BENDOBOX

BEAT MANIPULATOR FX

VST3/AU Plugin for Win & Mac 64-bit

BENDOBOX ◄► Breaker Breaker **SAVE**

TONESHAPER LOAD SAVE !?!   **MOD GATE** LOAD SAVE !?!

DRIVE BASS CUT SAT MIX

SPLIT FREQ RES CRUNCH **DRIVE**

LFO 1/8 Saw2   **WAVE SHIFT**
GATE 2b HARD GATE

AMP FILTER

LENGTH OFFSET DEPTH DEPTH

ECHO LOAD SAVE !?!   **DELAY GATE** LOAD SAVE !?!

INPUT 1/16 SPREAD FDBK DAMP MIX
1/16 **PINGPONG**

GATE 1b   **FEED INPUT**

LENGTH DEPTH DEPTH

psychicmodulation

DRY/WET VOLUME

ECHO 1/2   **FREAKOUT**
FILTER **HOLD**

GATE/MOD

TOTAL

version 1.0

Table of Contents

Introduction to BendoBox

BendoBox is a sound-shaping, rhythmic effect that transforms simple loops into wild, beat-driven mutations. Shape your sound with bass-boosting, filtering, and crunchy saturation. Manipulate the beat with bpm-synced chopping, gating and pumping effects. Enhance your modified sound with dubbed out echoes, feedback gating and delay send variations. BendoBox is an exploratory multi-effect for turning ordinary drums, melodies and vocals into entirely new rhythmic creations.

Installation

To install BendoBox, simply double-click on the installer file and follow the on-screen prompts. If you just want to try out a demo version, download the correct installer from the **BendoBox webpage**. The demo version is fully functional with the exception of occasional sound dropouts.

System Requirements:

Windows: VST3, Windows 7 or higher, 64-bit

Mac: VST3/AU, OSX 10.11 or higher, 64-bit

The installer will install the plugin into your chosen plugin folder, as well as a copy of this user manual and two folders for presets. These preset folders are installed into the following location based on your OS:

> **Windows:** C:/Users/Public/Public Documents/BendoBox/

> **Mac:** Users/Shared/BendoBox/

In order for the plugin to load presets properly, the preset files must be saved to the correct locations. Your main presets should be saved to the 'Presets' folder, sub-presets

for each section should be saved to the 'SubPresets' folder. This will allow you to access your presets directly from the plugin's interface via dropdown lists. For more info about the Preset system, **see this section.**

The Signal Chain

When sound enters BendoBox, it passes through a series of stages outlined below.

The Effect Chain

Input Drive > Band Splitter > Bass Booster > Filter > Saturation > Echo > Output Gain > Dry/Wet Mix

The Input Drive determines the amount of gain to enter the signal before it is affected by the ToneShaper. The signal is then split into a high and a low band. The low band is passed into a Bass Booster, while the high band is sent into a Low-Pass Filter. Both bands then pass through the Saturator, with the high band being further distorted by the Crunch control, and the low band being saturated with minimal distortion. More about the ToneShaper section **here**.

After the signal is shaped and filtered, it enters the Echo delay unit. Read all about the Echo section **here**.

Finally the Master Volume controls the overall output signal, and the resulting sound of all applied effects can be mixed with the original dry signal using the Dry/Wet control at the bottom of the interface. Note- Master Volume controls the Wet signal, leaving the Dry signal unaffected.

Modulation

Both the ToneShaper and Echo have their own modulation and gating systems. These are covered in more detail in the **Mod Gate** and **Delay Gate** sections.

