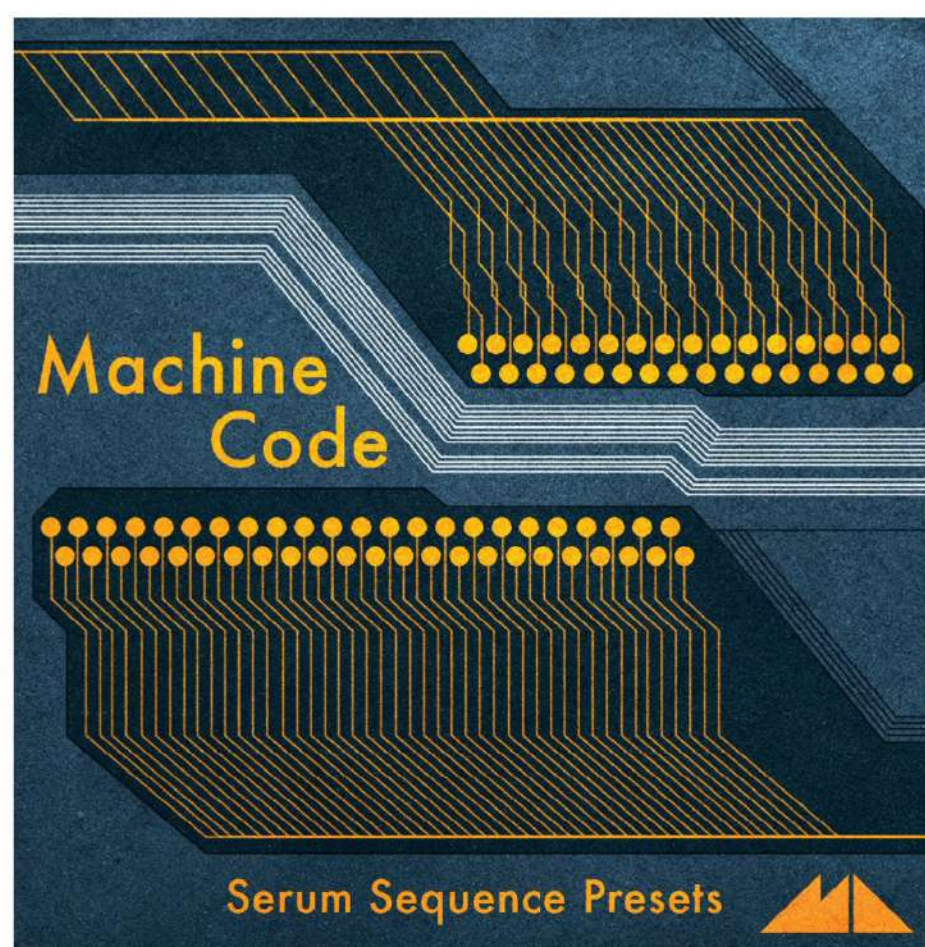
BACK ISSUES

Catch up on what you've missed – all of these issues include FileSilo downloads!

ISSUE 307
May 2022

- 60 Years of the Synth – a guide to the history of electronic music-making
- **FREE IK Multimedia Classic J-60 synth worth €50 and 2,300 free samples**

ISSUE 306
April 2022

- The Best Freeware plugins guide
- **FREE MultiBender CM Special Edition Delay FX plus 2,000 free samples**
- Reviews: Moog Animoog Z and many more

ISSUE 305
March 2022

- How to Do Everything (with the CM Suite) production guide
- **FREE u-he Bazille CM updated softsynth plus 2,300 Waveform samples**

ISSUE 304
February 2022

- **FREE Ableton Live Lite complete DAW worth $29 (ends 14/2/22) plus comprehensive guides**
- **FREE 3,200 track-builder samples**
- Logic 10.7 on test

ISSUE 303
January 2022

- Get the Sound of the 303 Roland TB-303 history, tips and more
- **FREE Baby Audio I Heart NY plugin worth $29 (ends 23/2/22)**
- **FREE 2,800 303 samples**

ISSUE 302
December 2021

- Make iPad music – huge guide to going mobile
- **FREE Fathom CM2 softsynth**
- FREE Ultimate Guitars sample packs
- New guitar series!

ISSUE 301
November 2021

- Back to the 80s production guide
- **FREE all-new Zebra CM softsynth**
- 3GB Ultimate 80s sample pack
- Sound like Dua Lipa

ISSUE 300
Autumn 2021

- 300th issue special!
- **FREE WAVEFORM DAW plus extras worth $80**
- Free 300th issue bumper DVD – Collector's Edition!

