



CRYOGEN // CREDITS

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This symbol refers to important technical info



This symbol refers to a tip, idea or side note

SETUP:

- ⚠ *This is a **VST3** plugin. Verify that your DAW is compatible with **VST3** prior to installation.*
- ⚠ *This plugin is not backwards compatible with some older versions. Back up your relevant sessions accordingly prior to upgrading to ensure your old sessions stay intact.*
- ⚠ *Cryogen is a **stereo** plugin; be sure that you are instantiating it on a stereo track.*

1. Unpack the CRYOGEN.zip file
2. Via the CRYOGEN_INSTALLERS folder, run the installer for your system.
 - a) **Windows Users:** now that our plugins are in a single format on Windows (VST3) the installer no longer necessitates destination options. The plugin files will automatically be installed in the correct system subfolders.
 - b) **Mac Users:** Note that there is a separate installer for the factory presets, which you should run if you wish to install the presets on your system. If you encounter a preset installation error, we are aware of this potential issue and we have put together comprehensive instructions on how to resolve this. Please download them here: [MAC PRESET HELP](#)
3. Launch your VST3/AU DAW and instantiate CRYOGEN on a **stereo** track.
4. Load some audio onto the track and check out the factory presets to get a sense for how the plugin sounds and works.

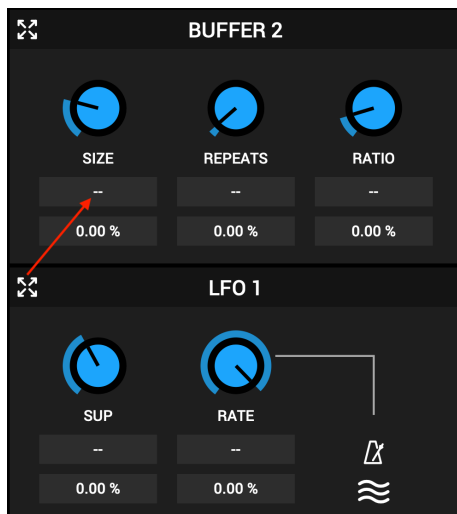
If you require tech support, you may reach us at: glitchmachines.sales@gmail.com

CRYOGEN DESCRIPTION:

Cryogen is a modular buffer effects processor designed to generate robotic artifacts and abstract musical malfunctions. Cryogen features dual buffer effects, dual multimode filters with morphable modes and dual bit crusher effects. With the advent of its extremely flexible architecture and modulation options, Cryogen is capable of generating everything from subtle glitches to stunning signal mutations.

Cryogen features a fully modular drag & drop modulation matrix which makes it possible to bend the signal path to your will. This versatile matrix adds a fresh dimension of possibilities to the plugin when used in conjunction with its four signal mixers and two mod multipliers, all of which are capable of combining audio and modulation signals. Cryogen comes loaded with 140 factory presets to get you started working right away.

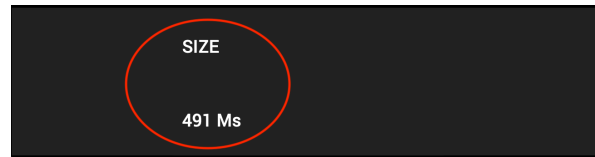
CRYOGEN INTERFACE OVERVIEW:



Below each parameter knob, there are mod assignment and mod depth cells. The mod assignment cell makes it easy to see which source has been assigned as a modulator for a particular parameter. You can **drag & drop** any module's header to the desired mod assignment cell in order to make quick modulation assignments without having to visit the modulation matrix. The depth cell shows the modulation depth percentage (0% to 100%). You can adjust the depth by dragging up/down in the cell.

 *Assignments can also be made via mod matrix panel, explained later in this guide.*

DYNAMIC PARAMETER DISPLAY:



The area behind the Cryogen logo doubles as a dynamic parameter value display. This section will switch dynamically to display the value of an affected parameter as it is being changed. Once a parameter is no longer being adjusted, the logo will reappear.

SCALABLE INTERFACE:



You may scale the Cryogen interface by dragging the bottom-right corner of the window until you reach the desired proportions. This setting is automatically saved and the plugin will launch with the set dimensions until altered.

Should the interface ever exceed the boundaries of your screen, you can trash the preferences to reset its dimensions.


To do this, navigate to the preferences via the Config Menu option and trash the corresponding file before relaunching the plugin. In the event that you can not access the Config Menu button, you can simply navigate to the preferences file manually. You may contact us if you are unsure of its location.




