

EchoMelt3

AUDIO MELTING FX UNIT

VST3/AU Plugin for Win & Mac 64-bit

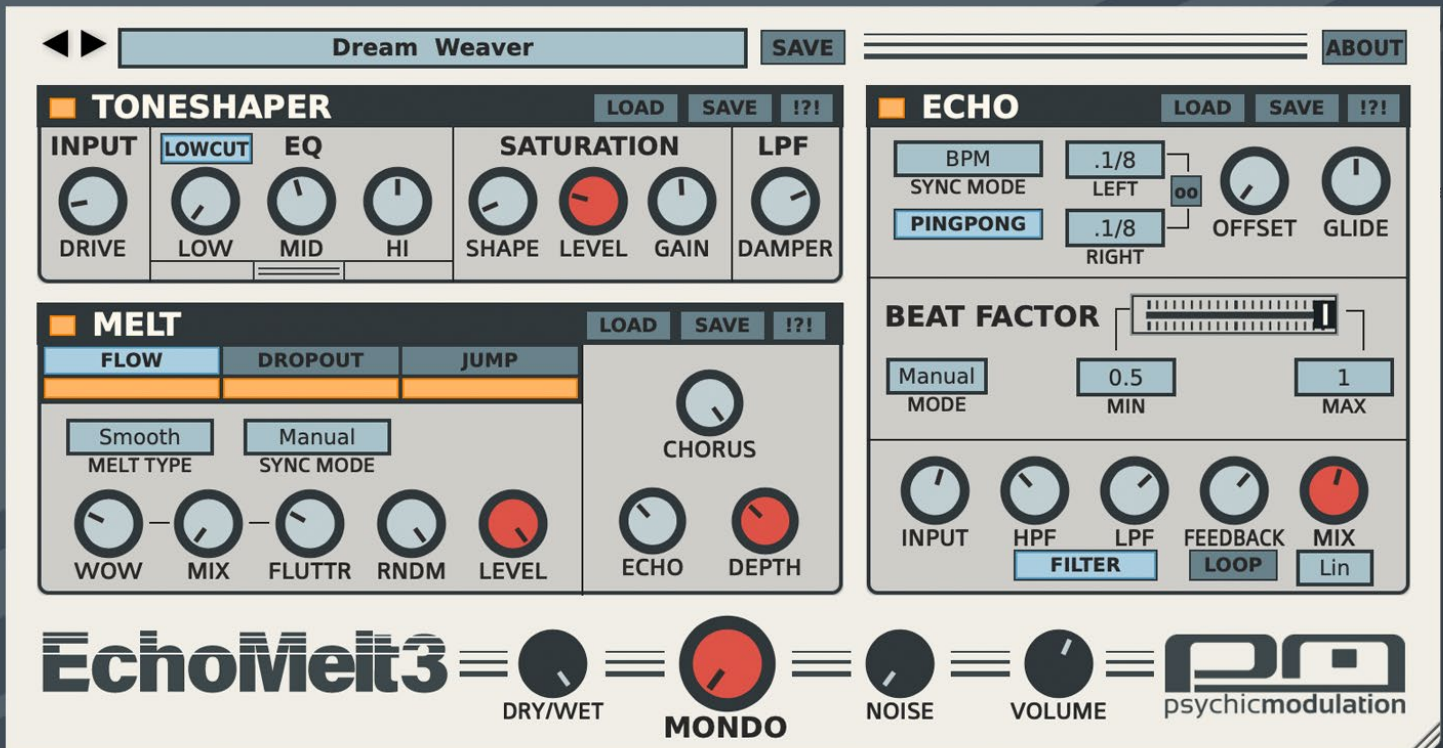


Table of Contents

Introduction

Signal Chain

ToneShaper (EQ/Saturation)

Melt (Modulation)

Echo (Dub Delay)

Master Controls

Patch Management

Sub-Presets

Useful Features

Credits

Introduction to EchoMelt3

EchoMelt3 is the evolution of the classic audio-melting multi-effect. With it's focus remaining on dub-style quirkiness, EchoMelt3 takes it to another level, with BPM melt modulation, host-synced pitch jumps, integrated Chorus via a single knob, a reimagined Echo delay with all kinds of spaced-out dub techniques, and a Saturation/EQ combo that can really warm up and shape the incoming signal. EchoMelt3 is a unique and wide-ranging multi-fx unit full of surprises that will bring your sound to life.

Installation

To install EchoMelt3, 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 [EchoMelt page](#). 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, 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/EchoMelt3/

Mac: Users/Shared/EchoMelt3/

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 fx 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 EchoMelt3, it passes through a series of effects. Various aspects of these effects are exemplified by the Mondo knob.

