Manual

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Introduction

Welcome to a different approach to sound synthesis. With *Dopamine*, you will find yourself approaching your creative process differently — faster and more intuitively than before.

Dopamine was developed by Big Wave Audio — the same team that created, under the drumasonic brand, the Session Guitarist and Session Bassist series for Native Instruments, as well as Session Ukulele and Session Percussionist, over the past ten years.

The motivation behind *Dopamine* was to create an easy-to-use synth that provides production-ready sound textures that go beyond what a typical synthesizer can deliver.

Dopamine comes loaded with carefully curated presets that get you started right out of the box. It contains 223 sound presets, 107 multisamples, 259 modifier presets, 162 arpeggiator presets, and 140 MIDI chord progressions — all of which can also be combined, resulting in a staggering number of sonic possibilities.

A unique feature is seamless morphing between two effect settings via the mod wheel, enabling dramatic changes in timbre, stereo width, spatial depth, distortion, and brightness — all with a single control.

The most innovative aspect of *Dopamine* is the 24 sound modifiers. By triggering these keyswitches, you can apply real-time sound alterations and transitions that would otherwise require complex offline editing and numerous external tools. With *Dopamine*, you have these distinct sound features right at your fingertips.

Setup

Dopamine is a virtual instrument designed for use with Native Instruments' industry-standard sampler **Kontakt** and the free **Kontakt Player**. If you haven't installed either of them yet, please visit www.native-instruments.com, search for the free Kontakt Player, and then download and install it.

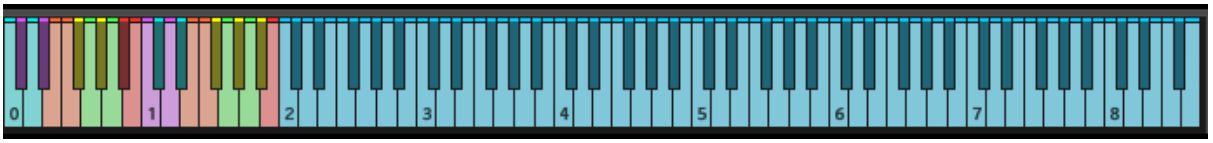
Next, download the **Native Access** app from the same site. After installation, open Native Access and enter your *Dopamine* serial number by clicking "+ Add Serial" in the bottom-left corner. Then locate the *Dopamine* library in the "Library" tab at the top and click "Install". This

will download and install *Dopamine* to the location set under File > Settings > File Management > Content Location.

After installation, launch Kontakt Player — either standalone or as a plug-in in your preferred digital audio workstation (DAW) — and locate *Dopamine* in the Libraries tab. Click it, and the list of included presets will refresh on the right-hand side. Double-click the first preset called “Dopamine” to load it.

How to Play Dopamine

When playing *Dopamine* on a MIDI keyboard or using MIDI notes in your host DAW, distinguish between the following two key ranges:



- C0 to B1 triggers 24 sound modifiers, such as pumping effects, tape-stop, and LoFi. On an 88-key keyboard, this range starts at the lowest C and extends up two octaves. Each modifier key is color-coded.
- Keys from C2 and above play the instrument.

You can combine these two ranges—for example, using one with your left hand and the other with your right—to add real-time modifier effects to your performance.

Load Sound Presets

The name of the current sound preset is displayed in the top-left corner. These presets apply globally and contain settings for the entire instrument. They include parameters and on/off states for all tabs: Effects, Modifiers, Arpeggiator, and MIDI Chords.

Click the arrow icons next to the preset name to load the previous or next preset. To mark a preset as a favourite, click the star icon. All marked favourites can be filtered in the Preset Browser.

The Preset Browser

To open the preset browser, click the current preset’s name.

The Preset Browser, opened by clicking on the current preset's name

At the top, you can filter the preset by:

- Selecting a specific genre (e.g., Pop, EDM, etc.)
- Showing only user favourites with the big star icon
- Restricting the content to a specific type, such as Pads, Leads, or Bass.

All Bass sounds have the "-24" switch on the Sounds page enabled (see Global Controls), which transposes the instrument two octaves down.

