Beat

Beat

8,5 GB ON DVD NEW **& DOWNLOAD**

FULL VERSION:
WAVES ELEMENT 2*
GIANT FOR HOOKS & BASSES

▶ **T-RACKS ONE***
ALL-IN-ONE FOR MIX AND MASTERING

▶ **ZAMPLER//RX**
ETHNIC SYMPHONY*
2,6 GB FOR CHILL & HOUSE

*online registration required

Full power:
4,2 GB synths & drums

for Hip-Hop, Trap & Soundtracks

HARDWARE 2020

TOTAL SYNTHS

SOUND.STRENGTH.PURPOSE. 35 NEW MODELS IN REVIEW

BEHRINGER PRO-1: TRUE TO ORIGINAL

INTERVIEW
IN THE STUDIO WITH ALEX NIGGEMANN

16 EXTRA PAGES:

SUPERBOOTH BEST OF THE FAIR

MOOG MATRIARCH MOTHER OF ALL SYNTHS?

MPC ONE VS. LIVE MKII HEAD-TO-HEAD COMPARISON

AXR4U
AUDIO INTERFACE

Now with **USB-C**

AUDIO **X**CELLENCE **R**EDEFINED

28x24 USB 3.0 Audio Interface with 32-Bit
Integer Recording and RND SILK

steinberg.net/axr4u

steinberg
Creativity First

EDITORIAL

Hello to all the BEAT readers,

as you have already noticed in our letters: Corona made us work from home office as well, so we had to postpone our May issue. But as promised, we are now back at our best and we are happy to present you a summer issue that's full to bursting.

Synth Highlights 2020

In our big Total Synths special we have taken a closer look at all the new models for you and one thing is for sure: There has never been a better time to be a synthesizer fan than today. Every month, exciting new models are released, in all shapes and colours and in every price range. Whether you are planning your entry into the world of hardware synthesizers or want to expand your existing arsenal of sound generators with a specialist: We help you to find the right tool for your individual requirements and sound wishes.

Sooper Synths: The SuperBooth for browsing

Since all trade shows had to be cancelled due to the current crisis, the creators of SuperBooth reacted immediately and created a home edition with streams about new gear and lots of workshops. BEAT will also participate with an official special edition for the trade fair. You can look forward to the extra pages in the special, where we have prepared the SuperBooth for you to browse and enjoy.

Exclusive gift for subscribers

With the Waves Element 2 and the mix and mastering tools T-RackS ONE, we have two fantastic full versions on board. But that's not all. In our letter to all subscribers we also announced an exclusive gift: A 3 GB collection, full with plug-ins, including the creative and dynamics tools Noize Retro, Klevgrand Degrader and Acon Dynamics BE, as well as indispensable synths from u-he, Eplex7 and NuSofting. All bundled together for you in Studiodrive: Simply go to **bit.ly/BeatBundle2020** and download.

This and much, much more awaits you in the current issue. So now we hope you enjoy reading, discovering, producing and also winning, because this month we are giving away an Akai MPC One. You can find more details about the give-away on the following pages and on **www.beat.de**.

Stay healthy and creative,
Your BEAT editors with greetings from the home office

Marco Scherer
Chief editor

Mario Schumacher
Duty editor

Vera Schumacher
Editorial assistance

Jan Wilking
Hard- and
software tests

Johannes Dicke
Editor

Tobias Fischer
Digital culture

Ricarda Becker
Layout

START NOW

Three top DVD full versions!

Sound colossus for hooks & basses
Waves Element 2

Curtain up for our full DVD version of Waves! Whether analog standards or modern club sounds: Element 2 inspires as a versatile, intuitive synthesizer with assertive and lively sound. The virtual-analogue sound generator not only shines with a wide range of presets with high musical value, but also invites you to make your own sound thanks to its intuitive user interface!
www.waves.com | License under: www.serialcenter.de   win | mac

Master-Channel expert
IK Multimedia T-RackS ONE

Whether you want to add more loudness, pressure or character to entire songs or bring individual tracks to the foreground: Our DVD highlight T-RackS ONE is a powerful and easy-to-use all-in-one solution for mixing and mastering. It can not only enhance the high, mid and low frequencies, but also quickly and easily add punch, character and sharpness.
www.ikmultimedia.com | License under: www.serialcenter.de   win | mac

All serial numbers securely accessible:
Beat Serial-Center

To ensure that none of your serial numbers will get lost in future (e.g. during a new installation, Outlook crash or disk crash), you can now conveniently manage them online.
The advantages are obvious: The editors can send you individual software updates and you have access to all serials at any time and from anywhere. In addition to this, everything is managed and stored in a central location. In this way the Serial Center becomes private Password archive on the web.
www.serialcenter.de

2,6 GB Pads and synths for Chill & House
Zampler Ethnic Symphony

Ethno sounds and electronic music... At first glance, the two have little in common. But once both worlds are combined, they belong together like Yin and Yang. With 64 patches, Ethnic Symphony offers a full orchestra of powerful basses, floating pads and synths, in which ethnic instruments and vocals combine with electronic sounds that couldn't be fresher and more inspiring, enriching every chill and house track with the much desired component X.
www.zamplersounds.com | Passwort: www.serialcenter.de   win | mac

Background art by visnezh / Freepik

Beat magazine DVD # 174
Now more than ever: Monthly 8.5 GB of valuable software on DVD.

4,2 GB:
Synths & Drums for Hip-Hop, Trap and Soundtracks

As usual, you will find a multi-faceted range of exciting plug-ins, sounds and samples on our magazine DVD. With our highlight, the intuitive synthesizer Waves Element 2, you'll be perfectly prepared for classic analog sounds as well as modern sounds. Another highlight is the powerful mixing and mastering tool T-RackS ONE from IK Multimedia. You can also look forward to a beat-exclusive package from W.A. Production with construction kits, samples and presets, as well as the inspiring Quarantine Kit by DJ Jon Sine. Fresh and exciting sounds for friends of analog sounds is on board in form of samples of the Korg MS-50 and selected Vermona synthesizers.

All sounds are available in different formats and are royalty free and for free use in own productions. Please pay attention to the license terms enclosed with the packages

DVD compiled by the Beat editors

INSPIRING CREATIVE EFFECT

RETRO SOUNDS: SECRET WEAPON

Audiomodern Filterstep
Bet that this plug-in will bring vivid filter effects to any sound material? Filterstep comes with a multimode filter whose frequency can be modulated with a step sequencer. Great: With the random -function, you can randomly generate new sequences with just one click.
www.audiomodern.com   win | mac

Sampleson Push
At the touch of a single button, the Push synthesizer provides new and inspiring sounds. To put it another way: A powerful virtual-analog sound generator is at work, which you can edit in detail on another screen page. An arpeggiator and high-quality effects are also on board.
www.sampleson.com   win | mac

Exclusive DVDs: The Beat Studio

2,6 GB:
Zampler Ethnic Symphony

550 MB:
Drumkits

Little One BE
Probably the best Moog clone in the world

Tone2 FireBird 2+
VA-Bolide with Harmonic Content Morphing

Thorn Solo
Brachial monosynth with all finesses

Zampler//RX
REX- and SFZ-player with Mod-Matrix & Parameter-Sequencer

FXpansion Geist Lite
Playground for grooves and sequences

Contents

SYNTH HIGHLIGHTS 2020

One thing is for sure: There was no better time to be a synthesizer fan than today: Every month exciting new models are released in all shapes and colours and in every price range. Whether you are planning your entry into the world of hardware synthesizers or want to expand your existing arsenal of sound generators with the help of a specialist: On the following pages we would like to help you find the right tool for your individual requirements and sound wishes.   **Page 18**

Portrait: Zebra Katz

The Florida-born artist generated millions of YouTube clicks, was present at the Paris Fashion Show with his hit "Ima Read", and toured with the Gorillaz. This spring, after a long production period, his full-length debut "Less Is Moor" was released - a hybrid of sexually loaded Hip-Hop, Electronica, Avantgarde and contemporary Pop culture, which often breaks with common listening habits.   Page **50**
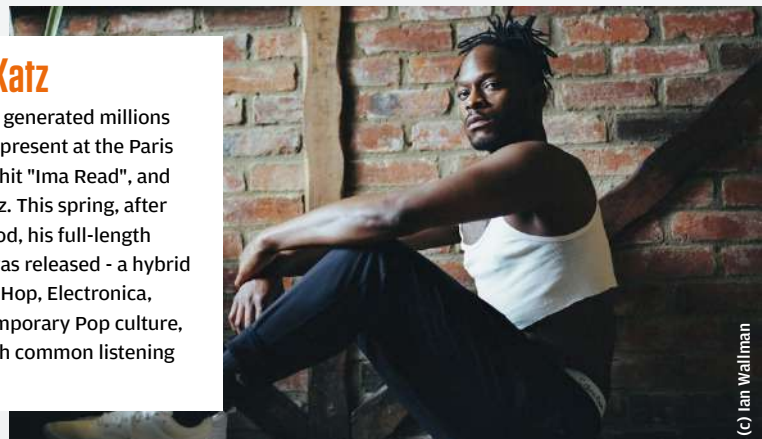
(c) Ian Wallman

TonstudioBIBEL 01/20 inkl. Bitwig 8-Track
Now available for only 9,99 Euro
at falkemedia-shop.de

Sooper: The Superbooth20 Home Edition Guide

In our large special we present the synth highlights of the virtual convention and give you help-ful tips in the form of workshops on how to enter the world of modular synthesizers.   **Page 35**

Beat-DVD 174
Download under www.bit.ly/BeatDL174

As usual, you will find a wide range of ex-citing plug-ins, sounds and samples on our DVD. With our highlight, the intuitive syn-thesizer Waves Element 2, you'll be perfec-tly equipped for classic analog sounds as well as modern sounds. Another highlight is the powerful mixing and mastering tool T-RackS ONE from IK Multimedia. You can also look forward to a beat-exclusi-ve package from W.A. Production with construction kits, samples and presets, as well as the inspiring Quarantine Kit by DJ Jon Sine. Fresh sound for friends of analog sounds is on board in the form of samples of the Korg MS-50 and selected Vermona synthesizers.   **Page 4**

Navigator: Best of Beat # 174

The common thread: Beat issue 06+07/2020

For many years, Beat has been inspiring its readers not only with practical and musical topics, but above all with the tight integration of editorial content. From the very beginning, Beat is all about creating, about the structured building of ideas and the common thread - in the magazine as well as in the tracks. This navigator shows you the highlights of this issue and allows you to see the big picture.

Special: Synth Highlights 2020

One thing is for sure: There was no better time for being a fan of synthesizer than today: Every month, exciting new models are released in all shapes and colors and in every price range. Whether you are planning your entry into the world of hardware synthesizers or want to expand your existing arsenal of sound generators with the help of a specialist: On the following pages, we would like to help you to find the right tool for your individual requirements and desired sound.   **Page 18**

Sooper: The Superbooth20 Home Edition Guide

The popular fair for electronic musical instruments and music unfortunately had to be cancelled in 2020 due to the corona crisis. The event organizers of SuperBooth made a virtue of necessity and organized a highly successful virtual fair, giving exhibitors and performers the opportunity to present their latest products and creative live shows as a stream. In our large english special we present the synth highlights of the virtual fair and give you helpful tips in terms of workshops to enter the world of modular synthesizers.   **Page 35**

Review: Moog Matriarch

Moog Matriarch is the new flagship of the Mother series, offering uncompromising old-school analog sound. The semi-modular analog synthesizer features four oscillators that allow for paraphonic playing and also features a powerful dual filter. Is this enough to be the mother of all synths?   **Page 94**

Free: Waves Element 2

Curtain up for our full DVD version of Waves! Whether analog standards or modern club sounds are required: Element 2 is a versatile, intuitive synthesizer with a powerful and expressive sound. The virtual analog synthesiser not only shines with a wide range of presets with a high musical value but also invites you to design your own sounds thanks to its intitutive user interface!   **Page 58**

Interview: Simina Grigoriu

Nirvana is her favorite band and she played the violin when she was a kid. But Simina Grigoriu revels the driving, ecstatic side of electronic club music in her productions and DJ sets. Tobias Fischer interviewed her about political activism, Edith Piaf in techno sets and about how not to overthink while DJing.   **Page 106**

NEW

THE BEAT DVD
FOR DOWNLOAD

bit.ly/BeatDL174

VIEW AND DOWNLOAD IN YOUR BROWSER. WITHOUT REGISTRATION!

Magazine

by Marco Scherer

Epic drums for little money: Herringbone by Meinhomestudio.de

Drums made of glass, metal and stone: With Herringbone, MeinHomestudio.de releases its third instrument for HALion Sonic SE. More than 100 different sounds were sampled by Paul Marx and Matthias Basedow in a Lost Place in Leipzig.

Herringbone has a particular attack dynamic. In the sound design process, individual velocity levels were created for each and every sample and simulated with the audio effect CALDO. This makes Herringbone sound extremely dynamic in its intensity and delivers raw sounding drums, distorted sounds as well as epic percussion. With four integrated effects, the instrument is flexible and suitable for various genres.

This instrument requires Steinberg HALion HALion 6, HALion Sonic 3 or HALion Sonic SE 3, the last-mentioned can be downloaded here for free. HALion runs on PC and Mac as standalone, VST 3, VST 2 (Windows only), AU and AAX versions.

Herringbone is available for 14.99 Euro.
www.meinhomestudio.de/herringbone

More infos

Free e-book: Corona support by the german state for self-employed

Self-employers during the corona crisis: Many need help due to the economic consequences of the virus, as they do not know what they can do to secure their existence. With the free e-book by Steuertipps.de, you can get support in this exceptional situation. The e-book gives you a quick overview of all state provided aids for self-employers affected by the corona crisis. You will find all the information bundled together. It will be easier for you to find out what support you can claim. The e-book is constantly being expanded by the manufacturer and is free of charge.

Our opinion: Here you will not only get a list of all possible support options, but also brief and concise information about what aid has to be reimbursed or which of it could be used for living. A must-read!

You can find the free-of-charge e-book on the DVD and download the latest updates at Steuertipps.de.
www.steuertipps.de

More infos

Apple surprises with its XXL update: Logic Pro X 10.5

After years of supporting the so-called live loops, GarageBand is now also included in Apple's flagship DAW. By starting and pausing loops that are organised in a matrix - both, from the library and from your own recordings - you can easily create new arrangements. With the new sampler, creating sample-based sounds is more of a playful creative process now instead of a dry one. With the new Quick Sampler, individual sounds can be transformed into playable instruments even faster.

With Step Sequencer, a new editor has been introduced into Logic. The new editing view is a specialist for programming drum beats, bass lines and melodic tunes. Drum Synth offers an extensive collection of kicks, snares, toms and other percussive sounds. Instead of accessing samples, software synthesis is used here. The Drum Machine Designer has been expanded: Each individual pad can now accommodate both Quick Sampler and drum synth plug-ins, which can then be controlled via the new step sequencer editor.

Logic Pro X 10.5 is now available in the Mac App Store and can be purchased for 230 Euro. The update is free.
www.apple.com/logic-pro

More infos

The freeware synth for the Gods? Odin 2 by The Wave Warden

A freeware synth that has the intention to satisfy the gods... that's how manufacturer The Wave Warden describes its Odin 2 and this may even be right. The polyphonic synthesizer which looks similar to Reason's Thor is a semi-modular kit with three oscillators, which can be chosen from a variety of synthesis forms. Classic, virtual, analog? All in. Vector oscillators? Also included. Or would you rather draw the waveforms yourself? Yes, that's also possible! But there's a lot more...

Odin 2 is currently in the beta phase, therefore there are no presets available. But sound designers should not be bothered by this. Because on the other hand they do not care about boundaries and can let loose their creeative energy. The synth is available for Windows, Mac and Linux, free of charge.
www.thewavewarden.com

More info

The online orchestra plays your chords for free

Whether you compose soundtracks with a huge Hollywood sound or pumping club tracks: Both genres excessively use orchestral instruments and fuse them with all kinds of electronic components. The aim is to make the audience dance with the most powerful and massive sounds. But hiring a real orchestra is expensive and sample libraries need to be played properly. How about just predefining chords and then having the orchestra play them back?

This is exactly how the Epic Online Orchestra works. But that's not all and the features don't stop there. Of course, you can set the chord progressions yourself or have them be randomly selected. When you're satisfied with the results, you can export them in WAV, MP3, and MIDI formats. But the very best comes last: The complete orchestra is an online app in the browser, so you can access it anytime and from anywhere, and guess what, it's free. So definitely give it a try!
epiconlineorchestra.com

More info

New EQ, new saturator: Bitwig 3.2, fully dedicated to sound design

Since its initial release in 2014, BitwigStudio has become the favorite DAW of many producers, musicians, artists and sound designers. The previous innovations made by Bitwig were added not long agay and the next round is already underway: The free update to version 3.2 is fully dedicated to sound shaping with the two new effects EQ+ and Saturator. But also the Arpeggiator, the Instrument and Note FX selectors, as well as Drum Machine and Mixer View have been enhanced with practical new features. The most important of these are presented in the following.

EQ+ gives Bitwig Studio a new look and modern sound. By clicking on the EQ curve, a band is added, which can be dragged directly to the desired position. In addition to 14 filter options and up to eight bands, EQ+ also has an Adaptive Q option that reduces the width of bands as gain increases.

The new Saturator by Bitwig Studio is a unique waveshaper for buzzing, humming and rumbling sounds. The enhanced editor provides a matching set of controls for threshold, transform amount and a knee option for the soft and loud parts of the signal. Additional skew controls catch signal peaks and treat the positive and negative transients differently. Due to this, the sound and spectrum is enriched additionally. The Grid has also been expanded to include a Saturator module, which allows each note to be shaped independently through polyphony to provide even more sound possibilities.

The Arpeggiator has various new functions and possibilities: In addition to controls for velocity and note length, each step now also has a pitch control. Pitch changes in the micro range are now supported, which is especially useful for MPE controllers. Also the support of velocity per note is relevant here, which makes playing much more lively, especially with an arpeggiator. The instrument, note FX and audio FX selectors also have voice modes to program subtleties of sounds and effects on note level now. A small highlight is the Round-Robin Mode, which stops static sounds.

The 3.2 update is now available for Bitwig users free of charge.

www.bitwig.com

More info

MPC2000XL free of charge as app for Win, Mac and Linux

With vMPC2000XL, developer Izmar brings the dirty sound and raw feeling of the old MPC classics directly to the desktop studio. The software for Windows, macOS and Linux can be used exactly like its role model, which means by today's standards it is bulky and limited, but that is exactly where all the magic happens: reduction to the essential, the sound. The app loads the original sound formats, emulates the MPC sequencer and offers WAV export, as well as MIDI in and out.

The vMPC2000XL is available for free download for Win, Mac and Linux from the manufacturer's website.
www.izmar.nl

More info

EVERGREENS DO NOT SUFFER FROM ALZHEIMER'S.

Carol is no longer who she used to be.

She no longer recognises Nancy, her sister, or Jim, her husband. Most of the time it's as though she isn't aware of the things going on around her.

But when Nancy carefully puts headphones over Carol's ears and plays her most beloved song, her sister's eyes light up. She gently sways to the beat of the song, she even remembers the dance routine. She may nudge Jim's arm. Or tell him what a fun guy he is. For the duration of that song, she's back again. For 4:35, she's Carol.

THE POWER OF MUSIC!

HARDWARE 2020

TOTAL SYNTHS

One thing is for sure: There was no better time for being a fan of synthesizer than today: Every month, exciting new models are released in all shapes and colors and in every price range. Whether you are planning your entry into the world of hardware synthesizers or want to expand your existing arsenal of sound generators with the help of a specialist: On the following pages we would like to help you to find the right tool for your individual requirements and desired sound. **by Marco Scherer, Mario Schumacher**

In the last year not only a lot of analog synthesizers have been released, but also some exciting digital sound generators and likewise interesting hybrids. While Behringer is releasing one low-priced analog synthesizer after another, the general trend seems to be going more towards digital sound generation. Special attention is paid to flexible waveforms of the oscillators. The wavetable synthesizer Modal Electronics Argon8 or ASM Hydrasynth with wave morphing or Korg's Wavestate with wave sequencing are just a few examples. Korg's synthesizers Prologue, Minilogue XD and NTS1 are particularly innovative with their digital user oscillator, which can be equipped with new oscillator and effect models. The concept has been very well received, as evidenced by the constantly growing range of oscillator models and effects from third-party suppliers: FM, wavetable, granular and Karplus-Strong synthesis are now also available for a small budget. It's also great that more and more sound generators come up with intuitive step sequencers and arpeggiators, making lively basslines, riffs and grooves possible without any additional hardware or software.

From monophonic to polyphonic

Most analog synthesizers are monophonic, which means that only one voice at a time can be played. Current examples are Behringer's Pro-1, TD-3, Crave and K-2 as well as the Moog Sirin. But also paraphonic models like Novation Bass Station 2, Moog Matriarch, Behringer Odyssey and Poly D as well as Sequential Pro 3 are becoming more and more popular. These can be played in two or several voices, with all voices sharing the same amplifier and filter with the respective envelopes and LFOs.

Is it important for you, that you can play an instrument polyphonically? Polyphonic analog synthesizers are significantly more expensive and rare due to their high production costs. Here each voice has its own oscillator, filter, VCA, LFO and envelope generator. The top class of polyphonic analog models are the eight-voice MFB Synth Pro, the 16-voice Moog One and Korg Prologue with 8 and 16 voices respectively. But it doesn't always have to be analog: Some digital polyphonic synths are available at significantly lower prices, just think of the ASM Hydrasynth, Elektron Digitone and Modal Electronics Argon8. Other interesting polyphonic digital and hybrid synthesizers are Nord Wave 2, Roland Fantom 6, Korg Minilogue XD and Teenage Engineering OP-Z.

With workstations such as the Roland Fantom 6, it is still common that they are multitimbral, which means that they can play several different sounds at the same time. So you can also create expressive layer and split sounds. The current analog synthesizers of this category include Elektron Analog Four, DSI Prophet REV2, Prophet 12 and Prophet X as well as Moog One. Nord's new synthesizer Wave 2 with its four layers joins the brigade of multi-timbral digital synthesizers, which also includes Teenage Engineering OP-Z, Korg Wavestate, Elektron Digitone as well as Waldorf Quantum and Kyra.

The right choice

But which synthesizer is the right one for your sound? Of course, the answer to this questions highly subjective. Besides the sound, the form factor and the feature-set are certainly important decision criteria. If you want to make music on stage, a device with an integrated keyboard is recommended, which should have as many playing aids as possible, such as modulation and pitch wheels as well as aftertouch. Synthesizers that offer an arpeggiator, step sequencer or MIDI looper allow you to create thrilling sequences and multi-faceted instrumental parts even in a live context. A direct access to the most important sound parameters is of course a must. You want to integrate your sound generator into your DAW studio or control it with a MIDI keyboard? For this purpose, the device should have a (USB) MIDI interface, which is the case for most synthesizers. Many synthesizers also offer CV/gate connectors that allow the integration into a modular system.

Nord Wave 2

Interview: Staffan Lindroth, Product specialist at Nord Keyboards

With the Wave 2, Nord is taking its synthesizer series, which is as iconic as it is successful, to the next evolutionary stage. On board is not only virtual-analog synthesis, but also frequency modulation, wavetables and samples. Thanks to its four parts, the sound generator with a 48-voice polyphony allows remarkably complex layer or split sounds. In our interview, Staffan Lindroth, product specialist at Nord Keyboards, gives exciting insights into what makes the Wave 2 so special.

Beat / *The Nord Wave 2 is the latest generation of the successful Nord synthesizer family. Can you briefly explain its concept?*
Staffan / The Nord Wave 2 combines virtual-analog, FM and wavetable synthesis with samples and it is similar to the original Nord Wave in this aspect. However, with the Nord Wave 2, four layers - essentially four independent synthesizers - are always available to combine different sounds or create splits. The LED faders give you full control of the level and pan position of the four layers. The Nord Wave 2 also features a new, advanced arpeggiator/gate section, a variety of new effects and a lot of additions in terms of sound generation as well.

Beat / *Can you tell us more about the sound generation of the Nord Wave 2?*
Staffan / The oscillator section has its own display, which makes it quick and easy to switch between the different oscillator settings and finding the exact sound you have in mind. As for samples, the Nord Wave 2 has 1 GB of sample memory. It comes with a wide range of sounds from the Nord Sample Library 3, including great new string sounds. Since this is designed as an open system, new samples can be downloaded for free of charge from our website or created by the user with our recently updated Nord Sample Editor 3.

As for the virtual analog options, there is a number of different categories, from basic waveforms to Shape, Sync, and Multi or Super options which cover a very wide range of both classic and more inventive and modern sounds, with the display giving you real-time feedback on both the waveform shape and other parameters. The wavetables provide an array of more complex waveforms, that couldn't be achieved using the virtual analog options.

With FM you get 5 distinct algorithms, either in harmonic or inharmonic mode, that are carefully selected to provide a great basis both for achieving classic FM sounds and to invite experimentation as well. Since there are four separate layers, you can of course create really complex sounds, especially when you start combining the different sound generation options.

Then there is of course the comprehensive filter section, which has a dedicated ADSR envelope, as well as an LFO, and a modulation envelope specifically for the oscillator section. In terms of effects, the Nord Wave 2 features a range of classic effects such as phaser, vibe and ensemble as well as an expanded delay unit with dedicated effects for the feedback loop, and a reverb unit with a range of exciting new options as well.

Beat / *What performance features does the synthesizer offer?*
Staffan / Like other Nord instruments, the Nord Wave 2 has vast options for what we call "morphing". This is done by assigning either the mod wheel, an expression pedal or aftertouch – or even keyboard velocity - to one or more parameters on the panel. This allows for creating very expressive patches, with a lot of real-time control. We also added an "Impulse Morph" button (familiar from the Nord Lead 4) which gives you instant morph control over pretty much any parameter on the panel – even changing the filter type, turning effects on or off, etc. etc.

The Arpeggiator/Gate section should be highlighted here as well, as it really adds a lot of new functionality. Apart from the "classic" arpeggiator options, there is a polyphonic mode which can act both as a "chord repeater" or play inversions of a chord, through a given range - especially fun and musical when using the new "Zig-Zag" setting. The gate setting, with adjustable "hardness", can be used both for simplistic "Trance" sounds or complex rhythmic effects, and especially benefits from the new pattern option – also available for the Arpeggiator/Poly modes.

The Pattern Editor lets you program your own patterns, with options for panning or accenting individual steps and provides a range of pattern presets as well. Also, the Nord Wave 2 is equipped with a 61 semi-weighted "waterfall" keybed, with aftertouch, which of course gives you both a larger range than a 49-key instrument as well as a more dynamic and expressive playing experience.

www.nordkeyboards.com

Korg volca nubass

Volca nubass is a bass synthesizer based on a vacuum tube inclding a sequencer. Thanks to the transistor-based ladder filter, its sound is aimed towards the TB-303. Its relatively simple sound generation is optimized for bass lines and is brought to life by the built-in sequencer with accent and glide. The plastic case is already known from the other Volcas, a small speaker is also included. Power is supplied by batteries or by a power supply unit, which regrettably is not included.

The sound generation of the volca nubass is based on a main oscillator with the waveforms square and sawtooth as well as a sub oscillator that plays one octave lower The oscillator sounds warm, round and altogether richer than the Volca Bass, the sub oscillator with saturation provides even more foundation when needed. The raw signal of the oscillators is shaped by a classic analog ladder low-pass filter with a clearly audible character. To modulate the filter frequency, the synth offers an envelope and an LFO. The analog distortion can be added with the drive control.

The volca nubass presents itself as a great all-rounder for synthetic basses of any kind. Classical 303 lines are created in no time at all and the small analog synthesizer can not only groove beautifully, but also chirp and scream. On the other hand, it can also provide a solid bass foundation for other music styles at low resonance. The sequencer inspires as a harmonious combination of TB-303 with accent, slide, transpose and the Volca series with parameter recording and skipping steps.

www.korg.com | Price: 199 Euro

Behringer Odyssey

The Behringer Odyssey is a replica of ARP's iconic cult synthesizer from 1972, featuring two oscillators with sawtooth and pulse waveforms and oscillator synchronization. Also included is a ring modulator and white or pink noise. This is followed by low-pass filter, a simple high-pass and an amplifier. As with Korg's replica, you can switch between the different filter circuits of the three Odyssey revisions.

As modulators, the instrument offers two envelopes with ADSR and AR characteristics, an LFO and a sample & hold module. If you play the Odyssey duophonic, very exciting results can be achieved, especially in combination with the good ring modulator. The Behringer clone also features the gain function of the Korg reissue. Furthermore, the sound generator integrates an inspiring step sequencer and a multi-effect device from Klark Teknik.

Behringer's Odyssey convinces with very good build quality along with a decent full-size keyboard, built-in step sequencer and arpeggiator as well as a modern analog sound with many sound possibilities. Whether creamy leads, metallic and bell-like sounds, funky basses, weird duophonic ambient sounds or pushing and aggressive bass lines and sync sequences are required: The Behringer clone masters all of these without any problems. Compared to the original from ARP, however, it goes much more in the direction of Hi-Fi sound. Nevertheless, the basic, powerful sound character with an emphasize on the mids of the Odyssey is clearly audible. And the price is typically Behringer. Absolutely unrivaled for such a complex analog synthesizer.

www.behringer.com | Price: 439 Euro

Korg Minilogue XD

The Minilogue XD is available as a keyboard and desktop version. Both versions combine two analog oscillators and one digital oscillator with an analog filter, a flexible step sequencer and high-quality digital effects. The two analog oscillators also allow for cross- and ring modulation as well as oscillator synchronization. A real highlight is the third oscillator, which allows the use of different digital oscillator models. It also features a noise generator, a model with two wavetable oscillators and phase modulation for crips FM sounds in the style of the Yamaha DX7. There's also a growing range of third-party oscillators and effects you can load into Minilogue XD, including the oscillator models from the Eurorack module Mutable Instruments Plaits.

The 12dB low-pass filter scores with a musical sound. In addition, the resonance is adjustable up to self-oscillation. So even kicking bass drums are possible here. The modulation section consist of two envelopes and an LFO. We really liked the polyphonic sequencer with 16 steps and parameter locks. Thanks to the motion record function, you can record every controller movement and switch action.

The multi-engine makes the Minilogue XD a real sound chameleon. The dev analog ice is a flexible hybrid-synthesizer that can be used to create analog standards as well as expressive digital sounds. The basic sound is unique and slightly „cold". The very good sounding effects section with direct access to the relevant parameters is also a great enrichment, as well as the flexible step sequencer.

www.korg.com | Price: Keyboard/Module: 649 Euro

allrounder for basslines

ARP with sequencer and effects

hybrid sound design playground

Modal Electronics Argon8

The eight-voice polyphonic wavetable synthesizer Argon8 offers a characterful and flexible digital sound in a stylish design. In practice, it scores as a robustly manufactured sound generator with a very good keyboard and a straightforward operating concept. Its distinctive sound reminds of Waldorf synthesizers. Cutting leads, dry basses, chip sound sequences, ice-cold ambient pads and brilliant arpeggios are quickly created.

1 Flexible oscillators

Even at the oscillator level, Argon8 can be used to create complex and multi-faceted sound patterns. Two identically constructed wavetable oscillators form the foundation of the sound synthesis. For each oscillator, the synthesizer provides 120 wavetables, which are divided into 24 banks with five morphable waveform sets each. Fat and wide walls of sound are also possible, as the eight voices can be layered in different variations.

2 Modifiers and filters

Additional sound variations are provided by eight so-called modifiers that affect the oscillators directly, including ring, amplitude and phase modulation, oscillator sync, bit crusher, wave shaper and wave folder. To tame the harmonically rich sounds, a 2-pole multimode-filter with adjustable resonance is provided. If you crossfade between the filter types low-, band- and high-pass, interesting sound variations can be achieved.

3 Modulation and effects

With three envelopes, two LFOs and a modulation matrix you can create very moving, dynamic sounds. The effect parameters can be modulated, too. There is also an arpeggiator and a great 512-step sequencer, which allows you to record phrases and parameter progressions. We also liked the lush effects section of Argon8, which is an important part of the sound. Three stereo effects can be used simultaneously.

www.modalelectronics.com | Price: Argon8 (37 keys): 639 Euro, Argon8x (61 keys): 749 Euro, Argon8M (Desktop): 569 Euro

Twisted Electrons HapiNES

HapiNES is a small circuit board synthesizer that emulates the sound of legendary game consoles with four tracks. The compact device thus offers chip sound for your pocket. With four tracks including drum sounds, the soundtracks of classic console and home computer games can be authentically recreated. But modern productions benefit from the assertive 8-bit sounds as well.

1 Spartan hardware

HapiNES is delivered as a bare board, including a clip for batteries on the bottom for power supply. It is powered via a MicroUSB socket. Furthermore, editing and DAW integration is possible with a free VST/AU plug-in. The two mini jack sockets are not only used as input and output for audio signals, but also for synchronisation with any other equipment.

2 Four voices

The sound generation of the HapiNES is purely digital and is based on an 8-bit processor. HapiNES offers four voices, which are distributed over four monophonic tracks. So you can create four different sounds including synth drums. A triangle wave with adjustable decay time is available for bass sounds, while lead sounds and arpeggio can be created with the two square waves with a modulated pulse wave.

3 Flexible sequencer

For all four tracks, sequences with 16 steps can be recorded in real-time or via step recording. The 16 LEDs serve as running lights and indicate the currently selected step. Slide, rest, octave jumps as well as swing, reset, ratchet and random functions allow for lively sequences. Since you can link 16 patterns as a chain with up to 256 steps, you can easily create interesting variations of your sequences.

www.twisted-electrons.com | Price: 99 Euro

pocket-sized chip synth

powerful wavetable synth

ASM Hydrasynth

Hydrasynth is without a doubt the big surprise of the last few months: A flexible digital sound generator with an excellent sound and a very unique character. The complex possibilities of digital synthesis are amazingly comfortable to use. The ultimate highlight is the polyphonic aftertouch, which allows for very expressive playing and produces sonic results that are currently hardly possible with any other synthesizer.

1 Hail Hydra!

The Hydrasynth comes in a stylish and robust, well-build case with metal sides. The controls are kept nice and big and offer good haptics. The keyboard version has a ribbon controller and 49 keys with polyphonic (!) aftertouch for each of the eight voices. If a chord is held, this allows for example to fade in a vibrato or open the filter only on one or two notes.

2 Digital sound giant

Hydrasynth produces up to eight voices with wavemorphing synthesis, a mixture of wavetable and vector sound generation. The first two oscillators can crossfade between up to eight waveforms, selectable from an arsenal of 219 waves. The result can be further mutated with options such as sync, PWM and wavestack, processed by subtractive synthesis with two filters and then refined with the effects.

3 Filter, animate, arpeggiate!

The three oscillators are joined by a noise generator and a ring modulator. The two filters can be connected in series or operate independently in parallel. With its five envelopes, five LFOs and a 32-slot matrix The modulation section of the Hydrasynth has a lot to offer. The extensive arpeggiator and the really good sounding effects are great as well.

ashunsoundmachines.com | Price: Keyboard: 1399 Euro, Desktop: 899 Euro

Sonicware ELZ_1

Behind the cryptic name ELZ_1, there is a sophisticated and independent instrument for musicians who like multifaceted digital sounds. The sound generator is polyphonic with six voices and features nine flexible sound engines as well as an effect chain of up to four modules. In addition to the enormous sound and creative potential - far away from analog standards - the very good price-performance ratio is to be emphasized positively.

1 Road suitable sound giant

The stable metal housing of the ELZ-1 with its integrated keyboard and loudspeaker not only looks classy - everything is perfectly stable and seems to be made for eternity. In addition, the device has been constructed for mobile use. Power can also be supplied by four batteries. With the combination of sequencer and arpeggiator you can create exciting melodies or complete phrases.

2 Multifaceted sound engines

Three of the nine sound engines are responsible for the classic waveforms. In addition, there are engines for lo-fi and FM sounds as well as noise, wavetable and granular synthesis - in other words, everything that sounds digital, raspy, cool and weird. Each engine has an average of 16 to 20 parameters available. Simple noise can also be transformed into flute-like sounds.

3 Tone shaping and effects

Of course, flexible filters, envelopes and LFOs should not be missing either. The filter offers several modes and can be very powerful. From distortion, modulation effects as well as ring modulation to delays and reverbs, the effects section offers everything your heart desires. The manufacturer's product care also deserves a lot of praise: The synthesizer has already been given numerous new features since its release.

www.sonicware.jp | Price: 599 Euro

digital sound chimera

dream machine for sound designers

ARTURIA

_The sound explorers

PERFORM

KEYSTEP PRO
Controller & Sequencer

Silky-smooth synth keys, the most addictive sequencer around, 4 polyphonic tracks, and unmatched connectivity. There's simply nothing like KeyStep Pro when it comes to getting everything playing together. Sequence all your synths, modular, and software.

Behringer Poly D

The big brother of Behringer's Minimoog clone Model D offers a keyboard with aftertouch and built-in effects as well as an additional oscillator for up to four voices. The fourth oscillator can also be decoupled from the played pitch. This is helpful if it is used as a source for frequency modulation of the other three oscillators and/or the filter. When you play the instrument polyphonically, the four oscillators are distributed accordingly to the keys pressed and sent through a single duo of filter and VCA. In the mixer, the noise generator can be added to the four oscillators and an external audio signal can be looped in. The 24dB low-pass filter sounds very powerful and can also be used as a high-pass filter. The resonance can be driven into self-oscillation.

The Poly D's 32 step sequencer can store not only individual notes but also chords. It is able to store 64 patterns. Pauses, accents, glides are programmable, there is even a ratchet function for fast note repetitions. The stereo chorus and the distortion effect are a great addition.

The Poly D scores with fat, polyphonic Moog sound at an unrivaled price. It can deliver all known and popular sounds of the synth classic in convincing quality. Highlights are the four separately controllable oscillators for unique paraphonic sounds. Using the built-in chorus and an external reverb, you can also create stunning chords and pads. Velocity and aftertouch allow for expressive playing, the polyphonic sequencer and the arpeggiator provide additional movement.

www.behringer.com | Price: 749 Euro

Korg Wavestate

With Wavestate, Korg reactivates its 30-year-old wave-sequencing synthesis. The manufacturer combines the synthesis form of the cult Wavestation from 1990, with modern features such as resonant filters, direct access via many controls and a much larger sample pool. Lots of transparent and expressive sounds delight the ear. From animated pads, cutting leads and wobble basses to modern rhythms, everything is possible. We also liked the possibility to mix synthetic and acoustic instruments within a wave sequence.

Up to 64 PCM samples can be arranged in a track in any order and in any direction. You can also use the sequencer to modulate sound parameters. In practice, this allows you to crossfade from a percussive rhythm to an ambient pad, for example. Even after several years of intensive use, you will certainly not have fully explored the modulation possibilities. The other side of the coin, however, is that you have to dive deep into the menus for the sound design. It's just too bad that the instrument has not been given a better keyboard with aftertouch.

It is almost unbelievable what Korg has packed into this compact digital synthesizer. The multi-track wave sequencer from Wavestate, combined with an extensive sample library, provides sounds, sequences and rhythms that bring back pleasant memories of digital classics. In addition, the synthesizer masters all kinds of modern sounds that can easily be used in current Pop, Electro, Hip-Hop and EDM productions.

www.korg.com | Price: 799 Euro

Roland Fantom 6

Digital sound generation in proven Roland quality, complemented by an analog drive circuit and filter and direct operation make the Fantom 6 an expressive instrument. The worksation excels both on stage and as a high-quality sound supplier and control center in the studio. The four partials either draw on the comprehensive pool of included samples or on the waveforms of the virtual-analog synthesizer. SuperSaw provides big dance sounds and oscillator sync, while cross and ring modulation create additional overtones. Both the digital and analog filters sound great.

The lightly-weighted synthesizer keyboard can be played very espressively and offers a pleasant resistance and a good velocity implementation. The control elements offer good haptics and a large color touch display, a multi-colored illumination as well as LED rings support the operation.

