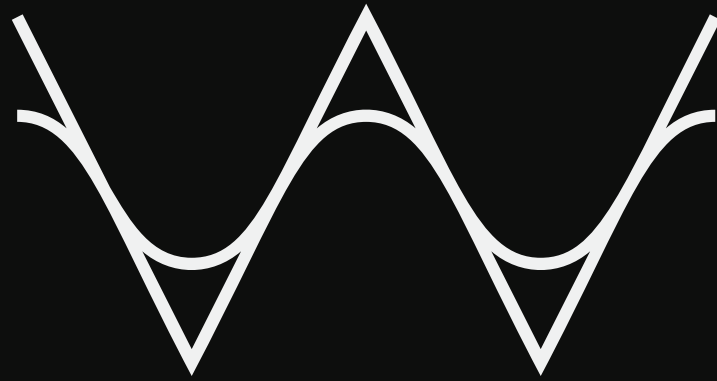


SOUNDMORPH



W A V E W A R P E R 2

USER MANUAL

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# Introduction

The initial drive and inspiration to create the first Wave Warper came from the old days of us having to create whoosh sounds on a daily basis, and the annoyance of having to use doppler effect plugins that simulate real world physics.

We strongly believed that for the purpose of sound design, the core elements of a whoosh sound (pitch, pan, volume,etc) belonged as much to the domain of emotions and imagination as it does to reality. So we created a tool that gave the user the ability to bend those elements to their heart's content.

Wave Warper 2 still comes from that same drive, but brings a whole new handful of features and elements to the table and greatly improves on the previous first version.

## Key Differences from Wave Warper v1

1. Wave Warper 2 is a plugin (vst, ax ,au) and not a standalone.
2. There are now 8 layers instead of 6 (now called emitters).
3. Emitters can do granular synthesis.
4. Emitters can do waveshaping synthesis.
5. No more pre-assigned compression buses.
6. Each emitter can be assigned to an envelope follower bus. The output of the bus can be used to modulate any modulatable parameters.
7. Most parameters are modulatable. Instead of just volume, pan, filter, pitch.
8. 4 Sequencers are available and are able to modulate and/or trigger the emitters.
9. No more trigger spot. Sequencers can be set to "Manual" to be controlled by the xy pad (x position).
10. Different Trigger modes for each emitter.
11. 6 Ifos instead of 1. Any lfo can be assigned to any modulatable parameter.
12. Rate control of sequencers and Ifos can be synced to DAW, giving the ability to make beats.
13. Emitter pitch can be locked to a musical scale, giving the ability to create melodic material (Synth mode only).
14. The XY pad can be assigned to any modulatable parameter.
15. The XY pad controls not only include xy positions, but also radius(distance from center) and angle.
16. Each emitter has its own filter. (and there is still a global filter).

# System Requirements

An Intel® Mac with Mac OS X 10.11 (or later), **OR** a PC with Windows 10 (or later); Multicore processor. 16g Ram.

## Installation

1. Download Wave Warper 2 from within your SoundMorph account.
2. Launch the PC or Mac installer depending on your system, and follow the instructions from there.
3. If it's your first installation. Make sure you install Assets during installation.
4. To activate, launch Wave Warper 2 and enter your serial number in the Activation Window that appears on launch. You can find your Serial Number from within your SoundMorph Account in the 'Your Products' section (underneath the Wave Warper 2 download link).

If Activation is successful, but the plugin still asks you to enter serial when launching, try disabling antiviruses and firewalls active and retry activating.

Wave Warper 2 can be installed on 5 different computers.

If you run out of machines, contact us so we can clear the oldest installations.

## Assets Folder

The asset folder contains all included samples, presets, settings.

The location of the folder is:

