POLITECNICO DI MILANO

MASTER OF SCIENCE MUSIC AND ACOUSTIC ENGINEERING

HW1 - SC

Additive Synthesis

BeetleJUCE

Adriano Farina
Alessandro Gorni
Giuseppe Risitano
Enrico Regondi
Rebecca Superbo

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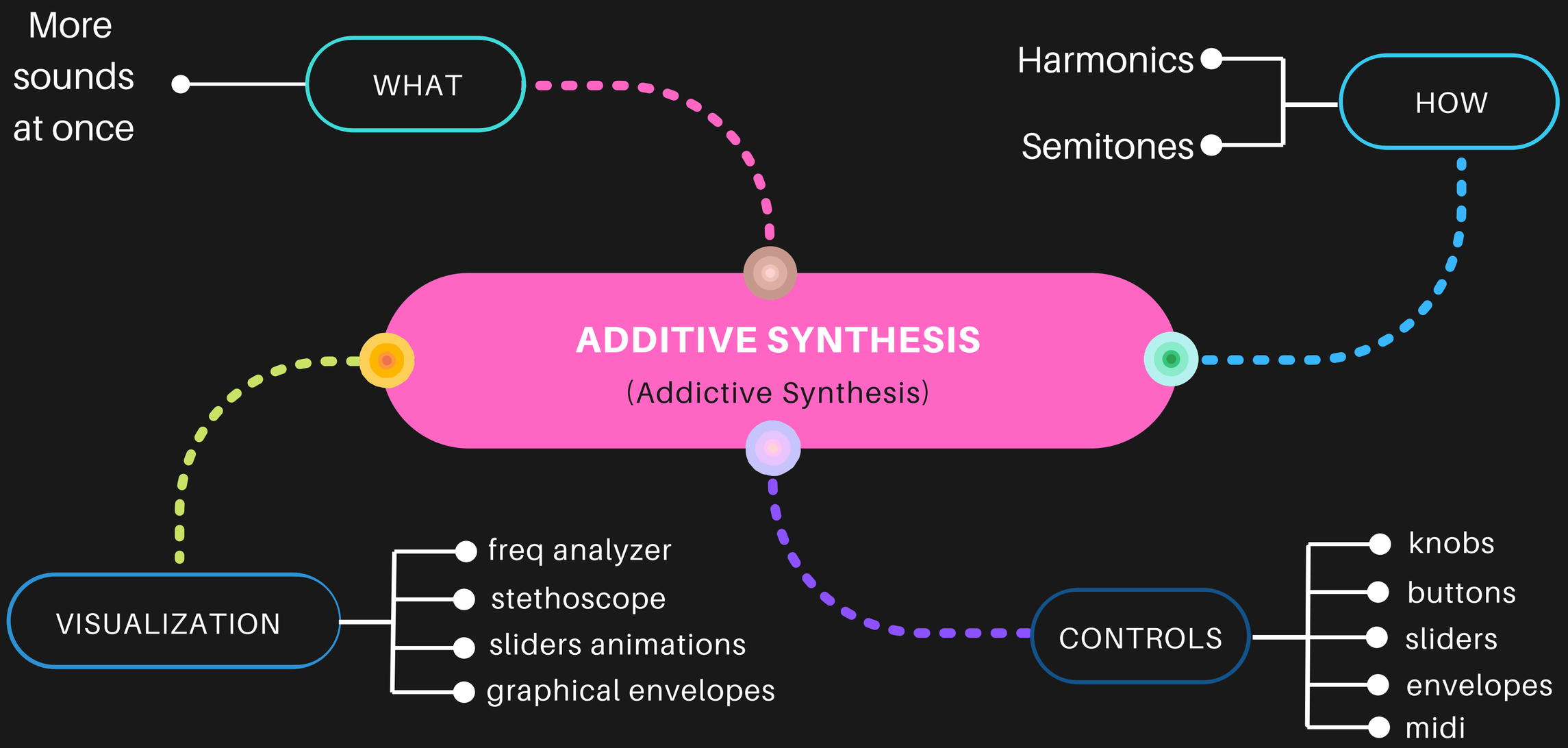
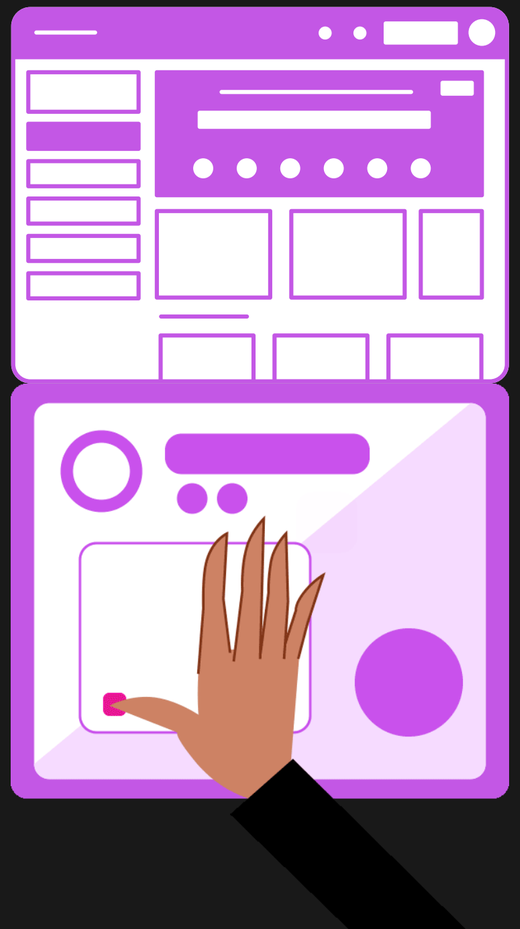

