INSTRUCTION MANUAL

Granulera is a granular synthesizer with focus on randomized textures developed by Caio M. Jiacomini.

If there are any doubts about its workings after reading this, feel free to contact me by email (caiojmini@gmail.com).

The instrument was developed using the Csound language and the Cabbage Audio framework. The Github repository with the source code can be found here (https://github.com/CaioMJ/Granulera)

Double click a parameter to reset its value

Use the mouse wheel to fine tune parameter values

Granulera is divided in three sections: **Left, Center, and Right**

LEFT

Presets:

Click the **save** button to store the current settings as a preset. The first thing you should do is click that button as soon as you open the synth to save the default settings as preset 0 (the names are generated automatically and there isn't really an easy way to change them)

Use the drop down menu to select between your saved presets

Oscillators:

Granulera offers three oscillators that can output simple wave forms. They offer independent control for waveform selection, volume, and tuning (divided between semitone and

cents sliders)

CENTER

Grains:

This section offers control for the granulation parameters

Windowing: selects the envelope shape for individual grains

Grain Duration: determines the size of individual grains in seconds

Grain Density: determines how many grains are played in one second

Pitch Variation: determines the pitch variation between individual grains

Phase Variation: determines the starting phase variation between individual grains

Randomization:

Duration Range: determines the randomization range for the Grain Duration parameter between the positive and negative value set

Duration Rate: determines the rate at which new random values are generated for the Grain Duration parameter

Density Range: determines the randomization range for the Grain Density parameter between the positive and

negative value set

Density Rate: determines the rate at which the new random values are generated for the Grain Density parameter

Frequency Range: determines the randomization range for the overall tuning of the synthesizer between the positive and negative value set

Frequency Rate: determines the rate at which new random values are generated for the overall tuning of the synthesizer

Filter:

Filter Type: Selects the type of filter between lowpass, highpass, and bandpass

Modwheel On: enables cc1 control for the Frequency parameter

Frequency: controls the filter cutoff/center frequency

Start/End Freq: sets the start and end frequency for the frequency envelope

Resonance: control the lowpass and highpass filter resonance

Bandwidth: controls the bandpass filter bandwidth

Attack, Decay, Sustain, Release: sets the filter envelope

Modulation:

Provides parameters for ring and amplitude modulation with a sine modulator.

Amount: wet/dry balance between the modulated signal and the dry signal.

Tuning: tuning of the modulator wave in cents. Relative to the MIDI pitch

LFO:

Provides Low Frequency Oscillators for key parameters of the instrument with a sine shape. The following parameters can be modulated by LFOs: Grain Duration, Grain Density, Filter Frequency, Amplitude (overall volume), Panning, Tuning (overall), Modulation Tuning (for both ring and amplitude modulation), and Modulation Amount (for both ring and amplitude modulation)

Frequency: LFO frequency in cycles per second

Amount: range of the LFO signal

RIGHT

Reverb:

Send: amount of signal sent to a parallel reverb

Size: reverb duration

Delay:

Send: amount of signal sent to a parallel stereo delay

Time Left / Time Right: sets the delay time in seconds

for the left and right side delays independently

Feedback: sets the feedback amount for the delay

Global:

Volume: sets the overall volume for the instrument

Stereo Pan: sets the overall pan position for the instrument

Tuning: sets the overall tuning in cents for the instrument

Amp Envelope:

Attack, Decay, Sustain, Release: sets the overall amplitude envelope for the instrument