PC

My Documents\SoundMorph\WaveWarper 2

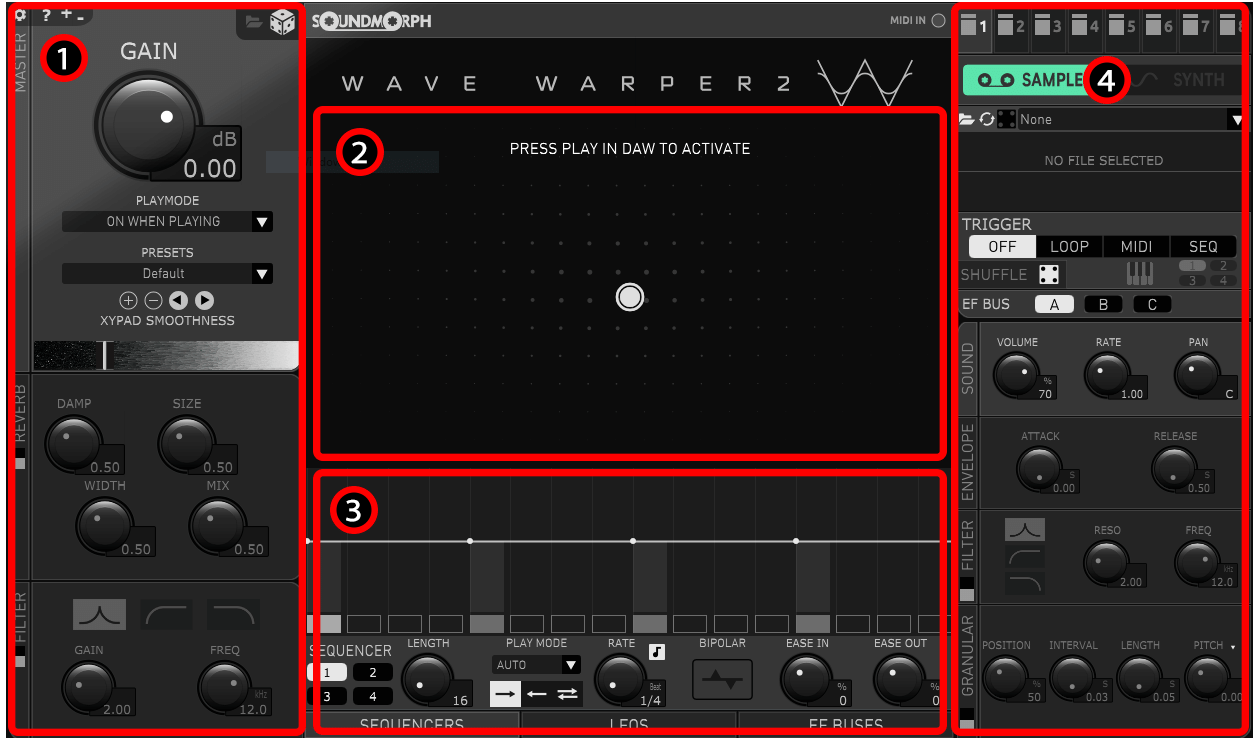
MAC

Documents\SoundMorph\WaveWarper 2

When Shuffling a Sound Emitter sample, the sample will be randomly selected from the Samples folder inside the assets folder.

# Interface

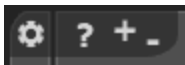
The interface of WaveWarper 2 is split into 4 principal sections.



## 1. GLOBAL SETTINGS

This panel contains all global settings and effects.

### Settings Buttons



- SETTINGS PANEL(gear icon). Opens the settings panel (view version, add serial key, view credits).
- HELP(?). Makes help bubbles appear for 8 seconds.
- Minimize/Maximize(- +). Changes window size.

### Shuffle Buttons



- FOLDERS - opens the folders panel, which gives you the option to change the folder each emitter picks the sounds from when randomizing the samples;
- DICE - shuffles all parameters that have shuffle activated.

## Master Section

- GAIN - This controls the main output volume of the plugin.
- DICE - shuffle all emitters.
- PLAYMODE - You can set WW2 to only play when the Daw is playing or to constantly be active.
- PRESETS - Select, save, delete presets.
- XYPAD SMOOTHNESS - Controls the smoothness of the xy pad movements.

## Reverb Section

- ON/OFF button - Turns the Reverb on or off.
- DAMP - Sets Reverb damping.
- SIZE - Sets Reverb size.
- WIDTH - Sets Reverb width.
- MIX - Sets Reverb mix.

## Filter Section

- ON/OFF button - Turns Filter on or off.
- Filter type - Sets the filter type (notch, lowpass, hipass).
- Filter Gain - Sets the filter gain.
- Filter Res - Sets the filter resonance.

## 2.XY PAD

The XY Pad knob can be used to modulate parameters (see [modulation](#) section) and also to control the position of a sequencer's playhead.

When a sequencer's play mode is set to "MANUAL", the playhead will be controlled by the X position of the xy pad knob.

