d16 group
AUDIO SOFTWARE

ANTRESOL

ANALOG BBD STEREO FLANGER

User Manual

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Requirements

Software and hardware requirements of the product

Windows PC

OS version	Windows 7 or newer
CPU	2.0 GHz SSE (Multicore 2.3 GHz recommended)
RAM	8 GB (16 GB Recommended)
Software	VST2 / VST3 /AAX compatible host application (32bit or 64bit)

Apple Mac

OS version	OS X 10.13 or newer
CPU	Intel based 2.0 GHz (2.3 GHz recommended), Apple M1
RAM	8 GB (16 GB Recommended)
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

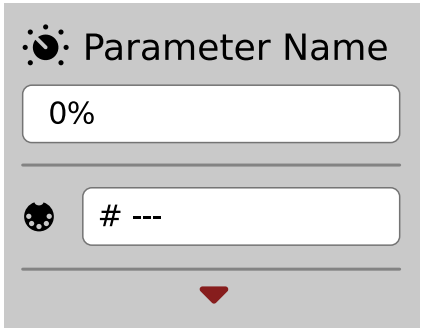
This chapter contains general advice for using the plug-in's interface.

To do a right-click on macOS with single button mice:

Either use your **mouse click** while holding the **CTRL key** on your keyboard 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's currently not possible to enter a precise value in the input box; it's just to check the value.

Fine-tuning continuous parameters

Tweak a control (knob) while holding the **CTRL key** (on **Windows**) or **Apple CMD** key (on **macOS**) - this will make the tweaking more precise while moving the mouse pointer up and down.

Double-click to reset a continuous parameter's value

Double-clicking on a parameter restores its value to the initial state, either default (right after loading the plug-in / loading it along a project file) or from the most recently loaded preset.

Overview

Antresol is a flanger type effect based on an authorial emulation of a discrete time delay line (**BBD** – Bucket Brigade Device) characterized by an ultra low aliasing level, inspired by a classic stomp box from the Mistress series.

After loading the plug-in to a host application the GUI appears:

After loading the plug-in to a host application the GUI appears:

We can distinguish two sections there:

- Configuration and preset management:

Configuration and preset management section

- Signal processing control section consists of the all remaining controls

Signal flow

This chapter describes the path of the signal's flow through the Antresol plug-in, presents the basic components of this effect unit and its control parameters.

Basic modules

In general, the plug-in structure can be described as a delay feedback loop with an adjustable value and a delay time controlled by a **LFO** (*Low Frequency Oscillator*) generator. In this general structure more detailed and additional functional blocks can be distinguished, which have their equivalents in the graphical interface sections.

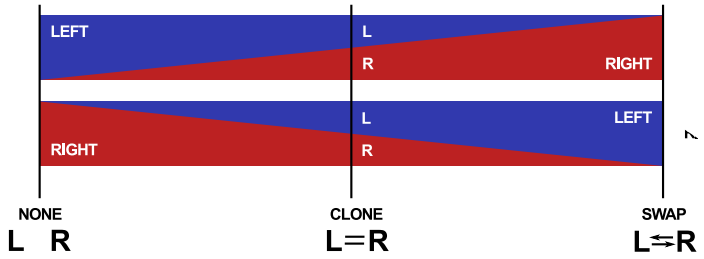
Parameters of modules located before the feedback loop

Initially we have a set of parameters which influence the signal before passing it on the feedback loop:

Pre-Loop parameters

We can distinguish:

- **Preamp** – Preamplification of the signal in the range from **0** to **24 dB.**
- **M/S Mode** – The choice of **stereo** representation of the processing signal. The switch is turned off by default, which results in processing in the **L/R (Left/Right)** domain. However, if we turn it on, the signal is processed in the **M/S (Mid/Side)** domain.
- **Ch. X-Fade** – Signal crosstalk control between stereo channels, depending on the representation.
  The parameter works as a double crossfader:



Ch. X-Fade in its full value range

When the value of the parameter is set to minimum (**None**), the crosstalk between channels does not occur, therefore the stereo signal is passed on to the loop in an unchanged form. Along with increasing the parameter value to the **Clone** position, a bigger portion of the **Left** (or **M**) channel signal is added to the **Right** (or **S**) channel signal or vice versa until reaching the **Clone** position, in which both channels contain the same signal. The input becomes monophonic because both channels have 50% **L** and 50% **R** each. Further increasing the value

of the parameter towards the **Swap** position (maximum value) means that a smaller and smaller portion of the original (input) **Left** channel is in the **Left** output channel (valid also for the **Right** channel) up to the point in which we have the **Right** channel signal in the **Left** channel and vice versa. Therefore, the channels are swapped.

This parameter is extremely useful for all types of monophonic signals' spatializations. In particular, while working in the **M/S** domain, in which component **M** can be duplicated in component **S** (in properly applied volume ratio), which on the other hand can be processed independently in subsequent stages of the processor's operation

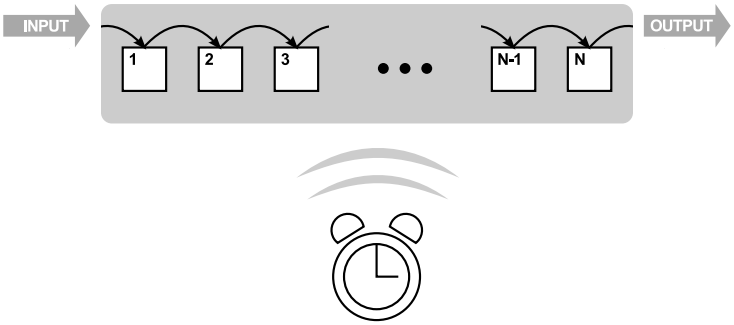
Parameters of feedback loop modules

In this section a set of parameters is described, which are directly connected with controlling the work of the delay line with a feedback loop and external modules interacting with it.

BBD line emulation – True BBD

True BBD Section

The most important block of the entire effect is **True BBD**. It is actually the heart of the plug-in, as well as the code name for our authorial technique of emulating the discrete time delay line known from literature as **BBD** (Bucket Brigate Device) operating in the feedback loop. From the **True BBD** section on GUI we control the delay line's main configuration parameters. Before learning the function of each of the parameters let us familiarize with the BBD's operating principles:



BBD delay line's demonstrative scheme (buffer cells and timing clock)

The BBD delay line works like a buffer (FIFO structure; first in first out), to which the signal is passed on the input and after a while it emerges on the output.

BBD is defined as a discrete time delay line because it is composed of a definite series of cells (condensers), each of which stores / samples the current value of the signal. However, we cannot talk about sampling per se, because the signal's value is analogue and only the time is discretized.

The delay between the line's input and output is a result of the BBD's operating principle and not its construction. The entire circuit is pulse-clocked by an external timing signal. One clock tick means transferring the signal from cell **N-1** to cell **N**, from **N-2** to **N-1** and so on, up to the last step, which is transferring the cell state from cell **1** to cell **2**. The signal state from the delay line is saved to cell **1**, meaning a single movement of the cell states by one position in the output direction.

The time intervals between subsequent ticks are finite small values, which is the reason why the delay occurs at all. The signal in the form of states is moving in finite time intervals through subsequent cells, from the first to cell **N** to finally reach the output.

Therefore, if we have, for example, 256 cells, the time needed for the signal to pass through the buffer is 256 clock ticks.

LFO

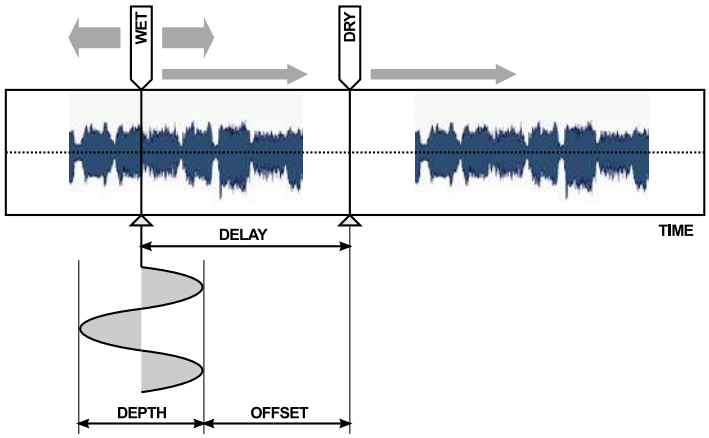
Basic parameters

The BBD delay line's time is controlled by a **LFO** generator, which output is passed on as a True BBD delay line's clock signal (after the conversion to a series of timing pulses). The LFO is controlled by the following parameters (top row).