Scroll through the list of results and click a preset to audition it directly from your keyboard or DAW. Double-click a preset to load it and close the browser. You can also click the check icon in the top-right corner to confirm the selected preset or switch directly to one of the pages at the bottom of the interface.

To revert to the sound that was active before opening the browser, click the X icon next to the check icon.

You can mark or unmark presets as favourites using the small star icon next to each preset.

Lock Parameters

When you load a sound preset, it updates the settings across all tabs: Sounds, Effects, Modifiers, Arpeggiator, and MIDI Chords.

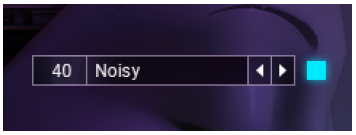
If you want a specific tab to retain its parameters and on/off state when loading new presets, click the small lock icon next to it before switching presets.

Sounds

On the **Sounds** page, you can adjust the basic parameters that define the sound. At its core, *Dopamine* offers two sound sources — referred to as Source A and Source B — each represented by a robotic face on the left and right.

The Main Page / Sounds Page

Sound Sources



For each source, you can select a multisample from the drop-down menu at the top. Alternatively, drag the number up or down, or double-click it to enter a specific value. Use the arrow icons to switch to the previous or next multisample in the list.

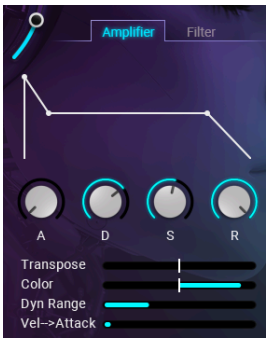
Next to the multisample menu, you'll find a square icon that toggles the corresponding Source A or Source B on or off.

While most samples are looped and can be sustained indefinitely, some samples decay quickly and stop after a short time. These samples are labeled with "OS", indicating "one shot."

The volume of each multisample is controlled via the volume fader on each side of the Sounds page.

Below the multisample menu, you'll find the Amplifier and Filter tabs. Selecting either tab displays the corresponding controls underneath.

Amplifier Parameters



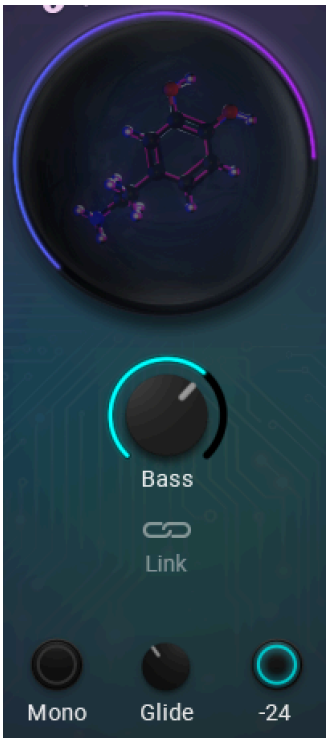
- **A, D, S, R**: Adjust the volume envelope's Attack time, Decay time, Sustain level, and Release time. Parameters can be adjusted by dragging the individual curve points or by using the knobs.
- **Transpose**: Shifts the source sound from -36 to +36 semitones (±3 octaves).
- **Color**: Alters the formants of the selected multisample, resulting in a darker or brighter tone.
- **Dyn Range**: Incoming MIDI velocities affect the source's volume, ranging from 0 to 50 dB.
- **Vel→Attack**: When the attack time is long, Vel→Attack shortens it as MIDI velocity increases — higher velocities sound punchier, lower velocities produce a slower attack slope.

Filter Parameters

- **Key follow**: Below the Filter tab, click the small keyboard icon. When enabled, the cutoff frequency follows the pitch you play.
- **Filter Type menu**: Select between a gentle, soft, punchy, or steep filter type.
- **A, D, S, R**: Adjust the filter envelope's Attack time, Decay time, Sustain level, and Release time. Parameters can be adjusted by dragging individual curve points or using the knobs.
- **Cutoff**: Sets the filter cutoff frequency.
- **Resonance**: Sets the amount of resonance at the cutoff frequency. The gentle filter type does not provide resonance.
- **Env Amount**: Adjusts how strongly the filter envelope modulates the cutoff.
- **Vel→Cutoff**: Adjusts how much MIDI velocity scales the filter envelope's modulation of the cutoff.

