

PunchBOX2

BASS DRUM SYNTHESIZER



User Manual

Requirements

Software and hardware requirements of the product



Windows PC

OS version	Windows 7 or newer
CPU	2.0 GHz SSE (Multicore 2.4 GHz recommended)
RAM	16 GB
Software	VST2 / VST3 / AAX compatible host application (32bit or 64bit)



Apple Mac

OS version	OS X 10.13 or newer
CPU	Apple M1, Intel based 2.0 GHz
RAM	16 GB
Software	AU / VST2 / VST3 / AAX compatible host application (64bit!)

Hardware requirements / recommendations are based on estimates performed on available computers at D16 Group HQ, and therefore cannot cover all possible configurations available on the market. CPU usage may vary widely depending on the manner in which the product is used. Factors that may contribute to variance in CPU usage include particular patch and its complexity, the global quality setting, project sample rate. In order to form a better understanding of how a plug-in will behave within your current setup, we highly recommend downloading the demo and giving it a try.

Preliminary information

This chapter contains general advice for using the plug-in's interface.

Performing a Right-Click on macOS

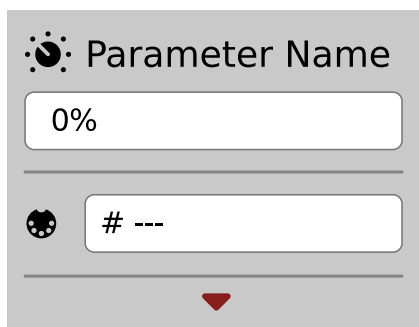
In macOS terminology, a right-click is called a Secondary Click. To enable right-click functionality for your pointing device (whether a Magic Mouse or Touch Pad), assign a gesture for Secondary Click in **System Settings → Mouse**.

To perform a right-click on macOS with a single-button mouse:

- Hold the **CTRL** key on your keyboard while clicking the mouse, or
- Use two fingers on your touchpad.

Checking the value of a parameter

Right-click on any parameter to check its value in its context menu:



A parameter's context menu

Note: It is not currently possible to enter an exact value in the input box for every parameter - this feature is primarily for checking values. Some parameters can be edited manually, but these are exceptions.

Fine-Tuning Continuous Parameters

To make fine adjustments to a control (knob):

- Hold **CTRL** (on Windows) or **CMD** (on macOS) while tweaking the control.
- This allows for more precise movement as you move the mouse pointer up or down.

Resetting a Continuous Parameter's Value

Double-clicking a parameter resets it to its initial value—either the default (as when the plug-in is first loaded or opened within a project) or the value from the most recently loaded preset.

Interface overview

PunchBox is an advanced monophonic kick-generating instrument that uses layered sound sources to create the final kick tone. It features four generators: the first three layers are dedicated sample players, while the fourth Kick generator can operate either as a sample player or as a synthesizer using multiple synthesis engines. Additionally, PunchBox offers a range of effects for further sound processing. The instrument comes with a substantial collection of factory samples and presets, developed exclusively by **Sounds of Revolution** and **CFA Sound**.

When the plug-in is running, its interface is displayed as follows:



PunchBox User Interface

The following functional sections are available:

Control panel



Control panel

The **Control Panel** is used to manage **Master Presets** - presets that apply to the entire device - including loading, saving, importing, and exporting presets for sharing with other users. It also provides access to the plugin setup (**Options** button), advanced editing functions (**Advanced** button), exporting the current settings to a WAV file (**Export** button), and randomizing parameters (**Random** button).

Generators section

This section controls the sound-producing elements of **PunchBox**.



Generators section

Effect rack

The **Effect Section** or **Effect Rack** contains the effect chain, including the **Mono Bass** and **Master Limiter** blocks, which process the signal generated by the generators before it is sent to the plug-in's output.



Effect Rack section

How it works

PunchBox produces its kick tones using **four** independent **Generators**, which form the core of the instrument. The outputs of these generators are mixed, processed through the **Effect Rack**, and then sent to the plug-in's audio output. The instrument is monophonic and can respond to the Pitch and / or Velocity of incoming MIDI notes, depending on its settings.

Generators

The **Generators** section consists of four modules:

- **Layer 1 to Layer 3:** Sample-based generators that create auxiliary components of the kick. These layers can be blended together to play up to three different samples simultaneously.
- **Kick:** The primary generator responsible for the body of the kick. It can function as a sampler or synthesizer and offers **five** different sound-generation **Engines**. Like the other layers, **Kick** comes with a comprehensive set of factory samples, presets, and wavetables.

All generators are supplied with a substantial factory sample library. The instrument's open architecture also allows users to map disk paths to their own external sample folders, providing full flexibility for custom sound design.

Layers

The **Layer** generators create the auxiliary or side components of the bass drum tone. Each generator features an identical interface:



Layers part of UI

And it is controlled with the following set of parameters:

- **Active and Solo LEDs** – Toggle buttons are used to activate a specific generator or solo it (which automatically deactivates the others).
- **Sample** - A display that, when clicked, opens the browser to load a sample from either the **Factory** or **User** library.
- **Volume** - Controls the generator's output level, adjustable from **-∞ dB** to **+12 dB**.
- **Pitch** – Adjusts the sample's tuning from **-24** to **+24** semitones.
- **Panning** – Controls the stereo balance.
- **Stereo Spread (St. Spread)** – Adjusts the stereo image width of the sample. The center (**Normal**) position provides a neutral stereo setting.
- **Smp. Start** – Defines the playback starting point (offset) within the sample, from 0% (beginning) to 100% (end). The range corresponds to the sample's total duration.
- **Ring Mod** – Enables ring modulation for tonal shaping.
- **Low Cut** - High-pass filter cutoff frequency, adjustable from **2 Hz** to **22 kHz**.
- **High Cut** - Low-pass filter cutoff frequency, adjustable from **2 Hz** to **22 kHz**.
- **Portamento** - When **Keytrack** is active, controls smooth pitch transitions between consecutive notes. The transition time is set using the **Time** parameter in the lower section of the **Kick** generator.



The **Time** value affects all generators. The **Portamento** parameter takes one of following values:

- **Off** – No smooth transition; notes are always retriggered, even if they overlap.
- **Legato** – Smooth transitions occur between overlapping notes; the generator is not retriggered. Pitch glides between overlapping notes based on the defined **Time** value.
- **Always** – Transitions occur between all notes, regardless of overlap; pitch glides between notes based on the defined **Time** value.
- **FX Send** – Controls how the generator's signal is routed to the **Effect Rack's** two possible inputs. The routing behavior depends on the **Patchbay Configuration** parameter in the **Limiter** section:
 - **0%** – Entire signal sent to **Input 1**.
 - **50%** – Signal evenly split between **Input 1** and **Input 2**.
 - **100%** – Entire signal sent to **Input 2**.
- **Keytrack** - Enables or disables pitch tracking, determining whether the generator follows the pitch of incoming MIDI notes.

Kick generator



Kick generator

The **Kick Generator** allows you to select one of several available sound engines to create the main kick tone.



Selecting the Engine

When a generator engine is selected, the corresponding section of the interface updates to display the parameters specific to that engine.



Engine Section of the Interface

There're following available generator engines:

- **Sample**
- **909** Kick synthesizer
- **808** Kick synthesizer
- **606** Kick synthesizer
- **Wavetable**

At the top of the section is the **Pitch** parameter, which ranges from **-24** to **+24** semitones for the Sample engine, and from **C1** to **C5** for the **909**, **808**, **606**, and **Wavetable** engines. It controls the base pitch of the sound generated by the **Kick** engine.



Kick's pitch

When **Pitch Snap** is enabled, the **Pitch** knob operates in coarse mode, allowing selection of discrete musical pitches instead of continuous frequency values.



Pitch Snap

For precise adjustment, values can be entered manually via the context menu — simply right-click the control and type the desired value:



Kick pitch edited manually

The **Padlock** function allows you to lock a parameter value, preventing it from being changed when loading **Master** or **Kick presets**.



Pitch Padlock

When **KeyTrack** is active for the **Kick**, the **Pitch** knob determines transposition relative to the currently played base note, within a range of **-24** to **+24** semitones, for any selected engine.

At the bottom of the **Kick Generator** section, the following common parameters are available;



Common Kick's parameters

- **Portamento** – When **Keytrack** is active, this parameter controls the smooth transition (glide) between different pitch notes. The transition time is adjusted using the **Time** parameter located to the right. The **Time** value affects all generators, not just the **Kick**. The **Portamento** parameter can take the following values:
 - **Off** – No smooth transition; notes are always retriggered, even when overlapping.
 - **Legato** – Smooth transitions occur between overlapping notes, and the generator is not retriggered.
 - **Always** – Smooth transitions occur between all notes, regardless of overlap; pitch glides continuously between notes according to the defined **Time** value.
- **FX Send** – Determines how the generator's signal is routed into the effect chain, which has two possible audio inputs. The routing behavior depends on the **Patchbay Configuration** parameter in the **Limiter** section.
 - **0%** – Entire signal sent to **Input 1**.
 - **50%** – Signal split evenly between **Input 1** and **Input 2**.
 - **100%** – Entire signal sent to **Input 2**.
- **Keytrack** - Enables or disables pitch tracking, determining whether the **Kick Generator** responds to the pitch of incoming MIDI notes.
- **Velocity** - When enabled, **All generators** respond to the velocity values of incoming MIDI notes.

Detailed descriptions of each available **Kick Engine** are provided in the following subsections.

Sample

The **Sample** engine allows you to use audio samples as the sound source for the **Kick Generator**.



Sample engine

The **Sample** engine provides the following parameters:

- **Smp. Start** - Defines the starting point within the sample. This parameter can be set from **0%** to **100%**, where **0%** means the sample plays from the beginning.
- **Ring Mod.** - Controls the amount of ring modulation applied to the sample.
- **Volume** - Adjusts the output volume of the generator.
- **St. Width** - Controls the stereo width of the played sample. The center (**Normal**) position maintains the original stereo image.
- **Panning** - Adjusts the stereo balance between the left and right channels.
- **High Cut** - Low-pass filter cutoff frequency, adjustable from **2 Hz** to **22 kHz**.
- **Low Cut** - High-pass filter cutoff frequency, adjustable from **2 Hz** to **22 kHz**.

909 Kick synthesizer

The **909** engine is a faithful emulation of the classic TR-909 kick drum — a legendary bass drum sound that has defined techno and electronic music since the 1990s.



909 kick engine

This engine provides the following parameters:

- **Volume** – Controls the output volume.
- **Attack** – Adjusts the level of the initial transient (accent) at the start of the sound.
- **Tune** – Sets the decay time of the kick's pitch envelope (falling frequency modulation).
- **Decay** – Determines the amplitude decay time.
- **Tune depth** – Controls the depth of the pitch envelope (frequency modulation intensity).

808 Kick synthesizer

The **808** engine emulates the iconic TR-808 bass drum — a classic electro sound that has shaped countless genres of electronic music.



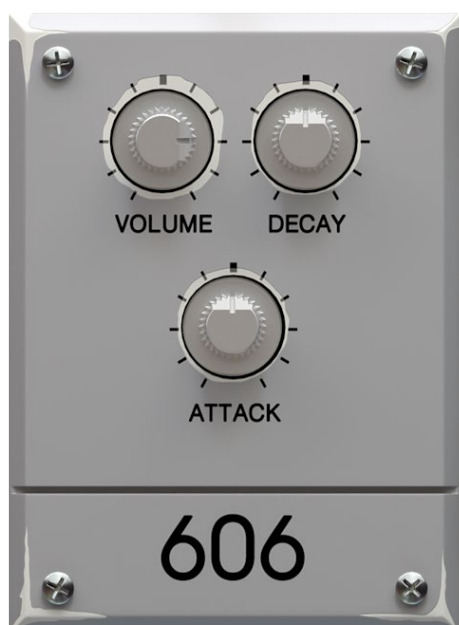
808 kick engine

The panel provides the following parameters:

- **Volume** – Controls the output volume.
- **Tone** – Adjusts the attack characteristics of the bass drum.
- **Decay** – Sets the amplitude decay time.
- **Sweep Time** – Controls the rate of the pitch change (frequency sweep) of the bass drum.

606 Kick synthesizer

The **606** engine emulates the TR-606 bass drum — a short, punchy electro and hip-hop style kick sound.



606 kick engine

The following parameters are available for shaping the sound:

- **Volume** – Controls the output volume.
- **Decay** – Adjusts the amplitude decay time.
- **Attack** - Sets the level of the initial transient (accent) at the start of the sound.

Wavetable Engine

The **Wavetable** engine uses pre-defined wavetables as sound sources for generating kick tones.



Wavetable engine

It is controlled by the following parameters:

- **The display** - Clicking the display opens the **Wavetable** Browser. You can also use the arrow icons on either side to navigate through available wavetables. Right-clicking the display switches between **2D** and **3D** views of the selected wavetable.
- **Position** – Sets the base position (frame) within the wavetable. This parameter can be further modulated (see subsequent chapters).
- **Phase** – Adjusts the oscillator phase from **-180°** to **+180°**.
- **Volume** – Controls the generator's output volume.
- **Low Cut** - High-pass filter cutoff frequency, adjustable from **2 Hz** to **22 kHz**.
- **High Cut** - Low-pass filter cutoff frequency, adjustable from **2 Hz** to **22 kHz**.

Note: The wavetable resources are **read-only**. Users cannot import their own wavetable samples.

Signal routing to FX chain

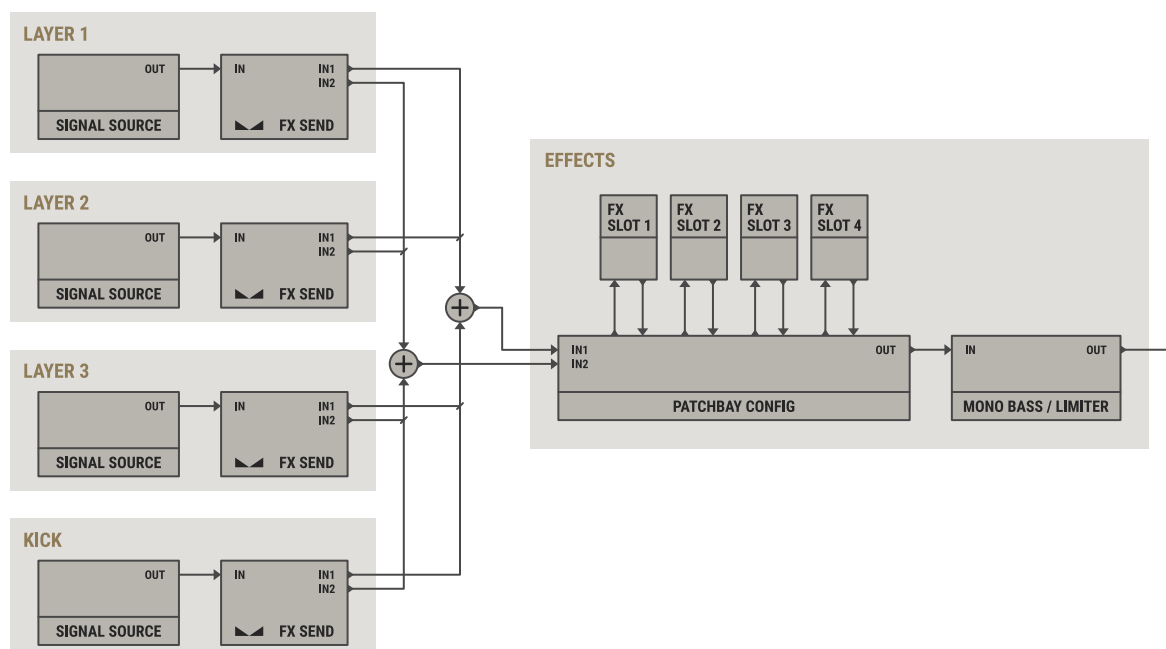
Using the **FX Send** parameter, you can control how much of each generator's signal is sent to the two FX chain inputs. The **FX Send** parameter functions as a crossfader, determining the balance between the signals sent to **Input 1** and **Input 2** from each of the four generators.



FX Send parameters

- **Minimum value (0%)** – The entire signal from the selected generator is sent to **Input 1**.
- **Maximum value (100%)** – The entire signal is sent to **Input 2**.
- **Intermediate values** – Define a proportional blend between **Inputs 1** and **Input 2**.

The diagram below illustrates the signal topology, showing the relationship between the **Generator** outputs and the **Effect Rack**:



Signal flow through internal modules of PunchBox

Signals from the generators are routed through the four effects in the chain, according to the selected **Patchbay Config**:



Patchbay Configuration

After processing through the effects chain, the signal is sent to the **Mono Bass** and **Limiter** sections, where you can perform final adjustments – including applying limiting and soft clipping, and controlling the stereo image of the low-frequency spectrum.

Randomization

If you're lacking inspiration, some parameters can be randomized. To switch the plug-in into **Randomization mode**, click the **Random** button in the top **Control Panel**:



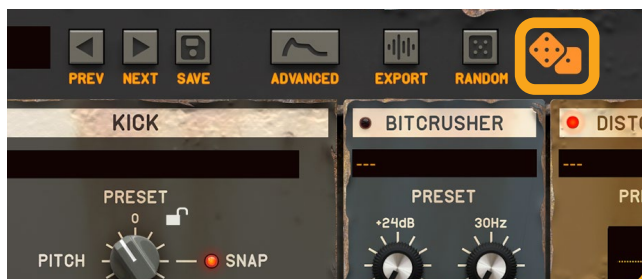
Random button

The GUI changes its appearance slightly - parameters eligible for randomization are highlighted with orange frames.