LFO section on GUI

- **Offset** – The time offset between the undelayed signal (**Dry**) and the LFO oscillation's minimum.
- **Rate** – The rate of the **LFO** generator's oscillations in **Hz** (from **0.02** to **40 Hz**)
- **Depth** – The depth of the **LFO** generator's oscillations. When the value of this parameter is **0**, the delay is constant and it is defined only by the **Offset** parameter.

For a better understanding, the following picture illustrates the manner in which the LFO influences the delay line's time:

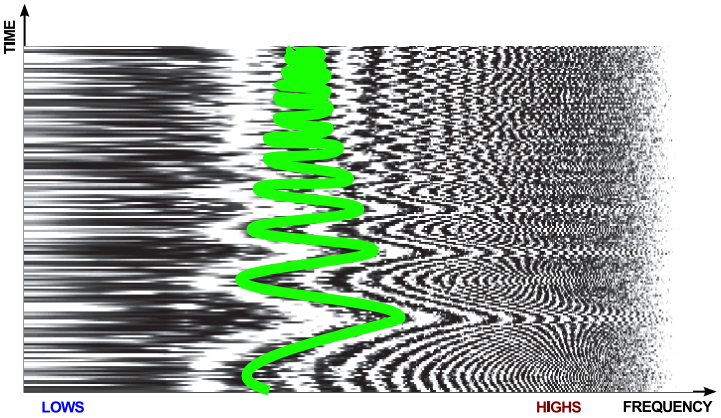


LFO controlling the delay time

If we imagine the delay line controlled by the **LFO** as a read head which moves across the signal as it would across a tape, then the **LFO** controls the acceleration of the head.

Dependence between Rate and Depth

Contrary to most of this type effects in Antresol the **LFO's** oscillations depth is indirectly dependent on their rate. Along with increasing the rate of oscillations their amplitude is relatively decreasing. This dependence makes the effect more musical and its reaction to changes of those two parameters is more natural (exactly as in the Mistress flanger).



Time-variant frequency response of white noise and LFO modulating the value of the BBD delay line with an increasing rate of oscillation

Tempo sync

The **LFO** in Antresol can optionally synchronize the frequency and phase of oscillation with the host application's tempo. The **Tempo Sync** parameter is used to activate this function:

Tempo Sync. parameter in the LFO section

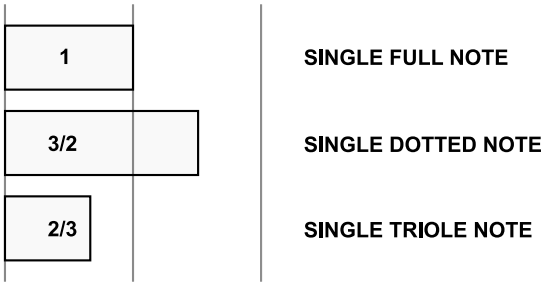
The parameter can be set to one of the four available values

- **Off** – Synchronization is inactive and the **LFO** speed is controlled by the **Rate** parameter in absolute units; **Hz** ranging from **0.02** to **40**.
- **Full** – Synchronization is active and the rate of **LFO's** oscillations is equal to the rhythmical value of the note set by the **Rate** parameter.
- **Triplet** – Synchronization is active and the rate of **LFO** oscillation is equal to the duration of the triplet note set by the **Rate** parameter.
- **Dotted** – Synchronization is active and the rate of **LFO** oscillation is equal to the rhythmical value of dotted note set by the **Rate** parameter.

When the synchronization is active the **Rate** parameter can be set to one of the following rhythmical values: **1, 2, 4, 8, 16** and **32** bars, half-note (**1/2th**), quarter-note (**1/4th**), quaver (**1/8th**), semiquaver (**1/16th**) and demisemiquaver (**1/32th**):

Bar division into smaller rhythmical values

The **Triplet** and the **Dotted note** are modifiers of the rhythmical value, which can be selected using the **Tempo Sync.** parameter. **The Dotted note** is **3/2** longer than a normal note, while a **Triplet** constitutes only **2/3** of its original rhythmical value.



Note length

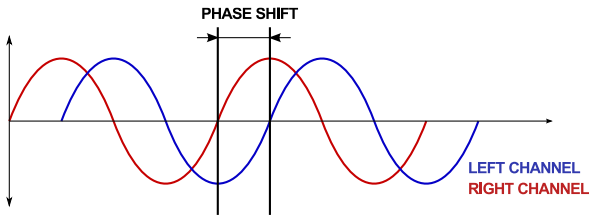
Stereo Phase Shift

When Antresol is used on a stereophonic track, two independent delay lines operate implicitly controlled by two separate **LFO** generators (one per channel). Each of them independently processing **Left** and **Right** channel (or **Mid** and **Side** depending on the representation).

The **Phase Shift** parameter allows to control the relative phase shift of the **LFO's** oscillations between stereo channels:

Phase Shift Parameter

For **0 degrees** value the **LFOs** will have the same phase for the **Left** and **Right** channel (they are going to be in the phase). By increasing the phase shift we achieve a pleasant effect of widening the stereo panorama. The shift can be increased up to the value of **180 degrees**, during which the **LFO** generators operate in counterphase.



Phase Shift between generators for each stereo channel

Stereo Link

Internally, Antresol processes the **stereo** channels independently. Also the **LFO** generators can operate with different parameter values for each channel. Both generators are **linked** by default, operating with the same parameter values. With this setting it does not matter whether the LFO parameters are controlled by the knobs situated in the top row or in the bottom row (for **Left** or **Right** panel), since the indicator lights are visually paired (as columns).

Parameters controlling the left channel LFO work or the work of both chanells in link mode

Let us look at the **Link** diodes in the bottom part of the section:

Diodes controlling LFO parameter linking for Left and Right channel

They allow to unlink the chosen **LFO** parameters (**Offset, Rate, Depth**) in order to apply independent values per channel. If a diode under a particular parameter is turned off, we use the knobs in the top row to control the **Left** channel (or **Mid**) **LFO** parameters. From the bottom row we control the **Right** channel (or **Side**) **LFO** parameter.

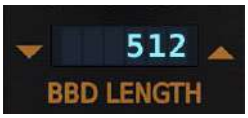
BBD line configuration

The **True BBD** section controls the operating parameters of the delay line and allows to monitor the pulse frequency of the delay line's timing clock:

True BBD Section

Here we can distinguish:

- **BBD Length** – Delay line's buffer length (number of cells), which can have the following values: **16, 32, 64, 128, 256** and **512**.



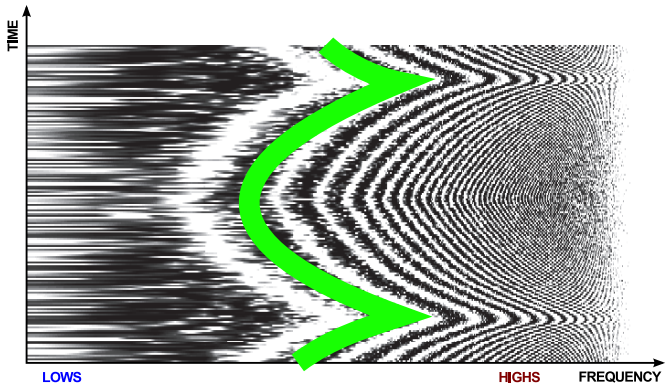
BBD Length parameter

- **LFO to Clock Voltage Curve** – The characteristics of converting the values generated by LFOs to series of impulses for the BBD line oscillator clock, which allow different dynamics of frequency response changes in time.