ToneShaper Panel Overview
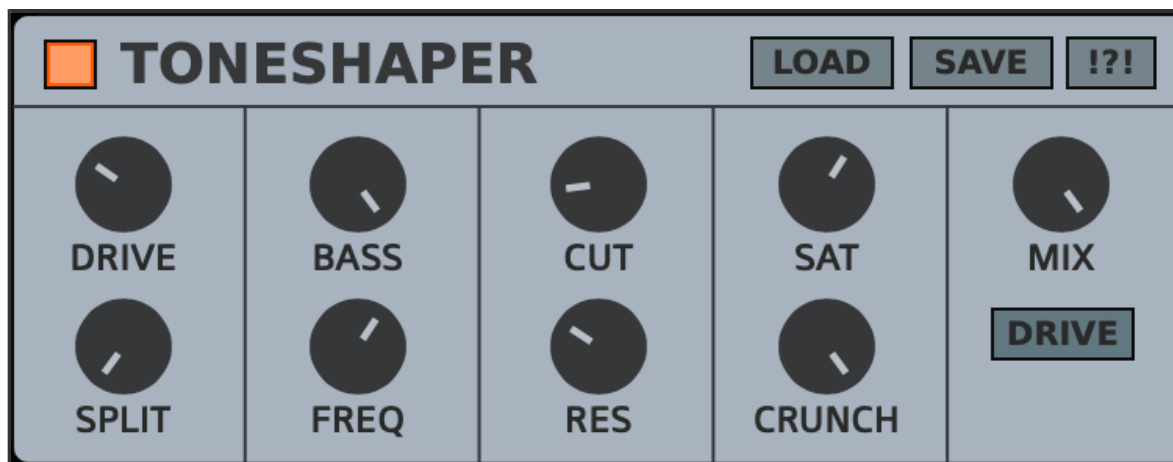
The ToneShaper effect will split, boost, filter, shape and saturate the incoming signal.

Drive

Increases the volume of the input signal from 0db to 12db.

Split

This parameter determines the splitting point of the High and Low signals.
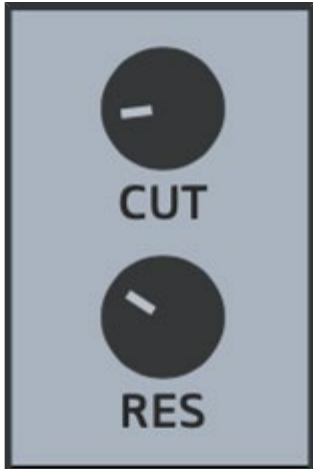
Bass Booster

The Bass control acts as a bass booster, increasing the low-end frequency set by the Freq control beneath it, which ranges from 30-95 Hz.

Low Pass Filter

The Low Pass Filter uses two simple controls, Cutoff and Resonance. Cutoff sets the cutoff frequency, filtering out all frequencies above this point. Resonance raises the filter's Q, causing the sound of the filter to be more pronounced.

Saturation

After the signal is filtered, it is fed into the Saturator, which will add harmonics, shape and distort the incoming signal. Increase the Sat control to mix saturation into the signal with soft limiting. Crunch works in conjunction with the Saturation Level, and will further distort the sound when increased. If the Sat control is at 0, then Crunch will have no effect on its own.

Mix

The Mix control mixes between the dry signal and the signal fully affected by the Tone section. The Drive switch beneath it determines if the dry signal will respond to the Input Drive control. For example, if Drive is switched on, both the dry and wet signals will respond to the Input Drive control. This will have the effect of equal loudness in the mix. If this button is switched off, the dry signal is completely dry, most likely resulting in a much lower dry signal.


The Tone section can load and save its own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect and mod section for quickly saving segments of the plugin, and loading them up whenever needed. For more info about Sub-Presets, **see this section.**

The parameters on this panel can be randomized by clicking the **!?!** switch. The only parameters not affected by the randomizer are the Resonance and Mix controls.

The entire effect can be switched on or off with the small orange power button at the top left.

Mod Gate Panel Overview
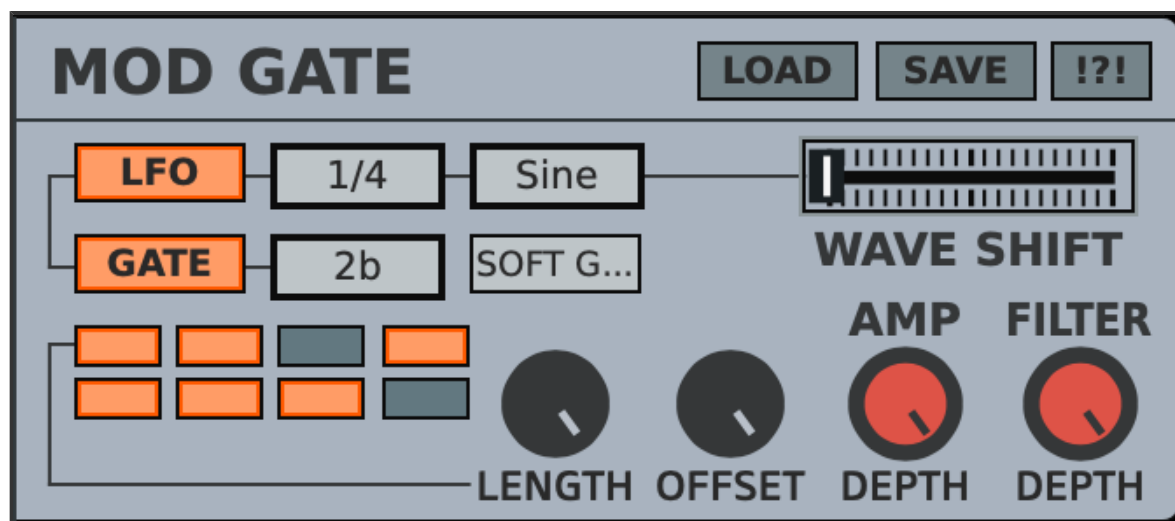
The Mod Gate is a section of the ToneShaper dedicated to modulating and gating the Amp (input volume) and Filter Cutoff. This particular section works as both a Rhythmic Gate and an LFO Modulator. The two can either work together or individually. This will be discussed in more detail below.