More sounds at once
WHAT
Harmonics
Semitones
HOW
ADDITIVE SYNTHESIS
(Addictive Synthesis)
VISUALIZATION
freq analyzer
stethoscope
sliders animations
graphical envelopes
CONTROLS
knobs
buttons
sliders
envelopes
midi

GUI



Spectral content

Stethoscope

Sliders

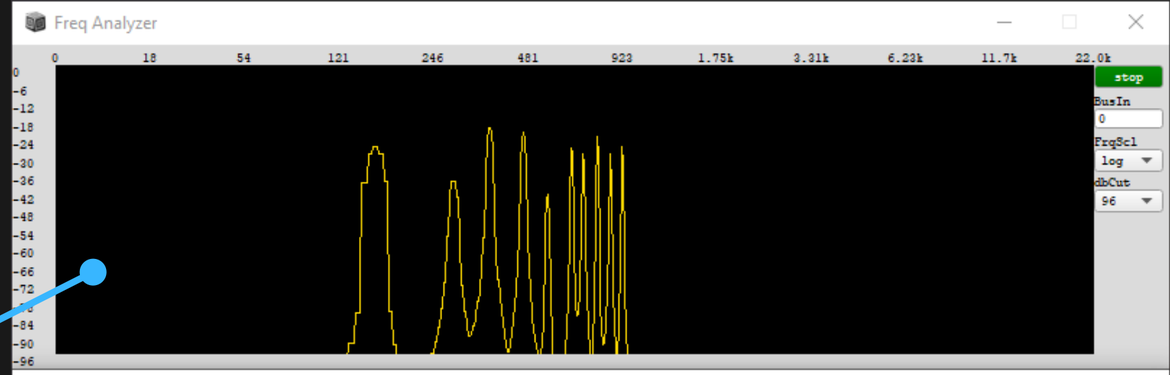
Main controls

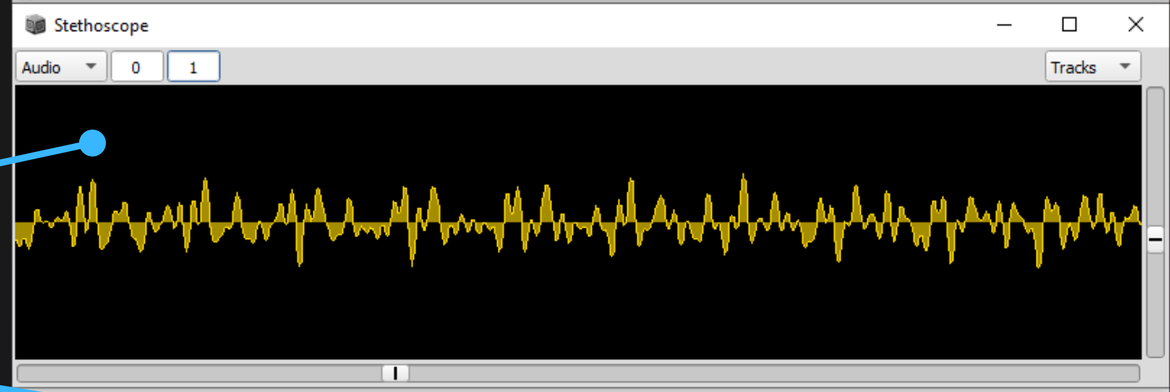