LFO to Clock Voltage Curve parameter

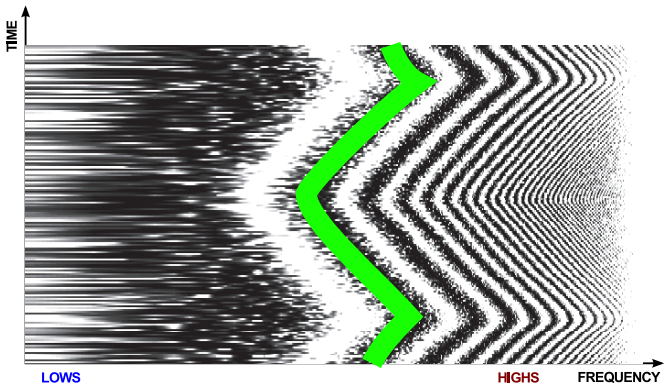
We have 3 different characteristics to choose from:

- **Mistress** – Characteristic transferred from the classic guitar flanger Mistress, which can be described as **Convex**. It results in higher dynamics of delay time changes for smaller values and lower dynamics for bigger delays, creating a characteristic image in spectrum changes:



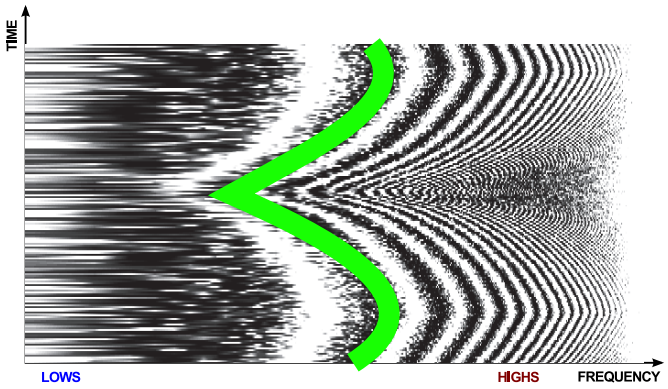
Time-variant frequency response of white noise and LFO modifying the BBD line delay value with Mistress characteristic

- **Linear** – Linear characteristic – The conversion of the signal's value generated by the **LFO** to the clock's frequency has a linear image in the frequency response dynamics:



Time-variant frequency response of white noise and LFO modifying the BBD line delay value with linear characteristic

- **Concave** – Concave characteristic – The change dynamics is big for bigger delays and small for smaller values, which can be observed in the frequency response:



Time-variant frequency response of white noise and LFO modifying BBD line delays with concave characteristic

- **Range** – Parameter which readjusts the oscillator clock's frequency, at the same time modifying the range of delays generated by BBD line:

Range parameter

Knowing which parameters are used to control the **LFO** section and the **True BBD** line, let's see how the sections are connected on the signal flow level. The diagram below illustrates the manner in which the signal generated by **LFO** and the BBD delay line parameters influence each other:

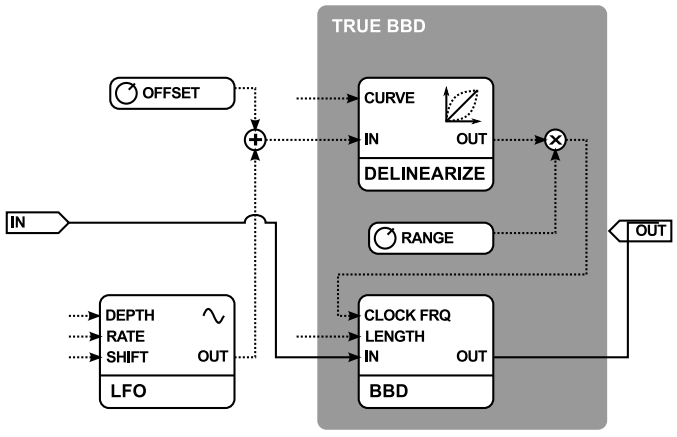


Diagram of True BBD block connected to its controlling LFO

As we can observe, the **LFO** generator's output is connected to the **Delinearize** block, in which a proper transfer characteristic from the **LFO** to the BBD clock's frequency is applied. Subsequently, the output frequency is scaled with the **Range** parameter and passed on to the clock input of the delay line as a series of timing pulses.

While selecting delay line parameters the **Freq** display might be of help in the **True BBD** section:

BBD Frequency

It informs about the current frequency of the BBD's timing clock. This frequency is determined by many factors: **Range** parameter, **LFO to Clock Voltage Curve, BBD Length** and **LFO** section settings.

It is worth mentioning that for low frequency of timing pulses, below the sampling frequency, we can hear interesting sound effects, resembling a signal's decimation, which of course are not an unexpected side effect. Exactly the same type of sound artifacts would appear in the original, which was an inspiration for Antresol if its internal parameters were properly readjusted in order to achieve a similar operating range of the BBD's timing clock. This is due to the fact that the innovative algorithm applied in Antresol operates on a quasi-analogue signal representation, precisely reflecting all the aspects of electronic circuits' operation and coappearing side effects.

Feedback value

Feedback section

This section's parameters control the feedback value of the delay loop. If the stereo channels are linked (**Link** flag on):

Feedback parameter's stereo link flag

The feedback is controlled for both channels simultaneously by using any of two potentiometers (they are visually linked). If we turn off the **Link** flag, the feedback value can be controlled independently for both stereo channels (**L/R** or **M/S**) by using both potentiometers.

The knob in **0** is the neutral position (no feedback). An inclination to the right increases positive feedback whereas an inclination to the left increases negative feedback.

Parameters of modules located after the feedback loop

This section describes modules which process the feedback loop's output signal.

Low Cut Filter

The **Low Cut** Filter allows to discard the excess amount of energy accumulated in the lower signal's register, which is cumulated during the passing of the signal through the feedback loop.

Low Cut filter

The filter can operate in one of three modes:

- **Off** – the filter is inactive delays
- **Low** – a passive filter is activated which cuts frequencies below **50 Hz**
- **Mistress** – a passive filter is activated which cuts frequencies below **100 Hz**

FX section

This is the final block of this processor, in which the unprocessed signal is mixed with the processed one.

FX Section

The **FX** block can generally work in one of two modes:

- Manual
- Automatic

We select the work mode with a bistate button **Mistress Auto Mix Mode**

Mistress Auto Mix Mode parameter

Dry / Wet manual mixing

In this mode we manually set changes in the ratio between the processed and unprocessed signal using the following parameters:

- **Gain L/M** – Volume of the **Left (Mid) Wet** signal channel
- **Gain R/S** – Volume of the **Right (Side) Wet** signal channel
- **FX** – the ratio of mixing **Wet** and **Dry** signals

Dry / Wet automatic mixing – Mistress Mode

In this mode the unprocessed and processed signals are mixed together automatically and the ratio is applied on the basis of feedback loop parameters to achieve the best sound effect.

Setting Antresol to Mistress emulation mode

Antresol is inspired by the classic flanger type guitar effect from the Mistress series and the solutions applied in it constituted a strong inspiration for the functioning of our processor.

1. Firstly, the automatic **Dry** and **Wet** signal mixing is activated with the **Mistress Auto Mix Mode** switch

Mistress Auto Mix Mode parameter

Then, **Dry** and **Wet** signals are mixed together in a ratio arbitrarily set on the basis of the feedback loop parameters in order to achieve the best sound effect. Additionally, activating the automatic mixing mode activates also a special pre-filter (depicted on diagram **Low Cut** parameter) which limits the input signal on bands. The parameters of these filters are not controlled by any GUI parameters and are affixed on the value corresponding to an identical mode which can be found in the Mistress guitar pedal.

2. Another element which allows to achieve an original Mistress sound is the high-pass filter located after the feedback loop and controlled by the **Low Cut** parameter on GUI.

Low Cut parameter

Set to Mistress, apart from removing low tones from the feedback loop's signal, it additionally activates a low tone reconstruction block during the automatic **Dry** and **Wet** signal mixing (**Mistress Auto Mix Mode** must be active).

Setting these values on the two aforementioned parameters causes the plug-in to act as an exact emulation of the classic Mistress guitar effect.

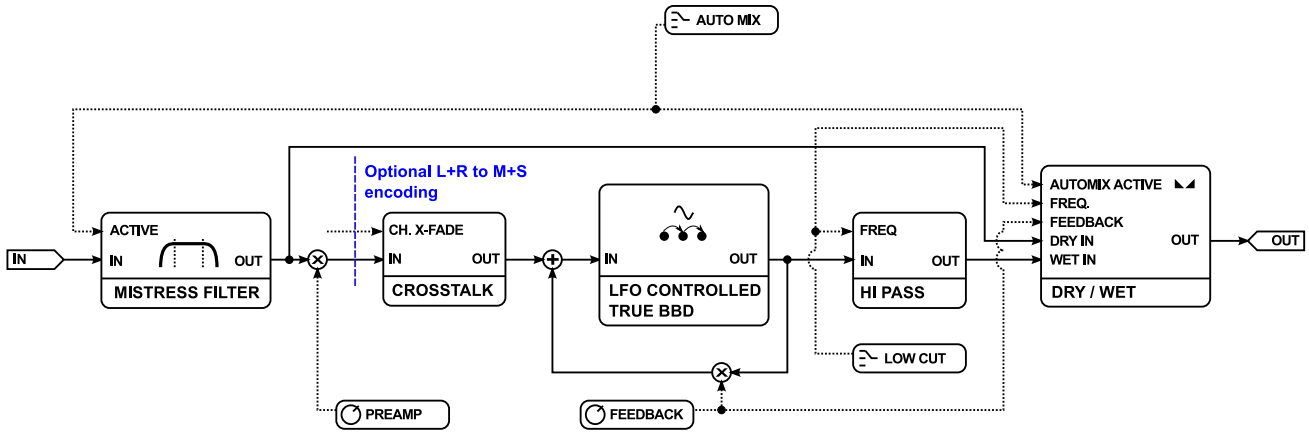
Working with the Mono tracks

If we use Antresol on a monophonic track, only the **Left** plug-in channel parameters are used to control the processing track. Additionally, some of the parameters do not work at all. Here is a list of all controllers, which functioning is changed when the plug-in is used on a **mono** track:

- **MS / Mode** switch – does not work. Due to processing of a monophonic signal we are unable to select a type of representation for the **stereo** signal.
- **Link** diodes from the **LFO** and **Feedback** sections do not work.
- **LFO** parameters from **R/S** row (for the **Right** channel) do not work. The **LFO** generator is controlled by the **Left** channel parameters only.
- **Feedback R/S** parameter (for the **Right** channel) does not work. – The control is made by means of the **Left** channel **Feedback** parameter only.
- **Gain R/S** parameter (for the **Right** channel) in the **FX** section does not work. Only **Gain L/M** parameter is responsible for controlling the feedback loop output volume.