Global Controls

In the center between the two faces, you'll find several controls that affect the overall sound. From top to bottom, these are:



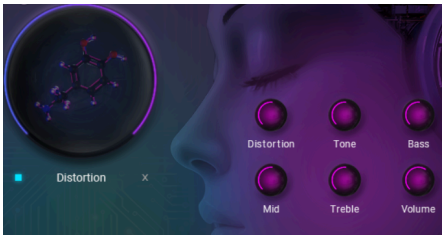
- **Big Circle**: The large circle between the robots' eyes intensifies the sound by morphing between the A (left) and B (right) settings on the Effects page (see below). This knob can also be controlled using the mod wheel on your MIDI keyboard.
- **Bass**: Adds or removes low frequencies. When turned up, a parallel signal is sent through a low-pass filter, compressed, and extended in sustain.
- **Link**: When activated, all controls of source A also affect the corresponding controls of source B, and vice versa.
- **Mono**: When monophonic mode is enabled, only one pitch can be played at a time. Overlapping notes will glide smoothly from the previous pitch to the new pitch.
- **Glide**: In mono mode, this control adjusts the time it takes to glide from one pitch to the next. It has no effect in polyphonic mode.
- **-24**: When enabled, all sounds play two octaves lower, converting normal sounds into bass sounds.

Effects

On the **Effects** page, you can load up to seven studio effects and arrange them by dragging each effect left or right. Clicking an effect displays its parameters above, on both the left and right sides. Each side (A and B) can be configured individually, allowing two different versions of the sound for each effect.

The Effects Page

Morph between Effects Settings A and B



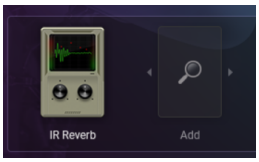
When you adjust the controls of either side (A or B), the big circle in the center fully shifts to the corresponding side, reflecting the sound of the side you are editing.

You can now morph between settings A and B by dragging the big circle up or down. This can also be controlled via your MIDI keyboard's mod wheel.

This allows you to configure sides A and B so that the morphing control can dial in any combination of effect parameters, such as reverb amount, filter cutoff, or equalizer frequency boost.

To experience the power of this feature, try it with some of the included sound presets.

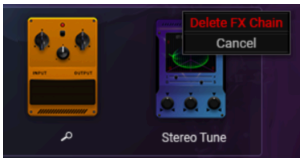
Change Effects



To add a new effect to an empty slot, click any of the free slots. This opens the FX Browser, where you can load an effect by clicking it.

To cancel, click the X button in the top-right corner, or clear the slot by selecting Clear Slot.

To change an effect in any slot, click the small magnifying glass icon below it. This also opens the FX Browser for that slot.



To reset the entire effects chain, click the X icon next to the rightmost effects slot and select “Delete FX Chain”.

The FX Browser

Each effect has its own settings, which are generally self-explanatory. Some effects include additional settings, displayed below the effect name in the center of the screen.

Bypass Effects

Any loaded effect can be bypassed using the square icon next to its name, or removed by clicking the X on the opposite side.

To activate or deactivate the entire effects chain, click the power icon next to the Effects tab. Activate the lock icon to keep the effects unchanged when loading a different sound preset.