Parameters selected for Randomization

A **Dice** icon appears next to the **Random** button, allowing you to randomize values for the selected parameters.



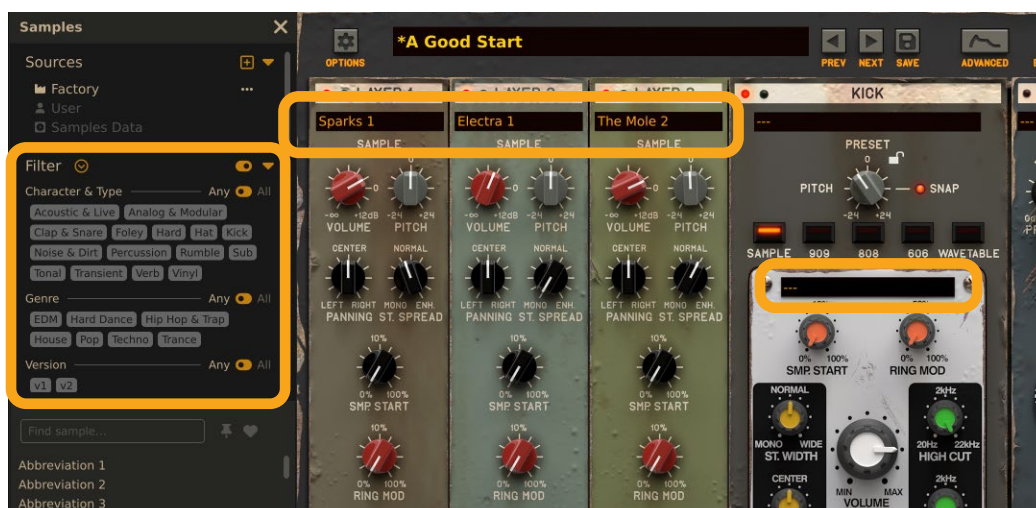
Dice icon to trigger parameter shuffle

The **Standby** icon next to each randomizable parameter lets you include or exclude that parameter from the randomization process.



Enable / Disable randomization

When randomizing samples for **Layer 1–3** using the **Sample** engine, the pool of samples from which a new one is randomly selected is limited to those currently listed in the **Sample Browser**. This means that the selection respects the current **Filter** settings applied in the browser, which are defined individually for each destination.



Randomizing samples

When randomizing the **Kick Mode** (**Kick** engine), the **Mode** is selected first. If the selected **Mode** is **Sample**, a sample is randomly chosen from the **Sample Browser**, respecting its current **Filter** settings. If any other **Mode** is selected, a **Kick** preset is randomly chosen instead, according to the current **Filter** settings in the **Preset Browser**.



Kick Mode randomization

Once you've chosen which parameters to randomize, click the **Dice** icon to get inspired and shuffle the selected values. The randomization ranges and value sets are predefined by the **PunchBox** designers to produce the most musical and useful results - you only decide which parameters are affected.

When you're satisfied with the outcome, toggle the **Random** button again to exit Randomization mode and continue shaping your sound.

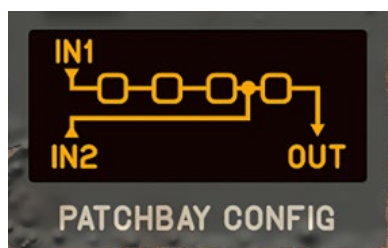
Effects Rack

The **Effects Rack** is used to further shape the bass drum tone.



Effects section

There are five available effect modules responsible for signal processing. The first four modules can be **reordered** using drag-and-drop (as described in subsequent chapters), and their routing can be adjusted using the **Patchbay Config** parameter:



Patchbay Configuration

After passing through the first four effects, the signal is routed to the fifth and final module: the **Mono Bass** and **Master Limiter**, where final tonal adjustments and limiting are applied.

Activation / Deactivation

Effect modules can be activated or deactivated by clicking their labels. The effect's status is indicated by an LED (**active** or **inactive**, toggle mode).



Effect activity

Available Effect Blocks specifications

The **Effect Rack** provides the following processing algorithms:

- **Bit crusher**
- **Distortion**
- **Multimode Filter**
- **Equalizer**
- **Mono bass**
- **Limiter**

Bit crusher



The **Bit Crusher** effect is controlled by the following parameters:

- **Preamp** – Adjusts the input signal gain, from **0 dB** to **48 dB**.
- **Lowcut** – Sets the cutoff frequency of the passive high-pass filter applied before the signal enters the quantizer. Operates from **3 Hz** to **300 Hz**.
- **Resolution** – Determines the number of bits to which the signal is reduced. “--” indicates that bit reduction is disabled.
- **Sampling Freq** – Sets the resampling frequency, ranging from **44 Hz** to **44 kHz**.
- **Keytrack** – Links MIDI note Pitch to the **Sampling Frequency**. **0%** means the **Sampling Frequency** is absolute (independent of pitch), while **100%** means **Sampling Frequency** and Pitch are in a 1:1 relationship.
- **Resampling Filter** – Enables images filter that processes the resampled signal.
- **FX Amount** – Controls the balance between **Dry** and **Wet** signals sent to this effect in the processing chain.

The **Preset** display at the top opens the Preset Browser. For more details, refer to the **Preset Management** chapter.

Distortion



The **Distortion** effect adds harmonic saturation and character to the signal. It is controlled by the following parameters:

- **Shape** – Selects the clipping curve applied to the signal.
- **Dynamics** – Sets the signal compression ratio applied before the signal enters the clipper.
- **Preamp** – Adjusts signal amplification before reaching the clipper, ranging from **0 dB** to **48 dB**.
- **Low Cut** – Sets the cutoff frequency of a passive high-pass filter applied before the clipper.
- **Contour** – Controls the clipper's kneespan, affecting the smoothness of the distortion curve.
- **Tone** – Shapes the tonal characteristics of the overdrive.
- **Volume** – Adjusts the output level of the processed signal, from **-∞ dB** to **+12 dB**.
- **FX Amount** – Controls the balance between dry and wet signals sent to the next effect in the processing chain.

Multimode filter



Filter effect in Resonant and SH101 modes

The parameters of the **Multimode Filter** depend on the mode in which it operates;

- **Resonant** – Standard multimode filter.
- **SH-101** – Emulates the circuitry of the classic Japanese SH-101 synthesizer.

You can switch between modes using the two radio buttons at the top of the interface;



Select filter mode

Both modes share a similar set of parameters but differ sonically due to their distinct characteristics. The common parameters are:

- **Cutoff** – Sets the filter cutoff frequency.
- **Resonance** – Controls the emphasis around the cutoff frequency.
- **Type** – Selects the filter type:
 - **LP** – Low-pass
 - **BP** – Band-pass
 - **HP** – High-pass
- **Tracking** - Applies MIDI note pitch to the filter cutoff. **0%** means the cutoff frequency remains fixed, while **100%** fully tracks the note pitch.
- **FX Amount** – Controls the mix between dry and wet signals sent to the next effect in the chain.

The only parameter exclusive to the **Resonant** mode is;

- **Slope** – Selects the filter slope, either **12 dB/oct** or **24 dB/oct**.

Equalizer

The **Equalizer** can operate in one of two modes, each offering distinct sonic characteristics;

- **Modern** – A typical modern parametric EQ.
- **Vintage** – A passive vintage-style EQ.

Use the radio buttons at the top of the interface to switch between modes;



Equalizer Mode

Modern



Equalizer - Modern mode

In **Modern** mode, the **Equalizer** is controlled by the following parameters;

- **High Gain** – Gain for the high-frequency band (high shelf).
- **High Freq** – Frequency for the high-frequency band.
- **Mid Gain** – Gain for the middle band.
- **Mid Width** – Bandwidth for the middle band.
- **Mid Freq** – Center frequency of the middle band.
- **Low Gain** – Gain for the low-frequency band (low shelf).
- **Low Freq** – Frequency for the low-frequency band.

Vintage



Equalizer - Vintage mode

In **Vintage** mode, the **Equalizer** is controlled by these parameters:

- **High Freq** – Frequency of the high-band attenuation shelf.
- **High Atten** – Attenuation strength of the high band.
- **Mid Boost** – Boost for the middle band (bell filter).
- **Mid Width** – Width of the middle band.
- **Mid Freq** – Center frequency of the middle band.
- **Low Atten** – Attenuation strength of the low band (shelf filter).
- **Low Freq** – Frequency of the low band shelf.
- **Low Boost** – Boost strength of the low band.

Mono Bass and Limiter

The final processing block consists of two optionally activated sections: **Mono Bass**, which controls the stereo image of the low-frequency spectrum, and the **Limiter**, which includes built-in auto-makeup.



Mono Bass / Limiter section

Mono bass



Mono bass section

The LED next to the **Mono Bass** label toggles the section **on** or **off**. The **Frequency** knob sets the crossover point below which the signal is converted to mono. Signals above this frequency remain unaffected. The display next to the knob always shows the current frequency value.

Limiter

The **Limiter** is activated or deactivated using the LED near the **Limiter** label.



Limiter activation

When active:

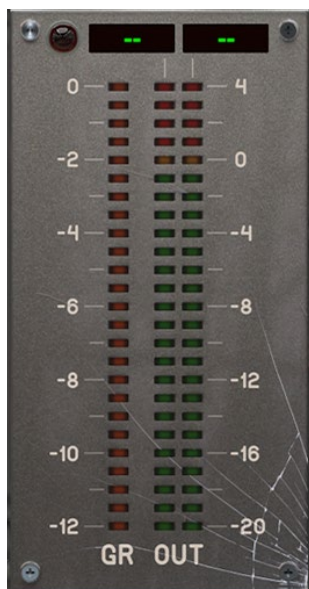
- **Threshold** - Sets the amplitude level that triggers limiting.
- **Output** - Sets the target amplitude for the signal.
- **Soft Clip** - Engages an additional clipper that processes the signal after the Limiter.

Since the **Limiter** is not a brickwall design, some amplitude spikes may still occur if the output level is too high or the **Threshold** is set aggressively. The **Soft Clip** helps prevent these spikes.



Parameters controlling the limiter

The Limiter operates at a **1:∞ compression ratio**, with its activity displayed on the **Gain Reduction (GR) meter**;



Gain reduction and Output level meters

When the **Limiter** is disabled, the **Output** knob functions as a standard gain control. The **Output Clip LED** indicates if the signal exceeds **0 dB**, and the text displays to the right show the peak amplitude values for both left and right channels;



Output clip LED and peak amplitude value displays

Pitch detection



Pitch detection function

The automatic **Pitch Detection**, activated via the toggle button, analyzes the estimated pitch of the generated kick in real time. This allows easier tuning of the kick to match the rest of your DAW project.

Reordering effects

Effects in the rack can be reordered using a **drag-and-drop** method:



Drag'n'drop to reorder effects

At the bottom of each effect module, there are active areas marked with spots. These spots allow you to **grab, drag, and drop** any of the first four effects to a new position in the rack.



Filter effect being dragged

When an effect is dropped onto another, their positions in the rack are **swapped**, updating the signal processing order accordingly.

Patchbay Configuration

The **FX Send** parameters in the **Generators** section determine the proportion of each generator's signal sent to **Input 1** and **Input 2** of the effect rack.



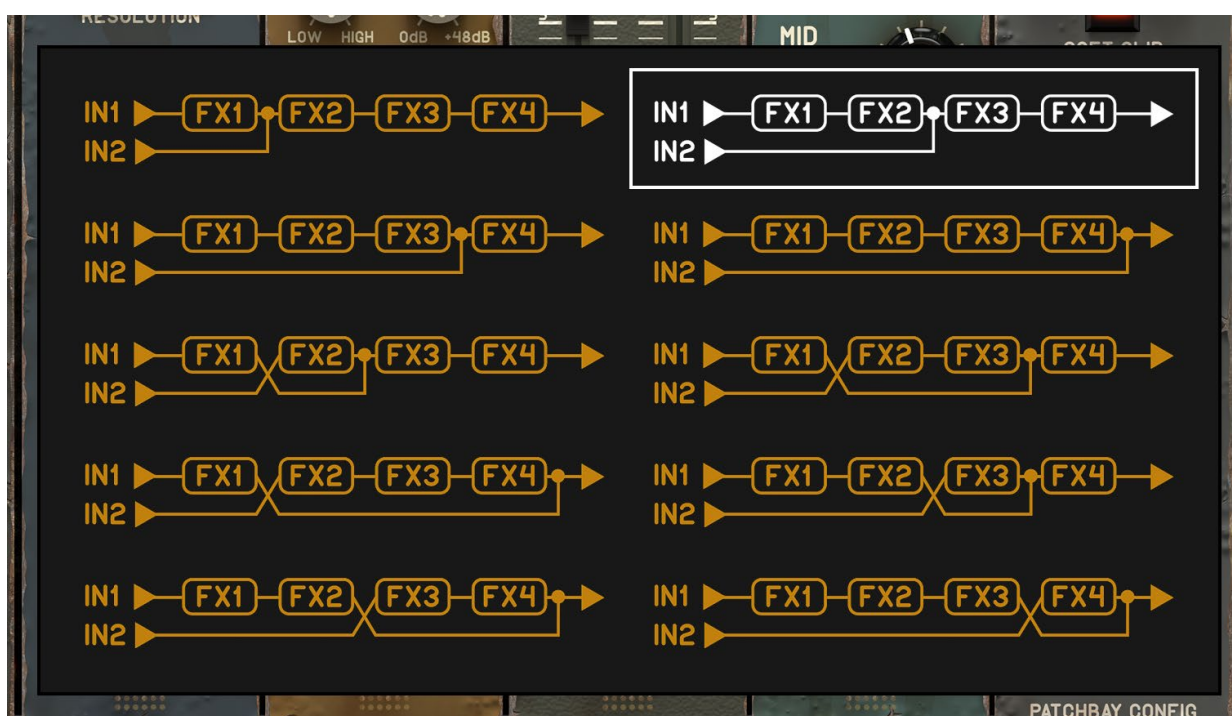
FX Send knobs

The **Patchbay Config** parameter;



Patchbay Configuration

Allows you to select one of **10 available connection topologies** for the **Effect Rack**. This enables more complex routing possibilities beyond a simple series of effects;



10 possible connection topologies for the Effect Rack

Outputs Options

Audio outputs

PunchBox is a multi-output plugin, offering five stereo outputs. By default, only the first output is used, which receives the fully processed signal from the **Effect Rack** – effectively the **Master Output**.

To change output assignments, open the **Options** menu and select **Outputs Settings** to access the **Back Panel**.



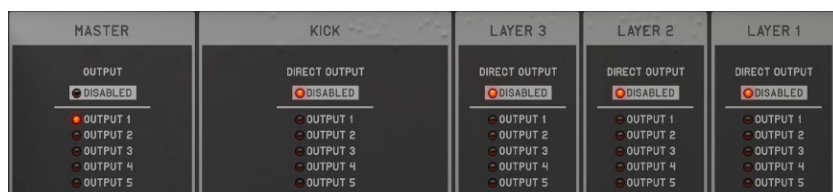
Audio Outputs in Option menu

This opens the **Back Panel** view:



Back Panel view

Using the **Output 1** to **Output 5** radio groups, you can assign which audio outputs receive signals from different parts of **PunchBox's** signal flow. Selecting **Disabled** means that no signal is sent to that output.



Assigning audio outputs

The five available columns represent the front-panel signal sources and their corresponding audio outputs:

- **Master** – Signal after processing by the **Effect Rack** (final, flattened audio).
- **Kick** – Unprocessed (Direct) signal from the Kick generator, before the **Effect Rack**.
- **Layer 3** – Unprocessed **Layer 3** signal, before the **Effect Rack**.
- **Layer 2** – Unprocessed **Layer 2** signal, before the **Effect Rack**.
- **Layer 1** – unprocessed **Layer 1** signal, before the **Effect Rack**.

When an audio output is selected for **Kick** or **Layer 3 - Layer 1**, the **Send to Effects** switch controls how the signal is split:

- **Off** – The signal is sent directly and exclusively to the selected audio output, bypassing the **Effect Rack**.
- **On** – The signal is sent both to the selected audio output and to the **Effect Rack**, where it is processed and mixed with other generators, appearing on the **Master** output.

Direct Outputs Trim

For **Layer 1–3** and **Kick**, you can independently control the output level of signals routed to the direct outputs. This trim affects only the signal sent to the assigned direct audio outputs. Signals that are routed through the **Effect Rack** and **Master** output remain unaffected and unchanged.



Trim knobs for direct outputs

Output Meter below displays peak value of the direct output signal.

Master Output Trim

The **Master Output Trim** option allows adjustment of the plugin's gain staging.

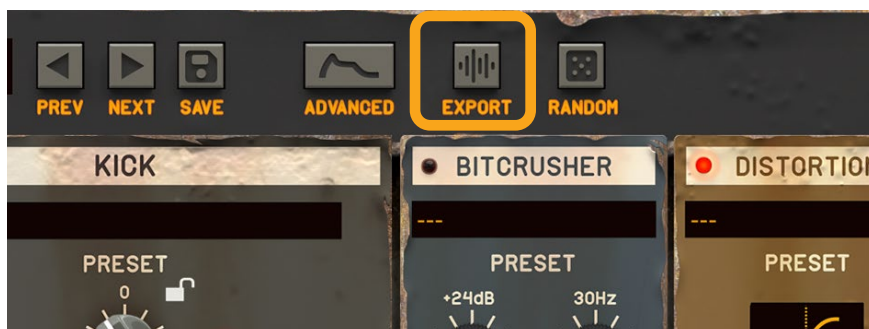


Output Trim options

Here, you can adjust the final audio output level by **0 dB** (unchanged), **-6 dB**, or **-12 dB**.

