ICEWOLF AUDIO

Pulzy XT

Monophonic Software Synthesizer

Introduction

Pulzy XT is a software monophonic synthesizer that emulates the Pulse Hardware Synthesizer.
It combines the specific sound of this synth, analog architecture and a graphical interface that provides great usability. This guide will show you how to use the Pulzy XT. There are some major feature differences between the Hardware Pulse and the Pulzy XT Plugin.

Added features: 3-band parametric Equalizer with output gain, Chorus FX, Stereo Delay FX, Start Delay for both LFOs and panorama routing for each Oscillator through the filter section.

Purchase and Authorization

After purchasing the plugin, you need to send your "User ID" to the e-mail adress below.
You can look up your "User ID" inside the "Authorization" screen in the Plugin Menu

Please send this "User-ID" to me at: icewolf@icewolfaudio.com
(in case the mail-adress is not working, please get in touch with me on my social media).
Your personal User-ID is needed to generate your serial number.

You purchase the option of 3 serial numbers in total. If at some point your system hard drive needs to be changed or swapped, you will need a new serial number to reactivate the Plugin.

Activation

To activate the software, load up the plugin inside your DAW. Then follow the steps below.

- Open the "**Authorization**" menu
- Enter your **serial number** in the appropriate input field.
- Press the button **"SAVE LICENSE FILE"** (a „license.reg" file will be saved into your plugin folder)

The **serial number** is only usable for the **JP-88ty** on your specific system. If you change your system hard drive at some point, you have to request a serial number again. A new activation process can be made.
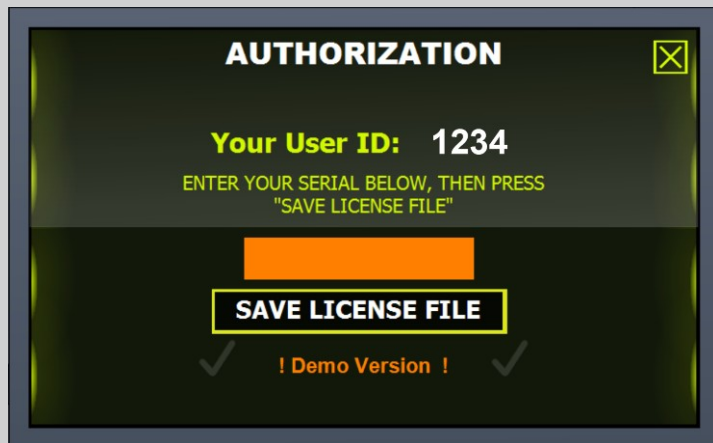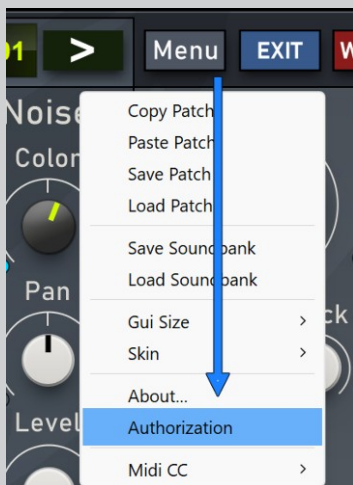
Usage tips
Use shift + mouse left click on a knob or slider to fine adjust values.
Use mouse double left click on a knob or slider to set default position.

LED VU Meter
The VU Meter in the upper right corner of the GUI shows the
level of an outdoing audio signal. Range is -48 dB to 0 dB.
at middle position the signal is around -24 dB.

Midi All Notes Off
The VU Meter has another function as well. If there is a
Midi Note hanging at some point (endlessly playing a sound),
just left click the VU Meter and an "All Notes Off" – Message
will be send to the synth engine immediatly.
This will stop any hanging midi notes

Preset Managment
The Pulzy XT has a secure preset managment. After editing any value you need to **WRITE** or
copy/paste the preset, or your changes are lost. This prevents accidently ruining a sound in the
actual soundbank. Either change values of a sound and **WRITE** the preset in place if you want to
keep it, or copy/paste the sound to another preset. If copy/paste is used, the original preset is not
overwritten. Changing a preset forth and back, will recall the original preset automatically. The
PulzyXT can load 1 soundbank with 100 presets.