The Fantom 6 offers the classy Roland sound in proven quality, especially the digital filters sound excellent. In addition, its more intuitive than the competition, thanks to the large touch screen, the controller/fader matrix and are additional controls for the synthesizer. The icing on the cake and unique selling point in this section is the analog master effect with drive and the stereo multimode-filter, which adds a great touch to the overall sound. However, when playing sounds like many natrual instruments, you can notice that the sound generation has been around for about two decades. The well thought-out and direct operation by contrast, deserves a lot of praise by making designing sounds very intuitive.

www.roland.com | Price: 3.499 Euro

paraphonic Minimoog

complex sequences with the sound of the 90s

workstation with classy Roland sound

Interview:
Manfred Fricke
founder of MFB

Beat / *With the MFB Synth Pro, you expand your product range by a polyphonic synthesizer. How did the idea for it come up?*

Manfred / The idea of building a polyphonic Dominion has been around for a long time since Dominion 1 was released. It was clear, that the development effort would be very high and that producing such a device in the required quantities would mean a fundamental change for me. That's why I chose the less complex way with the polyphonic version of the MFB Synth II. Since the basic principle already existed, I only had to expand it to eight voices. With the Poly- Lite I had already gained experience with a four-voice version. A keyboard version is currently still a long way off, although the demand is huge.

Beat / *What makes the MFB Synth Pro so special?*

Manfred / Basically, there are eight extended and storable Minimoogs. Since no chipsets are used for the VCOs, the MFB Synth Pro has the charm of the 70s. It also offers features that few if any devices have, such as switching to DCO mode or mixing and modulating between waveforms. On one hand, there is a so-called cascade filter (VCF2), which is very similar to the Moog filter. As with the Dominion 1, which has twelve filter modes, it was important to me to have band- and high-pass in addition to low-pass. You can also do this with the SSI module (I realized this with the 24dB VCF SSI module), but the effort is too high. So it was more effective to add a second filter, which contains the three

types and has a clearly different character. This is a state variable filter with a slope of 12 dB per octave. In the development, the question arose whether the filters should be connected in parallel or serially. Both options make sense, so you can switch between both now. VCO 1 can synchronize the other two VCOs, a so called hard sync. And VCO 3 can modulate the frequencies of the other two VCOs. The ring modulators of the Synth Pro are digital.

Beat / *Can you tell us more about the sequencer and the digital effects of the MFB Synth Pro?*

Manfred / A special chip is responsible for the digital effects (reverb 1, reverb 2, pitch/delay, chorus/reverb), which can be additionally be integrated into the signal path. This is not a proprietary development, but a commercially available chip that has proven itself over many years. Since it is operated in parallel to the signal path, the analog structure of the MFB-Synth Pro is preserved. The sequencer is a simple step sequencer, but it can also be programmed polyphonically with up to eight notes per step.

www.mfberlin.de

MFB Synth Pro

eight voices of analog power

While the sound of the eight-voice MFB Synth Pro evokes pleasant memories of early polyphonic synthesizers, its preset memory and clever features put it at the cutting edge of the latest technology. In addition to versatile oscillators and filters, the desktop bolide has a great sounding effects section with reverb, chorus, delay and other effects. The sturdy metal case offers space for a wealth of controls, making sound design a pleasure.

1 From gentle to aggressive

The Synth Pro features three analog VCOs, which also allow for an particularly tuning-stable DCO operation. You can crossfade between the classic analog waveforms (including noise) and each oscillator has its own sub-oscillator. The sound spectrum is extended by oscillator synchronization and FM as well as ring modulation, so that even cutting, metallic and aggressive sounds are a breeze to synthesize.

2 Dual filter power

The polyphonic synthesizer features two analog filters: In addition to a low-pass filter based on the classic Moog cascade, there is a state-variable filter with low-, band- and high-pass modes. The possibility to connect the two filters serially or in parallel allows multi-faceted filter and stereo effects, especially when different modulations come into play.

3 Creative idea provider

The MFB Synth Pro also has no weaknesses when it comes to modulation: The two LFOs can be synchronized to the MIDI tempo and can be used as envelopes in one-shot mode. Thanks to the loop function, the three envelopes also allow for cyclical modulations. With the arpeggiator and the polyphonic step sequencer, there are also two excellent creative idea generators available.

www.mfberlin.de | Price: 1080 Euro

IK Multimedia UNO Drum

UNO Drum inspires as a drum computer full of character with hybrid sound generation at a reasonable price. The small plastic box offers a powerful analog sound, which is complemented by PCM samples in 12-bit/32 kHz resolution. The internal memory can store 100 patterns and drum kits. Cool kid: With its charming retro sound, this compact drum synthesizer feels at home in a variety of music styles.

1 Small, lightweight and mobile!
UNO Drum is very compact and lightweight. Since it can be powered via USB or even batteries, the drum computer is perfectly suited for mobile use. Beats can also be played directly via the multi-touch surface, which is not necessarily inviting for finger drumming, though. The lower buttons are used to program the twelve tracks of the sequencer.

2 Hybrid sound generation
UNO Drum cleverly combines analog and sample-based instruments. Twelve different drum sounds are available, of which you can play up to 11 simultaneously. The two kicks, snare, clap as well as open and closed hi-hat are analog generated. All other sounds are digital. 54 PCM samples are integrated in UNO Drum, but importing your own samples is not (yet) possible.

3 Smart sequencer
A real highlight is the 64-step sequencer. In addition to trigger notes, it also records several sound parameters per step. Together with performance effects such as stutter and humanize as well as analog compressor and drive, it enables powerful and flexible beats with a charming 80s and 90s touch. Parameter changes such as decay time or tuning can be recorded as well just like velocity.

www.ikmultimedia.com | Price: 305 Euro

Elektron Model:Cycles

With Model:Cycles, Elektron presents a slightly different groovebox with a very independent sound. The design of this compact device is already known from the sample-based groovebox Model:Samples. As in Elektron's Digitone, FM synthesis is used for the sound generation. Thanks to the sophisticated sequencer, original grooves, impressively animated sequences and percussive experiments are a breeze to create!

1 Six drum machines
Six different FM instruments set the tone in Model:Cycles. Besides kick, snare and percussion instruments there is also a voice for metallic sounds like hi-hats and cymbals as well as for tonal sounds like basses and plucks. Nice: With the chord instrument, you can also create chords of up to four voices. The sound of each voice can be adjusted quickly and easily with four controls.

2 Enormously vivid sounds
The six tracks of the powerful 64-step sequencer can control either the internal instruments or external sound generators. The parameter locks allow you to automate sound parameters per step or play an individual sound for each step. Impressive: You can also determine the probability and conditions under which steps are triggered.

3 Handling
Notes and parameters can either be played in real-time or programmed by step. As usual with Elektron, high-quality delay and reverb effects are available for the sound refinement. Model:Cycles makes the complex FM synthesis easy to use. With its unique sound character, it is without question an excellent alternative to analog and sample-based drum machines.

www.elektron.se | Price: 329 Euro

hybrid drummer with retro sound

original drum sounds thanks to FM

Teenage Engineering OP-Z

standalone creative power plant

Smart by design: The OP-Z combines a synthesizer and sampler with an integrated loudspeaker as well as a flexible Elektron-sytle sequencer, which can also control light, photos and 3D animations synchronously to the music. In terms of sound, this small creative instrument presents itself as original and inventive. The rich harmonic and punchy sound is a successful addition to the warm sounds of analog synthesizers.

1 Looks like a remote control!

The OP-Z is packed into an extremely compact housing with four flush mounted rotary controls. It is operated via 47 keys with symbols and the mini-keyboard underneath. Since the OP-Z does not have its own display, the iOS app is an important part of the operating concept. Thanks to its battery operation, it is an excellent performance machine to produce music on the go.

2 Sophisticated sequencer with 16 tracks

The sequencer of the OP-Z can play back 16 tracks with 16 steps each. The first eight tracks produce the sound, the other eight tracks allow you to manipulate the sound and control external equipment. The first four channels are reserved for drums. These are all sample-based and consist of

kits with 24 samples each. Each drum track can play two sounds at the same time.

3 Synth sounds and effects

Four more tracks belong to the synthesizer group and they are based on different digital sound generation methods, as specialized on basses, leads, arpeggios and chords. The drum and synthesizer sounds, but also your voice can be manipulated with the effects. It is also possible to integrate your own samples. Complex performances are also possible thanks to the option to record the played audio signal with a virtual tape machine.

www.teenage.engineering | Price: 599 Euro

Roland MC-707

23 years after the MC-303, Roland takes up the groovebox concept again and expands it with modern features like a clip-based sequencer and audio tracks with time-stretching. The 16 velocity-sensitive, multi-colored RGB pads of the MC-707 are used to trigger sounds or clips. 16 additional buttons map the steps of the running light sequencer.

Smart and flexible: Each of the MC-707's eight tracks can either be used for drums, synthesizer or audio. The groovebox can also be used as a looper, and imported or live recorded audio material can be time-stretched to match the song tempo. Each track records up to 16 clips (drum grooves, synthesizer phrases, audio loops), which can be combined as desired using the graphic display, similar to the Session View in Ableton Live.

Each sound is created from up to four partials that use PCM waveforms of synthetic and acoustic instruments. You can also use your own samples, ensuring that the MC-707 is ready for future music styles. The digital filters and versatile effects also have an outstanding sound.

With the MC-707 you can expect a clear and powerful hi-fi sound. The creation of classy sounding grooves is comfortably done in no time at all. In addition, the device impresses with a compact form factor and an intuitive operation. It allows even less experienced users to get started quickly and create their own grooves. The clip-based sequencer in Ableton style, in combination with the flexible assignment of the 8 tracks to drums, synthesizer or audio loop allows the creation of complete tracks.

www.roland.com | Price: 944 Euro

Behringer RD-8

As the most famous drum computer of all times, Roland's TR-808 doesn't need an introduction. With the RD-8, Behringer recreates the legendary device in detail. The RD-8 is about the same size as the vintage model, but is not quite as robust. The case is made of plastic, but leaves a rather durable impression. Small but nice add-ons, like a new tuning controller make the Behringer replica even more flexible than the original. For each instrument, you can choose whether it should be sent through the transient shapers and filters or unprocessed to the master output or one of the eleven individual outputs. The filter sounds rather unspectacular. It can be switched between low- and high-pass filter and has an adjustable cutoff frequency and resonance.

With the modern sequencer design, Behringer distances moved relatively far away from the original. With auto-fill, step-repeat, flam and probability functions, varied beats are an easy task. You can even record the filter frequency in the pattern. Each sequencer track can also have an individual length, which allows you to create intricately changing or extremely complex rhythmic patterns.

The RD-8 has the sound character and groove of the Roland TR-808, even if in direct comparison both instruments differ a bit in sound. The additional parameters of the instruments and the transient shapers extend the sound spectrum compared to the original. The Operation and the sequencer have been modernized and invite you to jam. Furthermore, the price-performance ratio is excellent.

www.behringer.com | Price: 319 Euro

Roland MC-101

The compact Roland MC-101 is based on the Zen-Core sound generation of the MC-707, but costs only half as much. The entry-level model of Roland's new generation of grooveboxes is robust and extremely compact. It offers four tracks for drums, synthesizer and audio. Each track records up to 16 clips (drum grooves, synthesizer phrases, audio loops) with up to 128 steps, polyphonically with up to 128 voices in total. Another great feature is the Looper with time-stretching and pitch-shifting.

Like the MC-707, this small model offers 3,600 synth presets and over 600 drum samples. Unfortunately, the MC-101 does not allow full editing of the sounds, but given the few controls and the small display, this would probably have been a torture anyway. We hope that Roland will release a software editor in the future. But there are a lot of good presets for all musical applications included, which can be supplemented with your own samples if necessary. The effects are also very impressive.

The MC-101 offers basically the same features as the MC-707: A flexible sound generation with a transparent and crisp hi-fi sound, paired with an excellent sounding filter as well as a very powerful sequencer for sophisticated and expensive sounding grooves, which you might not even expect from this small box. However, the compact format takes its tribute, the handling is far from being as simple as on the MC-707 and the editable parameters are much more limited. If you want to create grooves quickly and easily while on the road, you'll still get your money's worth, not at least because of the battery operation.

www.roland.com | Price: 483 Euro

the groovebox strikes back!

grooves like Roland's TR-808!

small Groovebox with a big sound

portable sample workstation

Polyend Tracker

The latest creation by Polyend transfers the concept of classic tracker software to a modern hardware instrument. Here, a powerful sound generation, consisting of a sampler as well as a granular and wavetable synth, meets a powerful sequencer and song arranger. An awesome feature is that you can also use the sequencer to control external hardware. Of course, it is also possible to play the integrated sound generators from a DAW.

1 **Compact and portable**

With its stable and compact design, Tracker is perfect for making music on the go, especially since it can also be operated with a USB power bank. 48 backlit silicone pads are used to record notes and patterns (in a specific scale, if required) and provide visual feedback. Audio, USB and MIDI adapters are included, as well as a 16 GB MicroSD card to store your samples.

2 **Creative sound cosmos**

The heart of the instrument is a large color display with eight keys. Sequences are programmed in the vertical timeline, which is typical for Trackers. Each Tracker project can contain 48 instruments and 256 patterns of 128 steps. There are eight tracks plus a reverb track, with a different instrument playing on each step and other effects that can be chosen. The extensive effect equipment definitely puts in an appearance!

3 **Sound chameleon**

You can use existing sound libraries as sound sources or record your own samples. A very original idea: The built-in FM radio can also be used as a sampling source. Flexible sample-editing tools, envelopes and filters let you turn any sample into an expressive, playable instrument. The built-in wavetable and granular synthesizer lets you create original new sounds out of samples.

www.polyend.com | Price: 499 Euro

Interview Polyend Tracker:
J. Tworkowski
Product Specialist at Polyend

Beat / Your new performance instrument was inspired by classic tracker software. What makes Polyend Tracker special?

Jacek / First of all it's the ease of use. Tracker is aimed at all DAW and hardware enthusiasts, from beginners to experienced professionals. It offers a fast, intuitive and goal-oriented workflow. The instrument shows that Trackers are by no means a relic of a past software era before DAWs. Polyend gives this popular music production concept a turbo boost - in hardware form! Immediacy and simplicity was the game with Tracker's sequencer. The workflow has been simplified so that users can now actually see the parameter's values when it's being adjusted. Navigated with a large dial and silicone buttons, new users needn't be too hesitant to get hands-on with the instrument.

Beat / Can you briefly introduce the concept of Polyend Tracker?

Jacek / The instrument offers the classic tracker workflow with modern additions. It has all the features of a classic tracker, including a vertical timeline. It also feels fresh and new due to its extensive sequencer functions, mechanical keyboard and new user interface. You can import or record samples directly into the hardware. And the bi-directional MIDI functionality ensures that Tracker will play nice with the rest of the gear in your studio.

Tracker not only looks slick, it's portable and can be used with any 5V/1A power bank. This makes it the perfect choice if you want to be able to start producing a track on the road and then finish it conveniently in your studio. So, the device is a complete musical solution and can be used to record a complete album from beginning to end. It features a sampler and a wavetable/granular synthesizer and even a retro FM radio. Highlights also include the powerful step sequencer and song arranger as well as the large screen, ergonomic keyboard and large controller for quick and easy navigation. There's also a performance mode that lets you change, rotate and expand your patterns in a live context. But Tracker's functionality is not limited to the composition and production phases. Rather, it integrates functions to master your tracks as complete audio files and render them into internal memory. You can use a return track, limiter and bit depth adjustments to get the most out of your completed projects, and export any song or pattern in WAV format or as nine stems (eight tracks and a reverb track).

Tracker is powered by a USB-C adapter and firmware upgrades can be installed via the MicroSD card. The operating system makes it easy to share projects, patterns and instruments. What I really like are the functions for quick and easy sampling and the randomization options to vary patterns, like fill and step tools. I find it very exciting how limiting to one instrument encourages creativity. Less is more!

www.polyend.com

Features
MPC One & Live mkII

Sequencer and sampler

Standalone and controller mode

8 CV ports

2 GB RAM, 16 GB hard disk

16 light pads

4 Q-Link controller

Touchscreen

USB ports for sticks and MIDI controllers

2,5" SATA ports (SSD/HDD)

SD card slot

Ethernet connection

3 internal synths in standalone mode

VST/AU support (with MPC software 2.0)

as VST/AU/RTAS plug-in usable (with MPC software 2.0)

WAV-, MP3-, AIFF-, REX-, SND-, OGG- & FLAC-support

MPC One

1 MIDI in and out

MPC Live mkII

2 MIDI ins and outs each

WiFi support

Phono input

Onboard boombox

Recommended 06-07/2020

MPC One

MPC Live mkII

WIN AN MPC ONE NOW! YOU CAN FIND ALL INFORMATION ON WWW.BEAT.DE

Head-to-head comparison:
Akai MPC One vs. MPC Live mkII

The news about the new MPC One have just spread online. The fan community has been asking themselves what makes it different and special from the MPC Live, and its successor is already starting to step into the scene. But what are the differences between the models, how can they be integrated into modular systems and for which music styles are they an enrichment? All this and more will be clarified here…   **by Marco Scherer**

Although MPC's have always been full-fledged music production workstations and theoretically capable of replacing a DAW in the studio, they have definitely earned their reputation as intuitive samplers for finger drummers. The Live and X models hit the market about three years ago, offering a standalone mode with internal synthesizers, massive effects and a touchscreen

with integrated mini-DAW for the first time. While the older models were mainly popular in Hip-Hop, the newer ones established themselves as genuine alternatives for Techno, House and Electro.

With the MPC One, a more compact and lighter version is now coming onto the market, which is seeking the attention of users with many control elements and the classic MPC layout. But Akai

doesn't stop there, because with the MPC Live mkII another new model will be released almost simultaneously. What else could be better at this point than a direct comparison test?

Features
As previously, the focus is on 16 drum pads, which are used to play samples, mute tracks, select patterns or trigger

There's a lot going on here: Six outs, phono-in, two MIDI ports, USB for removable drives and controllers and other connections offer the possibility to integrate the studio.

The connections of the MPC One are not as numerous as on the Live mkII, but should easily meet most requirements.

MIDI notes. The pads are surrounded by 16 Q-Link controllers, lots of buttons, the obligatory transport buttons and volume controls for the audio inputs. The Q-Link controllers perform different tasks depending on the section. For sampling, for example, they determine the start and end points of samples and loops. For effects, they adjust the settings of the respective parameters, or even global settings such as tempo, quantization or volume of the metronome. The MPC-typical data wheel is also present and is used to adjust parameters or scroll through lists and directories.

Like their previous models, the One and Live mkII each offer two USB 3.0 ports for removable hard drives, USB sticks or MIDI keyboards. So unless the keyboard requires a special USB driver, simply plug it in and start playing. Awesome!

The common features

The basic principle of both MPC's is similar to all previous models: They are a combination of sequencer and sampler, which allows you to use internal samples and synths as sound sources and also trigger external synths. The clip mode, similar to Ableton Live, allows loops to be played back in sync with the master tempo, and the CV outputs are connected to modular systems.

Speaking of Live, ethernet and WiFi also bring Ableton Link into the game, so your MPCs will play flawlessly and automatically with popular DAWs and other sound sources as long as they support the Ableton Link protocol. In addition, the MPC's offer up to eight audio tracks in standalone mode and 128 together with the software.

The differences...

... are listed relatively quick, because due to the identical operating system the functionalities of all current models are the same. The unique selling points are therefore to be found exclusively in the hardware. As mentioned in the introduction, the One offers the more classic MPC layout, looks more compact and has smaller pads, which play just as well as the pads of other versions. The Live mkII, on the other

hand, has more connections, an internal battery for eight hours of operation and, compared to its forerunner, more controls and an internally installed boombox. So does this mean that you can finally walk through the city with the MPC on your shoulder and let others enjoy your beats in the classic ghetto blaster style? Not necessarily. The sound is quite decent, but sadly very far away from being really loud. Nevertheless: If you produce on the road and get tired of the headphone sound quickly, this is a good alternative. Unfortunately, it's not possible to connect bluetooth capable smartphones to use the internal speakers. The bluetooth function is (in all models) exclusively for the use of MIDI controllers (e.g. Akai LPD8 Wireless or Akai LPK25 Wireless) and bluetooth keyboards for text input.

You will find a complete overview of the various features in table form below.

Handling

The Q-Link controls are integrated in all menus as practical helpers: Most functions per page are available in four lines of four parameters each. The active column is selected by switches above the controllers, so that four parameters can be combined via Q-Link. If this is still too complicated for you, just press the desired parameter with your finger and adjust it using the large main knob or - depending on the parameter - press it twice and then select an option from a drop-down menu. Long menus can be wiped up and down as usual on a smartphone. Overall, the operation looks modern, coherent and well thought-out. Although the extremely responsive touchscreen makes it much more comfortable to use than the established ones, beginners can quickly get lost in the jungle of options. Even MPC experts have a lot of new territory to discover. But after a few hours of intensive training you navigate through the many menus purposefully.

Samples...

... can either be recorded with the internal sampler and processed in the editor or conveniently loaded and previewed via browser, even while playback is running.

Thus spontaneous extensions of a live set are no big deal. Fantastic! The Looper is also practical for gigs: With it, the audio input can be equipped with insert effects, sampled on-the-fly loops or played backwards. The performance can also be recorded and saved as a sample.

The Sample editor offers both classic functions such as cutting, normalizing, thread, pitching and stretching, as well as slicing and looping. The touch screen shows its full potential here, as the waveform can be zoomed, pushed, cut and trimmed with the fingers. The haptic turns out very natural, the screen reacts immediately to every touch. For precise fine-tuning, all parameters can be adjusted with the rotary control.

The samples end up in a program that serves either as a drum kit or instrument. Drum kits consist of up to 128 pads with four layers, each of which can be loaded with a sample. instruments, on the other hand, consist of only four layers, whose samples can be played chromatically across the entire note range. Each pad has envelopes and an LFO for sound shaping, plus a variable, up to eight-pole filter with standards such as high-, low- and band-pass, as well as various formant types and a MPC3000 low-pass filter. In terms of sound, the filters can do anything from well-behaved to snappy and crisp. Additionally, each pad can use up to four send and insert effects. More on this in just a moment.

In the clip mode already mentioned above, up to 128 pads can be equipped with loops that automatically run in tempo sync. The loops are synced exactly to the beat. The loops can also be organized into groups so that for example several drum loops or vocals do not overlap. Well conceived and perfect for situations on stage! For external sound generators there are MIDI tracks which can be used to assign external sound generators. Thanks to MIDI outputs with 16 channels each, all kinds of equipment can be integrated. And last but not least, eight audio tracks (128 with the MPC software) are available for recording. However, their post-processing is limited to very basic functions and cannot be compared to a full-fledged DAW.

Facts
MPC One

Manufacturer: Akai Professional
Web: www.akaipro.com
Distributor: www.inmusicbrands.com
Price: 749 Euro

▲ Standalone mode
▲ Classic MPC layout
▲ Scales in pad perform mode
▲ Audio tracks
▲ Automation
▲ Clip playback
▲ CV outputs
▲ Live looper
▲ Connections for MIDI controller
▲ Ableton Link via network

Flexibility:	▮▮▮▮▮▮
Technique:	▮▮▮▮▮▯
Price/ Performance:	▮▮▮▮▮▮
Total:	▮▮▮▮▮▮

Facts
MPC Live mkII

Manufacturer: Akai Professional
Web: www.akaipro.com
Distributor: www.inmusicbrands.com
Price: 1199 Euro

▲ Standalone mode
▲ Self-sufficient operation due to boombox and rechargeable battery
▲ Variety of connections
▲ Flexibility
▲ Scales in pad perform mode
▲ Automation
▲ Live looper
▲ Ableton Link via network

Flexibility:	▮▮▮▮▮▮
Technique:	▮▮▮▮▮▯
Price/ Performance:	▮▮▮▮▮▯
Total:	▮▮▮▮▮▯

Alternatives

Pioneer Toraiz SP-16
970 Euro
www.pioneerdj.com

Elektron Analog Rytm MKII
1499 Euro
www.elektron.se

Internal synthesizers

Unlike older MPC's, the current series not only offers many internal effects, but also sound generators, namely Bassline, Electric and TubeSynth. The synthesizers offer an individual graphical interface, are amazingly flexible in sound and the handling is elegantly solved, because all controls can be adjusted either directly by touch or via the four Q-Link knobs. If the synthesizers are used intensively, the processor will sometimes go down on its knees, so regular bouncing of the tracks is a must. But since this is done with two touches there is nothing to complain about here.

Effects and mixers

All sounds are organized in up to 128 sequences. Each of them contains a maximum of 128 tracks, which in their turn contain a program for the sounds and a pattern. Depending on the track type, there is a maximum of four send and insert effects. There are over 50 filters, delays, reverbs, compressors, bitcrushers, distortion, phasers and flangers, as well as a transient shaper and sound emulations of older MPC models. There is nothing to complain about in terms of quality and, as in the program section, the filters sound excellent.

In order not to lose the overview with this sheer mass of options, all channel settings can be controlled via a channel mixer. The view can be switched between MIDI, audio tracks, programs, effect paths and the master channels. The mixer then offers options for routing, effects, etc. for the selected

Bassline

Electric

Tubesynth

view. With larger projects, this can be a little chaotic, especially if many effects are used.

Even more effects are available in XY pad mode. Here, the touch screen serves as the central control element for a handful of filters, delays and beat repeat effects, whose parameters are adjusted live by hand.

Sequencer

For many years MPC's have been partly idolized for their special timing. This should not change, because the current models offer the same options as their forerunners. And even a lot more. Recording is done on the fly, via step sequencer or in the so-called grid view, a piano roll view. There, notes can be drawn in or deleted with the finger, as well as transposed, moved and changed in length via several options. The editing is very smooth, but requires some patience for longer or extensive patterns, because here the small screen reaches its limits. Various quantization options allow you to straighten 'crooked' recordings in no time at all or to add the necessary swing and shuffle groove.

If you want to be on the safe side and avoid 'crooked' notes, you'll enjoy the pad perform mode. It assigns different scales to the pads so that only 'correct' notes of the respective scale are played. But the sequencer can contain not only notes, but also automations of many parameters. Each section that contains automatable parameters has an icon to activate read or write mode. To record an automation, simply click on the icon and then twist the parameter. This couldn't be done more comfortable on a hardware.

The Track menu provides further options for doubling or halving the pattern tempo, as well as a bounce-to-sample function that converts the pattern into an audio loop. Very useful! A similar function is also available for the entire project. With the exception that it can be exported as WAV, AIFF, MP3, FLAC and OGG files. If you don't want to switch sequences manually, you can also do this in the next sequence section via the pads. The next sequences start either at the end of the current sequence or as soon as the pad is touched.

MPC's and modular synthesizers

One of the most frequently asked questions online is: "How does the MPC work with a modular set-up? Both the One and the Live mkII offer four CV outputs that can be used to send either gate triggers or control voltages. Practical: The outputs are designed as insert channels. When using Y-cables, the four then become eight outputs. That's quite a lot.

Regarding to the type of signals, at first sight the MPC's are limited to pure notes, because controller movements are not transmitted, only the pitches of the pressed pads and this without velocity. At second glance however, it becomes clear that CV tracks also offer automation in the step sequencer, so that any pattern can be drawn or programmed with the finger. Since there are various presets with waveforms, simple LFOs and envelopes can be created easily.

This is certainly not comparable with free-running LFOs or real random patterns, here the Modular Support still has a lot of room for improvement. But this also applies to all other program types, because in terms of sound design MPC's are traditional, thinly equipped. User requests for pitch envelopes or free running LFOs have not been heard so far. Also CV inputs for triggering sounds of the MPC's through the modular system would be a great feature for future updates. But so far the Akai development support has been quite responsive, so chances are high to see more user wishes heard.

See the box below for all current updates on the Operating System.

MPC software

When it comes to software, progress has been made. Akai has developed the software version 2.8. The functions of the small DAW are the same as those of the MPC itself, but the display on the monitor is a bit more convenient. Furthermore, the software offers 128 instead of only eight audio tracks and allows the integration of VST plug-ins and AudioUnits. The factory equipment itself with numerous instruments and effects from AIR Music, Sonivox and Akai offers plenty of room for exploration and leaves nothing to be desired. Loom 2, Hybrid 3, the brand new drum

Current firmware update 2.8

Not only the new MPC's get a software update, but also the older models Live and X. And this update is really something special! While it was possible to use any class-compliant MIDI controller via USB with the devices from the very beginning, the MIDI section has now been considerably improved. The inputs and outputs can now not only be named as desired, but can also be permanently assigned to the individual tracks. Until now, only the active track was played from all inputs. A simple improvement with a big impact, especially for live performers. The new retrospective recording, as known from some DAWs, is also very powerful and completely unusual for groove samplers. So if you forgot to press record while recording the next hit hookline, you can now save the last 4,000 events with Shift + Record. We were also impressed by the other new features: Switching tracks can now be done via shortcut from any section, the pad perform mode remains active in main mode, MIDI tracks can be forwarded internally and the Q-Link knobs now provide visual feedback via pop-up windows when they are moved. All in all, this is a great update that has fulfilled many user wishes.al feedback via pop-up windows when they are moved. All in all, this is a great update that has fulfilled many users' wishes.

synth 500 and many other high-quality sound generators are included.

The MPC itself functions as controller and audio interface. Transferring songs or projects between software and standalone mode requires caching them on a data medium and then uploading the project to the software. Apart from this small point of criticism, the software works flawlessly and does its job more as a groove studio than as a full-featured DAW.

Since the software is also available as a plug-in for all DAWs, similar to the principle of Native Instruments' machine, the MPC principle can be integrated into any existing workflow and setup.

Who are the new models suitable for?

If you want to enter the world of MPC's at a reasonable price, you won't go wrong with the One. Al-though it is not a lightweight, it is still handy and as flexible as all other current models thanks to the identical software basis. If you like bigger pads, want to sample outdoors or need a phono input, the Live mkII should please you. If an internal boombox is a reason to buy, this is the only model that comes into question anyway.

For users who already own a Live mkI an update might be less worthwhile. If you like to do extensive sound design and would like to have many controls to intervene directly on the fly in the sound, you will not be happy with the current versions. In this case, an X would be the only choice, even though it is anything but portable due to its weight and size.

Summary

With the new models and the software update also for the previous MPC's, Akai brings a fresh breeze into the series and goes back to the original idea: A drum sampler with sequencer as studio center. The various solutions in the shape of standalone operation of the hardware, the software DAW or even the MPC plug-ins mean that you are equipped for any set-up, whether with or without a computer. And the fact that even modular synths can be easily controlled is more than just a pleasant bonus.

The purchase of an MPC is no longer a stylistic question, due to the enormous number of features, the areas of application go far beyond the traditional finger drumming for which MPC's are so well known. Even if you don't want to work with samples at all, the latest devices come with an official sequencer that works with any equipment, whether CV, MIDI or USB. We say: Outstanding!

The features of current MPC models in comparison

Feature	MPC One	MPC Live mkII	MPC Live	MPC X	Force
Standalone	√	√	√	√	√
CV ports	8	8	-	8	4
MIDI in/out/thru	1/1/0	2/2/0	2/2/0	2/4/0	1/1/1
Audio inputs	2 (line)	4 (line/phono)	4 (line/phono)	4 (line/phono)	2 (line)
Audio outputs	2	6	6	8	4
Ableton Link	Ethernet	Ethernet/WiFi	WiFi	WiFi	Ethernet/WiFi
RAM	2 GB	2 GB	2 GB	2 GB	2 GB
HDD	4 GB	16 GB	16 GB	16 GB	16 GB
USB ports	1	2	2	2	2
Pad size	small	medium	medium	big	mini
Bedienelemente + Pads	34 + 16	33 + 16	27 + 16	92 + 16	71 + 64
Touchscreen	7 inch	7 inch	7 inch	10.1 inch	7 inch
Price	749 Euro	1199 Euro	945 Euro	1799 Euro	1039 Euro

The MPC X offers the largest touchscreen and by far the most controls and connections. With this feature-set, it offers a lot of comfort as a studio center, but isn't very portable because of its mass. The battery-powered Live models are ideal partners for working outdoors and on the road, without missing important connections. With its loop approach, the MPC Force follows an alternative concept compared to the traditional MPCs. Despite its low price, the One offers all the striking features and is therefore ideally suited as an entry-level model and for fans of the classic MPC layout.

Behringer TD-3

If you are familiar with the cult synthesizer Roland TB-303, you will immediately find your way around the TD-3. The basis of the pure analog sound generation is an oscillator, which provides either a sawtooth or square waveform. Its signal is fed into the low-pass filter, whose frequency and resonance can be adjusted with two additional controls. The characteristic whistling, chirping and screaming at high resonance is convincingly reproduced. The mini-envelope can only be adjusted in decay time and modulation strength.

The operation of the sequencer is also true to the original. A random function, directly accessible by pressing a key, provides the TD-3 with random patterns. Especially the mixture of slides and accents provides the incomparable groove. The filter input expands the possibilities compared to the vintage model, since a second oscillator can be added without much effort. However, the buyer has to accept the inexpensive manufacturing at this price. It is highly regrettable that the battery operation is not included, though.

As a faithful replica of the original TB-303 including sequencer, the TD-3 is, of course, primarily recommended for all those who like its typical chirping, screaming and roaring sequences with that special groove. With its very authentic sound, this synthesizer will find its friends especially in Acid House, Techno, Goa. The built-in distortion unit saves you an additional effect pedal and wiring and keeps your live setup organized. And thanks to the filter input and the additional connections you can do much more than just the typical 303 sounds.

www.behringer.com | Preis: 149 Euro

Behringer Crave

The analog desktop synthesizer Crave combines the oscillators of the Sequential Prophet with the filter of the Minimoog, the concept comes from the Mother-32 and the price from the Korg Volca. The signal path of the semi-modular sound generator is kept completely analog. An oscillator generates either a square or a sawtooth wave. A noise generator with white noise can be mixed in continuously. The Moog-style ladder filter can be operated as a 24dB low-pass or high-pass filter. With its slight, always harmonic distortions, the synthesizer delivers a pleasantly warm and round sound.

The LFO can also be used for pulse width modulation to make the sound a bit more fuller. You can also use it for frequency modulation of the oscillator and/or filter. An unusual but flexible sequencer and an arpeggiator bring the sounds to life. Thanks to the patchbay with 32 sockets, the Crave is recommended for integration into a modular system. It's just a real bummer that no installation in a Eurorack is possible.

Soundwise, the Crave doesn't have to hide behind its role model Moog Mother-32. Such a high-quality analog sound in a solid packaging has never before been available in this price range. Especially, the Moog filter replica taken from the Model D provides a powerful, organic sound, while the fast LFO in combination with the extensive patchbay extends the sound spectrum. Overtone-rich metallic sounds are just as possible as creamy leads or fat basses. Supplemented by a sequencer and an extensive patchbay, the Crave is a remarkable piece of equipment for a very reasonable price.

www.behringer.com | Price: 159 Euro

Behringer K-2

Hardly any other synthesizer polarizes more than the MS-20, whose sound is either loved for its aggressiveness and character or regarded as thin and annoying. The Behringer K-2 is a detailed replica of the semi-modular cult synthesizer in an Eurorack-compatible format. Two oscillators with a ring modulator first pass through a high-pass and then through a low-pass filter. This combination of two 12dB filters, which tend to produce a dirty and aggressive sound at high resonance, is the essential element for the special sound of the MS-20 and also the K-2.

In contrast to the original MS-20 and Korg's replica MS-20 Mini, the K-2 provides two filter circuits to select from. However, the synthesizer has only limited control over the very special screaming and distortion at extreme resonance levels. It's also a pity that Behringer didn't include a few modifications like PWM, FM, sync or a sequencer, as featured in Behringer's MS-1.

The external signal processor (ESP) is a wonderful playground for sound experimentation: It allows external audio signals to be processed by the K-2. With the ESP, you can also control the synthesizer with an instrument such as an electric guitar. In doing so, not only the volume curve, but also the pitch is detected.

The Behringer K-2 is the hi-fi version of the Korg MS-20. It sounds clean, powerful and noise-free and impresses with a more refined feel and finish than the Korg synthesizers. The basic sound character of the MS-20 is without question present. For a very reasonable price, you get an extremely powerful analog synthesizer with character.

www.behringer.com | Price: 309 Euro

TB-303 at a bargain price

hot competition for Moog's Mother-32

hi-fi version of the Korg MS20

Beat

SOOPER

▶ **SYNTH HIGHLIGHTS**
What is coming up next?

▶ **FOLLOW-UP REPORT**
About the first virtual music fair

▶ **WORKSHOPS**
Enter the modular world

▶ **TECHNIQUE ADVISOR**
Find your next favourite gear

, TAKA, UMPF,

BA AM, BAM BAM BA

IIEH, BRZZZ, SCHIIE

DER, MPFMPF, RÖDDER, M

MPF, PIIEP, MÖÖP, MPF, PIIEP,

LABA, PALAVA, LABA, PALAVA, L

SCHINGELINGELING, SCHINGEL

SOOPER TALK

WITH THE CHIEF IN PERSON: ANDREAS SCHNEIDER

Crisis or not, the SuperBooth20 Home Edition was a real success and gave an authentic impression of the missing real event to new visitors and all of us over the internet. Lots of exhibitors and performers presented the latest gear and creative live shows, which could (and of course still can) be streamed via Vimeo and YouTube. We had an entertaining talk with the leading man behind the event, his personal highlight and experiences with his first virtual fair.

Keep smiling and don't buy crap «

Beat / *Hi Andreas, the SuperBooth20 is over and due to the lockdown it took place in form of the first virtual music fair ever. What was your key point or initial idea to let the event happen via streaming and how did it work?*

HerrSchneider / We wanted to offer a virtual way to remember the personal contacts, let the people virtually meet up with Jean-Michel Jarre or with the purchase manager of Thomann or SchneidersLaden, and ask the usual questions that we all ask each other at least once a year: "Hey how are you? Looking younger than ever, or – in this case – how do you feel with corona in your country?". This became the topic "listen:" in our Superbooth20 Home Edition, where we had guests from India, the USA, France and elsewhere.

Beat / *How did the exhibitors react to the SuperBooth postponement to 2021? As far we noticed all exhibitioners showed a lot of solidarity support, right?*

HerrSchneider / Not all of them were ready to directly swap their booking to the follow up year, but this is totally fine. We already asked them to think about coming or not for the 2020 edition when we still planned to let it happen. The first big change to our plan was a reduction to a local come together with all the concerts and potentially less than 1.000 visitors, so we offered our manufacturers to either jump off and postpone the booking to next year, or to just jump off and get their money back. They understood the message and made their decision already before we had to cancel this years event. So in the end it was easy, logical for all our friends and a safe way of dealing with the situation.

Beat / *Streaming a whole fair requires a lot of courage and pioneering spirit, especially when it is spontaneous and short-termed. What did you learn from this? Will you possibly adapt the new knowledge for the upcoming SuperBooth?*

HerrSchneider / We definitely should think about new mixtures for 2021. Who knows how the upcoming situation will be and whether we

can prevent a few people from flying overseas just for this event. It's bad for this event, but very good for the environment, so we might do good in making it a bit smaller. But we are still ready to make it the same size as 2019 again – or even bigger, we will see. The best thing with the SuperBooth20 Home Edition and kind of magical was the active way of making it a real conference or whatever you would call it, together with (first of all) Sonicstate, Amazona and Hainbach, but also plenty other partners who jumped on the train reporting and offering their channels making promotion for the general idea, like you do with this magazine. I think the Home Edition was really great for all those who was sitting at home worldwide.

Beat / *What have been your personal highlights of the 2020 home edition?*

HerrSchneider / The VOSTOK by Sputnik Synths. A perfect example for what could help to make a good product sell well: Spirit, Carma, hardware quality paired with outstanding charme and a good idea. We're looking forward to meet them in person on SuperBooth21.

Beat / *What thoughts would you like to share with our readers?*

HerrSchneider / Don't take it too seriously, keep smiling and don't buy crap.

www.superbooth.com | www.schneidersladen.de

JOIN THE GAME OF ~~DRONES~~! TUBES

Erica Synths Fusion Drone System is here for those, who want to explore the dark territories of the sound, where only few have stepped in.!

Erica Synths is one of the few manufacturers that use vacuum tubes in eurorack modules, and those, who are familiar with tube-based modules, know that tubes can push the sound to extremes or turn it deep, saturated and complete.

The Fusion Series modules are the basis for this system. It offers **loads of patchpoints** for extensive experiments in sound design, all analogue signal and CV path to **create the drones of massive power**. Erica Synths Fusion Drone System II brings distinct and powerful sound into eurorack.