The Effect Chain

Input Drive > EQ > Saturation > Damping Filter > Melt > Echo > Output Gain > Dry/Wet Mix

The Input Drive determines the amount of gain to enter the signal before it is affected by the Tone Shaper. The boosted signal is then passed into a 3-band EQ. Saturation is then applied to the filtered signal, which can be further distorted with the Shape control. The ToneShaper effect ends with a Post Saturation Low-Pass Damping filter which ranges down to 3k for taming distorted high-end and adding some age to the sound. More about the Tone Shaper section [here](#).

The resulting sound coming from the Tone Shaper then passes through the Melt effect. This modulation effect alters the pitch and amplitude of the signal with three different modulators for wow & flutter effects, audio degradation and bpm synced pitch jumps. The Melt effect can also produce full stereo chorusing using a single Chorus knob, which will give the sound depth, dimension and stereo width. Learn more about the Melt section [here](#).

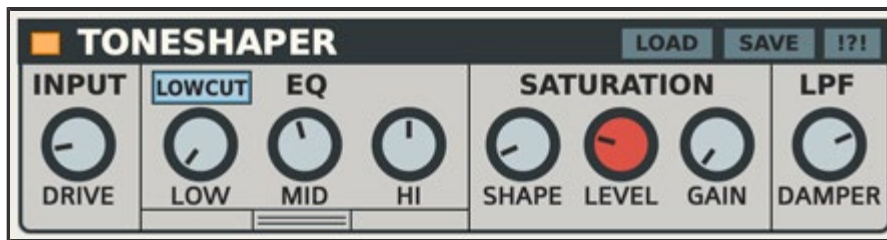
The Melted signal then enters the Echo delay unit. This delayed signal can also be modulated by the Melt using the Send control, which is located on the Melt panel. Read all about the Echo section [here](#).

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. Noise can be added to the wet signal by increasing the Noise level control. This Noise is not affected by any of the effects.

Mondo

The Mondo control will intensify various aspects of each effect when it's amount is increased. More about the Master section and Mondo [here](#).

ToneShaper Panel Overview



The ToneShaper effect will warm up, filter, shape and saturate the incoming signal.

Input Drive



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

EQ



A simple 3-band EQ for shaping the tone of the incoming signal. A hidden panel can be opened up to reveal extra controls for fine-tuning the frequency and Q of each band.

Low/Mid/Hi

These three controls are used for cutting or boosting the volume of each frequency band (-24db/+12db).

LowCut

When this switch is activated, it will cut the low-end frequency of the signal based on the Low band's frequency setting.

Hidden Panel



A hidden panel can be opened to access extra controls for fine-tuning the frequency and Q of each band. To open the panel, click on the button below the Mid control. Press this again to return to the main panel.

Freq/Q

These controls set the frequency and Q (width) of each band.

Saturation



After the signal is filtered by the EQ, it is fed into the Saturator, which will add harmonics, shape and distort the incoming signal.

Level

Increase this control to mix saturation into the signal for a harmonic boost. Note that the Gain control plays a big role in the way the Saturation sounds. By default, Gain will be turned down, resulting in a lowering of volume as Saturation is increased. This is so that extreme Saturation can be applied without creating loudness, for adding a pleasant crunchiness to the signal. However, the Gain can be turned up to make up for this reduction.

Shape

Shape works in conjunction with the Saturation Level, and will further distort the sound when increased. If the Sat control is at 0, then no shaping will take place.

Gain

The Gain parameter controls the volume that is applied with increased Saturation. With low Gain settings, Saturation volume will be lower, but with increased distortion. With higher Gain settings, Saturation volume will be higher with less distortion. This parameter allows more control over the sound of the Saturation.

Damping Filter



Damper

A final Damping filter is provided to cut some of the harsh high-end frequencies created by the distortion. This filter ranges down to 3000 Hz. The signal can pass through the Damper even if Saturation is at 0.

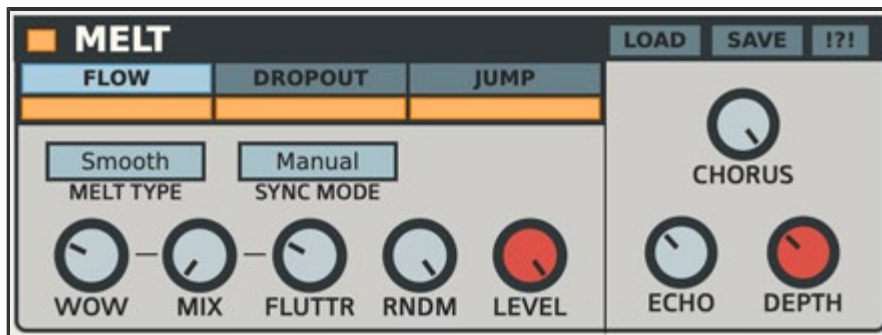


The ToneShaper section can load and save it's own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect for quickly saving segments of the plugin, and loading them up whenever needed. For more info about Sub-Presets, [see this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