Select Presets
Managing presets is very easy in the PulzyXT. Either click on the preset name display to open the
preset list and click on a preset to select it, or click on the arrow buttons beside the name display to
select the previous or next preset. Press ESC or mouse left-click somewhere to close the list.
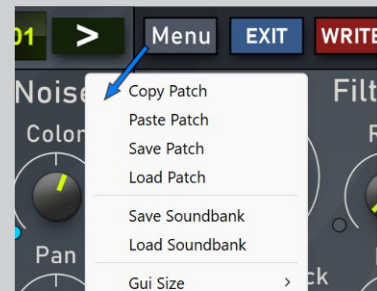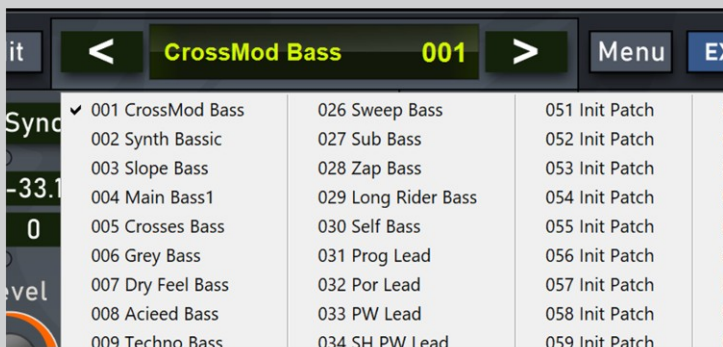
Select Presets
To rename a preset, click on the „EDIT" button left of the name display. Change the name with your
keyboard and press either enter, or click somewhere if you wnat to finish editing.

Copy, Paste, Save, Load
To copy, paste, save or load presets and/or soundbanks, click on „MENU" and select the apropriate
menu item.

Init Presets
Click the „Init" button to open the initialization quick menu.
Click „Init Patch" to set all controls of the actual preset
to default values. Click „Init All Patches!" to set all controls
of all patches in the actual soundbank to their default values.
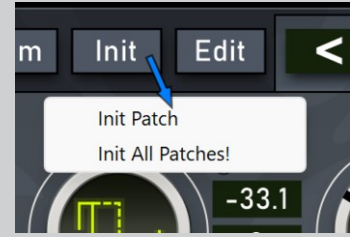
Write Presets
To write a preset click the **WRITE** button right of the name display. Click the **WRITE** button once
again to save the preset in place, or press **EXIT** to cancel the write operation.
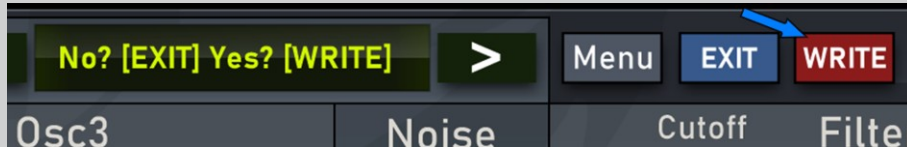
Midi Learn

The Pulzy XT has a Midi-Learn feature for all controls with a LED-dot next to it. Any of these
controls can receive a Midi control change number, which can then be used to control it.