Clicking this icon at the bottom-right of the footer switches the interface to display the Modulation Matrix, which is explained later in this guide.

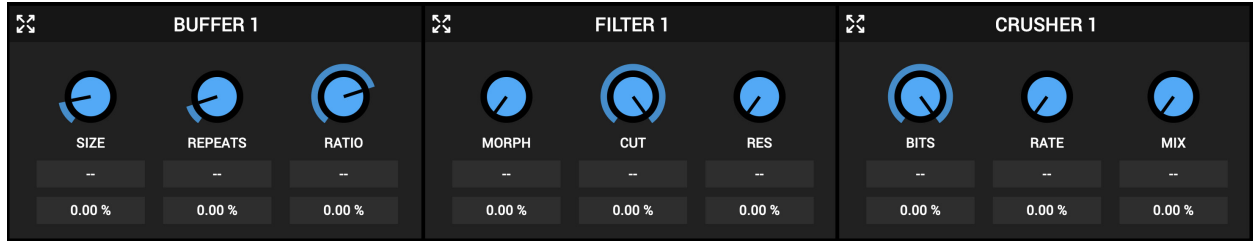
INITIALIZE

The Initialize option in the Config Menu resets parameters to default values.

 *Holding the Control/Command (Mac/Win) key gives you finer control over a parameter.*

 *Double clicking a knob will set it to its default value.*

Cryogen features two effects processing chains:



Each of the chains feature a Buffer Effect, a Multimode Filter and a Bit Crusher Effect.

By default, each chain processes the incoming signal in parallel with signals flowing from left to right and converging at the mixer before going to the master output.

This path can be re-configured in numerous creative ways thanks to Cryogen’s open-ended, modular architecture.

To change the signal flow of the plugin, navigate to the Modulation Matrix, where you will find the top-left portion of the first column, annotated with an “**AUDIO**” label:

INPUT	100.00 %	BUFFER 1 AUDIO IN	AUDIO
INPUT	100.00 %	BUFFER 2 AUDIO IN	
BUFFER 1	100.00 %	FILTER 1 AUDIO IN	
BUFFER 2	100.00 %	FILTER 2 AUDIO IN	
FILTER 1	100.00 %	CRUSHER 1 AUDIO IN	
FILTER 2	100.00 %	CRUSHER 2 AUDIO IN	
MIXER 1	100.00 %	OUTPUT AUDIO IN	

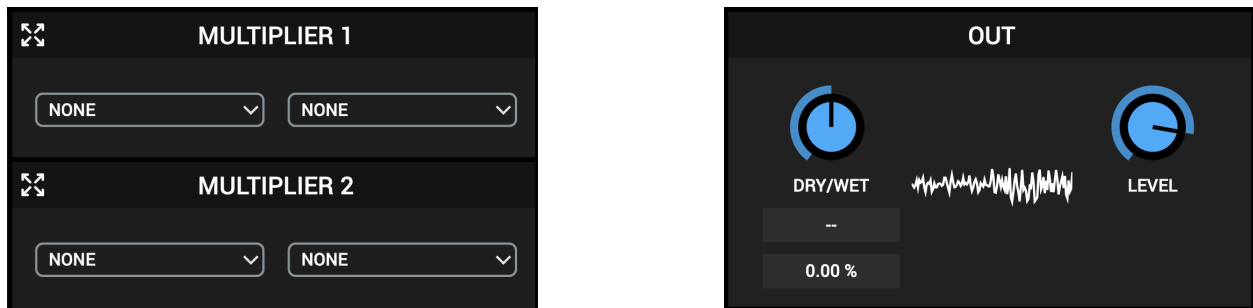
Here you can decide which processor will “listen” to incoming audio first ,second, third and so on. This ultimately lets you rearrange the order of the processors in each chain to your liking, thus giving you a much greater degree of control over the signal path.

Below the processors are 4 multi-purpose LFOs and 4 multi-purpose Signal Mixers:



Thanks to the open architecture of the plugin, these LFOs and Mixers go far beyond traditional conventions. We will elaborate on their capabilities further on in this guide.

