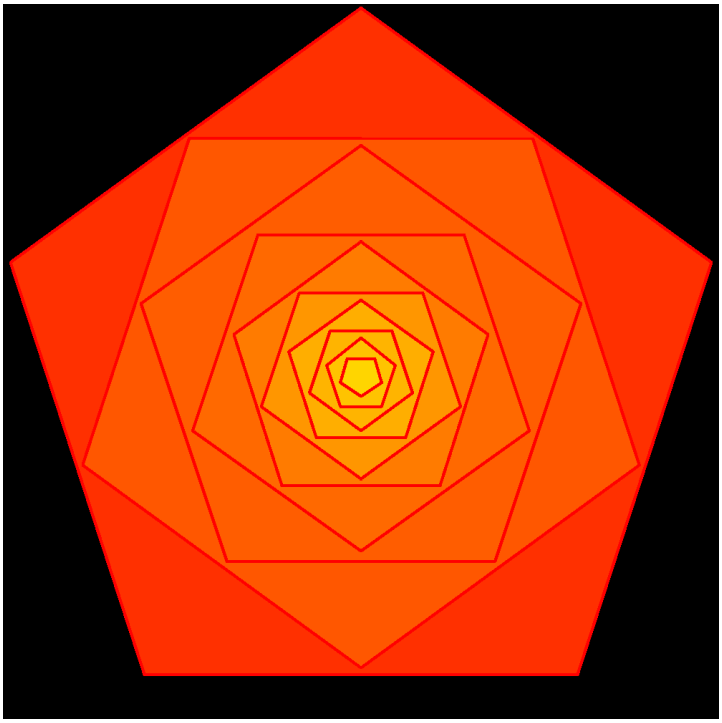
Esoteric Synth

by Anthony Di Furia

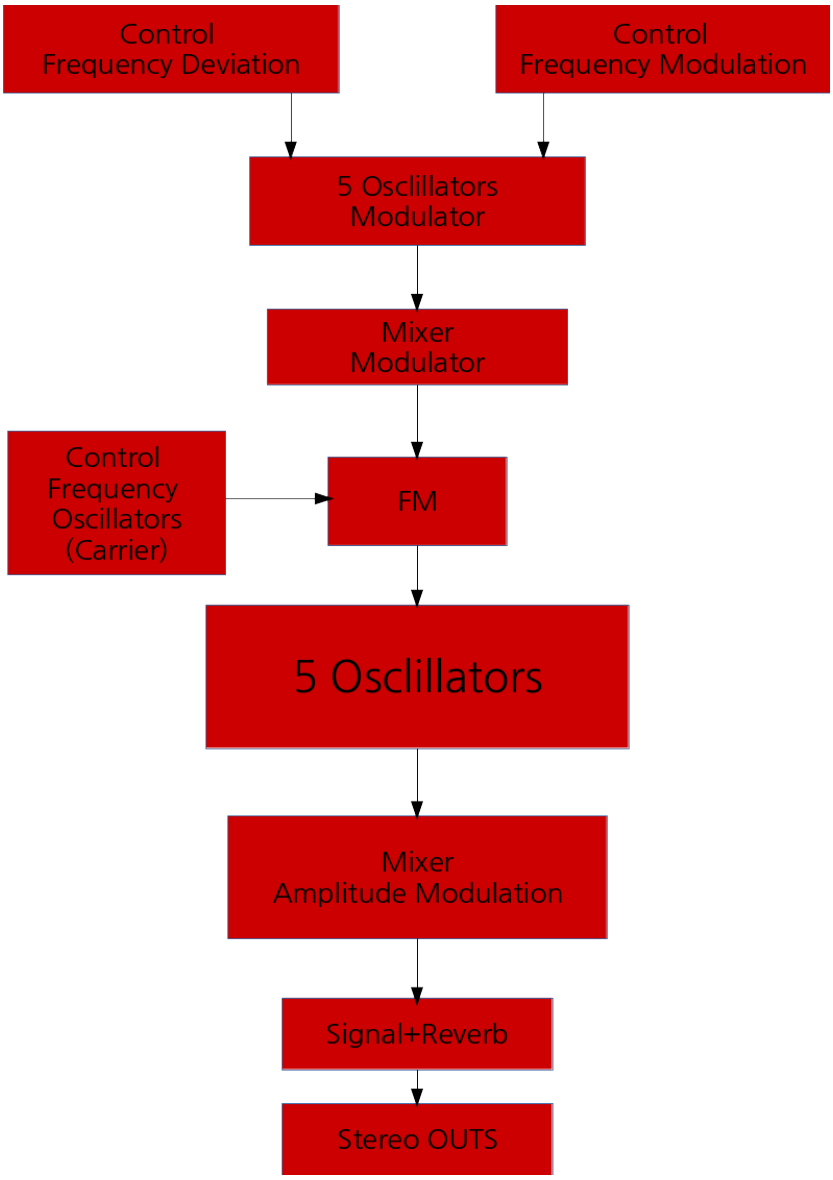
User Guide



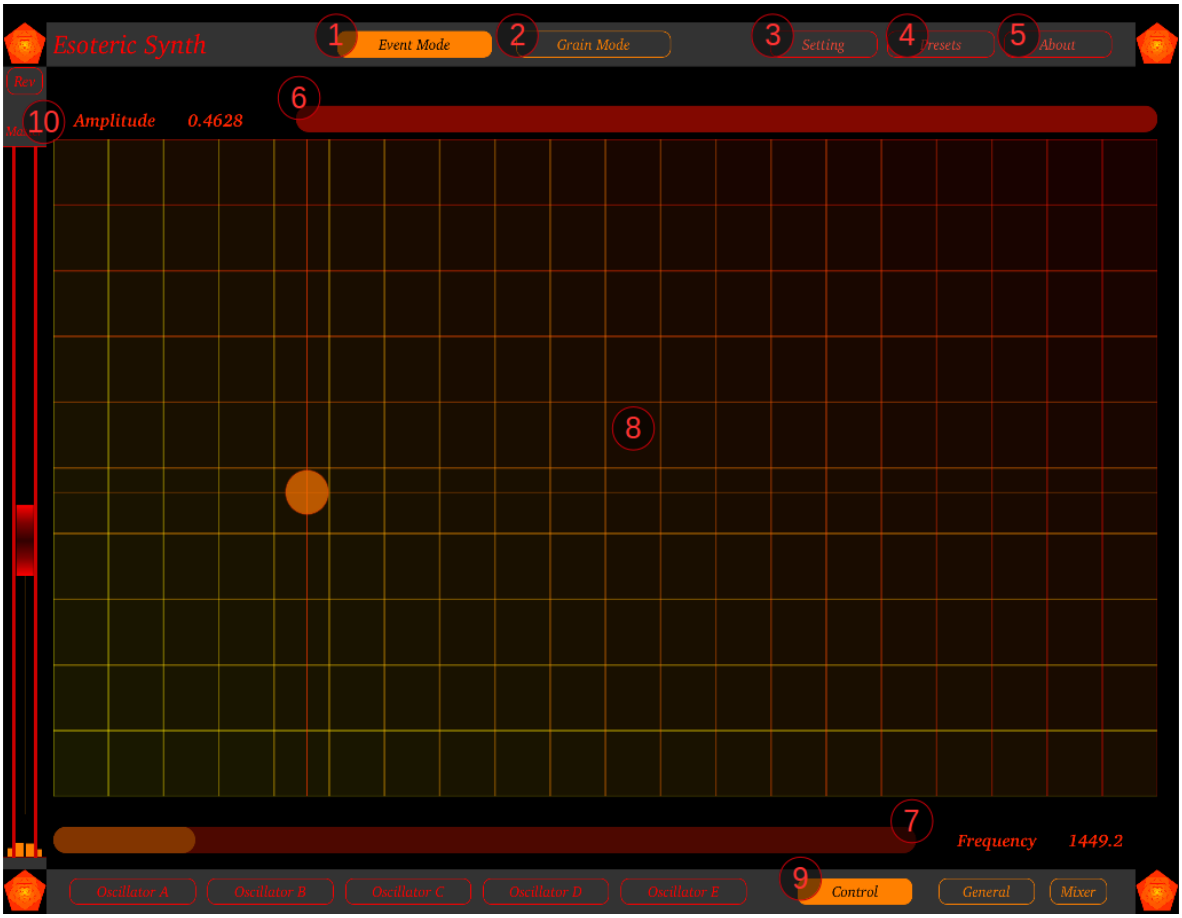
Introduction

Esoteric Synth is a unusual generator of synthetic sound events.
The synthesis is based on 5 oscillators which are intersected through an multiple