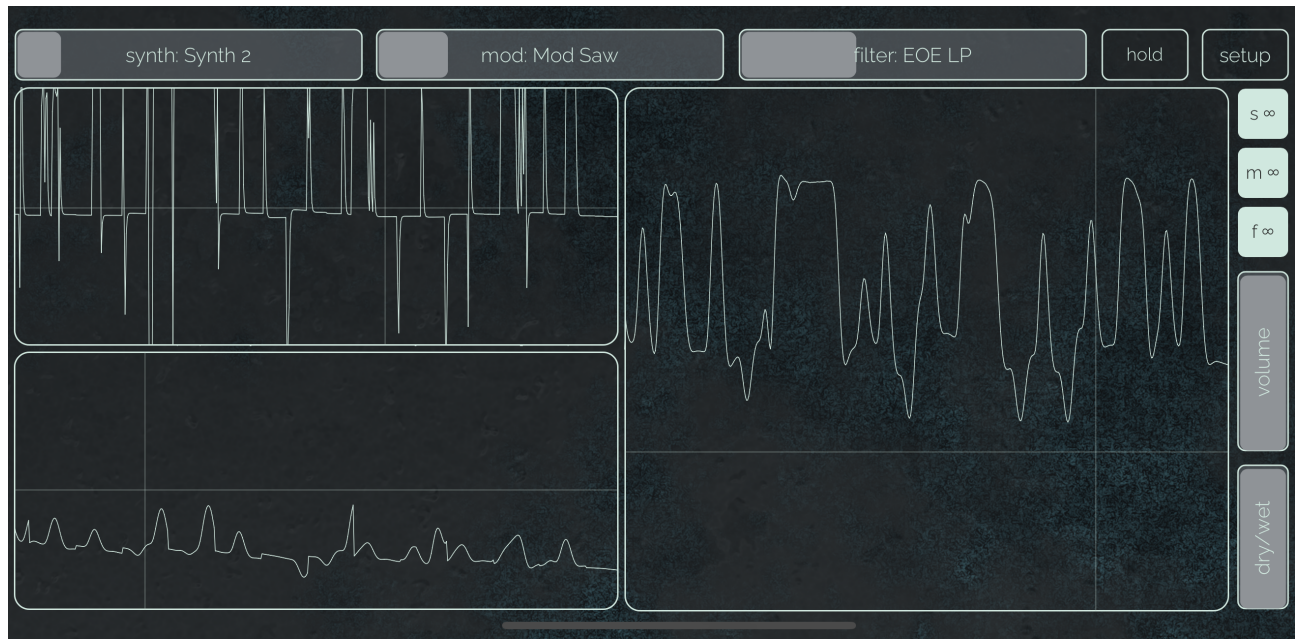


"no humans were involved in the making of the title"



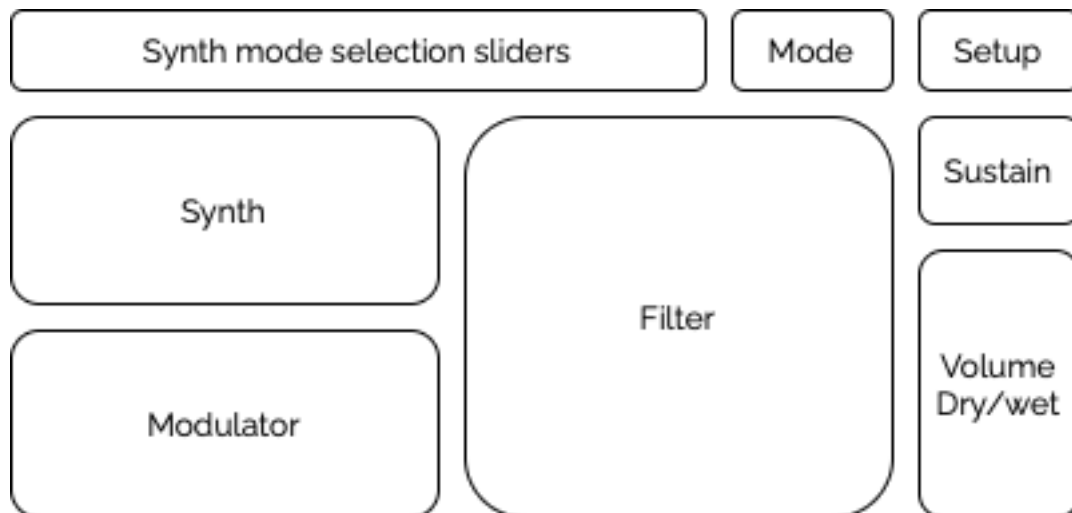
broohahaizer is an experimental noise machine AUv3 effect and standalone app.