LFO

The orange LFO button switches the LFO Modulator on or off. The dropdown selector to the right of it selects the BPM synced Rate, which ranges from 4 bars to 1/16th of a bar, with triplet (T) and dotted (.) timings available. Next to that is the LFO Waveform selector, which provides several wave shapes to choose from. The phase of these waveforms is set by the Wave Shift control next to it. More about this below.

Wave Shift

This slider alters the phase position of the selected waveform. The phase is locked to host, so this control acts as the starting point of the waveform, and can be used very specifically to shape the sound of the modulation within the beat. Note: when using Saw and Ramp waveforms, the Wave Shift slider behaves differently by flipping, or reversing the waveform instead. This will effectively transform a saw into a ramp and vice-versa.
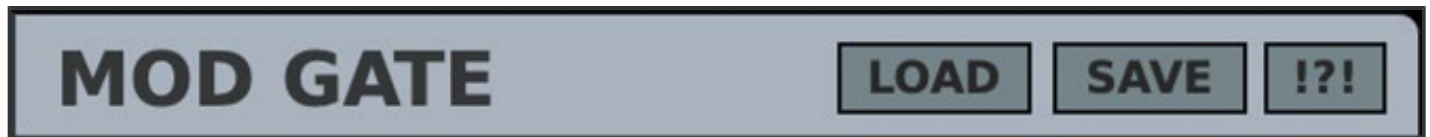
Gate

Below the LFO row are controls for the Gate functions. The orange Gate button activates an 8-step Gate Sequencer. The Gate can work with the LFO, or on its own. If the LFO is also active, the Sequencer will trigger the LFO on/off with each step. If only the Gate is active, it will act to trigger the Amp (volume) from full to mute, as well as trigger the Filter from current Cutoff position to the lowest cutoff point (20hz).

The BPM synced Rate of the Gate Sequencer can be adjusted, and uses the same timings as the LFO above it. Next to this is a dropdown parameter for choosing the type of gating used: Hard, Soft or Glide.

The Length knob changes how many steps are in the gate sequence (1-8). Using different lengths can result in interesting polyrhythms depending on the beat of the source material.

The two orange knobs adjust the level of both modulation and gating for the Filter and Amp respectively. If these controls are at 0%, there is no modulation or gating.

The Mod Gate section can load and save its own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect and mod section for quickly saving segments of the plugin, and loading them up whenever needed. For more info about Sub-Presets, **see this section.**

All of the parameters on this panel can be randomized by clicking the **!?!** switch.

Echo Panel Overview

The Echo is a BPM-Synced Stereo Delay unit. The Echo works with the Delay Gate for sending/muting delays or gating the feedback on specific steps of the sequencer.

Input

This controls the volume level of the signal coming into the Echo. When Input is used with the Delay Gate Sequencer, a portion of the signal is sent into the Echo with each active step, based on the level set by the Input control. More about using the Delay Gate **here**.

Rate

The two Rate selectors can function as either left/right stereo timings, or as dual timings for both channels. This is based on the amount of Spread used. Whole, dotted and triplet notes are provided, ranging from 1 to 1/16 of a beat. The small orange button between the two rates acts as a link switch. When activated, Rate 2 (bottom) will follow Rate 1 (top). When the link switch is enabled, changes to either rate will apply to the other.

Spread

This will separate the two rates between channels. If Spread is at 0%, the rates are combined into a dual timing for both left and right channels. As the Spread control is increased, the echoes begin to separate with individual left and right delay timings.

Ping-Pong Mode

When activated, the delays will bounce back and forth, from right to left.

