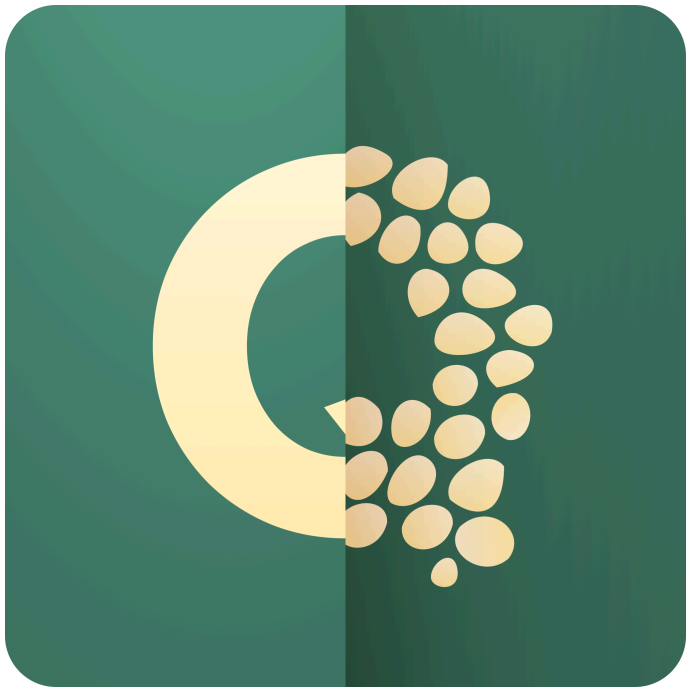

Quantum Granulator

User Manual

GS DSP

Version 2026.2 (April 2026)

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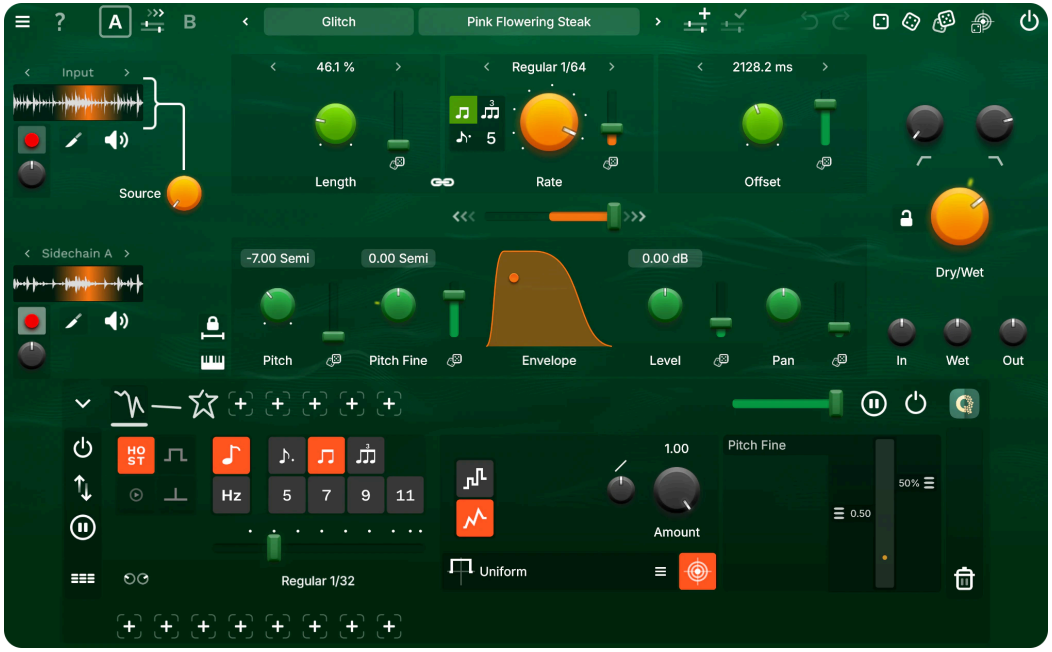
Welcome to Quantum Granulator



Thank you for choosing Quantum Granulator. We designed this tool to inspire, push boundaries, and make your creative workflow as intuitive as it is powerful.

Quantum Granulator turns your audio into a playground of live granular synthesis - decompose, manipulate, and reassemble sound in real time, from subtle textures to fully chaotic sound clusters. Whether you're crafting delicate sound clouds or wild, evolving textures, this manual will guide you through every feature, from first steps to advanced techniques.

Experiment freely, break the rules, and most of all - have fun!

Why Quantum Granulator?

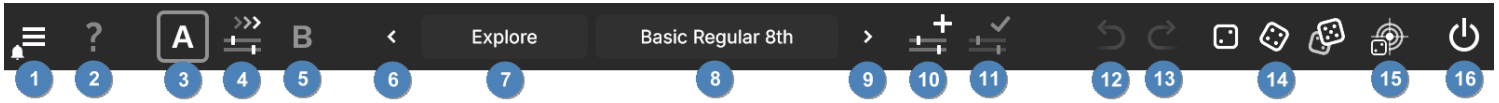
Quantum Granulator isn't just another granular processor - it's a live granular workstation designed for deep, hands-on sonic manipulation in real time.

The Power of Granular Sound

At the heart of Quantum Granulator is its musical grain engine and dual live buffers, which let you transform audio into evolving textures. This means you can:

- Capture and freeze audio in two independent recording buffers, giving you full control over what goes in - and what comes out - whether from the Main Input, Sidechain A, or Sidechain B.
- Trigger grains freely in Hz or lock them to tempo for rhythmic precision. Adjust grain length, offset, and density - from crisp stutters to blurred, cinematic clouds.
- Quantize grains to 30+ built-in musical scales or create your own. Play grains via MIDI to turn Quantum Granulator into an expressive granular live instrument.
- Fine-tune randomization per parameter, with each type of randomness crafted with a musical ear.
- Shape grains with an intuitive 2D Envelope XY pad which lets you sharpen or soften vertically, adjust attack and release horizontally.

Main Toolbar



A video tutorial is available here: https://gs-dsp.com/learn#basic-functionality

1. Open Main Menu: if the bell is yellow there is an update available.
2. Enable / Disable Tooltips: Move a control to display its tooltip (on Desktop the tooltip will come up on hover too).
3. Load Patch A: Use patches to compare presets, tweak variations, or switch instantly between ideas.
4. Copy A ↔ B depending on currently active patch.
5. Load Patch B: Use patches to compare presets, tweak variations, or switch instantly between ideas.
6. Load the previous preset.
7. Preset Subcategory: Opens Preset Menu.
8. Preset Name: Opens Preset Menu, coloured in orange if preset has been modified.
9. Load the next preset.
10. Add a new preset.
11. Overwrite current preset.
12. Undo
13. Redo
14. Randomise parameters in 3 stages: gentle / medium / fully random.
15. Assign parameters to randomise.
16. On / Off: True Bypass.

