Desktop Extrusion Format Grains

BUTTONS:

*FREEZE Button. This button is a latching button. The led will signal you when it is pushed. This will stop the recording, or FREEZE the audio. When the led is turned on, Granularization is performed on the last few seconds of the audio.

*MODE Button. This button selects the blending parameter modes: Dry/ Wet (MIX) balance, Stereo Spread (Pan), Feed Back Amount (FBK), and Reverb (VRB) amount. You use the Blend Knob to adjust the parameter. The LED of a given mode will show you black, green, yellow, and red, when you sweep the blend knob. This is signaling minimum to maximum value of a parameter.

Hold the Mode button to access Audio Quality modes: 1s, 2s, 3s, 4s.

1s: 32khz 16 bit Stereo. 2s: 32khz 16 bit mono. 4s: 16khz 8 bit stereo. 8s: 16khz 8 bit mono.

Warning! When you change Audio Quality it will erase or unfreeze the granule currently loaded. So this is not good for live. Most people leave it on 1s mode.

*SAVE/LOAD Button. This is used to save a granule recording that is frozen.

To save the recording buffer in permanent memory:

 Hold the Load/Save button for one second.

   Press the *MODE* button repeatedly to select one of the 4 memory slots. The selected slot is indicated by a blinking red LED.

   Press the Load/Save button to confirm.

To load a recording buffer from permanent memory:

Press the Load/Save button.

   Press the *MODE* quality button repeatedly to select one of the 4 memory slots. The selected slot is indicated by a blinking green LED.

   Press the Load/Save button to confirm.

Knob Parameters:

*Pitch Knob. Big Black Knob. Grain Size and Pitch (transposition). At 12 o'clock, the audio in the buffer is playing at original frequency.

*Texture Knob. Morphs through various shapes of grain envelopes: square (boxcar), triangle, and then Hann window. Past (white dot) 2 o'clock, activates a diffuser which smears transients.

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*Position Knob. Selects from which part of the recording buffer the audio grains are played. Turn the knob clockwise to travel back in time. This is like spinning a 'record' back and forth.

*Density Knob: At 12 o'clock, no grains are generated. Turn clockwise and grains will be sown randomly, counter-clockwise and they will be played at a constant rate. The further you turn, the higher the overlap between grains.

Note! If the Density knob is near 12'o clock you will probably not hear audio! This is the default start point.

*Size Knob: this determines the size of the granule. At 12 o clock, you will get the original recording. As you turn clockwise or counter clockwise you change the size of the granule. 12' o clock is the default starting point.

*VCA Knob 1 & 2. These are v2164 based high quality vca's. They are useful with other modular gear. Voltage Controlled Amplifier. When the knob is counter clockwise and set on 'open', the sound is full blast synth level. Warning this is really loud! This is only useful when you start going forward with your modular purchases. Synth Level is -5/+5 Volts pp.

In and Out Jacks.

These are easy to understand. White circle means input, no white circle is an output.

There are two types of signals on the Grains Module: Audio Signal, and Voltage signal.

Voltage signal sometimes is so slow that you can't hear it. This is used to 'control' stuff.

Audio Signal is also voltage signal, but it is so rich in frequency that you can hear it.

The Grains module is easy. All White Circle Inputs want 'Control Voltage' Signals. This can be: LFO, VCO, Sequencer, Audio, pulses, etc.

*Gate Input. This wants pulses or triggers. This activates the granule inside the buffer to be played back.

*1v/Octave. This wants a signal from your fancy keyboard that has CV outputs. You can 'play' the granules in pitch like a normal instrument. You can also use a sequencer here.

*Freeze input. This wants pulses or triggers. It will start or stop recording. The led will signal what going on.

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The other inputs:

Density, Size, Position, TEXT, BCV, all have attenuator levels connected with the jack inputs. Just use the labels to see what knob is what. For example if you patch an LFO sine wave on the 'Position' input jack and set the level 'PSCV', you will frequency modulate Position Parameter.

NOTE: If the Grains Module is your first 'Modular' piece of gear, the CV inputs will really serve no purpose yet until you buy something like a minibrute, which offers patching. Sequencers like the Korg SQ-1 will also serve purpose.

But don't be sad. The Grains Extrusion Format Module was made to be tweaked! All that Space, and desktop even.

Calibration procedure

To calibrate the unit:

Disconnect all CV inputs.

Connect the note CV output of a well-calibrated keyboard interface or MIDI-CV converter to the V/OCT input.

Press the Load/save button, and while you hold it down, press the *MODE* button. The first 2 LEDs will blink in orange.

Play a C2 note, or send a 1V voltage from your CV source.

Press the Load/Save button. The four LEDs will blink in orange.

Play a C4 note, or send a 3V voltage from your CV source.

Press the Load/Save push-button.

Calibration is done!

*NOTE: Calibration mode is changed when you load Parasites Firmware.

How to (Parasites)

Calibration has been deported to startup to make room for easy mode-switching. To calibrate, hold Load/Save while turning the system on. Then, follow the instructions above.

Parasites directions/manual can be found here: https://mqtthiqs.github.io/parasites/clouds.html