amplitude modulation and multiple frequency modulation making an high sound variability
The sound events can be controlled in two ways:
EventMode (High Duration and Low Density)
GrainMode (Low Duration and High Density)
This App is suitable to generate complex sound textures, glitches,noises, sound clouds, sound drones, point sounds and more.

The general functioning of Esoteric Synth is summarized in the following diagram.



Controls



1 - Event Mode
Events generator with low density and long duration

2 - Grain Mode
Events generator with high density and short duration

3 - Setting
Setting sample rate and buffer size

4 - Presets
27 System Presets.
Ability to save and load Local Preset

5 - About
Information about Esoteric Synth with link for User Guide

6 - Max Amplitude
Maximum limit of the general amplitude controlled by (8)

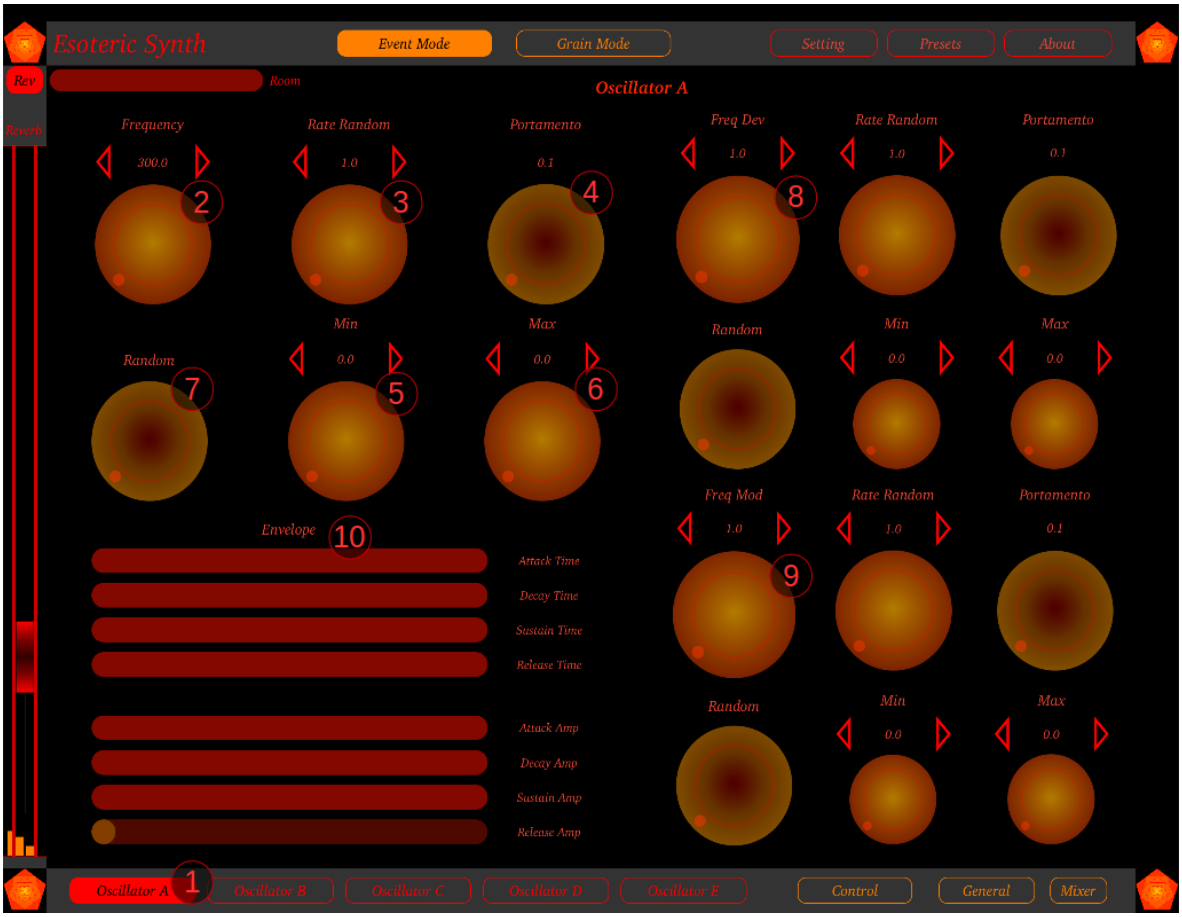
7 - Max Frequency
Maximum frequency limit (Minimum Frequency = Oscillator A Frequency) controlled by (8)