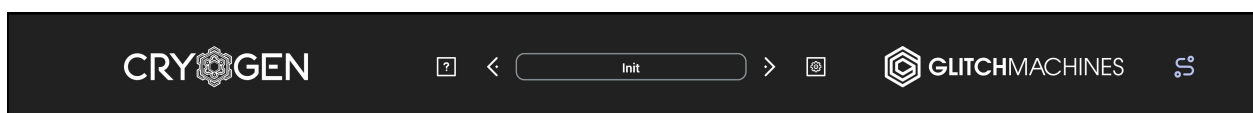
Toward the top-right of the interface are the Modulation Multipliers and Output Module:



The modulation multipliers make it possible to intertwine audio and modulation signals for use as modulation sources for other parameters. You can also use them to create interesting textures by multiplying audio rate LFO signals.

The output module features a modulatable DRY/WET control and a signal visualizer.

At the bottom of the interface is the footer section with the Dynamic Parameter Display, Randomizer, Preset Menu, Config Menu and Modulation Matrix panel access:





MODULATION:

Complex modulation routing is at the heart of Cryogen. All key parameters can be modulated using the LFOs, signal mixers and signal multipliers.

Cryogen's LFOs feature optional 100X rate multipliers, making it possible to use them as dirty tone generators within your patches. In combination with the signal mixers, you can take these LFO's far beyond traditional modulation duties.

Another one of Cryogen's highlights is the ability to use incoming audio signals to modulate nearly every parameter. On top of that, modulation multipliers can convolve audio signals with modulation signals in any combination. Their output can then be used as a modulation source for other parameters. These unconventional features are the key to processing that would be impossible to achieve with more conservative plugins.

 *The mod depth for various parameters can be set by dragging up or down in the mod depth cell below the corresponding knob (also possible via modulation matrix).*

 *You can drag & drop any module's header to the desired mod assignment cell in order to make quick modulation assignments without having to visit the modulation matrix.*


MODULATION MATRIX:

SOURCE	INPUT	DEPTH	DESTINATION		INPUT	DEPTH	DESTINATION
NONE	INPUT	100.00 %	BUFFER 1 AUDIO IN	AUDIO	--	0.00 %	CRUSHER 1 BITS
INPUT	INPUT	100.00 %	BUFFER 2 AUDIO IN		--	0.00 %	CRUSHER 1 RATE
BUFFER 1	BUFFER 1	100.00 %	FILTER 1 AUDIO IN		--	0.00 %	CRUSHER 1 MIX
BUFFER 2	BUFFER 2	100.00 %	FILTER 2 AUDIO IN		--	0.00 %	CRUSHER 2 BITS
FILTER 1	FILTER 1	100.00 %	CRUSHER 1 AUDIO IN		--	0.00 %	CRUSHER 2 RATE
FILTER 2	FILTER 2	100.00 %	CRUSHER 2 AUDIO IN		--	0.00 %	CRUSHER 2 MIX
CRUSHER 1	MIXER 1	100.00 %	OUTPUT AUDIO IN		--	0.00 %	DRY/WET
CRUSHER 2	--	0.00 %	BUFFER 1 SIZE		--	0.00 %	LFO 1 WAVE
LFO 1	--	0.00 %	BUFFER 1 REPEATS		--	0.00 %	LFO 1 RATE
LFO 2	--	0.00 %	BUFFER 1 RATIO		--	0.00 %	LFO 2 WAVE
LFO 3	--	0.00 %	BUFFER 2 SIZE	--	0.00 %	LFO 2 RATE	
LFO 4	--	0.00 %	BUFFER 2 REPEATS	--	0.00 %	LFO 3 WAVE	
MIXER 1	--	0.00 %	BUFFER 2 RATIO	--	0.00 %	LFO 3 RATE	
MIXER 2	--	0.00 %	FILTER 1 MORPH	--	0.00 %	LFO 4 WAVE	
MIXER 3	--	0.00 %	FILTER 1 CUTOFF	--	0.00 %	LFO 4 RATE	
MIXER 4	--	0.00 %	FILTER 1 RESONANCE	--	0.00 %	MIXER 1 MIX	
MULTIPLIER 1	--	0.00 %	FILTER 2 MORPH	--	0.00 %	MIXER 2 MIX	
MULTIPLIER 2	--	0.00 %	FILTER 2 CUTOFF	--	0.00 %	MIXER 3 MIX	
	--	0.00 %	FILTER 2 RESONANCE	--	0.00 %	MIXER 4 MIX	



Clicking this icon at the bottom-right of the footer switches the interface to display the Modulation Matrix, which is explained later in this guide.

The drag & drop modulation matrix gives you an overview of all the available connections (audio and modulation) across the plugin. This matrix enables you to make modulation assignments and also grants you access to the audio signal path so you can alter the way the plugin processes the input signal.