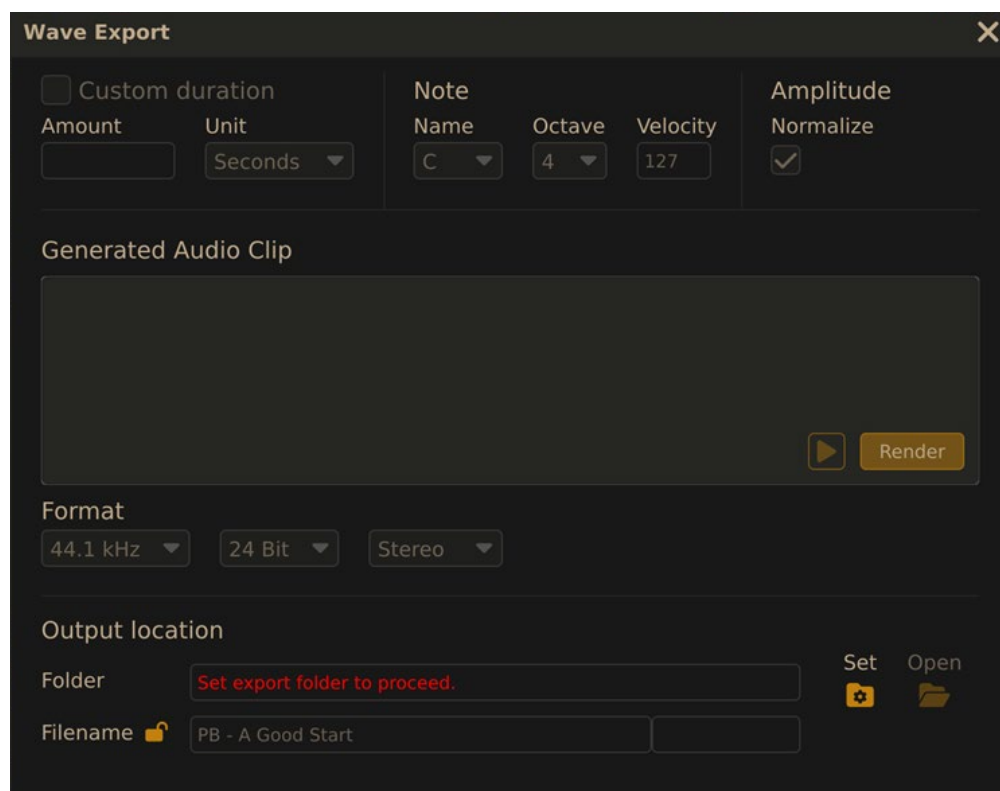
Audio clip export

To reduce CPU usage, you can save the current sound setting as a sample and use it directly in your music project. If you are satisfied with your kick sound, click the **Export** button in the top **Control Panel**.



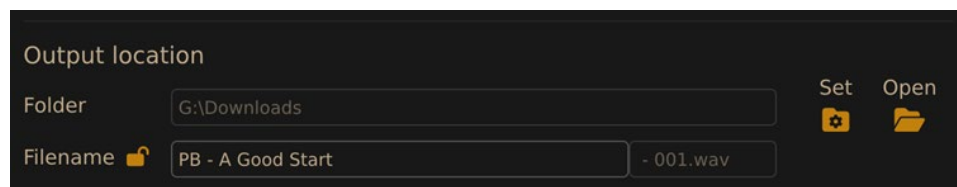
Export button

This opens the **Sample Export Dialog**;



Sample export dialog

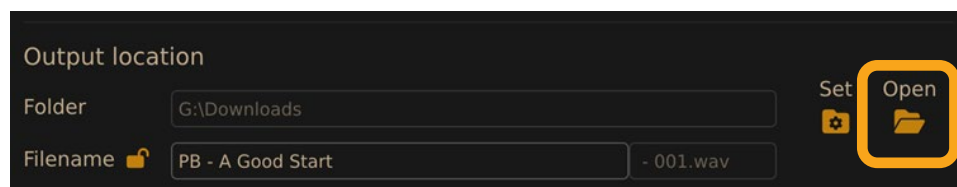
The first time you open this window, you will need to **Set the export folder**, which determines where the audio clips will be rendered.



Settings audio export path

Once the folder is set, you can start rendering your audio files. To have the path stored in the plugin's default settings (so it's recalled every time you insert a new instance), use **Options → Default State → Save Current**.

Open button on the right allows you to quickly access the folder to view previously exported files:

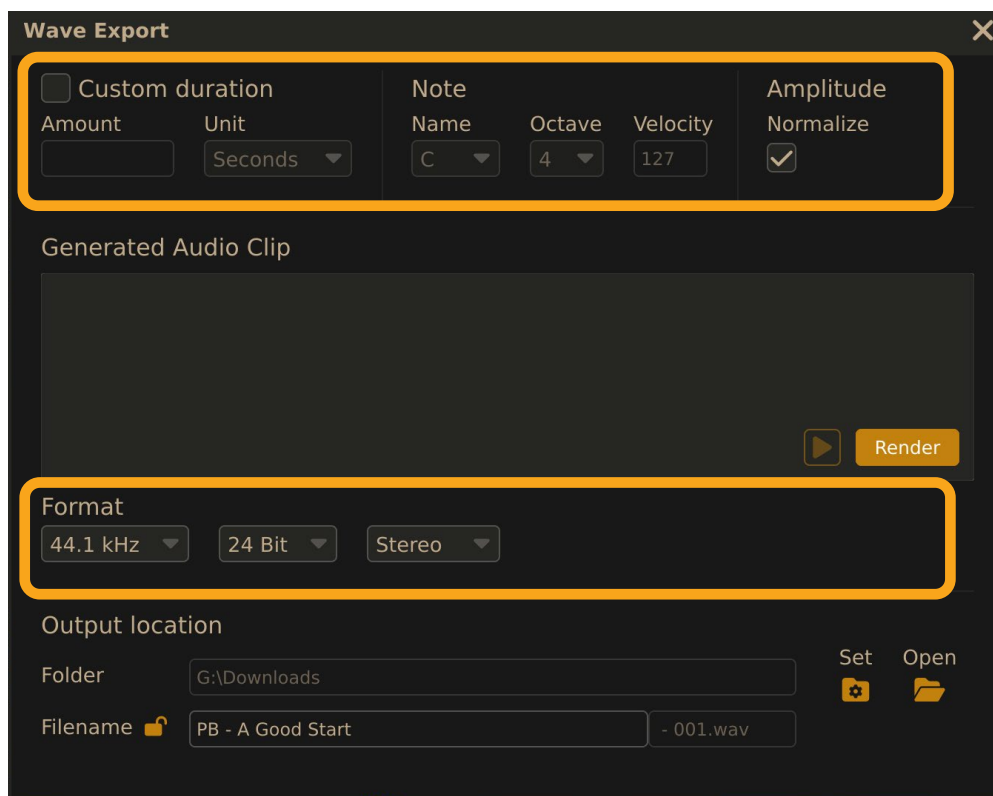


Opening the export path

Filenames for the exported audio clips are generated automatically according to your preferences — either based on the preset name or a manually entered prefix in the **Filename** text box. If you render multiple clips with the same filename, a counter postfix is added automatically to avoid overwriting files.

Export parameters

The **Export** dialog also provides options for configuring the rendered clip:



Export audio parameters

- **Custom duration** – if unchecked, the clip length is determined automatically based on audio analysis. If checked, you can manually set the length by specifying **Amount** and **Unit**
- **Note** – Select the MIDI pitch and velocity for the exported audio, depending on whether the sound is sensitive to **Keytrack** (pitch) or **Velocity** (Kick generator).
- **Amplitude** - Enable optional automatic amplitude **Normalization** to **0 dB** for the exported clip.
- **Format** – Set the audio format parameters, including **Sample rate**, **Bit depth**, and **Channel** configuration.

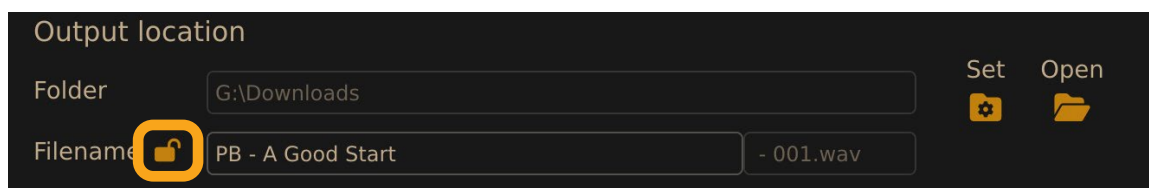
Once all parameters are set, click **Render** to generate the audio clip. The waveform of the rendered clip will appear in the **Generated Audio Clip** box:



You can preview the rendered audio using the **Play** icon. If you are satisfied with the result, use **drag-and-drop** on the waveform to move the generated clip onto an audio track or anywhere in your DAW. Every rendered audio file will be stored in the given **Export folder**.

Filename lock

The **Lock** icon next to the **Filename** box;



Lock icon next to Filename edit box

controls the prefix naming behavior:

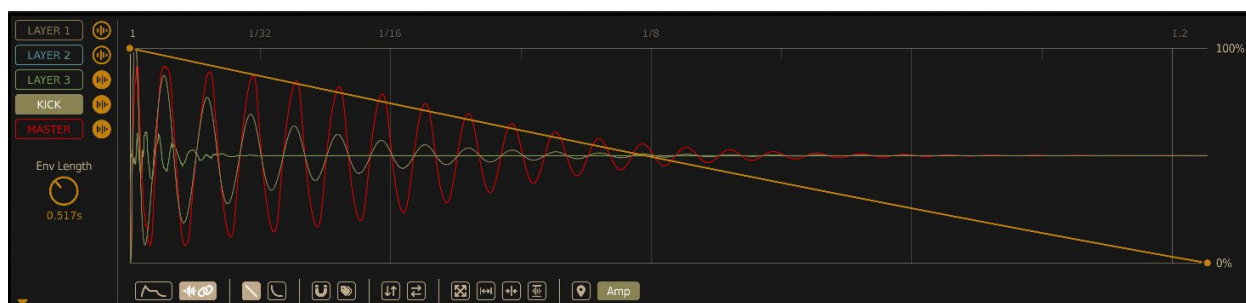
- When **unlocked**, the filename automatically follows the currently loaded global preset name - it changes whenever a new preset is loaded.
- When **locked**, the entered filename prefix remains unchanged, even if a new preset is loaded.

Advanced Panel

The **Advanced Panel** provides even greater creative freedom by allowing the application of **Multistage Envelopes (MSEGs)** to selected internal audio parameters. Additionally, it offers real-time visual control with **waveform previews** for individual generators and the combined master output (the waveform of the signal passing through the entire **Effect Rack**).



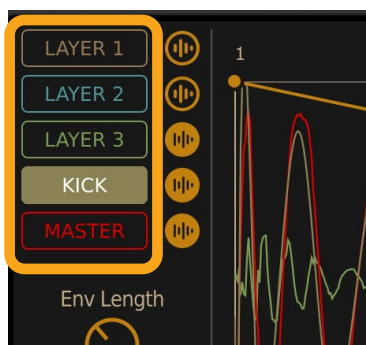
Clicking the **Advanced** button in the **Control Panel** opens this section;



Advanced panel

Envelope groups for edit envelopes

The **Radio Group** on the left allows you to select which **Envelope Group**; group of parameters you want to edit envelopes for. Each group corresponds to a specific section of the plugin;



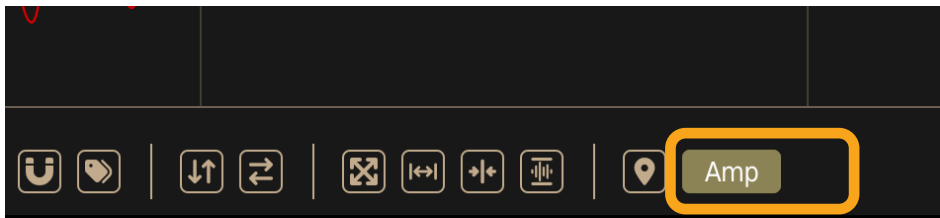
Radio group

The available groups are;

- **Layer 1 – Amplitude** for **Layer 1**, plus optionally several of its internal parameters.
- **Layer 2 – Amplitude** for **Layer 2**, plus optionally several of its internal parameters.
- **Layer 3 – Amplitude** for **Layer 3**, plus optionally several of its internal parameters..
- **Kick** – **Kick** parameters and the actual set depends on selected engine;
 - **Sample – Amplitude** plus optionally several internal sampler parameters.
 - **909 – Amplitude** only.
 - **808 – Amplitude** only.
 - **606 – Amplitude** only.
 - **Wavetable – Amplitude, Pitch, Wavetable Position**, plus optionally several **Wavetable** engine parameters.
- **Master** – Envelopes for several of **Effect Rack** parameters.

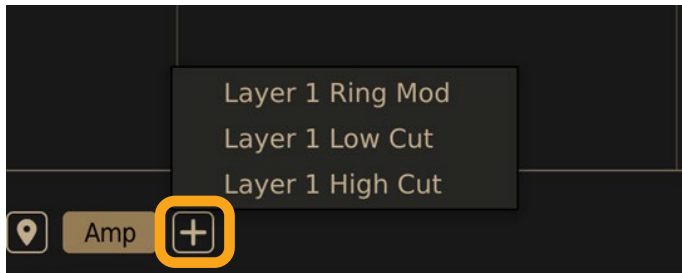
Parameter selector

In the bottom section of the **Envelope Editor**, you can find the **Tool Bar** with the **Parameter Selector** at the rightmost position, consisting of buttons labeled with the parameter names. Clicking a button selects the parameter for envelope editing.



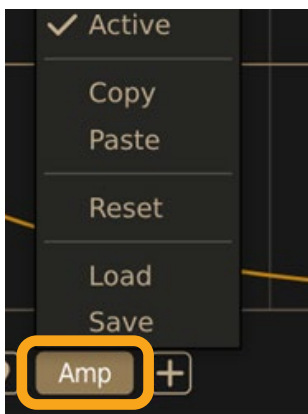
Parameter selector

Button with a **plus sign** at the end indicate that an envelope can be added to an additional parameter from the set of allowed parameters:



Assigning optional parameter a new envelope

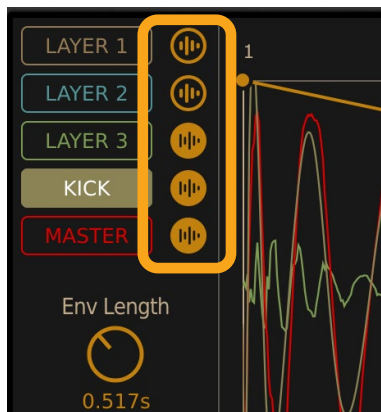
Double-clicking the selected parameter's label activates or deactivates the envelope. Right-clicking the label opens a context menu, providing access to additional envelope functions.



Envelope edit functions

Waveform preview

When you use the **Radio Group** to select a parameter group, the corresponding **Circled Waveform** icon on the right is automatically activated, while the remaining icons in the column are disabled.



Waveform preview selector

The **Circled Waveform** icons allow you to enable **Waveform Previews** for the selected groups. The generated waveform is overlaid in the **Envelope Editor**, allowing you to see in real time how the edited envelope affects the signal. You can enable multiple waveform previews simultaneously to observe how they interact within the generated signal.

The preview option displays the waveform for the following:

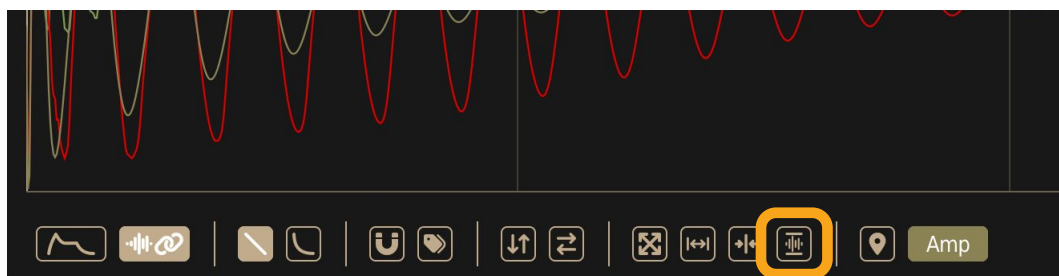
- **Layer 1** – Output signal of **Layer 1**.
- **Layer 2** – Output signal of **Layer 2**.
- **Layer 3** – Output signal of **Layer 3**.
- **Kick** – Output signal of the **Kick** generator.

*Note: The waveform for the layers and Kick is taken **before the signal passes through the Effect Rack**.*

Master – Output signal at the plugin's audio output, **after processing by the Effect Rack**.

Preview normalization

Using the **Preview Normalization** icon in the toolbar, you can enable waveform preview normalization:



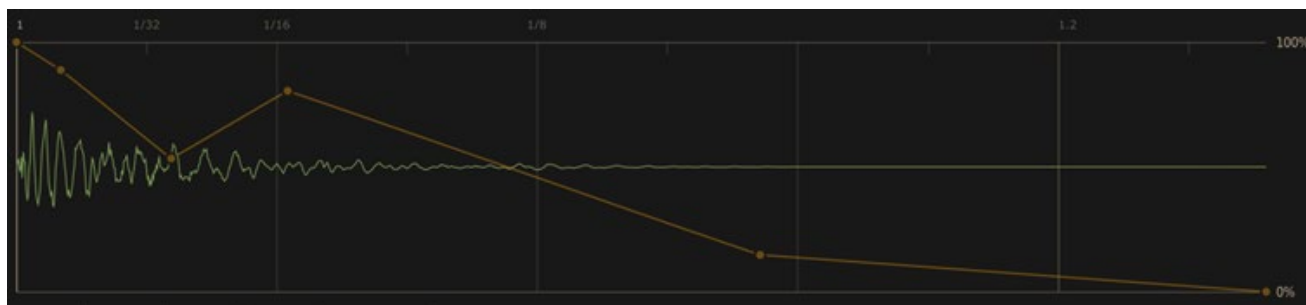
Waveform preview normalization

When enabled, waveform previews for each **Envelope Group** are normalized, meaning their amplitudes are maximized for clearer visual comparison. This normalization applies **only to the waveform previews** and does **not** affect the actual audio signal.