8 - General Control XY Frequency/Amplitude
controls the frequency of sound (Minimum Frequency = Oscillator A Frequency) and the amplitude of each sound event on the two axes.

9 - Menu Pages
Selection menu.

10 - Control Outs
Master level and Reverb level control with meters measuring RMS and PEAK

Oscillators



1 - Oscillator A

2 - Frequency Oscillator
controlla la frequenza dell oscillatore A (Frequenza portante per la FM)

3 - Rate Random Frequency
rate of generation of random frequency values between (5) and (6)

4 - Portamento
interpolation duration between the values generated (from 0.01 to 1 sec)

5 - Min Frequency Random

6 - Max Frequency Random

7 - Resize Random Min/Max
resize the values generated at the rate of (3) between (5) and (6)

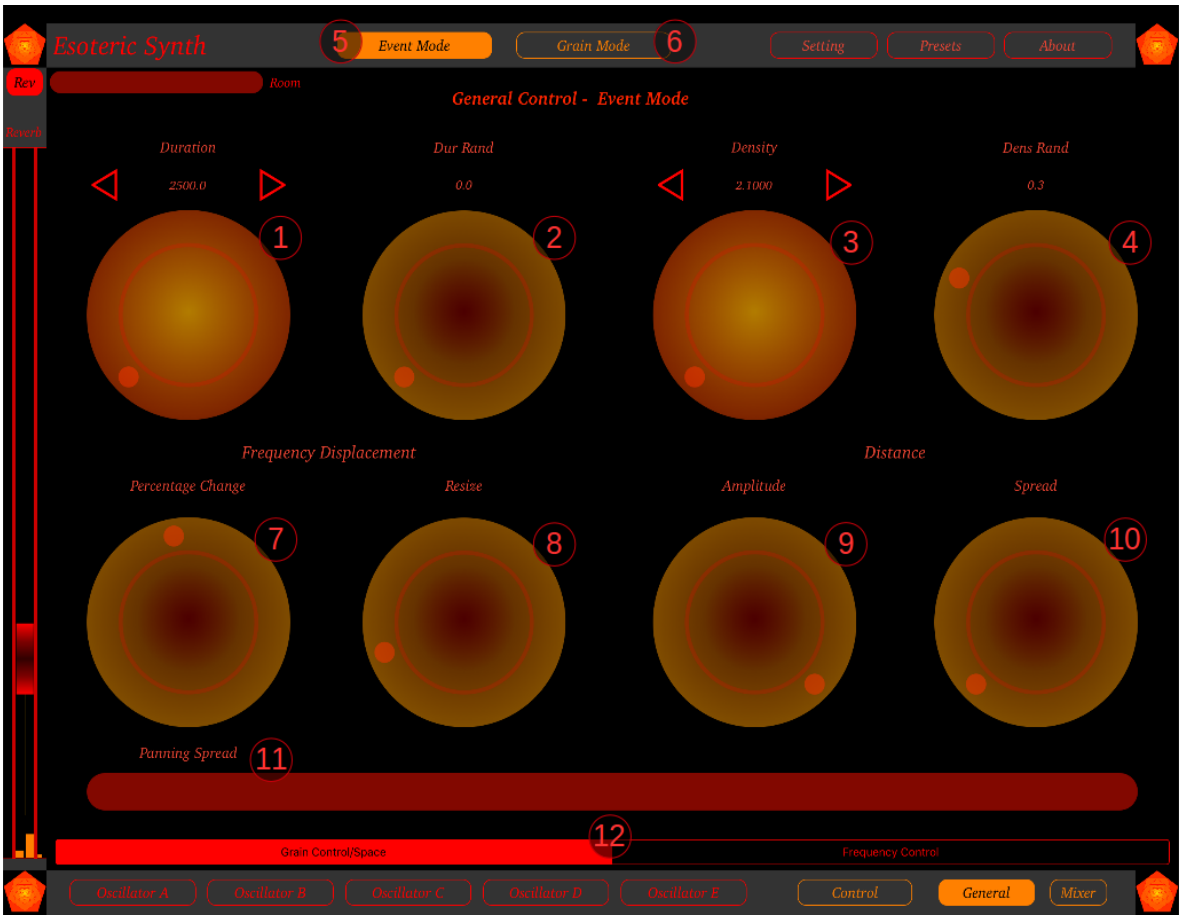
8 - Frequency Deviation (FM)
frequency deviation control in frequency modulation
(the other parameters work the same way as 3,4,5,6,7)