ISSUE 299
October 2021

- The complete guide to building a recording studio... at home!
- **FREE Minimal Audio plugin and sounds**
- Free funk DVD – 6 free sample packs!

ISSUE 298
September 2021

- Plugin synth vs classic synth. Can software beat vintage hardware?
- **FREE Flux Mini CM filter modulation plugin**
- Vintage sample DVD – 7 free packs!

ISSUE 297
August 2021

- Build Your Own Plugins
- **FREE CM Pluck Plugin + Ultimate Breaks DVD**
- Interviews with Loraine James and Rural Tapes
- Back To Live guide to getting back on stage

ISSUE 296
July 2021

- Hardware DAWs: the end of software?
- **FREE Tone2 Filterbank 3 worth $79 and Ultimate Twisted Bass samples**
- Interviews with Lau.ra, Morcheeba and more

MORE BACK ISSUES AVAILABLE

Vault downloads available only from **cm**182 onwards. See **bit.ly/cmvaultfaq**.

cm/video

Download this month's videos: **filesilo.co.uk/computermusic**
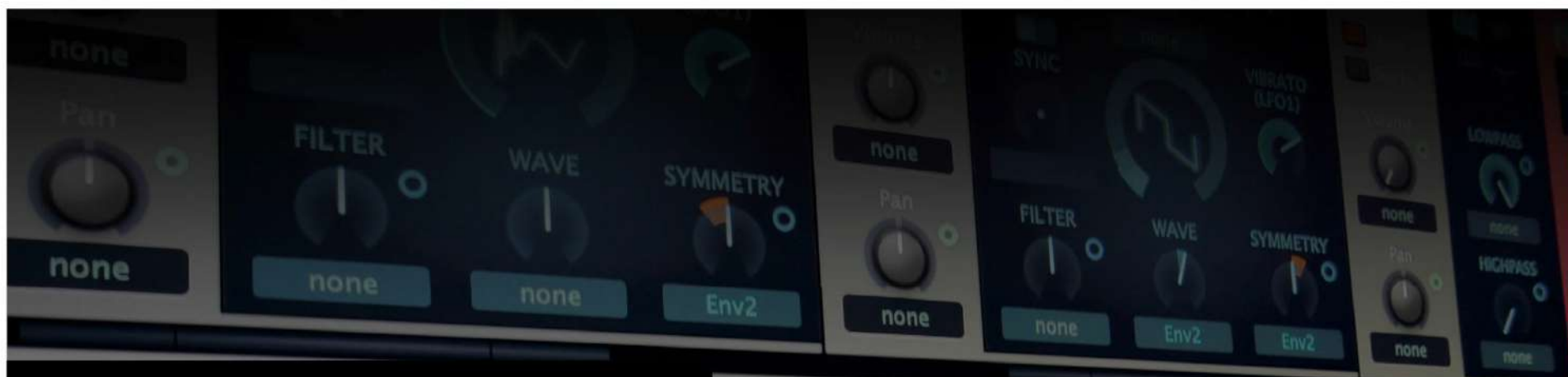
cm/experts

Our resident music production gurus walk you through their specialist fields every month

PRODUCTION
PERFECT YOUR SIDECHAIN

➡ **Read the full article on p58**

SYNTH MASTERCLASS
PADDING OUT YOUR PADS

➡ **Read the full article on p60**

cm/video

THE CM PLUGIN SUITE V2.0

16 videos on using some of the best plugins from our rebooted suite

➜ Read the full article on p16

Get to know Bazille CM's wave options

Step sequencing with Thorn CM

Instant fun with Macros in Curve 2 CM

MIDI triggering effects in Flux Mini CM

Advanced modulation in Fathom CM

Using the One-shot feature in Dune CM

60 YEARS OF THE SYNTH: THE 90S

How to recreate famous synth sounds from that most synthetic of decades

➜ Read the full article on p46

Photo: Serge Sanchez

15 questions with...

Soft as Snow

Soft as Snow take on our 15 Questions challenge, in what is fast becoming the 'Berlin-based artist' section of *Computer Music*. The Norwegian duo have been lured to the city of forward-thinking music thanks to their own uncompromising sound, which mixes digital sheen with organic imperfections and distinctive vocals from Oda Egjar Starheim. They don't use a lot of software, mind...

> Oda Egjar Starheim and Øystein Monsen are the Norwegian born, Berlin-based duo behind Soft as Snow. Their music has been variously compared to Fever Ray, on the softer side, and Throbbing Gristle and Cabaret Voltaire on the icier side – all great reference points in our book. But the truth is that Oda's vocals set their music apart from

pretty much anything else out there, as does their production ethos, which is less about software and more about creating imperfections within a perfect digital world.