 *Keep in mind that you can also make quick assignments via the front panel, as explained in the Interface Overview section.*

To make a connection, drag a **SOURCE** from the left column and drop it on one of the **INPUT** cells in the matrix.

This effectively assigns the source to the corresponding **DESTINATION** parameter target. You can then set the modulation depth (*or level, in the case of audio*) using the cells in the **DEPTH** columns.

 *To adjust modulation depth values, click and drag up/down in the corresponding cell.*

In the following example, the filters pre-process the signal before entering the buffers:

1. Drag the **INPUT** source to the **FILTER 1 - AUDIO IN** input cell
2. Drag the **BUFFER 1** source to the **CRUSHER 1 - AUDIO IN** input cell
3. Drag the **FILTER 1** source to the **BUFFER 1 - AUDIO IN** input cell


The signal flow now changed from:

INPUT -> BUFFER 1 -> FILTER 1 -> CRUSHER 1

- to -

INPUT -> FILTER 1 -> BUFFER 1 -> CRUSHER 1

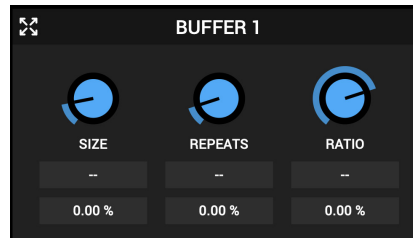
Of course you can make much more creative routing assignments, especially when using the Modulation Matrix in combination with the Mixers.

 *You can also easily defeat the default parallel signal flow of the two processing chains by routing the output of the first chain to the input of the second chain, for example.*



Return to the front panel of the UI by clicking the **CONTROLS** button

BUFFER MODULES:



The following applies to both Buffer modules:

The buffers loop small portions of their input and can alter the pitch of the looped signal.

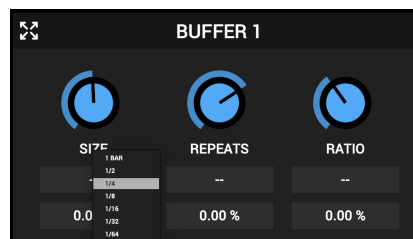
SIZE: the length of the loop (from 1 ms to 1000 ms)

REPEATS: number of repetitions of a loop before sampling a new signal (1 to 128)

RATIO: speed & direction at which the loop is played back.

- The default value is 1 (normal speed, forward direction)
- A value of 0 will stop the playback
- A value of 2 will play the loop at twice its original speed (pitching it one octave higher)
- A value of 0.5 will play the loop at half its original speed (pitching it one octave lower)
- Negative values will mirror positive ones but the loop will be played backwards

Right-clicking on the **SIZE** parameter label will bring up a contextual menu :



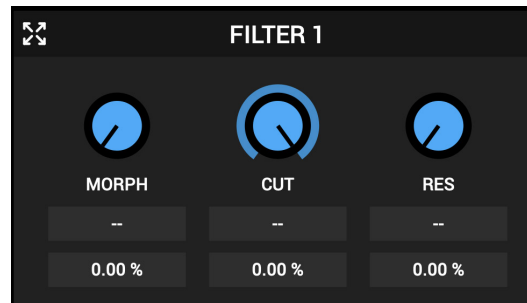
This is an helper function to help you synchronize the loop with the current tempo. It will calculate the corresponding loop size according to the BPM and the current loop ratio.



This function acts as a calculator and has the following limitations :

Modulating the buffer **SIZE** or buffer **RATIO** will render it useless. If you change the ratio or the tempo you must recalculate the sync manually. If the calculated size is larger than 1 second (maximum length of the loop) it will sync to the closest beat division (for example, if «1 bar» exceeds 1 second, it will try to sync to «1/2», and if it's still too large it will try to sync to «1/4», etc...)

FILTER MODULES:



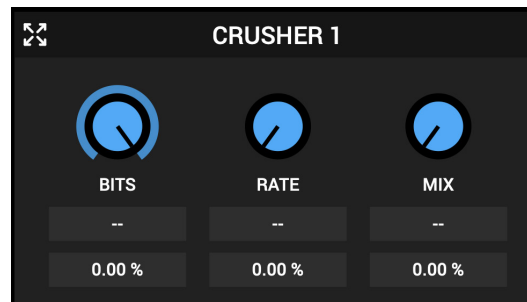
MORPH: morphs between 4 filter types (lowpass, bandpass, highpass, notch).