We have come up with three new Fusion series modules – Fusion VCF3, Fusion Modulator and Fusion VCA/Waveshaper/Ringmodulator – to create the Erica Synths Fusion System II – a modular synthesiser for sounds of **unprecedented pressure**, unconventional modulations and creativity-inspiring patching. The system has **63 patchpoints** for extensive experiments in sound design, all analogue signal and CV path; it's a system **for those, who take sound design seriously**.

www.ericasynths.lv

Two Fusion VCO2s – fully analogue sound source with three simultaneously available waveforms, transistor-based suboscillator and detune function – two BBD delay lines that make frequency shifter that is mixed back to the principal oscillator in order to emulate two detuned VCOs. Tube crunch – distinct tube overdrive - is added on the top of the mix.

Fusion VCF3 – resonant 24dB/oct lowpass filter of unique design that combines vacuum tubes and vactrols, providing distinct, soft filtering. For more versatility a CV recorder, that records motion of the potentiometer, is incorporated in the module, so you can design advanced modulation patterns.

Fusion Modulator – complex, all analogue CV source that consists of several blocks – two EMS Synthi functionality inspired looping envelope generators with simultaneous unipolar (0V-10V) and bipolar (-5V-+5V), VCA, Noise generator and Sample&Hold.

Fusion VCA/Waveshaper/ Ringmodulator – a modulation source based on two miniature pentodes that operates as VCA, waveshaper and ringmodulator. With two CVs applied simultaneously to different stages of the VCA, audio rate modulations, using ringmodulator as a waveshaper it becomes surprisingly versatile sound shaping module.

(Fusion Delay/Flanger/ Vintage Ensemble – a distinct multifunctional analogue effects module that combines BBD chip based effects with an adjustable tube overdrive in the delay output and a feedback path for extra thickness of the sound.

VERMONA meloDICER

DICE YOUR HOOKLINES

A vision of a sequencer with perfect balance between stochastic and deterministic creation of rhythm and melody: Algorithms generate random values that magically turn into musical events. Sounds complicated? Don't worry!

The theory behind meloDICER may sound complex, but using it is a breeze. The simple version to describe meloDICER could sound like: "Hit two buttons, move some faders and get a melody". The module creates random patterns and sequences, while letting you keep control over the amount of randomness. Or use the module as quantizer for incoming voltages, to turn even a LFO into a hookline generator.

How does it work?

meloDICER dices patterns with up to 16 steps and allows changing them in real-time. Freely alter the pattern length or choose which notes should be contained and set the probability via fader for each note to be part in the sequence after dicing. Also the octave range can be changed anytime, as well as note length, rhythm, chances for legato and empty steps.

Need a quantizer? Easy!

Use your existing modules to transpose and alter the patterns or to re-dice the sequences. Or skip the random pattern creation and use melo-DICER as a fully-fledged quantizer instead! Choose the note values that incoming voltages should be quantized to and off you go.

www.vermona.com

The RHYTHM Section

Add variation to the generated patterns with access to quantization, note length, legato and pause settings. VARIATION randomly brings in more note values, based on the quantization settings of NOTE VALUE. Play with both controls to generate different rhythm patterns.

The MELODY Section

This is the main section of melo-DICER: Select the notes you want to allow and use the faders to set the probability for them to appear. In real-time! Use the RANGE faders to determine the note range from within five octaves. Furthermore set the length of the diced pattern or shift the starting and ending steps, resulting in ever-changing patterns to keep the fun-level of your performance high.

Controlled tunes or total mayhem

Apart from being a standalone unit, meloDICER also accepts two incoming gates and pitch voltages each, which can be used for different tasks, like transposing the diced sequences, controlled re-dicing, changing quantization and note length on-the-fly and much more.

To Dice or not to Dice

This is where the magic happens: Hit RHYTHM to change the diced steps and MELODY to randomly create note values for them. Want more coincidence? Hold the buttons for a second to enter real-time mode. In real-time mode, there is no repeated pattern. meloDICER continuously generates new random values, based on the parameters you set for the corresponding section.

NOVATION PEAK & SUMMIT WAVETABLE EDITOR

SUPERCHARGE YOUR SOUND DESIGN

The free Wavetable Editor for Peak and Summit unleashes the power of the wavetable oscillators, allowing you to design your own waveforms and expand your creative potential.

The Editor, which is part of the Novation Components browser-based platform, features drawing tools and a Live Edit mode, so you can draw your own oscillator shapes and preview them in real time. The audio import feature lets you load in your own samples to be used as the oscillator waveform.

Built into the Wavetable Editor is a curated selection of space-themed audio from the NASA sound library. Get inspired and expand your sound design possibilities by generating waveforms from recordings of human space exploration and otherworldly environments. Also included is exclusive wavetable content from production giants Noisia, who have created a preset pack to stir your creativity.

www.novationmusic.com

INSERT YOUR SAMPLE HERE
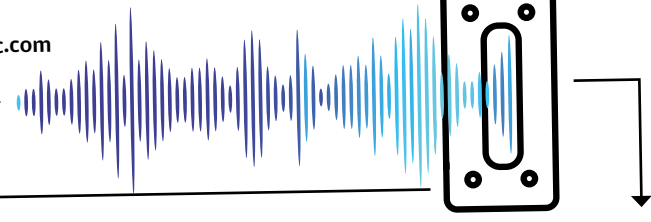
INCLUDING WAVE-TABLES BY NOISIA!

CG PRODUCTS XR22 VCO FT

CREATE BRAND-NEW FREQUENCIES

Deep, rumbling basses, shiny bells, ever-changing textures, metallic sounding howls and voices from otherworld... while ring modulators might count to niche products, their sonic spectrum yields sounds like these. So fasten your seatbelt and get ready for ...

... some theory

The XR22 VCO FT is a **ring modulator** with input for **amplitude modulation** and **frequency shift keying**, that allows direct ring modulation of audio signals with the oscillator's sine/triangle signal. Alternatively, this input can be used to control the amplitude of the sine/triangle output.

Advanced waveform creation

The frequency shift keying option with two switchable oscillator frequencies, which are controllable by the two big-sized knobs, allows advanced waveform generation. The oscillator's square wave output can be switched directly to the FSK input, resulting in separate controlling of sing/falling edges of the angle signal and the du- of the square output for ting ramp and pulse wa- via the knobs and CV.

www.cg-products.de

> **Dr. Clever says:**
> A ring modulator multiplies two signals together to create two brand-new frequencies which are the sum and difference of the input frequencies. «
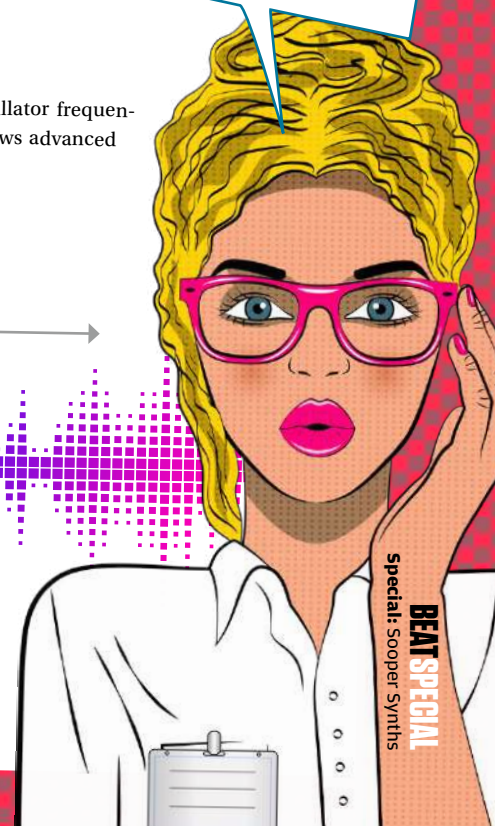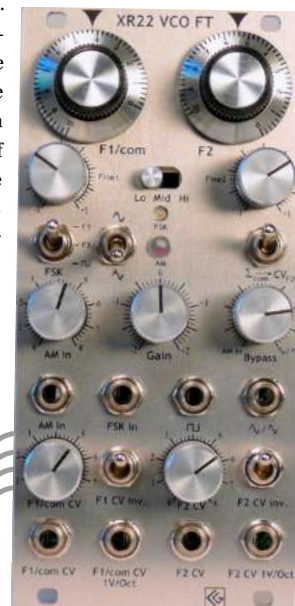
DOEPFER MUSIKELEKTRONIK

DEFINE YOUR SOUND

Modules by Doepfer have always been known for being tools and work-horses with great functionality. The latest addition stick to that fact, but do not forget the fun part. Find out what the seven upcoming modules will add to your rack. **www.doepfer.de**

A-149-4 Quad Random CV Source

Module A-149-4 generates four triggered random voltages which meet the criteria choosen by several controls and associated control voltage inputs. Manual controls and control voltage inputs for the criteria selection: Octave range, Grid, Minor / Majorand Sixth / Seventh. The output voltages follow the 1V/octave standard. The generation of a new random voltage at the output (CV Out 1...4) is triggered by the corresponding trigger input.
Typical use: Any process that requires several random voltages

A-133-2 Dual Voltage Controlled VCA / Polarizer / Inverter / Ring Modulator

The module contains two special voltage controlled amplifiers (VCAs) that allow both positive and negative amplification. The overall amplification is definded by the sum of the voltage generated by the Man control, external voltage CV and the position of the CV control which works as an attenuator for external voltage. In addition the CV signal can be modulated via the modulation control input Mod by means of another control voltage.
Typical use: Simple VCA, polarizer, attuverter, inverter or DC coupled ring modulator

A-135-3 Voltage Controlled Stereo Mixer

A-135-3 is a is a voltage controlled stereo mixer with four inputs. Behind a front panel with 8 HP only eight linear VCAs and the mixer based on the VCAs are available. The sum of the left and right signals appear at the sockets Out L and Out R. The maximal amplification is about 0.5 to avoid clipping at the mixer outputs . If another maximal amplification is required two resistors have to be replaced. All inputs and outputs are DC coupled. Consequently the module can be used to process both audio and control voltages.
Typical use: Versatile mixer with great flexibility

A-183-4 Quad Level Shifter / Clock / Trigger Buffer

Module A-183-4 is a fourfold level shifter. A level shifter is required if the level of a digital control signal has to be increased or decreased. The outputs and inputs of the four sub-units are normalled via the switching contacts of the input sockets, i.e. the output signal of the upper unit is used as input signal of the unit below provided that no patch cable is inserted into the input socket of the lower unit. That way the module can be used also as clock/trigger/gate buffer or buffered multiple for digital signals.
Typical use: Conversion of a gate, trigger or clock signal with +5V voltage level

A-130-8 Octal Linear VCA / Voltage Controlled Mixers

Module A-130-8 contains eight linear voltage controlled amplifiers. Each VCA features a control voltage input, a signal input and a signal output. In addition three mixers are included. The signal inputs are able to process levels up to 10Vpp without clipping. Each CV input is equipped with a trimming potentiometer that is used to adjust the sensitivity of the CV input in question.
Typical use: Voltage controlled attenuation of audio or control voltage signals

A-174-4 Joy Stick II

Module A-174-4 generates several control voltages and a gate signal controlled by a spring-loaded X/Y cross potentiometer (the joy stick). The control voltages for X and Y are controlled by the X and Y position of the joystick in the usual way. The third control voltage Z is controlled by the rotation of the spring-loaded joystick knob. The gate signal is generated by a button at the center/top of the joystick knob. As an additional feature four control voltages are generated that are assigned to the quadrants of the Cartesian coordinate system. These quadrant voltages are derived from the X and Y voltages by means of a special algorithm.
Typical use: Live modulation performance

A-111-5 Synthesizer Voice – Getting a successor!

Module A-111-5 is a complete and versatile monophonic synthesizer module, including an oscillator with triangle and sawtooth waveforms, pulse width control and modulation as well as frequency modulation. Furthermore lowpass filter with frequency modulation, a VCA with amplitude modulation, two LFOs and an ADSR envelope.
Typical use: Great foundation for your system

OHRWÜRMER KRIEGEN KEIN ALZHEIMER.

Carol ist nicht mehr die, die sie mal war.

Sie erkennt weder ihre Schwester Nancy noch ihren Mann Jim. Die meiste Zeit ist es so, als würde sie kaum noch etwas um sich herum wahrnehmen.

Doch wenn Nancy ihr vorsichtig die Kopfhörer aufsetzt und ihr ihren absoluten Lieblingssong vorspielt, leuchten ihre Augen wieder. Sie wiegt sich sanft im Rhythmus, sogar die Tanzschritte kann sie noch.

Vielleicht knufft sie Jim am Arm. Oder sagt ihm, was für ein lustiger Typ er ist. Für die Länge eines Songs ist sie wieder da. Für 4:35 ist sie wieder Carol.

THE POWER OF MUSIC!

thomann
MUSIC IS OUR PASSION

LEAF AUDIO MICROPHONIC SOUNDBOX

HEAR THE WORLD FROM INSIDE

The Microphonic Soundbox mk2 is an acoustic wooden experimental instrument, which perfectly integrates in any audio setup to create interesting and otherworldly soundscapes. It comes prepared with metal springs, metal rods, sand paper and a Kalimba made from carbon strips, but it can easily be extended with any other found materials. It can be played in many ways by scratching and bowing, to create totally unique sounds. It's the perfect sound design tool - be creative!

What's inside?

The Microphonic Soundbox features two internal contact microphones and two battery powered low noise pre-amps (~100x Gain), both signals can be mixed together and sent to the outputs as a line level. Inserting an external signal to the input will switch off the first internal mic and use the external signal instead, what also makes it a platform for amplifying and mixing external Hi-Z signals. It's standing on soft rubber feet, which guarantee a good grip on most surfaces, and also do some acoustic decoupling.

How to use

Standalone it's already fun, but its whole potential is unveiled when it's being processed in realtime by livesampling, loopers and effects. For getting you started, we provide a Live-Set for Ableton as a free download, but of course you can use it with any other DAW or mixing desk. You can also interact with Eurorack Modular, using modules like Clouds or Morphagene or Magneto. Possibilities are endless and many sound designers and musicians use it in their work for theatre, cinema, TV and music production.

www.leaf-audio.com

CONNECT ...

USE WITH ...

FEED IT   WORK IT   TOUCH IT   MOVE IT   SLIDE IT

FRISCH AUFGESETZT.

Das Kopfhörer-Magazin im Web.

www.kopfhoerer.de

KOPFHOERER.DE

BITWIG STUDIO 3 – ENTER THE GRID

BERLIN SCHOOL SEQUENCING

Bitwig Studio inspires you to take greater control of your music, giving you access to every aspect of your production. Streamline your creative process and quickly evolve your ideas into complete songs, tracks, and compositions. Record and arrange, improvise and perform, or do it all at once. Welcome to the next generation of music creation and performance software. Modularity has been at the core of Bitwig Studio from the beginning. Devices can be nested, clips are containers, modulators exist everywhere, and practically anything can be dragged anywhere.

The Grid - coming with Bitwig Studio 3 - is an open modular environment that powers a family of new devices in Bitwig Studio 3: Poly Grid and FX Grid. With a vast library of modules and a supersonic workflow, you'll be creating your own unique sounds immediately, and in high-fidelity. Simply add a Grid device to your project and start patching. It's fun.

Construct a polyphonic synthesizer from scratch in one session. Create an adaptive audio effect with your signature sound. Experiment with generative drones until you find a new way to perform. Or simply create the undefinable. Patching is effortless, giving full rein to your creativity.

2 Mixer & Pitch Quantize

Both Pitches modules are connected to a Mixer, which pans the sources (panning the notes has an impact on the following oscillators) and sums both sequences, leading into a Pitch Quantize unit. Here we select only a few notes to set the flavor of the resulting sequence. This module takes care that wrong notes are filtered out.

5 Signal Output

The filters' output runs into an **ADSR**-envelope, which sends its signal to the output. Consider adding a **Delay** or **Reverb** device after the **Poly Grid** to add more space.

4 Probability

The summed Pitches modules create ever-repeating sequences with a certain randomness. To even increase this we add a **Trigger Gate** running through a **Chance** module, which finally triggers a filters envelope. As the **Gate's** and **Pitches'** Phase is active (the violet ø icon) all modules run at the same host timing. The result is as simple as effective: Some notes will be played with closed filter, resulting in even more interesting patterns.

3 Oscillator & Filter

The Triangle oscillator receives its trigger and note voltages from **Pitch Quantize** and sends its audio out to a **Low-pass LD** filter. The filter gets a short impulse from its **AD**-envelope neighbour module, which opens the cutoff, resulting in a smooth and nice arpeggio.

1 Pitches & Random

Berlin School Sound relies on proper sequences. So let's start with adding the **Poly Grid** device to a new track and add two **Pitches** modules. We shorten the first one to seven steps instead of eight and add some notes of our choice. The second Pitches gets a **S/H LFO** from the **Random** modules connected, which randomly changes the modules playback direction.

Fact Sheet

- Professional Digital Audio Workstation for Windows, macOS, and Linux
- Super-fast workflow for sound design, recording, live performance, and beyond
- A complete package with 80+ instruments and effects
- Enjoy over 10 GB of world-class sound content from Bitwig and selected partners
- Out-of-the-box support for standard audio interfaces and controllers
- A unique and highly flexible modulation system for unbound creativity
- Excellent hardware integration
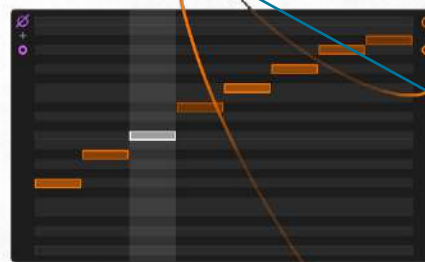
GET YOUR HANDS ON:

CONNECT THE WORLD
[WITH BITWIG]

BIBIBIBIBIIIIEEEP

BIP

BIIIP

Bitwig Studio includes technology called the „Open Controller API". This allows anyone, from controller manufacturers to everyday Bitwig music makers, to create highly-detailed control scripts for your favorite controllers.

Bitwig comes with a huge selection of Scripts for well-known Controllers by Arturia, Nektar, Roger Linn and many more. All of them ready for instant use. Connect your gear, Bitwig will automatically detect it and fire up the script to get your controller included right away.

If that's not enough, have a look on the more than 70 user scripts on Bitwig.com, or create your own ones! The included Scripting Guide and Documentation will make this a breeze.
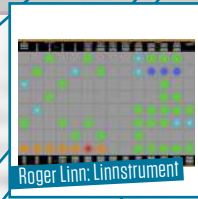
www.bitwig.com

WATCH THE GRID
VIDEO TUTORIALS

Nektar Impact LX25+

Sensel Morph

Roger Linn: Linnstrument

Arturia Keylab Essential Serie 49

Keith McMillen K-Board Pro4

Behringer BCR2000
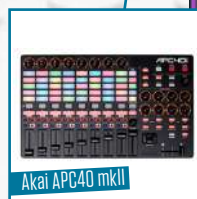
Arturia BeatStep

Ableton Push

Midi Fighter Twister

Native Instruments Kontrol

Novation LaunchPad

Akai APC40 mkII

CABLEGUYS SHAPERBOX 2

SOUND DESIGN
SUPERHERO

ShaperBox combines six separate Cableguys effects in one intuitive and flexible plugin. The modules can be ordered by taste and offer three frequency bands each, what makes it easy to apply effects to individual sounds and selected frequencies ranges. This feature and loads of other flexible functions make the ShaperBox your go-to tool for mixing duties and creative sessions.
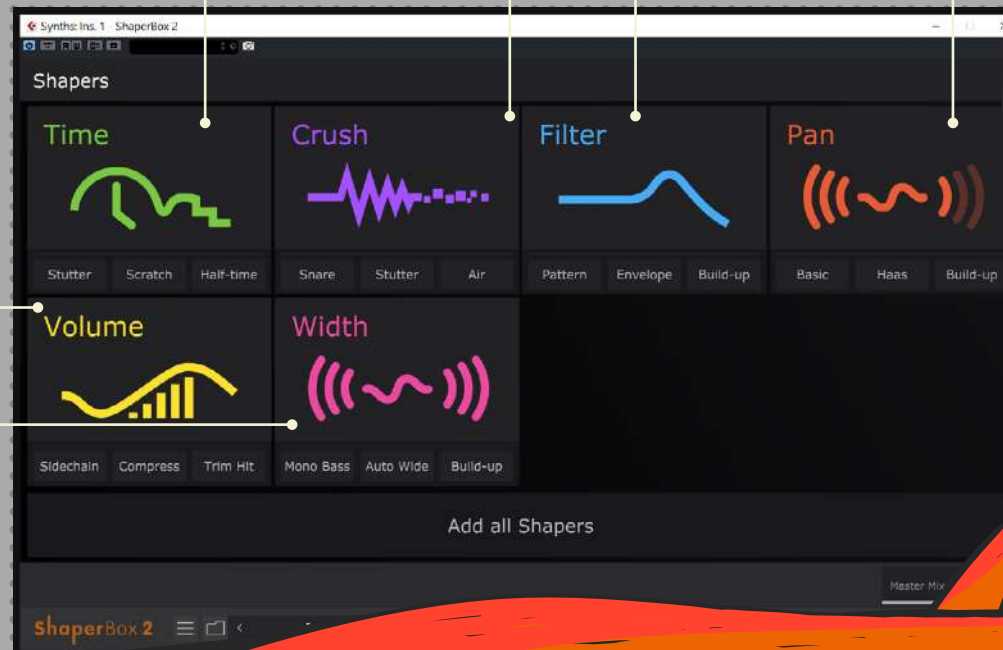
CrushShaper: The lo-fi expert

Fans of crunchy LoFi and distortion sounds will definitely enjoy the **Crush module!** This shaper allows you to modulate the distortion amount, the bit and the sample rate reduction as well as the effect intensity. How about turning individual drum hits into grainy LoFi sounds? Nothing easier than that! A light saturation of the high frequencies will refresh dull signals effectively.

FilterShaper: Creative sound mangler

The powerful **filter** module of ShaperBox offers a wide range of different types: In addition to low, high, high and band pass with different slopes and characteristics, you can find notch filters and various phasers. Thanks to the flexible drawable LFOs and the envelope follower, powerful sweeps or insane wobbles are easy to create, as are complex and dynamic filter runs.

PanShaper: Stereo magician

PanShaper allows a flexible modulation of the stereo position. The psychoacoustic Haas effect can also be employed. For example, this module is useful to let only the hi-hats of a drum track move in the stereo panorama or to position individual drum hits at will. You can also create impressive animated basslines or vivid hooklines, while the lower frequencies always remains mono compatible.

TimeShaper: Audio time machine

In the Time module, the horizontal axis represents the temporal curve. The vertical axis, on the other hand, indicates the position in the incoming audio signal. With a curve in the form of a descending staircase, you can create stuttering and repeating effects. If you draw slopes, the pitch is altered. So you achieve tape stop and acceleration effects. Glitch and reverse effects are also possible.

VolumeShaper:
Your expert for pumping and gate fx

You can shape audio signals in pinpoint detail with the powerful drawable volume LFO and visual compressor on every band of ShaperBox 6. So you can create all kinds of stutter, pumping and gate effects, but also achieve distortion, bitcrushing and ring modulation. You can also use the compressor with its sidechain input for a selective dynamics processing, but also for ducking effects and de-essing.

WidthShaper:
Multiband stereo expander

WidthShaper is another useful stereo tool: You can use it to increase or decrease the stereo width with ease. An individual processing of the mid and side signals is also possible. For example, you can use the Envelope Follower to increase the stereo width of a mix when a specific Threshold value is exceeded. At the same time, you can ensure that the lower frequencies remain mono compatible.

1 Getting started

Load a simple drumloop into your DAW and activate ShaperBox 2 [1] as an insert effect. Now you can choose which of the six shapers you want to insert into the signal path. To get started, we recommend the **filter** module. Click in a free area of the graph (LFO Wave Editor) to create a new curve point for the LFO. Place the point at will. ⇒
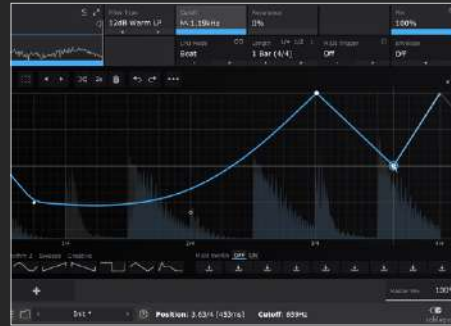
2 Curvy!

The result is a smooth curve. Now, create additional curve points and place them as desired to get a more complex shape. Right-clicking on a point allows you to switch from the smooth gradient to more "defined edges". In this way, you can achieve both soft sweeps and abrupt jumps. If needed, you can delete a point by double-clicking on it. ⇒

3 Filter experiments

Why not try different **LFO Length** values? You can create sweeps over several bars as well as fast rates in the audio range. It's also worth experimenting with different filter types and settings. Above the editor you will find various functions for editing the waveform [2]. Presets for different waveforms, rhythms and sweeps can be found under the editor. ⇒
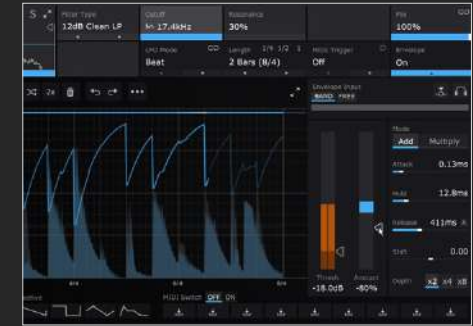
4 Envelope Follower

How about a filter effect that follows the input signal rhythmically? Just activate the **Envelope Follower** and select the Add mode. Set the filter frequency (**Cutoff**) to a low value. Adjust the parameters of the envelope follower until you like the sound of the result. Now select a high filter frequency and a negative **amount**. ⇒

5 Sidechain effect

Now the filter frequency is not increased, but lowered at signal peaks. Feel free to experiment with different filter types and resonance values, too. Do you want to create some classic sidechain effects? The **Volume** module of the ShaperBox is the first choice for this task. Click **New** in the main menu at the bottom left to create a new preset and select the Volume module. ⇒

6 Gated pads

For sidechain effects, a bassline or held synth chords are good input signals. Now, set Length to 1/4, select one of the sidechain presets of ShaperBox and adjust **Mix** as desired. To achieve rhythmically gated pads you can use a sawtooth or rectangular waveshape of the basic presets and set **Length** to 1/16. Adjust **Mix** to your liking. ⇒

7 Manipulate Hi-Hats

Do you want to reduce the level of individual hi-hat hits? To do this, just drag the right arrow in the **Bands** section to the left to set the crossover frequency. Select the **high** frequency band. You can also solo the frequency band by clicking on the S switch. Set **Length** to **1 bar** and draw the curve so that only too loud hi-hat hits are lowered. ⇒

8 Performance Effects

If necessary, adjust the crossover frequency again. As you can see, the creative possibilities of ShaperBox are almost endless if you combine multiple shapers and create different modulations. This also allows you to create stunning performance effects for complete mixes. Simply automate the master mix value to create fade-ins and fade-outs of the effects. ⇒

U-HE WIRETAP

EVERY MELODY DESERVES A RHYTHM

Wiretap is a two-channel Eurorack-module meant to be patched between a pitch CV source and its destination. Wiretap tracks pitch and sends triggers whenever it changes, so you can easily turn melodies into rhythms.

Wiretap's main job is to auto-trigger synth voices. Patched after a pitch CV source it tracks the incoming voltage and creates triggers / gates when the pitch changes. It also offers a pair of decay envelopes triggered by rising and falling voltages, but can alternatively be triggered by gate signals, either from within Wiretap itself or from an external source.

Tech insights:
Different from other slope detectors

Regular slope detectors recognize motion or "states" – rising, falling, moving, still, larger, smaller or equal – and set their gate outputs high according to to the motion or changes in state. As long a voltage is rising, the rise gate is high. But when a voltage jumps from one note to another, which is usual for sequencers and keyboards, a regular slope detector would send a very short gate. Wiretap works differently, as it examines the incoming signal for changes in state or motion, e.g. it triggers each time the signal starts to rise, fall, move or jump. The gate length can be set independently from the incoming signal using the Gate knob.

Multi-function envelopes

Wiretap's two envelopes are actually simple envelope followers with a very short attack and an adjustable release (decay) time. They can either be triggered from Wiretap's gates or from external sources. They hold while the gate is high and decay to 0V when the gate goes low.

www.u-he.com

Use case #1

Trigger voices automatically

Put Wiretap between a step sequencer (or a Sample & Hold etc.) and a synth voice, then trigger envelopes only if the pitch changes significantly. If the sequencer repeats the same note, only the first note is played.

Use case #2

Let it drum!

Send up to six trigger signals to your drums. As each change of incoming voltage creates a trigger or gate, you can easily set up automatic rhythms which are in perfect sync with your melody.
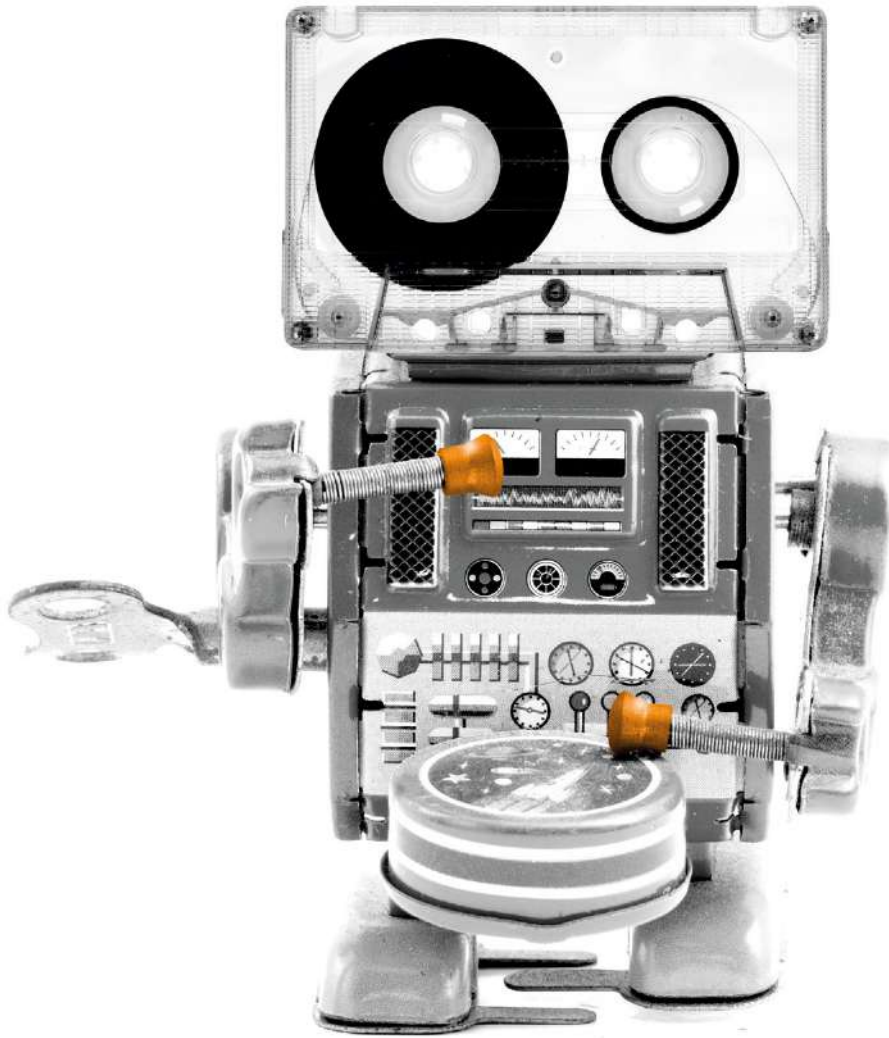
Use case #3

Down-only glides

If you run a pitch CV through one of Wiretap's envelopes, the Decay knob acts as a glide control. The glide only happens when the pitch goes down – when the pitch goes up, it jumps immediately.

> **Business needs a radical change. Hierarchies must become flatter.** «

Globetrotter and lone wolf

Interesting story. Zebra Katz generated millions of YouTube clicks, was present at the Paris Fashion Show with his hit "Ima Read" while the models were walking for Rick Owens, and toured around the world, both solo and as the Gorillaz's singer. But an album by the Florida-born artist has never been produced and released so far. This spring, after a long production period, his full-length debut "Less Is Moor" will finally be released - a hybrid of sexually charged hip-hop, electronica, avant-garde and contemporary pop culture that often breaks with common listening habits. We met the talkative rapper and producer in a café in Berlin, the city where he currently lives, for an in-depth conversation. **Interview: Sascha Blach; photos: Ian Wallman**

Beat / *When did you first get in touch with music?*

Zebra Katz / I grew up in a very musical household, because my parents had music playing all the time. I listened to a lot of classical music and reggae, but also to the radio and I watched the music videos on MTV and VH1 up and down. When I went to Eugene College in New York City in 2004, I had a MacBook and fell in love with GarageBand. Those were very early experiments with my voice and production. I had a MySpace page back then and released my first tracks on it. My final project called "Moor Contradictions" dealt with the fragmented aspects of my personality. One of these characters is Zebra Katz, for whom I finally started to write songs. And this is how it all began ...

Beat / *What does the name Zebra Katz stand for?*

Zebra Katz / When I go on stage lights go out and the curtain falls, Zebra Katz appears. He is a performer. I came up with the name in New York when I was an MC (microphone checker). I was holding the microphone, one of my friends was in the DJ booth and we were trying to get the people in the club to get drinks. I knew then that I wanted to make music and I wanted to give myself a pet name. I like zebras because they confuse predators with their defense mechanism. This is also my approach to music. With Zebra Katz I liked how it looks graphically, because it starts with z and it also ends with z. My real name is Ojay and there were a lot of stupid sayings about OJ Simpson and whether I was a killer as well [laughs]. So it was good to have a stage name.

Beat / *Did you ever take music lessons?*

Zebra Katz / I went to art school, but my education was mainly connected to music theatre. I played in plays like "Peter Pan", "Little Shop Of Horrors" or "Ragtime". There were some musical lessons, but it didn't go into details. My mother bought me a keyboard, but I hated it, because I didn't like to sit still. So I quit when I was eleven.

Beat / *Does that mean that nowadays you don't create songs from your head ,but more from your heart rather than based on a theoretical foundation?*

Zebra Katz / Absolutely. I would say I am a minimalist. I always try to limit my tracks to the absolute essentials so that the elements that give the song the most energy are highlighted.

Beat / *Your music has an experimental touch and often goes beyond common listening habits...*

Zebra Katz / Oh yes, definitely. When I heard my first tracks back then I was amazed myself that they were so well recorded . It wasn't about making music that others would often share, but simply about capturing my kind of sound understanding - how I thought I could use my voice as an instrument. Again, it wasn't like I sat down and said I was going to make an album because I don't know how to do that. And the harder I tried, the more difficult it became. It wasn't until I tried less that it became easier. I didn't want to make an album just because everyone said I needed to make one, but take my time to learn my job as a producer and writer. I tried to get better at Ableton and worked a lot with other producers.

Beat / *So you have already toured the world before the release of your debut album. What was the reason?*

Zebra Katz / I think this has to do a lot with my skills as a performer and in addition that I offer more than just music. I love being on stage and playing characters and wearing different costumes. I have experimented a lot over the years. For example, when I lived in L.A. or London, my music was much more house heavy than it is now. It was also very educational to release my music independently through my own label ZFK Records. I didn't know before what it was like to own a label and I thought its just as easy as uploading your sounds to Tunecore. I have been looking for years to find a good management. But since I am a very stubborn person and since my music is not so easily to understand for everyone, I wanted to keep control. I have worked so much in all these years. At the same time it was always said that I really needed an album to go on tour. But thanks to the grace of the universe,

people have wanted to see my show for the last seven years without an album, maybe because I do the gigs differently every time. However, the upcoming one will be my first tour for which there is an official ticket sale.

Beat / *You have already lived in quite a few cities, right?*

Zebra Katz / Yes, I was born in West Palm Beach in Florida as the child of a Jamaican family. So I was the first American in my family. There I went to high school and later to art school where I learned a lot about art, acting and also about fashion design. I listened to music like for example Uncle Luke or Trick Daddy - very explicit high-energy up-tempo tracks. But also Busta Rhymes and Missy Elliott, typical rap personalities who were larger-than-life. Dance was always very important to me, too. I then went to college in New York, where I stayed until 2004. In between I moved to London to continue my studies before returning to New York City to work in a catering service and wait for opportunities to present myself.

Beat / *What happened next?*

Zebra Katz / I released my first tracks on Soundcloud, MySpace and Youtube, which already made some noise. In 2010 a producer friend invited me to his studio and taught me more about Ableton, microphones and sound experiments. He sent my track "Ima Read", which I had done with Njena Reddd Foxxx, to Diplo, who wanted to release it on his label Mad Decent. Suddenly I had an officially released track and made a music video of it myself. But the label said we could do better than that. So, I got in touch with Ruben Sznajderman, who shot the actual video in a school with us. Our budget was a ridiculous amount of 200 dollars. In early 2012 the video got millions of clicks on Youtube within a very short period. It was a fast seller, a no-brainer, I hardly promoted it. After all I knew exactly what I wanted to do as a full time job. Four months later I received a call. Rick Owens wanted to use the track for his fashion show. I knew what a huge influence he had. When he played my track in full length at the Paris Fashion Week, suddenly everybody seemed to know me. And my phone

It was a struggle to complete this album, because I searched for my sound for a long time. «

wouldn't stop ringing. But there was also a lot of huge indignation, because some people didn't understand why he chose a song that contained the word "bitch" about seventy to eighty times. Even the New York Times wrote an article about me afterwards. That very same day I could finally quit my job at the catering company and devote myself entirely to Zebra Katz.

Beat / **Later you even joined the Gorillaz.**
Zebra Katz / Yes, that was in 2017, I was contacted by Twilite Tone, who also helped working on the album "Humanz". I was just hanging out in the neighbourhood anyway, so i just stopped by the studio and popped in. I still knew Damon Albarn from his Blur days, but I didn't know much more about them than that they had this song called "Girls And Boys". And then he explained to me a little bit about the project "Humanz" and who would be a part of it. I thought this all was super exciting, but my first thought was, that it was not for me because of my vulgar big mouth. I like it politically incorrect. I was offered the biggest opportunity of my life, but I hesitated. Later I decided to give it a try anyway and I really went to Jamaica with them, where I wrote the lyrics to "Sex Murder Party" and "The Apprentice". Back in London I finished "Out Of Body" with Kilo Kish. That was a huge thing for me, after I had only released a few singles so far, primarily on my own small label. And suddenly I was on an album with Grace Jones. That was also the time when I decided that it was finally time for me to move to Europe, because I had a lot more to do here than in the USA. Since my booker lives in Berlin, I came here to build up a team. I had the choice between London and Berlin, but Berlin reminded me more of New York in the past and was also way more affordable for an independent artist. I moved here in february and starting in may I was already on tour with the Gorillaz again.

Beat / **So the tour lasted then for the rest of the year, right?**
Zebra Katz / Oh, yes. That was also such a great experience, as this is one of the last big tour bands - with five nightliners, a huge crew and hundreds of guests. I really had to think about my own popularity and how far i made it when I was sitting in a room with people like De La Soul [laughs]. People I used to look up to in the past. It was a reality check.

Beat / **Despite your successes, you haven't always had it easy in business, have you?**
Zebra Katz / Yes. I think business needs a radical change. The hierarchies have to become flatter, because those who really generate value are the artists. Furthermore the industry is not what it used to be, because most of it is digital nowadays. So artists should also get a bigger share of royalties. But instead, the companies expect us to do most of the work and still take the biggest slice of the cake. I didn't have a manager for many years and you can already see a big difference in how you are treated when you are part of a big team or do everything alone and independent. As a great artist you get much more support. I have the impression that the harder it is to reach up and to get to you, the greater the mystery. When people receive e-mails from Ojay Morgan about booking Zebra Katz, they get confused. But that's bullshit. I like to have a direct presence and stand up for what I do.

Beat / **Where did you make your album?**
Zebra Katz / I really like to isolate myself in my bedroom and block out all kids of distractions. I met with many different artists in Berlin to work on music. But it was also a struggle to finish this album, because I had to search for my sound for a very long time. This album should stand for something big and show who Zebra Katz really is, whereas the singles I had done before were cross-over. At the same time the market demands that you keep your fans updated with new releases constantly and all time. Otherwise

they think you're out of the music industry and gone. At the same time it takes a lot of time to work on new music and also to take care of my label and not to forget to mention to be on tour. Even more if you do everything on your own with no-one helping. So I sat alone in my room in Berlin-Prenzlauer Berg in winter and tried to work on the songs. I did the tracks in collaboration with different friends and producers, moved to Schöneberg in between and continued to experiment there.