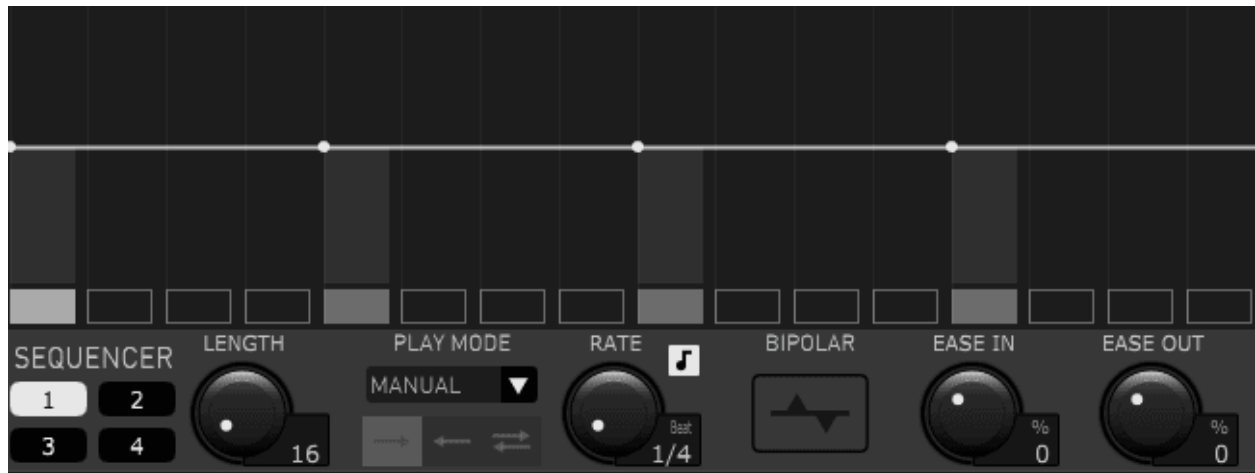
The real value coming out of the movements of the knob is represented by the shadow knob (the darker version following the white knob). The speed at which the shadow catches up with the main knob is controlled by the XYPAD SMOOTHNESS slider in the master settings.

## 3.GLOBAL MODULATION PANEL

This panel includes 3 tabs, SEQUENCERS, LFOS, and EF BUSES (envelope follower buses).

All of which can be used to modulate parameters.

## Sequencer Tab



Wave Warper 2 includes 4 different sequencers that can be used as following:

1. Modulate parameters (see [modulation](#) section).
2. Trigger an emitter. If an emitter has its trigger mode set to "SEQ", that sequencer will cause the emitter to be triggered when its playhead goes over an active step.

### Controls

- SEQUENCER - Sets which sequencer to edit.
- LENGTH - Sets how many steps the sequencer has.
- PLAY MODE - Sets whether the sequencer's playhead follows the XY PAD (MANUAL) or the DAW (AUTO). If set to AUTO, the DAW needs to be playing for the sequencer's playhead to move.
- DIRECTION - Sets the direction of the playhead (forward, backward, palindrome).
- RATE - Sets the speed at which the playhead moves.
- SYNC - Sets whether the rate is in Hz or in Beats.
- BIPOLAR - Sets whether the sequencer goes from 0 to 1 or -1 to 1.
- EASE IN/OUT - Changes the way each value blends into the next.

### Steps

To activate a step, use the mouse left-click button. To disable it, use the mouse right-click button. To change a step value, move the white dots up or down. To make finer adjustments, hold the ctrl/cmd key before grabbing the white dot.