9 - Frequency Modulator (FM)
it controls the frequency of the modulator
(the other parameters in the same way of 3.74,5,6,7))

10 - Envelope
Control of the envelope on each event for the oscillator
Time: controls of attack, decay, sustain and release according to the duration of the generated sound event.
Amplitude: controls in attack, decay, sustain and release.

Nota: It is the same for others oscillator

General Control



1 - Duration
duration control of sound events
Event mode: from 50ms to 2500 ms
Grain mode: from 2ms to 100 ms

2 - Duration Resize Random
Change the duration randomly

3 - Density
density control of sound events
Event Mode: from 0.5 to 4 grains per second
Grain Mode: from 0.5 to 250 grains per second

4 - Density Resize Random
Change density randomly

5 - Event Mode
see 1

6 - Grain Mode
see 1

7 - Percentage Change
changes in percentage the frequency to each sound event

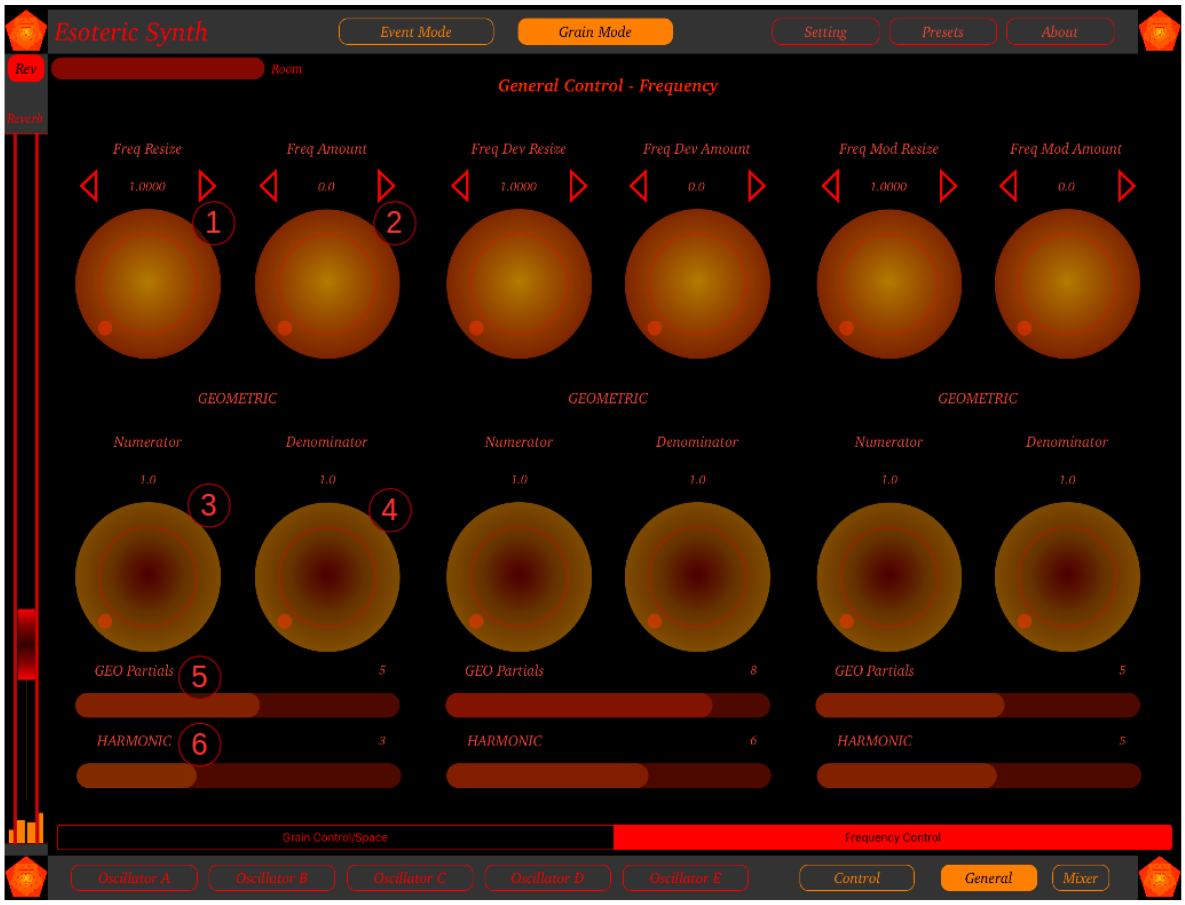
8 - Resize Percentage Change
resize percentage change value

9 - Amplitude
maximum amplitude for each sound event

10 - Spread Amplitude
randomly reduces the amplitude of each event according to (9)

11 - Panning Spread
Change the position of sound events randomly from mono to stereo

12 - Select Page
Select the general control pages



1 - Resize Frequency
The oscillator frequencies are multiplied by a factor beetwen 1 to 0.1
example:
Original Frequency = 1000
If Resize Frequency = 1, Original Frequency = 1000
If Resize Frequency = 0.1, Original Frequency = 100

2 - Frequency Amount
Adds frequency values to the oscillators frequency

3 - Numerator (Geometric Series)
it controls the numerator value for the geometric series ratio