Learn or Remove Midi CC

Right click with the mouse on the control to open the Midi-Learn quick menu. Left click „Midi Learn"
to set the control into „Learn" mode. Now move the control on your hardware midi controller to
send Midi data to the plugin and the CC number will be detected and stored for this control.
The lit LED next to the control indicates that a Midi CC has been learned. Hover over the control
shows the actual CC number in the name display, instead of the preset number.
Click the "**Rem**" button to remove all learned Midi CC assignments.
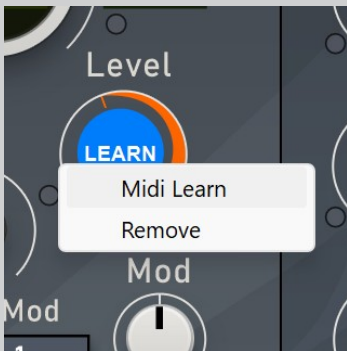
Save/Load Midi CC Configuration

Click on the **Menu** to open
the main menu. Hover over the
Midi CC item.

Click "Save Midi CC config"
to save all actual Midi CC assignemnts
in a config file.

Click "Load Midi CC config"
to load a Midi CC assignment
config file.

The Midi CC Configuration assignments
are used globally for all presets and
Instances of the plugin.

Gui Size

The Gui of the plugin is designed to be very 8k-friendly. The graphical background and vector
elements are designed for high resolutions and displays with 40+ inches in size. The Gui can be
resized from 50% up to 400% of it´s default size.

Click the Icewolf icon on the left top, or right click the lower right corner of the gui to set a gui-size.
You can also left click this lower right corner and and drag it to freely resize the plugin to your
liking.
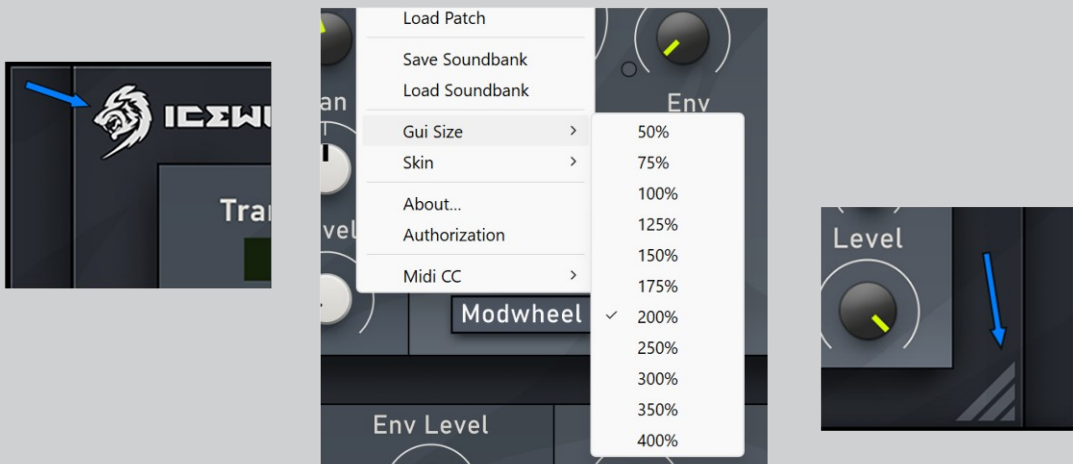
Gui Skins

The PulzyXT comes with two default skins in grey and dark.
These are fixed and can be selected in the main menu.
The skin selection is a global setting for any instance
of the plugin.

Wheels & Keys

The synthesizer UI has an extension panel with Modulation wheels and a five-octave keyboard.
The wheels and keyboard show incoming values of corresponding data and are also real inputs for
the synth. Not every hardware controller has all of these input controls built in, but with the help of
this extension their input can be emulated with a mouse.
Breath or Aftertouch controls are usually not "wheels" on a controller, but a moving wheel is great
to see incoming data or to use it as an input for the synth. **Pitch Bend**, **Modulation Wheel**,
Breath Control and **Aftertouch** are shown and used via the 4 modulation wheels.

The Midi Keyboard Keys can be used to simulate note input via mouse clicks.

The button to show or hide the gui extension is located at the bottom of
the user interface.
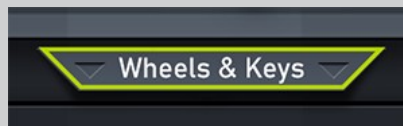
The setting of show/hide is stored in the settings.cfg and the synth does remember the last state.