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

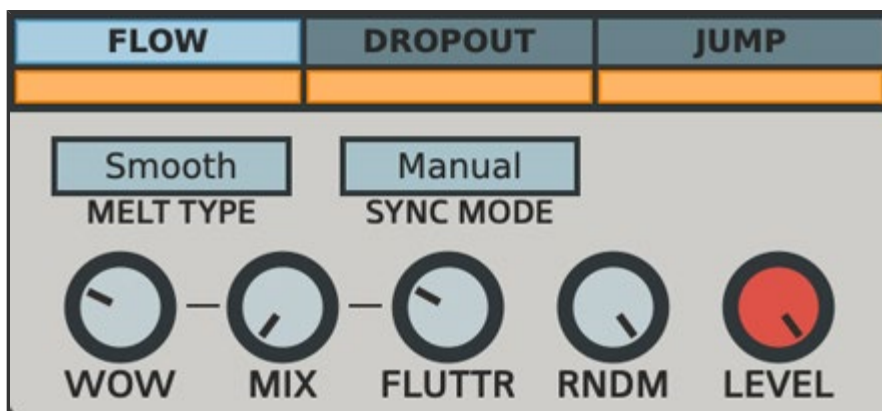
The entire effect can be switched on or off with the small orange power button at the top left.

Melt Panel Overview



Melt is a modulation effect that creates pitch drifting, instability and audio degradation reminiscent of the character of analog tape and VHS. The Melt effect is made up of three different modulators: Flow, Dropout and Jump. The combination of these modulations create movement and fluctuations in the pitch and amplitude of the signal. While Melt is typically unpredictable in nature, it can also be used in a more beat-oriented context with BPM Sync mode. This allows for rhythmical fluctuations that stay in sync with the timing of the DAW, and locked to host position. Unlike previous incarnations of this effect, the Melt modulators can be de-randomized for use as a more standard LFO if needed. Melt can also be transformed into a lush Chorus effect using only a single knob.

Flow



Flow creates drifting, wobbling pitch fluctuations otherwise known as "wow & flutter". Flow is a dual modulator, which mixes Wow (slow) and Flutter (fast) together to produce movement in the signal's pitch.

Flow Type

This selects the type of waveform which will be used as the modulator. Types include:

Smooth: A smooth flowing modulation, behaving as a sinewave when not randomized.

Robotic: A choppy modulation, behaving as a smooth square wave when not randomized.

RampUp: An upward ramping modulation, behaving as a ramp wave when not randomized.

RampDown: A downward ramping modulation, behaving as a saw wave when not randomized.

Sync Mode

This lets you choose between Manual mode or BPM mode. In Manual mode, the timing is in hertz and can be adjusted freely, regardless of host tempo. In BPM mode, a Rate selector chooses the timing based on Host tempo, and the phase of the waveform is host-locked, ensuring the same starting phase at any given position.

Wow

This sets the frequency of the Wow modulator. In Manual mode, this will be a frequency control ranging from 0.25 to 4 Hz. In BPM mode, this will be a rate selector. Whole, dotted and triplet notes are provided, ranging from 1 to 1/16 of a beat.

Flutter

This sets the frequency of the Flutter modulator. In Manual mode, this will be a frequency control ranging from 5 to 15 Hz. In BPM mode, this will be a rate selector. Whole, dotted and triplet notes are provided, ranging from 1/4 to 1/64 of a beat.

Mix

This mixes between the Wow and the Flutter modulations. If the mix control is centered, both the slow and fast modulations can be heard simultaneously.

RNDM

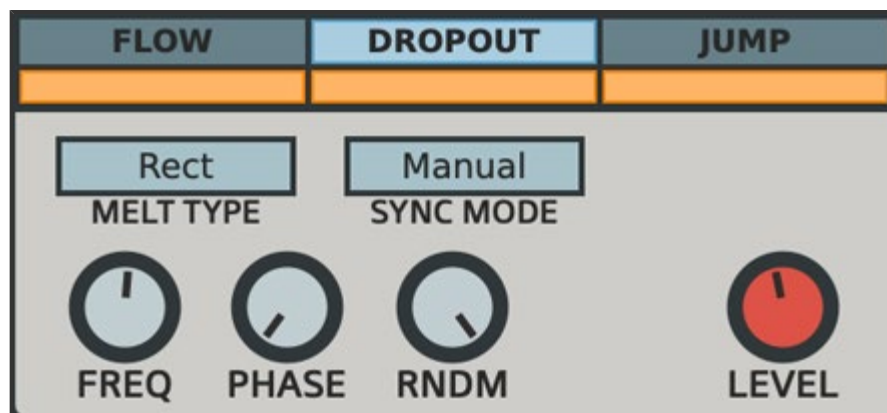
This control randomizes the selected waveform. If RNDM is set to 0% (fully left), the modulation behaves as a static waveform. As RNDM is increased, the wave is randomized. If set to 100% (fully right), the waveform's movement will be completely unpredictable. Randomization works differently in Sync and Manual modes. In Manual mode, the frequency of the waveform is modulated, creating a slowing and speeding effect. In sync mode, the modulation level is randomized instead, making it more

suitable for keeping a steady rhythm.