Demonstrative schemes

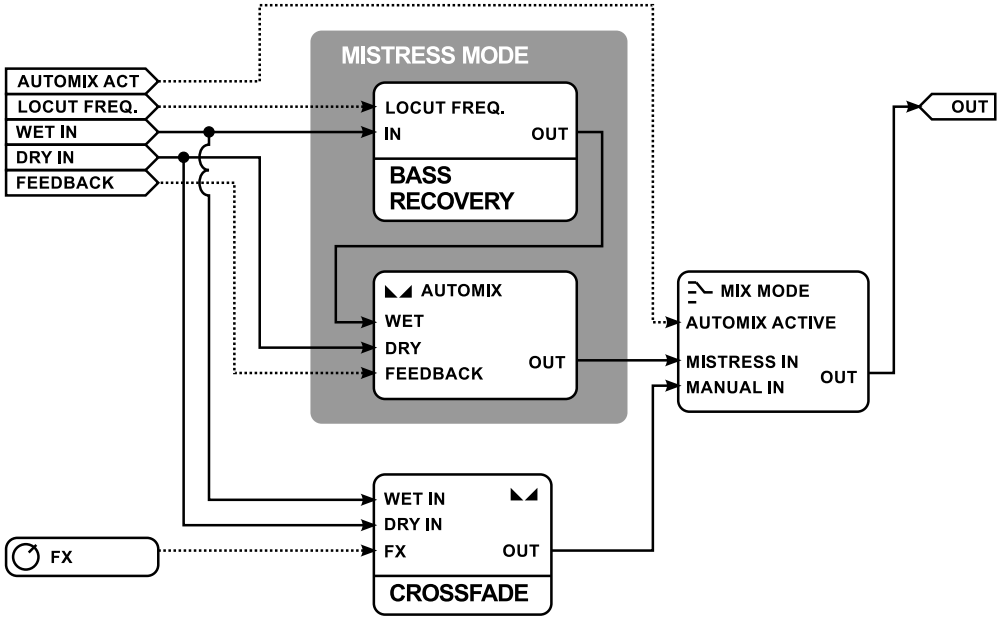
The following diagram illustrates the general scheme of the effect.



Antresol effect diagram

The input signal is passed on the optionally working (if auto-mix is activated) **Mistress** pre-fiter. Next, preamplification and optional representation shift from **L/R** to **M/S** occurs. In the subsequent step the signal is passed on to stereo channels' cross talk addition block. Afterwards it enters the feedback loop.

After leaving the feedback loop the signal goes through the **Low Cut (Hi Pass)** filter and subsequently it is passed on the mixing block with the unprocessed signal. This section is illustrated in more detail in picture 33 below.



Dry and Wet signals' mixing block in Antresol

The Diagram depicts the **Dry** and **Wet** signals' mixing block in Antresol, which is partially based on the Mistress guitar pedal construction. If the **Auto Mix** mode is active the signal goes through the **Mistress Mode** subsection. The **Dry** and **Wet** signal mixing ratio is set automatically on the basis of the **Feedback** parameter. Additionally, if we switch the **Low Cut** filter to **Mistress** position, the reconstruction block of the low signal frequency from the feedback loop is activated (**Bass Recovery**).

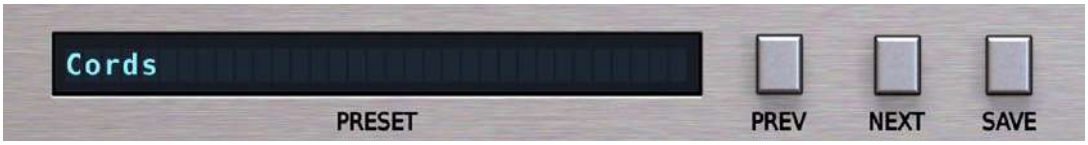
Preset Management

Preset storage

Presets, both from **Factory** content and user ones, are stored as files in proper locations on the disc. Each time a plug-in instance is loaded into a project, these locations are scanned and the presets found there are consolidated into a single linear structure (list) in the **Preset Browser.**

Browsing presets

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



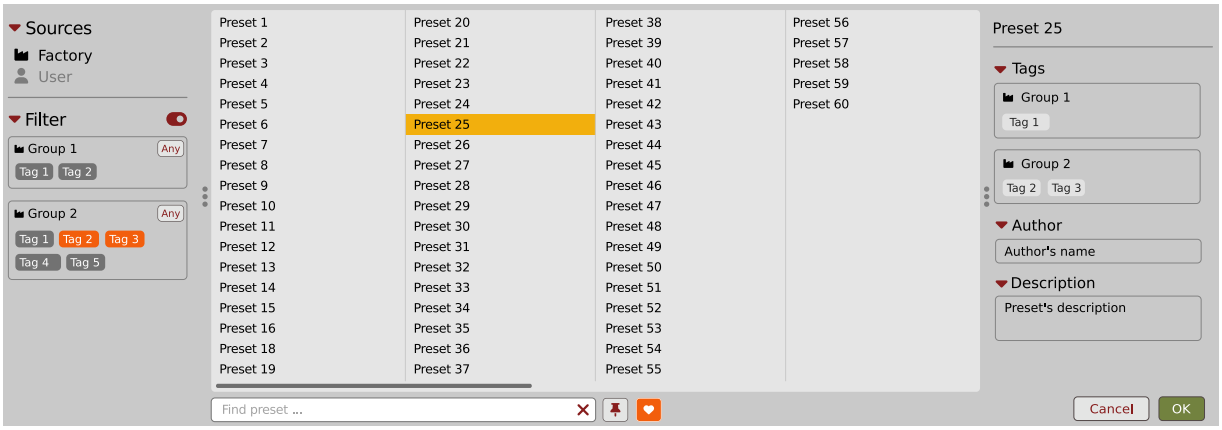
The Preset management section

- **PRESET** - 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** - Hovering over right side of the **Preset** display exposes the **Prev / Next** buttons:
  They allow for linear browsing of the presets list (depending on currently set filters - see sections below).
- **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 or three additional options:

- **Init** - Restores initial settings of plug-in parameters.
- **Reload** - Reloads the most recently loaded preset.
- **Save** ▶ – See description above.

The **Preset Browser** looks as follows:



The Preset Browser

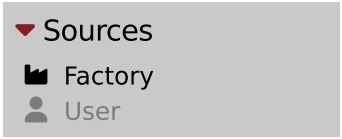
There are four main parts:

- **Sources** - Situated in the left column, filter content **Sources** for displayed presets.
- **Filter** - Below **Sources**, 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.

▶ If available - For some preset types this button can be hidden and accessible from the contextual menu (accessible via right mouse-click on **Preset display**)
▶ If available

Sources

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



Preset Sources

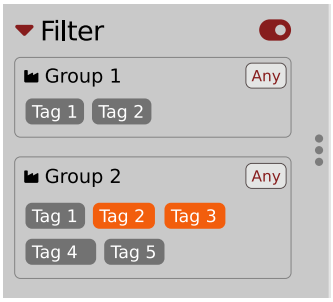
There are two resources to choose from:

- **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.