The Pulzy XT with expanded Wheels & Keys…

Global

In this section you can set global settings of the preset.

Transpose
The pitch of all oscillators can be set here globally. The range is -24 to +24 semitones (-/+ 2 octaves).

Mod CC X
Set the Mod CC X control number. The Midi CC X control number is used as Mod source in the Mod Matrix. The range is 1-127.

Pitchbend
Pitchbend range defines the change in pitch for all oscillators when a pitchbend control is used. The range is 1-24 semitones. Pitchbend controls work positive and negative. This way a pitchbend control changes the pitch up to -24 to +24 semitones.

Glide
Click the „Glide" button to turn the Glide function on or off. When activated, the pitch of a played note changes smoothly over time to the newly played note. The duration of the transition can be set with the "Time" button.
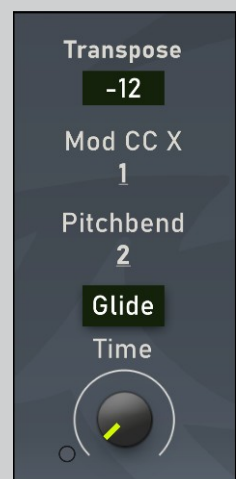
Arpeggiator

The arpeggiator is a function that breaks an incoming MIDI chord
down into single notes and plays them rhythmically.

On button
This button turns the arpeggiator on or off.

Sync button
This button turns synchronization to the host tempo on or off.

Tempo
Set the tempo of the arpeggiator with the tempo knob. The range is
8-256 bpm. If "Sync" is activated, the tempo can be set to the following
note intervals: 1/32, 1/16d, 1/16, 1/8d, 1/8, 1/4d, 1/4

Octave
Click the "Oct" link to change the number of octaves notes are played in one arpeggiator cycle.
The range is 1-10 octaves.

Mode
Click the "Mode" link to change the mode how incoming notes are played by the arpeggiator.
The modes are Up, Down, Up&Down, Random

Oscillators

Oscillators are the heart of a synthesizer. They produce the sound. The Pulzy XT has 3 oscillators.
Each oscillator has some different features. The behavior of the oscillators is modeled after the
ones fro mthe hardware synth.

A unique feature and sound of the Pulse is the ability to raise the output level of each oscillator to
oversaturate the signal on it´s way into the filter. This starts slightly
at around Level 40 and raises up more and more if going up to 100.

Oscillator 1

Oscillator 1 delivers a periodic oscillation where you can determine waveshape and frequency. The frequency is defined by the pitch of the notes that are sent via MIDI.

Waveshape Ring
Click and drag to select one of the available waveshapes.
The available waveshapes are Pulse, Saw and Triangle.

Tune
Click and drag to fine tune the pitch of the Oscillator.
The range is -50 to +50 cents.

Semitone
Click and drag to tune the pitch of the Oscillator in semitones.
The range is -48 to +48 semitones (-/+ 4 octaves).

Level
This value increase or decreases the volume of the Oscillator. Above 40 the Oscillator starts to slightly overdrive into the Filter section. This produces are more saturated sound.

Pan
The Pan value sets the position of the Oscillator in the stereo image.

PW (Pulse Waveform only)
Turn the "PW" knob to set the pulsewidth of the Pulse Waveshape.

Oscillator 2

Oscillator 2 delivers a periodic oscillation where you can determine waveshape and frequency.

Waveshape Ring
Click and drag to select one of the available waveshapes. The available waveshapes are Pulse, Saw, Triangle and Crossmodulation.

Crossmodulation
 is a XOR combination of the square waveshape of Oscillators 2 and 3.
It produces a waveshape that contains the sum of as well as the difference between the two original waveshapes.
Although Oscillator 3's square waveshape is used for crossmodulation, it does not mean that this square waveshape must be used as the source signal. Because the crossmodulation is purely internal, you can still select another waveshape for Oscillator 3. Please note that you can also modulate Oscillator 2's pulsewidth at any time. Additionally, you can switch synchronization on and off independently.

