

Glow Manual

Version 1.0.0

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General Information

Glow is a “Mass Granulator” and “Fragmentation Processor” designed to work with the AU and VST3 plugin standards, on Windows & Mac OS. This manual serves as a full explanation into every parameter and system featured within the scope of the plugin. It will be updated along with the program itself.

Standard Features

The small triangle on the bottom right of the interface can be dragged to rescale the interface, and the program will remember it's previous size for next time (and will also remember regardless of your host; so any DAW you use will have the same size setting).

The Dry / Wet mix control is located on the bottom right of the interface.

Presets

Glow features a number of “factory presets”, which are embedded into the program itself for ease of transportability, meaning that they can't be deleted or overwritten. You can reset the preset back to default by clicking on the Lese logo and selecting the “Initialize” option.

Selecting

You can select between them with the buttons on the top of the interface, and click the “down” button to enter a preset browsing interface, which can sort and filter the presets by author and whatever tags are applied.

The Dry / Wet Mix knob is not changed when the preset is changed, just so you don't need to keep toying with it when scanning through for something you'd like.

Saving

Presets can be saved by clicking the “save” icon. Don't know what the save icon looks like? Ask your parents, kid. You will get a popup menu inside the plugin to save your details about the preset, including the author name & the name of the preset itself. If you go into the “performer” section you can also give your preset a description & tag it with what it sounds good on (as well as label the three macros).

Grain Engines

Glow has three grain engines for you to make use of. Each engine can be enabled & disabled with the three tabs on top, and a level meter is provided for each of them to see which one is creating sound in the current moment.

Main Modes

Glow's grain engines can operate in two main modes: *Cloud* & *Stream*. In *Cloud* mode, many grains are processed at once using an optimized technique, with up to 50 grains per engine being able to be processed at the same time. In *Stream* mode, a single stream of audio is processed (two grains, where one is 180 degrees out of window phase with the other). In this mode, the length of the grain can be synchronized to the BPM of your DAW, and adjusted constantly. In *Stream* mode, the slider for the number of grains to process is disabled.

Buffer Freeze & Retriggering

In conventional granular *synthesizers*, an unchanging sample of audio is used to create sound. In granular *effects*, audio is continually inputted into the program, refreshing what is to be used constantly. In Glow, the buffer that an engine is working off of can be frozen, so that new audio is no longer inputted into the engine, either manually (with the "Freeze" button), or specified in the parameters:

Fixed Rate Retrigger

One method Glow provides of automatic freeze retriggering is based off of either a time value, or a rate that is synchronized to the host's BPM. Change to this mode by pressing the "Retrigger" button in the freeze section (bottom of a grain engine's GUI), and specifying the retrigger mode to be "Fixed".

Envelope Retrigger

The other method of retriggering the buffer is via the Envelope mode, when specifying the retrigger mode to "Envelope". You can not only specify the envelope's retrigger threshold, but also specify which input is being used to retrigger the audio. The default mode is through the audio input, but a sidechain input can also be specified, and routed with the usual method of routing sidechains in your DAW (this feature is super cool).

Parameters

Grains: Controls the amount of grains when in Cloud mode. The more grains that are added with this parameter changes the gain that is uniformly applied to all of them (so that fifty grains going at once will ultimately have the same volume as six grains).

Reverse: Controls the percentage chance that a grain might go in reverse mode. At 100% it will always be in reverse, at 0% it will always be forwards. If grains are near the end or start of the buffer, they may reverse course so that they won't overrun.

Density: Controls the density of the grains. When in Cloud mode this makes it so that less grains may be playing at once than otherwise specified, and when in Stream mode this means that the grains will have a more narrow windowing function applied.

Gain: Controls the gain factor of the grain engine.

File Position: Controls the position of the "File" (the audio buffer that the grain engine is working with), the position of where grains will be read from.

Position Random: Adds randomness to the possible position of where a grain might end up. In cloud mode this randomness is unfiltered, and in cloud mode the randomness is smooth.

Length: Changes the length of the grains. In Stream mode, this can be toggled to be a length that is synchronized to the host BPM, instead of a value in milliseconds.