Feedback

Adjusts the feedback level of the delay. Set highest for an infinite loop. Feedback can be used in conjunction with the **Delay Gate**. Set the Feedback high for really pronounced gating effects.

Damp

Within the feedback path, the echoes can be colored using a series of Low-Pass and High-Pass filters. Damp acts as a single control for both filters. As the Damp control is increased, the Lowpass frequency is lowered, while the Highpass frequency is increased. Set low for no damping, set high for a nice balance of highpass/lowpass filtering to taper off the feedback trail.

Mix

The Mix control will combine the dry and wet signals. Turn left for dry (no delay), right for wet (delayed signal only). Keep in mind that there is still another Main Mix control for the overall effect, so check this control when adjusting the Echo Mix to get the correct desired settings.
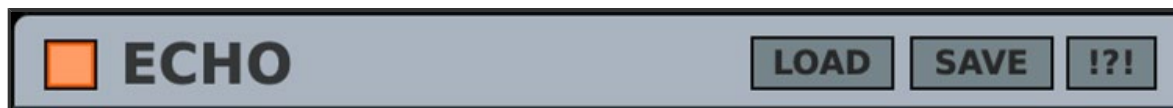

The Echo section can load and save its own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect and mod section for quickly saving segments of the plugin, and loading them up whenever needed. For more info about Sub-Presets, **see this section.**

The parameters on this panel can be randomized by clicking the **!?!** switch. The only parameters not affected by the randomizer are Input and Mix.

The entire effect can be switched on or off with the small orange power button at the top left.

Delay Gate Panel Overview
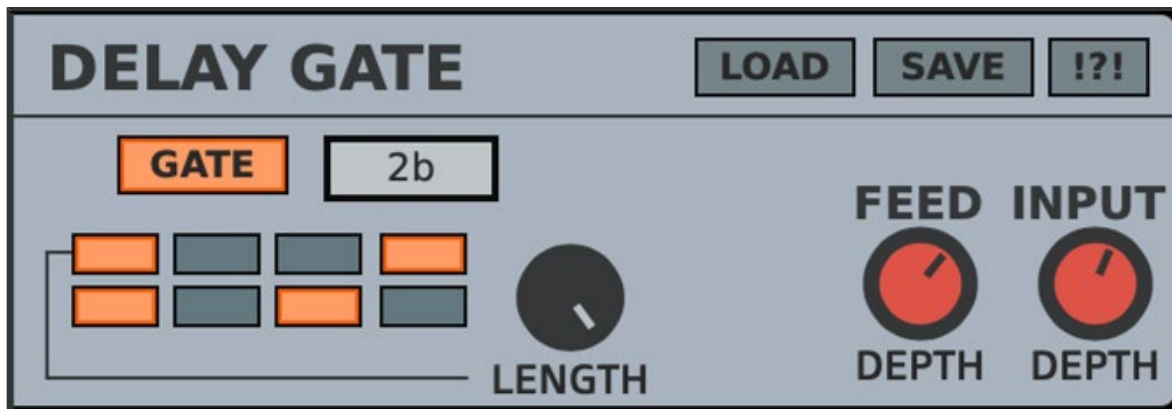
The Delay Gate is a section primarily for gate-sequencing the Echo Input volume and Feedback. The layout is much more simplified than the Mod Gate above it, because there is no modulation taking place, only a gate sequencer.

The orange Gate button activates the 8-step Gate Sequencer for gating Input (volume) and Feedback. Input gating is great for sending or muting echoes on specific parts of a beat, from the parameter's current level (step on), to muted (step off). Feedback gating behaves the same way, with current feedback level for active steps, and zero feedback with each off step.

The Rate of the Gate Sequencer is BPM-Synced and can be adjusted via the dropdown box next to the sequencer, ranging from 4 bars to 1/16th of a bar, with triplet (T) and dotted (.) timings available.

The Length knob changes how many steps are in the gate sequence (1-8). Using different lengths can result in interesting polyrhythms depending on the beat of the source material, as well as the gating of the ToneShaper.

The two orange knobs adjust the level of gating for the Input and Feedback respectively. If these controls are at 0%, there is no gating. As the Levels are increased, the gating effect is more pronounced. If both controls are at 100%, gating will completely mute the Input and Feedback for each off step.

The Delay Gate section can load and save its own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect and mod section for quickly saving segments of the plugin, and loading them up whenever needed. For more info about Sub-Presets, **see this section.**

All of the parameters on this panel can be randomized by clicking the **!?!** switch.