Each waveform is normalized independently to its own maximum amplitude value.

Envelope editor

The main part of the **Advanced Panel** is the **Envelope Editor**.



Envelope editor

A **Multistage Envelope** consists of nodes (points) arranged horizontally, connected by lines that represent smooth value transitions between the nodes. The **X-axis** represents time, while the **Y-axis** represents the momentary value at a given time. Essentially, the envelope is a **function of time**, visually represented as a line connecting the nodes.

The **Scale Bar** at the top, along with the vertical lines crossing the **Envelope Editor**;



Time scale

Represents rhythmic values for the points in time, providing visual cues for how the envelope aligns with your DAW project's tempo and rhythmic divisions. These are redrawn in real time when the DAW's tempo changes or when the envelope length is adjusted. As you zoom in on the envelope, the horizontal divisions represent progressively smaller subdivisions of the rhythmic values.

Envelope length

The **Length of the envelope** is controlled per **Group**. Each individual group can have a different envelope length, expressed in seconds. The length is defined by the parameter located in the bottom-left corner:



Envelope length

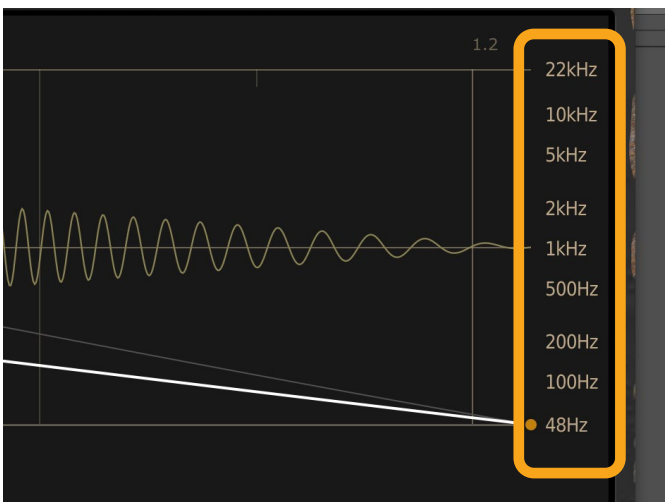
Modulation amount

Below the **Envelope Length** parameter is the **Modulation Amount**, which controls how strongly the source parameter is affected by its envelope.



Modulation amount

This parameter defines the **Value Range** in which the envelope operates (Y-axis). Changes to the **Modulation Amount** are reflected in real time on the value bar to the right;

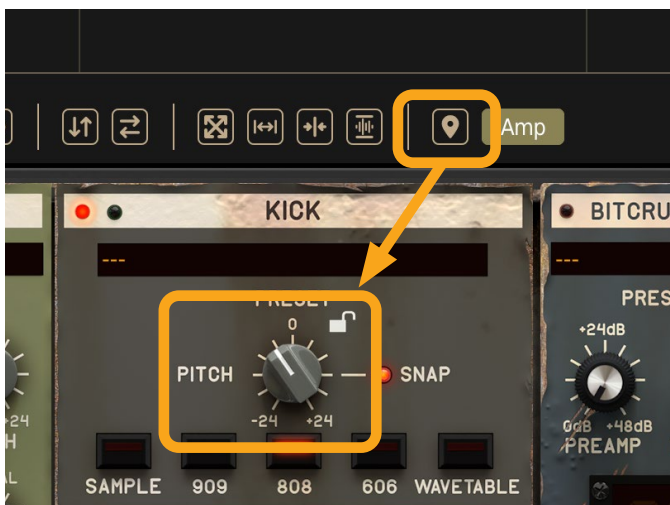


Value range

Some parameters allow modulation in both negative and positive ranges (**-100% to 100%**), while others are limited to a positive range (**0% to 100%**). Certain parameters, such as **Amplitude**, are controlled with absolute values and do not display a **Modulation Amount** knob, as the envelope nodes themselves define the final values.

Locate option

The **Locate** function provides visual cues indicating where the destination parameter for a given envelope is located on the GUI:

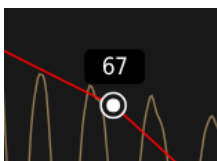


Locate option

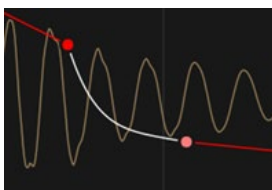
Basic edit actions

The following basic mouse actions are used to edit envelopes:

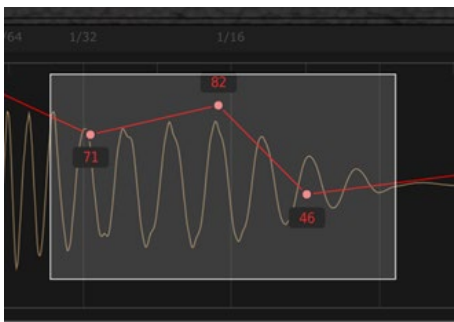
- **Dragging a node** – Dragging node using mouse pointer moves it around (X and Y axis). When node is being dragged a small tool tip shows actual values of the node.



- **Double-clicking between nodes** – Creates a new node.
- **Double-clicking a node** – Deletes the selected node.
- **Dragging a line** – Changes the line's curvature, allowing transitions from **convex** through linear to **concave**;



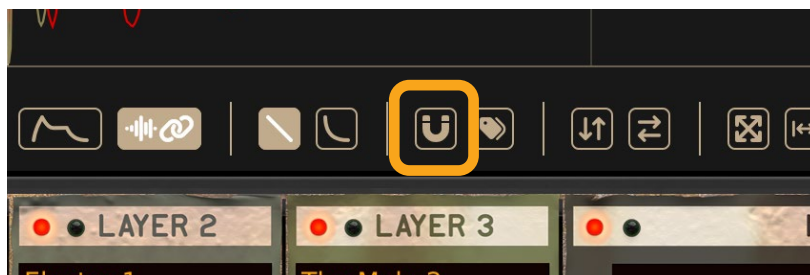
- **Selecting multiple nodes** – Allows you to select and move several nodes as a group;



Note: Start and end nodes cannot be removed. These two nodes must remain at the boundaries of the envelope, though their values can be adjusted vertically. Only nodes located between the start and end nodes can be deleted.

Node snapping

If **Snap** in the **Tool Bar** column is active;



Node snapping

When moving a node, it will automatically align (**snap**) to the X positions of other nodes or to the scale divisions.

Navigation

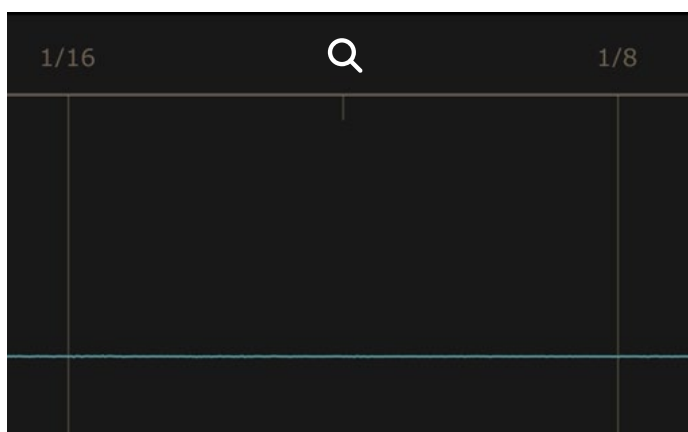
At the top of the **Envelope Editor**, there is a **Scale Bar**, which extends vertically in several places across the editor;



Envelope editor's scale

The **Scale Bar** serves not only as a visual reference but also as a **navigation aid**, helping you position nodes accurately in time relative to the envelope's length and the project's tempo.

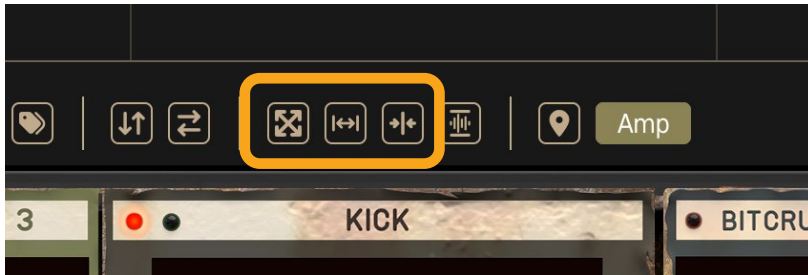
Zoom in and out



Zoom in and out

When placing the mouse pointer over the **Scale Bar**, the cursor changes to a **magnifying glass**. Dragging the mouse up zooms out, while dragging down zooms in on the **Envelope** viewport.

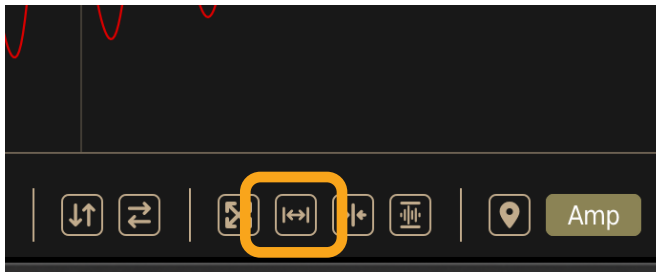
Additional helpful zoom functions are available in the **Tool Bar**;



Zooming options

Starting from the left;

- **View all** – Zooms out to display the entire envelope.
- **Fit** – If the actual waveform (sample or generated signal) is shorter than the envelope, this option zooms in to the non-silent portion of the signal.
- **Area** – When active, allows you to select a horizontal block to zoom in on.



Worth noting that before you start selecting a horizontal block with the option enabled, when hovering over the **Envelope Editor**, you'll see a vertical bar. Clicking will instantly zoom in at that location with the maximum zoom ratio.

Scrolling left and right

When sufficiently zoomed in, a **scroll bar** appears, enabling navigation across the entire envelope;



Envelope editor's scroll bar

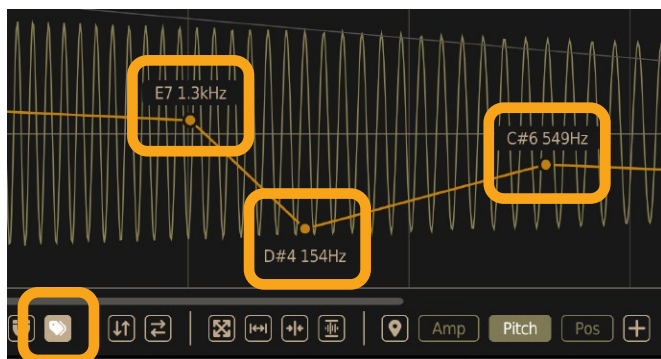
Alternatively, dragging the Scale Bar left or right with the mouse also scrolls the viewport horizontally.



Scrolling left right using scale bar

Tags

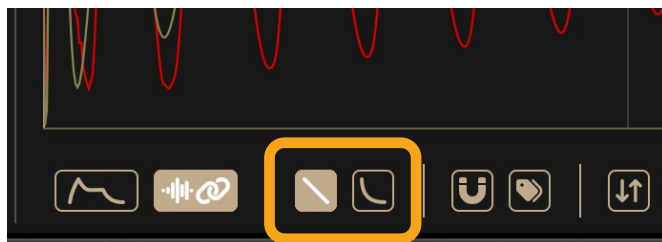
When the **Tags** option in the **Tool Bar** is active, each node displays a permanent label showing its current value:



Nodes with values shown

Envelope time scale

Using the radio switch in the **Tool Bar**, you can choose between two time scales for the envelope nodes:



Envelope time scale

Starting from the left;

- **Linear** – Default mode. Nodes are arranged linearly in time, meaning the actual time distance and the visual representation on the X-axis are in a **1:1 relationship**, regardless of node placement.
- **Logarithmic** - Nodes are arranged logarithmically. In this mode, the visual distance does not correspond linearly to time. The same visual distance represents progressively smaller times as you approach the start of the envelope. This allows for precise control over the beginning of the envelope with very small time values.

Note: Unlike **Linear** mode, in **Logarithmic** mode the nodes are not visually aligned with the **Waveform Preview** or the time scale displayed above.

Additional edit options

Envelope flipping

The **Vertical Flip** and **Horizontal Flip** functions allow you to create a mirror reflection of the entire envelope along the **vertical** or **horizontal** axis, respectively;



Node flipping

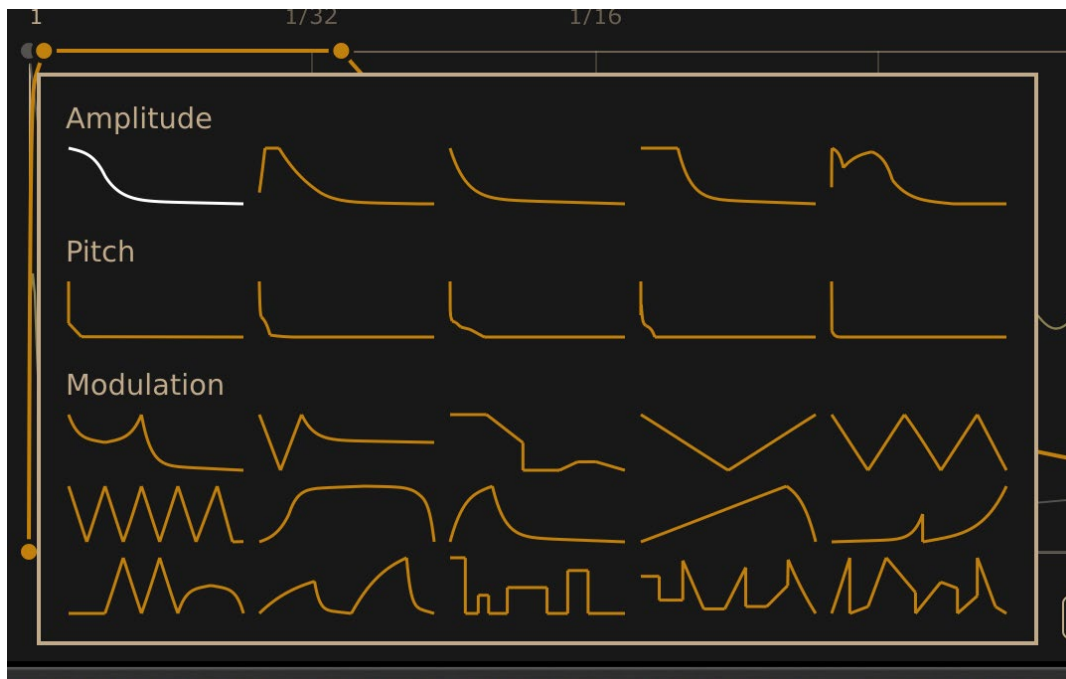
Envelope presets

To save time, the first button in the **Tool Bar** allows you to browse through several **read-only envelopes** prepared by our sound designers;



Selecting Envelope

Clicking the button opens a dropdown menu with a **palette of envelopes** to choose from;



Options for Envelope

These are grouped according to their most suitable use cases, but you can freely apply them to any parameter you like.

Sample management

The **Sample Browser**, in contrast, opens as a docked panel on the left.

Samples used by **Layers 1–3** and the **Kick** (when in **Sample** mode) share common resources for both **Factory** and **User** content.

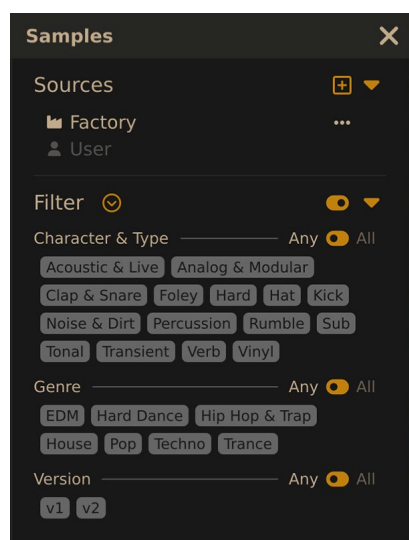


Sample browser

Sample browser structure

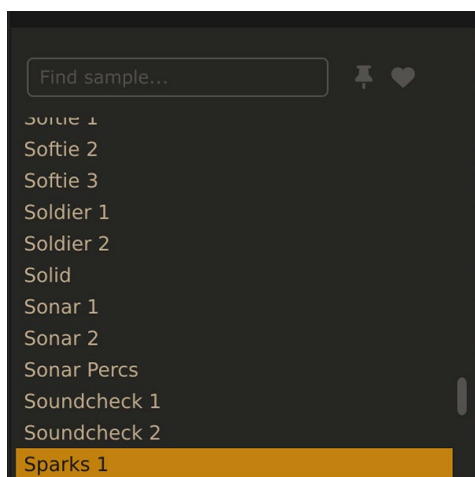
The **Sample Browser** consists of several main sections (shared with the **Preset Browser**). These and their functionality are described in more detail in the **Preset Management** chapter. The main parts are:

- **Sources** - Allows selection of the content from which samples are listed (**Factory** and/or **User**).
- **Filter** – Narrows down the set of listed samples by applying filters through categories and tags prepared by the factory content designers



Sources and Filter in sample browser

Below these sections is the **Sample List**, where you can select, load, or edit a sample's properties. The list is generated dynamically based on the filters defined above.