Beat / **What did the technical environment look like?**
Zebra Katz / There was a lot of sound manipulation involved and the tracks on the album went back and forth in between many different people. It also happened that I worked on a track for two days and then decided to delete it again. I used part GarageBand and part Ableton and a song like "Zad Drumz" was completely freestyle. I got a breakcore beat from a producer and even while I was in the studio with friends I took the mic and improvised to it. And at that very first take it was done. That was it. That was the moment. Some songs are very minimalistic and like "Necklace" they only consist of a guitar loop and a vocal track, because I want to make room for my voice. In "Sleepn" on the other hand you can listen to various Youtube samples. Afterwards I went through it again with a producer track by track and bar by bar. I mixed the album with this guy named Lupo and for the mastering I got Sam Slater, because I don't know anything about it. For me it's always amazing how the tracks suddenly get louder. Now the tracks sound much more alive than my early releases, which makes me very happy and satisfied.

Beat / **Many tracks are also extremely personal, right?**
Zebra Katz / Definitely. Once I was at a Gabba party in Kreuzberg and got into a conversation with a guy who lives above the location and also makes music. So I thought, screw it, I'm going up there. That's how the first track of the album "Intro To Less" came about, where you can still hear the Gabba party in the background. Afterwards I added some interview snippets. I purposely wanted to start with it. In the beginning a lot of people were irritated and confused, because I talked about my sexuality very openly. I did not understand the problem at all though. It was always just about queer rap, queer rap, queer rap. Yeah, so? What's the problem with this? That's the way I am, but I still don't want to be reduced to that, because it's sexist and racist. But meanwhile I tell myself, fuck it, I can't change it anyway, and try to look ahead. That's what this track is about. ⠶

www.zebrakatz.com

Discovered: LBT
Hybrid being

It started with a simple idea. Now it is a full evening program: LBT play Techno on acoustic instruments and from the perspective of a piano trio. On their current double album "Stereo" they separate the two sides of the coin neatly on two CDs - where does the club night end here, where does the Jazz begin?   by Tobias Fischer, Photos: Richard Stoehr

Beat / Now that you regularly play your concerts with your acoustic Techno: Do you listen to club music differently afterwards?
Maxi / As a composer, of course, yes. When I'm in the club and dance and when I also like a sound, a rhythm or a structure especially, I write it down afterwards so I will not forget it. Although you actually go clubbing to let yourself go to the maximum and enjoy your night out.

Beat / Where did the idea for a double album with a Jazz and a Techno part come from?
Maxi / The suggestion originally came from Werner Aldinger who is also signed on our label ENJA. Since we had already recorded a pure Jazz and a pure Techno CD, it was also the next logical step for us to put these two aspects side by side on a double album.

Beat / Your first, jazz-oriented album "Tech Tech Tech" already offered a first attempt in this direction.
Maxi / [laughs] „Tech Tech Tech" is practically my very first attempt to write Techno for piano trio.

It was a good lesson for me in which I learned to stop composing in Sibelius. From that point on I started to write everything in Ableton. Abstract: We played the track on tour for our debut album "Levitation". A cultural advisor liked it so much that she commissioned an entire techno program for next year. But the idea of taking music that is also appreciated a lot outside the jazz cosmos into the program and as a fundament for improvisation is of course nothing new. It is actually very surprising that so few people do it consistently in Techno.

Beat / Where do you see the overlap between Jazz and Techno?
Maxi / For me personally, the greatest and most common thing about Techno and Jazz is the fact that both styles of music were/are dance music

and they are based on relatively simple elements - Techno: short loops; Jazz: mostly 12 to 32 bars. Both live on developments above a simple repetitive structure.

Great sounding chords

Beat / Leo, while Maxi composed the tracks on the first CD, you wrote the more classical songs on the second one. Now let me just assume that your influences come from a different direction.
Leo / That's right. I started playing the piano when I was seven years old and at first I didn't have any specific influences except for a few classical and rock records that me or my parents had. I became more interested in Jazz later on.

Beat / Why Jazz?
Leo / Because I was bored with the harmonies of Pop and Rock and I wanted to know how to make these "great sounding jazz chords". I was really curious about it. Today I spend a lot of time to get

Improvisation is like a backpack: You can always pull out what you need and combine it. «

deeply involved with very specific artists and to find out what I like about the contributions of the musicians involved. After almost a month I then decide to switch to a new influence.

Beat / The name "Techno" is derived from "technology". Does this play a role in your trio compositions at all?

Leo / I use almost no technology at all. Of course, I have a notation software that serves its purpose perfectly. I also play an old keyboard, a Nord Stage 2, with which I can make multitrack recordings. But these two tools are enough for me to write new tracks and document the arrangements. From my point of view people are still responsible for creativity and feelings, machines only support them. That is another reason why I'm more attracted to traditional instruments.

Beat / So do you see the current development towards more and more virtuality rather critically?

Leo / It doesn't take a lot to make good music. All you really need is a mixture of a good rhythm, harmonies and melodies. The focus between these three factors has changed over and over throughout history. Today rhythm is clearly the most important in pop music, while harmonies do not seem so essential anymore. I find that a little sad. I feels like it should be more balanced. For the future I see two possible developments: Either electronics and computers will play an increasingly important role, or we will go back to the "traditional". Since I am not an electronics musician myself, I obviously prefer the second option.

Complex illusion

Beat / Your music mediates between both sides. That can't be easy in implementation.

Maxi / The hardest task is to make the whole thing sound like Techno, even though it is played on conventional instruments. Our TechRider is currently on 22 channels. So it is technically quite complex to make this illusion audible. You have to repeat the sample, the beat 100 times by hand. This requires a lot of concentration and physical effort. But that's exactly what makes it exciting. Now that we are touring with our techno program, we always have our own sound engineer Mats Leichtle with us.

Beat / You currently have quite a few live dates in jazz clubs. Are there any attempts that you might present the other way round in a techno club?

Maxi / Very well observed! Logistically, jazz clubs are of course more suitable - how many techno clubs do have a real piano? [laughs] But yes, we have played at Sisyphos in Berlin and at Harry Klein in Munich. Both of them worked out great for everyone and we really enjoyed it. But also, we have brought our own - real! - piano to both gigs. [laughs]

Beat / In which direction do you think the concept will move in future?

Maxi / In any case, the trend will go towards additional and also home- and self-made instruments. The drums are already maximally extended and still growing: Two snares, two kickdrums, two hihats, various shakers, footcabasa, clap stack, metal parts etc... Leo plays piano, salivoline (inspired by Frank Zappa), whackstack and toy piano. Soon a tubulum will be added. [laughs] This is an instrument made of a variety of tubes.

Beat / The studio recordings on "stereo" sometimes differ quite clearly from the live versions of the songs. Can you describe your improvisation approach?

Maxi / I'm afraid I can't do that. I'm still not quite clear what exactly the processes involved in improvisation are. Maybe I'll never find out. In any case it is about being as free as possible in your musical decisions. You develop things that feel like something that you practiced once a long time ago but then forgot. It is like you have a big backpack that contains all your ideas, phrases and influences. You can always pull out what you need and recombine the contents at that very moment. But everything else that you don't need right now, you leave inside the backpack.

Beat / Can you tell us a little bit more about the production and mixing of the album? It doesn't seem to be easy to get the right sound for these songs.

Maxi / Especially with our first techno-influenced album "Way up in the blue" it was quite difficult in the beginning. There was absolutely no reference recording. Our role model was definitely "real" techno. But I think it automatically becomes something very special when you play it in a piano trio. We compared it to bands like Dawn of Midi or GoGoPenguin every now and then. But in the end Mats Leichtle and I just did it the way we liked it. It's like this: When I compare our recordings with jazz recordings, I find it pretty fat. When I compare them with techno recordings, they're a bit thin. We've become friends with the idea of being a hybrid being that is at home in both worlds.

www.leobetzltrio.de/
www.facebook.com/leobetzltrio/

The ultimate kick

It is a beautiful coincidence that the term "black gold" can be associated with both coffee and vinyl. Both of them have become an integral part of the lives of many musicians. Caffeine in particular has influenced artists for almost three hundred years. Yet according to many experts, it actually makes us less creative. Time for a closer look at a drug that is underestimated way too often. **by Tobias Fischer**

Some of my most intense experiences are connected to coffee. One of them will always remain in my memory: A recording of later works by Franz Liszt with my brother and the Italian pianist Sandro Ivo Bartoli. The session took place in the Neustädter Reitstadel, a rebuilt former horse stable, where albums for ECM have already been produced. We had exactly one day to record over an hour of this highly complex, psychedelic repertoire - a nearly impossible task. It started slowly. Every hour Sandro interrupted his performance to have another espresso in a café just around the corner. The endlessly flowing caffeine made me almost dizzy, but Sandro was getting more and more into his "zone". He thought a meal break was unnecessary, only occasionally his espresso diet was supplemented by a cigarette. And just kept on playing. At some point the café closed its doors, but the effect of the estimated eight "shots" lasted long. After almost twelve hours, Sandro had recorded the music and the CD was ready. By the time we left the studio, the sun went down and it was already dark outside, the shops were closed, the restaurants and streets were empty. In the end, this memorable day ended in the probably last open bar in town, where the pianist, talkative and in a good mood, finally replaced his coffee with a nice, cold, draft beer which was well deserved and was finally able to release the stress of the day.

Coffee conquers the world

This close association between coffee and classical music is by no means as far-fetched as it might at first seems. It is indeed a fact that the black gold spread throughout Europe and inspired composers to unimagined productivity by the time of the late baroque and early classical periods. The first European coffee house opened its doors in London in 1652. Nearly half a century later, there were corresponding establishments in all western metropolises. Here, in addition to politically interested people and fanatical chess and domino players, artists and creative minds preferred to meet and hang out and spend time, either engaged in passionate discussion or in obsessive work. Suddenly, complete new works came into existence and emerged as fast as never before. Thanks to the caffeine and the stimulating effect of coffee, some composers were simply completely unstoppable. Johann Sebastian Bach wrote over a thousand pieces, Franz Joseph Haydn wrote 107 symphonies and 83 string quartets, Georg Philipp Telemann alone wrote 1700 church cantatas. We know relatively little about their exact consumption of coffee, even though Bach created an amusing coffee cantata in honor of his favourite drink. Beethoven is known for having had drunken coffee as often as others water. And the optimal number of beans per coffee cup is 60 (according to tradition). [1]

It is not only musicians who have fallen for coffee and in some cases also for chocolate, whose active ingredient theobromine is chemically and in terms of its effect very similar to caffeine. That these were extremely addictive substances was soon clear to all those involved, but did not stop them from consuming them. According to anecdotal reports, the author and poet Honoré de Balzac is said to have drank up to 50 small cups of coffee a day, a quantity that might even have impressed many a sicilian majority. He also considered other foods and beverages to be largely unnecessary and spent his life almost entirely with pen and paper in his hand. On one hand the chemical romance led to a unique and legendary extensive catalogue of works, on the other hand it caused gastritis and heart problems, which had killed him at the age of 51. His artistic colleagues were generally not quite as greedy. But all of them developed strategies to organize their dependencies. Niccolò Jommelli, for example, built up a network of "dealers" to ensure that there was always an adequate supply of chocolate. Rossini, for his part, noticed that the

[1] https://sites.google.com/site/johnaricecv/music-in-the-age-of-coffee

> » I used to drink twenty cups of coffee a day. But they were small. Nowadays I drink from bigger cups. « [David Lynch]

effect of caffeine slowly diminished and disappeared after exactly twelve days. So he forced himself to complete an entire opera during this period.

Stunning and revolutionary

Today, coffee is usually seen as a luxury beverage, and its intensive nerve stimulation by milk and sugar has been significantly weakened. But especially in its early phase, coffee was a socially stirring product. Some people even claim that the english preference for tea is based on the fact that coffee encourages them to tell the truth openly to their counterpart rather than hiding it behind english reserve. A seventeenth- and eighteenth-century coffee house was not a Starbucks where soft jazz sounds vibrated in the air and cinnamon and rock candy were sprinkled on fine icing. They were loud, wild places where revolutionary fantasies were spoken out loud and ideas actually became revolutions. Perhaps the most upheaval of the past centuries would have been unthinkable without coffee: Capitalism is fundamentally based on the suspension of natural day rhythms, by the diktat of the machine. Coffee made all this possible. If they were given enough of it, workers were not only prepared to start their jobs long before sunrise and stand behind the assembly line until late at night. And while they did so, they could even sing along and laugh. In his latest book, "Coffeeland: One man's dark empire and the making of our favorite drug", Augustine Sedgewick has reappraised this often dark past. In addition, he shows how unscrupulous capitalists took advantage of the effects of a substance that had no calories but gave off undreamt-of energy. [2]

The triumphal procession of coffee could not be stopped in any way

Even in economically difficult periods and times of crisis, nobody wanted to do without coffee and its caffeine. Especially in creative communities the connection became more intense than ever. Someone like David Lynch is rarely seen without a steaming coffee cup in his hand. He may have reduced his quantity as he grew older. "I used to drink twenty cups of coffee a day. But they were small. Now I drink from bigger cups." he told us. However, former Stone-Temple-Pilots frontman Scott Weiland, on the other hand, even had to undergo medical treatment after he had brought himself to the edge of dehydration with very high doses of filter coffee.

Even if this example is extreme: academic studies confirm how intensively coffee has influenced and inspired almost every possible music genre and its style. Other drugs such as marijuana, cocaine, heroin or LSD may have left more obvious traces. But only a few have maintained their influence over so many decades. The historian Jon Stewart finds countless lyrics in jazz that praise the life-affirming power of dark roasts and discovers trends in punk rock whose representatives cling to their coffee cup in the same way that others cling to their beer bottle. [3] It is also no coincidence that the careers of Bob Dylan, Norah Jones or Sheryl Crow have their roots in coffee shops. And thanks to distribution deals with large coffee shop chains, their careers have gotten initial impulse or have been refreshed. By Ella Mar Morse's "40 Cups of coffee" to Dylan's "One more cup of coffee" and Brandt Brauer Frick's "caffeine" to Emiliana Torrini's "Heartstopper" and lines like "Coffee is pouring out my ears / It's the only thing they have in here", a long, deep and memorable love affair can be documented.

Self confident and uncreative?

But what exactly do musicians look for in this substance? It is well known that coffee increases focus, concentration and clarity - all qualities that many creative people consider a prerequisite for their work. Caffeine also has a positive effect on your self-image and self-confidence, which is why it is also an excellent antidote for mild depression. Last but not least, it increases short-term memory, which allows mental threads to be spun longer and to be brought to a safe conclusion. Reaching and dipping into the famous "Flow States" is achieved by coffee through chemical manipulation and is therefore considerably easier. Also, the feeling of energy, awakening, alertness and warmth it creates is not only a pure illusion. In fact, after enjoying a cup, a multitude of processes take place, which together lead to a state in which the entire body is activated. Cortisol increases blood pressure (an effect which is later reversed and causes deep relaxation), adenosine reduces fatigue, dopamine increases motivation and creates a stimulating euphoria. [4]

However, while some aspects of coffee are beneficial to the process of creation, others are rather detrimental. And that is even apart from the fact that caffeine reduces our hearing, affects the vocal chords and can intensify the suffer of tinnitus. Basically, caffeine seems to work against our narrow understanding of creativity. Because even though concentration and a clear head may lead to increased productivity, creativity is something totally different. It arises precisely in phases in which we are NOT concentrated, in which the performance of our brain decreases and surprising, unplanned cross-connections arise. The journalist Abigail Cain describes this very well in an essay: "When problems revolve around questions of knowledge and understanding, you have to think outside the box to be more openminded. We solve these kinds of problems better when our brain is less focused and can be more easily distracted. These distractions often trigger the "aha" moments which are needed to make a step forward in creative or innovative projects. [5]

Light and shadow

Yet coffee is anything but a creativity killer. However, its significance often unfolds only when its effect gradually diminishes. In a fascinating comparison of the works of the two style-defining painters Matisse and Picasso, the art critically Jack Flam has shown how different the results of two artists can be. Henri Matisse preferred to work in sunlight and Pablo Picasso in candlelight. 6] Working in the late and early hours encourages an art that deals less with the everyday and more with our often hidden inner life. Coffee undoubtedly favored these tendencies by making these areas more accessible. Admittedly, as with my experience in Neumarkt, even the biggest caffeine junkies don't need a new pot anymore at some point. But caffeine has already transported them into a zone where things no longer need to be rationally justified, where the subconscious takes over and casts strange shadows on the DAW.

Ironically, many of these questions have become theoretical by now. Ive had a lot of conversations with several musicians. And they do all say the same. They share the information that a new pragmatism has been established for a long time now. Fighting through the night with liters of espresso has been considered ineffective for quite some time. And for many musicians, who are also parents, a natural daily routine is suddenly much more appealing. In a way, after a passionate early phase, coffee has now entered a serene phase of maturation in which very few people want to do completely without it, but also do not want to let it push them beyond their limits. so they go for the perfect balance in between. But that does not mean that it has become redundant and unimportant or unuseful: For a little thrill from time to time, as a reward after some work is done and as an occasional inspiration for new tracks, it still does its job excellently today. ::

[2] https://www.theatlantic.com/magazine/archive/2020/04/michael-pollan-coffee/606805/
[3] http://journal.media-culture.org.au/index.php/mcjournal/article/view/462
[4] https://www.npr.org/sections/health-shots/2020/02/10/803394030/michael-pollan-explains-caffeine-cravings-and-why-you-dont-have-to-quit
[5] https://www.artsy.net/article/artsy-editorial-famous-artists-proved-staying-late-lead-great-ideas
[6] Jack Flam: „Matisse and Picasso: The Story of Their Rivalry and Friendship"

Free on DVD: Waves Element 2

Giant for hooks & basses

Curtain up for our full DVD version of Waves Element 2! Whether analog standards or modern club sounds are required: Element 2 is a versatile, intuitive synthesizer with a powerful and expressive sound. The virtual analog synthesiser not only shines with a wide range of presets with a high musical value but also invites you to design your own sounds thanks to its intitutive user interface! **by Mario Schumacher**

Sound generation:
Element features two oscillators based on the analog model, each one of them is accompanied by sub oscillator with a triangle waveform. A noise generator is also included. Thanks to frequency and ring modulation as well as oscillator synchronization, even aggressive and metallic tones are an easy task. With the Unison mode with up to four voices, you can achieve very voluminous sounds.

Multimode filter:
The synthesizer's resonant multimode filter scores with a powerful and lively sound. It offers the modes low-, high- and bandpass as well as bandstop. The slope can be switched between 12 and 24 dB per octave. The filter has its own ADSR envelope with an adjustable characteristic. We especially liked the possibility to modulate the filter frequency by oscillator 1.
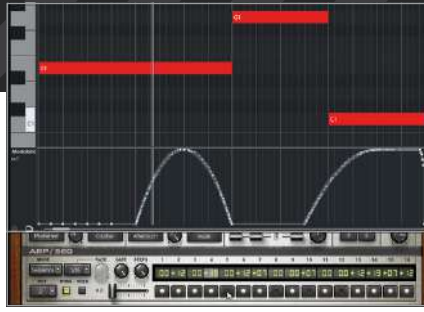
Sound enhancement:
The sound of Element 2 can of course also be enhanced with effects. In the effect section, you will find a chorus and a stereo delay effect as well as a virtual plate reverb. The distortion and bitcrusher effects allow for biting and aggressive sounds. Both effects can be placed either before or after the filter in the signal path. If you push the gain of one or more bands of the 4-band-equalizer, saturation occurs, which can be used as an alternative to the distortion effect.

Modulation section:
In addition to a third envelope, four LFOs, which can be synchronized to the host tempo, help to create movement in the sound. Modulation is assigned via a matrix with six slots and almost every parameter can be influenced. The 16-step sequencer allows not only riffs and bass lines that can be adjusted per step, but also classic arpeggios. Furthermore, it can be used as a modulator.

[1] If your MIDI keyboard does not support aftertouch, you can also control the modulation intensity with velocity.

1 Activate the sequencer

Element 2 is especially suitable for vivid analog sequences. Activate the plug-in as a virtual instrument in your DAW and disable the sixth modulation assignment by clicking on number 6 in the **Mod Matrix**. Then select the Sequence mode in the **Arp/Seq** section. Now a **sequence** can be triggered when you play Element 2 via MIDI. ⁞

2 Sequence creation

Now you can set the desired pitch for each step of the sequence. By clicking on the LEDs below a step, you deactivate them. This also allows you to create gated sequences. The sound of the sequence might still a bit monotonous. But if you combine both oscillators, it quickly becomes much more interesting! ⁞

3 Oscillator settings

For oscillator 1, select the **VCO** mode and move the mix knob to the center so that the signals from the two oscillators are mixed. Then set the octave register of oscillator 2 to **16'**, so that it oscillates an octave lower than the first. To make it even more lively, use the **Fine** controls to slightly detune the oscillators against each other. ⁞

4 More variation

How about a pulse width modulation? Choose the pulse waveform and set the pulse width **(PW)** to **50.0** for Oscillator 1 and create the assignment shown in slot 1 of the matrix. Also reduce the **rate** of **LFO 1** to **0.6**. For the desired sound, adjust the filter and VCA settings as shown in the picture. ⁞

5 Effects + modulation

Distortion and **Bitcrusher** provide more bite. With additional modulations, you can make your sequence more lively. Go ahead and make the assignments in the remaining slots of the matrix (see step 6). With the modulation wheel, you can now control the intensity of the bitcrusher effect and cross-fade to a longer release. ⁞

6 Sidechain effect

The assignment in slot 5 of the matrix modulates the frequency of the lowpass filter of **LFO 2**. The intensity of the modulation is controlled by MIDI Aftertouch [1] (slot 6). If you now increase the pressure of keyboard keys you hold down, a pumping sidechain effect can be heard. Set LFO 2 to a **rate** of **1/4** and also choose the square waveform. ⁞⁞

Chart sounds deconstructed
Track spotlight

No matter in what league, whether in the charts or underground: everybody uses the same tools for producing. But if you take a look behind the scenes, its easy to disclose the secret of the putative "killer sound". You can look forward to our new section, in which every month we present sounds from the top ten Beatport & Co. Reconstructed step by step with common plug-ins.

by Johannes Dicke

Project infos

Material: DAW, diverse plug-ins
Required time: 1–2 hours
Content: Reconstruct sounds of hip Pop & EDM tracks.
Level: Advanced to professionals

CALVIN HARRIS & DUA LIPA – ONE KISS (OLIVER HELDENS REMIX)

1 More bass, please!

Oliver Heldens has reached deep into the bass box for his remix and brought out a classic Reese bass as known from Drum n' Bass or 1990s Bass House. It goes without saying that Native Instruments Massive with its cascadable filters is the perfect choice for this job. Let's get started in the New Sound preset at **Osc 1** with the **Disto Wavetable** from the analog/electric section and **pitch at -12.00**. ⁝

2 Volume and lowpass

Now we activate **Osc 2 and 3:** First Osc 2 provides us with **Pulse Saw-PWM** from the VA section, an amp pot set back to the 10 o'clock position and two octaves pitched down a very subtle filling note. Osc 3 also provides **24 semitones** pitched down, with closed **wt position** control and **amp** in 4 o'clock position for lowpass shaping. In addition, we bring the master to **10 o'clock position** against **clipping**. ⁝

3 Reese character

Then we move on to the Reese character. To build this character, we use the **voicing** tab with its appropriate **unisono spread** adjustments. First we increase the **unison** voices to 4 and activate **pitch cutoff** and **pan position**. Then we move both of the faders to the right, so far that there are still five lines left beside them. This makes the sound typically moving and wide. ⁝

4 Filter

After that we continue with **filter 1 and 2** in **lowpass 4** mode. In order to have the signal run through filter 1 first and then through filter 2, we move the **F2 fader** all the way up. We also open the **output** fader of filter 2 and drag the mix fader all the way down to mix 2. Then we move **filter 1**'s cutoff to the 9 o'clock position and filter 2's **cutoff** to the right, which initially only produces massive lowpass. ⁝

5 Filter modulation

To make sure it doesn't stay like this, we route **Env 2 to Filter 1 cutoff** and pull the blue bar up to 3 o'clock. We also bring **attack to 9** and **attack level to 3** o'clock position and **decay to 12** and **decay level to 10** o'clock position. Now **env 2** controls filter 1 cutoff and gives the filter modulation more character. Afterwards we want to slowly "filter up" the master like in the original version via filter 2. ⁝

6 Filter 2 and effects

To do this we put **macro 2** on the **mod wheel** via Midi Learn and route it to Filter 2 Cutoff, pulling the yellow bar down to 1 o'clock. Then, in **FX1**, **tele tube** with **drive at 10** o'clock and **dry/wet at 9** o'clock delivers extra harmonics. FX2 expands the whole thing with a Dimension Expander with Dry/Wet at 9 o'clock. The EQ defines everything finally per **high shelf at 3** o'clock, **low shelf at 1** and **boost at 2** o'clock. ❤

HUSMAN – FUTURE EMPIRE: HARDSTYLE KICK WITH SERUM

1 Welcome to the future

After EDM, its original genre is also becoming increasingly popular. Of course, mainstage music-artist Husman is not behind and never hiding for a long time. With Xfer Serum we can build a similar bassdrum as in his new hardstyle creation that was developed with Xfer Serum and its routings together with FX. The base is **Osc a** with the wavetable Analog_BD_Sin, whereby we close the level control and route **LFO 1** to it.

2 Kick & bass

Then we drag the second white dot to the upper left corner in the LFO 1 display and create a third one by **double-clicking**. We leave the third dot at the bottom and drag it exactly to the second grid line. We also drag the blue point between white point two and three almost to the top. Now we turn on Env and the bass part of our kick is still there thanks to LFO 1 **envelope control**.

3 Kick-attack

Now we use the **Noise** section with activated **One shot** mode and the sample XF_Ki-kAtk_09 to add a beat noise. Then we activate **Osc B** and load the **Basic shapes** waveform with **Wt Pos** to 2 (Saw). Again we close **level** and route LFO 2 there in **Env** mode. We adjust the LFO 2 envelope so that we leave out the area that is already covered by LFO 1.

4 Filter

Then we send all the basic sounds (Osc A, Osc B, Noise) through the on-board filter, in **Band** 12 mode. For more punch we turn **FAT** and **Mix/Level** up to full and **Drive** up to 80%. For the typical Hardstyle EQ boost, we set the **Cutoff** to 580 Hz and the **Resonance** to 25%. For more kick we route **Env 1** with a value of 52 to the **Res** pot and drag the 2nd curve point down.

5 Hardstyle distortion

Now that we've got all the basic components together, we're going to bring some Hardstyle distortion into play. In other words: In the **FX**-tab we switch on the **Distortion** module, switch to Diode 1 mode and bring **Drive** to 75%. The built-in EQ is bypassed by the **Off** button for full distortion. Tweak tip: A prior control of the EQ opens further sound options via the **Pre**-botton.

6 Distortion shaping

In this next step we activate **Filter** and place it in front of the Distortion module. As operating mode we select **MG Low 24** and set the **Cutoff** to 99 Hz and **Res** to 32%. In addition, we turn **Drive** and **FAT** up to full power for repeated pressure. A routing of **Env 1** with **37 on Cutoff** and **-100 on Drive** gives the distortion a typical contour shape and gives the entire process the right impact.

7 Compressor & Equalizer

At the very end the compressor delivers adequate pressure. An activated **Multiband** mode, -13.5 dB **Threshold**, 1.8:1 **Ratio**, an **Attack** time of 175.1 milliseconds and 171.4 ms **Release** and **Mix** at 89. Optionally, an **EQ** placed in front of the distortion module with the lower band in **Bell** mode, **Freq** at 370 Hz, 60% **Q** and -7.4 dB **Gain** provides additional distortion reduction on top.

8 Extra kick 2

For even more punch, we now add a bass drum programmed with a second serum instance. We start with **Osc A** and the wavetable SubBass_1 - pitched down one octave. Then we deactivate the pitch tracking for osc a and a in the **Global** tab and route **LFO 1** with 96 to Osc A coarse (CRS). Set LFO 2 **Rate** to 2 bar, activate **Env**, then shape the LFO 2 envelope.

9 LFO 2 & Compressor

In order to get the most out of it, we pull the top of the curve to the very top left and then pull the right center down so much that a short bass drum beat comes out. Afterwards, we add a compressor to the whole thing in the **FX** tab to give it a real kick. To do this, we turn the **Gain** and **Ratio** up to full power, set the **Treshold** to -35 dB and the **Attack** to 0.3 milliseconds and leave the **Release** at 90.0 ms.

Power Producer: Ableton Live 10
Streaming with Ableton Live

You would like to record Ableton Live videos or do live streams with the DAW? The open source software OBS Studio is a very helpful free tool to create a professional streaming presence. In the following workshop, we will show you how to configure the software to create Ableton Live videos or streams.
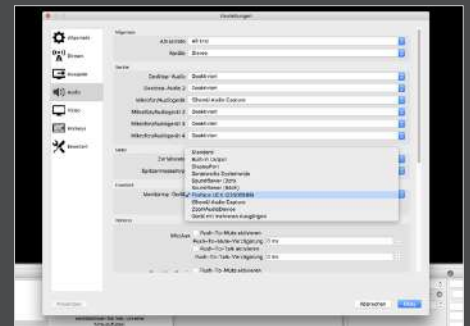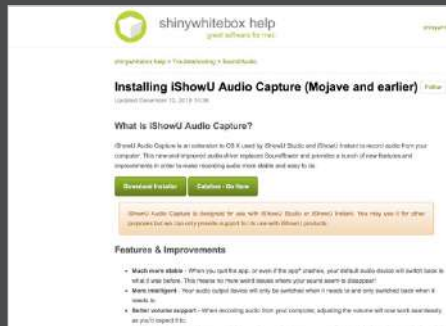**by Maya C. Sternel**

Project info

Material: Ableton Live 10 Suite
Required time: 60 minutes
Content: Configure OBS Studio to create Ableton Live videos or streams; Install and configure the open source software; Configure the audio signal flow in OBS Studio and adjust the settings in Live, Set up the stream window and start recording.
Level: Advanced

1 Install OBS Studio

The first step is to download OBS Studio for free from https://obsproject.com and install the plugin. Windows users also need to download and install the installer for the ASIO plugin from https://github.com/Andersama/obs-asio. After that, please select your audio interface in the menu bar under **ASIO -> Active Device**. ⁘

2 Virtual signal flow

As a Mac user, download and install iShowU Audio Capture [1]. iShowU is a kernel extension that provides virtual audio inputs and outputs. Now please open OBS Studio. Click on the **Settings** box in the lower right corner and then click on **Audio**. After that, select the **Microphone/ Audio Device** called **iShowU Capture**. ⁘

3 Audio configuration

Now, please open Ableton Live and head over to the **Preferences** and then to the **Audio** tab. Select the **Audio Output Device** called **iShowU** (Windows: **Main Output**). Head over to the **OBS Settings** at the bottom right and click on **Audio**. Select your audio interface as a monitoring device and click **OK**. Start a clip in Ableton Live. ⁘
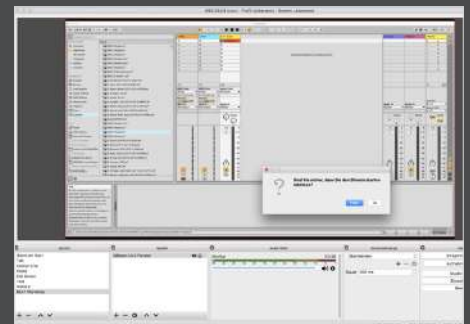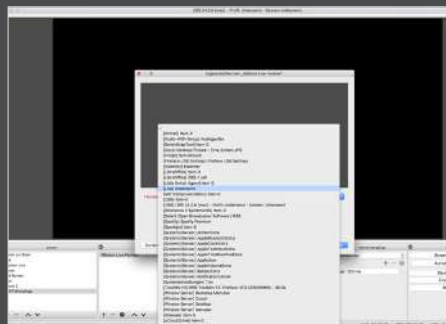
4 Create a scene in OBS

In OBS Studio, click on the **Settings** icon next to the Audio Mixer and select **Advanced Properties**. Select **Monitor and Output** under **Audio Monitoring**. After that, please create a new scene in the **Scenes** window. Click on the plus icon below the window and give the new scene a name. The next step is to select the Ableton Window as a source. ⁘

5 Ableton Live window

For this purpose, please create a new source by clicking **+** in the **Sources** window of OBS Studio and selecting **Window Capture**. Enter a name and click **Ok**. Select the Ableton Live window in the **Window Selection**. Right-click on the screen window and click on **Transform**. Now, click on **Fit To Screen**. Optionally, you can generate additional sources. ⁘

6 Record/Stream

This could be your webcam or video camera. To do this, select your video recording device as a **Source** in OBS Studio. Ready to record? To start recording a video, just click **Start Recording**. To stream, head over to the settings, click on **Stream** and enter the desired platform and the stream key that you received there. ⁚⁚

[1] https://support.shinywhitebox.com/hc/en-us/articles/204161459-Installing-iShowU-Audio-Capture

Power Producer: Cubase
Using hardware synths

No question: Hardware synthesizer are a huge enrichment in a computer studio. If you like to include these in a DAW, you might get confronted with some questions: what's the best way to integrate MIDI-capable synthesizer into your workflow? And how do you synchronise the LFOs, appreggiators or sequencers of the hardware to the tempo? We will show you how to do this in Cubase 10.5   by **Mario Schumacher**
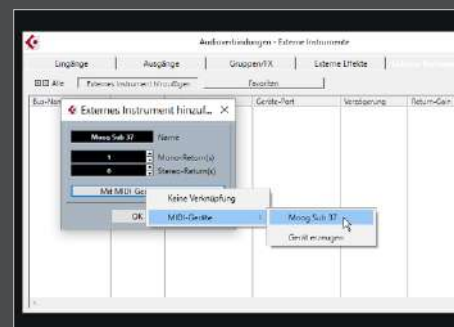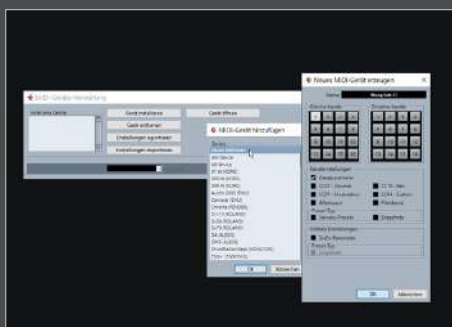
Project information

Material: Cubase Pro, Artist or Elements 10.5
Required time: Approx. 20 minutes
Content: Integrate hardware synthesizers into Cubase as external instruments; synchronise LFOs, arpeggiators and sequencers to project tempo
Level: Beginners and advanced

1 Set up MIDI Device

To integrate a MIDI-capable synth into Cubase, a MIDI and audio connection is required. Creating an external instrument is much more convenient than using simple audio and MIDI tracks. First click Studio > More Options > Install MIDI Device Manager on Install Device. Select Define New.

2 Name and MIDI-Output

After that, please enter the name of the synthesizer you want to use and click OK. Close the window that's opening now. Select the desired MIDI-Output management to which you have connected your synth. To set up an external instrument, click studio again.

3 External instrument

Click Audio Connections, switch to External Instruments and click Add External Instrument. Enter the desired name. Since our Moog Sub 37 has a mono output, we set mono returns to 1. Does your synth have a stereo output? Then define a stereo return instead.
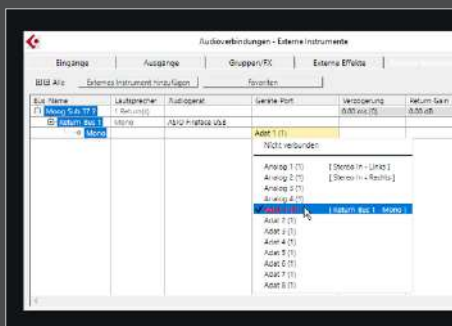
4 Connect devices

Connect your external instrument just as shown in the previous step to the MIDI-Device which you created for your synth. After all define return-bus under device-port. Select the mono- or stereo input of your audio-interface here. There we go: Now your synthesizer will appear as an external plug-in in the VST instrument-menu.

5 MIDI-Synchronisation

Click on the item to create the instrument. But how do you synchronise the synthesizer to the project tempo? Click Transport > Project Synchronization Settings. Under Destinations, select the MIDI-Input of your synthesizer as the MIDI Clock destination and activate the option MIDI Clock follow project position.

6 Synth settings

Set the hardware-device to synchronise to MIDI-Clock and if possible have it follow the project position. With this sequences, appreggios and modulation-process will synchronise to the song tempo. Try different LFO-waveforms and tempo divider for tempo synchronised modulations.

Power Producer: NI Maschine

Unlimited Psytrance hooklines

In most cases, music that is played on the radio and on the dance floor requires catchy hooks and harmonies that sound familiar. Psytrance in contrast can be much more abstract. Melodies are also very popular here, but neither for singing along nor for memorizing them. Instead, positive vibes, flow and punchy sequences are in the foreground. In the following workshop, we show you how to create some of them.   **by Marco Scherer**
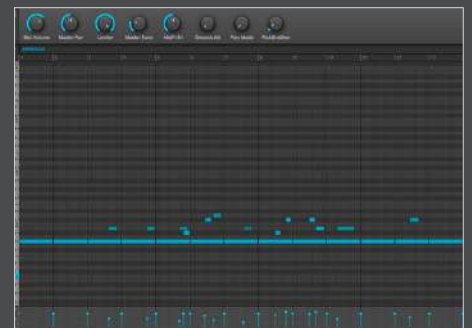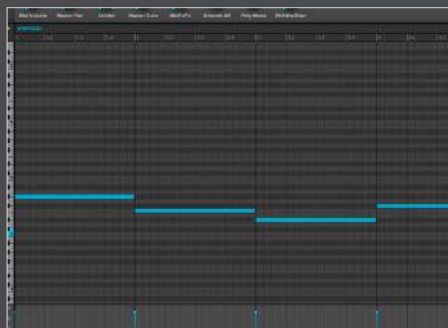
1 Basics

The most popular elements in Psytrance are probably arpeggios and staccato sequences, hardly any track can do without them. And practically, they are also relatively easy to create. We start with the synth plug-in Thorn Solo and load the preset **SEQ Neocortex**. We just **change** the second last arpeggio note from **20 to 19**.

2 Variation

This helps to tone down the somehow old fashioned character. We trigger the arpeggio with a note of one bar length and duplicate it several times to **16 bars**. We want to decorate the sequence with our own ideas instead of using it exactly as it is. It is a common pitfall to build too predictable pitch changes with arpeggios like this.

3 Individual touch

An example is the change of pitch by two to three semitones down and back. However, such changes can be made more modern and exciting by keeping the fundamental note and adding notes of about 1/8 to 1/4 length over the 16 bars. In this sequence, the middle part of every bar is particularly suitable for this.

4 Basic arpeggio

A great advantage of using arpeggio presets is the inspiration that can be drawn from them. The sequence does not even have to be included in the finished track later on. In this case, we can use the notes of the arpeggio as a basis for further melodies and chords. Included are leaps by **12, 17, 19** and **24 semitones**.

5 Further notes

Thus, for the fundamental note **C**, you could also use **F** and **G**. Now we add the additional notes from the previous section, in our case steps of two, three and six semitones. This would also mean that we can consider D, D# and F#. In order to form further melodies from this, we load a **synth** with a simple sawtooth waveform.

6 Combinations

We draw **eight triplets** into the MIDI clip. If some of the notes sound wrong, just delete them. The others serve as a foundation for further melodies. We choose and copy the two most harmonic ones into a new clip with 16 bars length and copy one to the beginning and the other to the start of the ninth bar.