Link and Copy Parameters

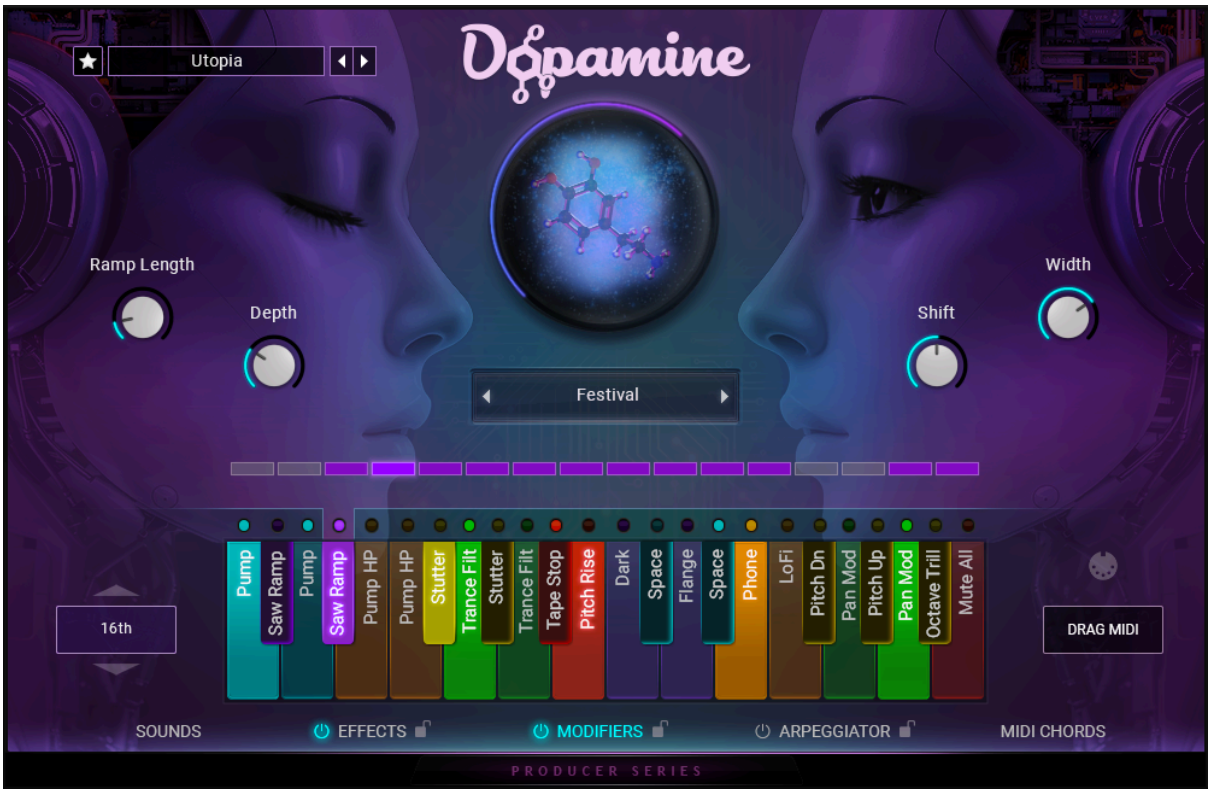
To copy effect settings from the left side to the right, click the A>B icon, or use B>A to copy from right to left.

Tip: Hold ALT and click one of these icons to swap the settings of sides A and B.

When the Link button is activated, all parameters are linked between the left and right sides relatively. Note that some parameters, such as Delay Time, are always linked absolutely, regardless of whether Link mode is enabled.

Modifiers

On the **Modifiers** page, you'll find a list of 24 sound modifiers, represented by 24 keys on a labeled keyboard. These powerful tools allow you to apply various real-time effects to any sound, either by live triggering or via automatic sequencing.



The Modifiers Page

Trigger a Modifier Effect

To trigger one of the 24 modifiers, you can either

1. Click, hold and release its key on the screen using the mouse, or
2. Play it on your MIDI keyboard from C0 to B1, starting at the lowest C on an 88-key keyboard.

Select a Modifier

When the Follow MIDI icon is enabled, playing a modifier on your MIDI keyboard updates the focus to that modifier and displays its parameters above. Alternatively, you can select a modifier by clicking it.

Each modifier has up to four parameters. Some also include an additional drop-down menu in the bottom-left corner of the screen, typically for selecting a curve preset (for effects such as Pump) or a mode preset (for effects like Tape Stop). The settings for each modifier are explained in more detail in Each Modifier Explained.

Auto-Sequence Modifiers

Above each modifier is a small light bulb icon. When activated by clicking it, the modifier can no longer be triggered manually, but is sequenced according to the 16 steps in the strip above, which can be activated or deactivated individually.

Each step represents the duration of one eighth note, so the full sequence equals two bars in a 4/4 time signature. Each modifier can have its own sequencer steps, independent of the others.