Functions

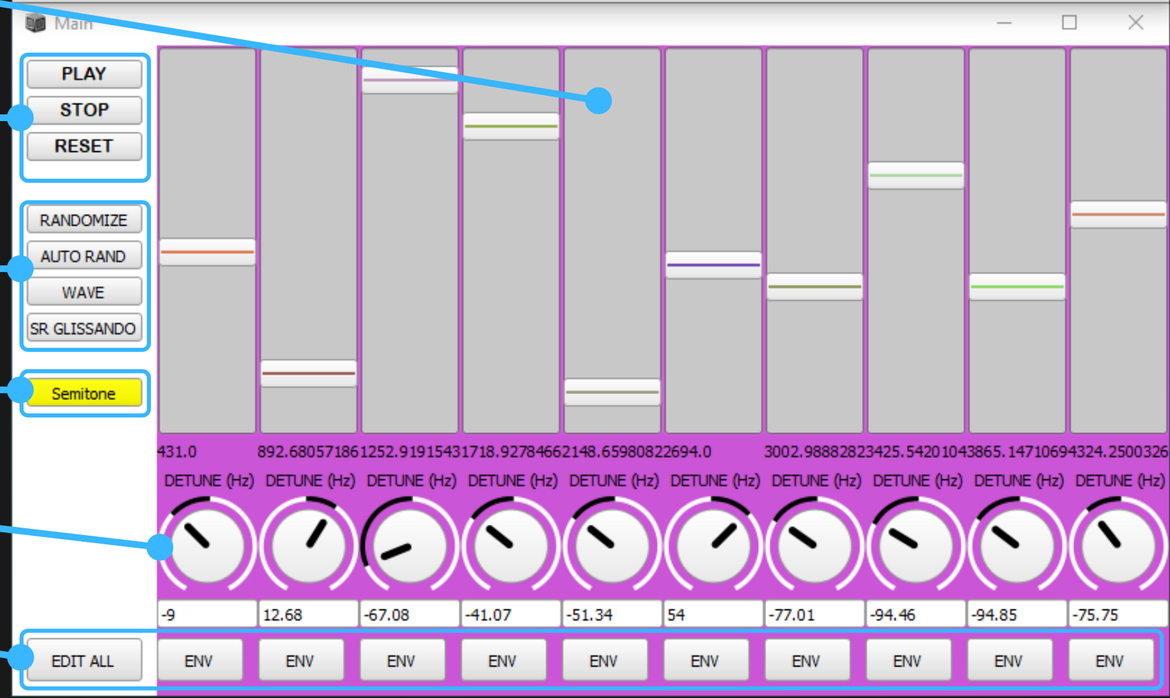
Toggle semitones

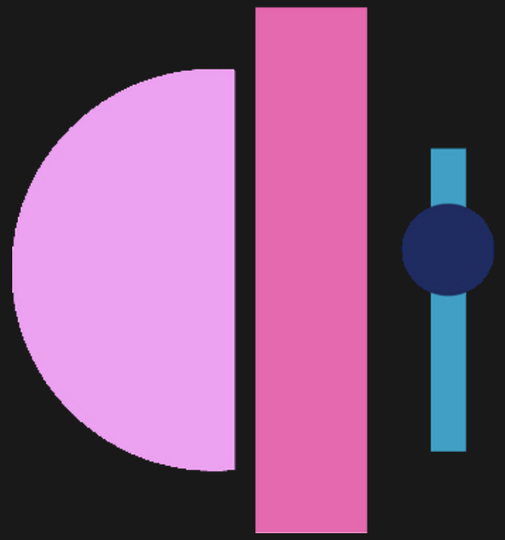
Detunes

Edit envelopes





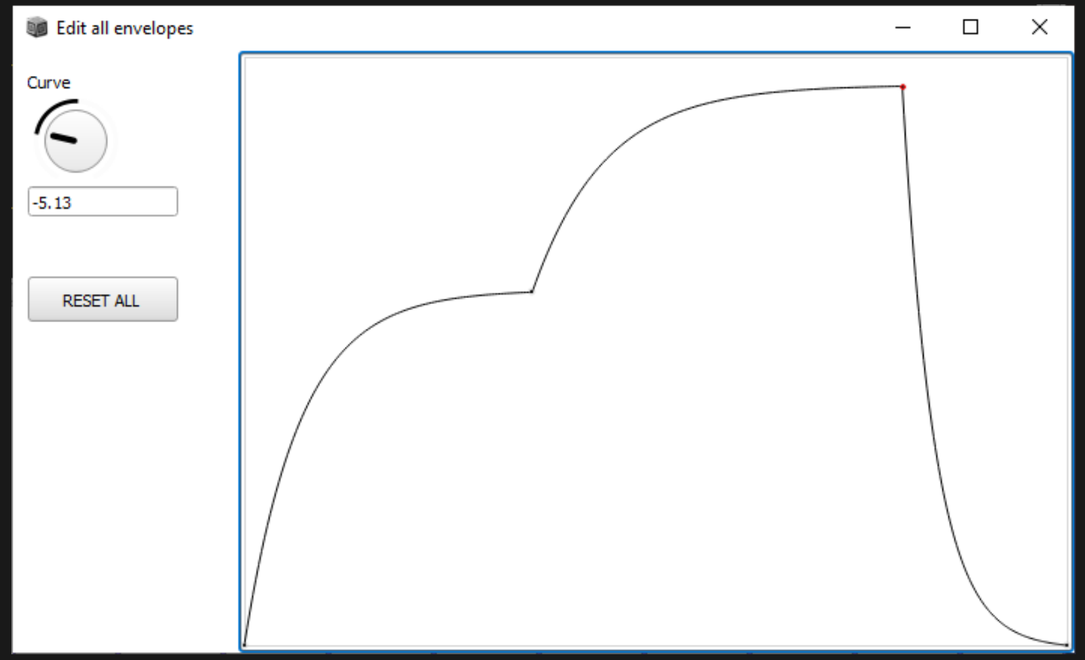


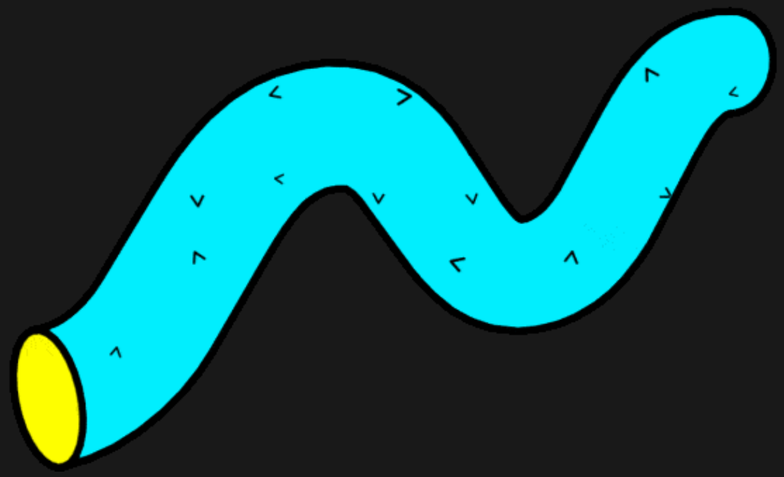


Envelopes

ADSR parameters *editable*

- Grab nodes
- Curvature
- Reset
- **Draw** your envelope!