The Filter group

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

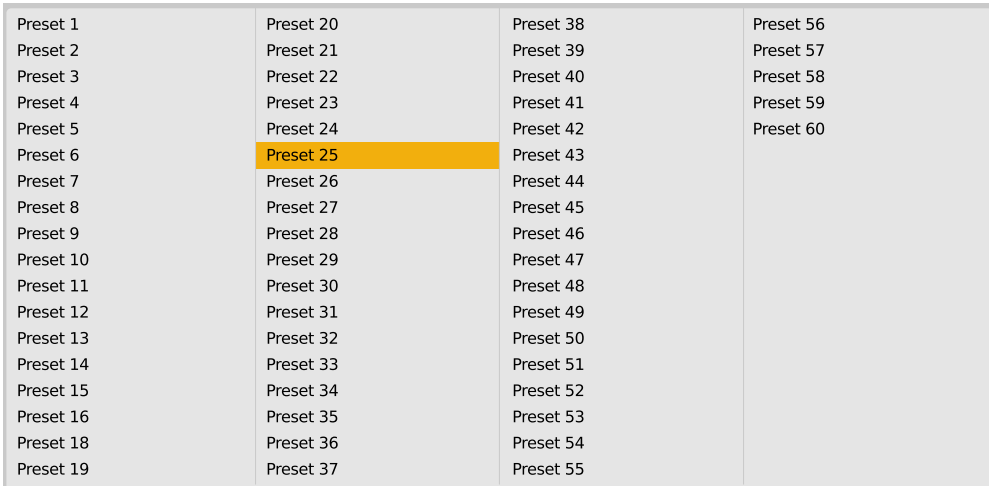
Groups and **Tags** describe the content clearly, taking into account the plug-in's purpose.

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

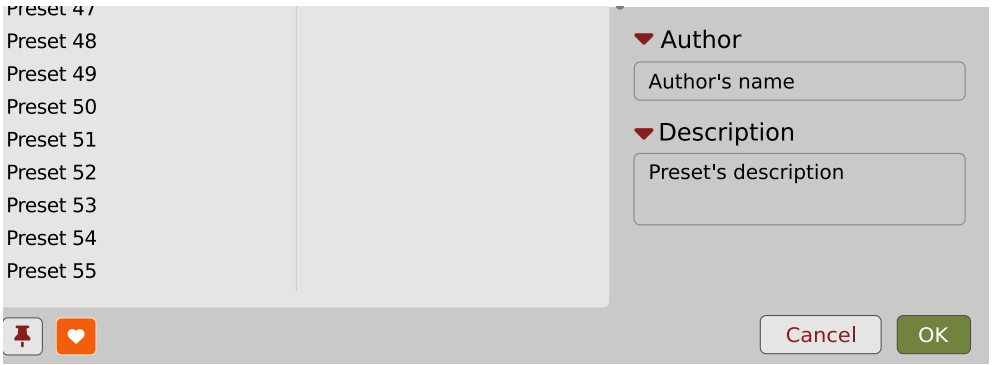
This is a list of presets from chosen **Sources** that meet the filtering criteria. The basic function of this section is to browse and load presets. It can also be used for editing, which is described later.



The Results list

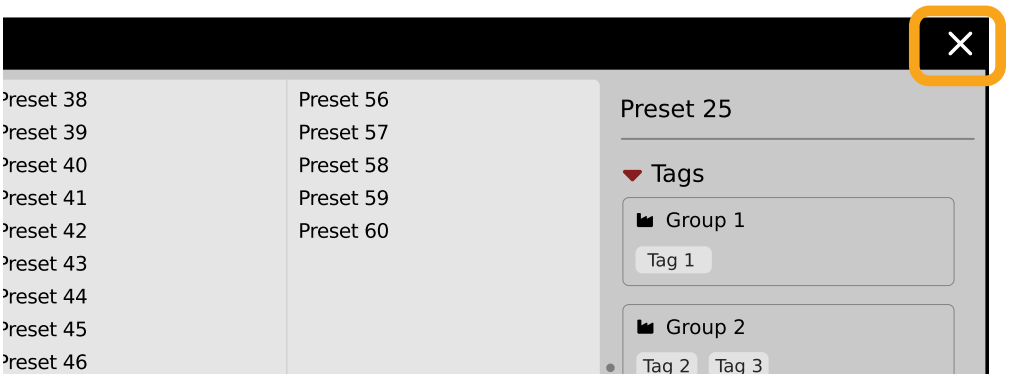
- **Click** any name to choose and load the preset.
- **Double-click** the name to choose, load the preset and close the browser.

Hitting the **OK** button confirms loading a preset and closes the browser. Using **Cancel** closes the browser but reverts all parameter changes that loading a new preset might have caused.



The OK and Cancel buttons in the browser

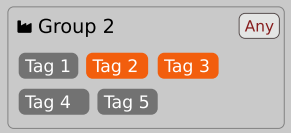
Using the **X** icon has the same effect as the **OK** button:



Close Browser window

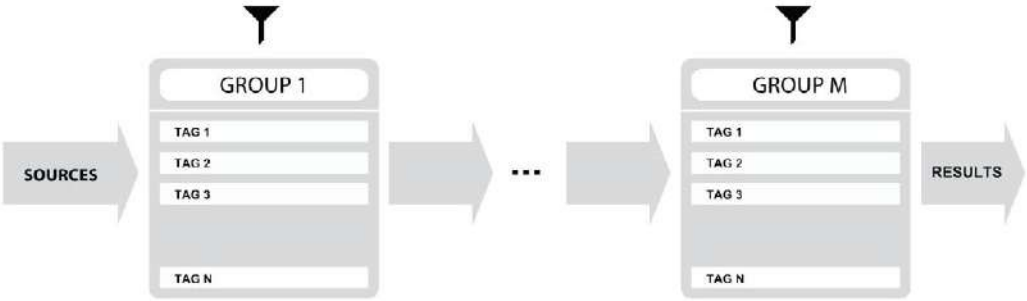
Preset filtering using Groups and Tags

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



Group 2 with two tags set (Tag 2 and Tag 3)

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).

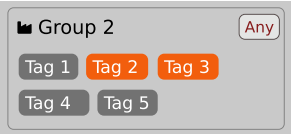


Preset Filtering with the use of Groups

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*.



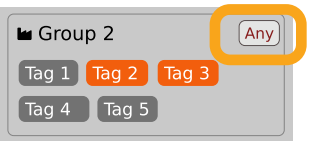
Group 2 with two tags set (Tag 2 and Tag 3)

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**:



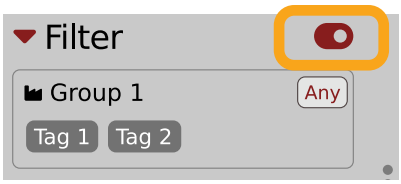
A Group operator

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

- **Any** [1] - Means that a preset is shown in the **Results** when the preset includes at least one of the active **Tags** from the **Group**.
- **All** [1] - 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

Filtering Favorite presets

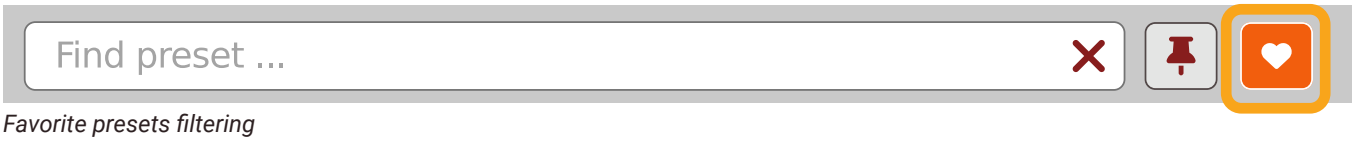
You can mark presets as a **Favorite** by clicking the **Heart** icon while hovering on preset name [1] . You can unmark presets by clicking the icon again (toggle mode):

Setting a preset as a Favorite on the list

[1] Logical OR between Tags in the Group
[1] Logical AND between Tags in the Group
[1] It's allowed for every **source** (**factory** or **user**)

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:

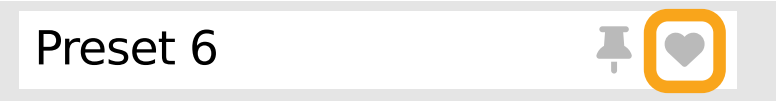


Favorite presets filtering

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).

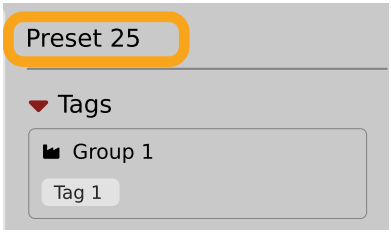
- Sometimes project or plug-in reload may be required
- It's allowed for every **source** (**factory** or **user**)

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.