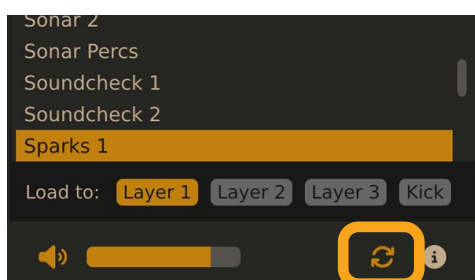


Sample list

Loading a sample

The way a sample is loaded depends on how the **Sample Browser** is configured.

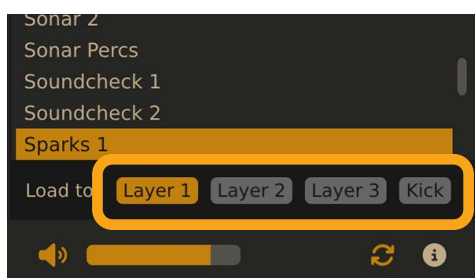
If **Auto-load** is disabled, a **single-click** selects a sample, and a **double-click** loads it.



Auto-load disabled

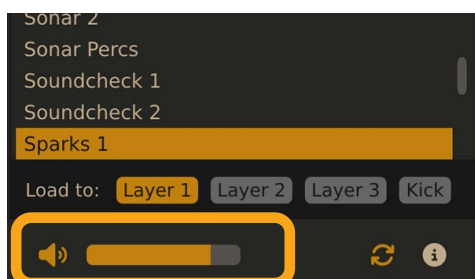
When **Auto-load** is enabled, a **single-click** instantly loads the selected sample onto the chosen generator.

To speed up workflow, you don't need to click on the **Sample Name** boxes in the GUI to switch between destinations. Use the **Load** to radio group to quickly select where the sample will be loaded (**Sample destination**).



Selecting sample destination

The **Speaker** icon enables the automatic audio preview function whenever a sample is clicked in the list.

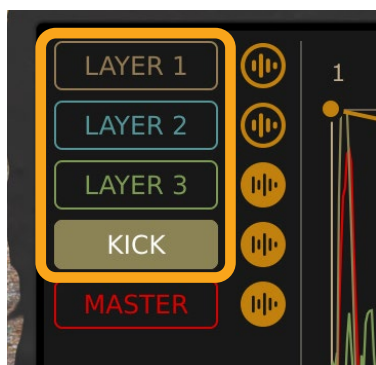


Sample preview

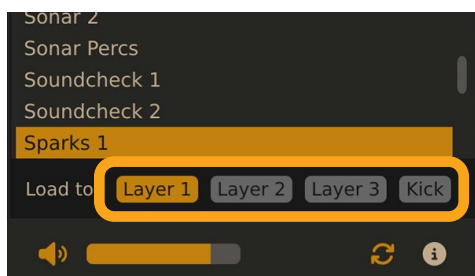
The **Fader** next to the **Speaker** icon controls the volume of the preview playback.

Linking Sample Destination with Envelope Group for Advanced Editor

Selecting an **Envelope Group** for editing envelopes in the **Advanced** is, by default, linked to the Sample Destination selected in the Sample Browser via the **Load To** radio group.



Envelope group



Sample Destination

This means that whenever you change the **Sample Destination**, the selected **Envelope Group** follows automatically - and vice versa.

You can decouple (unlink) these two controls by disabling the **Link** icon in the **Advanced Editor's** toolbar:



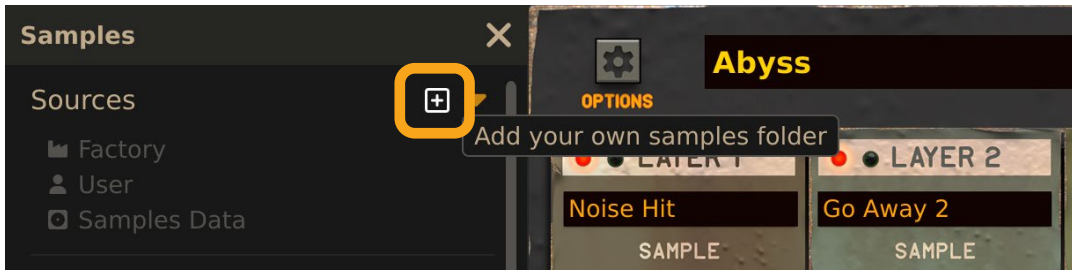
Linking Sample Destination with Envelope Group

User samples

Import

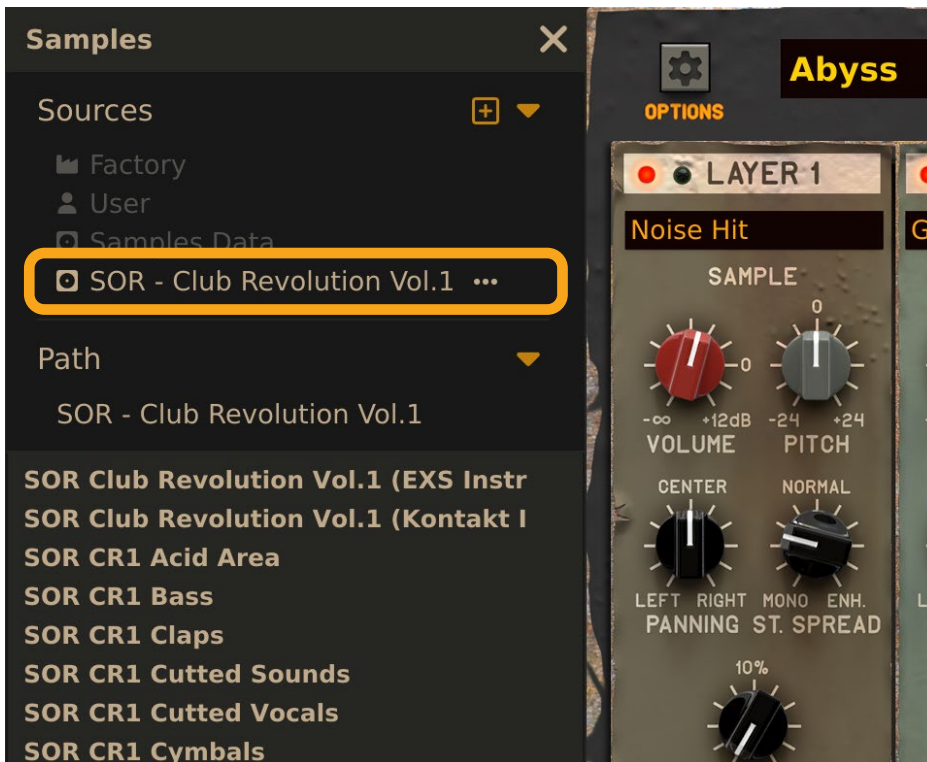
Users can map a location on their computer where their samples are stored, allowing direct access to their sample library without manual importing.

To do this, click the **Plus** icon next to the **Sources** header.



Add Samples Path option

Once a location is mapped, it appears as a **Source item** named after the folder, with a drive icon displayed next to it.



Browsing user samples

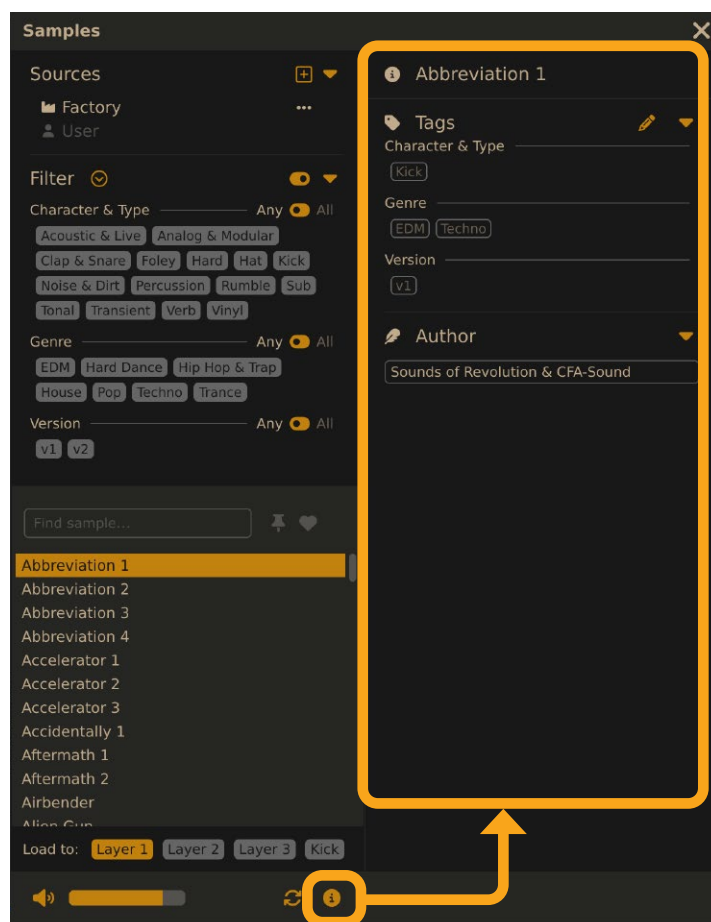
Clicking this item changes the lower part of the browser interface slightly, allowing you to navigate the mapped folder structure like a regular file manager, with accessible folders and sample files.

PunchBox supports most popular audio file formats (both mono and stereo).

However, it only loads up to **4 seconds** of any sample exceeding that duration. All remaining browser functions – selecting, sample loading and preview - operate the same way as with **Factory** and **User** libraries.

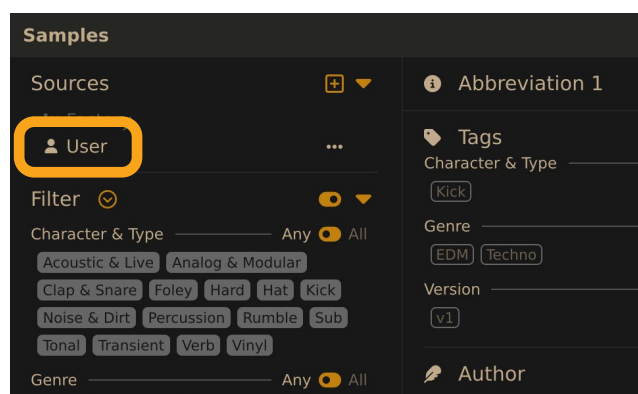
Tagging

Accessing the **Info pane** using the **Info** icon at the bottom makes possible to tag and edit some descriptors for your samples to make them easier to find and manage in the future.



Info pane

Once you make any adjustments here, the sample also becomes accessible from the **User** library.



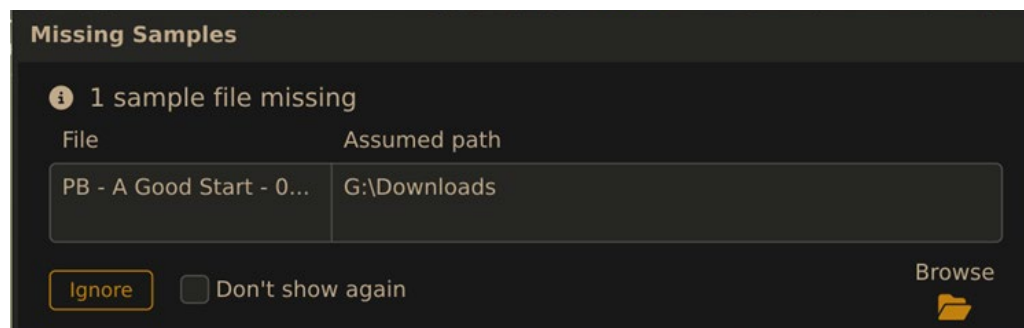
User library

Here both **Factory** and **User** libraries can be managed together in a unified, linear structure using a common set of tags and filters.

For more details on this process, refer to the **Preset Management** chapter.

Restoring missing samples

When using your own samples there can be situations that after system reinstall or manual changes within folder structure some samples can be relocated to a different path. The plugin cannot be aware of that and when situation happens when you load session in DAW or preset with missing samples, the plugin presents you with **Missing Samples** dialog:



Missing samples dialog

This dialog lists the samples that could not be found, along with their previously assumed file paths.

You can choose to **Ignore** the warning (temporarily) and continue loading the preset / session without the missing samples. You may then resolve the issue manually within the plug-in or later when reloading the affected preset / session.

You can also select the **Don't show again** option (available only when loading presets). This prevents the dialog from appearing again within the same plug-in instance, even if subsequent presets contain missing samples.

The **Browse** option allows you to point to the new location where the missing samples are currently stored. Simply select the folder, and the plug-in will recursively scan it to locate the samples.

During the scan, **PunchBox** compares file checksums - so even if a sample has been renamed, it will still be recognized based on its content rather than its filename.

You can repeat the browsing process iteratively until the entire list of missing samples is resolved.

Preset Management

Preset structure and content types

PunchBox is based on a multi-level content structure, meaning that presets are organized within the instrument according to a specific hierarchy. **PunchBox** provides the following types of presets / resources:

- **Master Preset** - A global preset that includes all available generator and effect parameters, as well as the loaded sound samples. The **Master Preset** can include the following sub-types:
 - **Layer 1 Sample *** - Sample clip for **Layer 1**, from either **Factory** or **User** content.
 - **Layer 2 Sample *** - Sample clip for **Layer 2**, from either **Factory** or **User** content
 - **Layer 3 Sample *** - Sample clip for **Layer 3**, from either **Factory** or **User** content
 - **Kick Preset** - A sound preset aggregating parameters from the **Kick** section, including the selected **Engine** and its parameters. Depending on the **Engine** type used by the **Kick** generator, it can also include:
 - **Sample *** - For this **Engine**, the **Kick** additionally stores a sample clip from either **Factory** or **User** content.
 - **Bitcrusher Preset** - Includes **Bitcrusher** parameters.
 - **Distortion Preset** - Includes **Distortion** parameters.

Each preset type is stored as separate content, divided into **User** and **Factory** resources, and is accessible through the dedicated **Preset Management** section of the GUI as well as via the **Preset Browser**.

Preset browsers open as popup windows, designed to occupy minimal space on the UI. Depending on the preset type, the window may include different sections, such as **Resources**, **Filters**, **Info Pane**, and **Preset List**.

() **Important Note** - Whenever a sample is used, whether from **Factory** or **User** content, neither the preset nor the DAW session stores the actual audio data - only the file path to the sample on your drive. This means that if a sample is renamed or moved to a different location, it will not be automatically loaded with the affected preset or session. This applies especially to user samples.*

For more information, see the **Restoring Missing Samples** section.

Browsing presets

The **Preset management section** (no matter what kind of preset it concerns) enables quick navigation and browsing of the preset structure:



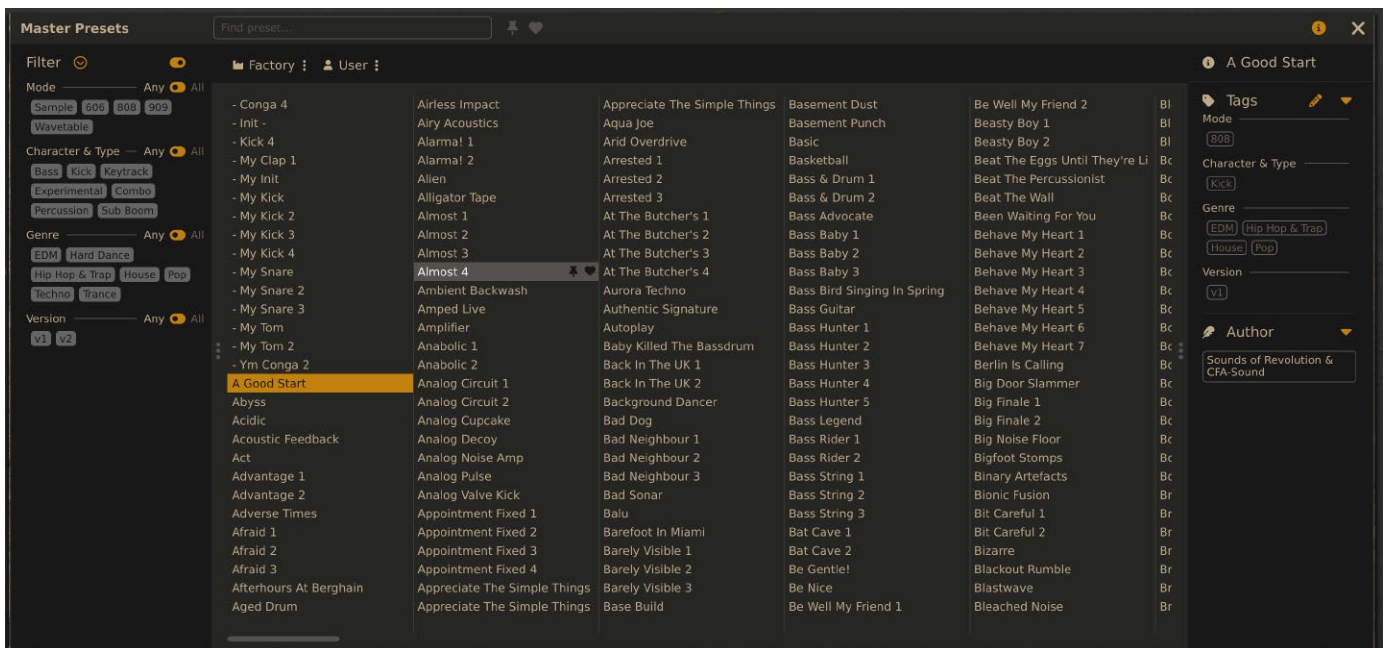
The Preset management section

- **DISPLAY** - Displays the name of the currently loaded preset. Clicking the display opens the **Preset Browser** panel, allowing you to browse factory / user presets.
- **Prev / Next** - They allow for linear browsing of the presets list (depending on currently set filters - see sections below). On sub-preset browsers, these buttons are hidden and they appear when hovering over **Preset Name** display.
- **Save** - Saves current parameters as a new preset or allows for overwriting of the existing one (see sections below).