- A value of 0% corresponds to lowpass mode
- A value of 33% corresponds to bandpass mode
- A value of 66% corresponds to highpass mode
- A value of 100% corresponds to notch mode

CUTOFF: the cutoff frequency of the filter (20 Hz to 11000 Hz)

RESONANCE: the resonance (emphasis) at cutoff frequency (0% to 100%)

CRUSHER MODULES:

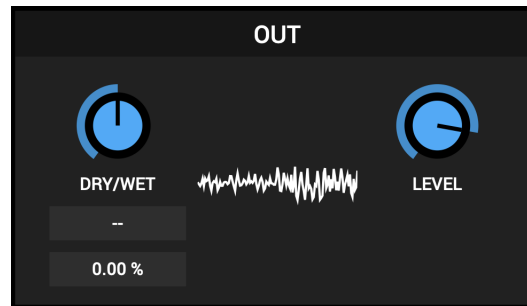


BIT DEPTH: the bit depth of the signal (1 to 16)

SAMPLE RATE: the sample rate reduction ratio (1 to 64)

MIXER: mixes between the input and the processed signal (0% to 100%)

OUTPUT MODULE:

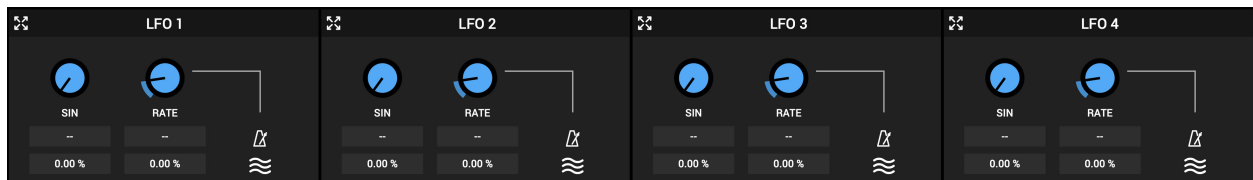


DRY/WET: mixes the plugin input and the processed signal (0% to 100%)

OUTPUT LEVEL: adjusts the gain of the processed signal (-70 dB to +6 dB)

The output module also features a dynamic visualizer which reacts to the outgoing signal of the plugin.

LFO MODULES:



The LFOs feature the following waveshapes:

- SIN** - Sine
- SQR** - Square
- SUP** - Saw Up
- SDN** - Saw Down
- TRI** - Triangle
- S&H** - Sample & Hold

RATE: the frequency of the LFO (speed measured in cycles per second : 0Hz to 40Hz)



Synchronizes the LFO to the host (DAW) clock. The rate knob will switch to beat divisions relevant to this clock (8 bars to 1/128).



Multiplies the LFO rate by 100, pushing it into the audible range.

The main purpose of this function is to be able to use the LFOs as “dirty” oscillators to be routed to the audio signal chain. However, using them as modulators for other parameters with high frequencies can also lead to interesting results.



SYNC must be deactivated for the Rate Multiply parameter to be effective.

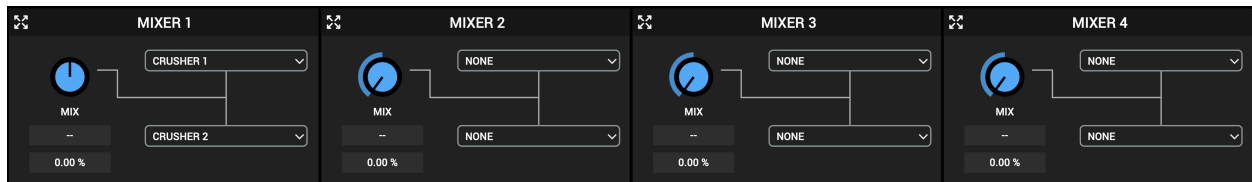


If both SYNC and X100 are deactivated, the LFO frequency is expressed in Hertz and the range is 0 Hz to 40 Hz.



You can set the modulation depth for the wave and rate parameters by dragging up or down in the percentage cell. This can also be done via the modulation matrix.

MIXER MODULES:



The mixers can combine both **audio** (buffers, filters, crushers, audio rate LFOs, other mixer outputs) and **control** (LFOs, mod multipliers, other mixer outputs) signals.

This special ability makes them extremely powerful in both a signal processing and modulation sense. For example, you can use some of your LFOs at X100 rate to generate synthetic tones that can then be sent to the mixers, where you can modulate the MIX parameter to construct complex fluctuations between these signals.