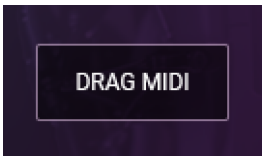
Tip: Hold ALT and click a step to activate or deactivate all 16 steps.

Tip: Hold ALT and click an active light bulb to deactivate all 24 light bulbs.

Modifier sequencers run only when the Modifiers power switch is on and the host transport is running or notes are being played. When the power switch is off, activated light bulbs turn semi-active to indicate their previous state. Clicking a semi-active or inactive light bulb automatically turns the Modifiers power switch back on and enables all activated modifier sequencers.

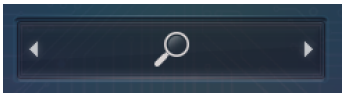
As before, activating the lock icon keeps the modifiers unchanged when loading a new sound preset.

Drag and Drop as MIDI



To convert the internal modifier sequencers into external MIDI notes for further editing, drag and drop the entire sequence from the DRAG MIDI field into your host DAW. The Modifiers power switch automatically turns off, allowing the generated MIDI notes to trigger the modifiers instead of the internal sequencer.

Load Modifier Presets



Clicking the modifier preset name in the center of the screen opens the preset menu, organized into categories that describe the main characteristics of the included modifier presets. Click a category to reveal its sub-menu, then click a preset to load it and test it by playing notes on your MIDI keyboard. Double-click a preset to load it and close the menu. Use the arrows next to the modifier preset name to load the previous or next preset. Each modifier preset contains parameter settings for all modifier keys.

Each Modifier Explained

The following list briefly explains the function and parameter set of each modifier. Some modifiers are assigned to two different keys, but each key's parameters can be set independently. This allows you to create two versions of the same modifier, both accessible at your fingertips.

Pump

Achieve the typical effects usually generated by side-chain compression, or ducking.

- **Speed**: Select from six different speeds ranging from 2 whole notes down to 16th notes.
- **Amount**: At 100% you will hear the original volume curve. Values greater than 100% will amplify the curve, values below 100% will dampen it to no effect at 0%. Negative values will invert the curve.
- **Shape**: The shape control shrinks the length of the selected curve and shifts it back (with positive values) or forward (with negative values), while stretching the starting value or ending value, respectively.
- **Curve Menu**: Select a curve preset which will be stretched according to the speed control.

Saw Ramp

Generate rhythmically timed pulses preceded by a decelerating ramp.

- **Ramp Length**: Sets the duration of the decelerating ramp from 0 to 8 eighth notes before the pulse reaches constant speed.
- **Depth**: At 100% you will hear the pulses' original volume modification. Smaller values will dampen it down to no effect at 0%.
- **Shift**: With this control, you can shift the timing of the generated pulses slightly ahead of or behind the beat.
- **Width**: Sets the initial stereo width when starting the ramp, where 100% represents the original. During the ramp phase, the actual stereo width is gradually reverted to 100% before reaching the constant speed phase.
- **Note values menu**: Select a note value ranging from quarter notes down to 16th sextuplet notes to adjust the pulsation speed of the constant phase.

Pump HP

Create sweeping pump effects by modulating a high pass filter's cutoff frequency.

Tip: At low cutoff settings, this is a subtle alternative to "Pump" for carving space for the kick without obvious tonal change. At higher cutoff settings, the effect becomes more pronounced.

- **Curve Menu**: Select a curve preset; it will be stretched or compressed by the Speed and Shape controls.
- **Speed**: Select from six different speeds ranging from 2 whole notes down to 16th notes.
- **Cutoff**: Sets the maximum cutoff frequency of the high pass filter. The actual cutoff frequency is constantly changing and will be determined by the curve you select in the curve menu.
- **Resonance**: Sets the resonance at the cutoff frequency. Higher values make cutoff movement more pronounced.
- **Shape**: The Shape control shifts the modulation curve's center left or right: left compresses the start and stretches the end; right stretches the start and compresses the end.

Stutter

Chop your sound up with this modifier in interesting ways.