it features:

- two sound sources, "synth" and "modulator" with various noise & tone making settings.
- the sound of these two sources is passed to the ring modulator and then goes to a switchable "filter" unit
- the app works as an audio effect and the input goes to both "synth" and "modulator" sections
- when modulator is inactive it passes audio input (if available)
- all XY control pads have sustain switches
- gestures can be recorded and played back
- all plugin parameters can be automated in AUv3 host and can be controlled / recorded

AUv3 connection note: though this is mostly a noise generator, the plugin type of this app is "Music Effect" and it is not listed in "Instrument" AudioUnit list in your host application.

user interface



- **XY touch controls: "synth", "modulator", "filter"**: each control sets 2 parameters for a synthesis element
- **synth mode selection sliders**: switch types of the elements, synth (left), modulator (middle) and filter (right)
- **sustain buttons and sustain mode**: each sustain mode button allows to keep synthesis element off after you stopped touching it. The mode switching button allows switching from static value ("hold") to recorded gesture playback ("loop")
- **volume & dry/wet**: master volume of the effect and effect amount in the mix
- **setup**: audio setup for a standalone app

elements

"**synth**" section has following modes:

- "**Synth 1**": noise generator with three kind of noises across the X-Y parameter space
- "**Synth 2**": produces more harsh noise with some higher frequencies for lower Y values
- "**Synth 3**": more uniform noise with subtle changes
- "**Synth 4**": generates random crackle sounds
- "**Mod Sine**": two sine waves and ring modulator with higher frequency range across X
- "**Mod Saw**": the same but with aliased sawtooth waves
- "**Hi FM**": a sine wave with the frequency modulated by another sine wave. X value is for base frequency (5kHz to 10kHz) and Y value is for modulator frequency (0 to 5kHz)
- "**Revb Feed**": sound produced by a feedback chain that contains sine wave generator and a reverberator unit. X is for sinewave frequency and Y is for feedback
- "**Over LP**" is a 12dB/octave lowpass filter with a special feedback circuit

Please note that synth section also accepts sound input but the chosen presets are supposed to depend less on the incoming signal. For other cases the input signal goes directly to "modulator" section and goes further to "filter" when it is not active.

“modulator” contains:

- “Mod Sine”, “Mod Saw”, “Hi FM”, “Revb Feed”, “Over LP” modes
- “Dual HP LP”: this is a unit that contains two 12dB/octave filters; X is for lowpass frequency (50 Hz to 15kHz), Y is for highpass. Depending on the frequencies this works either as a “bandpass” or a “notch” filter. This is the only synthesis mode in modulator section that doesn't produce sound by itself and is supposed just to process the audio input.

“filter” section has following modes:

- “Over LP”, “Dual HP LP” modes
- “EOE LP”: some custom implementation of famous 303 filter with q feedback circuit. This filter has lower range for cutoff frequency (40 Hz to 4kHz). All these three filters have resonance setting controlled by Y value
- “SAH LP” is a basic 24dB/octave filter that goes to sample-and-hold unit. In this mode Y value controls the rate of the sample-and-hold oscillator

right section contains three buttons that enable “hold” mode for synth, modulator and filter and two sliders (volume, logarithmic from ~-70dB to 0dB and dry/wet, linear 0..100%)

gesture recording & playback

when you change “sustain mode” to “loop”, each XY control pad starts recording the gestures that you draw inside it. It always records a single gesture and draws its current state in the box. When you stop drawing the gesture immediately starts to play back as a loop. You can temporarily disable and enable pre-recorded gestures with separate sustain mode buttons (“s”, “m”, “f”) and with “sustain mode” button when you set it in “hold” mode.

version 1.5.0

manual rev 4 (06.07.2023)

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