Level

Sets the Level of the Flow modulator.

Dropout



The Dropout modulator creates drop-outs in the amplitude, or volume, of the signal.

Dropout Type

This selects the type of waveform which will be used as the modulator. Types include:

Smooth: A smooth flowing modulation, behaving as a sinewave when not randomized.

Robotic: A choppy modulation, behaving as a square wave when not randomized.

Rect: A little more boxy than the Smooth wave, behaving as a rectified sine wave when not randomized.

Rect Inv: An alternate version of the Rect wave, behaving as an inverted rectified sine wave when not randomized.

Sync Mode

This lets you choose between Manual mode or BPM mode. In Manual mode, the timing is in hertz and can be adjusted freely, regardless of host tempo. In BPM mode, a Rate selector chooses the timing based on Host tempo, and the phase of the waveform is host-locked, ensuring the same starting phase at any given position. The starting phase can be adjusted with the Phase control.

Freq

This sets the frequency of the modulator. In Manual mode, this will be a frequency control ranging from 0.5 to 15 Hz. In BPM mode, this will be a rate selector. Whole, dotted and triplet notes are provided, ranging from 1/4 to 1/64 of a beat.

Phase

Sets the starting phase of the waveform. This can be very useful in BPM mode to shift the rhythm of modulation.

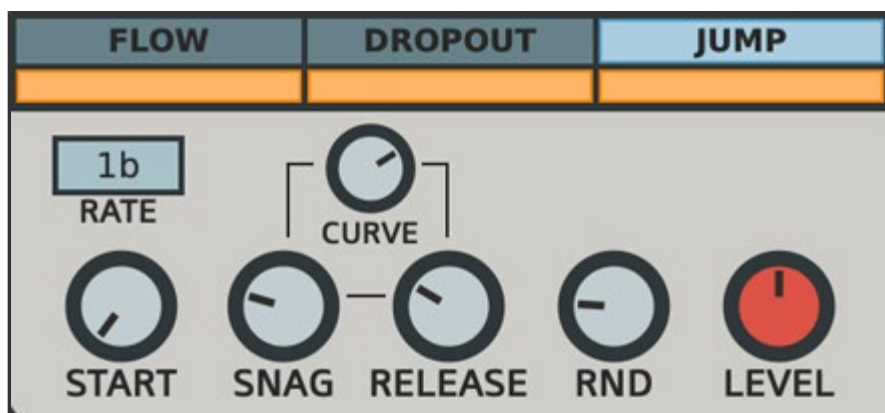
Rndm

This control randomizes the selected waveform. If RNDM is set to 0% (fully left), the modulation behaves as a static waveform. As RNDM is increased, the waveform is randomized. If set to 100% (fully right), the waveform's movement will be completely unpredictable. Randomization works differently in Sync and Manual modes. In Manual mode, only the frequency of the waveform is modulated. In sync mode, the modulation level is randomized, making it more suitable for keeping a steady rhythm.

Level

Sets the Level of the Dropout modulator.

Jump



The Jump modulator uses an unconventional BPM-Synced modulator that creates occasional jumps in the pitch of the signal. This can be thought of as when a tape gets caught in the internal mechanisms while playing. When the tape is caught and released it will cause a very noticeable jump in the pitch before resuming to normal playback.

Rate

The rate of the jump occurrence time. Jump rates are automatically BPM synced. Whole, dotted and triplet notes are provided, ranging from 8 beats to 1/4 of a beat.

Start

Sets the starting point of the jump's occurrence. If set to 0, the jump will start at the beginning of the bar. If set to 50%, the jump will start in the middle of the bar.

Snag

This sets the amount of time it takes to go from normal playback to the point of the tape being 'snagged'. This causes a drop in pitch, followed by a quick rise. Note that the Release stage will not begin until the Snag stage is complete, regardless of Jump Rate. So if the Snag time is very long, the jumps will extend a shorter Rate setting.

Release

This sets the time it takes to free the snagged tape back to normal playback. This causes a rise in pitch, followed by a fall to normal pitch. Note that the next occurrence will not begin until the Release stage is complete, regardless of Jump Rate. So if the Release time is very long, the jumps will extend a shorter Rate setting.

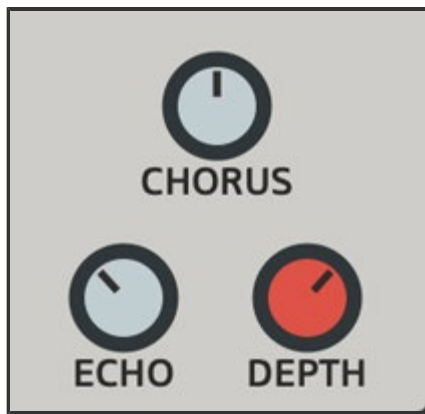
Rndm

This control randomizes the Jump waveform by extending the Rate. If set to zero, jumps will occur regularly according to the Rate. If raised, Rndm will add to the base rate time, randomizing the rate of which jumps occur.