Length Random: Randomizes the length of the grains.

Feedback: Feeds granulated audio from the engine back into itself (when not frozen). The value is a percentage, similar to how feedback in a delay effect would work

Effects

Effects are applied in series after the Grain Engines. Eventually, there will likely be a feature to rearrange them & change the routing. The type of effect is selected via the three dropdowns, and the dry / wet mix factor is changed by the knob at the bottom. There are currently 5 types of effect:

Delay

The delay is just a delay. It works the same as other delays do. The filter graph visualization controls the damping of the feedback, if audio is fed back into the delay with the feedback knob. In ping pong mode, audio is fed, alternating, to the left and right channels. When out of ping pong mode, the "crossfeed" can be adjusted.

Crunch

Crunch is for transparent distortion. It is a simplified version of some other systems that we have in Glow. The model of the delay is selected via the dropdown menu. Bias can be fed into the effect, increasing distortion on one half of the waveform. Frequency, Gain, and Bandwidth control an internal coloration filter, which boosts a specific frequency to be distorted, and then attenuates it by the same factor, introducing artifacts without changing the gain.

Reverb

Reverb is a reverberator. Its controls are that of a conventional reverb unit. The Predelay delays the incoming audio before it's fed into the reverberator. The size multiplies internal delay lines to increase the simulated early reflections. The decay changes the length of the reverb, and the damping reduces the high frequencies over time. Width adjusts the stereo width of the reverb. The depth & speed control internal modulation which can either introduce a subtle, or crazy effect.

Chorus

Chorus takes the audio and puts it into multiple delay lines. At low depths this effect can sound like a conventional chorus, but at high depths it becomes something new. The number of voices (the number of delays) can be changed, as well as the feedback, and stereo randomization. The frequency value controls the rate at which the delay lines move.

Compressor

The compressor is for dynamics control. The input gain changes the level that the incoming audio is boosted / attenuated by. The attack and release control the response of the reduction, and the threshold is the level that the reduction will begin to occur at (the scope shows what the reduction is currently at). The ratio controls the "softness" of the reduction beyond the threshold, and the makeup can be used to increase or decrease the output signal so it better matches the dry signal.

More effects will likely be added later.

Performer

The performer can be used for more effectively controlling presets, if the macros have been mapped, that is. It is controlled on the X & Y axis by dragging the dot around, and the Z axis is controlled by the mouse wheel. Each axis can be labeled to more effectively convey what they are supposed to do.

Additionally, presets can be given a description & a set of tags (what the preset sounds good on) in this section.

The performer can also be controlled / mapped to parameters in the bottom section visible when looking at the grain engines & effects. Mapping works identically to the way that mapping works with the modulators (which is explained below).

Modulation

Basics

Modulation can add extra layers (four layers to be exact!) of complexity to your sounds in Glow. Modulators can be mapped up to knobs by pressing the circular buttons in the modulation panel and then clicking (and dragging to specify the depth) on most knobs. Modulators can be removed from a knob by clicking on the circle in a knob's area (or just right-clicking on the knob itself), or removed in the applicable modulator's menu. The speed of a modulator is controlled by the leftmost knob, and can be synchronized to the host's BPM.

Editing / Advanced

The shape of modulators can be adjusted by clicking anywhere on the waveform & adding / removing points. The curve of the lines in between the points can be changed as well. The two number boxes at the bottom of the sidebar adjust the divisions shown on (and will be snapped to when adjusting) the modulator's waveform.

The pencil icon on the sidebar allows for "Drawing" of the modulator's waveform. The shape being drawn can be adjusted by the dropdown below.

The "Chain" icon toggles if the modulator will retrigger itself to be in-sync with the host if the modulator is in synced BPM mode.

The modulator can also be re-initialised to basic shapes through the menu dropdown & selecting a shape in the “Initialize” section.

Extra Information

Versioning

The plugin’s Version Number on the header can be clicked for a pop-up dialog that provides extra information to the user which might be necessary for dealing with potential technical problems. In this case you will get the version number, build date, and your activation key.