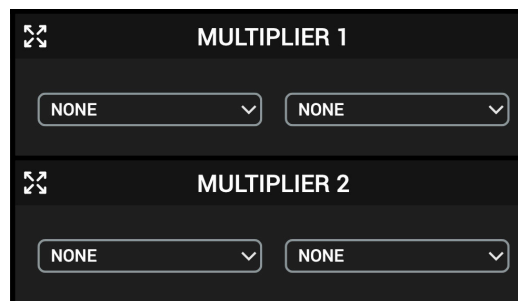
MIX: mixes between the 2 selected sources (0% to 100%)

SOURCE MENUS: these menus let you select both input sources for the respective mixer. The upper menu corresponds to the left side of the MIX knob, while the lower menu corresponds to its right side.

With these mixers, you could, for example, combine an incoming audio signal with the output of one of the signal multipliers and use the resulting output to modulate the buffer processors.

Ultimately, signal flow experimentation is a huge part of what makes Cryogen powerful and the mixers are a key element of this process. Don't hesitate to get creative!

MODULATION MULTIPLIER MODULES:



The modulation multipliers let you convolve two signals (modulation and/or audio signals) in order to use the resulting signal to modulate another parameter.

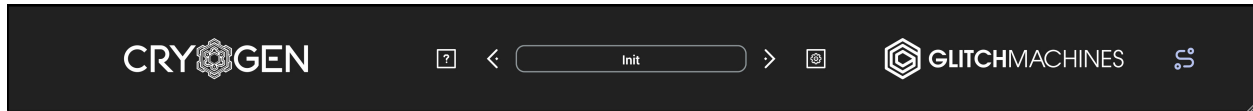
Mod Multiplier modules are especially useful in generating evolving modulation shapes.

They work in a similar way to ring modulation, but in Cryogen they can also be used to create modulation shapes that are more complex than the default wave shapes generated by the LFOs.

Of course you can also multiply audio rate LFO signals (via the Rate Multiplier function) and route the resulting signal back to a mixer for all sorts of wild results.

Their usage is very powerful, yet relatively simple : select the 2 signals that you want to convolve together using the menus and the modules will output their product. You can then use this resulting signal as a SOURCE elsewhere in your patch.

FOOTER:





The footer section of the plugin features the Dynamic Parameter Display, Randomizer, Preset Menu, Config Menu and Modulation Matrix panel access:



Clicking on the ? button will set most parameters to random values.

This is particularly useful when creating your own presets, as the plugin will generate unforeseen results which you can use as fresh starting points for new effects at times when you may be lacking inspiration or simply want to break up your workflow.

 *Keep in mind that you will often still need to do some “housekeeping” in order to gain full control over certain parameters that may end up at awkward values when randomized.*


 *Note that the randomizer will not affect the audio routing configuration. If you are interested in achieving results outside of the scope of the default signal flow, it's a good idea to set up your desired audio path prior to randomizing.*

PRESETS:

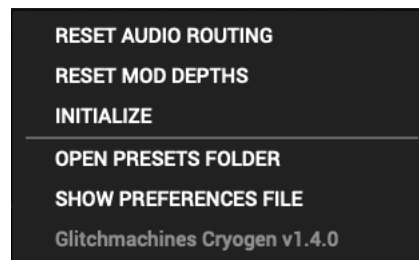


You can navigate through the presets either by clicking in the drop-down menu, or by using the navigational arrows to increment/decrement through the list.

SAVE PRESET: Opens a dialog box that will allow you to save the current preset on your hard drive using the extension “.erp”.

 *Only presets saved in the default folder (where the dialog box opens by default) will appear in the menu.*

CONFIGURATION MENU:



The Config Menu gives you access to several useful options that affect various settings:

RESET AUDIO ROUTING: reverts the audio signal flow back to its default path

RESET MOD DEPTHS: reverts all mod depths back to 0%

INITIALIZE: reverts all parameters back to default settings

OPEN PRESETS FOLDER: This option will pull up your OS file browser, from where you can navigate to the correct presets folder in your system. This is helpful when you want to quickly and easily locate the correct Cryogen presets folder without having to get to it manually.

SHOW PREFERENCES FILE : This option will pull up your OS file browser, from where you can access the preferences file that stores the plugin's configuration/settings. Trash/delete the preferences file to reset the plugin. For example, if you need to reset the UI to its default proportions.

PLUGIN INFO : Displays the current version number of the plugin

Thanks for purchasing CRYOGEN!

Please check out the rest of our products at our website: <https://glitchmachines.com>