





**UNFILTERED. AUDIO SILO** Default

**GRANULATOR** OFF ON

SIZE: 12.0 MS | RATE: 157 HZ | PITCH: 0 ST | SPEED: 1.00 X | BUFFER SIZE: 44100

SPATIALIZER OFF ON

GEOMETRY: COMETS | 3D

REVERB OFF ON

MODE: DEFAULT | SOLO | BALANCE | TONE: DARK | TITLE: 30.0% | MASK

OUTPUT: -0, -12, -24, -36, -48, -60

SPREAD: 0.0% | REVERSE: 0.0% | WINDOW: 50.0% | ENVELOPE: REXPODEC | FREEZE: 100.0%

PAUSE GRAINS | PAUSE WRITE | CLEAR

RANGE: 0.0% | VELOCITY: 0.0% | JUMP: 50.0%

FILTER: 0.0% | CUTOFF: 0.0% | RES.: 50.0% | MIX: 50.0%

DECAY: 0.0% | DISTANCE: 0.0% | DAMPING: 50.0%

COMP.: 50.0%

SILO User Interface  
(Preset Bar visible on top right)

**UNFILTERED. AUDIO SILO**

**INTERFACE**

SIZE: RESET SIZE | SAVE SIZE

COLOR THEME: SILO (DEFAULT) | GIMME A RANDOM ONE

MODE: FALLOUT | EXTINCTION

**EXTRAS**

RANDOMIZATION: DEPTH: 84 | DRIFT PREVENTION

WORKFLOW: TOOLTIPS | VISUALIZER

User Manual | Online Resources

RANGE: 0.0% | VELOCITY: 0.0% | JUMP: 50.0% | MIX: 50.0%

FILTER: LP12 | INVERT

SILO Settings Panel

# Granulator

## Grains

- SIZE** Sets the length of the individual grains.
- SIZE DEVIATION** Sets the amount of length randomization that occurs with each grain.
- SPEED** Sets how quickly a grain plays through a buffer. This does not affect playback pitch.
- SPEED DEVIATION** Sets the amount of speed randomization that occurs with each grain.
- RATE** Sets how frequently new grains are generated.
- RATE DEVIATION** Sets the amount of random spacing that occurs between each grain.
- PITCH** Sets the pitch transposition of the individual grains. This does not affect playback speed.
- PITCH DEVIATION** Sets the amount of pitch randomization that occurs with each grain.

## Size Mode

- TIME** The length of each grain is explicitly given in milliseconds.
- RATIO** The length of each grain is dependent on the RATE setting.
- P-RATIO** Identical to RATIO except that changing the pitch will also change the calculated length of the grain.

## Rate Mode

- FREQ** The rate of grain generation is explicitly given in Hertz and does not listen to project tempo.
- TEMPO** The rate of grain generation is given as a note value dependent on project tempo.

## Pitch Mode

- NOTE** The pitch of each grain is given as an integer semitone value, with 0 st being no change from the input pitch.
- TUNING** The pitch control becomes unquantized, allowing for microscopic pitch changes.

## Speed Mode

- RATIO** Controls the speed that the read head smoothly moves, with 1x being the same speed as the write head. Negative values make the read head move backwards.
- SKIP** In this mode, the read head no longer moves smoothly, but rather stays in place until a grain is finished generating. The DEV control turns into REP, which determines how many grains are generated before the read head moves. Use this mode for stutter and glitch effects.

## Grain Options

- WINDOW TYPE** Sets the shape of the grain window.
- WINDOW SHAPE** Applies a skew or other transformation to the window. At 50%, the window is unaffected.
- FREEZE** Determines how much old data will be rewritten to the grain buffer.
- SPREAD** Adds a slight speed difference between grains on the left and right channels.
- REVERSE** Sets the probability that individual grains will be reversed.
- MASK** Applies a rhythmic, Euclidean mask to grain generation.
- PAUSE GRAINS** When active, no new grains will be generated. New data will still be written to the buffer.
- GRANULATOR** Enables or disables the granulation and spatialization stage.

## Buffer

- BUFFER SIZE** Changes the maximum length of the recording and playback buffer.
- PAUSE WRITE** When active, no new data will be written to the buffer. Grains will still be generated.
- CLEAR** Erases the current contents of the recording buffer.

# Spatializer

## Options

- LOCATIONS** Sets the number of unique, simultaneous spatial locations that a grain can appear in.
- VELOCITY** Changes how quickly a spatial location can move.
- RANGE** Sets the maximum distance that spatial locations can appear from the center.
- JUMP** Sets how quickly the active spatial location is changed. At 0%, the location will remain static.

## Movement Type

- Sets the type of algorithm for determining how spatial locations are calculated.
- COMETS** Emitters are pulled toward the center using a slingshot effect.
- MOONS** Each emitter stays in an orbital position. The speed of the orbit changes randomly with each new grain.
- METEORS** Whenever a new grain is generated, its emitter is launched across a randomized vector.
- STARS** Like MOONS, each emitter stays in an orbital position. However, each new grain can also change the orbital distance.
- SHIMMER** The position of each emitter is randomized when a new grain is generated. Each emitter remains stationary until the next grain.
- HORIZON** Each emitter is locked to the x-axis.
- BIOLOGICAL** Whenever any grain is generated, all emitters smoothly transition to a new, random location.
- BUFFER** In this mode, the grain position in the spatializer window has no effect. Instead, the left-right position of each grain is now determined by the read head position within the buffer. RANGE determines the magnitude of this effect, but VELOCITY, JUMP, and LOCATIONS are disabled.