Right-clicking over the **Preset** display opens a context menu with two additional options:

- **Init** - Restores initial settings of plug-in parameters.
- **Reload** - Reloads the most recently loaded preset.

The **Preset Browser** looks as follows:



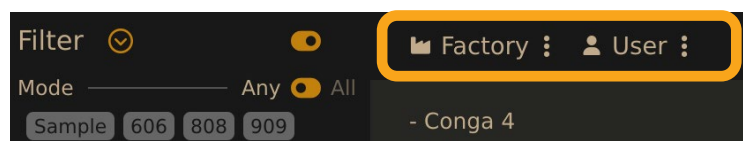
The Preset Browser

There are four main parts:

- **Sources** - Situated above preset list, filter content **Sources** for displayed presets.
- **Filter** - In the column to the right, a preset **Filter** that uses the **Tags** system.
- **Results** - List of presets (shown in the middle column) from **Sources** that meet criteria set in the **Filter**.
- **Info pane** - The right column shows information about the currently selected preset(s), divided into several subsections.

Sources

In this section, you can choose a **Source** / **Source(s)** that you want to browse presets from.



Preset Sources

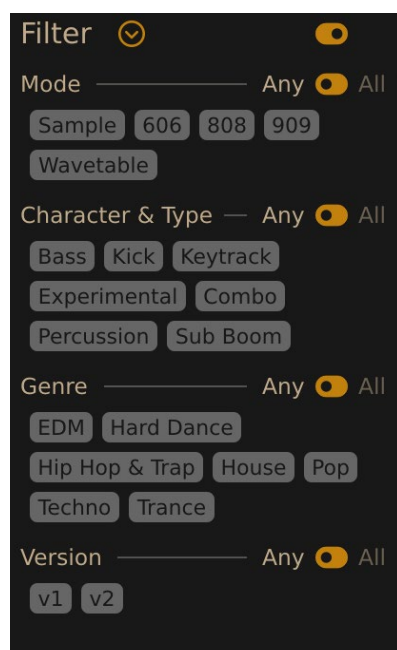
There are two resources to choose from:

- **Factory** - Delivered together with the plug-in and cannot be modified (read-only).
- **User** - Created by the user and can be freely modified or shared with other users.

Choosing any of them will cause the results to narrow to the presets from one resource.

Filter

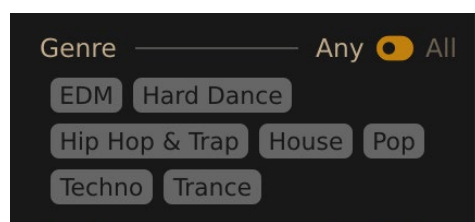
The section below is the **Filter**, which represents a preset filtering system using **Groups** and **Tags** to browse the content.



The Filter section

Groups and tags

Each **Preset** is described by a few common **Groups**. Within each of them there may be one or more **Tags** from a particular set.



Genre Filter group

Presets from the **Factory** resource were assigned **Groups** and **Tags** when they were created.

Groups and **Tags** describe the content clearly, taking into account the plug-in's purpose.

Editing of the **Groups** and **Tags** for **Factory** content is limited. User presets can be described with the same **Groups** and **Tags** as **Factory** content, or you may define additional **Tags** within factory **Groups** and even create your own **Groups** with your own **Tags** to describe your own presets.

The only limitation is that a user cannot remove factory **Groups** or **Tags** from **Factory** content.

Results

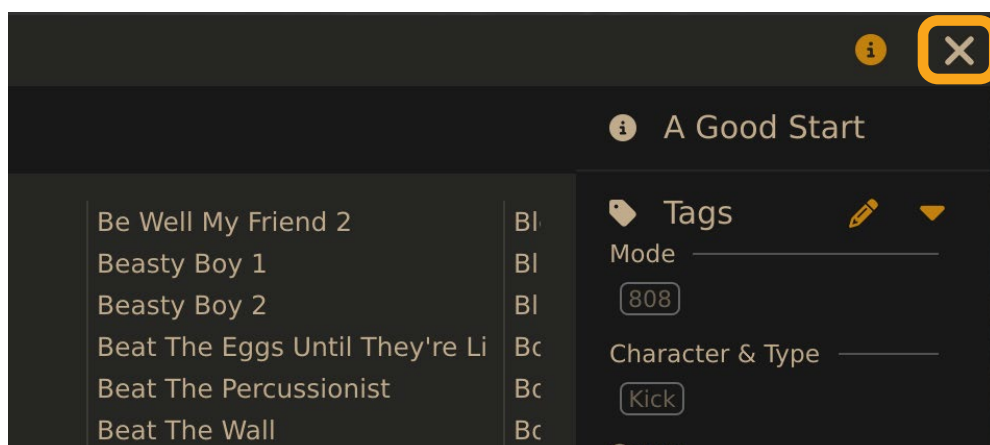
This is a list of presets from chosen **Sources** that meet the filtering criteria. The basic function of this section is to browse and load presets. It can also be used for editing, which is described later.

- Conga 4	Airless Impact	Appreciate The Simple Things	Basement Dust	Be Well My Friend 2	Bl
- Init -	Airy Acoustics	Aqua Joe	Basement Punch	Beasty Boy 1	Bl
- Kick 4	Alarma! 1	Arid Overdrive	Basic	Beasty Boy 2	Bl
- My Clap 1	Alarma! 2	Arrested 1	Basketball	Beat The Eggs Until They're Li	Bc
- My Init	Alien	Arrested 2	Bass & Drum 1	Beat The Percussionist	Bc
- My Kick	Alligator Tape	Arrested 3	Bass & Drum 2	Beat The Wall	Bc
- My Kick 2	Almost 1	At The Butcher's 1	Bass Advocate	Been Waiting For You	Bc
- My Kick 3	Almost 2	At The Butcher's 2	Bass Baby 1	Behave My Heart 1	Bc
- My Kick 4	Almost 3	At The Butcher's 3	Bass Baby 2	Behave My Heart 2	Bc
- My Snare	Almost 4	At The Butcher's 4	Bass Baby 3	Behave My Heart 3	Bc
- My Snare 2	Ambient Backwash	Aurora Techno	Bass Bird Singing In Spring	Behave My Heart 4	Bc
- My Snare 3	Amped Live	Authentic Signature	Bass Guitar	Behave My Heart 5	Bc
- My Tom	Amplifier	Autoplay	Bass Hunter 1	Behave My Heart 6	Bc
- My Tom 2	Anabolic 1	Baby Killed The Bassdrum	Bass Hunter 2	Behave My Heart 7	Bc
- Ym Conga 2	Anabolic 2	Back In The UK 1	Bass Hunter 3	Berlin Is Calling	Bc
A Good Start	Analog Circuit 1	Back In The UK 2	Bass Hunter 4	Big Door Slammer	Bc
Abyss	Analog Circuit 2	Background Dancer	Bass Hunter 5	Big Finale 1	Bc
Acidic	Analog Cupcake	Bad Dog	Bass Legend	Big Finale 2	Bc
Acoustic Feedback	Analog Decoy	Bad Neighbour 1	Bass Rider 1	Big Noise Floor	Bc
Act	Analog Noise Amp	Bad Neighbour 2	Bass Rider 2	Bigfoot Stomps	Bc
Advantage 1	Analog Pulse	Bad Neighbour 3	Bass String 1	Binary Artefacts	Bc
Advantage 2	Analog Valve Kick	Bad Sonar	Bass String 2	Bionic Fusion	Br
Adverse Times	Appointment Fixed 1	Balu	Bass String 3	Bit Careful 1	Br
Afraid 1	Appointment Fixed 2	Barefoot In Miami	Bat Cave 1	Bit Careful 2	Br
Afraid 2	Appointment Fixed 3	Barely Visible 1	Bat Cave 2	Bizarre	Br
Afraid 3	Appointment Fixed 4	Barely Visible 2	Be Gentle!	Blackout Rumble	Br
Afterhours At Berghain	Appreciate The Simple Things	Barely Visible 3	Be Nice	Blastwave	Br
Aged Drum	Appreciate The Simple Things	Base Build	Be Well My Friend 1	Bleached Noise	Br

The Results list

- **Click** any name to choose and load the preset.
- **Double-click** the name to choose, load the preset and close the browser.

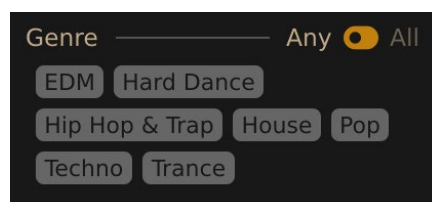
Using Hitting **X** closes the browser.



Close Browser window

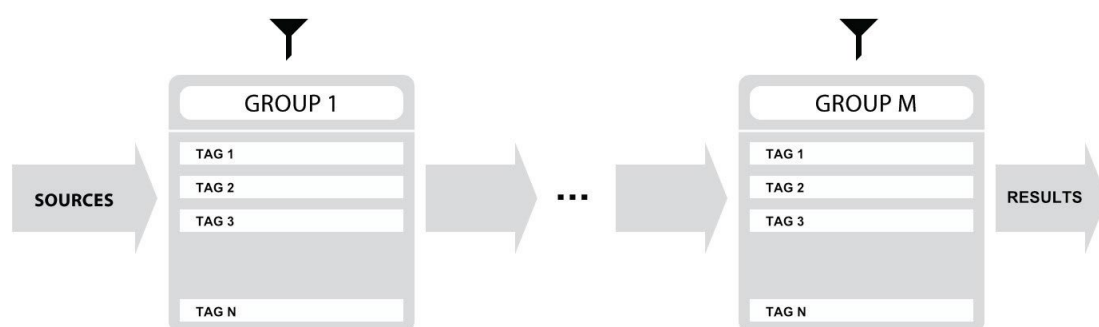
Preset filtering using Groups and Tags

The **Filter** section contains **Groups** of **Tags**. Each Group is represented by a rectangle with the **Group** name + set of **Tags** inside.



Genre Filter group

The filtering process cascades from top to bottom. This means that all presets available in the selected **Sources** are filtered by selected **Tags** from the first **Group** (uppermost one), then the **Group** below and so on, until filtered by the last active **Group** (the bottom one).

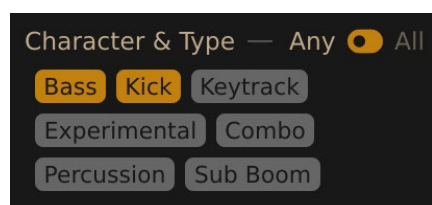


Preset Filtering with the use of Groups

The result of the cascade filtering process is listed in the middle column, the **Results** / presets list section. You can also consider the **Results** list as an intersection of preset sets, found by filtering through every individual **Group**.

Basic Actions

Tags work as toggle buttons. Click to *activate* / *deactivate* a **Tag**; a gray background color means that the **Tag** is inactive, and orange means that the **Tag** is *active*.



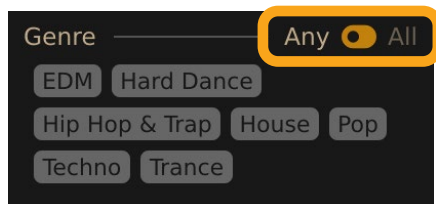
Character group with two tags set

If at least one **Tag** in a **Group** is active, then the **Group** (filter) also becomes active, otherwise the **Group** chosen doesn't affect the filtering process at all.

Group operator

When a single **Tag** is active in a **Group**, only presets having that **Tag** set are displayed in the **Results**.

If two or more **Tags** in a **Group** are active, the **Results** depend on the **Operator** chosen for the **Group**:



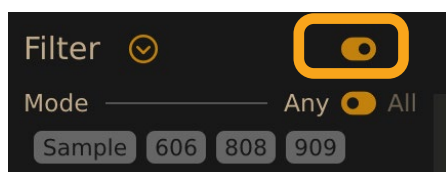
A Group operator

The **Operator** switch works in toggle mode and offers a choice of two alternative **Operators** for the **Group**:

- **Any** ☒ - Means that a preset is shown in the **Results** when the preset includes at least one of the active **Tags** from the **Group**.
- **All** ☐ - Means that a preset is shown in the **Results** only when the preset includes all active **Tags** from the **Group**.

Filter enable / disable

You can quickly enable / disable the **Filter** using the toggle switch in the top-most section of the **Filter**:



An On/Off switch for a Group Filter

Other types of filtering

Searching by name

Alternatively, you can look for a preset by entering its name or just a piece of its name into the **Find preset** field:



The Find preset input

The **Results** are refreshed on-the-fly and they work together with the other filters.

Using the **X** icon clears the entire field:

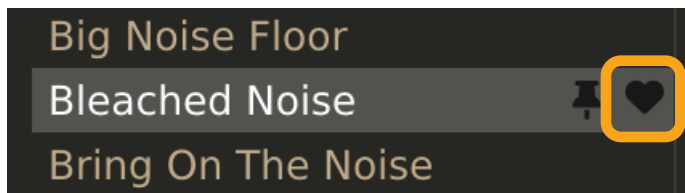


Clearing the search field

- ▶ Logical OR between Tags in the Group
- ▶ Logical AND between Tags in the Group

Filtering Favorite presets

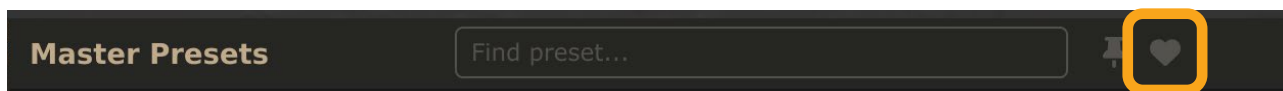
You can mark presets as a **Favorite** by clicking the **Heart** icon while hovering on preset name . You can unmark presets by clicking the icon again (toggle mode):



Setting a preset as a Favorite on the list

The flag is stored globally, meaning that a **Favorite** preset will be accessible as such from every other instance of the plug-in .

Once you have your **Favorite** presets flagged, you can quickly filter them using the toggle button with a **Heart** icon on it:

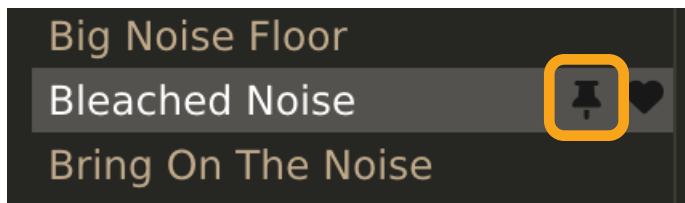


Favorite presets filtering

If the button is active, then only **Favorite** presets will be shown (considering all remaining filters).

Filtering Pinned presets

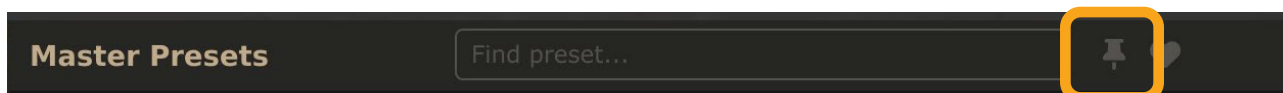
You can **Pin** one or more presets using the **Pin** icon while hovering over a preset name . You can unpin a preset by clicking the icon again (toggle mode):



Pinning a preset on the list

Unlike **Favorites**, this flag works locally and it's stored with the project file (not global config), so **Pins** are stored individually for every instance (with total recall, so a plug-in state is recalled if saved in the context of a project).

But, similarly to **Favorites**, you can easily filter presets using the toggle button with the **Pin** symbol on it:



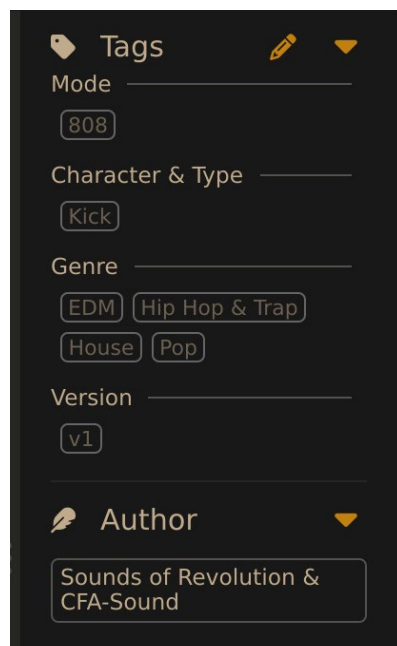
Pinned presets filtering

If the button is active, then only **Pinned** presets will be shown (considering all remaining filters).

-  It's allowed for every **source** (**factory** or **user**)
-  Sometimes project or plug-in reload may be required
-  It's allowed for every **source** (**factory** or **user**)

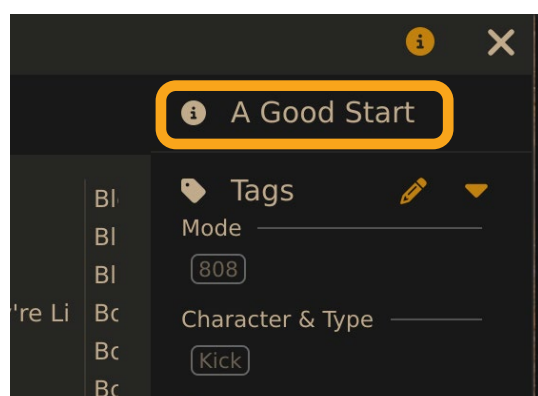
Info pane

The column to the right shows information about the selected preset or presets. It also provides access to some of the preset editing functions.