Power Producer: FL Studio
808 sounds from scratch

808 basses currently dominate the music world. Almost no music style misses out on the sound of Roland's vintage drum machine. In this Power Producer episode, we show you how you can create your own 808 sounds in FL Studio with a couple of sound design tricks.   by Stefan Hofmann

1 808s with Sytrus

In the following workshop, we will show you how to create an 808 sound with FL Studio's synthesizer Sytrus. We start with the **default** settings and first adjust the **pitch** control. Push the slider as far down as possible. We trigger the synth with the MIDI note **C4**. Let's get started with the sound design! ⁞

2 Operator 1

Now open **operator 1 (**OP 1) of Sytrus. Use the mouse to drag the **attack** parameter to the **left**. This gives the signal more punch. Now drag the **attack** value back a little bit to make it smoother. Increase the **release** value after that, to achieve a fade-out effect. Your personal taste decides. ⁞

3 Waveforms

In the default setting, of Sytrus a sine waveform is selected. This is a good starting point for an 808 drum sound. But the signal still doesn't sound dirty enough. We move the **SH**, **SK** and **SN** sliders **slightly upwards** to make the sound more interesting. The possibilities are manifold. Be creative! ⁞

4 Equalizer

FL Studio's **Parametric EQ** is perfect for further editing our 808. To create enough space for vocals and instruments in the arrangement, a generously used **high cut** is best suited. We chose the filter frequency **372 Hz** with a **Q factor** of **50 percent**. We pull the **gain** down to **-18dB.**⁞

5 Distortion

Because of the high cut, the signal also loses overtones and sounds a bit too dull. With a distortion effect, the sound becomes more interesting and gains presence - and overtones. We use **Fruity Fast Distortion**. With the **mix** control, you can change the effect intensity. In our case, an 11 o'clock position gives the best result. ⁞

6 Reverb

A mixing rule says: Bass range and reverb do not match very well. But rules are there to be broken: An 808 can create a cool vibe through reverb. The preset "The Venue" in Fruity Reverb 2 was used as a starting point. We set a slight **low cut** and turn the **wet** control down. You can find the 808 sounds on the DVD. ⁞⁞

Power Producer: Apple Logic Pro X
Natural sounding piano parts

Very few producers play the piano perfectly. But nowadays, that's not really a problem: With some little tricks, piano patterns that you record playing on your MIDI keyboard, can be refined. So you can give a hard quantized piano part, which clearly sounds like a sequenced pattern, a more natural feeling with a few mouse clicks in the piano roll editor [1]. Even electric pianos will sound more authentic!   **by Matthias Sauer**
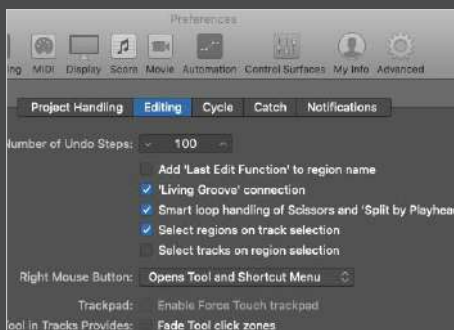
Project info

Material: Apple Logic Pro X
Required time: 20 minutes
Content: Edit MIDI notes in the piano roll editor for natural sounding piano parts.
**Level:** Beginner/Advanced
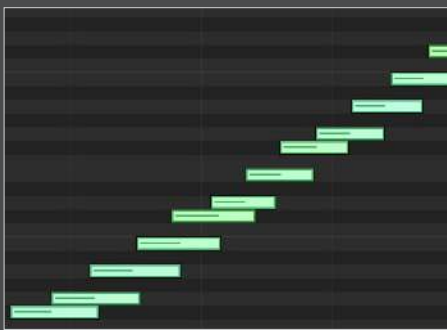
1 Preparation

Work effectively with the piano roll: Logic Pro X offers not just two, but three selection tools. Go to **Edit i**n the DAW's global **settings** and select the option **Can be assigned to a tool** for the right mouse button. This is the most efficient way to work with this assignment: Pointer, velocity (command key) and pen (right mouse button). ⁍

2 Selection

We want to record a piano pattern, which contains melodic elements as well as a key glissando. The usual 1/16 quantization helps against the bad timing, but makes the piano sound like a machine. In the **piano roll editor**, hold down the left mouse button, select the glissando notes and set **time quantization** to **off** for continuous sliding. ⁍

3 Microtiming

In real piano playing, the individual notes of a chord are never played at the same time. Solution: Select the notes of individual chords and reduce the strength of the **time quantization** from value 100 to about 70-80. Arpeggiate individual chords that are held longer more strongly: Use the Zoom function and move the starting point of the notes. ⁍
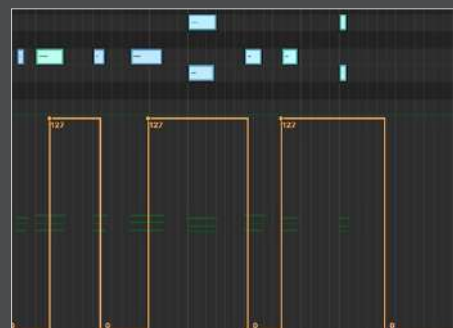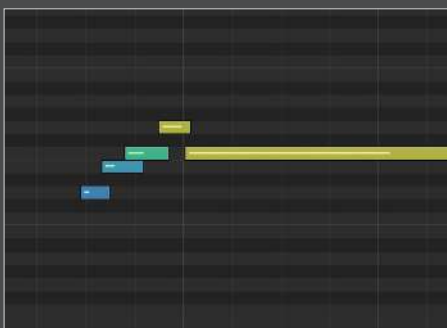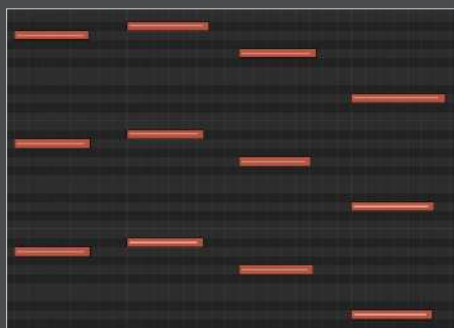
4 Virtuosity

It should be pianistically impressive: For eighth passages, use the pencil tool to draw in semiquavers and generally other chordal notes. Select the highest note (melodic phrase) of a chord automatically by **shift + up key,** copy the notes and move them in octaves (unison). Do you like how it sounds?

5 Ornaments

For chords or melody notes that are to be highlighted, draw short slides with the pencil tool. Two or three short, overlapping grace notes with minimum velocity are sufficient for this. Process the dynamics of the entire phrase sensitively with the **velocity tool** - a good piano passage will sound dynamically articulated. ⁍

6 Sustain pedal

The pattern is now strongly constructed and the chords are partly rhythmically shifted. Therefore, the recorded sustain pedal controller data must be adjusted. Create an automation lane in the piano roll and select **sustain** in **automation/MIDI**. Now, the sustain can be reset with every new chord (0 = press pedal, 127 = release pedal). ⁚

[1] Four short audio examples on the DVD demonstrate each in A/B comparison: a glissando, arpeggiated chords, octavation of melody notes and ornaments.

Power Producer: Akai MPC
Building exciting arrangements

Arranging music with hardware only, without using a computer is an ambitious goal with obstacles... The restrictions are huge, while the DAW offers tempting features and a high comfort. But reducing the music production process to the essentials can also make things easier. You usually only have to rethink a little bit...   **by Marco Scherer**

Project info

Material: MPC Live, X, One, Touch, Studio, Renaissance, Force or Software 2
Required time: 1-2 hours
Content: Create a long sequence in an exciting way and pre-arrange tracks on the fly.
Level: Advanced

1 Peak section

In the last part of our workshop series [1], we used a single long SEQUENCE to gather as many ideas as possible for a track. Within this SEQUENCE (which is 32 bars long in our case), the individual tracks are already minimally pre-arranged, so that the pad sound doesn't run through completely, but starts at bar 17 and the shaker at bar 9. ⸕

2 It's gotta rock!

Other elements have their fixed places and are also partly automated, such as an arpeggio that slowly fades in at the beginning and then fades out again later using a high-pass filter. In short: There is enough movement in the 32 bars. Very important: If the SEQUENCE does not inspire you yet, add more elements or change the existing ones. ⸕

3 Fleshing the track out

Because later, these will represent the peak. If some of the tracks overload the mix, just mute them, but do not delete them. Does your SEQUENCE rock? Then duplicate it and expand the copy further, with effects, varying melodies or multiple fill-ins for example. At a tempo of 138 BPM, this would give us two minutes of content. ⸕

4 Set up the structure

Rename both sequences appropriately, such as PEAK A and PEAK B, and create additional duplicates, but these will be lightened to work towards the peaks. So we leave out the arpeggio and the pad, but add risers and more effects. You can test if the setup works by switching from one SEQUENCE to the next on the fly. ⸕

5 B-part

As the next essential element, the B-part comes into play: To avoid that the track permanently revolves around the same melody, the B-part provides a surprise or a twist. So the positive atmosphere of the hookline in the B-part could be temporarily replaced by a dark or dissonant melody to create tension. ⸕

6 Increase the excitement

Another typical application: Instead of letting the hookline player over its full nine bars, use only a section of it as a loop. When you decorate it with slow filter curves or other automations, you can easily create tension and variation. Ideally, such a part can be placed after the B-part to create a transition to the full hookline. ⸖

Clever mixing tricks: Create instruments out of reverb

Make average sounds unique

In the search for distinctive sounds, you usually quickly end up with vocals. They are available in many sample packs, but the really good ones are quickly heard in other songs or they are limited to tasteless glitches that don't exactly burst with individuality. In this workshop, we will show you how to turn them unspectacular vocal loops into outstanding instruments.   *by Marco Scherer*

Project info:

Material: Sampler, FabFilter Pro-R or OrilRiver Reverb, FabFilter Pro-L 2 or T-RackS ONE
Required time: 1 hour
Content: Create playable instruments out of short vocal snippets or glitch loops.
**Level:** Advanced

1 Create unique sounds

Vocal glitch loops are comprised of several snippets, sometimes of the same voice, sometimes of different ones. In each case, there are numerous expressions and "characters", each of which can be formed into an instrument. The obvious variation would be the simple looping of a short segment, but this sounds extremely artificial. :‣

2 Stretching with reverb

Instead, we load a reverb that can create extremely long tails as an insert effect, such as **Pro-R** from FabFilter [1] or **OrilRiver** [2]. Load a glitch loop or any vocal on an audio track and cut out a short piece of it, for example a second or less. We process it with the **reverb** effect and a powerful limiter. :‣

3 Reverb settings

We're setting the reverb effect for full impact: Set the **reverb time** to **maximum**, in case of the **Pro-R SPACE** and **DECAY RATE**, also **STEREO RATE** and **BRIGHTNESS** for a clear and wide sound. With Pro-R's internal EQ, we limit the reverberation range with a low-cut filter to the frequencies above **150 Hz** to leave space for the bass. :‣
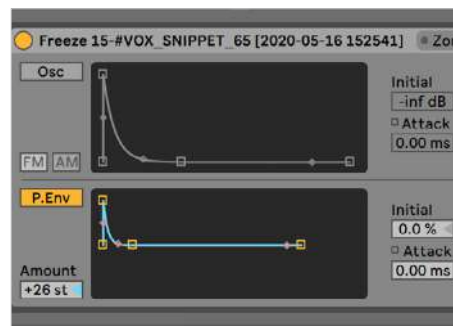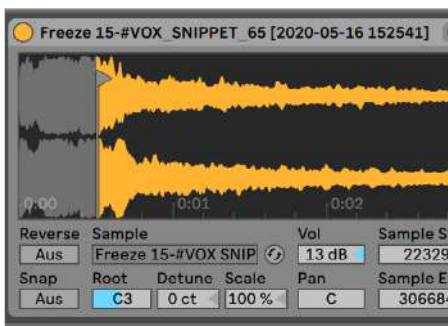
4 Bounce & pimp

In addition, we push the limiter real hard with **Gain +24 dB** (Pro-L 2) or **PUSH +15** (T-RackS ONE). To add the effects, you can either duplicate the track and bounce the copy, or route the track to another for recording. The result is then loaded into a sampler. Tip: Move the sample start a little backwards. :‣

5 Upload into the sampler

This way, you can exactly set the position where the reverb starts. That means, that a part of the vocal is not audible yet, but its reverb part can already be heard, which creates a richer sound. Map the sample to all keys, so that you can play it like an instrument. Turn up the release slightly so that the sound does not end abruptly. :‣

6 Playing tips

Most vocals sound quite pleasant in the lower range, but squeaky in the higher register. The reverb masks this effect a bit, but we still recommend playing chords or using an arpeggiator. If you need more punch, connect an envelope with a **decay** of **60 milliseconds** and **0% sustain** to the pitch, at **50% intensity**. ::

Studio Insights: Alex Niggemann

Reduction to the essentials

Blurring the border between house and techno, Alex Niggemann's fearless mode of production includes an unquenchable thirst for innovation. Danny Turner discusses technique and his quest to create human-sounding rhythms.

A classically trained pianist, Alex Niggemann's love of dance music formed at techno clubs in his hometown of Dusseldorf. A DJ career was appealing, yet it was a degree in audio engineering that laid the groundwork for his technical understanding of production – then it was all about following his nose. His 2012 debut album Paranoid Funk immediately captured the imagination. While limitations are a factor in Niggemann's creative process, some attributes are instinctive, such as his uncanny ability to merge influences and create entirely new sounds.

Since 2006 a steady flow of critically acclaimed releases have marked the arrival of a true visionary. By launching the AEON label in 2013, Niggemann has not only developed the careers of others, but widened his appetite for exploration further still.

Beat / *How did a classically trained pianist segue into electronic music?*
Alex / It was a strange route. I was playing piano from the age of four because my brother was also playing at the time. Later, he would influence me because he was a ravehead in the mid-'90s and used to throw his own parties. I was 15 at the time and had only heard about techno clubs – I just needed to find a way to sneak out of the house and go to one. That was the starting point for it all, but if I didn't start playing piano I wouldn't be where I am today.

Beat / *Is it true Ken Ishii was a big influence on you?*
Alex / He was the one who said to my brain, 'you've got to do this'. He was playing with three decks and I remember thinking, how can he make people freak out like that just by playing records? I felt I needed to discover how that could be done, and that's how I started as a DJ. It was only later that I became interested in how the sounds
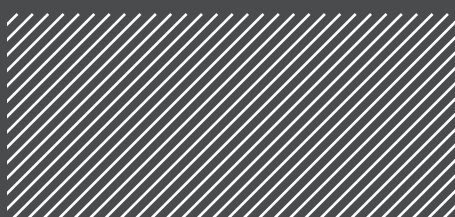
were made, but I always thought that DJing and production were a combination that belonged together.

Beat / *Was it difficult to become a DJ in Dusseldorf?*
Alex / The scene was quite small at that point, and we don't really have one in Dusseldorf anymore. I was trying to get a slot somewhere to play records, but because I was the young guy the established DJs didn't want to share any slots in their residencies. I often wondered how I was going to

make it, which is probably when I began to focus on production."

Beat / *How much easier does the technology make it for DJs these days?*
Alex / It's a lot easier now. I cannot really say how much easier because I don't really have the experience of just starting with the equipment that is around now, with all the sync, loop and effect functions. I can only imagine that if I played with sync and all these automatic algorithms that calculate everything in the right pitch and time, it has to be much easier to put records together. When I started, it was about making sure the records fitted together musically and matched tonally when you mixed them to make sure the beats were tight on each record.

Beat / *Has technology benefited the art of DJing or detracted from it?*
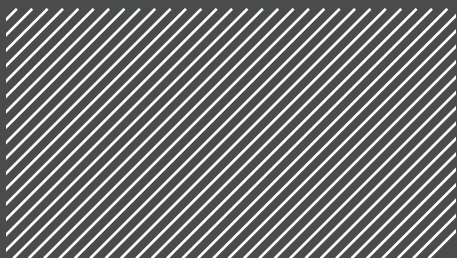
Alex / I feel like it's actually less human. I had a very funny experience because I saw some posts on the R&S Records Facebook page after seeing a video of three DJs. I think one of them was Roger Sanchez. They were playing back-to-back on six decks and people were complaining that the tracks were not always in pitch and the DJs had to correct them manually. People are so used to everything being precise, clear and on point, but for me the whole human aspect is missing. I prefer DJ sets from people like Derrick May or Kevin Saunderson. They may sometimes feel out of beat, but you know they're working instead of just mixing tracks together automatically.

Beat / It seems the technology gives the DJ more time to be the focus of everybody's attention…
Alex / It's going that way, but I'm not the type of person to say that everything was better in the 'good old days'. Obviously, all of the techniques and technology right now should ensure that the music sounds

better than it did in the past. So it's definitely a help, but when you come from the period that I did, I guess you value certain things more.

Beat / You studied audio engineering. Was that with a view of getting a job in the industry or simply learning about production?
Alex / It was both. At that time I had the chance to go into my father's company, so I had the choice to either become a salesman or make music. It was clear to me that I wouldn't make much money making music but, luckily, he gave me the chance to study and see if it would work out. I followed my dream, but had to improve my skills. I was already good at composing but always had a problem getting my melodies to sound as good as I felt they should. I needed some form of technical education as I didn't have a clue about stuff like EQing or compression.

Beat / Would you advise people to take a music production course rather than try to figure everything out for themselves?
**Alex /** It wasn't a course – I did a Bachelor of Recording Arts. It definitely helped to give me a technical background. They do tell you that things need to be done a certain way, but I also think it's important for artists to remove these preconditions because nothing is written down about how music should be. But that education does allow you to understand more the possibilities of what can be done."

Beat / Did your classical training help you to compose, even in a completely different style of music?
Alex / Absolutely, because I'm not only doing techno or house music, I'm working on many different projects. I've done hip-hop music and even recorded folk, so it's become really important, especially when I work with another producer because I have these moments where I have melodies in my head or somebody plays a note and I have an intuitive feeling of what needs to follow. Of course, a lot of people can do that by ear, but it also helps to have an understanding of the technical direction that sound can travel in.

Beat / Piano was quite prominent in early house music, albeit on a more simplistic scale…
Alex / Yes, it was mostly very simple chords although I was not using piano at that point. As a teenager, having already played piano for ten years, and my mother telling me to practise every day for half an hour, I no longer wanted to do it. So I fled from classical piano playing into something
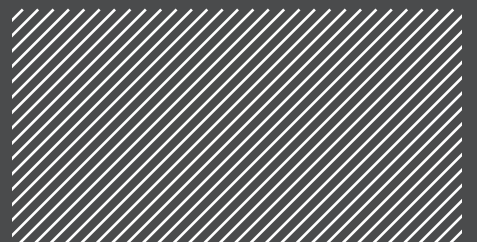
different, but that education is always there. Now when I produce albums, I use the MIDI-piano to play almost every sequence live, and even played kick drums on it without using a Push controller. I just have a feeling for it, because that training gives you a natural instinct for playing any instrument.

Beat / Did you have a clear idea of what sort of sound you wanted to create?

Alex / I think that 99% of producers start by trying to redo music or adapt a certain style of music. For me, I didn't know what I wanted to do in the beginning so it was a learning process. There was nobody on Instagram or Facebook showing me how to do things. It helped that I no longer had to pay £10,000 for a synthesiser and could get a small one for £150 to start with, and the more music I made the easier it was to find my own sound. Now, I'm so diverse that every production can go from deep house to electro to techno or even pop, so I don't believe you can categorise my sound.

Beat / Was it difficult to pick ten tracks for the release of your AEON 5 Years Compilation?

Alex / Actually, it was not that difficult because I'm working with a lot of very talented people at the label. We took a lot of care with the release and only looked for tracks that had a certain quality and variety. I feel we managed it quite well. Techno was always called future music, and it's not really possible to reinvent techno, but the gen-

re always wants to move forward and that's important to me. We may go back to certain sounds and sub-genres, but because of the technical possibilities we have now, techno music is always developing.

Beat / Is technology still driving the genre?

Alex / There was a time when people were just using samplers, then plugins arrived and people just used those. Now a lot of old synthesisers are being refaced and people are getting into analogue sounds again. The genre often seems to take one step back to move two steps forward. Now you can easily integrate a Prophet into Logic, switch the sound and play whatever you just recorded on something else, so it's easier to sync all that stuff. Before, you had to sync everything with and record to tape or eight-track, which had more character but was limited.

Beat / Because your music is primarily instrumental, do you need images or concepts to drive ideas?

Alex / I don't have any images, so it's rare that I have a concept in mind. We are all so influenced by different things in our surroundings that I prefer to thrive off certain moods, go into the studio and just be inspired by sound. I'm more of a composer and creator than a technical nerd who has to try out many different things – although obviously I have those moments when I come across new hardware or plugins.
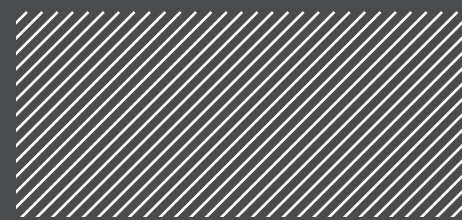
Beat / If sound itself is a motivation, will you look for gear that can provide something new or just work harder on the processing side?

Alex / I used to get a lot of gear, but then started getting really confused because if you have too many instruments, sample packs and plugins you can easily get lost. It's similar to when you try to find new music, there's so much of it you don't know where to look. These days, I try to limit myself with plugins and analogue stuff. If you have 60 machines, you're unlikely to know all of them inside out, so everything becomes trial and error, whereas if you only have a few machines and plugins I feel it's much easier to produce results. When I get inspired, I know what I want and where to find it.

Beat / Your tracks are simple and spacious. Do you deliberately avoid overcomplicating production?

Alex / For ten years I made tracks that would have 32-48 sequences going on in a project, but I always wondered why I didn't get a certain fatness in my tunes. Obviously, the more instruments you have, the less space there is in the frequency spectrum. I must have started a thousand projects before I came to this realisation, and they're all lost on my hard drive. I'm really trying to improve on that because I think simplicity is best, even if it sometimes takes longer when you're only using a few sounds because they need to be absolutely perfect to fit together.

Beat / Does that choice come from experience?

Alex / Production is reduction, and whilst it's sometimes difficult to stick to that, I believe that's how it should be. When you've been making music for ten years, you learn how to make a certain sound more dominant by having more attack and pushing the sound to the forefront, or giving it more attention by pushing the rest of the non-characteristic frequencies of an instrument to the back. Sometimes I get frustrated when people send me demos saying they've been producing with Ableton Live or Fruity Loops for one year and please could I release it? Some of these people have talent, but after one year? I'm not so sure. If somebody wants to copy me, I can teach them my way because it's easy to tell someone what you know, but if they want to develop their own sound, I don't think you can give them that.

Beat / How important are the room acoustics?
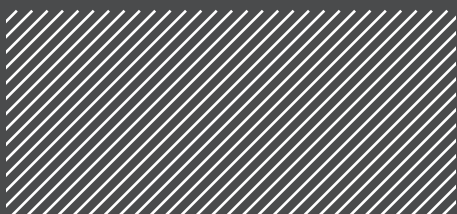
Alex / The room and monitoring is the most important thing. I built my studio room using bass traps, a Helmholtz Resonator and diffusors to make it sound good. I reference with three pairs of monitors – Genelec 8060s, Kleon and Hummel O300s, including subwoofer, and a very old pair of Yamaha MSP5 monitors. The MSP5s were the first speakers I bought and sound so horrible that I know that if something sounds good on them, it will actually sound really good on a record.

Beat / Do you have any other advice on how people can start on a production path?
Alex / My advice is to find your own way to do it because there is no recipe for success and those artists who are really successful usually break all the rules. For me, it's very different. Sometimes I start with an atmosphere that puts me in a mood that I want to continue working in, or, I'll play something into the Arturia BeatStep Pro or Roland TR-8 and create a groove or a loop. Sometimes I listen to other genres to get creative ideas. Having been in four-to-the-floor music for 16 years, it's difficult to listen to house and techno as a consu-

mer unless I'm dancing to it in a club. At home, I'm more into piano or film music, which I still analyse but can at least relax to.

***Beat / Would you like to venture into soundtracks?***
Alex / Absolutely, in fact I have another project that I'm doing with a vocalist that I would call cinematic pop with a modern electronic influence. We're quite a good team and have done an album together. Unfortunately, I can't say too much about where and when it will be released because we're in the middle of dealing contracts, but it will see the light of day next year.

Beat / You tend to use vocals more like effects…
Alex / It's sometimes interesting to have vocals in electronic music, but I feel that for electronic dance music it's too easy. When you have vocals it's much easier to make something that's catchy, but also a little bit cheesy. I don't really feel a need to participate in commercial music and find that instrumental music is more of a challenge. With my music, the sound is so prominent that it doesn't really need a big pop vocal that needs to associate with certain frequencies, chords or a bridge. I prefer to play with vocals, so I'll let a vocalist sing something, sample it and use it as an instrument.

Beat / Your music is quite percussion-heavy. At what stage is percussion added to the production?
Alex / The main groove and beat is always at the start. It starts simple, with boom tschak, boom
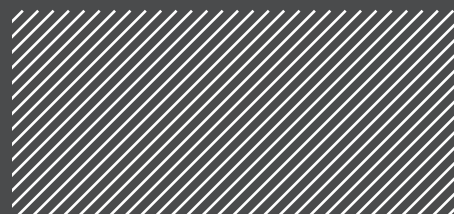
tschak and maybe an off-hi-hat. The fill-ins come in alongside whatever instruments I'm playing, for example, a tom or a drum fill. If I need a bigger progression, maybe I'll use an open hi-hat or a shaker.

Beat / Have you always used Logic for sequencing?
Alex / I started with MAGIX Music Maker and Fruity Loops at the age of 14, but the first real program I worked with was Logic and I've been messing around with it since version three. It's the programme I feel most comfortable with, although I know programs like Ableton Live can make things a lot easier. I could get lost in the possibilities.

Beat / Does your resistance to Ableton go back to your theory about deliberately limiting yourself?
Alex / In Ableton, there are all these MIDI effects that can play a melody for you and you can throw all these loops in there too, but then I start to get the feeling it's not actually my work anymore. But it does have a lot of advantages, so I do have the Ableton Push and sometimes use Ableton via ReWire in Logic. But to make a song in Ableton you need some special skills because the summing is

actually not very good compared to Logic. Everything sounds super flat, and when you see the waveform it's like you have a wall in front of you. I think you need to produce at a very low volume in Ableton if you want to make sure you have the right spectrum to place sounds.

Beat / What hardware synths are you using?
Alex / I have the Dave Smith Prophet 6, a Moog Sub 37 and the Voyager. I also have a small Dave Smith Mopho, which I use for effects because it sounds really raw. I like the Roland hybrids – the TR-8 and TB-3, the Arturia BeatStep Pro and multitimbral controllers like Expressive Touch or ROLI. Otherwise, I have a Yamaha Clavinova for making melodies and a colourful Akai MIDI keyboard that I'll play notes on when searching for sounds.

Beat / Do you use hardware to generate ideas and software to process them?
Alex / Right now, there is software that sounds so good that the general listener cannot hear any difference, so I cannot really say why I'm using what because it depends on the music I'm making. If I'm making something quite rough, tight and old-school, I'll use hardware. I try to get to a certain point quickly, even if it means I have to redo the sounds using other digital or analogue gear. But we definitely don't need to discuss the fact that a hardware bass or lead has more body or soul, because every synthesiser does its own summing. There are a lot of synthesisers that do the same thing, but their sound engine and the electrical circuits they're using makes them all sound different. You simply don't get that with VSTs.

Beat / Presumably, the same theory applies to your adoption of outboard gear?
Alex / That also depends. Sometimes it takes me ages to create an effect when I'm working in the box and I know that it will sound better if I just route it through a compressor or some other outboard gear for summing, but I'll still use a lot of internal effects. I have to say, UAD plugins sound so incredible that it's difficult to hear if a sound has gone through a real Pultec EQ or been processed internally. For me, UAD are the best plugins on the market.

Beat / Is there any other outboard that's integral to your processing?
Alex / In terms of the dynamics, I would say no. I use a multi-clock sync box, which I plug all my synths into. I prefer not to route them in via USB because when you have MIDI there is different processing at work. I really like the shuffling mode because if you take a sequence in the Prophet, for example, it will play it in a certain rhythm that's too staccato but the multi-clock can shuffle it or add a little delay and you'll get better, more human-sounding rhythms.

Beat / Will you use VST plugins to generate sounds?
Alex / I really like the whole Arturia bundle. When it comes to other productions where I might use a lot of weird instruments, I'm really happy with Native Instruments' Komplete and all the add-ons you can get, like the Spitfire Audio sample libraries.

Beat / You sound excited by modern plugins?
Alex / It's quite stunning to be able to play orchestral strings with the right velocity and dynamics and use all these different virtual microphones. I used to have the Philharmonic Orchestra plugins and at one point thought they sounded really good, but when I listen back to them now it's like, hmmm, maybe not. With these add-ons for Komplete, you can use touch expression or the ROLI and literally play a note like a string instrument with the attack slowly coming in. This allows you to feel all the right dynamics and power so it sounds like a real instrument.

Alex' essential equipment:

- **Moog Voyager (Rack) /** „I love how fat it sounds and how you can modulate them with the three oscillators. Also great with Arturia BeatStep Pro."
- **E-RM Multiclock /** „A real blessing. The tightest MIDI clock I've ever tried."
- **Prophet 6 /** „The warm sound and the infinite possibilities of design and editing are fascinating, but you can also get lost in it."
- **Moog Sub 37 /** „I've had it for two years now, but I still haven't gone through all the options because there are so many submenus. But it sounds brutal!"
- **Expressive E Touché /** „It gives an instrument so much more possibilities to sound new, different or unheard."
- **ROLI Seaboard /** „You can automate while playing and make strings, winds, etc. sound like live."
- **UAD Apollo /** „No other hardware emulation comes close to UAD. Mostly I use the SSL E-Channel Strip and the G-Bus compressor."
- **Pultec EQ /** „If your instrument lacks character and richness, use this!"
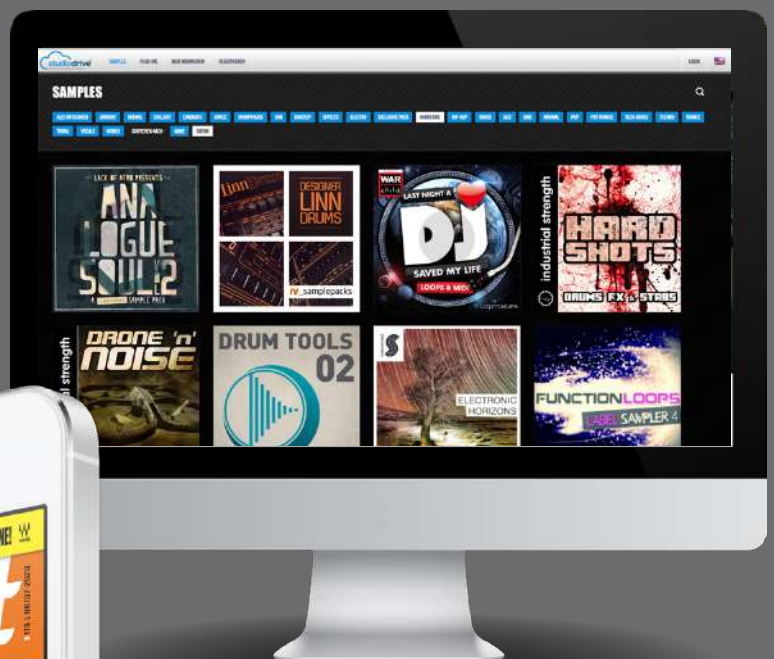- **Klein+Hummel O300 und Subwoofer O800 /** „I haven't found a more linear-sounding midfield speaker yet."

New synths & software

by J. Dicke, S. Hofmann, M. Schumacher

Beat Recommended
06-07/2020

Impact Soundworks
Shreddage 3 Hydra

The sample instruments of the Shreddage series created by Impact Soundworks are without a doubt among the best virtual guitars currently available. With Hydra, the developer adds a detailed and complete Ibanez RGIF8 to the product series. The eight-string electric guitar has been tuned down to a low E, making it the perfect choice for modern metal styles. A variety of articulations have been recorded in two pickup positions, including sustain, power chords, palm mutes, staccato, harmonics, tapping, tremolo, legato, vibrato and slides. Various playing sounds as well as tonal and atonal release samples provide a high degree of realism.

Shreddage 3 Hydra offers extremely flexible ways to adjust the sound. Particularly outstanding is the multi-tracking function, which ensures a remarkably powerful sound, as well as the high-quality modular rack with over 30 effects and customised impulse responses. We also liked the fact that the user can define how to switch between the different articulations.

Verdict

Whether thrilling distortion riffs or screaming solos are in high demand: Shreddage 3 Hydra scores as an expressive and nuanced playable instrument that is especially used and liked a lot in the Metal and Rock culture.

But not only the distorted and high-gain sounds are convincing, also the clean and slightly distorted sounds are exceptional. The 55 excellent presets with different amp, speaker and effect combinations offer a good starting point for a wide range of styles and sound wishes.

Developer: Impact Soundworks
Web: www.impactsoundworks.com
Price: 139 US-Dollar
**Format:** Kontakt Player 5.7

Rating:

PluginGuru
Unify

With Unify John Lemkuhl who calls himself PluginGuru introduces a new, next level, all-round solution for the DAW. This VST host plug-in is amazingly flexible to use in everyday situations as a musician or producer. Unify is the first plug-in by John "Skippy" Lehmkuhl, who has been producing smart presets and loops for Korg (currently at Wavestate) and other manufacturers for many years now. And of course he sells several sound creations on his own website in addition.

The idea behind this product is not completely new. Similar approaches have been used by Kore from Native Instruments, but as a special hardware and software solution. As a host plug-in, Unify enables cross-platform combination (layers and splits) of virtual instruments and midi/audio effects. If you use Logic Pro X, for example, you can finally integrate VST or VST3 plug-ins. Even if two or more favorite instruments need to be combined within Cubase, Logic or another DAW, you can still look forward to this professional help from experienced hands.

With Unify you work on three different levels - instrument, auxiliary and MIDI layer. Accordingly, this host is equipped with MIDI instruments, MIDI and audio effects. And those can be combined to create arpeggiator riffs, live splits, complex sound layers and many other unusual creations. Besides the own sample player Guru, there are six other instruments like OBXD (Oberheim emulation) or Dexed (FM synthesizer) and 40 effect plug-ins.

The entire functionality of Unify fits on a single main window. However, the user interface is not really stylish and animating, but rather factual. Unfortunately, there is no classic mixer view for displaying the insert effects, aux busses and master effects, nor is there a large display of patch names and important functions. The latter is especially desirable for live gigs. Eight "macro controls" are provided for spontaneous, targeted sound changes.
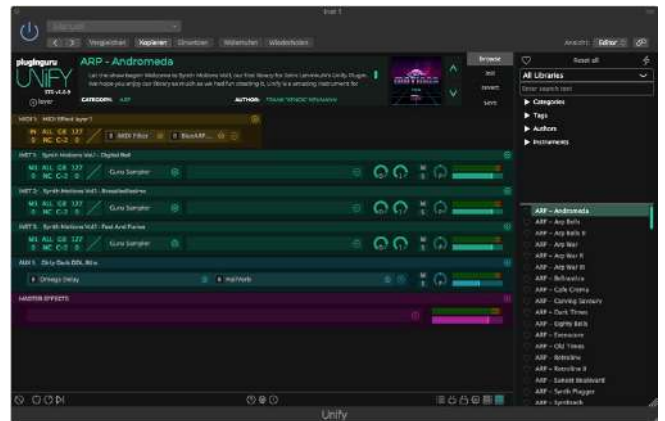
Actually, you don't even have to experiment with plug-ins yourself, because the preset consumer also gets to enjoy them. The included sound library is based on a 2.5 GB selection of PluginGuru's twelve most popular soundsets. It contains over 425 high-quality sounds from many genres that already justify the purchase price. Of course, the developer also runs a little self-advertisement for his numerous first-class soundware products which are offered for Spectrasonics Omnisphere. But also other designers are already active and have developed presets for Unify. One of the first is Particular Sound with a tasteful 80s retro collection called "Synth Motions".

Verdict

Unifty is a new ray of light for the refreshingly creative use of several plug-ins. For a small price you can start carefree and enjoy the good sound library first and load any VST plug-ins as a Logic Pro X user. The standalone version means you don't have to rely on a DAW, which will be especially useful for live performers. All in all, PluginGuru has a promising premiere that should not only be kept in mind for a long time as a fan of inspiring soundsets. Already now it is certain that there will be some user-friendly updates in the future as well as many exciting preset collections for this flexible platform. In short: Go and get it!

Developer: Plugin Guru
Web: www.pluginguru.com
Price: 79 US-Dollar
Format: VST, VST3, AU, Standalone

Rating:

OZ Soft
Genesis Pro

Long awaited and now finally released, Genesis Pro presents itself as a promising sound supplier especially for dance music. Can the new synthesizer teach the competition to fear? The goal of Genesis Pro is to support the user in creating powerful and massive sounds quickly and easily. For this purpose, three different types of oscillators are available at first. The mod oscillator allows FM synthesis, the ROM oscillator plays samples and the multiwave oscillator has four conventional oscillators in analog style with seven classic waveforms included. The highlight: The three oscillators can be used individually or in multi-mode to play all simultaneously. In addition, each of the three sections can be mapped to different areas of the MIDI keyboard so that different sounds can be played in parallel.

The further signal path finally goes in a classic way with ADSR envelopes, filters, effects, LFOs and master effects at the end. Additionally, there is a mod matrix with two slots for modulation connections from numerous source and destination parameters. Everything is rounded off by a step sequencer, arpeggiator and a clever auto chord function, among other things.

For each section, the central multi-display opens up additional operating elements and other settings. If, for example, one of the 14 effects is selected, all desired individual effects can be switched on or off immediately in the multi display. In the effects section itself, the settings are then made for the effect you just clicked on. By the way: A lovingly designed quick guide helps you get started with all these functions, but it can only be activated with a trick. To do so, you have to select the main menu in the multi display, click on the menu tab and then on select single mode. If you now enter the command "guide me" in the preset name field, an animated "guide bot" appears. This guides the user through each section via displayed and spoken text, accompanied by relaxing music, just like in a video game. The user interface can also be individualised in a similar way: If "picasso mode" is typed in, the corresponding menu opens.

More hidden gimmicks: Entering "press start" and "lost in space" activates two extra skins.

The included preset sounds all sound great and professional. From leads and plucks, basses and pads to sequences and vocal sounds, you'll find everything you need. The size of the factory library is limited to 128 presets. But there is a clever function for creating new sounds on board, the X-Gen Tone Generator, which can be accessed via multi display. At the touch of a button, this generator conjures up basic sounds from the three categories soft, hard and plucked tone. At this point you will also find pre-configured effect, modulation and layering templates, which can be used to refine new sound creations in no time at all. Since the plug-in is currently only available in a 32-bit version, most current DAWs require a bit bridge to use it.

Verdict

The synthesis workstation Genesis Pro reveals what the developer promises: The plug-in delivers super fat, production ready and on-point sounds that are perfectly suited for House, Trance, Bigroom or Hardstyle, but also for Pop and in addition the plug-in can be adjusted easily.

Although the synthesizer is (still) only available in 32 bit, it is practically a must have for just a little bit more than one Euro.

Developer: OZ Soft
Web: webshop.oz-soft.com
Price: 1,21 Euro
Format: VST2
Rating:

Native Instruments
Mysteria

With Mysteria, NI and Galaxy Instruments have added a specialist for cinematic choral sounds to their orchestral library Thrill. Like Thrill, Mysteria specializes in creating cluster sounds and hybrid textures. A symphony and chamber choir and a vocal quartet were recorded for the Kontakt instrument.

In addition to exciting cluster sounds, there are also multi-layered atmo-sounds on board. It gets really exciting when you use the X/Y pad to create sound variations in real time. The X-axis crossfades between different layers, creating impressive gradients in no time. The Y-axis controls the emotional intensity. Of course, the sound can be edited and refined in many ways. Sound designers will also appreciate the ability to create their own layer sounds out of a total of over 800 sound sources. This way, four sounds can be combined to form cluster or atmosphere sounds. You can decide yourself how the sounds and melodies change when the X/Y pad is moved. And in addition, you can detune the individual voices as desired, place them in stereo panorama or even create chords.

Verdict

The wide range of presets already shows the intense emotions the sampled voices of Mysteria can convey, from intimate to epic. With the X/Y pad you can create subtle changes in the voice, but also multi-faceted vocal textures or high-energy tension curves. Especially if you control the X/Y pad with a MIDI controller, you can create expressive aleatoric vocal sounds in real time for film and game music as well as media compositions.

Developer: Native Instruments
Web: www.nativeinstruments.com
Price: 299 Euro
Format: Kontakt Player 6.2, Kontakt 6.2

Rating:

Inquired:

Stephan Lembke and Uli Baronowsky from Galaxy Instruments.