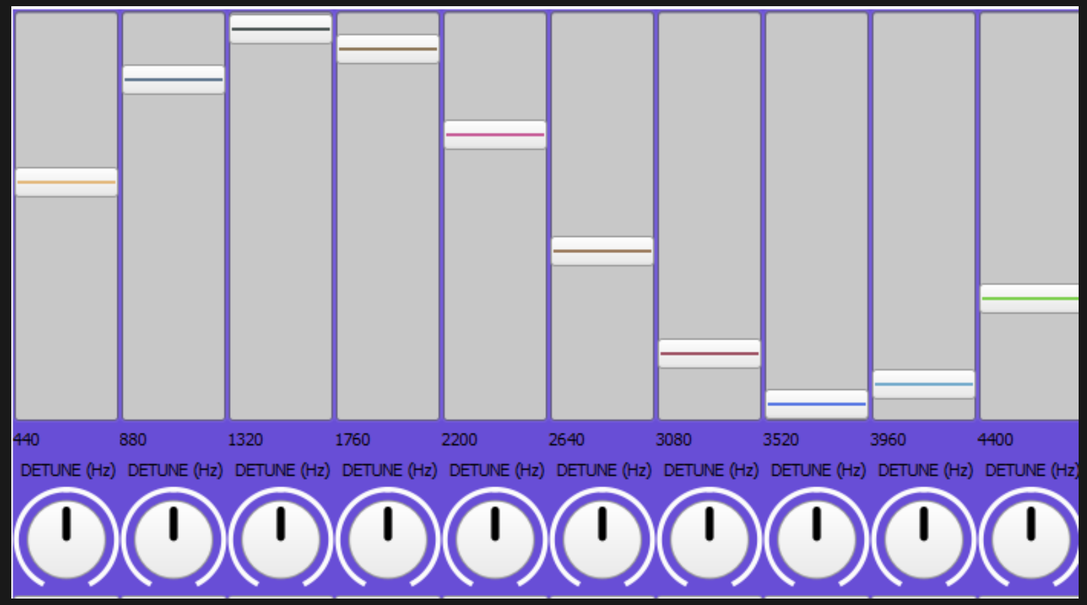


Amplitude Wave

Audio and visual effects

Sinusoidal waveform

(acts like a moving bandpass filter)