## LFO Tab

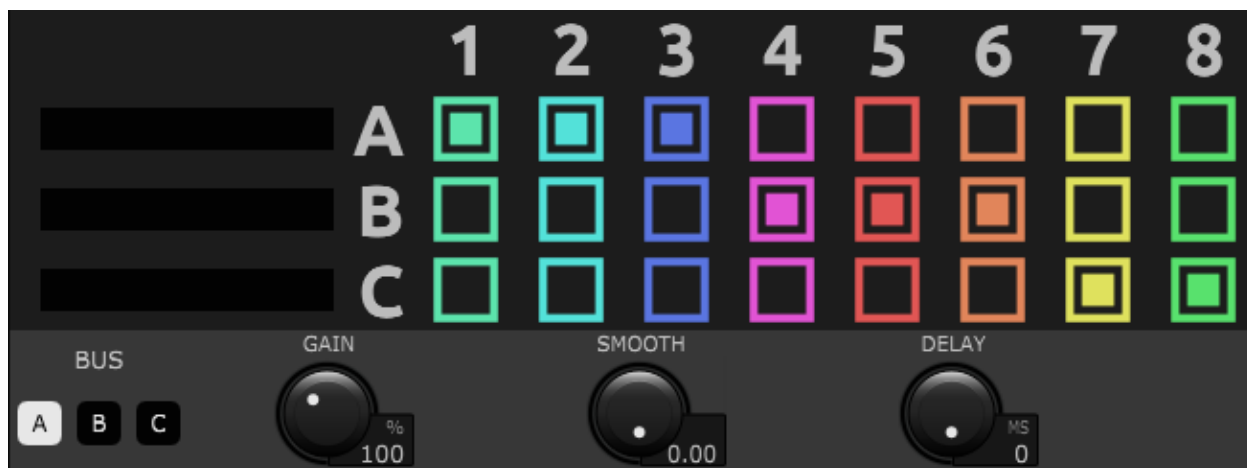


Wave Warper 2 includes 6 different LFOs that can be used to modulate parameters (see [modulation](#) section).

### Controls

- LFO - Sets which LFO to edit.
- Type - Sets the type of LFO (Sine, Triangle, Ramp, Square Noise).
- SEED - Only relevant when using the noise type. If two LFOs use the same seed number, they will have the same values.
- RATE - Sets the speed at which the playhead moves.
- SYNC - Sets whether the rate is in Hz or in Beats. (Only the rate in Hz is modulatable).
- PHASE - Sets the phase of the LFO.
- PW - Sets the pulse width of the LFO.
- SCALE - Sets the scale of the LFO (the height).
- OFFSET - Sets the offset of the LFO.

## Ef Bus Tab



Wave Warper 2 includes 3 different envelope follower buses (A B C).

The purpose of buses is to be able to control a parameter with the volume of a sound (or group of sounds). An example would be to duck the volume of sounds when another is louder.

The output envelope of a bus is the sum of all emitter volume envelopes assigned to it.

Each bus outputs an envelope that can be used to modulate parameters (see [modulation](#) section).



## Controls

- BUS - Sets which bus to edit.
- GAIN - Can be used to increase or decrease the gain of the envelope.
- SMOOTH - Can be used to smooth out jittery or quick movements of the envelope.
- DELAY - Sets a delay on the envelope.

## Meters

The envelope's output can be visualised with the meters on the top left.

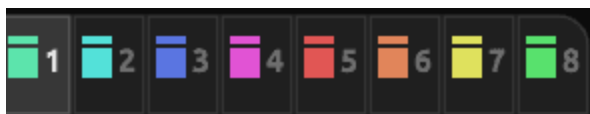
## Bus Selection Matrix

Instead of assigning emitters to buses inside each emitter panel, bus assignment can be done in the selection matrix. The 8 columns represent the 8 emitters and the 3 rows represent the 3 buses. Simply click on a square to change the emitter's bus assignment.

# 4.SOUND EMITTER PANEL

This panel controls all the settings of each emitter.

## Emitter Tabs



Selects which emitter to edit. Each tab also includes a meter that appears at the bottom to view an emitter's output. The color of the tab will be gray if the Trigger mode is set to OFF.

- To mute/unmute an emitter, shift-click on a tab.
- To solo/unsolo an emitter, alt-click on a tab.
- To copy/paste an emitter. Right-click (cmd-click on mac) and select copy. Do the same on another emitter and select paste from the menu.

## Emitter Type



Selects between a sample emitter (sample file) or a Synth Emitter (waveshaping synthesizer).

## Buffer View



In Sample mode, the Buffer View displays the selected sample. A specific region of the sample can be selected by using the start/end brackets. The refresh button will update the samples in the dropdown menu.

A sample can be loaded by either:

- Using the dropdown menu, which accesses the sample assets folder.
- Pressing the folder button and selecting a sample from the explorer window.
- Dragging and dropping a file in the view.

If the shuffle button is active, the selected sample will be shuffled if the emitter is shuffled.



In Synth Mode, the Buffer View displays the shape of the synthesizer wave.

## Emitter Settings



TRIGGER OPTIONS:

- OFF - This emitter will not play.
- LOOP - This emitter will constantly loop.
- MIDI - Will trigger when receiving a midi note that is in the Emitter Midi Range (see below).
- SEQ - Will trigger when the selected sequencer's playhead goes over an active step.