The band's debut album, *Deep Wave*, was released in 2018 to wide acclaim and support from the likes of Radio 1, BBC 6 Music. Follow-up *Bit Rot* was released this year and has

already been described as "startlingly original; a hugely powerful record".

To further cement their leftfield image, the duo have produced videos and a live A/V show with 3D modelling artist Guynoid, and created "a special latex suit made to wear while performing" with AGF Hydra, whose previous collaborative credits include Björk,

Arca and the late Sophie. More on that, among other topics, here…

1 Tell us how you got into music

Øystein: "I started off as a drummer in Oslo's noise rock scene, and was also a part of several bands before first getting into more electronic music.
Oda: "Before SaS I worked mainly with performance and visual art. Our first collaborations were noise improvisation sets inside my installations."

2 What is your production philosophy?

O: "Ever since we started working together we've had no respect for genres. We tend to like things that deal with imperfections, keeping unintentional errors, raw takes etc."

3 When did you discover the computer music route to music production?

Ø: "I first got into making music with trackers on the Amiga as a kid and was involved in the demo scene. With SaS we use the computer more as a tool for recording and playing live, less so as a creative element."

4 Tell us about the gear in your studio

O: "Our studio is built on a lot of hardware: analogue synths and drums machines but also cheap digital synths and effects."

5 What are your favourite plugins?

Ø: "Since most of our music is made on hardware, we don't really use that much plugins. But a friend sent us the **Roland D-50** plugin which we like."

6 How do you tend to start a track?

O: "Usually with a drum pattern/sample or synth riff. We jam a lot in the studio and often work for a long time on the instrumental parts before any vocals are added."

"At some point it gets run through our old Fostex for extra grit"

7 How do you know when a track's done?

O: "This has a lot do with feeling. Sometimes a track gets finished super quick as we often like it rough. Other times it can be a slow and sticky process. It has also happened a few times that we've completely redone the vocals in the middle of the mixing process, as it just hasn't felt right, like a constant itch you can't really put your finger on. That said I'm more for putting things out there and moving on rather than keep grinding."

Ø: "The track *Always On* from our latest album was reworked for a long time and went through a lot of different versions. We were never really happy with it, but also didn't want to scrap it. The track that ended up on the album is just a small part of the song, the rest got cut out. But I feel this is the more rare extreme cases, usually it goes really quick and we feel a track is in the right place from the start. I think the best ones are like this."

8 Do you have any production tricks?

Ø: "With most of the tracks, at some point something gets run through our old Fostex mixer for a little extra grit. We really love analogue sounds, but are not strict about it. We often like to contrast those nice analogue sounds with more harsh digital-sounding stuff like the Kaoss Pad KP3 for instance."

9 Have you been involved in any collaborations for the new album?

O: "With our album we've been collaborating with several visual artists. The cover art is made by our close friend Camilla Steinum and features the double-sided tongue sculpture Vulnerable Lingual. Together with 3D artist Guynoid and AGF Hydra, we've also produced an A/V show for the album tour, exploring the fluidity of body and identity when the digital and the physical fuse as one."

10 What is on your studio wish list?

O: "We've been working with the old TR-606 for a long time. We love it, but it's quite limited. A modern drum machine like the MFB Tanzbär would be nice."

11 What advice do you have for playing out live or DJing?

O: "I think it's good to be clear about your setup and the sound you want. I've met so many sound engineers and technicians trying to explain to me how I should do my music. From questioning my vocal effects setup to showing me how to adjust the microphone stand (as if I don't know?)."

12 And studio advice?

Ø: "Back up often."

13 And any more general advice from the music industry as a whole that you can pass on?

O: "Don't listen too much. Do your thing. There's always an audience."

14 Plug time. Tell us about the album and any live gigs?

O: "We've released our second album *Bit Rot* on the Mexican label, Infinite Machine, and are touring around Europe with the new A/V show. The first music video from the album was also just released (see below)."