Master Panel Overview
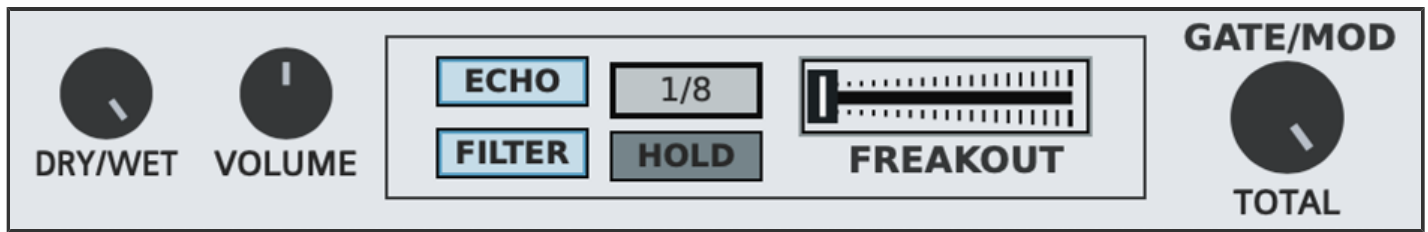
These controls apply to the entire effect as a whole.

Dry/Wet Mix

This is the main dry-wet mix control. If set to 0% (left), only the dry signal is heard. If set to 100% (right), the fully effected signal will be heard.

Volume

This is the main volume control. This will increase the volume of the wet signal up to 12 db, without affecting the dry signal.

Gate/Mod Total

This acts as the Main Gate/Modulation control to sum up all the orange Level controls. This should stay at 100% unless you want both gating and modulation to be more subtle. It can also be used creatively to bring in and out all gating and modulations during musical transitions.

Freakout is a creative tool for randomizing certain aspects of the overall effect. This will be discussed in detail below.

The Freakout Control

Freakout is a fun little addition that does crazy things to the Echo and Filter. The Freakout parameters are located in their own mini section at the bottom of the GUI next to the dry/wet and volume controls.

Move the slider to the right for a randomization of both Echo Timing and FIlter Cutoff. These can be switched on or off with their respective buttons. Freakout has its own Rate selector for determining the BPM synced rate of the randomized changes.

Note that Freakout is considered to be a "temporary effect", so by default the slider does not hold its position, rather it will "snap" back to 0 when let go. This functions in a similar way to the Pitchwheel on a keyboard. Activating the Hold button will allow the slider to hold its position in place if necessary.

When using Freakout, you may notice that the Delay damping is reduced. This is by design and is meant to make the Echo Feedback stand out a little more while being randomized. When the slider snaps back, the damping filter will resume its current setting.

Patch Management

BendoBox has an easy to use patch management system. Users can load/save their own presets which are recalled directly from the BendoBox Preset folder. To load a preset, click on the display bar at the top of the GUI with the preset name. This will open a dropdown selector. Click on the name of the preset to load it. For saving presets, click on the Save button to the right of the display bar. When the Save button is clicked, it will display a dropdown list of saving options which are explained in more detail below. Users can even create a customized default preset that loads automatically at startup.

Preset Menu

Load Preset

Initializers   >

Send FX   >

Ambient Distortion

Beat Emphasis

Breaker Breaker

Chain Reaction

Choppy Waters

Dirty Groove

Feedback Mirage

Funkotronic

Resonant Whirlpool

Science Fair

Space Bass Commando

Strobe Machine

The Void

Twister

Wash Cycle

Whiplash

Wierdo Beat

Witch's Brew

Loading Presets

Loading presets is very straightforward. Just click on the top display bar with the preset name. This will open a dropdown list of available presets. If any presets are located in sub-folders, these will be shown here as well. Simply hover the mouse over any sub-

folder to show the list of available presets within it.

Saving Presets

To save a preset, click on the 'Save' button to the right of the display bar. This will open a dropdown list with a few options. These are explained below:

New Folder: Select this to create a new sub-folder for saving presets to. After creating the folder, hover over it to choose the 'Save As' function in order to save into that folder.

Save As: This will save a new preset into whichever folder you are currently working from.

Overwriting presets: Below the above options will be a list displaying all available presets that can be overwritten. To overwrite a preset, just click on it's name and a prompt will confirm the overwrite with a 'Yes' or 'No'. You can also hover over sub folders to overwrite presets within them.