Main Menu

A video tutorial is available here: https://gs-dsp.com/learn#basic-settings

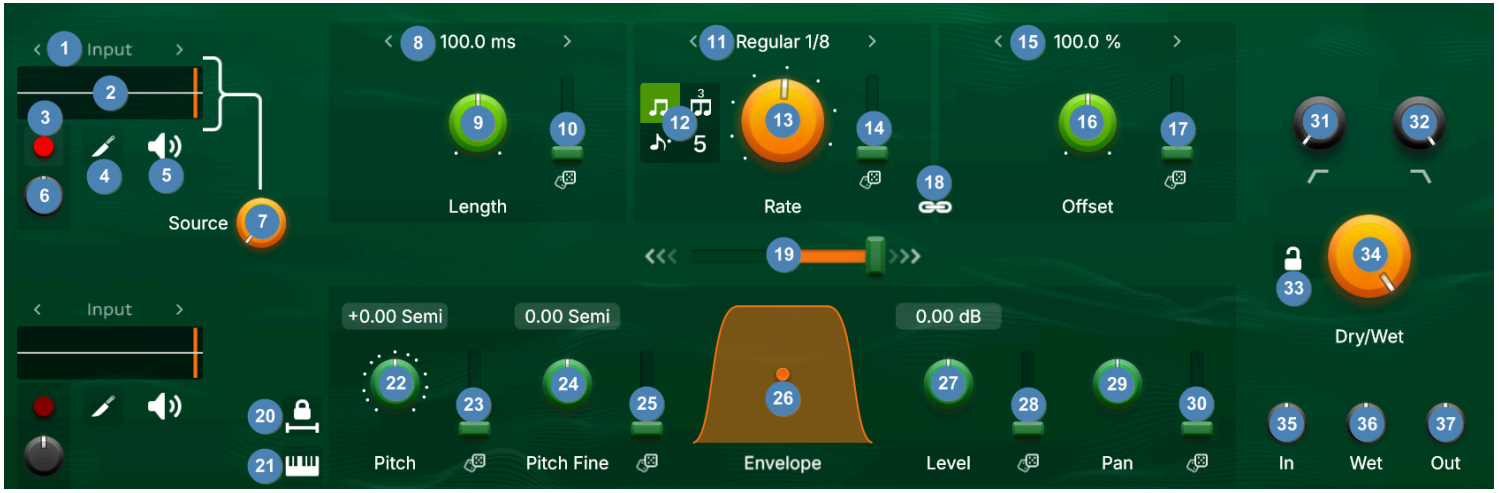
- Manage Presets
  - Import
  - Refresh Presets (Desktop only)
  - Open presets folder (Desktop only)
  - Export
  - Load Default on Startup: If unchecked the plugin will load a random preset on startup.
- Locked Parameters: Checked parameters won't change with presets.
- Size (Desktop only): Tiny / Small / Standard / Large / Larger / Huge
- Skin: Bright / Dark / Default
- Tooltips: Enable / Disable, Move a control to display its tooltip (on Desktop the tooltip will come up on hover too).
- Tooltips Language
- Camera (Desktop only): Enable / Disable the camera input.
- Activation (Desktop only): Access the activation window to activate / deactivate your plugin.
- Plugin Name and Version
- Learn:
  - User Manual: Open this manual.
  - Video Tutorials: Open a browser and visit our video tutorials section.

- Background Brightness (iOS only): Adjusts the brightness of the background, tune to your taste.
- Limiter: Enable / Disable the output limiter.
- Max Grains: Defines the maximum grain count (16 / 32 / 64).

Preset Menu

- Built-In Presets: Shows a list of built-in presets within their subcategories, select a preset to load it.
- User Presets: Shows a list of user presets within their subcategories, select a preset to load it.
- Subcategory:
    - User subcategories: Pick one of your already created subcategories for the current preset.
    - Create: Adds a new subcategory for the current preset.
    - Remove: Deletes the current subcategory for the current preset.
- Rename: Lets you type a new name for the current preset.
- Revert to Saved: only available if the preset has been modified.
- Random Preset: Loads a random preset.
- Delete:
    - Sure?: Select this to really delete the current preset.

Control Panel

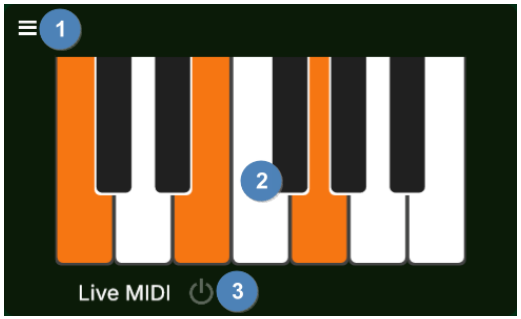


A video tutorial is available here: https://gs-dsp.com/learn#quantum-granulator

1. Input: Switch between Input, Sidechain A or Sidechain B.
2. Buffer View: Shows the waveform of the recorded audio. The orange segment shows Length and Offset with their randomisations applied.
3. Record Toggle: Turns recording into the buffer on or off (click-free).
4. Kill Buffer: Clears the whole buffer (no undo).
5. Monitor: Press and hold to monitor the currently selected input signal.
6. Record Level: Adjusts the recording level.
7. Source: Adjusts the mix between Buffer A and B. The Buffer B controls are identical to Buffer A above.

8. Length Mode: Switch between time in ms, BPM synced or relative mode. Relative mode adjusts the length as a percentage of the rate.
9. Length: Adjusts the length of the grains depending on the mode. If the grains are longer than the interval of the rate they will overlap.
10. Length Randomisation: Adjusts the amount of random deviations around the defined length.
11. Rate Mode: Switch between frequency in Hz or BPM Synced mode.
12. Sync Types (Only visible if in BPM Sync mode): Choose which types should be included in the grid.
13. Rate: Adjusts the rate at which new grains are triggered.
14. Rate Randomisation: Randomises the trigger rate depending on Rate Mode.
    - Hz: A uniform random spacing between triggers results in a Geiger counter like pattern.
    - BPM: Adds more triggers around the synced trigger which results in a spray like pattern.
15. Offset Mode: Switch between time in ms, BPM synced or relative mode. Relative mode adjusts the offset as a percentage of the rate.
16. Offset: Adjusts the offset position of the buffers from which new grains are triggered. No Offset is only useful if you are currently recording.
17. Offset Randomisation: Adjusts the amount of random deviations around the defined offset.
18. Relative Link: This is just a visual cue that either the length or the offset is in relative mode and linked to the rate.
19. Direction: Sets the probability for the playback direction. Left: all grains play in reverse. Right: All grains play forward. Center: 50/50 chance to play forward or backward.
20. Length Lock:
    - Locked: All grains are equal in duration, no matter the pitch.
    - Unlocked: Pitched down grains play longer, pitched up grains play shorter.