- **Speed:** Sets the random duration of mutes between audible snippets.
- **Speed Mod:** Positive values increase speed over time; negative values decrease it.
- **Length:** Sets the random duration of audible snippets between mutes.
- **Random Pan:** Controls the amount of random panning applied to each snippet.

Trance Filt

Apply a rhythmically modulated low-pass filter to the sound.

- **Curve Menu**: Select a modulation curve, from simple sidechain-style modulation to rhythmic patterns.
- **Cutoff Min**: Sets the cutoff for the minimum value of the modulation curve.
- **Cutoff Max**: Sets the cutoff for the maximum value of the modulation curve.
- **Resonance**: Adjusts the filter resonance. This will make the modulation effect more pronounced.
- **Shift**: Offsets the timing of the built-in curve presets for a laid-back or ahead-of-the-beat effect.

Tip: You can also swap the Cutoff Min and Max values: Set “Min” to a high value and “Max” to a low value to invert the modulation curve.

Tip: As with all filter-based effects, temporarily raise Resonance while adjusting Cutoff to make the effect more audible, then lower it for a subtler result.

Tip: Lowering “Cutoff Min” below 0 truncates the modulation curve, creating gate-like effects.

Tape Stop

Modulate the pitch of current notes, inspired by tape braking/acceleration.

- **Stop Speed**: Sets how quickly the pitch drops from the original pitch to the lowest pitch.
- **Range**: Sets how far the pitch drops.
- **Gain**: Boost or decrease the gain for a more pronounced or subtle effect.
- **Restart Speed**: Sets how quickly the sound returns to its original pitch after releasing the key.
- **Mode Menu**: Select one of six different operation modes:
  - **Stop Notes**: When releasing the modifier key, all sounding notes will be stopped and will not come back.
  - **Restart**: On releasing the modifier key, all sounding notes will restart. If held until the pitch drops fully, the note fades out and fades back in when the key is released.
  - **Continuous**: The pitch drops and rises without fading notes, similar to a pitch bend wheel.
  - **Stop Notes (Mute), Restart (Mute), Continuous (Mute)**: These modes work like the previous three modes, except that while the effect is active, incoming note events will be ignored.

Tip: Hold Shift while dragging a knob to increase resolution and set exact values (e.g., Speed). This works for all knobs.

Pitch Rise

Pitch Rise works identically to the Tape Stop effect, but raises the pitch instead of lowering it.

Dark

Darken, widen and add subtle distortion and movement with this modifier.

- **Space**: Sets the amount of space/reverb added to the sound.
- **Flange**: Sets the amount of flanger added to the sound.
- **Lowpass**: Sets the cutoff frequency of a low-pass filter.
- **Saturation**: Sets the saturation amount of an added lo-fi effect.

Tip: Moving sounds to the background with this effect can help other elements, for example main vocals, stand out.

Space

Add space and dimension at any point in time by triggering a reverb effect.

- **Decay**: Sets the decay time of the added reverb.
- **Low Shelf**: Sets the amount of low frequencies in the reverb signal.
- **Damping**: Sets the amount of damping of the reverb signal.
- **Mix**: Blends between the dry and wet signal.
- **Mode Menu**: With “Mute Input”, this modifier mutes incoming notes while pressed.

Tip: You can use this effect in combination with other effects like Trance Gate, Saw Ramp and Pump to chop up the reverb tail.

Flange

Thicken your sound or craft special effects with a versatile flanger.

- **Rate**: Sets the flanger’s modulation rate.
- **Amount**: Sets the modulation amount.
- **Feedback**: Sets the flanger’s feedback.
- **Mix**: Blends between the dry and wet signal.
- **Mode Menu**: Choose from three different flanger modes. Each of them will affect the sound differently.

Phone

Switch to a narrow sound known from old telephones.

- **Highpass**: Sets the low cutoff frequency.
- **Lowpass**: Sets the high cutoff frequency.
- **Distortion**: Sets the amount of distortion added to the telephone effect.
- **Noise**: Sets the amount of noise added to the telephone effect.

Tip: This effect also reduces the stereo width of the signal. You can use it solely for this purpose by lowering the high-pass cutoff and raising the low-pass cutoff.