Level

Sets the overall Level of the Jump modulator.

Main Melt Controls



Chorus

A single control to add dimension and stereo width to the sound. When increased, the stereo channels begin to separate, widening the sound, and the un-melted signal is mixed back in, creating a chorus effect. If Chorus is set to 0%, no effect is applied. Note that the mixing aspect only occurs based on Flow level, since this pitch modulation is closest to a chorusing effect. If Flow is not active, Chorus will only create channel separation, acting as a stereo widening effect.

Echo

This control sends Melt modulation to the Echo signal. This will send Flow, Dropout and Jump to modulate the Echo's delay time. This is based on those modulator's level settings. If necessary, it's possible to create Echo-only modulation by setting the main Melt Depth to 0% while sending the full amount into the Echo. This will allow the Echo to modulate, while the main signal is unaffected.

Depth

This sets the overall depth of all three modulators that make up the Melt effect. Note that the Melt effect can be pushed even further using the Mondo control. More about that [here](#).



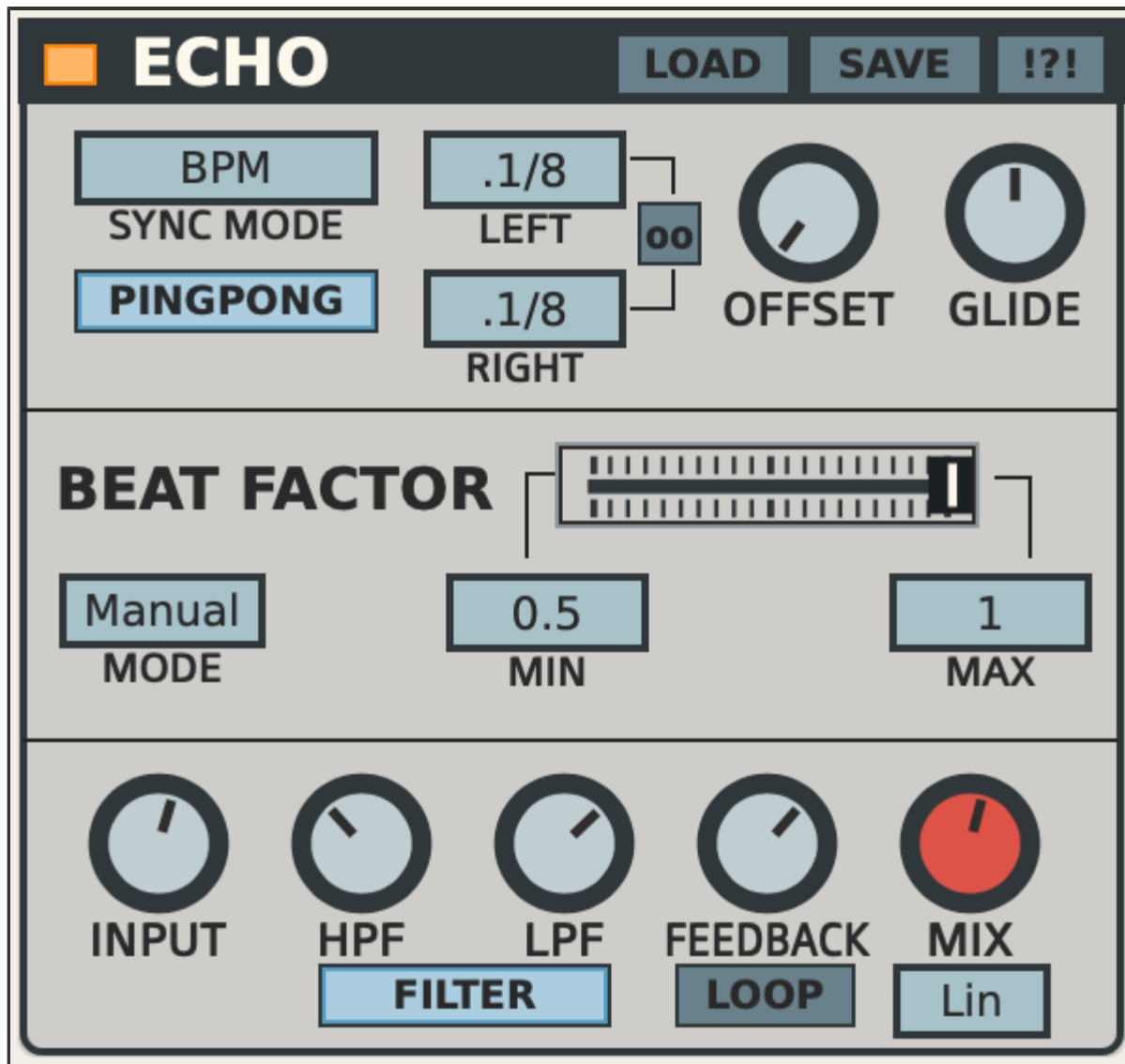
Each panel of the Melt section can load and save their own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect for quickly saving segments of the plugin, and loading them up whenever needed. For more info about Sub-Presets, [see this section](#).