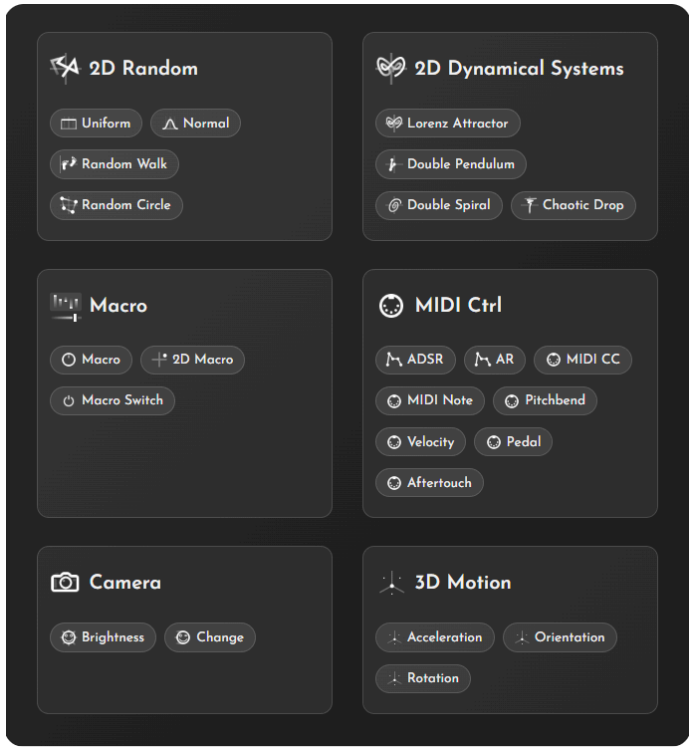
21. Scale Picker: Offers various options for pitch quantisation.
    - 21.1. Scale Presets: 30+ built-in musical scales / chords or random
    - 21.2. Keyboard: Click on the keys to set the available notes.
    - 21.3. Live MIDI Mode: New grains can only be triggered if at least one MIDI Note message is received. If more than one key is down, each grain is randomly assigned a note (repeats only occur after all notes have been used). Optionally, each key's velocity can be applied to the level. The Pitch parameter still functions as an offset. If Live MIDI is enabled a small MIDI symbol is displayed next to the scale picker which is active if notes are down.



22. Pitch: Shift the pitch continuously or apply quantization using the scale picker (±24 semitones).
23. Pitch Randomisation: Adjusts the amount of random deviations around the defined pitch.
24. Pitch Fine: Shift the pitch from -1 to 1 semitone. Useful for micro-adjustments and vibrato.
25. Pitch Fine Randomisation: Adjusts the amount of random deviations around the defined pitch fine.
26. Grain Envelope: Drag up and down to adjust smoothness or left and right to skew the envelope.
27. Level: Adjusts the grain level in dB.
28. Level Randomisation: Adjusts the amount of random deviations around the defined level.
29. Pan: Adjusts the placement of a sound in the stereo field.
30. Pan Randomisation: Adjusts the amount of random deviations around the defined pan.
31. Highpass Filter
32. Lowpass Filter
33. Mix Lock: Engage to keep your Dry/Wet amount unchanged when loading a preset.
34. Dry/Wet: Adjusts the mix between dry (input) and wet.
35. Input Level: Adjusts the input (dry) level in dB.
36. Wet: Adjusts the level of the wet signal in dB.
37. Output Level: Adjusts the output level in dB.

Modulation System

Our modulation system lets you modulate any parameter with ease and precision, including individual depth control per parameter. And if that's not enough, you can dive into the world of Cross Modulation by expanding the system even further - using modulators to modulate the parameters of other modulators.
Sounds complicated? It's not! The concept is simple, but the possibilities are endless!



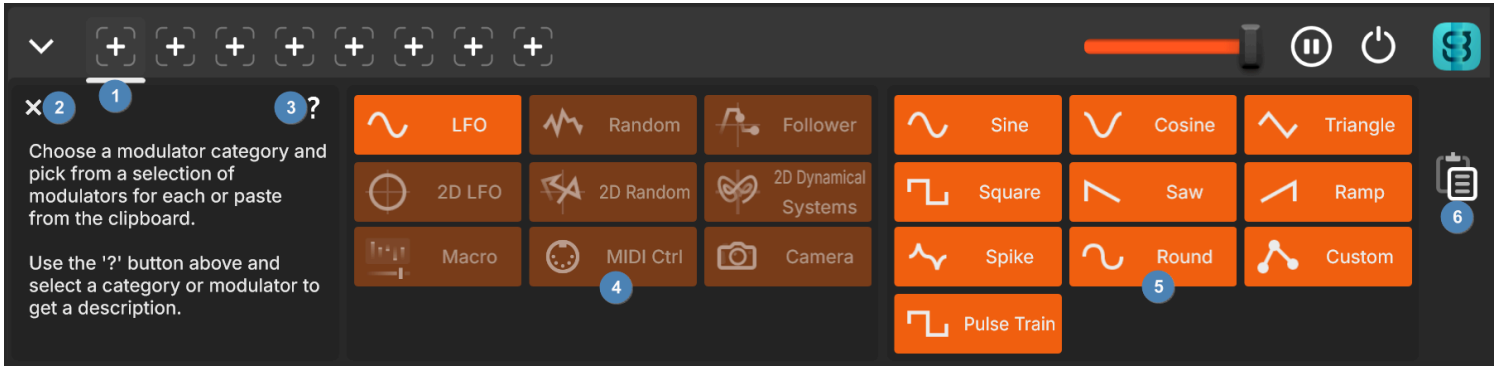
A video tutorial is available here: https://gs-dsp.com/learn#modulation-system

Overview

1. Plugin Control Panel in mapping mode (MagicDelay here, but any GS DSP plugin will look similar)
2. Modulation Panel: Modulators for modulating parameters in the Plugin Control Panel
3. Cross Modulation Panel: Modulators for modulating parameters in the Modulation Panel
   (Attention MMM / MMMm Users: this is not available yet)
4. Unassigned parameter: transparent grey rectangle, yellow corners
5. Assigned parameter with negative depth (yellow rectangle with red bar)
6. Assigned parameter with positive depth (yellow rectangle with green bar)

Modulator Selector

This is where we start our journey into modulation. All modulators are organized into clear categories, making it easy to find what you need and keep your workflow smooth. Whether you're shaping dynamics, adding movement, or designing complex modulation, your journey starts here - pick a modulator and let's get started.