Beat / How did the idea of Mysteria arise?
Galaxy Instruments / The basic idea of Mysteria, to be able to modulate textures, atmospheres or clusters very easily in sound and intensity, pretty much like "live to the image". We have already developed this with Thrill, whereby Thrill is largely based on recordings of a large orchestra. Already during the planning of Thrill we were concerned with the means of expression of a choir. However, this turned out to be a very broad and complex field. We couldn't have done justice to this in Thrill. So it was clear to us that we wanted to produce a choir-based library as a sister instrument to Thrill.

Beat / How can one imagine the production process of the Kontakt instrument? What were the biggest challenges?
Galaxy Instruments / With Mysteria, things actually turned out a little different for us than usual. Mysteria is based on the thrill engine, so unlike other projects we didn't have to deal with a new concept and the development of an engine - this time, the sound content was the main character and definitely our focus from the beginning on. First of all, there was an extensive research phase in which we dealt with modern choral music and exchanged ideas with specialists. The idea that we wanted to transport certain emotions with the help of choral textures was always in the foreground, and we had to try a lot to achieve this. In some cases, there were also demo samples, such as short sequences from choral compositions by Ligeti or Penderecki, which we could try out directly with the thrill engine in contact. In the beginning the biggest challenge or lets better say uncertainty was the question to what extent and how at all aleatoric and experimental textures can be realized with a classical symphonic choir. For example how far classical singers get involved. Fortunately, however, the nervousness evaporated in the first minutes of the very first recording session. It was a pure enjoyment to hear what extraordinary sounds can be created in this way with a choir.

Beat / Mysteria offers numerous thrilling hybrid sounds. How were they created?
Galaxy Instruments / In general, everything was allowed that falls under the term of sound design and could be applied to our choir material. Apart from synthesizing, granulating, morphing, filtering, distorting and transforming the material with hardware and software, however, such simple processes as playing the recordings backwards or slowing them down were also used. This made it possible to create very interesting textures that more or less clearly show the relation to the raw recordings and enormously expand the sound palette, similar to Thrill.

Beat / How can the user create own textures with Mysteria?
Galaxy Instruments / A complete master preset consists of a total of four source sounds, whereby even one source is already based on several dynamic samples and a total of over 800 sources are available. In addition, there are several dynamic effects coupled to the X-Y pad. This gives the user an enormous range of sound variety. This means that a master preset can be editable down to the last detail or created by the user from scratch. And the randomize function allows the user to create completely new individual sound variations with a simple click. Only the creation of own sources is not possible, because the dynamic samples have been precisely matched to each other and adapted with appropriate modulations.

Beat / Can you tell us more about the Cluster Designer?
Galaxy Instruments / The Cluster Designer creates a cluster or chord by moving the Y-axis over the notes played on the keyboard. This means that in addition to the tonal intensity control via the X-Y pad, there is also a tonal intensity control. The voicing of the clusters or chords can be one of 250 presets or user created. Thus the Cluster Designer expands the textures by tonal playability and by a kind of harmonic intensity control. Soundwise, the Cluster Designer offers a lot of special articulations besides the usual "Ahs" and "Ohs". For example, synchronous and asynchronous vowel sequences, re-attacks, aleatoric text fragments or the rolling "r" of the flutter tongue.

www.galaxy-instruments.com
www.native-instruments.com

Review: Waveform Pro 11

A new version of Tracktion Waveform Pro conquers the world of music every year at the beginning of spring. Now in its 11th version, Waveform Pro offers extensive functions for music production, covered into the classic Tracktion interface. We took a look at what new features are available in the current version 11 and how they perform in practice. **by Kristian Sell**

Features

Complete DAW

Graphic user interface „Let's try something different"

Many good instruments and effects

Composition assistance

For Windows, macOS, Linux and Raspberry Pi

Tracktion Waveform Pro 11 offers many new features, including the long awaited plug-in sandboxing.

Facts

Manufacturer: Tracktion Software Corporation
Web: www.tracktion.com
Price: 119 US-Dollar (Basic), 259 US-Dollar (Standard), 649 US-Dollar (Extreme)

▲ Complete DAW with multiple features
▲ Faster workflow
▲ Multi screen support
▲ Plug-in sandboxing
▲ Various MIDI tools
▲ Huge package of add-ons (depending on edition)
▼ Price for „Extreme" Edition

Equipment:	■■■■■
Handling:	■■■■■
Price/ performance:	■■■■□
Total:	■■■■□

Alternatives

Acoustica Mixcraft 9
199 US-Dollar
www.acoustica.com

PreSonus Studio One 4
392 Euro
www.presonus.com

Steinberg Cubase Pro 10.5
581 Euro
www.steinberg.net

Tracktion Waveform Pro 11 is available in three editions: Basic, Standard and Extreme. The editions differentiate only in the extended content; Waveform Pro is identical in all three editions. The software is available for MacOS, Windows, Linux (tested on Ubuntu 18.04) and for Raspberry Pi.

Whats new?

Version 11 of Waveform Pro also offers all kinds of new features. First of all, there is the arrangement track, in which arrangement clips can be created. These clips can then be used to move or duplicate entire sections of the arrangement. A very convenient feature, especially for "producing songs".

Even the owners of multi-screen set ups have not been forgotten: Waveform Pro can now handle multiple screens and individual areas can be moved from the main view to other screens. In addition, a screen can be selected as the default for displaying plug-ins, on which plug-ins are then automatically displayed when opened.

The personalised display settings can also be saved in presets. This allows you to create your own display layouts for different tasks, in which you can then switch between them quickly.

Quick actions

For quick access, the quick action bar has been introduced. Here you can deposit any functions or macros as buttons for quick access. In addition, there is the quick action window, which offers several quick action bars in addition to a mixer view: Very helpful for touch screen users.

To get a quick overview of your own project or to navigate quickly within the project, the new overview track was created. The entire project is displayed here in a reduced size and you can scroll through the entire tracks using a selection frame.

Harmony

The previous version of Waveform Pro already had some composition assistance. These were extended in version 11. So you have the possibility to let audio material follow the chord track in order to stay in harmony with the rest of the song. Here the result depends strongly on the audio material of course. With monophonic vocals or monophonic instruments it works the best, for example.

There are also new MIDI tools: Arpegiator, a Note Repeater, a MIDI Monitor, a MIDI Filter and the Chord Companion, with which any chord can be placed on individual notes and thus triggered by a single keystroke.

Sandboxing

One problem with previous versions of Waveform Pro was the sometimes rather unstable handling of third-party plug-ins. With the newly added plug-in sandboxing, Tracktion wants to solve this problem. With activated sandboxing, plug-ins are implemented in an extra process. If the plug-in crashes due to an error, Waveform Pro will continue to run without any problems. Restarting the sandboxing process will make the plug-ins run again. As a result, there is no longer any loss of data due to crashes of Waveform Pro. A very useful and welcomed feature!

Add-on tools

For our review we got to test the extreme version. Besides Collective, Antares-Auto-Tune, Melodyne-Essentials (part of the „Basic" edition) and Biotek 2 which is a sample workstation, DAW Essentials Collection (part of the „Standard" edition), it also contains MOK Waverazor, which is a sound generator, Delta-V Audio SpaceCraft and the RetroMod Collection, a collective of legendary synthesizer sounds. Each edition also comes with a large Imagina drum loops package.

With these add-ons you get a lot of material for your own songs and new projects. But you also have to dig deep into your pockets. However, it is very positive that all add-ons can also be used in other DAWs.

Verdict

The 11th Version of Waveform Pro has been progressing consistently in its development. The new features complement the DAW in a useful way and help to improve transparency and productivity.

Thanks to plug-in sandboxing, major plug-in problems are history from now on. Waveform Pro 11 offers all the important and necessary features needed for making music. It is therefore worth taking a look at Waveform Pro 11. You can do this, for example, with the free version of Waveform 11, which is also available and offers a very reasonable range of functions. ⠶

More details

Review: Softube Volume 4

Just updated, Softube's Premium Bundle goes to the next level and offers an even more extensive plugin package. Is this collection good enough to please every producer?   by Johannes Dicke

For those who want to expand the basic plugin offer of their DAW, bundle packages - just like our test candidate - are recommended because of the significantly lower price. This one has 31 different plugins starting from compressor, limiter and EQ over reverb, delay and saturation up to sound generators up its sleeve, which promise to cover many areas in production, mixing and mastering. In the review we concentrated at selected highlights, because featuring all included plugins would have simply gone beyond the scope of this article.
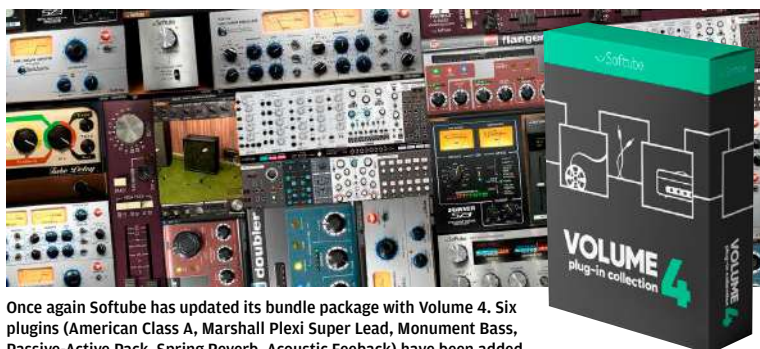

Once again Softube has updated its bundle package with Volume 4. Six plugins (American Class A, Marshall Plexi Super Lead, Monument Bass, Passive-Active Pack, Spring Reverb, Acoustic Feeback) have been added.

Versatile all-in-one solution

Let's get started with the dynamic processorss with the FET compressor. The legendary UREI 1176 served as a model, whose concept was supplemented by some practical features such as dedicated sidechain filters or dry/wet mix for parallel compression. The Weiss MM-1 Mastering Maximizer is the next chapter. It is based on the Weiss DS1-MK3 hardware and promises flawless limiting, especially in mastering. Followed up closely by the Drawmer S73, a simplified replica of the 1973 multiband compressor. With its semi-automatic mode of operation, it is intended to provide easily adjustable dynamics processing, especially for group tracks or when mastering before a limiter.

Two channel strips are also on board, including the Summit Audio Grand Channel. It digitally replicates the EQF-100 tube equalizer and TLA-100A tube compressor from Summit Audio and promises classic signal refinement. Both strip components are also included as individual plugins. On the EQ side, the icon and legendary Trident A-Range EQ should also be mentioned, which promises vintage results with an extraordinary concept.

Creating space and depth

Reverb, delay and other components are also included, especially the algorithmic TASAR-1 reverb and the resource-friendly TSAR-1R version. Both deliver the best reverb, which - despite the Lexicon-like user interface - is not based on hardware but is an own design by Software. In addition, Spring Reverb and Tube Delay provide further enhancements in terms of reverb and delay.

Distortion and creative FX

Guitar and bass fans won't get bored either with plugins like Marshall Plexi Super Lead 1959, Vintage Amp Room or Bass Amp Room. In addition, the saturation knob, the harmonics Analog Saturation Processor and the Tape plugin provide sophisticated harmonic character and more punch. When it comes to creative sound reduction via bit-crushing & co., the fantastic OTO Biscuit 8-bit Effects plugin should also be mentioned. In addition, Modular, Parallels, Monoment Bass and Heartbeat are four more top-notch sound generators that are available: Modular is a virtual modular synthesizer system that contains various emulations of Doepfer modules and can be expanded with additional modules. Parallels is a dual-wavescanning synth. Monoment Bass provides powerful bass sounds and Heartbeat the matching beats with an analog character.

Usage of mixing

In practice, a current dance production showed the outstanding enhancement potential of various signal processors. At first, Weiss-Limiter and before that Drawmer S73 helped the master channel to get more punch and loudness. Weiss' transparency as well as the "glue" effect and the Drawmer's air feature for hi-fi treble were particularly appealing. Subsequently, regarding single sounds, the Summit Channel gave a bigroom more density thanks to the musical TLA-100A compressor. The tube EQF-100 gave the signal to more pronounced, but always pleasant highs. The crunchy bassline could be made even "dirtier" with the help of the Harmonics Analog Saturation Processor and OTO Biscuit 8-Bit and therefore fit better into the overall mix - marvelous!

In a separate DAW project, we focused on the included sound generators. Parallels in particular impressed us a lot with its detailed sounds and Modular with its authentic sound and flexibility. Monoment also generated convincing, powerful basses, but we missed an envelope section. Last, but not least, Heartbeat offered us beautiful, classically synthetic drum sounds, which could score with their modification possibilities.

Verdict

Primarily Volume 4 is a worthwhile arsenal of creative and mixing tools, thanks to its concise selection of high quality signal processors. These cover a wide range of applications. On top of that, the included sound generators are a great addition to the sonic arsenal of synthesists. If you want to take your sound to the next level quickly, take a closer look at Softube's extensive plugin collection. ⠿

More info

Features

2 Channel strips and 5 EQs	
3 Dynamic prozessors	
1 Transient shaper	
2 Saturation effects	
1 Tape emulation	
3 Guitar-amps und 1 Bass-amp	
2 Reverbs and 1 Delay	
3 Modulation effects	
1 Bitcrusher	
3 Synthesizer	
1 Drum Machine	
Format: VST, VST3, AAX, AU	
Win, Mac	

Facts

Developer: Softube
Web: www.softube.com
Reference: Webshop
Price: 799 Euro

▲ versatile software package
▲ Wide range of applications
▲ Very good to outstanding signal processors
▲ Good to excellent sound generators
▲ various fantastic presets
▲ NKS ready

Features:	▆▆▆▆▆
Sound:	▆▆▆▆▆
Price/ Performance:	▆▆▆▆▆
Total:	▆▆▆▆▆

Alternatives

Plug n Mix VIP Bundle
249 US-Dollar
www.plugandmix.com

Soundtoys 5 Bundle
499 US-Dollar
www.soundtoys.com

Waves Gold Bundle
799 US-Dollar
www.waves.com

New effect plug-ins

by Johannes Dicke,
Stefan Hofmann, Mario Schumacher

Wavesfactory
Cassette

With Cassette, the majorcan software developer Wavesfactory promises to rewind time without any spaghettied tape and pencil! The plug-in wants to imprint the charming LoFi sound of the good old MC on your tracks. Not only optically it shows a lot of attention to detail: You can switch between different cassette types with different sound characteristics. It emulates the frequency response, saturation and compression of the high frequencies as well as the unavoidable noise of old cassette recorders. The wow and flutter and crosstalk of frequently played and overplayed magnetic tapes are also emulated.

The most important settings can be adjusted on the main page of Cassette, including the stereo width, the number of band deletions and the intensity of noise and sound sound artifacts. You can also switch between three different recorder models. By increasing the input gain, the signal can be clipped. Additional setting options are provided on another screen page of the plug-in.

Verdict

Sound nostalgics get their money's worth with Cassette: The plug-in authentically reproduces the characteristic sound of old cassettes and recorders. It scores as an excellent tool for making individual tracks or complete mixes more lively and characteristic or for creating striking tape effects, for example for breaks. The effects can be sensitively adjusted and it is a lot of fun to experiment with all the different settings. The icing on the cake is the wonderful visual design with the hypnotic animation of the tape recorder.

DDMF
MagicDeathEye

MagicDeathEye is a replica of the boutique tube compressor of the same name, developed by Ian Sefchick, mastering engineer at Capitol Records. It's a special Vari-Gain design that is roughly based on the legendary Fairchild 660 and already works with eight tubes in the mono version.

The plug-in version of the classy signal processor is designed to emulate those circuits in detail and offers almost the same operation. The large input knob fires the virtual tube circuit including the input and output transformer, allowing the addition of tasteful overtones. The smaller Threshold control determines the threshold value at which the compressor takes effect. Simple and effective: Attack and release can be set together in six different timing modes. In addition, there is a three-stage switch for fine-tuning the attack response. A high-pass filter and a bypass function complete the original equipment. In addition, the plug-in has an adjustable output gain and a dry/wet control for parallel compression. Parallel compression provides more punch and preserves transients.

Verdict

MagicDeathEye is something really special and represents a truly great alternative to comparable dynamics tools. In terms of sound, the compressor emulation is convincing all along the line and inspires lastingly with its musical control behaviour and brilliant "hi-fi" highs. Male pop vocals, for example, gain more punch and immediately sound noble and expensive thanks to the combination of targeted overtone coloration and pleasant treble boost. Not only vintage fans should definitely try this plug-in.

Beat
Recommended
06-07/2020

SounDevice Digital
Verbum Entropic Hall

Most DAWs already offer high-quality reverb effects. So surely the question comes up: Do you really need another reverb plug-in? Entropic Hall was inspired by selected vintage analog and digital reverbs. The appealing user interface allows you to set the pre-delay, decay time, the amount of effects, stereo width and the ratio of early reflections and reverb tail. The colour and legendarism controls also give a distinctive tonal coloration to the input signal.

The reverb tail has a separately adjustable pre-delay time and the size and damping of the simulated room can also be adjusted. The Lush control provides subtle modulation of the reverb tail, making the effect sound even more lively and organic - perfect for vocals, piano, keyboard, synthesizer or guitar sounds. Smaller rooms are also very suitable for drums and percussion. The plug-in also features an LFO with adjustable modulation depth and modulation rate for pitch modulation. Another nice feature is the 12-bit switch for a grainy LoFi sound.

Verdict

While the reverb plug-ins of common DAWs sound rather unobtrusive and natural, this plug-in sets accents as an independent reverb effect with vintage charm. Whether simulations of small rooms, massive reverb plates or large halls are required: Verbum Entropic Hall knows how to impress in all these disciplines with a warm, organic and three-dimensional sound. Wonderfully dense and lively reverb tails are possible. If you are looking for a reverb effect with the tonal character of vintage reverb effects, you should definitely check out this one!

Developer: Wavesfactory
Web: wavesfactory.com, pluginboutique.com
Price: 59 Euro
Format: VST2, VST3, AU
Rating:

Developer: DDMF
Web: www.ddmf.eu
Price: 89 Euro
Format: VST, VST3, AU, AUv3, AXX
Rating:

Developer: SounDevice Digital
Web: www.unitedplugins.com
Price: 119 Euro
Format: VST2, VST3, AU, AAX
Rating:

Klegränd
LUXE

The latest effect plug-in from the Swedish software company Klegränd is being promoted as an audio enhancer that helps to integrate drums, vocals or instruments into the mix. A gimmick or a serious mixing tool?

With only a few settings, LUXE presents itself as a black box: Apart from the effect intensity, only the output gain is adjustable. Furthermore, you can switch between two modes called Finesse and LUXE. That is all. The two algorithms have different frequency responses and saturation characteristics. The Finesse algorithm sounds more oversaturated, while LUXE gives more transparent results. Inside the machine, several processes are combined, including compression, saturation and equalization. With just a single action, you can give the input signal more bite without having it sounding too harsh. Since LUXE reduces the bass, we would have liked a switchable high-pass filter with adjustable cut-off frequency in the signal path.

Verdict

In practice, LUXE convinces as a simple and effective sound colorizer, which delivers a nuanced and musical combination of warm saturation and universally usable compression. A subtle use of the tool helps individual or group tracks to assert themselves better in the mix. With more drastic settings, you can give drums or synth sounds, for example, a distinctive, mid-tempo lo-Fi touch. Even though the simple handling has its advantages, it would have been great to have more setting options. On the other hand, the low resource consumption and the attractive price for the plug-in deserve praise.

Developer: Klevgränd
Web: www.klevgrand.se
Price: 20 US-Dollar, iOS: 8 US-Dollar
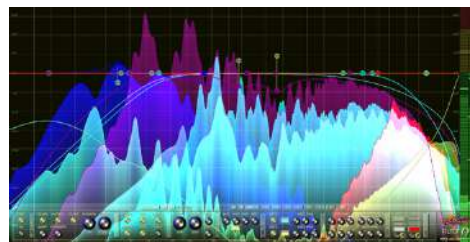**Format:** VST2, AU, AAX, iOS

Rating: ■■■■■□
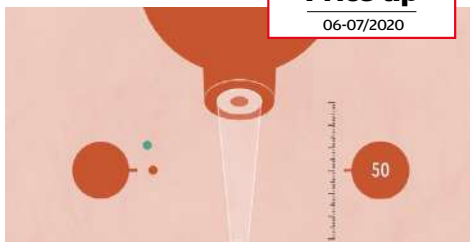
Sugar Audio
Filterizor Q Pro

When you search for digital equalizers in Google, you will certainly get countless results. But those who think they've seen it all, are often proven wrong by the creativity of busy developers. With the Filterizor Q, Sugar Audio provides an equalizer that is different from what you might think at first. Thanks to the free small version of the plug-in, undecided users can test the equalizer before their credit card is charged.

Since the basic mode of operation of Filterizor Q does not vary from other equalizers, experienced users will immediately find their way around the user interface. It looks a bit old-fashioned compared to current plug-ins in this segment. On the filter side, the signal processor provides well-known tools such as low- and high-cut as well as low- and high-shelf. But one function shows that Filterizor Q is more than just a standard EQ: Different instances of the equalizer can be viewed and edited in one plug-in window. This makes it possible to edit the bass and the bass drum in one window for example. Up to ten filters can be linked together - awesome! The 3D multi channel spectrum analyzer helps to achieve a very high level of clarity in your mixes.

Verdict

The Filterizor Q Pro from Sugar Audio convinces in terms of sound and features all along the line. Thanks to the possibility of linking several instances of the plug-in with each other, it offers excellent functions to optimize the workflow of your mixing process. The price-performance ratio of the flexible mix tool is also excellent.

Developer: Sugar Audio
Web: www.sugaraudio.com
Price: 75 Euro
Format: VST, AU, AAX

Rating: ■■■■□□

New freeware-plug-ins *by Jan Wilking*

2CAudio
Vector

Vector is an exceptional plug-in for the freeware industry. Vector is optimized to detect acoustic problems in the stereo field and ensure mono compatibility.

Especially if you work a lot with stereo enhancement tools like the Ozone Imager, which is also free, you should pay special attention to this. There is a certain risk of phase shifting and as a result of this also the risk to delete the audio signal when it is played back mono. And since mono speakers are back in popularity, due to Amazon's Alexa, this is definitely relevant.

Looking at 2CAudio's portfolio, with help of programs such as Precedence 1.5 and PBJ System, which specialise in the psycho-acoustic placement of ambient audio signals, will explain the developer's deeper experience in this field.

The central Lissajous phase meter takes up most of the surface. In addition to phase and panning, the plug-in can also display the average peak which has been determined in long-term analysis.

You can adjust both, contrast and color scheme to customise the appearance. You can also choose between 12 different sizes of the graphic user interface.

Verdict

Vector is a very effective tool for detecting phase problems and ensuring mono-compatibility. The analysis algorithm worked so precisely in the test that it could even expose problems displayed by other tools as false warnings. - Quite impressive for a freeware tool from a previously rather unknown developer!

Developer: 2CAudio
Web: 2caudio.com
Price: Freeware
Format: VST, AU, AAX

Rating:

Musical Entropy
The Great Escape

The Great Escape is not only identical in appearance and name to Thrilltone's guitar pedal, but also wants to replicate the hardware in terms of sound. The model is a tremolo effect based on pure analog circuit.

As a special feature The Great Escape has a built-in envelope generator. This allows the rate and modulation depth of the tremolo effect to be dynamically adjusted to the input signal and you can directly influence the effect with your playing style. Therefore, the tremolo effect, which in itself is rather boring and causes a modulation of the volume, can be used in an unusually expressive way.

The Great Escape has a handful of useful parameters to adjust the effect to your playing style or the incoming audio material. You can set not only the limit at which the envelope follower should start to take effect, but also the polarity and the strength of the effect on the modulation. In addition to that, there are the standard parameters of a tremolo effect: selectable waveform, adjustable speed and static depth of modulation. A waveform display visualizes incoming and processed audio signal. The freeware version stimulates to purchase a more extensive full version which is in the works. There is no official release date published yet. Therefore you should get the free version for now.

Verdict

Based on analog hardware, The Great Escape is an unusually dynamic tremolo effect thanks to the envelope follower. The plug-in is not only interesting for guitars, but also for synthesizers and other instruments.

Developer: Musical Entropy
Web: musicalentropy.com
Price: Freeware
Format: VST/VST3/AU

Rating:

Sonuscore
HD Orchestra Chords

The sample specialists from Sonuscore in Mainz, Germany offer two free sample libraries: Free HD Orchestra Chords and Free Sustained String Chords. They offer a lot of chords that have been played by a real orchestra with highest precision. These chords have been digitally archived with most complex recording equipment. They do sound accordingly professional and of high quality and you can create a Hollywood-ready score with your keyboard without much editing. The only disadvantage: You need a working e-mail address and the full version of Native Instruments Kontakt 5.5.2 or later. With the free Kontakt Player version the libraries will not work. As an alternative for Kontact-less producers, there is an online orchestra, which we will discuss in more detail in the workshop.

The installation is simple: After downloading the relatively memory-saving libraries (together nearly 400 MB), the NKI files can simply be dragged and dropped into the Kontakt sampler. The graphic user interface offers only one single control to add a reverb. You can switch between major and minor via velocity, the mod wheel controls the dynamics and crossfades between sustain and tremolo. The chords are spread over four octaves, one octave for each section of the ensemble (violins, cellos etc.) and one octave for the whole orchestra.

Verdict

If you want to quickly and easily create a movie-like score in stunning quality or add some drama to your track and have NI Kontakt, the two Sonuscore libraries are perfect for you.

Developer: Analog Obsession
Web: www.sonuscore.com
Price: Freeware
Format: NI Kontakt

Rating:

1 Online orchestra

If you don't have a full version of NI Kontakt or want to access the virtual orchestra directly without further installation, you can do this online via the browser. Go to epiconlineorchestra.com and click on the desired chord in the upper area. A click on Advanced Mode expands the selection of chords.

2 Sequencer

Click on the desired chord and the matching sample will be played automatically. In the lower area you will find a sequencer. With this given sequencer you can program chord progressions. First select the predefined example Mistery. With the green Play chords button you can play the short sequence and stop it again if desired or necessary.

3 Chord sequence

Click Clear chords to create your own individual sequence. After this click on the preset chords in the sequencer section in the desired order. If you have noticed a mistake or do not like a chord, select it in the sequencer bar and remove it with remove chords. Random chord creates a random chord.

4 Saving

In the top right corner of the sequencer section, set the appropriate tempo in BPM so that the chords run in sync with the song. Here you will also find a copy button, with which you can copy a link to your chord sequence. You can save this link for further editing later or send it to your musician colleagues who can then add on to the chords.

5 Audio export

The transpose button in the lower section allows you to transpose the entire sequence in semitone steps to match the tone of your song. If you like the result, you can save it as an audio file using the yellow export button. You can choose between the uncompressed WAV format or a MP3 file that is very storage friendly.

6 MIDI file

It is also possible to save the chord sequence as a standard MIDI file, using the export button. You can then drag this file into your DAW and play the chord sequence with a plug-in or an external sound generator. In this way, you can pair the orchestra with an analog synthesizer pad or virtual guitarist, for example.

Zampler: Ethnic Symphony
Ethno Pop constructor

Our Zampler//RX is one of the most popular free samplers, featuring powerful sound shaping possibilities, an extensive effects section and a flexible modulation section. There are now over 75 sound sets available for the plug-in and the offer is expanded monthly. The brand-new expansion Ethnic Symphony features 64 bass, pad and lead sounds that combine exotic instrument and synth sounds. We use the expansion to produce a melodic Ethno Pop track. *by Mario Schumacher*
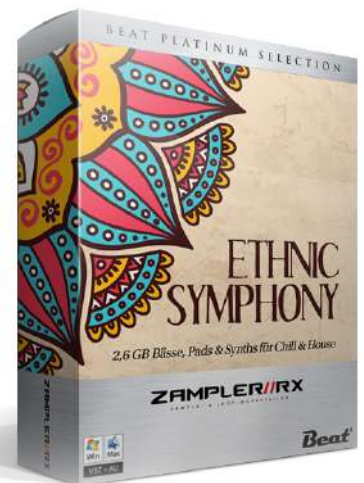
www.zamplersounds.com

1 Load soundset

Ethnic Symphony is ideal for styles such as Ethno Pop, World Music, New Age and Chillout. Our example track, which has a tempo of 105 BPM, uses eight patches of the zampler expansion. Just as usual, we first let ourselves be inspired by the presets. Just load the Zampler//RX in your DAW and click **Load Bank**.

2 Chord foundation

Then select the file "Zampler Ethnic Symphony.fxb" from the hard disk folder where you installed the soundbank. Switch to the sound **PD Born To Chord**. If you want to compose a song with a classical structure, it might be useful to start with the chorus. We start with the harmonic foundation.

3 Sound refinement

We decide on the eight-bar chord progression D minor, C major, A minor and G major. The Eventide Blackhole [1] plug-in provides a long reverb tail. A rhythmically gated version of this pad patch is used to support the reverb. Load another instance of Zampler//RX with the **PD Born To Chord** preset.

4 Gated pad

Here, the preset plays the shown sequence of notes. For the desired gate effect, we load the plug-in Polyverse Gatekeeper [2]. With the settings shown above, the pad will be gated in sixteenth note rhythm. Now how about a simple sixteenth note bass line of an analog synth? For this purpose, we use the software synth d16 LuSH-101 [3].

5 Bassline

A sawtooth oscillator and a suboscillator with a square wave provide a broad sound foundation in a four-voice unison. The low pass filter is opened by an envelope with a short **decay**. In order to set accents with every chord change, we use two pad sounds (**PD Recharger** and **PD Flute Strings**). These play the chord basic tone alternately.

6 Variety

With Blackhole, we give both sounds a long, dense reverb tail. Now an arpeggio would be cool, which provides variety every few bars. Load another Zampler instance with the tried and tested patch **PD Born To Chord** and adjust the **amp envelope** as shown in the picture. In our chorus, a sixteenth note arpeggio plays every eighth bar.

7 Arpeggio

The velocity increases linearly. To give the arpeggio a more upfront sound, we use the free multiband compressor Xfer OTT [4]. The stereo delay NI Replika XT [5] and the reverb effect Blackhole create more depth and a long, dense release. Now, it would be awesome to complement the instruments with a melody. ⸭

8 Melody

Curtain up for the patch **LD Shaku Organ**, a combination of a Shakuhachi flute and a pad! The modulation wheel controls how much the second LFO modulates the pitch (vibrato). For this purpose, we delete rows 2 and 3 in the modulation matrix and adjust the assignment in row 5 as shown. The preset plays the given melody. ⸭

9 Drums

To make the sound a little more rhythmic, we use the plug-in Gatekeeper here. An exciter and a reverb effect are employed to enhance the sound. What is still missing for a powerful chorus? Of course, the drums! In our example song, we combine drum samples from AVA Prism [6] and the virtual drummer Steven Slate Drums 5 [7]. ⸭

10 Groove

The bass drum plays on the sixteenth notes 1, 4, 7, 10 and 15 and the snare plays on every eighth note 3 and 6. Ghost notes of the snare provide more vitality. The desired drive is provided by an eighth note pattern of the hi-hats and a top loop of AVA Prism, which rhythmically fills the groove. Rhythmic accents are set by the patch **DR Inner Congas**. ⸭

11 Percussion accents

Here we adjust the volume envelope as shown and deactivate the effects. For a wide stereo sound, we first modulate the panorama position with the free plug-in Cableguys PanCake [8]. For sound enhancement, we use a plate reverb and a dotted stereo delay. For the drums we have a retro sound in mind. ⸭

12 Addtitional song parts

The XLN Audio RC-20 plug-in [9] colors the sound accordingly and Liquid Sonic's Lustrous Plates [10] creates a dynamic ambient sound. After finishing the chorus, it's time to create a second part which is the basis for the intro, verse and outro. We use the preset **LD Bagla** and refine it with Gatekeeper and Blackhole. ⸭

13 Atmosphere

A very good addition is the Patch **SY Dream State**. We increase the **attack** value of the volume envelope to 55%, so that the sound slowly fades in. It still sounds too static. To obtain a more vivid sound, we use the plug-in The Drop [11], which animates the sound with a rhythmically modulated bandpass filter. Delay and reverb provide more depth. ⸭

14 Sample tricks

For the intro, verse and outro parts, a solid bass foundation is still missing. Soundwise, the patch **BS Ethno Moog** is perfect for us - but the percussion-like attack sound bothers us. The sample start cannot be adjusted in Zampler//RX. Since all sounds of the soundset are available in WAV format, you can easily import them into your DAW. ⸭

15 Arrangement

It is recommended that you select the sample whose fundamental comes closest to the desired tone and then transpose it accordingly. Now, we can freely determine the start and end of the sample and edit it as we like. By combining and tuning different samples you can also create simple sequences. ⸭⸭

[4] www.xferrecords.com; [5] www.nativeinstruments.com; [6] avamusicgroup.com; [7] stevenslatedrums.com
[8] www.cableguys.com; [9] www.xlnaudio.com; [10] www.liquidsonics.com; [11] www.cytomic.com

Review: Sennheiser HD-25 Light

The new version of the HD-25 Light headphones is technically and tonally the equal of the classic HD-25.

by Jan Wilking

Features

DJ mixing-headphones

Dynamic

Closed

On-ear design

Impedance: 70 Ohm

Weight: 120g

Facts

Manufacturer:
Sennheiser
Web: sennheiser.com
Price: 99 Euro

▲ Improved sound
▲ Increased wearing comfort
▲ Extremely light
▲ Good acoustic isolation
▲ Volume reserves

Sound:
Processing:
Price/
Performance:
Total:

Alternatives

Pioneer HDJ-500
79 Euro
www.pioneerdj.com

Technics RP-DJ1210
101 Euro
www.technics.com

AIAIAI TMA-2
129 Euro
www.aiaiai.audio

The HD-25 from Sennheiser is considered the standard in the DJ scene and countless club heroes have sworn by this classic for years. The headphones have also proved their worth in the studio and many producers value them as a second opinion when judging new song mixes. So it's no wonder that Sennheiser keeps releasing new versions of the primeval rock. These include a Light version, which is not only lighter and has a simplified hanger, but also features a modified sound. While the lower weight is quite pleasant in many situations not everyone liked the modified sound. A lot of users accepted to deal with a lack of comfort in favor of the lower price. Sennheiser therefore made improvements.

Powerful on the ears

The normal and the Light version can be distinguished from a distance by the angular bulges of the elastic full plastic hanger. The flexible capsule suspension has been replaced though. This is making the new version more similar to its big brother. The large swivel joint that exist on the HD-25, which allows uncomplicated listening with only one ear very easily, has also been waived in the new model of the Light version. However, the hanger is flexible enough to allow an auricle to be temporarily clamped behind the ear for this purpose.

The new HD-25 Light version is an on-ear headphone, so the capsules with the replaceable imitation leather pads fit directly on the ear which means they don't fully cover the ear. The powerful but at the same time absolutely not uncomfortable contact pressure ensures that the headphones remain in the optimum position even when moving, dancing or sweating, even with small and narrow heads. The headphones can be adjusted to the the individual head size by 14 snap-in steps, while the new wider capsule suspension provides more support. The exchangeable audio cable is attached on both sides and ends on a mini jack plug. A screwable adapter to 6.3mm (1/4") TRS jack is included. If you prefer a single-sided cable duct, you will still have to go for the normal HD-25.

Lightweight

The HD-25 is already not a heavyweight at all with its 140 grams (without cable), but the light version is over 20 grams lighter in weight than the old one. This compensates for the lower wearing comfort due to the non-splittable headband that is perfectly adjustable. And due to its compact form and low weight, the HD-25 Light does not stand out unpleasantly in any gig bag, no matter what size it is. Overall, the new version of the HD-25 Light is more comfortable to wear than its previous model, as the differences to the HD-25 have been reduced once again.

This also applies to the technical values, where the new Light version is on a par with the proven classic. The transmitted frequency range has been considerably extended upwards and downwards compared to the old Light version. Instead of 30 Hz to 16 kHz, the New Version theoretically reaches down to 16 Hz and reproduces frequencies up to 22 kHz.

Sound of the HD-25

The basses sound correspondingly rich and clean in the sound test, without any hi-fi-like overemphasis. The high frequencies are also pleasantly present and can reveal distortions and noise in the mix. But they do not appear too sharp even at high volumes. And the HD-25 Light certainly has a lot to offer in terms of the maximum volume. Thanks to the good sound isolation against external noise, you don't have to turn up the volume loud, though. The good isolation is not only practical for the stage and the DJ booth, but also in the home studio, if neighbours are a little louder than usual once again.

The mids are moderate, just like on the HD-25, but overall more powerful than on the old Light version. The frequency response appears homogeneous and allows you to mix your own tracks in a desktop studio. The very good reflection of transients is also worth mentioning. We didn't miss the chance to compare the new version of the HD-25 Light with the current model of the HD-25 and the tonal differences are minimal to inaudible, which is a significant improvement on the previous model.

Verdict

The new version of the HD-25 Light has a very convincing sound. Basses are reproduced in a voluminous and massive way without appearing slushy or endanger the transparency. The highs are also very present, only the mid-range is a little restrained. Dynamics and resolution are on a high level in every kind of way. The distance to the classic HD-25 was also reduced in terms of comfort. These very light headphones are therefore not only suitable for mobile usage, but also perfectly usable for your home studio and private usage. ⠒

Review: Blue Yeti X

With its four 14mm condenser capsules, the Yeti X USB microphone offers different polar patterns and is therefore equipped for any recording scenario no matter when and were.   by Jan Wilking

The Yeti microphones by Blue Microphones, now taken over by Logitech, are the most proven USB microphones on the market so far. Once again the newly introduced Yeti X promises improved quality and features. Therefore its target group is ambitious podcasters and field recorders. It is suitable for every kind of gaming and streaming and can generally be used for vocal and voice recordings in the desktop studio.

Sturdy and stylish

The Yeti X is delivered in a stable padded cardboard box to ensure absolutely no damage will happen to it while its on its way to you. It is neither excessively compact nor a lightweight, but leaves a robust and valuable impression already when unpacked. A stable table tripod and a cable to USB-A are included, so you do not have to worry about buying those. If your notebook only has an USB-C port, you will need to plan in a suitable adapter though. With the help of two screws you can attach the microphone to the solid tripod without problems, it can then be flexibly aligned.

However, there is no effective decoupling, typing on a keyboard for example or putting down the coffee mug can be transmitted through the table top and cause noise the is unwanted. As an alternative, the thread also allows the device to be attached to a standard microphone stand.

One button operation

The main control element is the knob on the front of the microphone, which is framed by a ring of 11 coloured LEDs. This gives you access to four functional areas, and a different colour scheme prevents operating errors. When the preamplifier is selected, the LEDs light up blue and the controller is used to adjust the input level. The LED display can also show the level of the incoming signal. On the bottom of the microphone there is a headphone jack so you can listen to the recording and playback without additional equipment. The resolution of 24 bit/48 kHz guarantees a professional recording. The control also adjusts the headphone volume (white

Operation works via controller with LED ring.

color) and the mix ratio between microphone signal and playback (pink color, for direct monitoring). Press the knob to mute the microphone in case you want to clear your throat briefly or need to pause for any other reason.

The handling seems well constructed and practical, and the colors can even be personalized with the Logitech G Hub gaming software. Users of this software can also use the Blue-VO!CE microphone technology. It offers effective noise cancellation and dynamic compression for fuller, more professional sound. The frequency range builds up from 20 Hz to 20 kHz,

Four polar patterns

The highlight of the Yeti X is its equipment with four different polar patterns. You will hardly find this selection in any other affordable USB microphone on the market. With the Yeti X you should be prepared for every recording situation with this feature. With the button on the back of the device you can choose between the four directional patterns.

The standard for microphones designed for voice recording is cardioid polar pattern. This allows you to capture all audio sources that are placed directly in front of the microphone. This makes the cardioid ideal for podcasts and streams, but we have also succeeded in making useful recordings of vocals and musical instruments with this setting.

The bidirectional recording mode is optimised for conversations between two people sitting on the opposite of each other. In this setting, the microphone captures all sound sources from both the front and the back.

The omni-directional recording mode goes even further: When you select this characteristic, the microphone captures sound from the entire environment, including ambience. This mode is therefore interesting for recordings with several people, for capturing a special atmosphere and also for field recording. The fourth mode allows recordings in stereo, using both the right and left channels. This gives you realistic spatial recordings when there are several sound sources in front of the microphone. Even the test recording of a band rehearsal succeeded quite well with this characteristic.