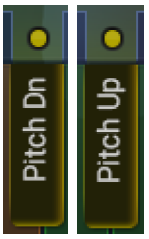
LoFi

Add grain and crunch by running your sound through a low-quality 8 bit digital converter.

- **Frequency**: Sets the sampling rate of the virtual converter.
- **LoFi**: Sets the amount of digital jitter.

- **Post Filt**: Sets the low pass frequency of a filter applied after the virtual conversion.
- **Mix**: Blends between the original and the processed signal.

Pitch Dn & Pitch Up



Instantly Pitch all notes down, or up, by one or two octaves.

- **Interval**: Choose between a one or two octaves interval.
- **Arpeggiator Half Speed / Double Speed**: When turned on, the arpeggiator will run in half speed or double speed, respectively. It will re-sync to the host transport as soon as you trigger or release these modifiers, causing the sequencer position to jump.

Pan Mod

Modulate the stereo panning with different curves and speeds.

- **Speed**: Select from six different speeds ranging from 2 whole notes down to 16th notes.
- **Amount**: At 100% you hear the original curve. Above 100% clips the envelope for more extreme panning; below 100% reduces modulation depth.
- **Curve Menu**: Choose from various modulation curves; they'll stretch or compress according to the Speed control.

Octave Trill

Create octave trills, a typical effect known from old console games.

- **Speed**: Sets the speed of the trill, either in percent (free run mode), or in note values (tempo sync mode).
- **Interval**: Choose a one- or two-octave interval.
- **Mode Menu**: Choose between Free Run and Tempo Sync modes.

Mute All

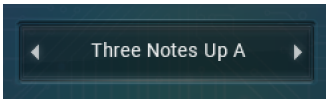
Mute all notes and effects, creating breaks without reverb or delay tails bleeding into the gap.

Arpeggiator

With the integrated arpeggiator, your played notes can be turned into an automatically generated sequence that chops, slices, and rearranges them with new velocities.

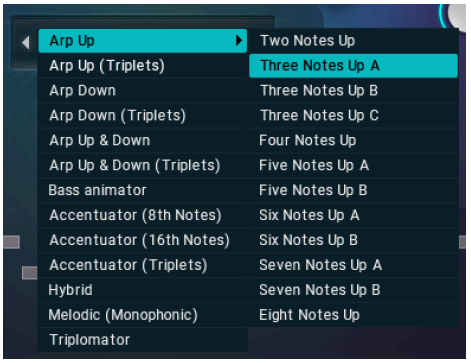
The Arpeggiator Page

To enable the arpeggiator, turn on the power switch next to the Arpeggiator tab or select an arpeggio from the menu in the center of the screen.

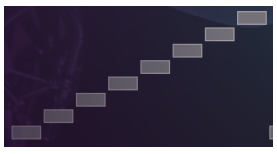


Load Arpeggiator Presets

Clicking the arpeggiator preset's name in the center of the screen opens a menu. Select a category to display its contents in a sub-menu. Click a preset to load it, or double-click to load the preset and close the menu. Alternatively, use the left and right arrows next to the preset name to load the previous or next preset.



Note Re-Mapping

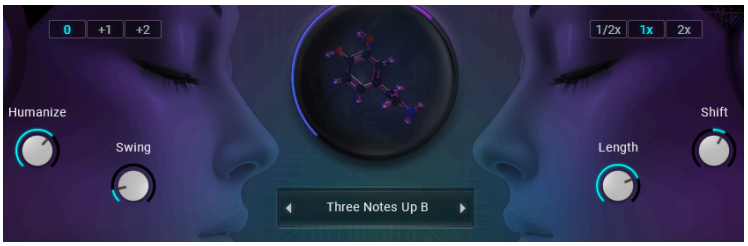


Each arpeggiator preset contains up to eight different pitches, visualized as note events in separate lanes. These lanes do not represent actual pitches; they are translated into real pitches only when you play notes on your MIDI keyboard.

For example, if a preset has three lanes—let's call them "meta pitches"—and you play three notes, each meta pitch will correspond exactly to a real pitch. If you play more notes than there are meta pitches, some real pitches will be grouped to a single meta pitch, occasionally producing two or more notes at the same time. Conversely, if you play fewer notes than there are meta pitches, some real pitches will be triggered by two or more meta pitches.