1. Hit one of the empty slots (indicated by a +) to add a modulator.
2. Cancel: Close the modulator selector again.
3. Tooltip: Use the ? button and select a category or modulator to get a description.
4. Category: Choosing a category updates the list of available modulators on the right.
5. Modulator: Pick one of the modulators from the currently selected category.
6. Paste: If you had previously copied a modulator you can paste it in here instead of picking a modulator.

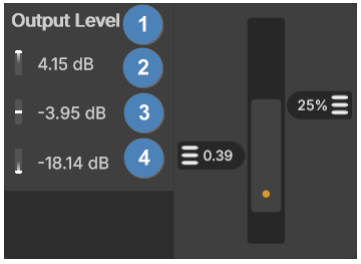
Common Controls

1. Extend / Collapse Modulation System
2. Modulation Slots: Empty slots are indicated by a +, if there is an active modulator you will see its output. Select an active modulator to edit its parameters.
3. Global Modulation Amount: Scales the outputs of all modulators.
4. Global Modulation Sample and Hold: Click to hold all current modulation outputs, click again to continue.
5. Global Modulation On / Off: Turns all modulators on or off
6. Modulator On / Off: Turns the current modulator on or off
7. Bipolar / Unipolar: Switch between bipolar (positive and negative output) or unipolar (positive output only).
8. Modulator Sample and Hold: Click to hold the current modulator output, click again to continue.
9. Open Modulator Selector: Lets you choose a different modulator for the currently active slot.
10. Copy the modulator to the clipboard. You can then paste it into any other GS DSP Plugin as long as the versions are equal.
11. Paste the modulator from the clipboard into the current slot. This will overwrite any existing modulator. If the clipboard is empty or contains invalid data, nothing will happen and the button will briefly flash red.
12. Move to trash: Turn off modulator and remove all modulation mappings.

13. Skews the amount so you get improved precision of low values (turn left) or high values (turn right)
14. Amount: Scales the output of the modulator.
15. Map Modulation: Enter mapping mode to select which parameter should be modulated at which depth. If the modulator contains more than one axis (e.g. 2D LFO) there will be a Map button for each axis (X / Y / Z). Click on a parameter to add modulation, drag it to change the depth. Click again to remove modulation. You can also change the parameter value and modulation depth using the Mapping Detail section (see 17, 18 & 19).
16. Mapped parameter list: Select one of the mapped parameters to edit it in the Mapping Detail section to the right.
17. Parameter Value: Lets you change the parameter value of the currently selected parameter.
18. Modulation View: Shows the current modulation depth as a grey bar. The yellow dot shows the current modulated value. If there is more than one modulator modulating the same parameter a red dot will show the contribution of the current modulator.
19. Modulation Depth in percent.

Dragging the Parameter Value (17) or the Modulation Depth (19) or just holding anywhere in the Modulation Detail section in the bottom right will switch to the Modulation Range Info:

1. Parameter Name
2. Maximum Value with modulation applied
3. Parameter Value
4. Minimum Value with modulation applied



Quick Start

Add a modulator by hitting an empty slot, then select one

Hit the orange Map button to enter mapping mode

Assign the modulator to a parameter by clicking on it

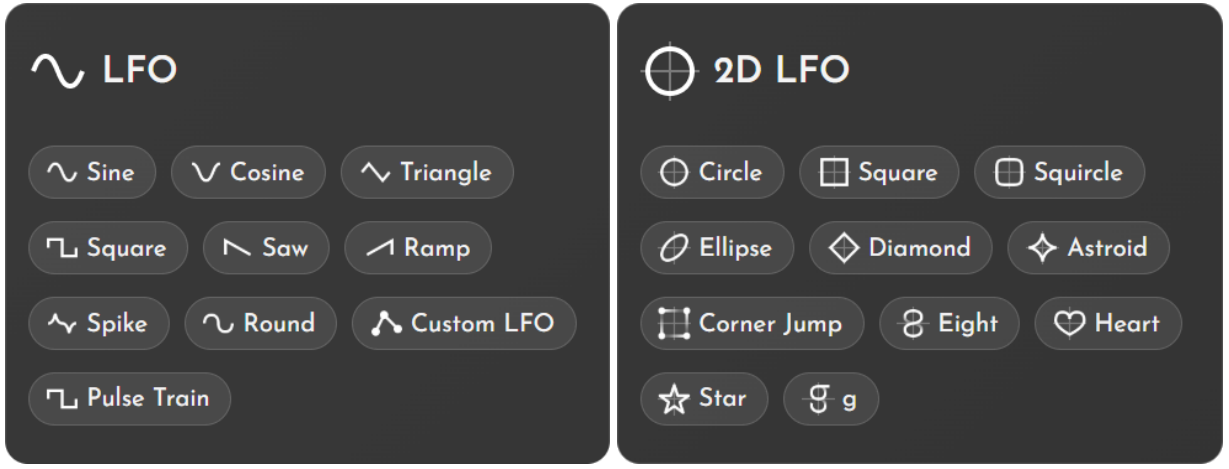
Adjust depth as needed by dragging an already assigned parameter up or down.

Exit mapping mode by hitting the Map button again

LFO / 2D LFO

When it comes to modulation, the LFO is the classic starting point—and for good reason. Traditionally, a Low Frequency Oscillator generates repeating waveforms at sub-audible speeds, shaping parameters like filter cutoff, amplitude, or pitch to create movement where there was none. But we didn't stop there.

Today, LFOs can sync seamlessly to your DAW's tempo, locking your modulation to the groove of your track. And with 2D LFOs, we've added a new dimension: instead of just moving in one direction, you can modulate along two axes at once, opening up even richer, more complex textures. Whether you're crafting subtle vibrato, rhythmic tremolo, or wild, evolving textures, the LFO is your go-to tool for turning static sounds into something alive.