Sync button
This button turns synchronization to Oscillator 3 on or off.

Tune
Click and drag to fine tune the pitch of the Oscillator. The range is -50 to +50 cents.

Semitone
Click and drag to tune the pitch of the Oscillator in semitones.
The range is -48 to +48 semitones (-/+ 4 octaves).

Level
This value increase or decreases the volume of the Oscillator. Above 40 the Oscillator starts to slightly overdrive into the Filter section. This produces are more saturated sound.

Pan
The Pan value sets the position of the Oscillator in the stereo image.

PW (Pulse Waveform only)
Turn the "PW" knob to set the pulsewidth of the Pulse Waveshape.

Track
Click the "Track" button to turn Keytracking for the oscillator on or off. Determines if the pitch of the oscillator is dependent on the MIDI note number.

Oscillator 3

Oscillator 3 delivers a periodic oscillation where you can determine waveshape and frequency.

Waveshape Ring
Click and drag to select one of the available waveshapes.
The available waveshapes are Pulse, Saw and Triangle.

Tune
Click and drag to fine tune the pitch of the Oscillator.
The range is -50 to +50 cents.

Semitone
Click and drag to tune the pitch of the Oscillator in semitones.
The range is -48 to +48 semitones (-/+ 4 octaves).

Level
This value increase or decreases the volume of the Oscillator.
Above 40 the Oscillator starts to slightly overdrive into the Filter section.
This produces are more saturated sound.

Pan
The Pan value sets the position of the Oscillator in the stereo image.

Noise Generator

In addition to the oscillators, a noise generator that produces Noise is available. The Color/Tone of the Noise can be changed with the Color knob.

Color

In the center position the Noise generator sounds like a pink Noise.
This is the sound of noise the Pulse Hardware Synth also generates.
Turn the „Color" knob to the left to chang the tone more and more into a brown Noise. Turn the knob to the right to change the tone more and more into a white Noise.

Pan

The Pan value sets the position of the Noise signal in the stereo image.

Level

This value increase or decreases the volume of the Noise Generator.

Filter

The Pulzy XT has a 24dB Low Pass Filter. The filter cuts off frequencies that are higher than the cutoff frequency. Frequencies below this threshold are hardly affected.

Cutoff

This value determines the cutoff frequency of the filter.
The audio signal one octave above the cutoff frequency is reduced by 24dB. This reduces the volume of an audio signal by approx. 94%. Two octaves above the cutoff frequency the signal is reduced by more than 99% and in most cases the signal is not audible anymore at this point.

Resonance

The Resonance value influences the amplitude of the audio signal around a narrow band of the cutoff frequency. If this frequency is amplified to a great extent, the filter will begin self-oscillation.

Env

This value influences the filter cutoff frequency with Envelope 1. In center position Envelope 1 has no influence to the cutoff. Turn the knob to the right to positive modulate the cutoff frequency with Envelope 1. Turn the knob to the left to negative modulate the cutoff frequency with Envelope 1.

Track

This value determines the influence of a note pitch to the filter cutoff frequency.
In center position the note pitch has no influence to the cutoff. Turn the knob to the right to increase the cutoff frequency with higher notes played. Turn the knob to the left to increase the cutoff frequency with lower notes played.

Vel
This value determines the influence of the note velocity to the filter cutoff frequency.
In center position the note velocity has no influence to the cutoff. Turn the knob to the right to increase the cutoff frequency with higher note velocity. Turn the knob to the left to decrease the cutoff frequency with lower note velocity.

Source
With this menu a Mod Source to modulate the filter cutoff frequency can be selected. Click the "Source" button to open the mod source quick menu and select a Mod Source item in the menu.

Mod
This value determines the filter cutoff frequency modulation with the selected Mod Source.
In center position the Mod Source has no influence to the cutoff. Turn the knob to the right to positive modulate the cutoff frequency with the Mod Source. Turn the knob to the left to negative modulate the cutoff frequency with the Mod Source.