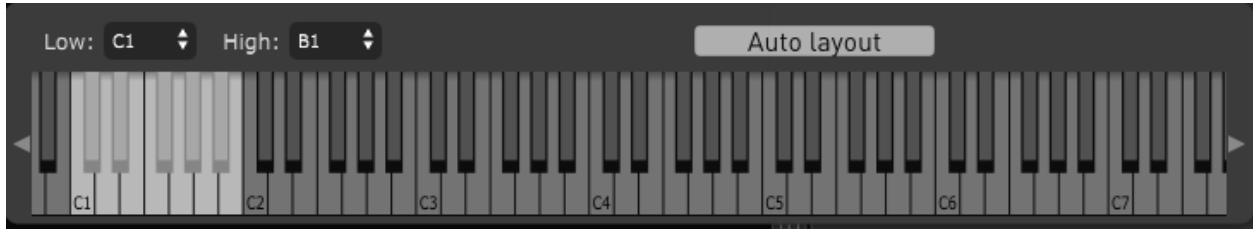


Pressing the SHUFFLE button (the SHUFFLE text) will cause the emitter to shuffle its parameters (if they have their shuffle enabled (see [modulation](#) section).

Pressing the dice will activate/deactivate shuffling on all the emitter's parameters.



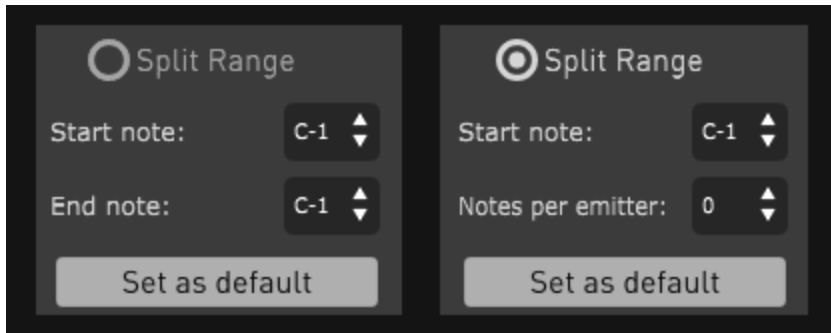
Pressing the keyboard button will open the Midi Range Panel.



The emitter will only receive midi notes if it's within its selected range.

To change the range, drag up or down with the mouse over the Low and High box values.

All emitters default midi range values can be set at the same time by using the Auto Layout panel.



If "Split Range" is not active, the Start and End note will be set to all emitters.

If "Split Range" is active, the size of the range will be set with "Notes per emitter", and the following emitter range will start where the previous one ended. The start note (of emitter 1) will be set by the Start note.



You can set the assigned EF BUS to either the A, B, or C bus. (This can also be done in the bus selection matrix). This will make the volume envelope of the emitter contribute to that bus envelope output.

## Sound Section



In Sample Mode:

- VOLUME - Controls the volume of the emitter.
- RATE - Controls the speed the sample is playing.
- PAN - Controls the Left/Right balance of the emitter.



In Synth Mode:

The rate is replaced with:

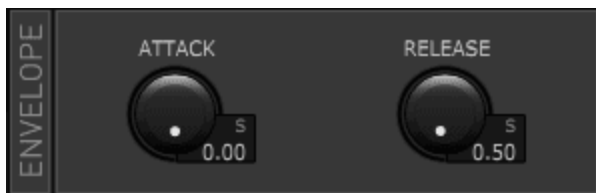
- NOTE - The base note the synth is playing.
- OFFSET - Offset from the base note in semitones (add Full-Range midi modulation on this parameter to play the emitter with a midi keyboard).

OFFSET LOCK TO SCALE DROPDOWN MENU



The notes of a synth can be locked to a specific musical scale by selecting one from the offset scale dropdown menu. (Opened when clicking on the offset text). For a list of the available scales, see [SCALES](#) section.

## Envelope Section

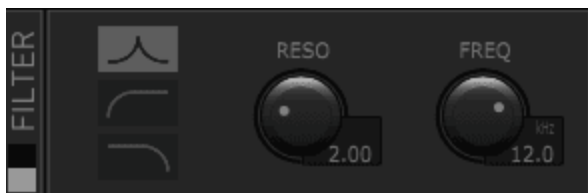


The AR envelope of an emitter when triggered with midi or with a sequencer(SYNTH mode only).