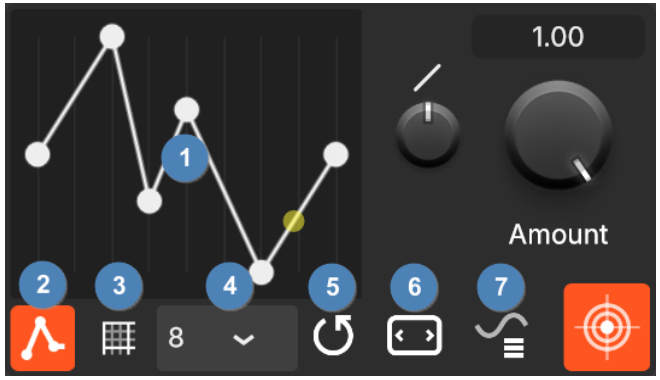


1. Sync Mode: Choose how to sync the timing:
   - HO ST Host: Sync to the your Host (DAW) timeline for consistent values, but runs freely when the host isn't playing
   - Gate: Turn the gate on to restart the modulator. Turn it off to stop it. The gate button is modulatable of course.
   - Playback: Restarts the modulator every time the host starts playback, keeps running freely otherwise.
   - Trigger: When triggered, the modulator runs one full period. The trigger needs to be off before it can fire again. The trigger button is modulatable of course.
2. Gate / Trigger button: Only visible if in Gate or Trigger Sync Mode.
3. BPM / Hz: If switched to Hz a single knob will be shown instead of the grid selector (4) and the time slider (5) to adjust the time in Hz.
4. Note Type Grid: Choose which note types should be added to the grid used in the time slider (5).
5. Time Slider: Selects the note division based on the note type grid (4).
6. Switch to the legacy dual knob view where two knobs are used instead of the note type grid and the time slider.
7. Phase Offset: Left (-2π), Center (0), Right ($+2\pi$).

8. Phase Skew: Changes the symmetry of the wave.
9. Shape: Choose which waveform or 2D Shape to use.

Custom LFO

Create unique modulation shapes with the Custom LFO - draw your own curves and save them for later use. All curves are stored in a shared folder, so you can access and reuse them across all GS DSP plugins.



1. Curve Editor: More details about editing below.
2. Stepped or Free: Switch between stepped or free curves.
3. Grid: Applies a grid on the curve so any further editing will snap to that.
4. Grid Size: 2 to 16.
5. Reset: Return to the default state.
6. View: Switch between narrow (as shown here) and wide view of the curve for more detailed editing.
7. Curve Presets: Opens the Curve Manager where you can load or save curves.

1. Curve List: Select a curve by clicking it. Double-click to load.
2. Current Curve: Display the currently loaded curve.
3. Load: Loads the currently selected curve.
4. Delete: Removes the currently selected curve.
5. Overwrite: Overwrites the currently selected curve.
6. Add new curve: Saves the current curve. You will be prompted to enter a name for it.
7. Close: Closes the Curve Manager again.

Curve Editor

The Curve Editor allows you to design curves with the following interactions:

- Double click in an empty area to add a new point
- Double click an existing point to remove it
- Drag a point to move it around
- Drag a line to move the whole line around
- Select an empty area, then drag it to insert a segment
- Select an area containing points, then drag one of the points to move the whole selection
- Hold Control key to lock the x-Axis (Desktop only)

Have a curve you'd like to share? Submit it to us, and we may add it to our default presets!

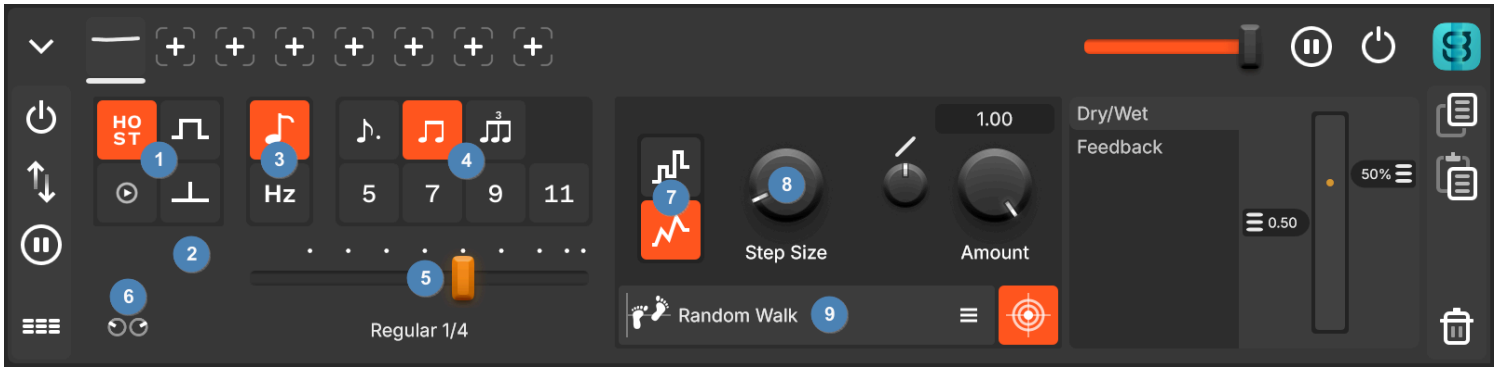
Pulse Train

The control layout remains identical to the LFO, except the Phase Skew (8) parameter is replaced with a Width control, which adjusts the Pulse Width as a percentage.

Random / 2D Random

When you want to break free from repetition, Random is your answer. Traditionally, random modulators generate unpredictable values, adding chaos, variation, and organic feel to parameters like filter cutoff, pitch, or effects depth. But there isn't just one type of random, our modulators let you explore all types of random spaces, from smooth probability curves to jagged noise.

With 2D Random, you're not just rolling the dice in one direction - you're introducing controlled chaos across two axes at once. Sync it to your DAW's tempo for rhythmic unpredictability, or let it run free for truly organic, ever-shifting textures. Whether you need subtle humanization, glitchy artifacts, or wild, evolving soundscapes, randomness injects life where precision feels too rigid.



1. Sync Mode: Choose how to sync the timing:
   - HO ST Host: Sync to the your Host (DAW) timeline for consistent values, but runs freely when the host isn't playing
   - Gate: Turn the gate on to restart the modulator. Turn it off to stop it. The gate button is modulatable of course.
   - Playback: Restarts the modulator every time the host starts playback, keeps running freely otherwise.
   - Trigger: When triggered, the modulator runs one full period. The trigger needs to be off before it can fire again. The trigger button is modulatable of course.
2. Gate / Trigger button: Only visible if in Gate or Trigger Sync Mode.
3. BPM / Hz: If switched to Hz a single knob will show instead of the grid selector (4) and the time slider (5) to adjust the time in Hz.
4. Note Type Grid: Choose which note types should be added to the grid used in the time slider (5).
5. Time Slider: Selects the note division based on the note type grid (4).
6. Switch to the legacy dual knob view where two knobs are used instead of the note type grid and the time slider.