The parameters on each panel can be randomized by clicking their corresponding **!?!** switches. The only parameters not affected by the randomizers are the Level controls.

*Note: For the Melt section, sub-presets and randomize buttons are per panel. In other words Flow, Dropout and Jump each handle their own sub-presets and have their own randomizers.

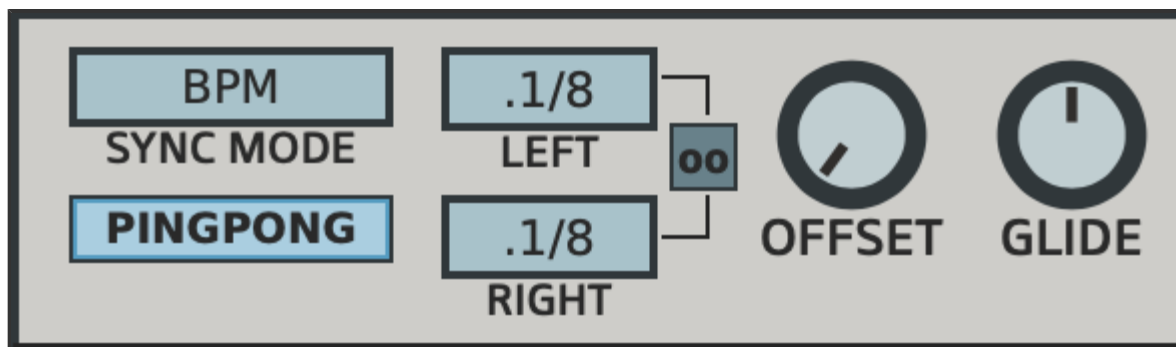
The entire effect can be switched on or off with the small orange power button at the top left.

Echo Panel Overview



The Echo is a dual stereo dub-delay unit that can be set to BPM-synced or manual timing. This delay has many interesting features such as ping-pong mode, feedback looping, echo offset and a Beat Factor crossfader to mix between different delay times.

Top Section



Sync Mode

Chooses between Manual or BPM-synced timing.

Time (Manual)

When in Manual mode, the timing is controlled with a single Time knob ranging from 0.5 - 1000 milliseconds.

Rate (BPM)

When in BPM mode, the rate of the left and right channels can be set individually. Whole, dotted and triplet notes are provided, ranging from 1 to 1/16 of a beat.

Rate Link (BPM)

When the Link switch is activated, the right channel's rate will follow the left channel. When Link is enabled, switching either rate will apply to the other.

Offset

This will offset the timing of the right channel in a very subtle way. This can be used to widen the sound by slightly de-tuning one channel from the other.

Glide

This control can be adjusted for smoothing out the transitions between timings. Higher settings result in very slow gliding, which can be useful for tape delay effects. Lower settings result in faster gliding, which can be useful for quickly changing delay times, especially while using Beat Factor's Auto mode for solid rhythmic transitions. If Glide is set at 0%, there will be no gliding and delay time changes will be instant.

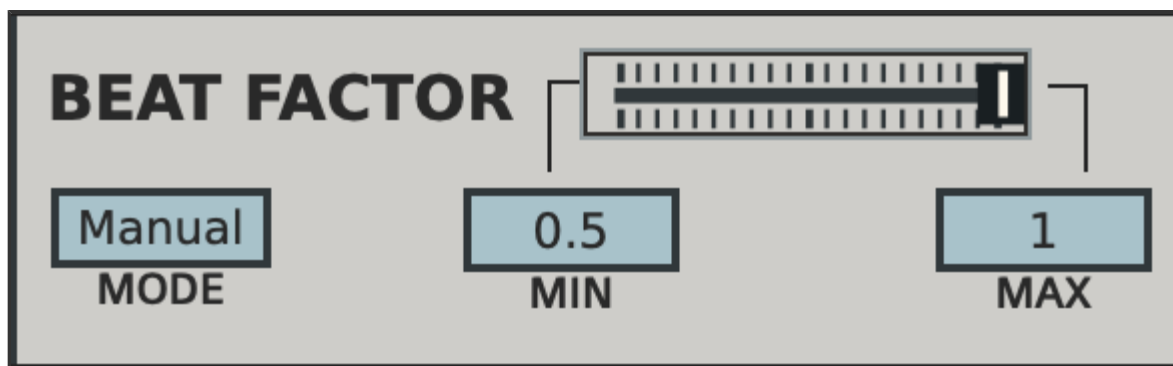
Ping-Pong Mode

Puts the Echo into ping-pong mode, bouncing the delays back and forth, from right to left.