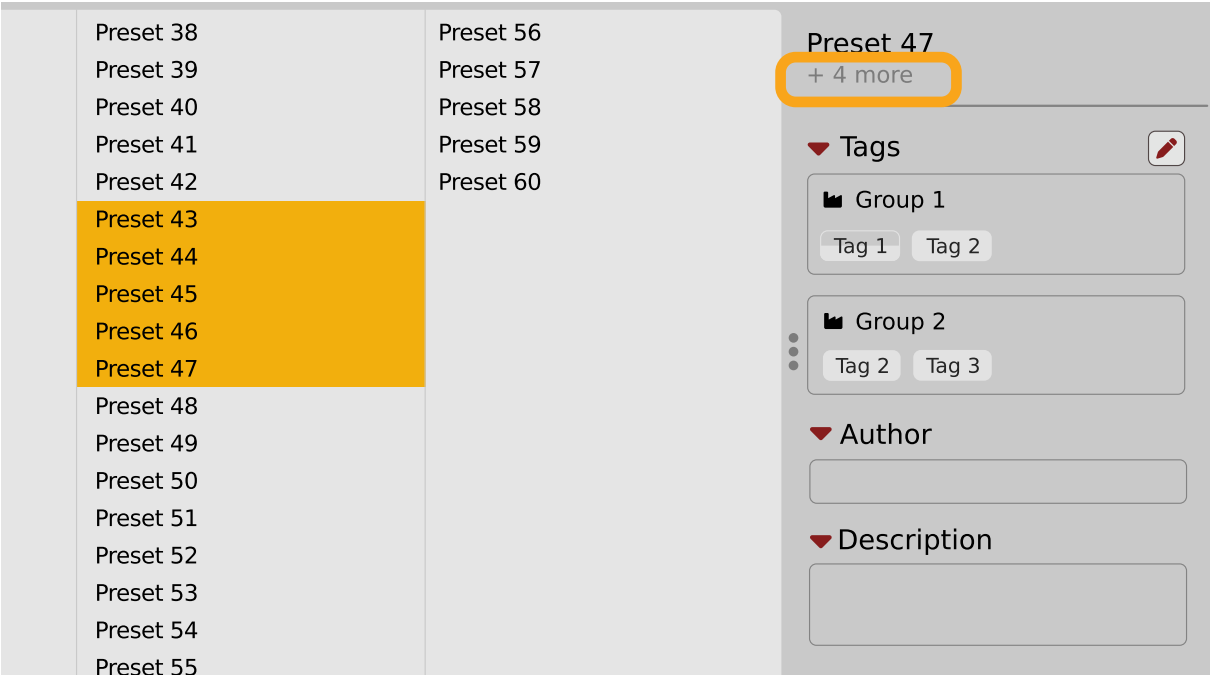
The Info pane

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

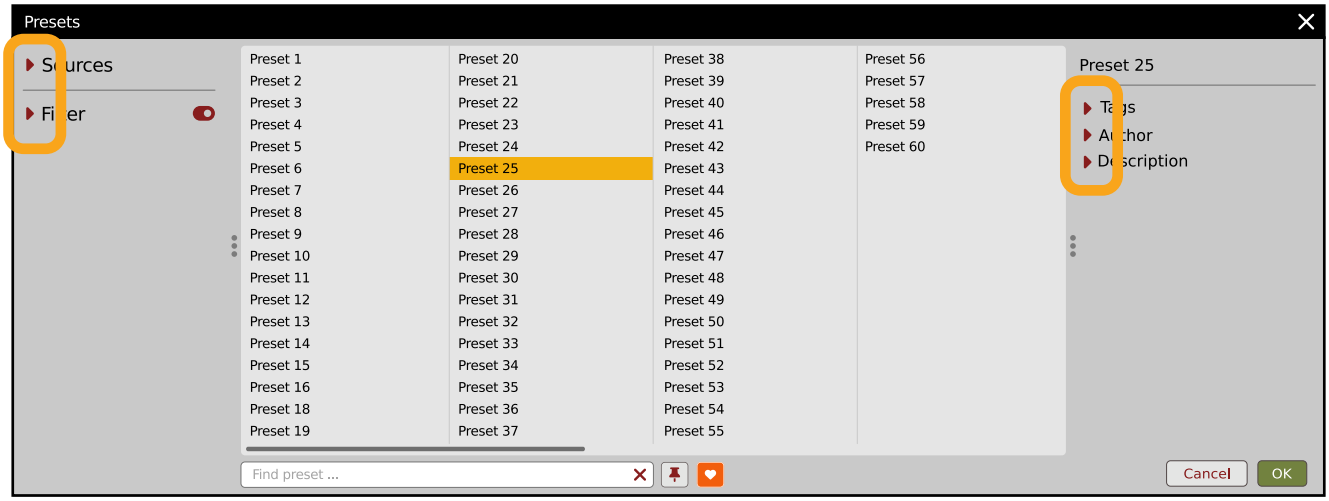
Below the preset(s) name there are few common sections describing selected presets:

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

Browser's visual adjustments

Folding sections

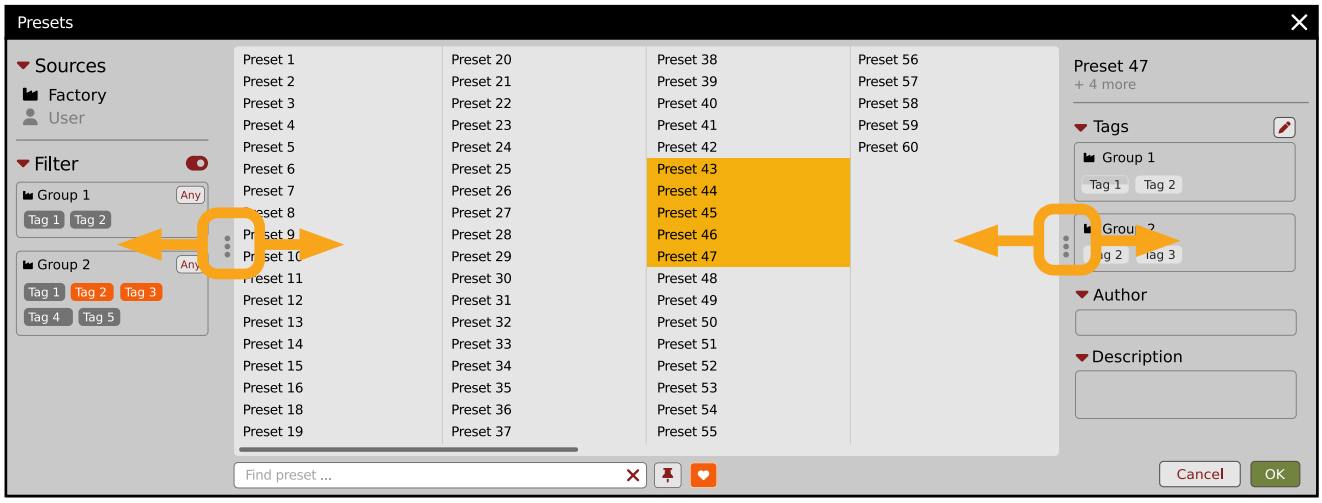
If you don't need to see the contents of every section / subsection, you can fold some of them up using the **Caret** icons:



Sections folded up

Resizing columns

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



Resizing Browser columns

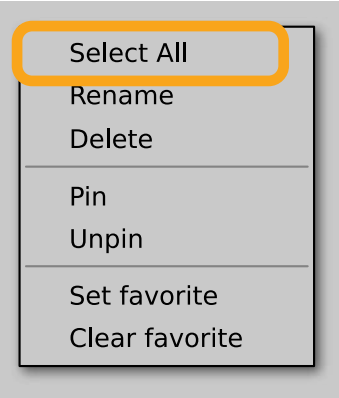
Editing presets

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:

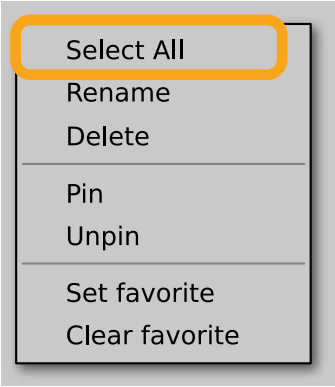
- **Click a preset** - Selects (and loads) one preset from the list.
- Win (Ctrl + **Click the preset**), Mac (Cmd ⌘ + **Click the preset**) - Adds another preset to an already chosen preset or a set of presets.
- *Shift* + **Click the preset** - Selects a range of presets from the last chosen preset 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:

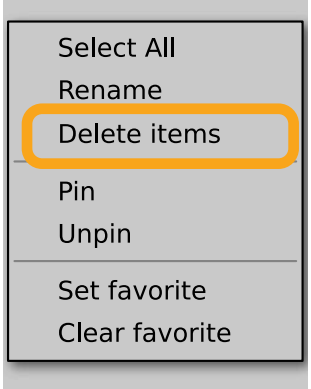


Preset renaming

◘ The option is available only for individual presets and won't work on a selection of two or more presets.