7. Interpolation: Choose between instant jumps to the next random value or smooth transitions. When interpolation is disabled, the modulator behaves as a Sample & Hold (S&H), which is the standard terminology for this mode.
8. Step Size (Random Walk only)
9. Random Type:
    9.1. Uniform: All values have an equal likelihood of occurring, like a fair die.
    9.2. Normal: Most values cluster around the center (mean), like human heights.
    9.3. Random Walk: Imagine you flip a coin each time you take a step to decide which direction to go. Then you walk one step based on the Step Size and repeat.
    9.4. Random Oscillator (1D only): Alternates between a random positive and a random negative value.
    9.5. Random Circle (2D only): The next random position moves to the next quadrant, creating a circular, yet random, motion.

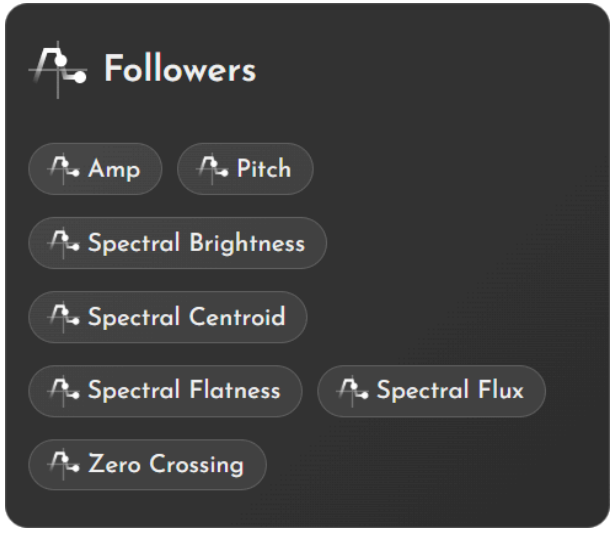
Random Switch

The control layout remains identical to the other Random modulators, except the Step Size (8) parameter is replaced with a Probability control, which adjusts the likelihood of the switch getting turned on.

Followers

When you need modulation that listens, Followers are your secret weapon. These modulators don't just generate signals, they react to your audio in real time, extracting movement from input, sidechain, or even your plugin's output. Traditionally, envelope followers track volume changes - think sidechain pumping or dynamic filtering.

But we've expanded the concept far beyond that. Now, you can extract spectral metadata in real time, turning pitch, brightness, harmonic content, and even transient activity into modulation sources. Sidechain inputs let you react to other tracks, while our extended follower types unlock deeper, more expressive control. Whether you're sculpting dynamic effects, creating rhythmic interactions, or breathing life into static sounds, Followers turn your audio itself into a powerful modulation source.

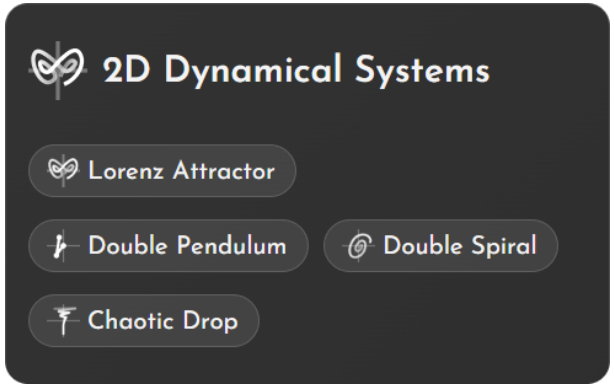


1. Follower Source: Choose between Input (I), SideChain A (SCA), SideChain B (SCB) or Output (O).
2. Learn: Automatically amplify or attenuate the signal to a sensible range.
3. Raw unprocessed follower value
4. Post Learn (if active) follower value. Adjust the handles to limit the range for the final output (5).
5. Final follower value after Learn (if active) and range handles (4).
6. Attack: Adjusts how fast the modulator reacts when the value is increasing.
7. Release: Adjusts how fast the modulator reacts when the value is decreasing.
8. Follower Type:
    - 8.1. Amp: This classic envelope follower tracks the volume of an audio source.
    - 8.2. Pitch: Follows the pitch of an input audio source. Works best with harmonic, monophonic signals.
    - 8.3. Spectral Brightness: Reflects the perceived intensity or brilliance of high frequency components.
    - 8.4. Spectral Centroid: Represents the 'center of mass' or average frequency of the spectrum.
    - 8.5. Spectral Flatness: Differentiate between noise-like signals (high flatness) and tonal signals (low flatness).
    - 8.6. Spectral Flux: Measures the rate of change in the frequency content (useful for event detection).
    - 8.7. Zero Crossing: Counts the number of times the audio waveform crosses the zero line.

2D Dynamical Systems

When you want modulation that defies predictability, 2D Dynamical Systems deliver. Traditionally, chaotic systems like Strange Attractors and Double Pendulums generate complex, ever-evolving patterns - never repeating, always dynamic. We've harnessed that behavior, turning it into a modulation source that moves across two dimensions at once.

These systems go beyond simple variation, creating organic, unpredictable movement that can shape your sound in unexpected ways. Use them to craft evolving textures, fluid transitions, or modulation that feels alive. With dynamical systems, you bring the beauty of chaos into your patches - structured yet wild, precise yet free.



1. XY Plot of the Dynamical System
2. Speed: Adjusts how fast the system advances. These systems are chaotic, there is no timing that can be defined.
3. Model:
   - 3.1. 2D Lorenz Attractor: Follows a complex, non-repeating pattern resembling the wings of a butterfly.
   - 3.2. 2D Double Pendulum: Also known as a chaotic pendulum this is a pendulum with another pendulum attached to its end.
   - 3.3. 2D Double Spiral: Spirals to the center, but the direction (left or right) is determined by chaos.
   - 3.4. 2D Chaotic Drop: Drops to the bottom, but the direction it goes up again (left or right) is determined by chaos.
4. Length Ratio (Double Pendulum only): Changes the position of the first pendulum by adjusting the lengths. In the middle position the lengths are equal.
5. Mass Ratio (Double Pendulum only): Turn to the right to make the second pendulum heavier than the first one, turn to the left for the other way around. In the middle position the masses are equal.
6. Reset (Double Pendulum only): Reset the pendulums to new random positions.

Macro

When you need to control multiple parameters with a single gesture, Macros are your go-to tool. Macro Knobs let you tweak a group of settings at once, perfect for live performance or quick adjustments. 2D Macros take it further, giving you two-dimensional control over complex modulation spaces - move in any direction to shape your sound dynamically. And for instant changes, Macro Switches let you toggle between states with a single click.