In order for the preset system to function properly, presets should be saved in their corresponding folders, which can be found in the following location:

Windows: the folders are located in **C:/Users/Public/Public Documents/BendoBox/Presets/**

Mac: the folders are located in **Users/Shared/BendoBox/Presets/**

*NOTE- Presets should always be saved to the **'Presets'** folder. This will ensure that they can be pulled up in a list on the plugin's interface. Sub-folders should only be created within the Presets folder as well.

Aside from saving presets for the entire effect, each section has the ability to save and load their own Sub-Presets. These are presets for small groups of parameters in specific panels of the plugin. Sub-Presets are covered in more detail **here.**

Custom Startup Preset

A customized default preset can be created to load automatically when a new instance of the plugin is loaded. To do this, simply name your preset "Default", and save it to the Presets folder. Once a Default preset is created, it will load automatically with each new instance.

Sub Presets

Sub-Presets are a way to save and recall specific groups of parameters within the plugin. This applies to each of the three panels on the BendoBox interface. Sub-Presets should be saved directly into the 'SubPresets' folder. This ensures that they can be pulled up in a list directly from the plugin's interface when clicking the 'Load' button. The SubPresets folder is located here:

Windows: C:/Users/Public/Public Documents/BendoBox/SubPresets/

Mac: /Users/Shared/BendoBox/SubPresets/

Click the Load button on each effect's title bar to pull up a list of all existing presets for that section.
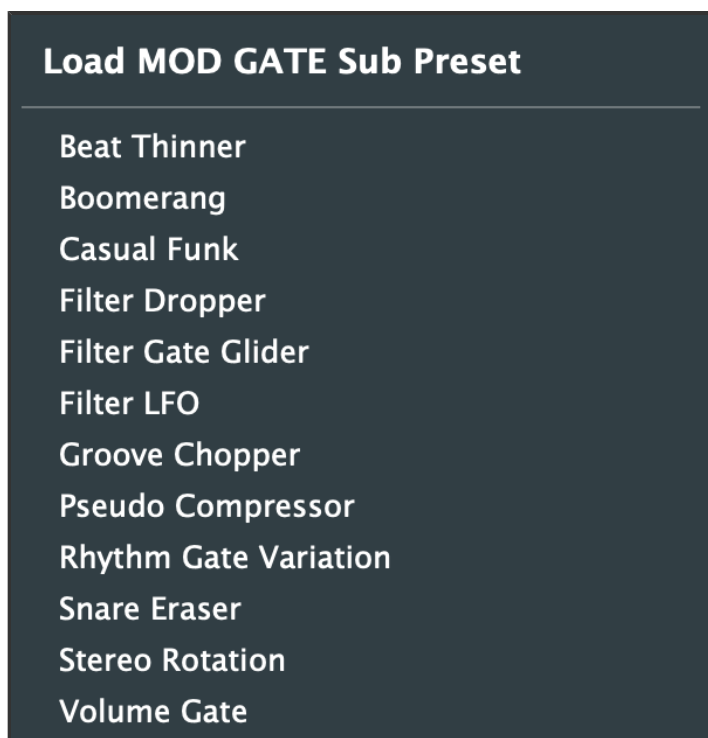
To save your presets, click on the Save button. If you wish to save your preset as a new file, choose the 'Save-As' option, otherwise you can overwrite an existing preset by simply clicking on it from within the Save menu. If you wish to save your preset into a

sub-folder, click the 'New Folder' option. After creating the folder, hover over it to choose the 'Save As' function in order to save into that folder.

Useful Features

Here are some useful features that you might have not noticed.

Numerical Readouts

Hover over the name of each parameter and it will display the numerical readout of that parameter. Double-click this readout to edit it by typing in values manually. This can be very useful for inputting specific values that would otherwise be too difficult to get by fine tuning. This can be especially helpful with Filter controls when specific frequencies are required.

Parameter Adjustments

For making fine-tune adjustments, hold Ctrl/Cmd while adjusting knobs and sliders to slow down control movements, making them more precise.

Also worth noting is the Double-click Reset feature. This can be very handy to reset a control to its default position.

GUI Window Sizing

The GUI size can be adjusted by clicking and dragging from the bottom right corner. This allows resizing for up to 4x the original size. The last size set will be saved with each project/song. Alternatively, you can save a Default preset with the size you want so that it remains your default size each time the plugin is loaded.

Credits

Concept, Design and Programming by Jack Resweber **(Psychic Modulation)**

Additional programming by **Chris Kerry**

Portions of this plugin use code provided by **Shane Dunne**

VST Plugin Technology by Steinberg

Support Information

Email: **support@psychicmodulation.com**

Visit the official KVR support forum