CONTROLS:

- ATTACK - Sets the attack length of the emitter. Is applied when the emitter is triggered.
- RELEASE - Sets the release length of the emitter. Is applied when the emitter is released. If the emitter is triggered by a midi note, the release is applied when the note is released. When it is triggered by a sequencer, it is applied when the sequencer's playhead reaches an inactive step.

## Filter Section



CONTROLS:

- ON/OFF - Disables or Activates the emitter filter.
- Filter Type - Selects between a notch, hipass, lowpass filter.
- RESO - Sets the filter resonance.
- FREQ - Sets the filter band frequency.

## Granular Section (Sample Mode Only)



### CONTROLS:

- ON/OFF - Disables or Activates the Granular synthesis mode on the sample.
- POSITION - Location in the sample where the grain is selected.
- INTERVAL - The time between grain triggers.
- LENGTH - The length in seconds of the grain.
- PITCH - The Pitch of the grain (add Full-Range midi modulation on this parameter to play the emitter with a midi keyboard).

### PITCH LOCK TO SCALE DROPDOWN MENU



The notes of the granular synth can be locked to a specific musical scale by selecting one from the offset scale dropdown menu. (Opened when clicking on the pitch text).

For a list of the available scales, see [SCALES](#) section.

## WaveShaping Section (Synth Mode Only)

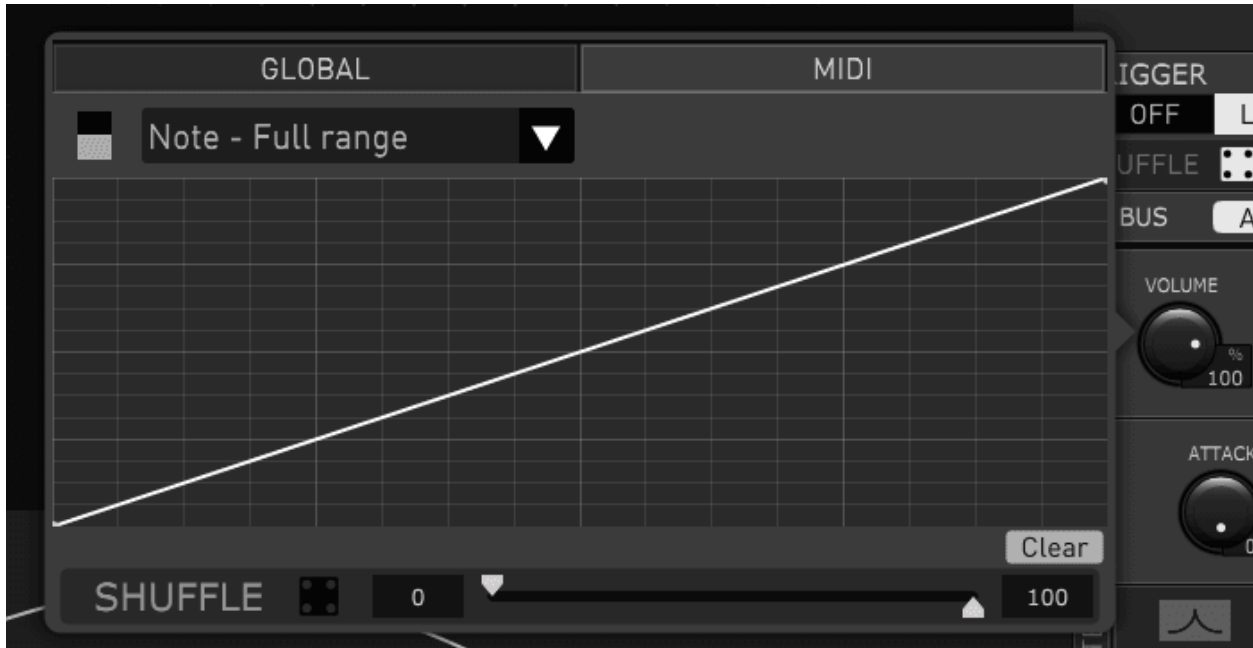


### CONTROLS:

- WAVE/NOISE - Selects between the waveshaper or a pure white noise.
- SHAPE - Morph the wave shape between Sine/Triangle/SawTooth/Square.
- WIDTH - Adds empty space at the end of the wave shape.
- PHASE - Sets the phase of the waveshape.