Preset deletion

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



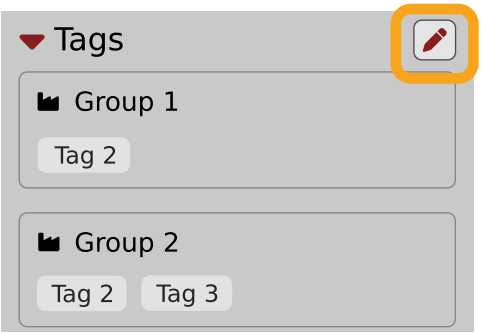
Deleting presets

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

The Trash bin button

Tags editing

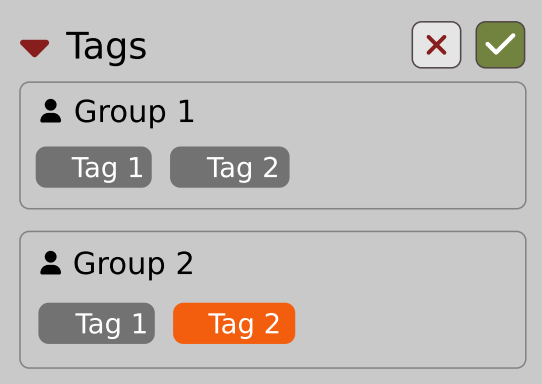
When you select a preset or presets to change their tags, click the **Pencil** button next the **Tags** section in the **Info pane** to enter **Edit mode** for the **Tags**:



Entering the Tag edit mode

▶ Or **Delete** option (depending on how many presets have been selected).

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

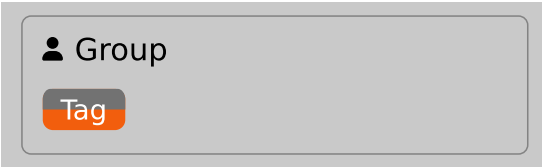


The Tag Edit mode

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

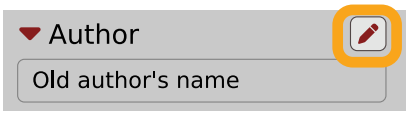
Tag buttons highlighted in half-gray and half-orange color (where **Tag** values across the highlighted presets aren't all the same) workin a three-state system when switching between states; they turn gray if you erase the **Tag** for all selected presets, orange if you set the **Tag** for all selected 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

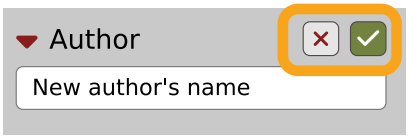
Author editing

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:

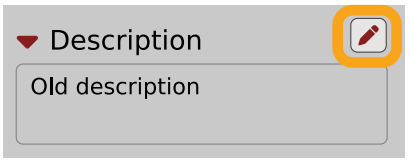


Confirming Author editing

This operation is possible for user content only.

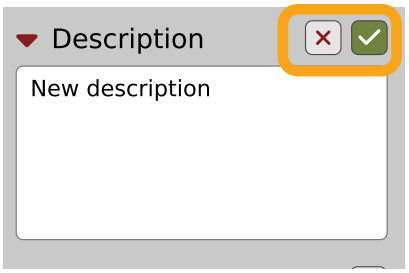
Description editing

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



Editing Description

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

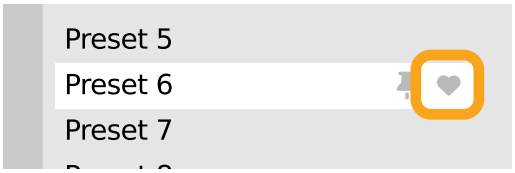


Confirming Description editing

This operation is possible for user content only.

Setting presets as Favorites

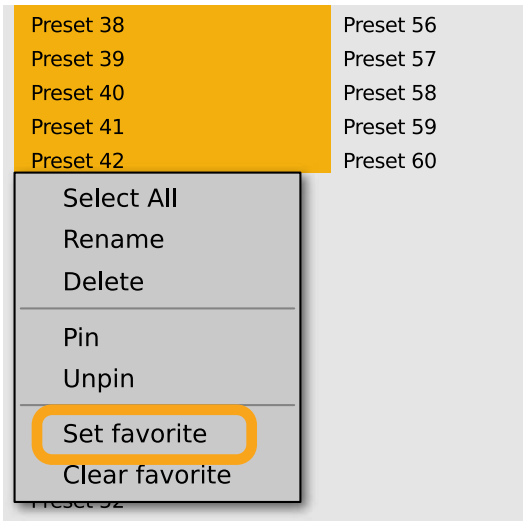
As described in the chapters above, you can mark a preset as a **Favorite** by clicking the **Heart** icon while hovering over the preset name:



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 [1] .

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

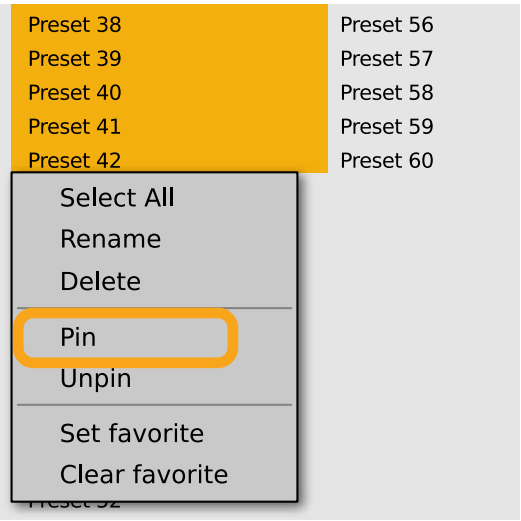
You can **Pin** one or more presets using the **Pin** icon while hovering over the preset name:

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).

[1] Sometimes a project or plug-in reload may be required

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.

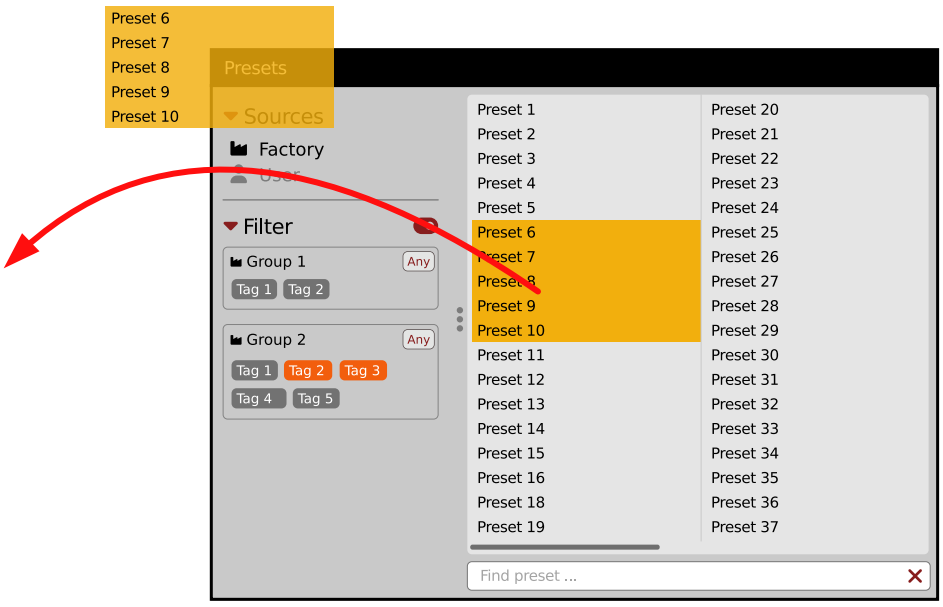
To clear the **Pin** flag for a selection of presets, use the **Unpin** option instead.