Beat Factor

This section allows you to shorten or lengthen the delay "on the fly" using a crossfader-style **Length Slider**. The minimum(MIN) and maximum(MAX) of the delay length can be set so that if the slider is fully at either end, it will equal that fraction of the main timing. This can be thought of as crossfading between two different timings, essentially 'beat juggling' the delay. Beat Factor has two different modes of operation. These are discussed in detail below.

Manual Mode:

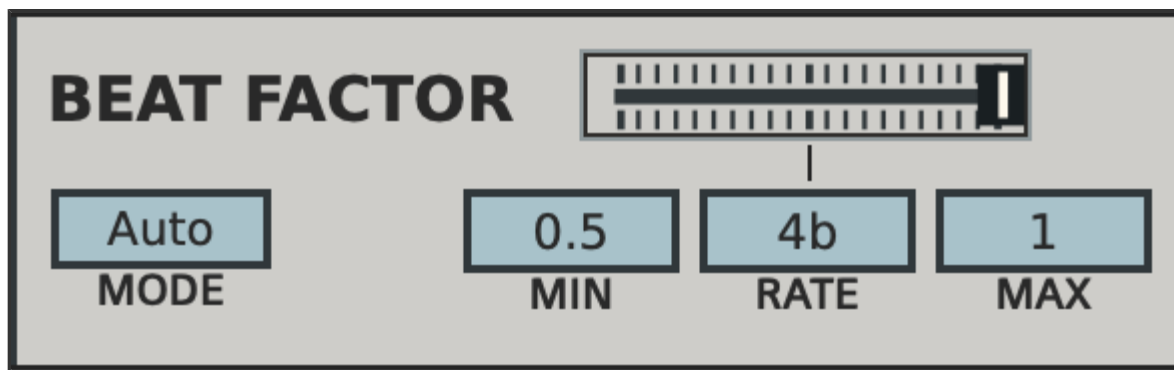


If Beat Factor Mode is set to Manual, the crossfade slider is used to manually adjust the length of the delay time, mixing between the Min and Max fractions of the main Echo Rate.

MIN sets the minimum range of the Length. The delay rate is multiplied by the factor selected, ranging from 0.125 to 0.5. These factors will shorten the delay from it's rate setting.

MAX sets the maximum range of the Length. The delay rate is multiplied by the factor selected, ranging from 0.75 to 2. Factors above a value of '1' will extend the delay timing. If set to '1', the delay is no different than it's rate setting. For all presets, the Length will be set to a max factor of '1' so that it reflects the initial rate setting until changed.

Auto Mode:



If Mode is set to Auto, an automatic BPM-synced modulation is applied, swapping between Min and Max based on the Auto Rate. This modulation is based on the position of the crossfade slider, which now functions like a 'pulse width' control. For example, if the slider is fully left, only the MIN timing will be applied. As the slider moves to the center, the automatic modulation expands, and begins to move evenly from left to right (MIN to MAX). As the slider moves closer to Max, the window of modulation begins to close towards the Max value. Shorter windows can be useful for applying only fragments of beat swapping for a more subtle automatic effect. Set the slider to center for the full automatic beat swapping effect.

The **Auto Rate** parameter appears when Auto Mode is selected, and sets the Rate of Automatic Modulation applied to the Beat Factor.

Bottom Section



Input

This controls the input level going into the Echo. Aside from simply adjusting the incoming signal, the Input can also be used like a Send control. For example, it can be used to send occasional portions of audio into the Echo by turning the Input up briefly and then back down. When this is done, that portion of the signal will repeat within the feedback path while the rest of the signal continues without any echo. This can be very

useful for dub effects on drum loops. Of course the same thing can be achieved as a send in your host, but the benefit of doing this as an insert effect, is that you can also take advantage of applying the other effects to the overall signal before it enters the Echo. This would not be possible as a send effect.

HPF/LPF

Within the feedback path, the echoes can be colored using a series of Low-Pass and High-Pass filters. These 2-pole filters will damp the low and high frequencies as the echoes feed back. This can help to tame extreme feedback volumes.

Filter Button

This button will activate or deactivate the two filters. Turning the filters off can be useful while the delay is in Loop mode, for an uninterrupted delay loop.

Feedback

This control adjusts the delay Feedback ranging from 0% - 120%. If set above 100%, the feedback will continue to increase. However, a limiter is in place, which will help prevent this feedback from clipping, instead driving it into saturation.

Loop

When Loop is activated, the delay is forced into infinite looping. The feedback control is ignored and the delay will continue indefinitely. Melting is still possible in Loop mode however, so if Melt is sent to the Echo while in Loop mode, the delay will change based on the Melt settings being sent to the delay. It can be interesting to send small amounts of Melt into the delay loop occasionally to slightly alter the sound.

Dry/Wet 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.

