GRAINS

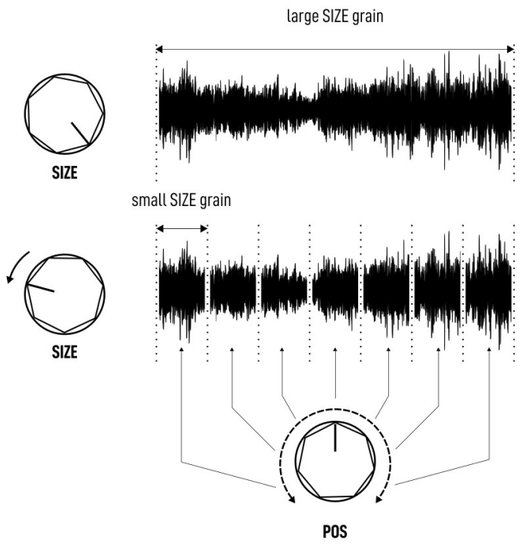
before we start...granular 101

to familiarize ourselves with granular delays, buffers, and sound manipulators lets go over some basics. for the following info, refer to the diagram to the right.

here you see audio clip (which we will refer to as a buffer). granular manipulation can be done when you break down this buffer into many small chunks of sound, or grains. on this bank of effects, the **SIZE** *knob will set the size of the grains. fully CW you get a single large grain. as you turn it CCW, the gains decrease in size.*

the knob labeled **POS** *will allow you to point to a specific point or position within the buffer.*

this is a basic overview of how the granular engines on this card work.

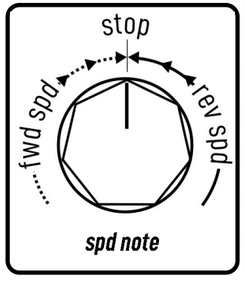


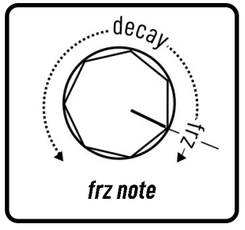
1. BUFFER

this is a 'simple' granular buffer. look to the information above for more info on how this works. ***DENS*** determines the density of the granular buffer. CCW you hear one grain and less density. turning CW the sound becomes fuller as you dial in a second grain.

2. TIMEST

granular time stretching, or manipulating playback speed but NOT pitch with forward reverse, and random playback. the ***SPD*** knob determines the direction and speed of the time stretching. see the SPD note for more info. As you increase the ***RAND*** knob, you introduce random jumps in the buffer.





frz note : *the* **FRZ** *knob is in most modes on this card and works like a non additive feedback knob, meaning it will loop without ascending/descending in pitch. turning the* **FRZ** *knob fully CW will lock the audio in the buffer and loop infinitely.*

3. ENVBUF

similar to mode 1, but instead of the freeze knob dictating the looping behavior of the buffer, the incoming audio's dynamics will determine when the buffer is recording/frozen.

4. ENVTS

similar to mode 2, but instead of the freeze knob dictating the looping behavior of the buffer, the incoming audio's dynamics will determine when the buffer is recording/frozen. also, the stretching will stall and stop when the audio triggers the envelope detector.

5. BOUNCE

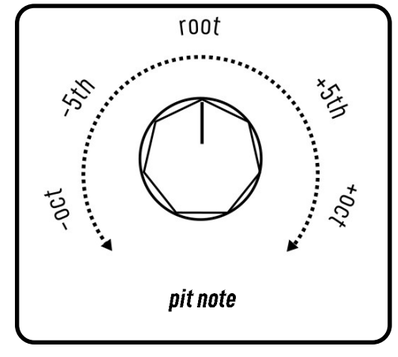
bounce plays back two grains at different pitches. ***SIZE*** does two things in this mode: set the size of the grain as well as the speed at which the pitch 'bouncing' happens. the ***PIT*** knob increases the amount of pitch shifting and is unquantized. CCW there is no pitch shifting, and as you turn it up CW, one grain increases to an octave up, while the other decreases to an octave down. the ***FBK*** knob is an additive feedback looper. each repeat, the signal that is pitched up or down is again sent through the pitch shifter routine and ascends or descends.

6. PITCH

this program takes the grains and plays them back faster or slower, resulting in a pitch shifted grain. ***SIZE*** and ***FRZ*** work the same as in the other modes. ***PIT*** selects the unquantized pitch shift amount, from an octave down to an octave up, with a 'sweet spot' of no pitch shifting towards the middle of the rotation. ***FBK*** introduces cascading / additive feedback.

7. LOFI

the LOFI program is similar to the pitch program, but instead adds a crinkly tape like modulation on the tails. the ***PIT*** knob is quantized in fifths, see the PIT note. the ***LOFI*** knob introduces the lo-fi elements like wow, flutter, and noise.



8. RndSze

randomize the grain size with this program for ultimate glitchy-ness. ***SIZE*** and ***FBK*** work as expected, similar to in other modes on this card. ***RAND*** is the probability of randomizing the grain. turn it CCW for no random, and CW for 100% random. at noon the grain size will randomize with a probability of 50%, so roughly for every two repeats, one of those repeats will have a random size. the knob labeled ***RSPD*** determines the speed at which the randomization occurs.