Verdict

The Blue Yeti X stands out above all for its wide range of selectable characteristics, making the USB microphone suitable for all conceivable recording situations. You can not only record your voice, but also flexibly capture additional conversation partners and even record singer/songwriters spontaneously. It is even possible to capture interesting ambient noises. The microphone is easy to set up and to use, and the Blue VO!CE software, which is perfectly matched to the microphone, optimises the sound for you. ⁙

Features

USB-microphone

48 kHz, 24bit

4 condensator capsules

20 Hz – 20 kHz

Headphone jack

Facts

Manufacturer: Blue Microphones
Web: blue-designs.de
Price: 175 Euro

▲ Four polar pattern
▲ Well constructed handling
▲ Solid sound
▲ Direct monitoring
▲ Sturdy processing
▲ Customisable by software

Sound:	■■■■□
Operation:	■■■■■
Price/ Performance:	■■■■□
Total:	■■■■■

Alternatives

M-Audio Uber Mic
99 Euro
www.m-audio.com

Rode Podcaster
179 Euro
www.rode.com

Review: IKM ARC System 3

For the most unadulterated playback possible, the ARC3 software can adjust the acoustic weaknesses of the room and/or the loudspeaker by adjusting the frequency curve.   **by Jan Wilking**

Features

Software for monitor calibration

With MEMS measuring microphone

3D space analysis

Customizable correction plug in

VST/AU/AAX

Win 7, macOS 10.10

Facts

Manufacturer: IK Multimedia
Web: ikmultimedia.com
Reference: Distributor
Price: starting at 177 Euro

▲ Improvement of the sound image
▲ Optimized handling
▲ Extended customization options
▲ Support of other measuring microphones
▼ No system-wide adjustment

Handling: ■■■■■□
Sound: ■■■■■■
Price/
Performance: ■■■■■□
Total: ■■■■■□

Alternatives

REW Room EQ Wizard
Freeware
www.roomeqwizard.com

Sonarworks Reference 4
starting at 249 Euro
www.sonarworks.com

ARC System 3 is available with or without a measuring microphone, just in case you want to use your own model.

ARC stands for acoustic room correction. This involves first measuring the room using your studio monitors, a microphone and the appropriate software to calculate a corrected frequency curve. This curve is then used as a plug-in to adjust the output signal of the DAW accordingly. A software cannot completely replace an acoustic optimization of a room by isolation, etc., but it can be a great help in finding the right sound.

Suitable measuring microphone

The software is available as a package with a suitable measuring microphone or individually, if you already have a measuring microphone. In general, any measurement microphone can be used if you have an associated calibration file. Suitable profiles for the microphones are already integrated in the software. After installing the software, select the input to which you have connected the microphone (XLR, 48V phantom power is required) and the output to which your speakers are connected.

Improved measuring process

After adjusting the volume, the microphone has to be placed at different locations in the room and the software plays back corresponding signals for measurement via the speakers. This shows a first improvement compared to the previous version. The measuring

points are now displayed directly in the software and can be passed through one after another. Back then with ARC 2.5, this problem was solved in an uncomfortable way: the calibration software only contained a link to a PDF file describing the calibration points.

However, even in version 3 you do not receive direct feedback as to whether the microphone position was correct or not and you have to manually proceed to the next measurement. The big competitor Reference 4 is much more comfortable; everything is done automatically: The program shows exactly where to place the microphone and as soon as you have aligned the microphone at the correct angle at the given position, the Reference software recognizes this and continues to the next measurement.

To ensure that the improved algorithm for room correction obtains sufficient material, the measurement in ARC3 was extended to seven points in the room at three different heights, each 15 cm apart. For the pure measuring process you have to plan in approximately 15 minutes. After the measurement is complete, you can name the result and save it as a profile.

Plug-in for your DAW

Since your DAW cannot directly handle the generated calibration file, the ARC3 system also includes an effect plug-in in all common formats. You place this plug-in at the last point of the signal path in

your DAW. Once you have loaded the file created with the measurement software into the plug-in, it works like an equalizer and bends the frequency response of the input signal (= your master mix) so that it sounds as neutral as possible without being Influenced by the room, out of your speakers. The plug-in also allows you to customize the frequency curve, and there are even virtual models available to simulate the sound of smartphones or hi-fi speakers.

Also new is the option to limit the correction to the bass or treble range. This brings ARC3 closer to Reference in this area as well. However, ARC3 is still ahead of Reference in terms of system-wide software that allows frequency correction when listening to music outside the DAW.

Sound improvement

We tested the system with two pairs of loudspeakers of the entry level and the upper middle class in a room that was only slightly optimized acoustically. The monitors sounded more balanced and spatial when the correction was applied, the bass range was clearer and the separation between bass and sub-bass was more defined.

In the high frequencies and upper midrange the plug-in provided a more transparent sound. In a direct comparison with Reference 4, the measured frequency curves of both systems were very similar, the sonic impact was almost identical. Also in this regard, ARC3 has clearly improved compared to the previous version.

Verdict

In the new version 3 the Acoustic Room Correction System has been improved in every aspect.

The measurement process has been simplified and at the same time refined, the new algorithm provides improved sound results and the plug-in allows for extended individual adjustment. This makes ARC3 a more affordable alternative to Sonarworks Reference 4. ⸬
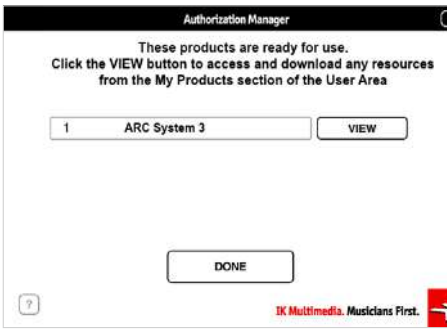
# 1 Acoustic deficiencies

Before you can use the correction system, you must measure your studio room using the ARC3 software, a measuring microphone and your monitor speakers. The authorization manager from IK-Multimedia will help you install the measurement software and plug-in. Start the software and follow the steps below. ⁝
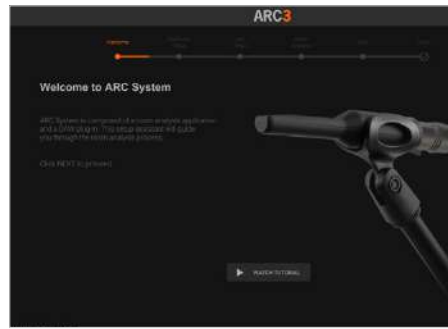
2 Preparation

Plan in about 30 minutes for the measurement. Use a period of time in which as little unwanted background noise as possible affects your studio and you do not disturb anyone with the relatively obtrusive measurement sounds. For an exact measurement we recommend a microphone stand, which you place at your listening position first. ⁝
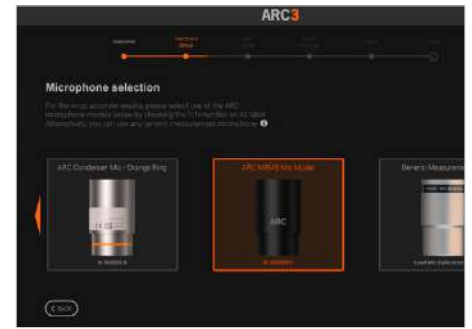
3 Microphone

For the measurement you need a measuring microphone, either from the bundle offered or from your own stock. Select the appropriate model or, in case of a microphone from another manufacturer, load the corresponding calibration file into the software. Connect the microphone to your soundcard and activate the **phantom power**. ⁝


4 Soundcard

Adjust the monitor settings of your soundcard so that the microphone input is not looped through to the output to which your speakers are connected. Otherwise, a feedback loop may occur. In the next step, select the channels of your sound card to which the speakers are connected as **output** and the microphone **input**. ⁝
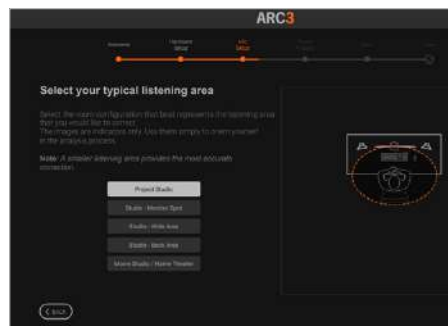

5 What kind of studio?

Choose a listening environment that best suits your studio type. A desktop studio with the speakers in the immediate near field requires different settings than a recording room with a large mixer and midfield monitor speakers placed on it. Follow the instructions in the software for correct positioning and leveling of the microphone and monitor. ⁝
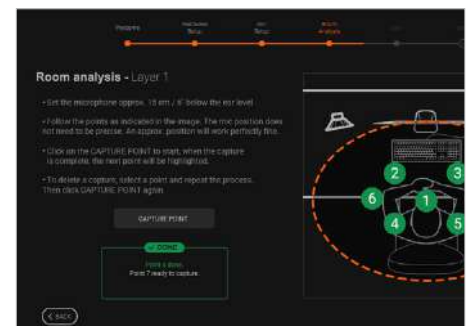
6 Measurement

Before you start measuring the room, you should mark the **seven spots** in the room that can be seen in the image, for example with gaffa tape crosses. At these points you have to measure at three different heights. Always stand or place the microphone stand in the same place, which is facilitated by the markings. ⁝
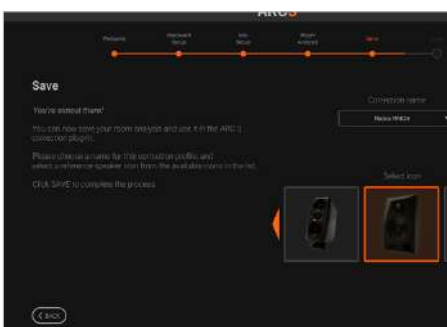
7 Integration

After successful measuring at all **21 points**, give the calibration file a meaningful name, for example a combination of studio and speaker name like desktop Adam T5V. Then start your DAW and load one of your projects or favourite tracks. Load the **plug-in** into the master channel and open it. ⁝

8 Simulation

In the **MEASUREMENT** menu, select the profile you created in the previous steps. **VIRTUAL MONITORING** allows you to simulate the sound of listening devices such as laptops, smartphones or hi-fi speakers instead of a linear ideal frequency curve. This way you can try out how your mix would sound in the car, on the smartphone or in the living room. ⁝

9 Adjustment

The plug-in allows further adjustments to your listening habits. **Correction** type lets you determine how much the software should correct the sound of the speakers and room towards a linear frequency response. With the two controls for **low** and **high** range, you can cut out frequency ranges if you only want to correct bass or treble. ⁝⁝

Review: Moog Matriarch

Matriarch is a powerful semi-modular analog synthesizer with four oscillators that also allow paraphonic playing. The dual filter and stereo delay provide wide and spatial sounds.   by Jan Wilking

Features

Analog synthesizer	
Four oscillators	
Paraphonic	
Semi-modular	
FM & sync	
Dual filter	
Sequencer with 256 steps	
Analog delay	
49 keys Fatar keyboard	

Facts

Manufacturer: Moog Music Inc.
Web: moogmusic.com
Distribution: Moog Music Inc.
Price: 2,199 Euro

▲ Vintage Moog sound
▲ Four oscillators
▲ Paraphon
▲ Dualfilter
▲ Semi-modular
▲ Polyphonic sequencer
▲ Stereo delay
▼ Price

Sound:	■■■■■□
Features:	■■■■■□
Price/ Performance:	■■■■□
Total:	■■■■■□

Alternatives

Behringer Poly D
749 Euro
www.behringer.com

Vermona PerFourmer
1,185 Euro
www.vermona.de

Sequential Pro3
ab 1,695 Euro
www.sequential.com

Definitely a family: Matriarch and Grandmother.

Moog Matriarch is the new flagship of the Mother Series, previously consisting of the Mother-32 and Drummer From Another Mother (DFAM), Eurorack-compatible desktop devices and the Grandmother. With quadruple paraphony, it joins the ranks of the monophonic Grandmother and the duophonic Subsequent and the polyphonic Moog One.

Vintage design

With its slightly slanted user interface, typical Moog controls and narrow white pitch and mod wheels, the handcrafted Matriarch is inspired by old Moog classics such as Prodigy and Rogue, and the pastel colours add a nice touch of 70s flair to the design. This colour scheme has already established itself with the Grandmother, as it clearly separates the individual modules of the sound generation. The finishing is excellent, the synthesizer is very robust and with its 11 kilograms also quite heavy.

As with the other synthesizers of the Mother series, the Matriarch's sound generation is uncompromisingly analog; there are no menus or sound memories. You get a modular system with a keyboard, similar to the legendary modules of the 9xx series, where the most important connections for direct playing without patching are already pre-wired.

Four octaves with aftertouch

The keyboard covers a full four octaves, 17 keys more than the Grandmother version. The keyboard was developed by Fatar. It is lightly weighted, can be played comfortably and processes velocity and aftertouch. We had missed these features on the Grandmother. Velocity and aftertouch are not assigned to specific parameters, but can be routed to any parameter with a modulation input via patch cable. And there is a lot of that in the Matriarch! On the left side, you can find the playing aids in form of two wheels, three buttons for transposing the keyboard and programming the

sequencer as well as a controller for Glide. This is equivalent to the feature-set of the Grandmother.

USB, MIDI and CV

On the rear panel, you will find the audio output, which is in stereo because of the built-in delay effect. And not to forget the headphone output with its own volume control. The instrument input lets you send external audio signals through the Moog filter and delay. There is an optional mini-jack output for connection to a Eurorack system. There is also a separate stereo output for the delay to use the effect separately. In addition, the delay time can be synced via analog clock and the feedback can be modulated via CV.

Inputs for sustain and expression pedal are available as well as CV outputs for keyboard and wheel. There are also four CV connectors to start and reset the matrix sequencer and send/receive analog clock signals. Matriarch processes MIDI signals via the MIDI trio or the USB port. However, knob movements

are neither sent nor received because the knobs are not digitally sampled. Power is supplied by an external power supply.

Four oscillators

Compared to the Grandmother, the number of oscillators has doubled. So it features opulent four oscillators, which are basically designed identically. Each oscillator offers triangle, sawtooth,

Matriarch consists of various modules that can be flexibly wired internally or connected to a modular system.

square and narrow pulse wave as waveforms and is adjustable between octave position 4' to 16'. Oscillators 2, 3 and 4 can be detuned for wide, fat sounds, reminiscent of the iconic Minimoog. They can also be hard-synced with oscillator 1, and this function can be activated individually for each of the three oscillators. This allows for exciting and unusual sounds, especially in paraphonic mode. In contrast to a polyphonic synthesizer, a paraphonic synthesizer can also be played polyphonically, but without having a filter and amp per voice.

All four oscillators offer individual patch sockets for the waveform, pitch modulation, pulse width modulation and last but not least linear frequency modulation, which can also provide exceptional sound results especially in paraphonic mode.

Mixer with gain-staging

The oscillators are mixed together in the mixer module, another knob controls the volume of the noise generator or of the external audio signal, in case a cable is connected.

The four input sockets can also be used to disconnect the pre-wiring and feed other signals into the mixer. For example, you can return the filter output to the noise input. The noise knob can then

»» Matriarch shines with extraordinary sonic results when the four oscillators are linked via sync or FM and played paraphonically. «

be used to control the feedback loop for slight saturation, harmonic distortion and even complete destruction, as with the Minimoog. This can result in a warm, rich sound.

Dual filter

From the mixer, the signal is transmitted to the filter module, and this is where we find another important difference to the Grandmother: Like the Moog Voyager, Matriarch offers not only one but two filters for subtractive processing of the oscillators. Both filters work as a low-pass, and the first filter can also be used as high-pass. The routing can be set between parallel (high-pass/ low-pass), serial (high-pass/low-pass) or stereo (low-pass/ low-pass). There is only one cutoff control, but with the spacing knob, the frequencies can be shifted against each other to create interesting stereo effects. The outputs of both filters can also be send out separately via patch jacks and inserted

again at another point in the signal path. There are almost no limits to your imagination. And the filters sound outstanding, typical for Moog.

Two envelopes

On the Grandmother we missed a second ADSR envelope, so we're quite happy about the improvements Moog made on the Matriarch version. Just like on the Grandmother synthesizer, attack, decay and release times of both envelopes are adjusted by knobs. Sustain, on the other hand, is controlled with a long fader, which is still a bit too smooth-running for our taste. The progression of the envelope can be set positively or negatively via two patch sockets and the module also has a trigger input.

Dual amplifier

The synthesizer features two amplifiers, otherwise the stereo effect of the dual filter would go unheard. Both VCA can either be modulated together by the AMP envelope, controlled separately from the AMP and filter envelopes (split) or completely decoupled from the built-in envelopes (drone).

Four-part paraphonic

The VCA module also features the options for the paraphonic playing mode. Matriarch is not classically polyphonic in the sense that each voice has its own oscillators as well as its own filters, VCA and envelopes. In polyphonic playing, the oscillators are divided accordingly to the keys you hold down and sent together through the dual filter and VCA. Alternatively, instead of monophonic playing with four oscillators per voice, duophonic playing with two oscillators per voice is possible. You can also play chords with four voices, with one oscillator per voice. MultiTrig determines whether the envelopes should be triggered by each keystroke or only when no more keys are held.

Four fully featured oscillators, which can be linked together via sync or FM, enable polyphonic playing, chords and arpeggios with tonal results that are hardly possible with conventional polyphonic synthesizers. This is especially true if you tune the four oscillators differently and/or choose different waveforms. There was a good reason why the similarly constructed DSI Pro2 has found many enthusiasts.

Analog delay

The spring reverb of the Grandmother was replaced by an analog stereo delay. Two BBD-based delay units are adjusted in time and feedback with common controls. As with the filter, a spacing parameter shifts the delay times against each other and creates interesting stereo effects. The tempo can be tapped and synchronized to internal (e.g. arp/sequencer) or external clock (analog or MIDI), the maximum delay time is 700 milliseconds. For chorus and flanging effects, the delay time can be

The analog stereo delay can also be used as a stand-alone effect device independent of the sound generation.

modulated via CV, just like the feedback.

External audio signals, for example from guitars, basses or other synths, can be fed into the delay via two separate sockets. In combination with the two individual outputs on the rear panel, you can thus use the delay as a stand-alone effect unit independent of the sound generation. The Mix knob, which controls the ratio between the Matriarchal sound generation and the effect, is then disabled.

Flexible LFO, Sample & Hold

The LFO can be used not only as a modulator but also as an additional oscillator. The reason for this is its wide speed range from 0.07Hz up to 1.3kHz. This means nothing else than that its able to reach far into the audible frequency range. The LFO features six waveforms, two more than the Grandmother and can modulate the pitch of all oscillators (alternatively pairs 1/3 or 2/4), the filter frequency or the pulse width. Thanks to semi-modular design of the synthesizer, the waveform output can also be used to modulate other sound parameters that have their own input. The LFO can be synchronized to an external clock. The speed can also be modulated and connected to the pitch. The modulation module also has a sample & hold generator for random value changes and a noise generator.

Modular utilities

To support the modular possibilities, Matriarch also contains a utility module. It provides a four-socket multiplier that allows you to split an incoming signal such as the LFO between multiple modulation destinations. You can also use it to mix multiple audio signals or control voltages to one output. Use the Attenuator to attenuate or invert incoming control voltages. For example, if you use the envelope for cutting sync sounds to modulate the pitch of oscillator 2, use the

Attenuator control or any CV source to adjust the amount of modulation. Unlike the Grandmother, Matriarch has two such "attenuators".

Intuitive step sequencer and arpeggiator

Arpeggiator and step sequencer were taken over from the Grandmother, but instead of three, twelve sequences can be saved. In addition, each of the up to 256 steps of a sequence can hold up to four notes in the Matriarch. In paraphonic mode, chords can also be recorded. The handling is very easy: All you have to do is set the switch to rec and then play the desired notes using the keyboard. With three buttons, you can program pauses, tied notes/slides and accents. Programmed sequences are triggered and transposed via the keyboard when the sequencer is activated. A running sequence can also be changed in real time in the above mentioned parameters, an interesting variant for live performances. The ARP/SEQ module also has a CV/Gate output for controlling other analog hardware via the keyboard or the arpeggiator.

Classic Moog sound

The strengths of the Matriarch are, typical for Moog, smooth leads, rich basses and biting sync sounds. Due to the patch possibilities, analog percussion and experimental sounds are also possible. However, paraphony and the dual design also allow interesting chords, pads and arpeggios. In addition, there is the very good sounding analog stereo delay, which can also be used separately from the sound generation for external devices.

Competitors

Typically Moog: Very high-quality, but also very expensive. The Behringer Poly D, which also offers classic Moog sound with four oscillators and paraphony, costs just a third of it. However, the sound

generation of the Poly D is much more restricted and the semi-modular construction is missing. The sound of the Vermona Perfourmer also goes in the direction of the Moog, but offers four complete voices and can therefore be played really polyphonic if required. Otherwise its sound generation is more limited than that of the Matriarch.

The new Sequential Pro3 with its three-part paraphony and ladder filter is also a very interesting alternative. In terms of sound, it does not quite reach the depth and fullness of Matriarch, but instead the hybrid synthesizer features a patch memory and sophisticated modulation options including a multi-track sequencer.

Verdict

Matriarch offers the same uncompromising old-school analog sound as the other synthesizers in Moog's Mother Series. The synthesizer can sound elegant and creamy, but also robust and raw. By doubling important elements of the sound generation (oscillators, filters, VCA, envelopes) as well as paraphony and stereo delay, the possibilities have been multiplied even more, compared to the Grandmother. Wide stereo pads and constantly changing arpeggios are just as possible as unique chords and polyphonic sequences. And the modular structure replaces or supplements a modular system. Packaged in a stylish and robust case, the Matriarch is an instrument you will enjoy for a long time, which justifies the relatively high purchase price. ⁚⁚
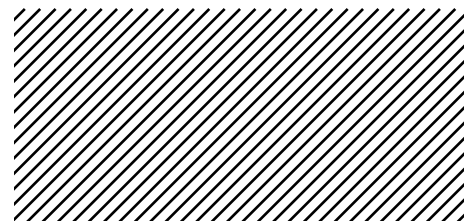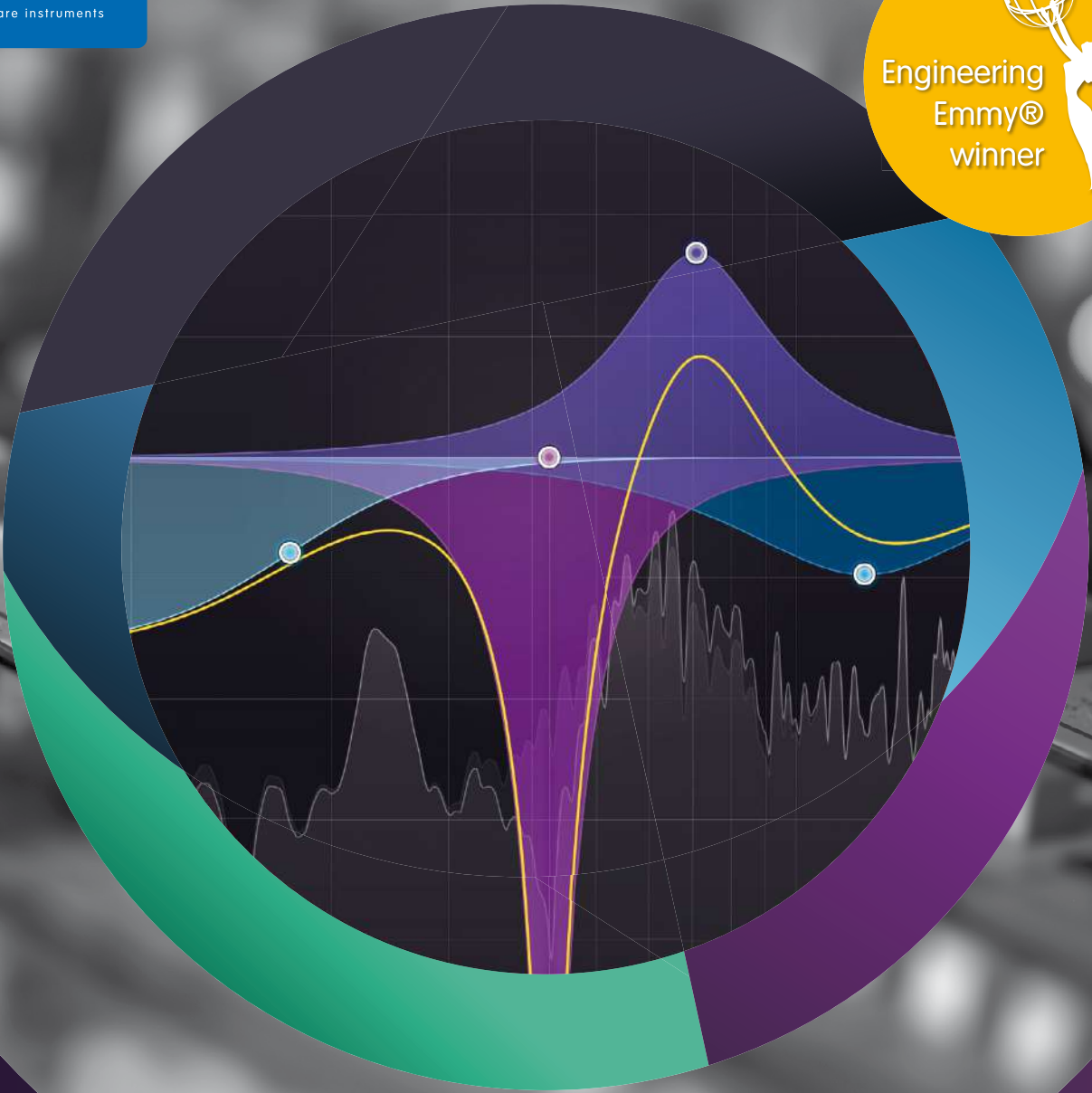
Review: Behringer Pro-1

Behringer has recreated another classic of monophonic analog synthesizers, the acclaimed Sequential Circuits Pro-One from 1981. **by Jan Wilking**

Features

Analog synthesizer
Duophonic
2 VCO
Sync, FM
Eurorack compatible
MIDI/USB
Dimensions: 95 x 424 x 136 mm
Weight: 1,8 kg

A highlight of the Pro-1 is the flexible modulation section on the left side.

Facts

Manufacturer: Behringer
Web: www.behringer.com
Distribution: Specialist trade
Price: 319 Euro

▲ Original sound
▲ Duophon
▲ Sequencer/arpeggiator
▲ CV connections
▲ Eurorack format
▲ Price
▼ Digital envelopes

Processing:	▮▮▮▮▮▯
Handling:	▮▮▮▮▮▮
Price/ performance:	▮▮▮▮▮▮
Total:	▮▮▮▮▮▮

Alternatives

Novation Bass Station II
373 Euro
www.novationmusic.com

Pioneer Toraiz AS-1
435 Euro
www.pioneerdj.com

Doepfer Dark Energy III
469 Euro
www.doepfer.de

T he Pro-One has characterized numerous songs, from synthpop hits like Yazoo's "Don't go" to the early works of industrial legend Skinny Puppy. But the good sound was accompanied by a rather bad processing of the original. The consequence of this is that despite the high sales figures at that time, only a few fully functional copies are still available on the market today and in addition to the not exactly inexpensive second-hand price, future maintenance and repair costs should also be taken into account.

Because of this situation Behringer wants to take remedial action with the original replica called Pro.

Eurorack format

The main difference to the original, apart from a general reduction of the user interface and elements, is the missing keyboard. This way, the Pro-1 can be placed on the desktop or built into a Eurorack in a space-saving way, what makes sense due to the CV-connections that are extended compared to the Pro-One. When it comes to haptic, the original and the clone challenge each other in almost every aspect, and here we liked the K-2 with its robust metal case better. However, the controls on the Pro-1 appear more reliable than the wobbly candidates of the Pro-One.

Due to the Eurorack installation option, all audio inputs and outputs as well as the MIDI input are accessible from the front panel. For desktop operation there is also a USB port for USB-MIDI on the rear panel. The Pro-1 is class compliant, so it is immediately recognised by the computer without driver installation. There is also a MIDI-Thru jack as well as four DIP switches for setting the MIDI channel on which the Pro-1 should receive the signal. This leaves the additional audio output in the form of a 6.3mm jack plug and the connection for the external power supply.

Duophonic

The sound generation was taken over identically from the original. Two oscillators provide the waveforms square and sawtooth, the pulse width can be modulated. Oscillator 2 offers an additional triangle wave. As a special feature, several waveforms can be activated simultaneously for mixed forms. Oscillator 1 can be hard-synced, the very good sounding sync sounds when modulating the pitch of the slave oscillator are a trademark of the Pro-One and one of the highlights of the Behringer clone. Oscillator 2 can also be used as a second LFO. With Pro 1, both oscillators

can be controlled separately in pitch for duophonic playing, a useful feature compared to the original!

Digital Envelopes

Mixed with white noise or an external audio signal, the oscillators move into the 24dB low pass filter, for whose modulation an ADSR envelope is available. A second envelope is responsible for the volume progression.

While oscillators and filters are hardly distinguishable from the original in terms of sound, there are certain limitations with the envelopes. Although they feel as fast as in the original, you can hear a rough grid in certain areas.

This is probably due to the fact that Behringer, as in Crave, has used digital envelopes and not analog ones. Especially in the sensitive lower attack range the audible stepping can be disturbing.

Sequenzer, modulations

The sequencer with its 64 steps was also taken from the original. It has a very simple structure, but by varying the external trigger signal you can also create exciting grooves.

If you don't know the Pro-One, the modulation section on the left will confuse you when you see it for the first time. But once you understand the concept, you can enjoy modulation possibilities that were relatively complex for that time, including FM, which also sound very musical and organic.

The only catch: To take full advantage of the options, a modulation wheel or equivalent control voltage must be connected.

Verdict

It's amazing how close the affordable and compact replica of the Sequential Pro-One comes to the original in terms of sound quality. Even long-time users of the Pro-One will have difficulties in the blind test to distinguish the vintage classic from its clone.

Duophony, additional patch sockets and MIDI/USB also speak for the Pro 1. Only the digital envelopes have to be slightly reduced, but in most situations this is no problem.

If you are looking for a flexible synthesizer with a lot of cult factor, which masters almost all classic analog sounds in perfection like no other, the Pro 1 is the right choice. ⁙

Both sound almost identical, but could hardly be more different. What is the difference between the Behringer Pro 1 and Sequentials new battleship Pro 3? Our overview compares the features.

	Behringer Pro-1	Sequential Pro 3
Sound generation	Analog	Hybrid
Oscillators	2 VCO	2 VCO, 1 Wavetable-Osc
Polyphony	duophonic	3 paraphonic voices
LFOs	1 LFO	3 LFO
Envelopes	2 ADSR	3 ADSR
Filter	Low pass filter	3 (Prophet, Oberheim, Moog)
Modulations	3 sources, 5 destinations	Modmatrix with 32 slots
Sequencer	Simple sSequenzer/arpeggiator	Flexible 16-track sequencer with CV-support
Format	Eurorack-compatible	Keyboard with 37 keys
Preset memory	n.a.	1.024 patches
MIDI functions	rudimental MIDI functions	can be automated completely
Effects	n.a.	Dual digital effect
Price	319 Euro	1.695 Euro

Review: Denon DJ Prime 4

With Prime 4, Denon DJ present their new, standalone controller flagship. A new candidate for the market leader? by Johannes Dicke

Features

Including Serato DJ Pro

Standalone operation

10" Touchscreen

2 Decks incl. Jog-Displays

2 Mic channels incl. EQ

4 Channel Mixer; Talkover

Master Out, Zone Out, Booth Out

2 FX sections

2 USB-Slots; 1 SD-Slot

1 bottom hard disk drive slot

Facts

Manufacturer: Denon DJ
Web: www.denondj.com
Price: 1799 Euro

▲ Versatile controller
▲ Top workflow
▲ Large touchscreen
▲ Good jog wheels
▲ Optional installable hard disk
▲ Library integration of Serato DJ, iTunes, Rekordbox and Traktor in Engine Prime

Equipment: ■■■■■■
Sound: ■■■■■■
Price/
Performance: ■■■■■□
Total: ■■■■■■

Alternatives

Denon DJ MCX8000
898 Euro
www.denondj.com

Denon DJ Prime 2
1499 Euro
www.denondj.com

Pioneer XDJ-XZ
2199 Euro
www.pioneerdj.com

Denon's controller-flagship is equipped for any DJing situation with its wide range of features, not only because of its large, intuitive touch screen.

There are countless DJ controllers on the market. However, as soon as simultaneous standalone operation is required, the number of available models shrinks to just a few immediately. The Prime 4 comes just in time and promises comprehensive luxury equipment at a reasonable price.

An all-rounder

Our test candidate promises to have everything on board for standalone operation as well as for working with various DJ programs like the included Serato DJ Pro. The eye-catching highlight is a 10 inch flip-down touch screen which allows for central access to the music library of the connected computer or storage medium. As usual, browsing and deck-loading of tracks is done via the Browse Encoder section at the top of the mixer section.

Effects and more

The four deck channels of DJ Prime 4 feature a Sweep FX control, among other features, similar to the usual competitors. Four different effect types are available for direct mixing directly from the channel, in particular a mandatory sweep filter effect. For more detailed effect processing, there are also two send effects above the left and right decks. These effects can be sent from each channel individually and provide access to the effect types built into the Prime 4 in stand-alone mode, as well as to its own deck FX when using Serato.

By the way: Both deck sections offer all imagineable functions from eight cue buttons, corresponding performance mode select buttons, sync button and loop encoder to jog wheel and pitch fader. In the upper left corner above the FX 1 section there is also an extensive section with two microphone inputs. On the opposite right, there is a master out level, as well as booth and, as a special extra function, a practical zone control. This allows for independent feeding of a second P.A. system, for example for another dance floor.

Cool: Last, but not least, the jog wheels have their own central display. If available, the display can show cover art and track information as well as graphics such as the DJ's logo.

Serato DJ Pro

In combination with Serato, thanks to adequate controls, the loading process runs like clockwork. Only an update to Serato DJ Pro version 2.3.4, which supports the Prime 4 controller, is necessary. We especially like the loop control, which runs intuitively thanks to the rotary encoder. The jog wheels are also very well engineered and respond directly. The pitch faders are also remarkably pleasant, which actually gives you the feeling of using their counterpart, the role-model Technics SL 1210/1200. However, when browsing on the touchscreen, there are some minor shortcomings: Opening Serato crates is only possible by computer, which means

a reduction in the crate overview. Otherwise, the display's function leaves a very good impression and contributes to an intuitive, smooth workflow.

Standalone session

After the first test run with Serato, we did a second round in the standalone mode. First of all, we recommend preparing your music for the Prime 4 and storing it on a suitable medium with the free Engine Prime software. A practical detail: Thanks to the implementation of our existing Serato library, it can be imported in a few easy steps together with the existing metadata, either in whole or in part. Furthermore, iTunes, Rekordbox and Traktor libraries can also be integrated. Regarding to storage, in addition to USB media and SD card, a 2.5 inch hard disk can be installed in an extra slot on the underside of the device. This is recommended for example, to have a larger basic music library permanently installed just in case. For the time being, a USB stick with selected Serato crates is enough for us for uninhibited standalone fun while DJing. Our test candidate also knows how to convince in this regard. Browsing through the crates via touchscreen and browse encoder works smoothly, intuitively and fast. Thanks to the display keyboard and the option to connect an USB keyboard, the title search is very quick and easy.

Verdict

Prime 4 is a perfect and an on point-controller with all imaginable features primarily for Serato DJ Pro as well as standalone operation. With all of these features, we can recommend Denon's DJ flagship for event and mobile DJs, providing them with a royal, rock-solid hardware base. The 10-inch flip down touchscreen is very user-friendly and comfortable to work with. The Prime 4 takes over a leading position among other DJ controllers, which can play four channels simultaneously via a USB-stick. To make a long story short: If you are looking for a powerful standalone DJ controller, you should definitely check this piece of gear out! ⁑

Review: KORG Nu:Tekt NTS-1

The NTS-1 brings the digital component of Prologue and Minilogue XD into your studio in a compact shape at an affordable price.   by Jan Wilking

Features

DIY Synthesizer	
Digital Multi-Engine	
Multieffect	
Freely programmable	
Arpeggiator	
3 LFOs	
Dimensions 129 x 78 x 39 mm	
Weight: 124 g	

Facts

Manufacturer: KORG
Web: www.korg.com
Price: 115 Euro

▲ Excellent sound
▲ Expandable
▲ Triple multi effekt
▲ Audio input
▲ MIDI-CC-control
▼ USB noises
▼ Unstorable
▼ Sleep mode

Tone acoustic:	■■■■■
Technique:	■■■□□
Price/ performance:	■■■■■
Total:	■■■■□

Alternatives

Arturia MicroFreak
277 Euro
www.arturia.com

DIY: The complete front part can be replaced by a custom panel and thereby completely changing the aesthetics and functionality of the NTS-1.

Both the Prologue and the Minilogue XD have a digital oscillator and multi-effect in addition to the analog sound generation, which Korg has already equipped with oscillator and effect algorithms. Meanwhile, there are also various models from third-party developers that can be loaded into the Multi-Engine and cover both conventional sounds and weird creative effects.

Construction time again

Unlike Prologue and Minilogue XD, the digital synthesizer part in the NTS-1 is monophone, so polyphonic playing is not possible. The effects section with three effects that can be used simultaneously, equals exactly to the Minilogue XD without restriction. This makes the NTS-1 also very interesting as an effect device due to its audio input.

The small synthesizer is delivered disassembled into its individual parts. There is no need for a soldering iron, the components just have to be put together and screwed together, which is done in less than an hour.

As a reward you will receive a small box, not even half the size of a Volca. In the front there is a headphone output (mini jack), which also serves as an audio output, just like the Volcas. You can control the volume with a rotary controller on the back. Here you can also find the USB port, which is responsible for the power supply via USB power adapter or computer. When connected to a computer, MIDI data is also transmitted via this port and synthesizer and effect models are exchanged.

USB-noise

Unfortunately we had massive problems with USB noise in the test. You could virtually hear the display screen in the audio signal because the necessary shielding was waived. Also Roland Boutiques or IKM Uno Drum have to struggle with such noise. With the NTS-1 the noise signal is extremely loud compared to the wanted signal and makes the synthesizer almost unusable in this constellation. The noise disappears if you use a USB power supply, but then the NTS-1 can only be played via the MIDI input, for which you need an adapter though. In the absence of MIDI output, parameter movements in the DAW can no longer be recorded, even though the knobs send MIDI controllers.

Thanks to the audio input you can also use the NTS-1 as a pure effect device, then the USB interfering noises will not occur. But unfortunately after 15 minutes the NTS-1 falls into a sleep mode that cannot be switched off.

Flexible oscillator

Oscillator and effects can be adjusted with three controls. With six buttons you can choose between oscillator, filter, envelope and the three effects. They also serve as shift buttons and allow you to adjust more than three parameters per section.

At the condition of delivery, the Multi-Engine can load standard waveforms as well as phase-modulation-based sound generation, with results similar to those of the FM synthesis in the DX7. As a result the Multi-Engine can sound clear and assertive, but also organic and round. One of the 16 free user memories is preassigned with a wavetable oscillator.

Third party developers have already ported the oscillator models of the Eurorack module Plaits from Mutable Instruments. Among them there are very good sounding and in different parameters modulatable sound generators in different synthesis like FM, Wavetable and VA, which some might already know from the Microfreak by Arturia.

Multieffect with an awesome sound

Parallel, three very good sounding digital effects are available in addition. While the first effect section specializes in modulation effects such as chorus, ensemble and flanger, the second unit is dedicated to delay and the third to reverb, each in a variety of variations such as tape and shimmer. The effects sound excellent constantly and this alone is reason enough for the purchase of the NTS-1.In addition there are also very recommendable effects and oscillator models for the Multi Engine by the same developer Sinevibes.