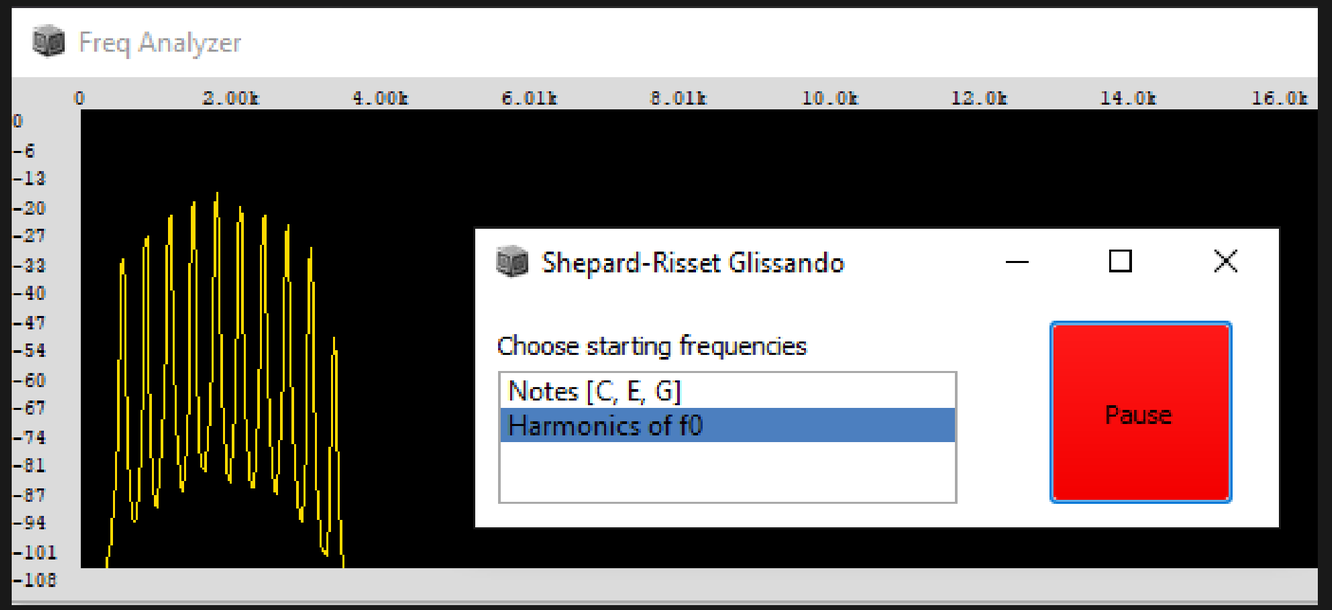
Shepard-Risset Glissando

An *infinite* illusion

Moving frequencies

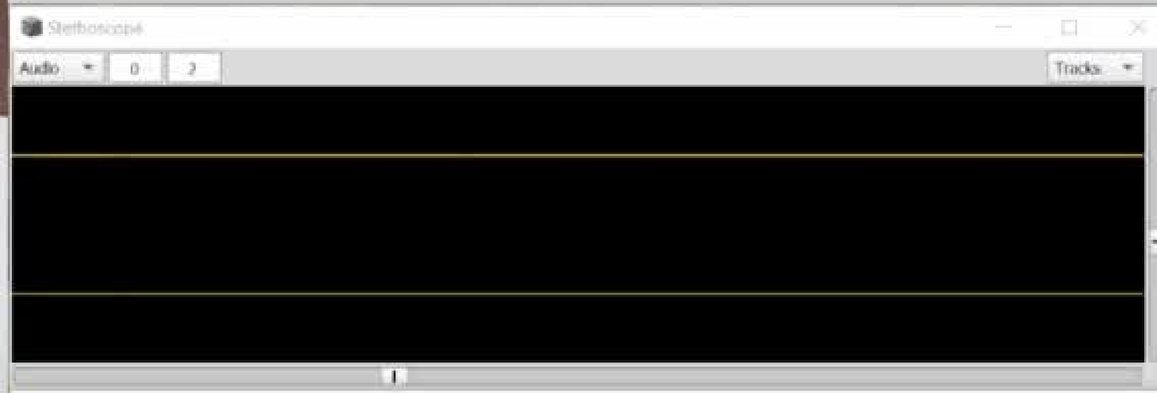
Shaping amplitudes

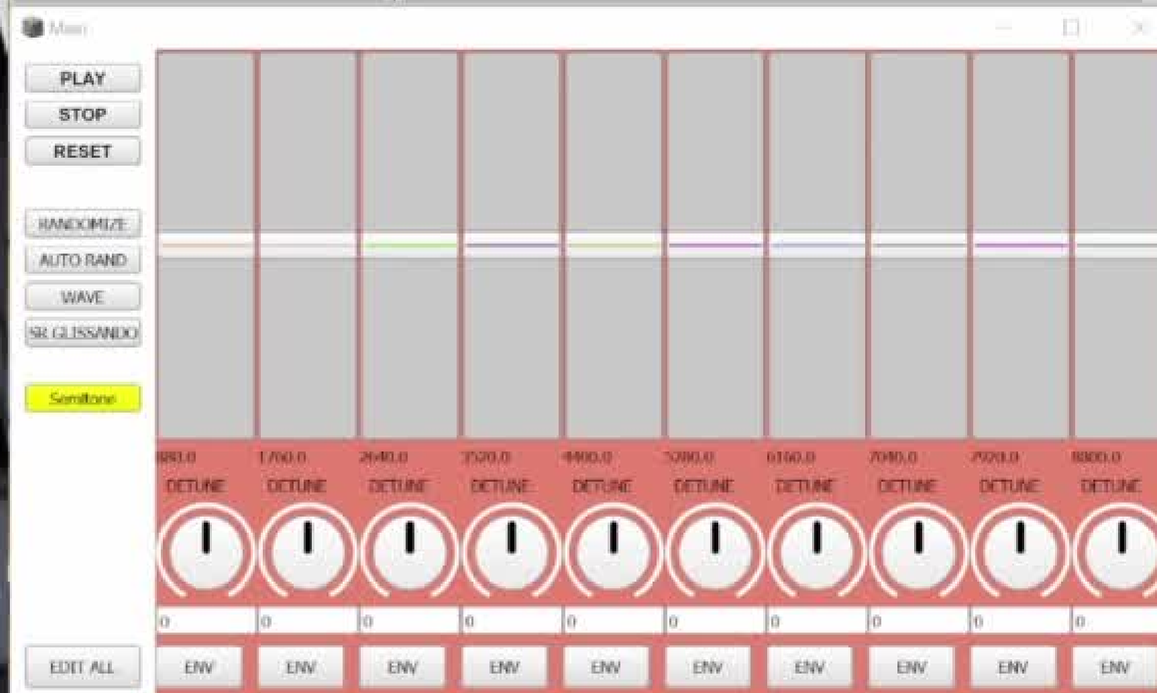
Glissando



MIDI Input

Freq Analyzer


Stethoscope
Audio
Tracks


Main
PLAY
STOP
RESET
RANDOMIZE
AUTO RAND
WAVE
SR GLISSANDO
Semitone
DETUNE
EDIT ALL
ENV

“I've seen ~~the exorcist~~ *SuperCollider* about 167 times, and it keeps getting funnier every single time I see it!”

Beetlejuice (from Tim Burton's movie)