15 What else do you have planned, music-wise, for the future?

O: "We are currently working on some new EPs: one is improv/noise-based and another instrumental/minimal that we started writing during a residency in Marseille. We are also finishing a third EP which is more of an extension of the latest album." **cm**

Soft as Snow's latest album Bit Rot *is out now*
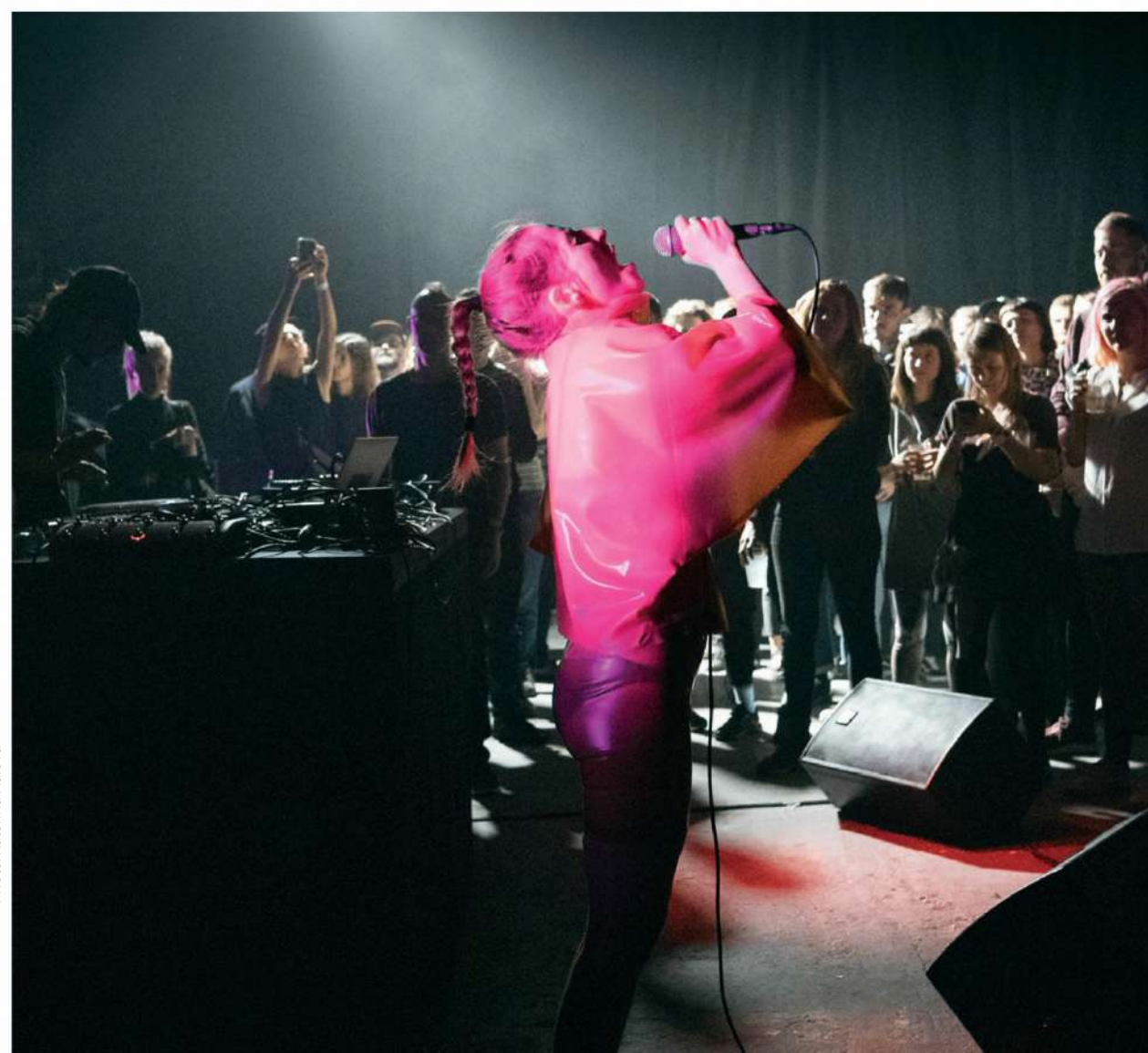
Photo: Kateřina Fialová
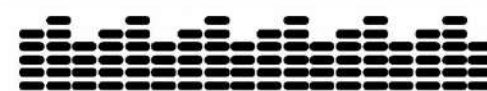
Next issue

It's the end of music production...

Artificial Intelligence!

ON SALE
WED
18 MAY

After noticing yet more AI plugins being released all the time, we're dedicating a huge feature to the subject to ask the big questions: is AI just a phrase bandied about without meaning? Is it a great way to make cash by doing minimal work? Is it really the end of music production as we know it? Are humans even needed any more?

PLUS!

Free plugin!
We don't actually know what it is yet but it will be great

Reviews
Arturia. BLEASS, Sinevibes and more in a bumper reviews section

More How-Tos
Our 60 Years Of The Synth journey takes us into the 00s!