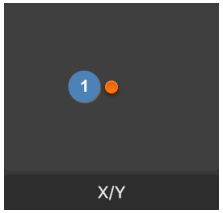
Whether you're designing presets, performing live, or just streamlining your workflow, Macros put the power of many parameters right where you need them - simple, intuitive, and always in reach.

1. Macro: Use this as a meta knob to move many parameters at once. This is also available as an audio parameter and can be hooked up with external controllers by the DAW.
2. Skew: Left (Exponential), Center (Linear), Right (Logarithmic)
3. Controller Label: Hit the label to edit the text (stored with the preset).
4. Smooth: Smooths the value over time.
5. Macro Type: Macro, 2D Macro or Macro Switch

2D Macro

Same Interface as MIDI CC, with the following exceptions:

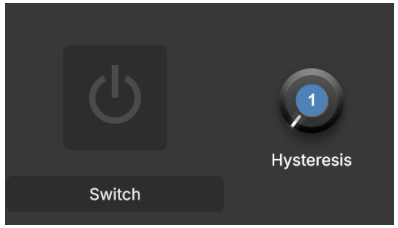
1. XY Pad: Move many parameters at once in 2D.
2. No Skew.
3. No Smooth.



Macro Switch

Same Interface as MIDI CC, with the following exceptions:

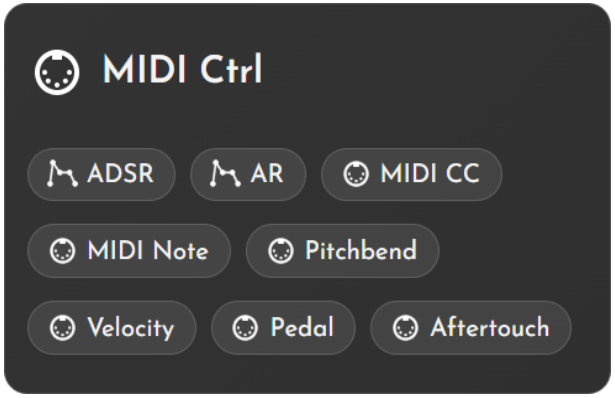
1. Hysteresis: Only applies when modulating the switch. The more Hysteresis the lower the value needs to be to turn the switch off once it's turned on.
2. No Skew.



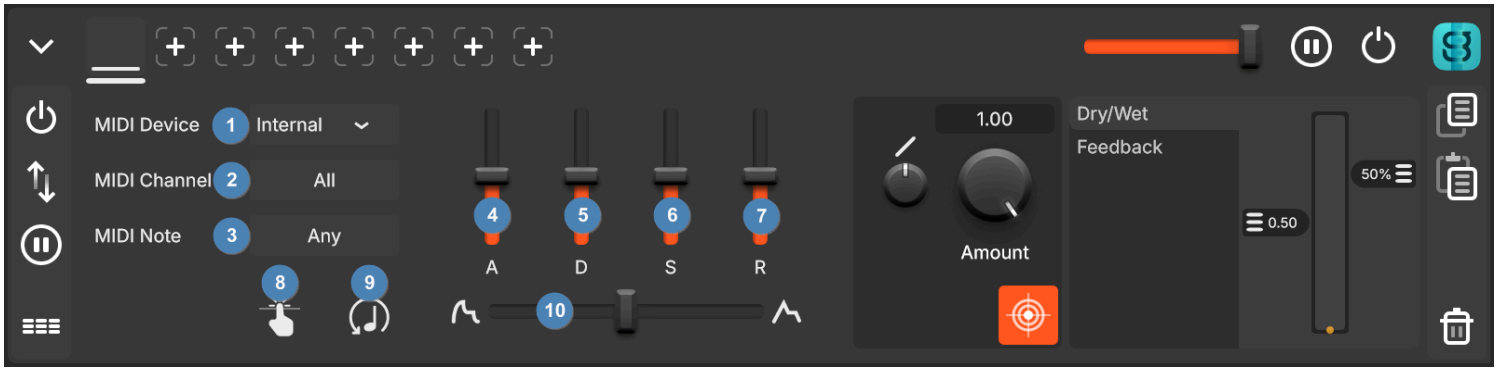
MIDI Ctrl

When you want your modulation to respond to your performance, MIDI puts you in control. Trigger ADSR envelopes with MIDI notes for dynamic shaping, or harness the expressive power of CC, Velocity, Pitchbend, Aftertouch, and Pedals to shape your sound in real time. Every nuance of your playing - from the pressure of a key to the sweep of a pedal - becomes a source of movement.

Whether you're adding breath to a synth, dynamics to an effect, or human touch to a sequence, MIDI turns your gestures into modulation, making your sound as expressive as your playing.



ADSR / AR



1. MIDI Device: Select the MIDI Device you want to use. Internal will use the plugin's MIDI input.
2. MIDI Channel: 1-16 or Any.
3. MIDI Note: Select the note number which should trigger the ADSR. 0-127 or Any.
4. Attack Time: 0-10 seconds.
5. Decay Time: 0-10 seconds.
6. Sustain Level
7. Release Time: 0-10 seconds.
8. Manual Trigger: Hold this button to test the ADSR envelope or trigger it without any MIDI input.
9. Reset on NoteOn: Reset the envelope to zero when a MIDI NoteOn message has been received.
10. Curvature: Adjusts the envelope from exponential (left) to linear (right). The mid position approximates an analogue envelope.

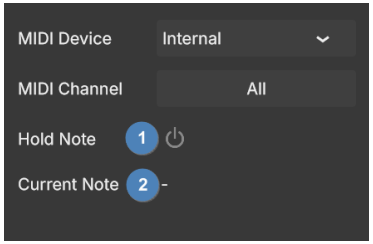
MIDI CC

1. MIDI Device: Select the MIDI Device you want to use. Internal will use the plugin's MIDI input.
2. MIDI Channel: 1-16 or Any.
3. MIDI CC#: Select Learn and send some MIDI CC message to update the desired MIDI CC number (0-127).
4. Current CC: Displays the received CC value.
5. Minimum MIDI CC value: Scales the modulator output accordingly. Setting the minimum higher than the maximum will invert the output.
6. Maximum MIDI CC value: Scales the modulator output accordingly. Setting the maximum lower than the minimum will invert the output.
7. Smooth: Smooths the value over time.
8. MIDI Input Type: CC, Note, Aftertouch, Pedal, Pitchbend or Velocity

MIDI Note

Same Interface as MIDI CC, with the following exceptions:

1. Hold Note: Holds the last note instead of dropping to zero if there is no MIDI Note down.
2. Current Note: Displays the received note number.