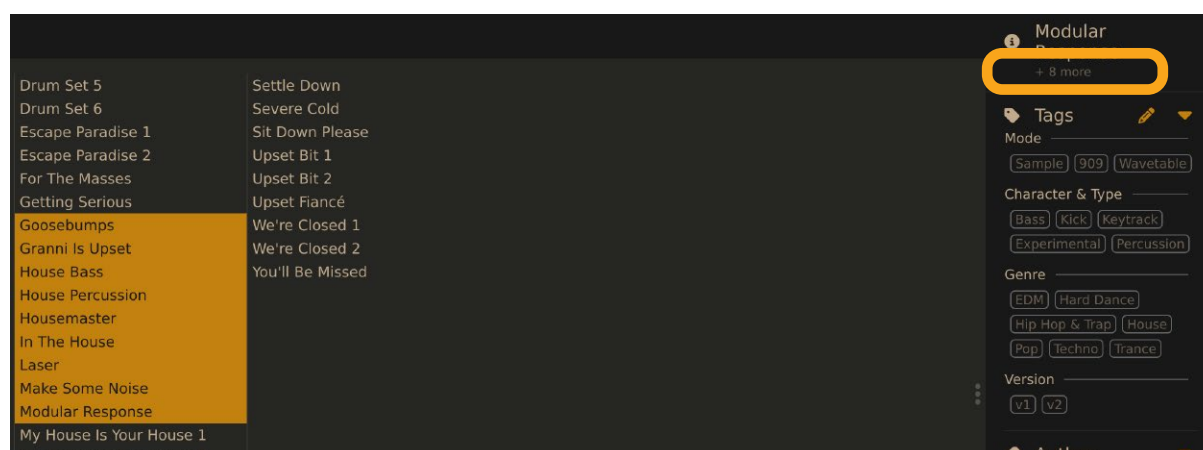
The Info pane

There's a preset name at the top.



The Preset name in the Info pane

Additionally, if you've selected more than one preset there's information about how many more have been selected:



Selecting more than one preset

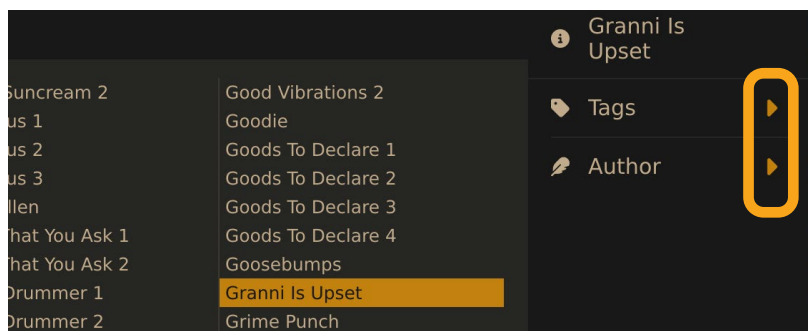
Below the preset(s) name there are few common sections describing selected presets:

- **Tags**
- **Author**

Browser's visual adjustments

Folding sections

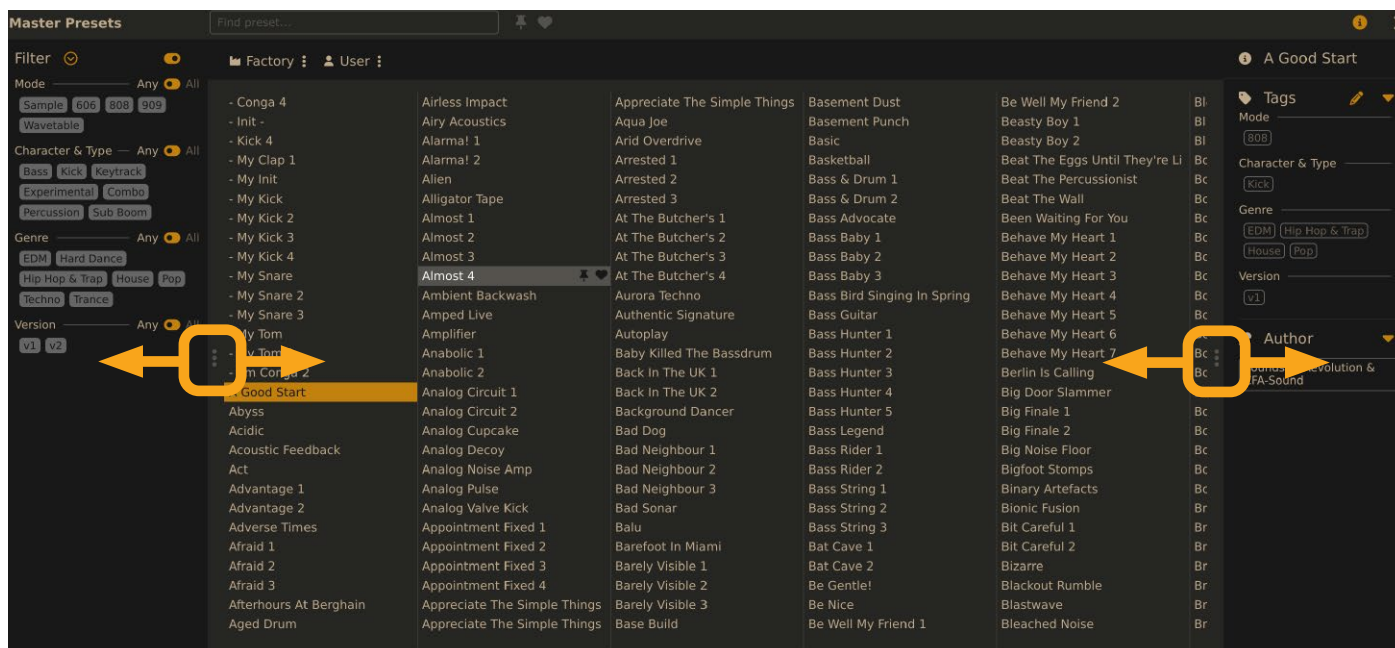
If you don't need to see the contents of every section / subsection, you can fold some of them up using the **Caret** icons:



Sections folded up

Resizing columns

You can use the three-dotted handles to change a column's width to your preference.



Resizing Browser columns

Editing presets

You can perform certain actions on presets, such as adjusting **Groups** and **Tags**, deletion, renaming the presets as well as their export or import. One should bear in mind, however, that some operations are only allowed on user presets but not on **Factory** content.

Preset selection for Edit

Some operations can be done on more than one preset, so you're allowed to select more than one preset at once; in the **Results** section, you can choose a preset or a set of presets in the following ways:

- **Click a preset** - Selects (and loads) one preset from the list.
- Win (**Ctrl**) + **Click the preset**), Mac (**Cmd**) + **Click the preset**) - Adds another preset to an already chosen preset or a set of presets.
- **Shift + Click the preset** - Selects a range of presets from the last chosen preset to the preset clicked with the **Shift** key.
- Right-Click on any **Preset** in the **Results** section and choose the **Select All** option - this selects all presets:



Selecting all presets

Preset renaming

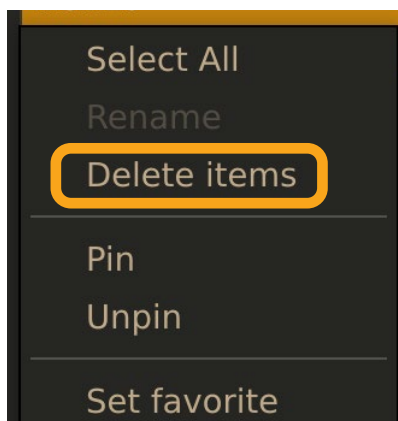
On a selected preset , right-click to open the context menu and select the **Rename** option:



Preset renaming

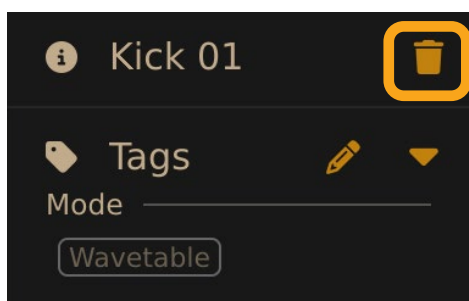
Preset deletion

Once you have selected one or more presets, right-click to open the context menu and select the **Delete items**  option:



Deleting presets

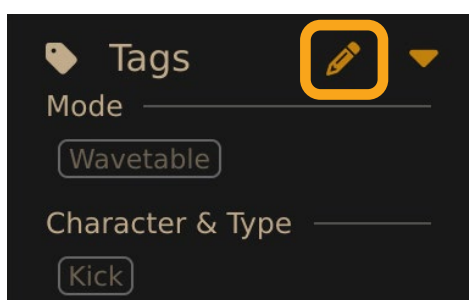
Alternatively, you can use the **Trash bin** button in the **Info pane** to delete selected presets:



The Trash bin button

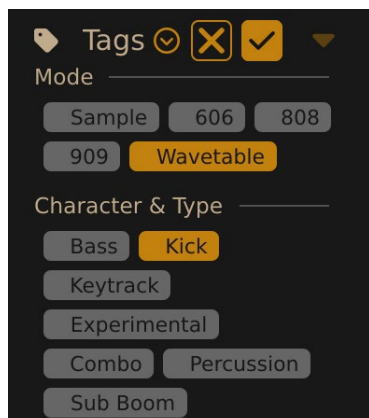
Tags editing

When you select a preset or presets to change their tags, click the **Pencil** button next the **Tags** section in the **Info pane** to enter **Edit mode** for the **Tags**:



Entering the Tag edit mode

With the **Edit mode** enabled, you will see all possible **Groups** and **Tags** available for the preset(s):

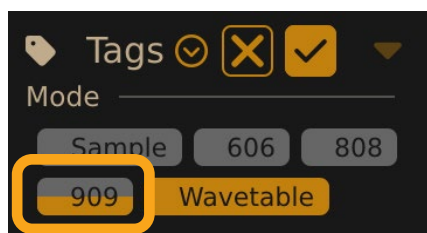


The Tag Edit mode

Tag buttons work in toggle mode, much like filtering. Clicking them either sets or erases a **Tag** for a chosen preset. If a **Tag** is set for a preset, it is indicated by an orange background color, whereas if a **Tag** is not set, it has a gray background color.

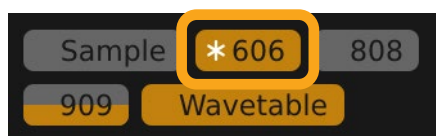
If you choose multiple presets with existing tags, **Tag** buttons will appear orange if a specific **Tag** appears in all selected presets, and gray if it appears in none.

When a specific **Tag** is set only for a few of the selected presets, it appears as half-gray and half-orange.



Tags appearing only in part of selection

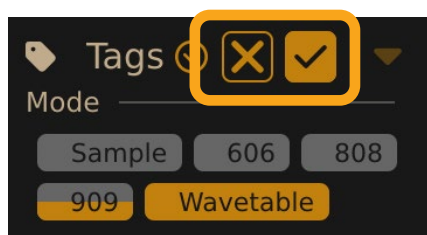
Changing the **Tag** status for one or more chosen presets sets or erases this **Tag** in all these presets. A status change is signaled by an **Asterisk** to the left of a **Tag**.



A Tag with a status change

Tag buttons highlighted in half-gray and half-orange color (where **Tag** values across the highlighted presets aren't all the same) work in a three-state system when switching between states; they turn gray if you erase the **Tag** for all selected presets, orange if you set the **Tag** for all selected presets, and return to half-gray and half-orange if the selected items remain unchanged or are returned to their initial state.

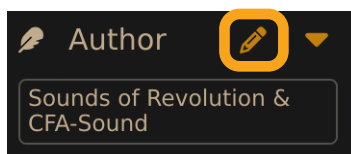
Potential changes have to be confirmed using the **OK / Cancel** buttons at the top part of the **Tags** section:



Confirmation buttons in the Tags section

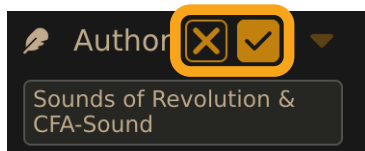
Author editing

When you select a preset or presets to change the **Author**, click the **Pencil** button next the **Author** section in the **Info pane** to enter the **Edit mode** for the **Author** field:



Editing Author

Once you've finished editing the field, confirm the operation using the **OK / Cancel** buttons:

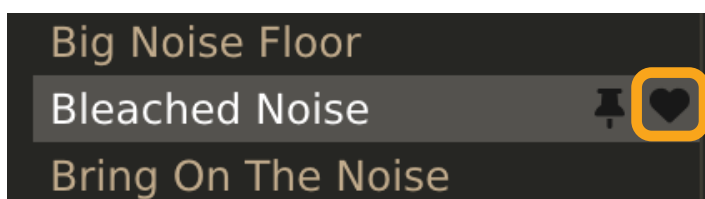


Confirming Author editing

This operation is possible for user content only.

Setting presets as Favorites

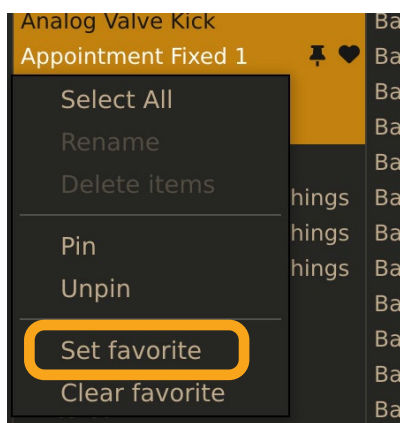
As described in the chapters above, you can mark a preset as a **Favorite** by clicking the **Heart** icon while hovering over the preset name:



Setting a preset as a Favorite

The flag is stored globally, meaning that a **Favorite** preset will be accessible as such from every other instance of the plug-in ▶ .

It's also possible to perform the operation for a selection of presets. After you select the desired presets in the **Results** window, right-click on the presets to open a context menu:



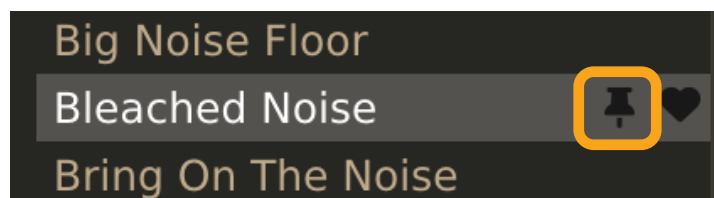
Setting Favorite presets from the context menu

And select the **Set favorite** option.

To clear **Favorite** flags for the selection of presets, use the **Clear favorite** option instead.

Pinning presets

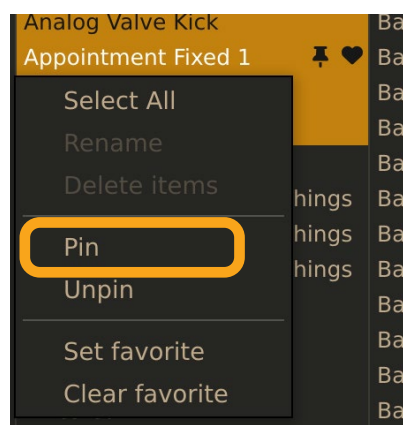
You can **Pin** one or more presets using the **Pin** icon while hovering over the preset name:



Pinning a preset

Unlike **Favorites**, this flag works locally and it's stored with the project file (not globally). This means the **Pins** are stored individually for every instance (with total recall, so a plug-in state is recalled if saved in the context of a project).

It's also possible to perform the operation for a selection of presets. After selecting the desired presets in the **Results** window, right-click on the presets list to open the context menu:



Pinning presets from selection

And select the **Pin** option.

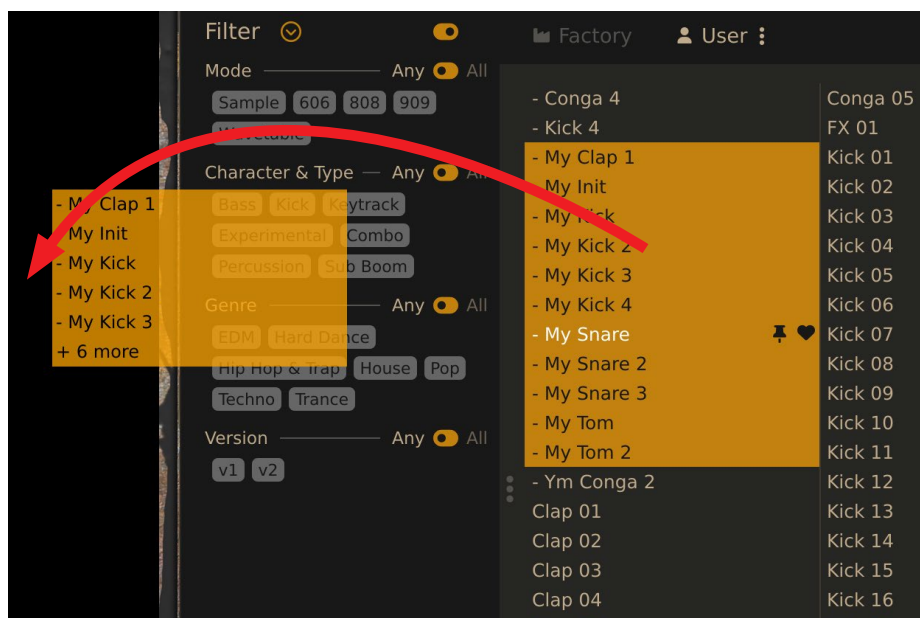
To clear the **Pin** flag for a selection of presets, use the **Unpin** option instead.