Mix Mode

This switches the Mixing Mode from Equal Power (POW) to Linear (LIN). Equal Power maintains the overall volume throughout the crossfade, whereas Linear will create a dip in volume towards the center of the crossfade.



ECHO

LOAD**SAVE****!?!**

The Echo section can load and save it's own presets by using the **Load** and **Save** switches in the top right of the panel. These are included with each individual effect 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.

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% (fully right), the fully effected signal will be heard.

Mondo

This is a specialty control that affects various aspects of intensity for the overall effect as a whole. The amount of intensity Mondo applies depends on how subtle or extreme many of the aspects of the overall effect are set. When Mondo is applied, the following happens:

Saturation is intensified. This is dependent on the Saturation Level. If the Level is at 0%, no intensity will be heard.

Saturation Shape is intensified. This is multiplied by the amount of Shape. At 0%, no intensity will be heard. At 100%, intensity will be extreme.

The Damping Filter frequency is decreased. This will darken the sound if there's already some damping applied. If the frequency is set around 20k, this effect won't be as noticeable, but the lower the frequency, the more noticeable the Mondo effect will be.

Melt Depth is increased substantially. This is based on the amount of the Melt Levels. If Melt is set subtly, the Mondo effect will be subtle, if Melt is set to the

extreme, Mondo will also be extreme. This is based on the amounts of Flow, Dropout, Jump and Echo Send.

The Noise level is multiplied. If Noise is at 0, Mondo has no effect on it. The more the Noise level is increased, the more exaggerated it is by the Mondo knob.

Noise

Brings in a subtle amount of noise, based on the sound of tape hiss. Keep in mind that Mondo can turn this subtle noise much louder by multiplying the level setting, increasing it substantially as Mondo is increased. Keep Noise low for less of this effect while using Mondo.

Volume

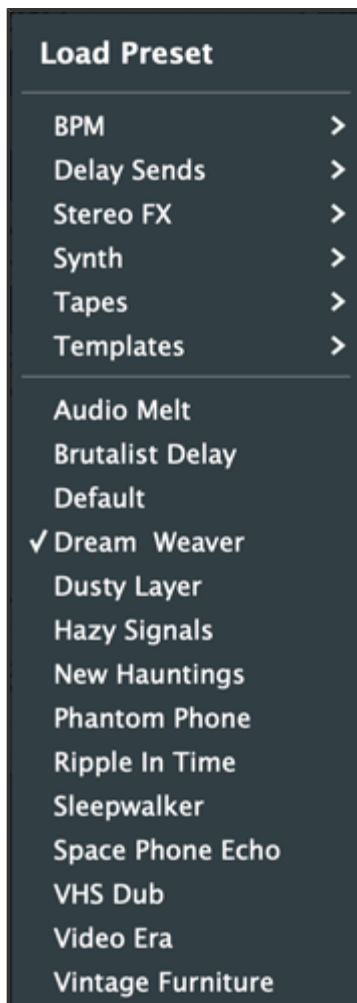
This is the main volume control. This will increase the volume of the wet signal without affecting the dry signal.

Patch Management



EchoMelt3 has an easy to use patch management system. Users can load/save their own presets which are recalled directly from a preset folder. Users can even create a default preset that loads at startup. 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 in the top left corner of the interface. When this button is clicked, it will display a dropdown list of saving options which are explained in more detail below.

Preset Menu



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.

Saving Presets

To save a preset, click on the 'Save' button left 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/EchoMelt3/Presets/**

Mac: the folders are located in **Users/Shared/EchoMelt3/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.

A useful feature that may come in handy is being able to double-click each control to reset it to its default position. This can be useful for quickly initializing a parameter.

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 below.

Sub Presets

LOAD

SAVE

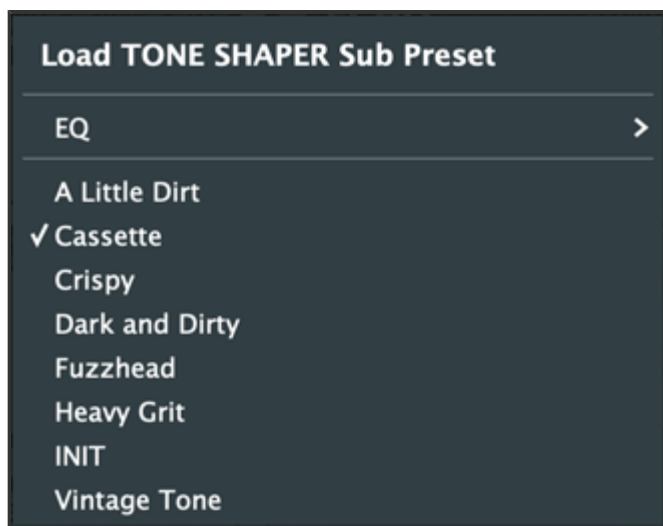
!?!

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 EchoMelt3 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/EchoMelt3/SubPresets/

Mac: /Users/Shared/EchoMelt3/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 it's 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](#)