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:

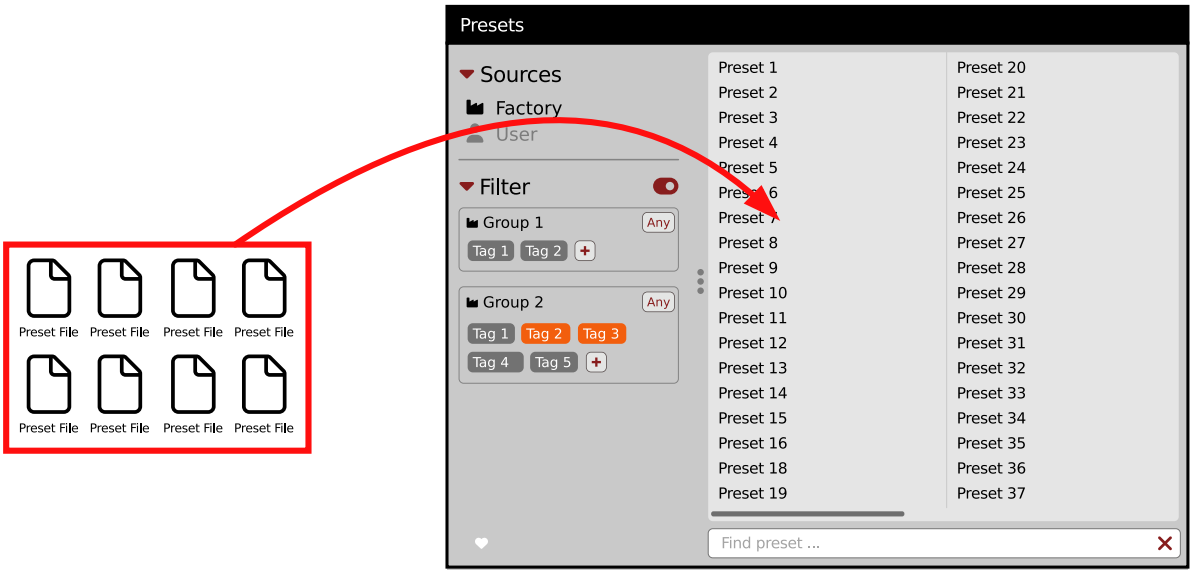


Exporting presets

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.

Importing Patterns

Specifically within the **Pattern browser,** it's possible to import:

- Native **Phoscyon 2** patterns.
- Banks from legacy versions of the plug-in (**Phoscyon 1.x**) - which will be accessible as alternative **Sources**, after you drag-and-drop them into the **Browser**.
- Patterns from *Audiorealism ABL 2* or *3* instruments - which will be included in **User** patterns after import.

Creating custom Tags and Groups structure

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).

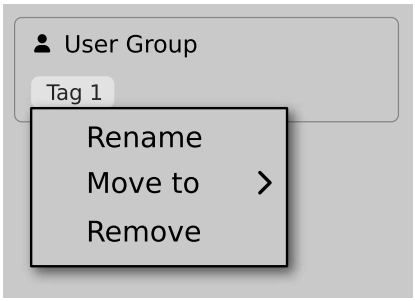
◘ This operation is allowed for a user's Groups only

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:



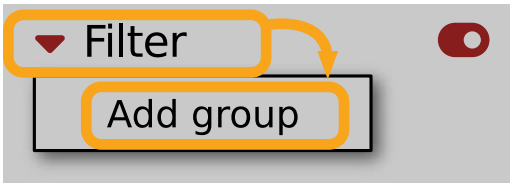
Editing options for a user Tag

- **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**.

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

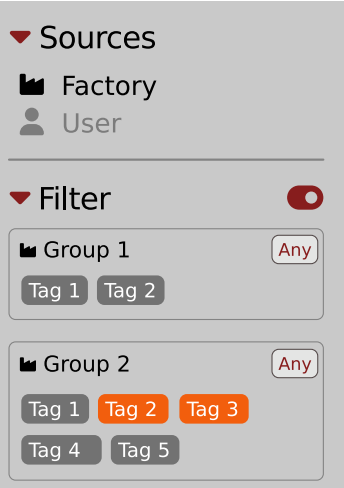
From here, you can add **Tags** to that newly created **Group** (see above), or move ◘ **Tags** from other **Groups**.

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

◘ You can only move user Tags

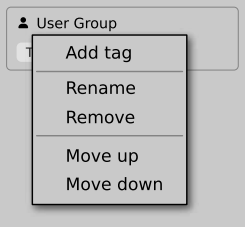
Editing custom Groups

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.

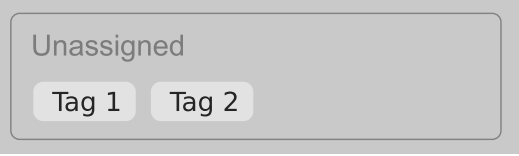
These operations are possible only on user **Groups**.

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).

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.



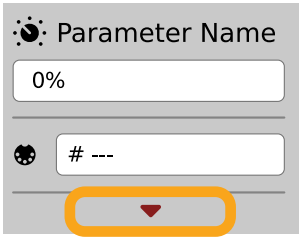
Unassigned Tags

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

Configuration

MIDI Learn

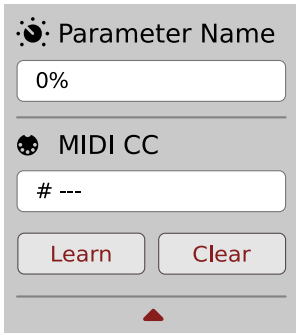
Right-click any plug-in parameter to open the context menu:



A context menu

Left-clicking outside the menu area closes it automatically.

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

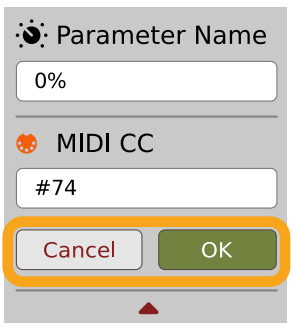


An expanded context menu

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.

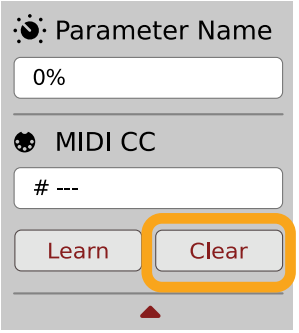


Linking a parameter to MIDI CC

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:

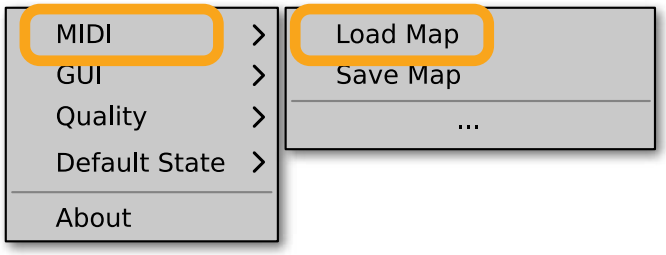


The Clear MIDI CC button

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

Loading / Saving a MIDI CC Map

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

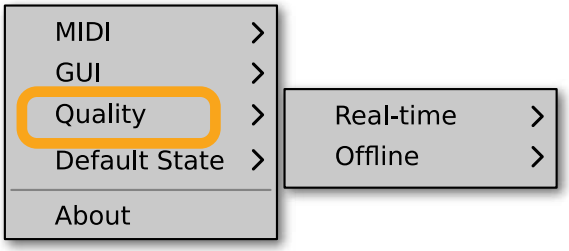


The Load Map and Save Map options

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

Quality settings

The **Quality** submenu under **Cog** icon in upper-left corner allows to choose sound quality for **Real-time** or **Offline** modes.

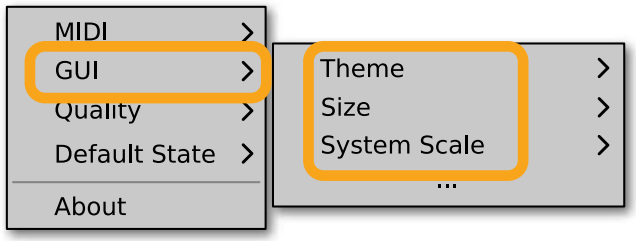


Quality settings

The higher the quality, the bigger the impact on the CPU.

GUI

The **Size**, **System Scale** and **Theme** options are accessible from **GUI** submenu under **Cog** icon 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 Size and System Scale 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.

System Scale

System Scale controls the rescale factor for the whole plug-in. For the best visual results, you should set it to the exact value from your system settings (screen properties).

Theme

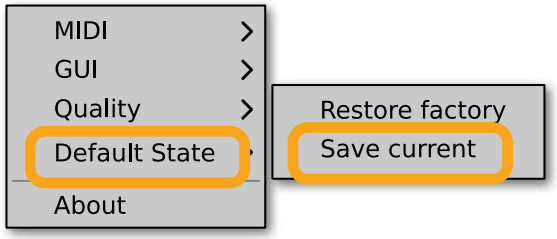
The **Theme** allows you to choose skin color variant according to your preference

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 **Cog** icon 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 **Cog** icon in the left-upper corner of the plugin.
2. Go to the **Default State** submenu and choose the **Restore factory** option.