Amplifier

The Amp section has controls to adjust the overall volume of the synthesizer.

Volume
This value increases or decreases the overall volume of the output signal.

Pan
The Pan value sets the position of the output signal in the stereo image.

Velo Sens
This value determines the influence to the volume with note velocity.
In center position the note velocity has no influence to volume.
Turn the knob to the right to increase the volume with higher note velocity.
Turn the knob to the left to decrease the volume with lower note velocity.

Envelopes

The Pulzy XT has two Envelopes to modulate several parameters over time inside the synthesizer. The Attack, Decay, Sustain and Release values can be set with the white knobs, or by dragging the handle points inside the displays.

Envelope 1

Envelope 1 is mainly routed to the Filter. It affects the cutoff frequency according to the setting of the "Env" knob. Envelope 1 can be selected as Mod Source in the Mod Matrix.

Attack

this value determines how long a signal takes to go from minimum to maximum, before the decay starts.

Decay

this value determines how long a signal takes after the attack phase from maximum to sustain level.

Sustain

this value determines the level of a signal after the decay phase, while a note is still playing.

Release

this value determines how long a signal takes after the played note is release to zero.

Track

The value determines the amount of influence the note number has on the duration of all phases. The duration of phases is not influenced when the „Track" knob is in center position. Positive values have the following effect: all notes higher than E4 (note number 64) increase the duration of the phases proportionally. The notes lower than E4 decrease the duration of the phases.

Trigger

The Envelpe can be set to "Single" or "Retrig". If set to "Single", the envelope will only start when a new note is played after the first played note is released (Legato style). If set to "Retrig", the envelope will be retrigger on every new played note.

Envelope 2

Envelope 2 is mainly routed to the Amp. It affects the amplitude of the outgoing audio signal. Envelope 2 can be selected as Mod Source in the Mod Matrix.

Attack

this value determines how long a signal takes to go from minimum to maximum, before the decay starts.

Decay

this value determines how long a signal takes after the attack phase from maximum to sustain level.

Sustain

this value determines the level of a signal after the decay phase, while a note is still playing.

Release

this value determines how long a signal takes after the played note is release to zero.

Track

The value determines the amount of influence the note number has on the duration of all phases. The duration of phases is not influenced when the "Track" knob is in center position. Positive values have the following effect: all notes higher than E4 (note number 64) increase the duration of the phases proportionally. The notes lower than E4 decrease the duration of the phases.

LFOs

The two LFOs are low frequency oscillators.
They are used to modulate different parameters
of the synthesizer.

Sync button

This will turn synchronization to the host on or off.
The speed value for both LFOs is displayed
according to this setting.

Lfo 1

Similar to the oscillators, the first Lfo generates periodic
waveshapes with variable frequency and waveshape.

Speed

The value sets the speed of the Lfo. If „Sync" is activated,
the speed can be set to the following note intervals:
1/1d, 1/2t, 1/1, 1/2d, 1/1t, 1/2, 1/4d, 1/2t, 1/4, 1/8d, 1/4t,
1/8, 1/16d, 1/8t, 1/16, 1/32d, 1/16t, 1/32

Waveshape Ring

This control selects the waveshape of the Lfo. Available
waveshopes for this Lfo are Sine, Triangle, Saw, Pulse
and Sample&Hold.

Delay

This value determines how long the Oscillator attack phase will take. At value 0 the Oscillator will
always start with maximum value. Values over 0 will delay the start at maximum value. The Delay
works like an attack phase of an envelope.

Lfo 2

Similar to the oscillators, Lfo 2 generates a periodic triangle waveshape
with variable frequency. The waveshape is fixed for this Lfo.