Aftertouch / Pitchbend

Same Interface as MIDI CC, with the following exception:

1. Mapping: Adjusts the response curve (visualised above): Left: exponential, Center: linear, Right: logarithmic

Velocity

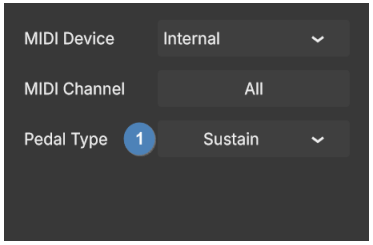
Same Interface as MIDI CC, with the following exceptions:

1. Mapping: Adjusts the response curve: Left: exponential, Center: linear, Right: logarithmic
2. Hold Note: Holds the last note velocity instead of dropping to zero if there is no MIDI Note down.

Pedal

Same Interface as MIDI CC, with the following exception:

1. Pedal Type: Sustain, Sostenuto or Soft.

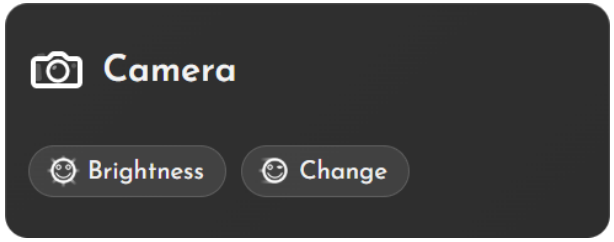


Camera

(Desktop only)

Turn your webcam or connected camera into a modulation source. With the Brightness algorithm, the intensity of the image controls your parameters - dark to light, subtle to dramatic. The Change algorithm tracks motion and shifts in the frame, turning movement into real-time modulation.

Whether you're shaping sound with ambient light, reacting to gestures, or syncing visuals with audio, Camera modulators let you see the modulation - and let your environment shape your sound.



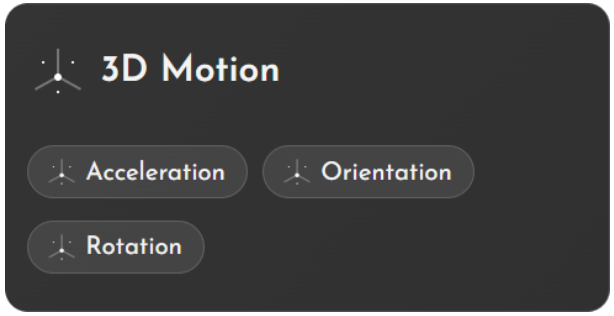
1. Camera Selector
2. Camera Feed: Yes, that's me 👋
3. Attack: Adjusts how fast the modulator reacts when the value is increasing.
4. Release: Adjusts how fast the modulator reacts when the value is decreasing.
5. Algorithm Selector:
   5.1. Change: Tracks the overall amount of change in the video
   5.2. Brightness: Tracks the overall brightness in the video

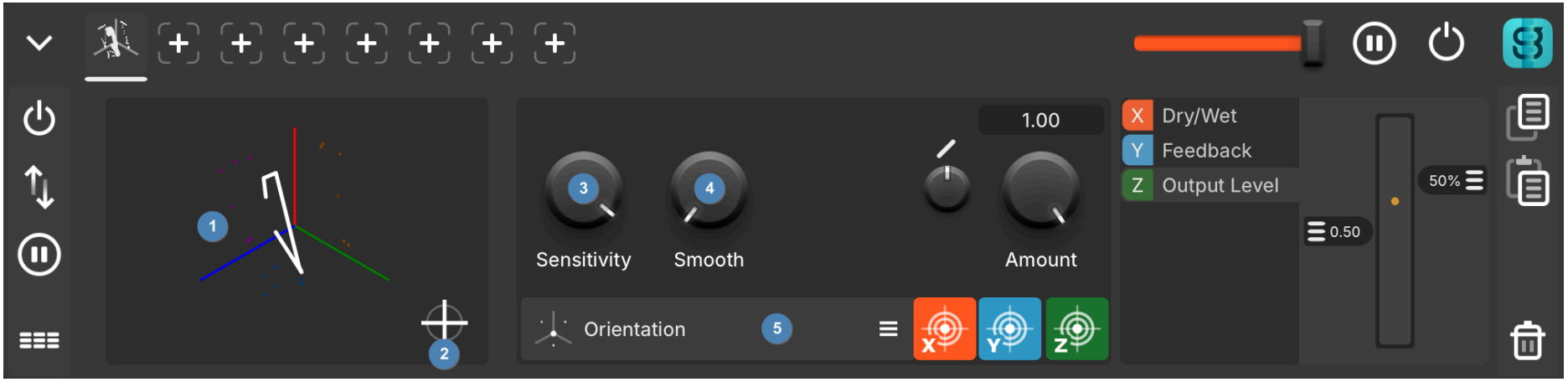
3D Motion

(iOS only)

Turn your iPhone or iPad into a dynamic modulation controller. 3D Motion uses your device's gyro sensors to transform physical movement into real-time sound shaping.

Whether you're performing live, experimenting in the studio, or just adding a physical dimension to your sound, 3D Motion puts modulation literally in your hands. Move your device - shape your sound.





1. XYZ Plot of the current output value.
2. Calibrate Center (Orientation only): Recenter to the current position.
3. Sensitivity: Increase / Decrease to change how sensitive the accelerometer is to motion.
4. Smooth: You can smooth out changes by increasing this value.
5. Motion Type:
   - 5.1. Acceleration reacts to how fast you move - tilt, shake, or sway to drive your parameters.
   - 5.2. Orientation tracks the angle of your device, letting you modulate with precision as you tilt forward, backward, or side to side.
   - 5.3. Rotation responds to spinning motions, turning circular gestures into evolving modulation.

Support

Now that you know everything about Quantum Granulator, it's time to create!
Dive in, experiment, and enjoy. We'd love to hear how our plugins have inspired your productions - share your work and let us know how you are using our tools!

Need Help?
If you encounter any questions or unexpected challenges, we're here for you. All users receive free technical support.

Find answers fast in our Support FAQ at https://gs-dsp.com/support.

For personalized assistance, reach out via:

Customer Support Form at https://gs-dsp.com/support#form.

Email: mail@gs-dsp.com

We're excited to hear from you and help you make the most of Quantum Granulator!

GS DSP
Gustav Scholda
Hamerlingplatz 8
Vienna, Austria