Preset exchange

If you want to make a backup, or exchange a preset with a collaborator, you can export / import selected presets.

Export

Select a preset or presets that you're going to export and drag-and-drop them outside your DAW into a location you'd like to store them:

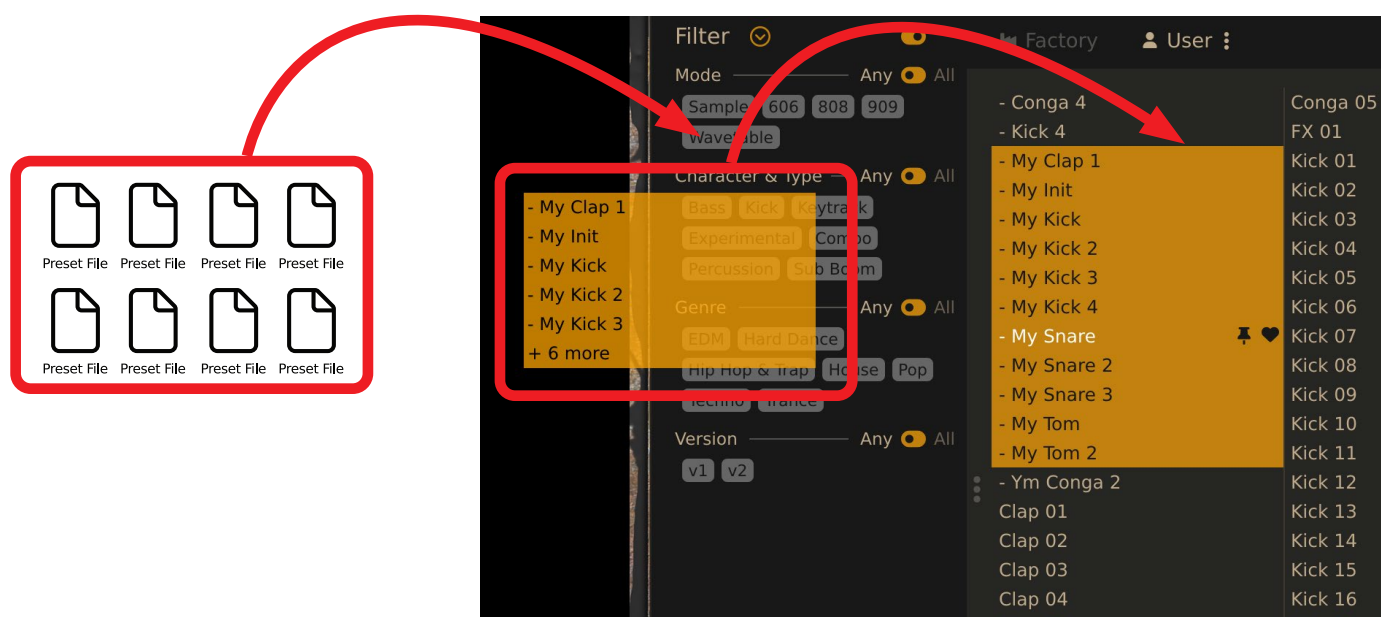


Exporting presets

The presets will be saved as individual files (one per preset) in the plug-in's native format.

Import

If you'd like to import preset files, you can drag-and-drop preset files from where they're stored, into the preset browser:



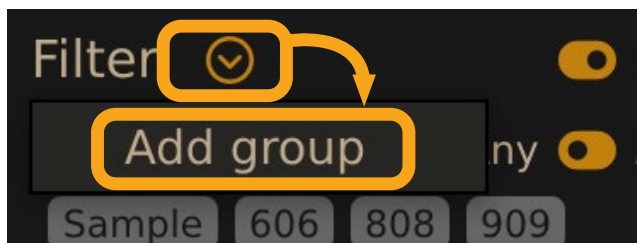
Importing presets

They will be automatically imported as user presets.

Creating custom Tags and Groups structure

Adding custom Groups

You can add a custom filter to **Groups** by clicking the **Filter** label and selecting the **Add Group** option from the pull-down menu:



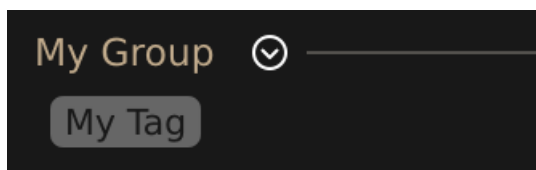
Adding a user Group

From here, you can add **Tags** to that newly created **Group** (see above), or move **Tags** from other **Groups**.

You can also add a custom filter to **Groups** in the **Info Pane** (right column) or **Filter** (left column).

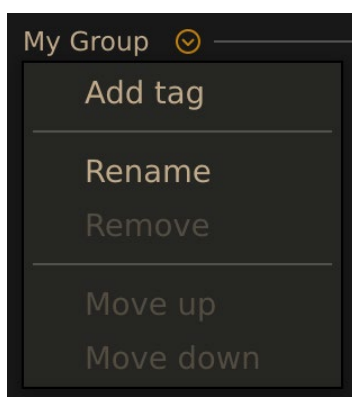
Editing custom Groups

There are a few edit options available for a user to perform on their own **Groups**. Click on a **Group's** name in the **Filter** section:



The Filter section

You will see a context menu with the following options:



Edit options for a user Group

- **Add Tag** - Adds a new tag to the **Group** (described earlier).
- **Rename** - Changes the **Group's** name.
- **Remove** - Deletes the **Group**, possible only when all **Tags** in the **Group** have also been removed.
- **Move up** - Moves a **Group** up in the **Filter**. Possible unless the **Group** is already the topmost one.
- **Move down** - Moves a **Group** down in the **Filter**. Possible unless the **Group** is the last one.

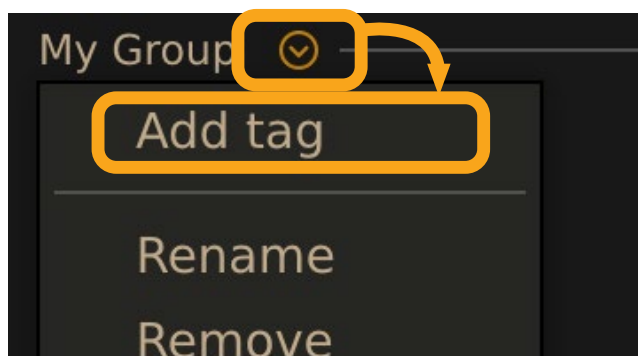
These operations are possible only on user **Groups**.

Groups in the **Filter** are ordered with **Groups** from **Factory** content first, then user groups below.

You can edit user **Groups** in either the **Info Pane** (right column, while **Edit mode** for **Tags** is enabled) or **Filter** (left column).

Adding custom Tags

Users are allowed to add their own custom **Tags** to both their own content and factory content. To add a new **Tag** to an existing filter **Group**, click over the **Group's** name to pull down a menu and select the **Add Tag** option ▶:

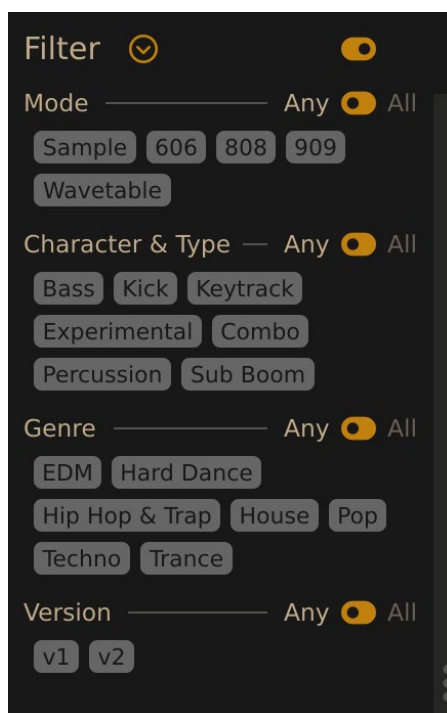


Adding a new Tag

You can do this either in the **Info Pane** (right column, while the **Tag edit** mode is enabled) or **Filter** (left column).

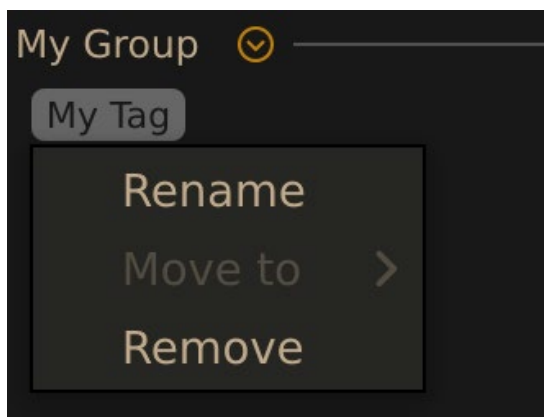
Editing custom Tags

There are a few edit options available for a user to perform on their own **Tags**, which are available by right-clicking a **Tag's** name in the **Filter** section:



The Filter section

You will see a context menu with all the available options:



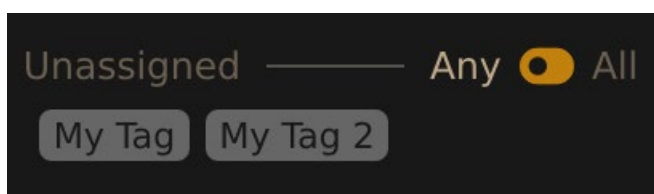
Editing options for a user Tag

- **Rename** - Changes the name of a **Tag**.
- **Move to** - Moves a **Tag** to another **Group**.
- **Remove** - Deletes a **Tag**.

The menu is accessible only for a user's own **Tags**.

Unassigned Tags

When you receive content from a collaborator who uses different **Tags** and **Groups**, some Tags may show as **Unassigned**. This happens if the filter structure made by a preset's author is different.



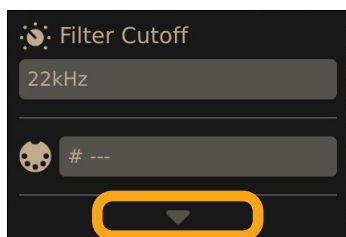
Unassigned Tags

You can move the **Tags** across your **Groups** to make them fit your scheme, or re-tag the collaborator content entirely.

Configuration

MIDI Learn

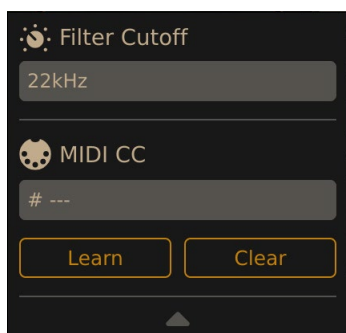
Right-click any plug-in parameter to open the context menu:



A context menu

Left-clicking outside the menu area closes it automatically.

Clicking the bottom arrow expands the menu and displays all available options:

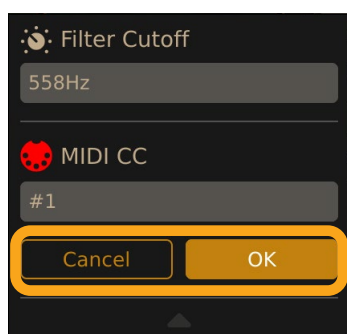


An expanded context menu

Linking a parameter to MIDI CC

The **Learn** function enables a quick assignment of physical controllers (from a MIDI controller) to plug-in parameters.

1. Click the **Learn** button to put the plug-in into a pending state before moving any MIDI CC controller.
2. Once the CC is recognized, click **OK** to save the change or click the **Cancel** button to restore the previous setting.

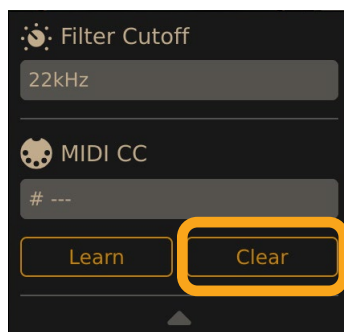


Linking a parameter to MIDI CC

Unlinking a parameter from MIDI CC

You can also delete a MIDI CC code attributed to a parameter from the context menu:

1. From the context menu, click the **Clear** button:



The Clear MIDI CC button

2. Then confirm using the **OK** button.

Loading / Saving a MIDI CC Map

These options are available in the **MIDI** submenu, accessible under **Options** button in the left-upper corner:



The Load Map and Save Map options

- **Save Map** - Saves the current MIDI CC map to a file.
- **Load Map** - Loads a MIDI CC map from a stored file.

GUI

The **Size** and **Theme** options are accessible from **GUI** submenu under **Options** button in upper-left corner of the plug-in. With these, you can adjust look of the plug-in, according to the pixel density and resolution of your screen:



The GUI options

Size

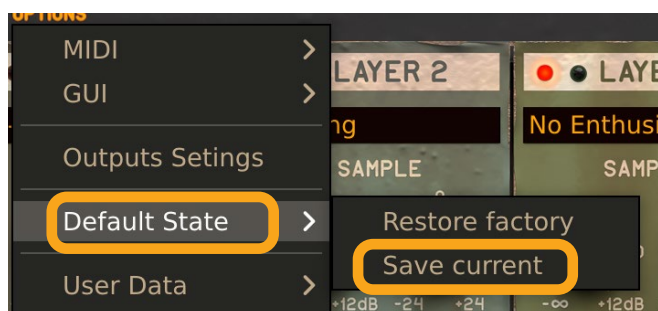
This option lets you choose one of several default skin sizes to best match the plugin to the resolution of your computer monitor.

Default Settings

You can save your current settings so that the plug-in will default to them for each new instance, or restore the plug-in to load with its factory settings.

Changing default settings

1. Click the **Options** button in the left-upper corner of the plugin.
2. Go to the **Default State** submenu and choose the **Save current** option.



Changing the default state of the plug-in

With this option, the current plug-in state will be saved as the default / initial state for when you insert a new instance of the plug-in.

The plug-in state includes: sound parameters (default preset), views, preset filters, sound quality settings, loaded / created MIDI CC map and GUI settings.

Restoring factory defaults

To return the default state for new instances to factory settings:

1. Click the **Options** button in the left-upper corner of the plugin.
2. Go to the **Default State** submenu and choose the **Restore factory** option.

Data backup

You can back up all your presets and default settings (the settings PunchBox loads every time a new instance is created), for example when moving to a new computer or reinstalling your operating system.

To create a backup, go to **Options → User Data** and select **Backup**.

A backup file (archive) containing your data will be created in the selected location.



User Data Backup

To restore your data, use the **Restore** option and point PunchBox to the previously created backup file.

Table of Contents

Requirements	3
Preliminary information	4
Interface overview	5
Control panel	5
Generators section	6
Effect rack	6
How it works	7
Generators	7
Layers	7
Kick generator	9
Sample	12
909 Kick synthesizer	13
808 Kick synthesizer	14
606 Kick synthesizer	14
Wavetable Engine	15
Signal routing to FX chain	15
Randomization	17
Effects Rack	19
Activation / Deactivation	19
Available Effect Blocks specifications	20
Bit crusher	20
Distortion	21
Multimode filter	22
Equalizer	23
Modern	23
Vintage	24
Mono Bass and Limiter	25
Mono bass	25
Limiter	25
Pitch detection	27
Reordering effects	27
Patchbay Configuration	28
Outputs Options	29
Audio outputs	29
Direct Outputs Trim	30
Master Output Trim	31
Audio clip export	31
Export parameters	33
Filename lock	34
Advanced Panel	34
Envelope groups for edit envelopes	34
Parameter selector	35

Waveform preview.....	36
Preview normalization	36
Envelope editor.....	37
Envelope length.....	37
Modulation amount	38
Locate option.....	39
Basic edit actions	39
Node snapping.....	40
Navigation	40
Zoom in and out	40
Scrolling left and right	41
Tags	42
Envelope time scale.....	42
Additional edit options.....	42
Envelope flipping.....	42
Envelope presets.....	43
Sample management	44
Sample browser structure	44
Loading a sample	45
Linking Sample Destination with Envelope Group for Advanced Editor	46
User samples.....	47
Import	47
Tagging	48
Restoring missing samples.....	49
Preset Management	50
Preset structure and content types	50
Browsing presets.....	51
Sources	52
Filter	52
Groups and tags.....	52
Results	53
Preset filtering using Groups and Tags	54
Basic Actions	54
Group operator.....	55
Filter enable / disable	55
Other types of filtering	55
Searching by name	55
Filtering Favorite presets.....	56
Filtering Pinned presets.....	56
Info pane.....	57
Browser's visual adjustments.....	58
Folding sections.....	58
Resizing columns.....	58
Editing presets	59
Preset selection for Edit.....	59
Preset renaming	59
Preset deletion	60
Tags editing	60
Author editing	62
Setting presets as Favorites	62
Pinning presets.....	63

Preset exchange.....	64
Export	64
Import	64
Creating custom Tags and Groups structure.....	65
Adding custom Groups	65
Editing custom Groups	65
Adding custom Tags	66
Editing custom Tags.....	66
Unassigned Tags	67
Configuration.....	68
MIDI Learn.....	68
Linking a parameter to MIDI CC	68
Unlinking a parameter from MIDI CC	69
Loading / Saving a MIDI CC Map.....	69
GUI	70
Size.....	70
Default Settings	70
Changing default settings.....	70
Restoring factory defaults	71
Data backup	71