In summary, you can feed any arpeggiator preset with up to eight notes, and it will always function correctly, regardless of how many meta pitches the preset contains.

Arpeggiator Parameters



Each arpeggiator preset contains settings for the parameters described below, except for the 1/2x, 1x, and 2x tempo modifications in the top-right corner of the screen. If you do not want your current settings to be changed, activate the small lock icon next to the Arpeggiator tab before loading a preset.

In the following, each parameter will be described in detail:

- **Humanize**: Increase this to loosen quantization—note positions become more random, mimicking a human feel.
- **Swing**: Turning this up gradually delays all off-beat note positions. Depending on the preset, these off-beats can be based on either an eighth-note or a sixteenth-note grid.
- **Length**: The original length of each note contained in an arpeggio preset can be heard when this knob is set to 100%. With smaller values, the notes are gradually shortened.

  Note: In mono mode (see section Global Controls), uninterrupted note transitions occur only if the Length parameter is set to 100%.

- **Shift**: Offsets the timing of the arpeggiated notes for a laid-back or ahead-of-the-beat effect.
- **0 / +1 / +2**: When this octaving feature is set to +1, notes following the highest meta pitch are played one octave higher until the highest meta pitch is reached again. At +2, an additional octave is inserted before returning to the regular pitch.

- **1/2x / 1x / 2x**: Sets the tempo of the arpeggiated notes to half time (1/2x), normal time (1x), or double time (2x). Note that this is the only parameter not included in the arpeggiator presets.

MIDI Chords

With the integrated MIDI Chords library and player, you can lay the foundation for your creative process using inspiring chord progressions. These progressions can be transposed, changed in key, and dragged and dropped directly into your DAW project.

The MIDI Chords Page

Browse and Play MIDI Chords

Like in the Sound Preset Browser, you can filter all MIDI chords using genre-style tags, from Pop to Cinematic. You can also restrict the results to your personal favourites by activating the big star icon. To mark a progression as a favourite, click the small star next to its name.

To play a MIDI chord progression, simply click on it. While playing, its highlight color will change from gray to cyan. Click again to stop playback.

Note: While a MIDI progression is playing, incoming MIDI notes will be ignored.

Set the Pitch and Key

In the KEY section, all MIDI progressions can be chromatically transposed from C2 to C4 by dragging the pitch label up or down. Each preset was created in either a major or minor key, so the key will adjust automatically when you select a different preset. You can still change the key manually by clicking the Maj/Min label to toggle between major and minor.

Drag and Drop MIDI chords

After setting the pitch and key, you can drag and drop the current MIDI chord progression into your host DAW using the DRAG MIDI field.

Combine MIDI Chords with the Arpeggiator

You can also combine the MIDI chords player with the arpeggiator. Simply activate the arpeggiator and select a MIDI chords preset to play it. The output of the MIDI chords player will then be fed into the arpeggiator.

Credits

- **Product Concept & Design:** Samuel Dalferth, Daniel Scholz, Aurid Gjini, Luke Batterbury
- **UI/UX**: S. Dalferth, A. Gjini, D. Scholz
- **Graphic Design & Artwork:** vstdesigns.com, S. Dalferth, D. Scholz, Marie-Hélène Baten
- **KSP Scripting:** D. Scholz
- **Product Management:** S. Dalferth
- **Sound Presets:** S. Dalferth, A. Gjini, L. Batterbury, Marlon Scholz, Leon Hoppe
- **Sample Post Production:** Peter Scholz, S. Dalferth
- **Arpeggios & Chord Progressions:** L. Batterbury, M. Scholz, S. Dalferth
- **Quality Assurance:** S. Dalferth, P. Scholz, D. Scholz, Cris Vogt
- **Marketing:** Pia Detjen, Klaus Teuschler, S. Dalferth, Robin Thomson, A. Gjini, Xheisi Prenga
- **Documentation:** D. Scholz, S. Dalferth
- **Finalization & Encoding:** Rembert Gantke