## Spatialization Type

- 3D** The x position of the grains determines their stereo placement, while the y position sets filter values to simulate distance.
- 3D PITCH** Like 3D, but if the grain moves a pitch shift will be applied to simulate the doppler effect.
- 2D PITCH** Similar to 3D Pitch, but uses less exaggerated distance cues.
- STEREO** This mode only uses left-right positions to create the stereo image. The y position of the grains has no effect on the sound.
- GRANULAR** In this mode, each grain stays in the position it was originally created in and does not follow its emitter.

## Reverb

### Options

- LEVEL** Sets how audible the reverberation effect is.
- DECAY** Sets how long the reverberation effect rings out.
- DISTANCE** Sets the perceived size of the reverb.
- DAMPING** Applies filtering to the reverb echoes to remove brighter reflections.
- TYPE** Sets the active algorithm for the reverberator.

### Reverb Mode

- Sets the state of the reverb.
- NORMAL** The reverb is active.
- SOLO** Only the reverb is audible.
- BALANCE** The level of the reverb is adjusted to compliment the level of dry grains that are not sent to the reverb. Try this mode out with a reverb LEVEL mode like VARIATION or MASK.

### Reverb Level Type

- VOLUME** The LEVEL control simply controls how loud the reverb is in the mix.
- CHANCE** The LEVEL control determines the probability of each grain being sent to the reverb.
- VARIATION** Each grain is sent to the reverb at a random level between 0 and X %, where X is the value of the LEVEL control.
- MASK** The LEVEL control turns into a MASK control to rhythmically modify which grains are sent to the reverb.

## Filter

### Options

- FILTER** Sets the amount of filtering that occurs between the granulator and the reverb.
- RESONANCE** Sets the resonance of the filter.
- CUTOFF** Sets the cutoff of the filter.
- INVERT** Inverts the topology of the filter, dramatically changing the sound. As an example, this will turn a low-pass filter into a high-pass.

### Filter Type

- Sets the active filter algorithm and topology.
- LP/HP/BP12** Plain, non-colorful 12 dB/Oct filter algorithms.
- MS LP/HP** Very aggressive and resonant filter based off of a classic semi-modular synth.
- ACID LP** Very nasally and resonant filter based off of a classic silver bassline synth.
- LADDER** Filters based off of one of the most legendary synthesizers ever. Contains 12 and 24 dB/Oct variations.
- SVF** Well-behaved filters that contain more character and color than the standard LP/HP/BP12 modes.

## Output

- COMPRESSION** Sets the amount of compression and maximization applied to the granulated signal. This will ensure a more uniform amplitude between grains.
- MIX** Sets the balance between the dry input and the processed output.

## Settings

### Size

- RESET SIZE** Resets the size of the interface to the default size.
- SAVE SIZE** Saves the current custom size of the interface.

### Color Theme

- SILO THEMES** Dark & crisp, peppered bluish turquoise hues and bright popping outlines. Spicy & icy. The subtle Bass-Mint theme with tasty saturated turquoise midtones. The mint-essence. A deep anthracite take on the Bass-Mint idea with retina-burning turquoise sparks.
- UA THEMES** The classic UA "no frills" interface style in black & white at maximum contrast.

### Audio Quality

- XXX** Resets the size of the interface to the default size.
- XXX** Saves the current custom size of the interface.

### Randomization

- DEPTH** Sets the maximum percentage each control can wander when randomization is activated.
- DRIFT PREV.** Toggling Drift Prevention will keep the knobs from wandering too far past their original values.

### Workflow

- TOOLTIPS** When learning SILO, you should keep Tooltips activated. This will pop up brief hints about controls by hovering over it.
- VISUALIZER** Enables or disables SILO's waveform visualizer.

## Presets

Before diving into SILO's granular synthesis capabilities, it might be worth exploring the preset eco-system that comes with it. The Preset Bar contains a number of controls for exploring and randomizing these presets.

- SETTINGS** Clicking the Gear icon will bring up SILO's Settings panel.
- SAVE / LOAD** Save or load presets.
- PRESET NAME** Clicking the preset name Default in the example above will bring up a list of all factory presets. These are organized by style or by signature artist.
- ARROWS** To quickly skip through presets, you can click the arrows next to the preset name.
- RANDOMIZE** Clicking the Dice icon will randomize the current preset. By default, each control can wander by a maximum of 20% of the knob.



**About SILO**  
SILO is a spatial reverberant granulator that'll launch your sounds to other worlds, let you build complex sonic cathedrals and explore samples at a microscopic level. Time and space are yours to command.

**SILO Resources**  
Product Page: [unfilteredaudio.com/silo](https://unfilteredaudio.com/silo)  
Presets: [unfilteredaudio.com/presets/silo](https://unfilteredaudio.com/presets/silo)  
Tutorials: [unfilteredaudio.com/tutorials](https://unfilteredaudio.com/tutorials)  
Artists feedback: [unfilteredaudio.com/love](https://unfilteredaudio.com/love)

**SILO Credits:**  
Developed by Joshua Dickinson and Michael Hetrick | Shoutouts to Curtis Roads, Godfried Toussaint, Valance Drakes, Stephen Travis Pope, Matt Wright, Andres Cabrera, Felix Petrescu, Oddiction, Tom Avatars, Benjamin Wynn, Ignatius, Gavin Howe, Lance Putnam, Drew Madden, Empty Vessel, Diane Morger | Design by Daniel Glaser

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