Speed

The value sets the speed of the Lfo. If „Sync" is activated, the speed
can be set to the following note intervals:
1/1d, 1/2t, 1/1, 1/2d, 1/1t, 1/2, 1/4d, 1/2t, 1/4, 1/8d, 1/4t,
1/8, 1/16d, 1/8t, 1/16, 1/32d, 1/16t, 1/32

Delay

This value determines how long the Oscillator attack phase will take.
At value 0 the Oscillator will always start with maximum value. Values
over 0 will delay the start at maximum value. The Delay works like an
attack phase of an envelope.

Equalizer

The Pulzy XT has a build in 3-band Equalizer with output gain control. All 3 bands have the same controls. All EQ bands are Peak/Bell Type Equalizers.

Low Band
Cutoff Range is 20Hz - 1000 Hz
Q-Factor range is 0,1 + 8.0 q
Gain range is -24dB - +24dB

Mid Band
Cutoff Range is 20Hz - 20.000 Hz
Q-Factor range is 0,1 + 8.0 q
Gain range is -24dB - +24dB

High Band
Cutoff Range is 20Hz - 20.000 Hz
Q-Factor range is 0,1 + 8.0 q
Gain range is -24dB - +24dB

Mod Matrix

The Pulzy XT has a Modulation Matrix like the hardware synth. A total of 4 different modulation settings can be made. Every modulation setting can have a different mod source and target. It's also possible to have the same mod sources or targets for all 4 settings.

Soure
Click on a source field to open select a source item. Select "Off" to deactivate a source.

Amount
This value determines the amount of modulation. In center position the value is 0 and no modulation will happen to a target. Positive values increase a positive modulation to a target. Negative values increase a negative modulation to a target.

Target
Click on a target field to open the quick menu to select a target item. Select "Off" to deactivate a target.

MATRIX MENU
If the Mod Matrix is visible, press the hamburger icon to open the matrix menu.

Reset all Sources
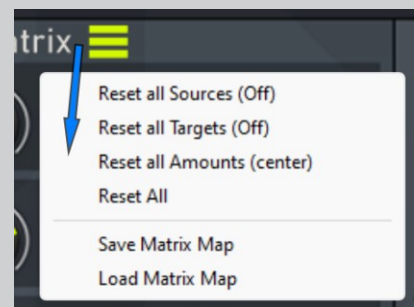This option will only set all the Sources to Off
Reset all Targets
This option will only set all the Targets to Off
Reset all Amounts
This option will only set all the Amounts to 0.
Reset All
This option will set any Sources and Targets to Off and the Amounts to 0.

Chorus FX

The Chorus effect in the Pulzy XT has a great effect on the tone of a preset in the stereo image. It can swirl and thicken up a sound.

On button
This button turns the chorus fx on or off.

Mix
This value adjusts the mix between the dry and the wet sound.

Depth
This value determines the depth of the effect. higher values have a greater effect than lower values.

Rate
This value sets the speed of the effect. higher values speed up the effect and lower values slow it down

Delay FX

The Delay effect is a ping pong stereo delay. The tone, time and feedback of the repeated signals can be adjusted.

On button
This button turns the chorus fx on or off.

Mix
This value adjusts the mix between the dry and the wet sound.

Tone
This value determines the brightness of the delayed signals. Lower values dampen the higher frequency and higher values brighten the sound up.

Feedback
This value sets the amount of repetitions of the incoming sound played. higher values produce more repetitions, lower values less repetitions.

Time
The value sets the time of the Delay. If "Sync" is activated, the speed can be set to the following note intervals:
1/2, 1/4d, 1/2t, 1/4, 1/8d, 1/4t, 1/8, 1/16d, 1/8t, 1/16, 1/32d, 1/16t, 1/32

Sync button
This will turn synchronization to the host on or off. The time value for the delay effect will be set and displayed according to this setting.

- final words -

The software is distributed as is. Any updates to the software released in the future will be available as free downloads to anyone. I will not be able to take suggestions and new features into account for now. If new features are requested and i am getting aware of this requests, i may be able to implement or rework parts of the software to enhance it.

Have fun with my software instrument!

Icewolf