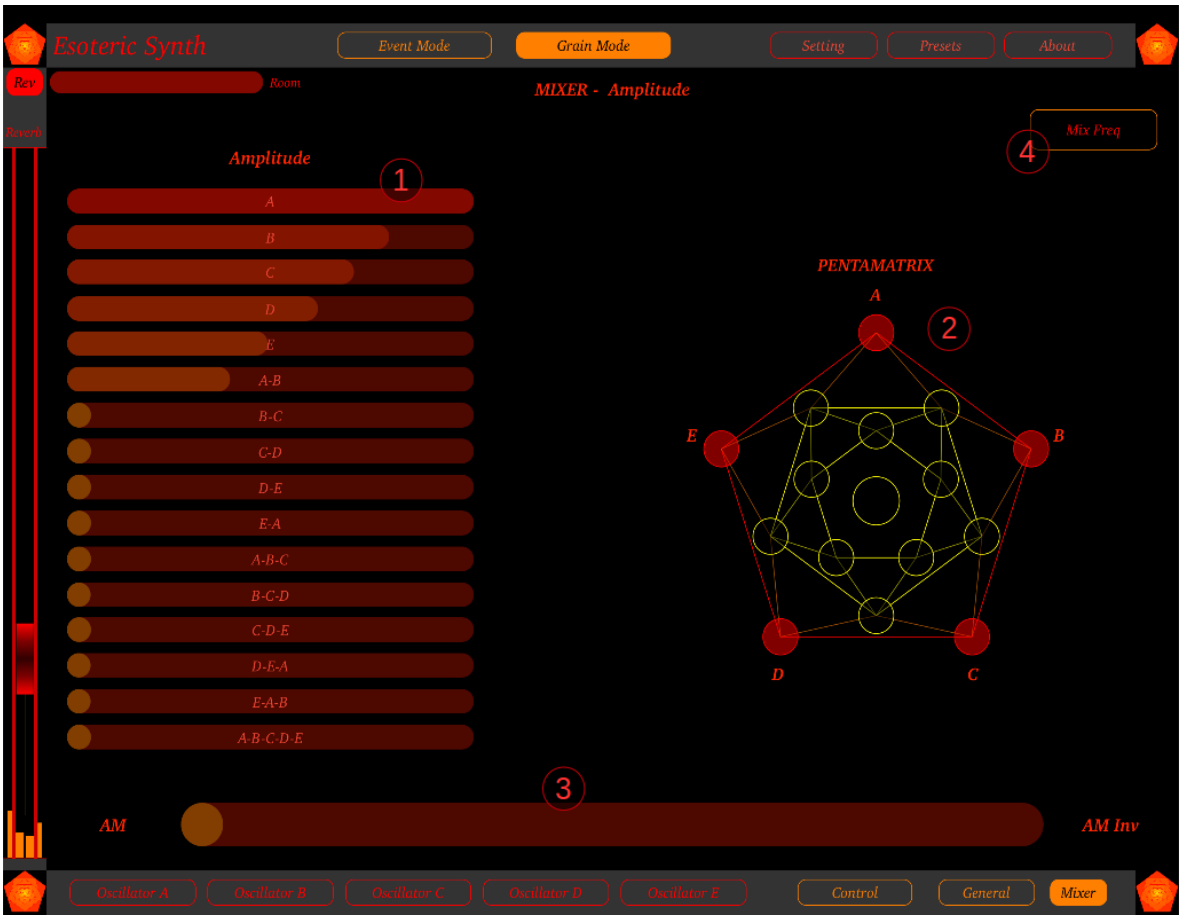
4 - Denominator (Geometric Series)
it controls the denominator value for the geometric series ratio

5 - Geometric Series Partials
Number of partials generated randomly according to the
ratio = Numerator / Denominator

Example:
Ratio = Numerator / Denominator:
If Numerator = 3 and Denominator = 2
Ratio = 3/2, it generates partial for 5th

6 - Harmonic Series Partials
Number of randomly generated partials according to the harmonic series

Mixers



1- Mixer Amplitude Modulation

Control of the amplitudes of the various partials generated with amplitude modulation

A: oscillator A amplitude (amplitude modulation carrier)
B: oscillator B amplitude (amplitude modulation carrier)
C: oscillator C amplitude (amplitude modulation carrier)
D: oscillator D amplitude (amplitude modulation carrier)
E: oscillator E amplitude(amplitude modulation carrier)
AB: multiplication between A and B
BC: multiplication between B and C
CD: multiplication between C and D
DE: multiplication between D and E
EA: multiplication between E and A
ABC: multiplication between A, B and C
BCD: multiplication between B, C and D
CDE: multiplication between C, D and E
DEA: multiplication between D, E and A
EAB: multiplication between E, A and B
ABCDE: multiplication between A, B, C, D and E

2 - **Matrix Amplitude Modulation**
Turns on the different partials generated with amplitude modulation

3 - **Amplitude Modulation vs Amplitude Modulation Inverse**
it controls the amount of amplitude modulation and its inversion.

Nota: *Same operation for the frequency mixer, the mixer sliders in this case are resized frequency values generated by the FM*