## Modulation

In order to open the modulation panel of a parameter, right-click on the parameter knob. If no Panel appears, that specific parameter is not modulatable.



## GLOBAL TAB

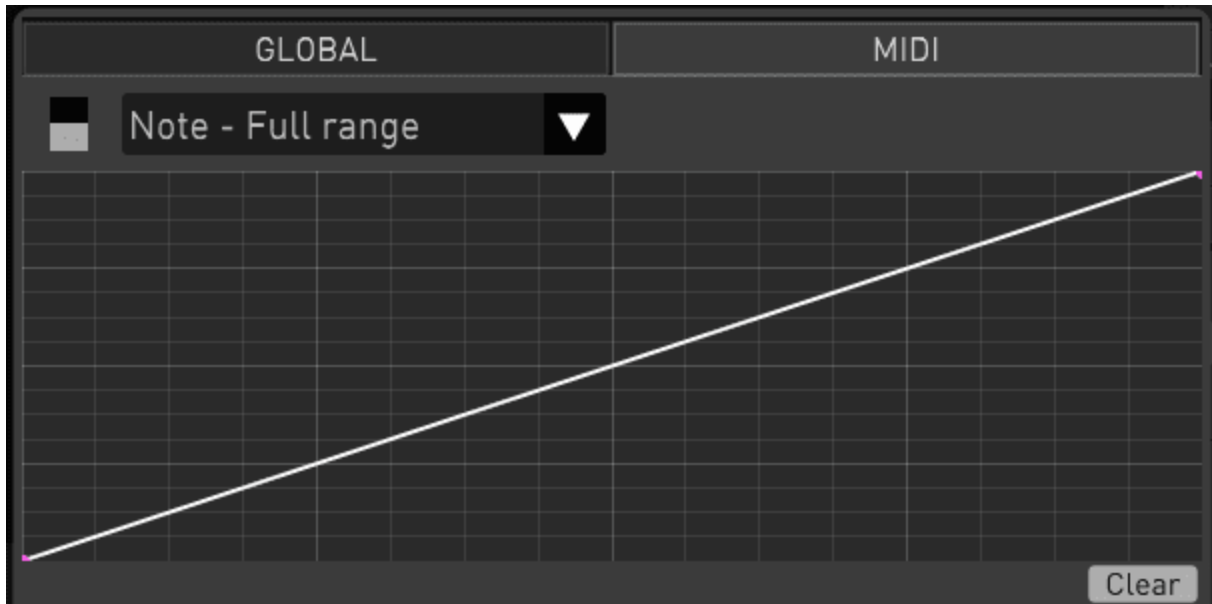


Each modulation parameter includes an on/off toggle switch to activate the modulation and a SCALE knob to scale the modulation. If the scale is negative, the modulation applied will be inverted.

### CONTROLS:

- X-AXIS - The X position of the Knob in the XY PAD.
- Y-AXIS - The Y position of the Knob in the XY PAD.
- RADIUS - The distance from the center to the knob in the XY PAD.
- ANGLE - The angle of the knob in relation to the center in the XY PAD.
- SEQ1-4 - The Current Value of the Sequencer. (White line).
- LFO1-6 - The Current Value of the LFO.
- BUSA-C - The Current Value of the BUS.

## MIDI TAB



### CONTROLS:

- ON/OFF - Toggle the Midi Modulation on or off.
- RANGE - Sets the midi range to map the parameter to.
  - FULL RANGE - Ignores the emitter range and uses the full midi note range (0 to 127).
  - SELECTED RANGE - Uses the emitter range.
  - VELOCITY - Uses the velocity value of midi instead of the note.
  - CONTROL VALUE - Use a CC to control the parameter.



When Control Value is selected, the cc value can be typed manually or learned by pressing the LEARN button.

- MAPPING ENVELOPE - The X Domain represents the Midi range. The Y domain represents the output value.
- CLEAR. - Resets the mapping envelope to default.

## SHUFFLE SECTION



### CONTROLS:

- ON/OFF - Toggles shuffling on the parameter.
- Min/Max Slider - Sets the minimum and maximum values the random value can be in.