Verdict

A flexible digital oscillator combined with a triple effect section that can also be used for external audio in professional sound quality, individually adaptable and exchangeable - all this makes NTS-1 a must-have if you make music and produce with external hardware. The USB-interference noise when connected to a computer, the missing sound memory and the sleep mode unfortunately limit the usability. ⠿

More details

Review: Launchpad Pro MK3

Novation's Launchpad Pro MK3 offers improved feel and handling as well as direct hardware integration via MIDI and a standalone sequencer. **by Jan Wilking**

After Launchpad X and Mini, the large model is now also available in a revised and updated version. Originally the Launchpads were developed as pure Ableton Live controllers. Although they now support other DAWs such as Logic, the integration with Ableton is still the most profound. A matrix of 8x8 pads lets you start and stop your audio and MIDI clips in Ableton's Session View. The multi-colored pad lighting, which can be adjusted in brightness, reflects the color of the clips on the Launchpad, making it easier to see the clips. For large projects, you can switch between groups of clips and tracks using the four navigation buttons on the upper left side, and complete scenes can be started by using the eight buttons on the right. In contrast to the smaller models, you do not have to sacrifice a row of pads for additional functions such as stopping all clips in the track or muting and soloing tracks. There are 16 additional buttons at the bottom for this purpose. These buttons also give you access to the mixing controls. Just like with the Launchpad X, the pads can be used as faders to control volume, panning and sends.

Inspired by Push

The pads of the Launchpad Pro are comfortable to touch and play. They transpose velocity and aftertouch in a nuanced way. Just like on Ableton Push, they can also be used as a keyboard or to trigger drum tracks. The customizable colors of the pads provide more clarity and visualise the basic tones of the key or the 16 drum pads. Different keys can be selected to prevent out-of-tune notes when playing. The Launchpad Pro automatically detects whether a track containing a synthesizer/sampler or a drum rack is selected in Ableton and switches the score view accordingly. The new Chord mode is also very helpful, allowing you to create your own chords and distribute them to the pads. This creates exciting chord progressions that you might not have played like this on a conventional keyboard.

Newly added are MIDI ports to use the Launchpad as controller and sequencer without a computer.

MIDI controller

The Launchpad Pro can also be used outside of Ableton Live as a pure MIDI controller, with extensive customisation via the component software. You can choose from the virtual faders, keyboard, drum grid, MIDI notes, and also program change - all freely combinable. Each of these elements can be assigned to its own color.

If you turn the Launchpad Pro MK3 to its rear side you can see that it has one MIDI input and two MIDI outputs. Due to lack of space they are designed as mini jacks, but suitable adapters are included. These jacks allow you to use the Launchpad as a keyboard and also to use MIDI controller for hardware synthesizers.

Built-in sequencer

It becomes especially interesting when you start the integrated sequencer, which also works without a computer connection. This has the advantage of not having to carry a device that might be heavy in weight with you at all times. The sequencer offers four tracks with 32 steps each, which are displayed via the four upper pad rows. The lower rows of pads are used as a keyboard or better asides a drum rack, which is also known from Ableton Push. Sequences can be recorded in real time or programmed step-by-step.

Probability provides variety: This is the setting for the probability with which the step will be played back. In contrast to this, Mutate randomly shifts a step in pitch, but remains in the appropriate key. Ratchets, which mean nothing else but fast repetitions of individual steps, can also be programmed. With Print-to-Clip, sequences can be transformed into a clip in Ableton Live at the touch of a button, when repeated, Probability and Mutate will be included. It could hardly be better. There are 8 patterns per track, which can also be linked for longer sequences. In 16 scenes you can link the patterns of the four tracks. Scenes can also be linked, which even makes complete songs possible.

The handling is very practical, simply to understand for everyone and easy to operate. Due to the extensive functions, we would have had desired a small OLED display for parameter viewing which would make things more pleasant.

Verdict

The Launchpad Pro MK3 is improved in every aspect. The Ableton integration is even more profound, the pads offer very good haptic and the custom mode turns the Launchpad into a freely programmable MIDI controller. It is delightful to work with the Chord mode and to create inspiring Chord progressions. The highlight is the flexible standalone sequencer, which can also be used in a computerless setup thanks to the built-in MIDI connections. However, you will need some training time to fully master the functionality. ▪▪

Features

Performance controller

64 RGB-Pads

Velocity- and pressure sensitive

Dynamic note- and scale modes

4-track-sequencer

MIDI In/Out/Thru

Dimensions
268 x 18 x 268 mm

Facts

Manufacturer: Novation
Web: novationmusic.com
Price: 338 Euro

▲ Flexible sequencer
▲ Improved haptics
▲ Live integration
▲ MIDI-outputs
▲ Hardware controller

Equipment: ■■■■■□
Handling: ■■■■■□
Price / performance: ■■■■■□
Total: ■■■■■■□

Alternatives

Arturia Beatstep Pro
222 Euro
www.arturia.com

NI Maschine Jam
269 Euro
native-instruments.com

Ableton Push 2
615 Euro
www.ableton.com

Review: AudioFuse Studio

Arturia continues to expand its line of audio interfaces with the compact yet feature-packed AudioFuse Studio for the desktop.   **by Jan Wilking**

Features

USB 2.0 audiointerface

24 Bit/192 kHz

4 Mic-/Line-inputs

4 Line-Eingänge

2 ADAT in- and outputs

Phono-input

Bluetooth

USB-hub

Facts

Manufacturer: Arturia
Web: www.arturia.com
Distribution: tomeso.de
Price: 899 Euro

▲ Connectivity
▲ Direct handling
▲ Monitor controller
▲ Solid processing
▲ Stylish design
▲ Standalone capable

Technique: ■■■■■□
Sound: ■■■■■□
Price/
performance: ■■■■□
Total: ■■■■■□

Alternatives

Focusrite Clarett 8Pre USB
719 Euro
www.focusrite.com

Steinberg UR824
749 Euro
www.steinberg.net

MOTU 624 AVB
829 Euro
www.motu.com

The four ADAT connectors allow eight additional inputs and outputs at a bandwidth of up to 96 kHz.

Using the digital connections, AudioFuse Studio provides a total of 18 inputs and 20 outputs, which should be sufficient for semi-professional studios. The interface is packed into a robust metal housing with the compact dimensions of 26 x 16 x 7 centimeter.

The surface is equipped with seven silver controls for adjusting the input level of the first four analog inputs as well as the speaker and headphone outputs. The knobs are large and offer a comfortable turning resistance. In addition to a gain control, each of the four combi inputs for microphone, instrument or line signal has an eight-digit LED display for level indication, individually switchable phantom power, pad/boost switch and phase inversion for recording with several microphones.

Monitor controller

The extensive monitor section makes an additional monitor controller redundant. Separate buttons for switching between two pairs of speakers as well as main and cue mixes, dim, mute, mono and even talkback complete the large gridded volume control with two LED displays. The four audio inputs are placed on the front panel as XLR/jack combo jacks for quick connection of a microphone or instrument, just like the two headphone outputs. As a special feature, a bluetooth receiver with aptX and AAC, is integrated to be able to link

up with a smartphone easily. This also works in standalone mode; AudioFuse Studio can be used as a flexible digital mixer without a computer.

Connectivity

Four additional analog inputs allow you to connect line signals, input pair 5/6 is additionally designed as a phono input for direct connection of turntables. Four insert jacks allow you to insert a compressor or limiter directly into the microphone channels, thus preventing clipping before the converter.

On the output side there are four TRS jack sockets for connecting two pairs of speakers. In addition, there are two aux outputs which can also be used for reamping guitars. In addition to input and output for word clock synchronization, there are also two pairs of ADAT. In combination with suitable converters, this gives you eight additional inputs and outputs, while the second connection allows a bandwidth of up to 96 kHz.

USB-hub and MIDI inclusive

Shortly, the connection to the computer is made via USB-C, two high-quality cables to USB-C or USB-A are included. The AD/DA conversion offers 24-bit at a maximum of 192kHz. The AudioFuse drivers are multi-client capable and ran stable in the test. The latency was in the average range of a USB interface and was comparable to the Focusrite 18i20.

Regarding to this RME's interfaces with the specially designed USB chip, as well as Thunderbolt interfaces, are still a few milliseconds ahead. The power supply is provided by an external power supply unit. A MIDI pair (adapter included) and also a triple USB hub with charging possibility for other USB devices complete the successful equipment.

PreAmps: real and virtuel

Arturia's DiscretePro preamplifiers, specially designed for AudioFuse, provide a warm and round sound in the style of old analog preamps, which we already liked in other models of the AudioFuse series. However, since personal taste is the key, so the most important factor here and some producers prefer a rational sound for more options for post-production, we recommend testing before purchase.

The uncomplicated configuration software fulfilled its purpose in the test without any problems. Worth mentioning is the Creative Suite included in the package, which provides a selection of Arturia software effects such as virtual preamps, compressor, delay and reverb, as well as the Analog Lab Lite instrument collection. These can be for example electric and acoustic pianos, analogue and digital synthesizers, mythic organs and string machines. In total, Analogue Lablite contains 21 keyboards and 550 pre installed presets.

Verdict

Despite the compact format, AudioFuse Studio is the most comprehensive interface in the series so far. Eight analog inputs, an extensive monitor section, digital connections, MIDI, bluetooth and USB-hub leave hardly any wish unfulfilled, especially since AudioFuse Studio can be used as a digital mixer without a computer. Combined with the very good and low-noise sound of the preamplifiers and converters and the direct handling, AudioFuse Studio is recommended as a central control center for both the ambitious home studio and the semi-professional project studio. ⁝⁝

POWERED BY
DOEPFER

Modular short reviews

TouellSkouarn
Ar Merc' het Brao

Like the previous modules from the manufacturer located in Brittany, its stereo filter also goes by a name, which you will never really be sure to pronounce correctly as a non-native. But luckily names are insignificant and in the end it's the sound that counts.

The module is quite clearly arranged: Both filters are bipolar and offer one control each for cutoff, resonance and overdrive, as well as a toggle switch for the operating mode as high- or low-pass. In the middle, you can find two more big controls for the global cutoff and resonance. At the lower end, there are two CV inputs for modulating the cutoff parameters, with a single knob controlling the intensity for both simultaneously. Every filter has an individual out and of course and there's also a stereo out. What we missed was a second intensity control for independent CV modulation of the cutoffs. Also, the placement of the CV inputs is not optimal, because the cables are hanging in the way.

Now to the sound: The basic sound of both filters is soft to crisp and always pleasant, even at the highest resonance. In the latter case, the sound has a "smacking" quality to it. If you want it to be more intensive, just turn the overdrive up, of course. A small light indicates the intensity of the saturation with its brightness.

Verdict

The module offers a rich sound from clean and soft to roaring, partly reminiscent of a tube. Thin sounds can be given bite and heaviness in no time at all, beats can be thickened and basses can be given more power, pads can be filtered clearly or guitars can be overdriven. The sound is perfectly fine, technically there's some potential for improvement.

Manufacturer: TouellSkouarn
Web: www.touellskouarn.fr
Price: 359 Euro

Rating:

Erica Synths
Pico System III

The Pico System is entering its third round and in addition to minor refinements, it comes up with two very big innovations: On the one hand, the "compilation" of different Erica modules has been merged into a single synthesizer, so it no longer consists of individual modules. The synth is available both as a rack-mountable board and as a desktop device. On the other hand, presets can be loaded and saved via voice cards. Saving presets requires a soldering iron, since the system's analog sound generation does not allow for digital recording of sounds.

The equipment includes two VCOs, envelopes, VFC/VCA combinations, three mini mixers, a delay, a mod section and a sequencer. All units, including all their knobs and CV connections, are located on an area of about 19 x 11 cm. So you should not have big fingers if you want to patch more extensively.

The features

VCO1 delivers pulse and triangle waveforms simultaneously and can produce beautifully "sick" sounds with exponential frequency modulation, while VCO2 can morph between the same waveforms, and provides linear FM. The envelopes can be looped, making them ideal for use as modulators and triggers. The VCF/VCA combinations can work as either one or the other. The filters, however, both offer only low-pass, whose resonance whistles extremely loudly even before the middle position, which can cause deaf ears if you're not careful. On the plus side of the filter is definitely its sound when one of the VCOs is used as modulator for filter FM. A filter could hardly sound more crisp. Phenomenal!

In the MOD section you will find sinus, pulse, sample & hold, noise and random pulse waveforms. A highlight is definitely the sequencer, which offers two to four steps and with its simple features it provides fast results and also guarantees a lot of fun at the same time.

In practice

Patching sounds with the system is quick and straight-forward: Connect the pulse waveform of the MOD section to the sequencer clock, VCO1 to LPG1 and from there to the MIX3 input and you're done. But even if you want to create complex sounds, you will find numerous possibilities despite the seemingly simple features of the synth, as most of the individual sections offer practical features. For example, the frequency modulation option of both VCOs or the loopable envelopes or the modulation of the delay unit.

Preset memory

In addition to five factory presets, the voice cards come with six blank cards on which you can solder your own patches. This is definitely a nice bonus, but probably only interesting for a few users: First of all, because it requires soldering skills, and secondly, because the system is not ultimately complex anyway. Apart from that, the five presets can also be found as sheets in the manual, as well as several perforated patch sheets that can be placed directly on the synth.

Verdict

The Pico System III is a fine synth, which offers comparatively many features in a very small space despite its clearly limited feature-set. Patching is quick and easy and always delivers new and unexpected results. Thanks to the three mixers, attenuators for modulations can be built quickly. The frequency modulations provide decent aggressive sounds and the delay rounds off the sound generation. Only the operation in such a small space can get fiddly and spoil the fun. Colorful patch cords are a must-have, otherwise you will lose track within seconds. Apart from that: A solid synth with a unique sound and excellent ideas.

Manufacturer: Erica Synths
Web: ericasynths.lv
Price: 479 Euro

Rating:

DJ Interview:
Simina Grigoriu

» **There is nothing worse than a DJ who doesn't involve the crowd.«**

Nirvana is her favorite band and she played the violin when she was a kid. But Simina Grigoriu revels the driving, ecstatic side of electronic club music in her productions and DJ sets. Tobias Fischer interviewed her about political activism, Edith Piaf in Techno sets and about how not to overthink while DJing.

Beat / We live in a very politicized period. Does this affect you in your DJ role?

Simina Grigoriu / I usually separate politics from that. I do have very strong opinions though. However my persuasion should not influence my work. Of course it is important that we use our exposed position to do good. A lot of artists do that. Ida Engberg for example, deploys animal protection. Coyu has his Suara foundation which conveys cats. And Nicole Moudaber focuses on woman's rights. I can also draw attention to people who are close to my heart. But I find it hard to believe that the fans want this. Social media is also a little bit of escaping reality for many. People want to listen to music, they want to be entertained. They don't want to be told what to feel or what to do. If you want to be political in social media, you have to be careful with that.

Beat / When did you start DJing?

Simina Grigoriu / When I was in my mid-twenties, I started to learn how to DJ when I lived in Canada back then. While I was studying I worked at a bar and I'd rather want to provide the guest with music than drinks. Some of my friends own a production company, platform entertainment. They almost singled-handedly brought German Techno to Toronto. The first bands that I was interested in, were The Prodigy and The Chemical Brothers. In my teenage years I became enthusiastic about the jungle scene in Toronto. But my influences are many-sided. I also love 90s hip-hop and Nirvana is my favorite band!

Beat / Production came a bit later, if I understood correctly.

Simina Grigoriu / Yes. In fact, I never officially learned music production. I had some friends in Canada who tutored me in Ableton and I was learning sound manipulation from YouTube tutorials and random Internet sites. My brother, fellow producer and sound engineer, Moe Danger, has also taught me a lot. I work with him often as he's pivotal in helping me to achieve the right sound. He really is a genius. It took me a long time to find "my sound", which, by the way, is always changing, and I was "copying" as an attempt to learn how to create those specific sounds. So it's about creating music that fits well to the style of the label on which you'd like to release, but also staying true to one's vision. I love to use samples and vocals and record and then manipulate them. It gives me great satisfaction to work with elements around me and for me, that will always be the basis of my creativity.

Beat / How was the feedback from the audience?

Simina Grigoriu / I consider myself fortunate about what impact I have on the crowd. Let's put it this way, I've never ever went to a gig unprepared or unmotivated. Of course. there were some gigs that were more exciting than others. But I always give everything that I have. The only time I felt a little discouraged, was when I opened once for my husband Paul Kalkbrenner. The audience had been waiting for him for hours and they shouted "Paule, Paule!" all the time. This felt a little bit strange, I didn't feel very esteemed. But I know it had nothing to do with me.

Beat / You prefer, I believe, a combination of vinyl and digital. How did you get to your current setup?

Simina Grigoriu / My first setup at my house were Technics MK2s and a Xone:92. I only played vinyl back then. That's how I learned how to mix. I used Traktor Scratch with time code LPs for my live performances and occasionally regular vinyl records. After a failed Mac OS update I was a bit annoyed by Traktor and switched to CDJs. Well, much later than the rest of the world! Today I still use them. Nevertheless I still request in my rider that a turntable must be included on stage. Just in case I want to put on vinyl.

Beat / Does this happen a lot?

Simina Grigoriu / Honestly, no. But I always listen to LPs at home. It will always remain something wonderful to me to find old tracks on dusty records.

Beat / Soon you started producing your own tracks. How important are these two disciplines to you: DJing and composing?

Simina Grigoriu / They relate to each other like Yin and Yang. While DJing you have direct contact with the audience, it is fun and easy. The hours I spend in the studio are challenging by comparison, but they also give me the feeling of creating something. Sure, a DJ set can sound pretty good. But it always includes the work of others. In a track that has been self-produced, the only reflection is your own vision.

Beat / Isn't a big part of this vision being replaced by technology these days?

Simina Grigoriu / In any case, technology is both our best friend and our worst enemy. Someone like electronic pioneer Delia Derbyshire, who was responsible for the original Doctor Who soundtrack, didn't have synthesizers available back then. She only worked with sampling and edited tapes. Today, everyone can produce music. But the results are still tied to our human ability to combine passion and dedication into a project. Only in this way, it is possible for a completely inexperienced producer to produce a huge hit and end up on an major label. Such a thing doesn't depend on specific equipment. It only depends on the effort and time someone has invested - and on his talent.

Beat / So tell me a little about how you prepare your sets?

Simina Grigoriu / During the week, I spend a few hours collecting new tracks and putting them setting up Recordbox playlists. But once I'm on stage, I'm pretty spontaneous. I never decide when I will play a certain track. You should not worry too much about that stuff! In the end, you have to be able to feel the audiences' emotions. Just imagine that I have prepared a very hard and dark set, and then the previous DJ plays easygoing 124 BPM. Then it goes without saying, that I adapt and slowly find my way into my set. There is nothing worse than a DJ who doesn't involve his crowd.

Beat / That means you can't and don't want to define exactly what makes you want to play a certain track and not another one?

Simina Grigoriu / At least, I don't worry too much about it. When I arrive, I have already compiled my playlists carefully. The tracks which are listed on the bottom won't be played as often as the ones listed on top. This creates a certain kind of order. Other than that I often create guest mixes and I also have my own radio show named Kuukou on the music webpage Data Transmission. This is how I test my music in advance.

Beat / But is that truly the same as in the club?

Simina Grigoriu / If it doesn't work at home, it certainly won't work on stage either. With Techno, you don't have to worry much about harmonic frictions and if all of a sudden something should sound a bit "strange", I can fix it with appropriate dynamic adjustments. Our job as a DJ is not just to mix awesome records together. You have to solve problems in real time - and this has to happen very fast!

Beat / What do you think are the best closings for a set?

Simina Grigoriu / When the audience participates and sweats and all you have to do is watch them dance. If you are not able to get people to dance, you have definitely failed as a DJ. Also, I pay attention to the location where i am playing. In France, for example, I always play K-Paul's remix of Edith Piaf's "Rien de Rien" at the end. People love this song because they do have a very direct relationship with it. For my Romanian shows, I have a similar track by Maria Tanase, the Edith Piaf of Romania. With these little tributes, I show that I am interested in the audience and I give them a feeling of pride. Then I also feel this pride. And it ties me even closer to the dancers. ::

www.siminagrigoriu.com
www.facebook.com/siminagrigoriumusic

Power Producer: DJ-Secrets
Conceal mixing transitions

Smooth transitions are essential for the accurate mixing of two songs. But what to do if you forget to start the next transition or if two overlapping songs drift further and further apart? Failed transitions also happen to professional DJs, but what really matters is how they can be concealed as unobtrusively as possible.   **by Philipp Sterczewski**

Project infos

Material: any professional DJ controller
Required time: approx. 15 minutes
Content: Creative solutions for concealing failed transitions while mixing or DJing.
Level: Beginner - Advanced

1 Readjustment

If two songs diverge unexpectedly in tempo, check if there is enough time left to cancel the transition and to start over again. If there is not enough time, you should quickly readjust the jog wheels manually or activate **Sync** to catch up to the next beat or to slow down the offset.

2 Filter and equalizer

Despite the fact that two songs are synchronized by BPM, a transition with two overlapping bass lines and the resulting potential of clipping, can be a disaster. Filtering can really be a lifesaver by reducing the bass part of the ending song and increasing it, to the middle of the following track.

3 Reverb with filter

The use of a long-lasting reverb is also a good way to let a song fade out at its end. The longer and more diffuse the reverb tail fades out into nirvana, the more time you're going to win to fade in the next track softly. This can be done with volume or a lowpass-filter.

4 Backspin with delay

The skilful spin of the playing track with a backspin is a proven method to switch between two songs that may have too drastic tempo differences. To do so, we add a delay on the channel of the track that should end. The echo repetitions of this delay will then have the tempo of the new song.

5 Pitch

Another method is to slowly move the pitch control of the ending track up or down and filter it out with a low-pass filter, while the second track starts in the same way with very low or high pitch. This emergency solution should be used only once per set as a supposed expression of your own creativity.

6 Moderation

The abrupt end of a track, as well as the direct start of the next track is not a professional method to change a song, because the mixing is omitted by the hard-cut. If the DJ or MC is moderating simultaneously, the audience concentrates on the statement and the hard-cut is hardly noticed.

Power Producer: Serato DJ Pro
Helpful checkmarks

Do you want to improve your workflow with Serato's Decks? You can find some very useful features in control settings of the software. In the following workshop, we will show you how this can be used to speed up the workflow and and make the handling more reliable.   **by Johannes Dicke**

Projects

Material: Serato DJ Pro (Version 2.1.1)
Required time: approx. 5 - 10 minutes
Content: Prevent accidental shortcuts; prevent unintentional loading; arrange Cue Points; unify playback start point; show Beat Jump control; use Instant Doubles.
Difficulty: Beginner - Advanced
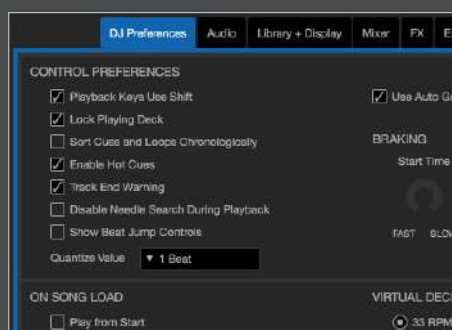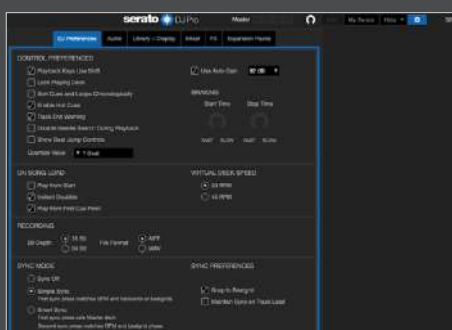
1 No unwanted surprises!

We first activate **Playback Keys Use Shift** to prevent unwanted surprises through accidental keyboard commands. If you forget to click on the search window in a rush, for example when aiming at it, the entered text will no longer trigger unwanted shortcut functions such as **Stop** or **Rewind**.

2 Save the decks

The option **Lock Playing Deck** prevents accidentally placing a new title in a deck during playback. In addition, it prevents accidentally jumping in the track due to unintentionally set cue points. But if you want to use the latter - like Flip edits - creatively, it's probably better to leave this feature off.

3 Cue organisation

With the next option **Sort Cue Points Chronologically**, all cues in the decks are sorted according to their chronological order in the track. Tip: If there are many cues, it makes sense to name and color them additionally for a better overview. The color can be changed with **CCMD+click**, the naming by **double clicking.**
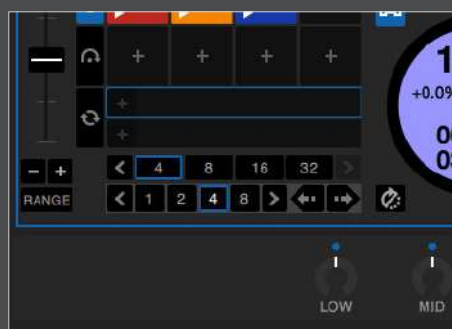
4 Save time

Next, we checkmark **Play from first Cue Point**, so that after deck-loading, the start point for playback is set automatically on the first cue. This way, if the first cue is on a perfect mixing start point, you can start mixing immediately without having to move the deck into position first.

5 Use Beat Jumps

Another useful feature is **Show Beat Jump Controls**. Now, the Beat Jump line appears under each deck instead of the second line of the loop area. There you can jump forward or backward by the selected number of bars in the track at the push of a button. This saves time by navigating through the track quickly and accurately.

6 Reduce equipment

Instant Doubles takes over the playback position when you drag it to another deck, which can save SL interface users a Control CD player/turntable: Set the right deck to **INT mode**, drag the **left track** across and at the same time pull **the left channel** fader down and the **right** one up. Now, the only Control player is free again.

Power Producer: On Stage
Techno live act without a laptop

A daring attempt: A performance without a laptop aovnd the comfort and the visual overview of the DAW. The performance has to be roughly in your head and all the moves have to be right. That requires time and sometimes nerves. But the fun on stage is worth it and it usually carried over to the audience immediately. Let yourself be inspired by the techno setup of Alexander Franz! **by Marco Scherer**

Project information

The setup of Alexander Franz [1]: Elektron Octatrack, Novation Circuit, Launch Control XL, PEAK, Soma Lyra, OTO Bim, Strymon Blue Sky, Allen & Heath ZED 10 Mixer, FMR Audio RNC Compressor.

1 The Base

The **Electron Octatrack** serves as the centerpiece of the live act. Here loops, samples but also complete stems are launched. Since the Octatrack has a flexible and clever input section, it also functions as a mixer. With the two stereo outputs, you can send the sum signal to the mixer and the other stereo pair to the effect devices.

2 Multitasking Gear

The signals of both **Circuit** and **Peak** run into the Octatrack, while it also sends the Master Clock via MIDI. With two synths and four drum parts, Circuit offers a versatile sound generation. Another great thing is that the synth tracks can also be used for triggering external devices via MIDI. In this case, Synth 2 controls the Peak.

3 MIDI Controller

The **Octatrack** is controlled via **Novation Launch Control XL**, which is powered by a **Kenton USB MIDI Host.** Using an editor you can map the controller so that the Octatrack "listens" to the Launch Control. The required MIDI controller numbers can be found in the Octatrack manual. The line faders control the volume of tracks 1-8.

4 Bottom Kick

The encoders control the low and high cut, as well as the respective effect send. The specialists in this live setup: While the pedals Strymon **Big Sky** and **OTO Bim** have a very unique sound and thus enrich the effect send, the Lyra-8 is a very experimental synth, which is suitable for warm drone sounds, but also sound experiments.

5 Freeze & Reverb

Both effect devices are connected in series - the OTO Bim is a great 12-bit delay with a freeze function that allows you to freeze the signal at the touch of a button, which is especially fun for vocals - for the live performer as well as for the audience. The Blue Sky gives the effect track a wide reverb, which can be fine-tuned via an EQ.

6 Limiter

In order to pass on the entire sound of a live act more compactly into the DJ booth, it is recommended to use a small compressor, but without "wild" settings. In this case, the RNC should serve as a kind of limiter. Thanks to its "Really Nice Mode", the signal can be thickened without becoming too obtrusive or squashed at higher gain.

Power Producer: Ableton Push
Mixing with Ableton Push

When you think of Ableton Push, you probably rather think of live sessions than mixing. However, many mixing operations can be done very comfortably with Push instead of a mouse. You don't have to look at the screen, but can focus on your ears and sound design. In the following workshop, you will learn more about what mixing tools Push provides you and how to get the best out of them. **by Maya C. Sternel**

Project info

Material: Ableton Live, Ableton Push
Required time: 30 minutes
Content: Overview of the mixer mode, functions and parameter settings, parameter reset, work with the chain mixer, add effects to individual tracks.
Level: Advanced

1 Fader status
Start Live's arrangement. Make sure that you are in Push's **session mode** and press the **mix** button in the upper right corner. You will now see the volume fader status of the eight tracks marked with the Session frame in Live. To start a new mix, turn down all volumes using the encoder located above.
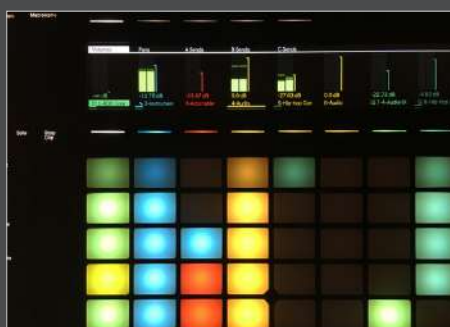
2 Mixing and reset
Turn the volumes back up track by track and adjust the balance of the individual tracks to each other. The display shows both **peak level** (color: dark green) and **RMS** value (color: light green). To reset the volume to its output value, keep holding down the **delete** button and tap on the track's encoder.

3 Play the arrangement
You can start your arrangement with Push. If the software is in the arrangement view and you press the **play** button, the arrangement will be played back. To jump back to the beginning, hold down the **shift key** and press the **play** button at the same time. If you have loaded a drum rack, you will see a square in front of the track name.
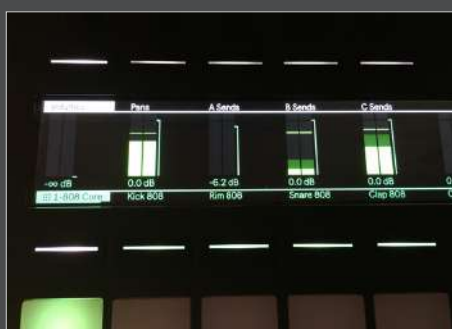
4 Open the chain mixer
Press the button underneath the drum rack to open it and enter the **chain mixer view**. Here you can see the volume status for each individual instrument and you can readjust it using the encoder. Use the arrow buttons to navigate to the instruments which are currently not displayed in the drum rack.

5 Switch to mixer view
To close the chain mixer, push the button below the drum rack again. Do you want to change the position of the tracks in the stereo panorama? Just **push** the button on the top, above **pans**. Now you can place the individual tracks in the room as required. If you want to switch from the mixer overview to the track mixer, push the **mixer button** again.

6 Add effects
If you want to add an effect to a track, select the respective track using the lower row of buttons. Press the **device** button. In the display, select the desired effect, after which the new effect is to be loaded. Now, press the **add device** button. Select the desired effect from the browser in the display and load it.

Music recommendations

collected
by Sascha Blach

Ben Lukas Boysen: Mirage

Formerly operating and also known under the pseudonym Hecq, Ben Lukas Boysen releases his third album under his own name. Let's make it short: It's a great longplayer, which oscillates between modern film music, progressive IDM and ambient and changes shape from the first to the last moment. The six songs also contain vocals (by Lisa Morgenstern), but they are so subtle and more like an instrument that you can basically speak of instrumentals. Basically the compositions are electronic, but organic instruments such as piano, cello (played by Anne Müller), drums, saxophone, harp or flugelhorn bring organic life into the music. This, in turn, does not mean that friends of electronic music have to fear an excessive break in style. The pieces are very atmospheric and open a wide space, but at the same time inspire with a passionate joy of experimentation and ambition. Somewhere between Nils Frahm and Jon Hopkins maybe. A record you should have heard!

Genre: Modern Classical, Ambient | Label: Erased Tapes

Better Lost Than Stupid: Wild Slide (remixes)

In the promo text, Better Lost Than Stupid are referred to as a supergroup. In view of the fact that Martin Buttrich, Davide Squillace and Matthias Tanzmann have come together here, this is certainly not entirely unjustified. "Wild Slide" was the debut album of the DJ trio and was released in September 2019. These days, a remix album follows for which Fort Romeau, Martin Buttrich, Mousse T, Dennis Ferrer or Rebuke did remixes. Compared to the original, which is quite easy to dance to, it has even a little more club potential. Basically, most remixes are somewhere between dance and techno, although the stylistic subtleties vary according to the artist. Tracks such as the hits "The Sky Is Too Low" or "Overboard" ended up in the remix meat grinder several times. A great thing for DJs, die-hard fans of the project and remix fetishists. Everyone else might rather stick to the regular longplayer.

Genre: Electro, Dance, Techno | Label: Skint Records

Booka Shade: Dear Future Self

Die-hard house and techno disciples are naturally familiar with the two gentlemen from Booka Shade, as they have been part of the scene since the early 90s. "Dear Future Self" is the duo's ninth album and a very varied one. Classic techno sounds are combined with acid, trance, progressive and a bit of electro / synth pop. The numerous vocals features with guests such as Kaktus Einarsson, Lazarusman, Eli & Fur or Joplyn contribute to the latter aspect and increase the variety. "Dear Future Self" is too demanding for a traditional club album. But that's exactly what makes it a great headphone pleasure: A multi-faceted work that doesn't get boring even after over 13 tracks, because there's always something new happening.

Genre: Techno, House | Label: Blaufield Music

Das Ding ausm Sumpf: Kränk

Anyone who calls his band Das Ding ausm Sumpf (the thing from the swamp) and his album "Kränk" ("Sick") must be very crazy, right? Well, the guys from Munich definitely have a soft spot for nonsense, but in many of their lyrics, they are also surprisingly serious and deal with topics like abuse, do-gooders or jealousy. Not only because of the lyrics between serious and humorous approaches, but also because of the German rap in connection with fat electro beats and basses you have to think about Deichkind. Das Ding ausm Sumpf, however, cannot be fixed to one genre. In "Schifferwäldler", they take out the acoustic guitar, quote electro-pop in "Wenn dein Herz klopft" or spread out soft ambient pads in "Schweigen". The whole work is diverting, entertaining and well produced. And on top of that a large audience should be receptive to it. So another step up the career ladder should be no problem.

Genre: Hip-Hop, Electro | Label: Roof Music

Douglas Greed: Angst

According to his website, Douglas Greed, who is also active in Yeah But No and Eating Snow, is a real party animal. On his current album "Angst", you don't hear anything about it. Well, anxious - as the title promises - it doesn't sound either, but very introverted and subtle. He describes the 10 tracker, which was created in collaboration with guests Joy Wellboy and Odd Beholder, as the result of a period of change in his life. The music is based on house basses and beats, but above that an atmosphere of melancholy and loneliness unfolds - sometimes with vocals, but often purely instrumentally. Thanks to the warm production and poppy nuances, the LP is interesting for a wide audience despite all the thoughtfulness. Somewhere between electro-pop, deep house, trance and indietronic, "Angst" is one of those albums that you might consider inconspicuous at first hearing, but repeated hearing reveals a decent depth.

Genre: Deephouse, Electro-Pop | Label: 3000 Grad

Lorenzo Senni: Scacco Matto

The Milanese artist proffers his fifth longplayer, which is his first on Warp Records. It is another part of his "Rave Voyeurism" project, which is supposed to enable him to look at the dance scene from the outside like a spy. This approach sounds very theoretical and abstract at first, but it fits the work of the Italian, because in addition to his work for film and dance, he is often on the move in the art scene and presents his sounds in the world's major museums, from the Tate Modern in London to the Center Pompidou in Paris to the Zeiss planetarium in Berlin. Therefore, the music is not so much for the common average consumer, but rather for lovers of experimental sounds. Chopped-up arpeggios, cheerful melodies, which were dissonantly alienated, gated trance elements and 8-bit video game sounds form a bizarre album, which, unlike Sennis' pre-works, has at least a hint of song structure. Perhaps quite strange for the inexperienced listener, but undoubtedly interesting.

Genre: Experimental Electro | Label: Warp Records

Marie W. Anders: Andersworld

The German musician has been playing the violin, piano, drums and electric bass since she was five years old and has studied classical, contemporary composition at the UDK Berlin and the University of Music. Her album "Andersworld" is dominated by sophisticated music that explores the most diverse worlds on the basis of electronica, be it house, modern classical, ambient, jazz or avant-garde. The majority of the album is spherical, seems to be enraptured and contains enough layers that even if you listen to it several times you will discover more each time. In terms of harmony, it is certainly not pop-like and pleasing, but rather challenging. Production and arrangement techniques are beyond all doubt, and also the vocals are interesting, because Marie recites the prose of Robert L. Stevenson in an idiosyncratic way and with a lot of reverb. But despite that, "Andersworld" sounds like a unified whole and somehow even clubby.

Genre: Electronica, House, Ambient | Label: Broque

Moby: All Visible Objects

Malicious tongues claim that Moby nowadays is more concerned with activism than with music. Of course we don't know what the musician's schedule actually looks like, but at least the new album "All Visible Objects" doesn't show any obvious sagging. The record, the proceeds of which are once again donated one hundred percent to good causes, does not contain any obvious hits such as "Go", "Natural Blues" or "Porcelain", but offers the Moby fan those trademarks that made the artist great. He collects samples, vocals and influences from countless genres and creates a multi-layered sound between rave, electronica, house and pop, which sounds sometimes clubby, sometimes thoughtful and then again epic-cinematic. With "Too Much Change" even half a jazz ballad is included. A Moby album always has something of a compilation. This is no different with "All Visible Objects". Certainly not a second "Play", but still a proper exclamation mark.

Genre: Rave, House, Pop | Label: Embassy One/Little Idiot

Photay: Waking Hours

The New Yorker by choice Evan Shornstein, who is behind the Photay project, deals with the stress mechanisms of the modern world. It is said that the album is a meditation on the compulsion to fill every moment with activities. The artist's answer: return to simplicity, life in the moment, celebrating existence itself. Sounds like an esoteric New Age album? But it is by no means, because Photay's second work offers a multifaceted stroll through the world of electronic music and cannot be pigeonholed. You can hear pop elements, Balkan percussions, autotune vocals, electro funk, ambient and all kinds of modular synth experiments. No song sounds like the other and the consumption of "Waking Hours" sometimes seems like listening to a mix tape. But at least this way it doesn't get boring.

Genre: Electronica | Label: Mexican Summer

Rone: Room With A View

This album was originally designed for a ballet piece. This may sound unexciting for all those who don't have much to do with dance, but it's not, because the Frenchman Rone has created a real gem with his fifth longplayer. The 13 tracks are purely electronic, supplemented only by voice and field recordings. Rone created it single-handedly. He combines elements from dance, electronica, dub and ambient and the result sounds very atmospheric and melodic, almost a bit cinematic, because the music would also work well as a soundtrack. And although lyrics are missing, the artist also sees his work as politically, ecologically and socially motivated, as it is intended to ask questions in the midst of climate change, Fridays For Future and natural disasters. A wonderful album with countless facets and small details worth discovering.

Genre: Electronica | Label: InFiné

Music retailer and service guide

Feature: Recording workflow

Whether it's a large studio, home recording or laptop setup... When creative ideas come up, a well structured workflow is essential. But what can you do to optimize your hardware and software setup so that ideas can be captured quickly and efficiently when the muse kisses you? And how do you achieve the best possible sound when recording? In our large workflow special, we answer these questions and show you how to make the most out of your equipment to achieve the best possible musical output.

Review: Sequential Pro 3

As the successor to the popular Dave Smith Instruments Pro 2 synthesizer, the Sequential Pro 3 can compete with a mid-range modular system in terms of flexibility. The hybrid synthesizer, which can be played either monophonic or three-voice paraphonic, covers almost every need with its extensive mod matrix, 16-track sequencer, three analog filter classics, dual effect block and CV connections, right?

Interview: Rone

The name Rone does not just represent cool electronic music. The current album "Room With A View" has a thoroughly visionary dimension and alludes to human problems like epidemics, climate change and collapsology. But of course we will not only interview mastermind Erwan Castex about these topics, but also about studio technology and production.

Foto: Olivier20Donnet

Review: Nord Wave 2

With the Wave 2, Nord is taking its synthesizer series, which is as iconic as it is successful, to the next evolutionary stage. On board is not only virtual-analog synthesis, but also frequency modulation, wavetables and samples. Thanks to its four parts, the 48-polyphonic sound generator allows remarkably complex layer or split sounds. What the high-end synth has to offer, we will clarify in the test.

List of advertisers 06/07| 2020

ISSN 1866-3737

Subject to changes due to current topics and delivery circumstances!