# Appendix 1 - Common Cases

## A. Making a simple whoosh sound.

1. Set emitter 1 type to SYNTH.
2. Set the Trigger to LOOP.
3. Set the Synth type to NOISE in the Waveshaper section.
4. Set the Volume knob to 100%.
5. Open the modulation Panel of the Volume by right-clicking.
6. Activate the RADIUS modulation.
7. Set RADIUS SCALE to -1.
8. Activate Filter and activate Radius in the frequency modulation panel.
9. Adjust radius modulation and Frequency to taste.
10. Add modulation on the Pan parameter (X Position).
11. Activate Reverb.
12. Move the XY knob. The volume of the Noise will be loud in the center.

## B. You have a drone sound and an impact sound and you want the drone to lower in volume when the impact triggers. (Ducking).

1. Assign the drone a Bus.
2. Assign the impact to another Bus.
3. Set the drone volume to 100%.
4. In the modulation panel of the drone volume parameter, activate the Bus that the impact sound is in.
5. Set the Scale to -1 so that the modulation removes from the volume.
6. The Louder the impact is, the more the drone's volume will drop.

## C. You want to control the Pitch of an Emitter with a midi keyboard. (SYNTH MODE)

1. Set the sound emitter to SYNTH type.
2. Right-Click on the offset parameter to open the modulation panel.
3. Select the Midi tab.
4. Set the midi modulation to active (the toggle on the top left).
5. Set the Midi Range to Full-Range.
6. Play on the midi keyboard to play the synth.



- D. You want to control the Pitch of an Emitter with a midi keyboard. (SAMPLE MODE)
1. Set the sound emitter to SAMPLE type.
  2. Set a sample file that has a definite pitch.
  3. Activate the Granular synthesis.
  4. Right-Click on the pitch parameter to open the modulation panel.
  5. Select the Midi tab.
  6. Set the midi modulation to active (the toggle on the top left).
  7. Set the Midi Range to Full-Range.
  8. Play on the midi keyboard to play the synth.
  9. Make sure the length parameter is long enough to perceive a pitch.

- E. You want to create a Random Melody.

1. Set sound emitter 1 to Synth type.
2. Set LFO 1 to noise.
3. Activate sync on LFO 1.
4. Set the desired scale in the note offset scale dropdown menu.
5. Activate modulation on the note offset using the LFO 1 modulation.

## Appendix 2 - Scales

NAME	SEMITONES	NAME	SEMITONES
Harmonic Minor	0 2 3 5 7 8 11	Major	0 2 4 5 7 9 11
Melodic Minor	0 2 3 5 7 9 11	Natural Minor	0 2 3 5 7 8 10
Whole Tone	0 2 4 6 8 10	Chromatic	0 1 2 3 4 5 6 7 8 9 10 11
Pentatonic Major	0 2 4 7 9	Pentatonic Minor	0 3 5 7 10
Pentatonic Blues	0 3 5 6 7 10	Pentatonic Neutral	0 2 5 7 10
Ionian	0 2 4 5 7 9 11	Dorian	0 2 3 5 7 9 10
Phrygian	0 1 3 5 7 8 10	Lydian	0 2 4 6 7 9 11
Mixolydian	0 2 4 5 7 9 10	Aeolian	0 2 3 5 7 8 10
Locrian	0 1 3 5 6 8 10	Arabian (a)	0 2 3 5 6 8 9 11
Arabian (b)	0 2 4 5 6 8 10	Augmented	0 3 4 6 8 11
Auxiliary Dim Blues	0 1 3 4 6 7 9 10	Blues	0 3 5 6 7 10
Chinese	0 4 6 7 11	Chinese Mongolian	0 2 4 7 9
Diatonic	0 2 4 7 9	Diminished	0 2 3 5 6 8 9 11
Double Harmonic	0 1 4 5 7 8 11	Egyptian	0 2 5 7 10
Eight Tone Spanish	0 1 3 4 5 6 8 10	Ethiopian	0 2 3 5 7 8 10
Hawaiian	0 2 3 5 7 9 11	Hindu	0 2 4 5 7 8 10
Hungarian Gypsy	0 2 3 6 7 8 11	Japanese (a)	0 1 5 7 8
Japanese (b)	0 2 5 7 8	Jewish (Adonai Malakh)	0 1 2 3 5 7 9 10
Neapolitan	0 1 3 5 7 8 11	Neapolitan Minor	0 1 3 5 7 8 10
Oriental (a)	0 1 4 5 6 8 10	Oriental (b)	0 1 4 5 6 9 10
Persian	0 1 4 5 6 8 11	Pure Minor	0 2 3 5 7 8 10