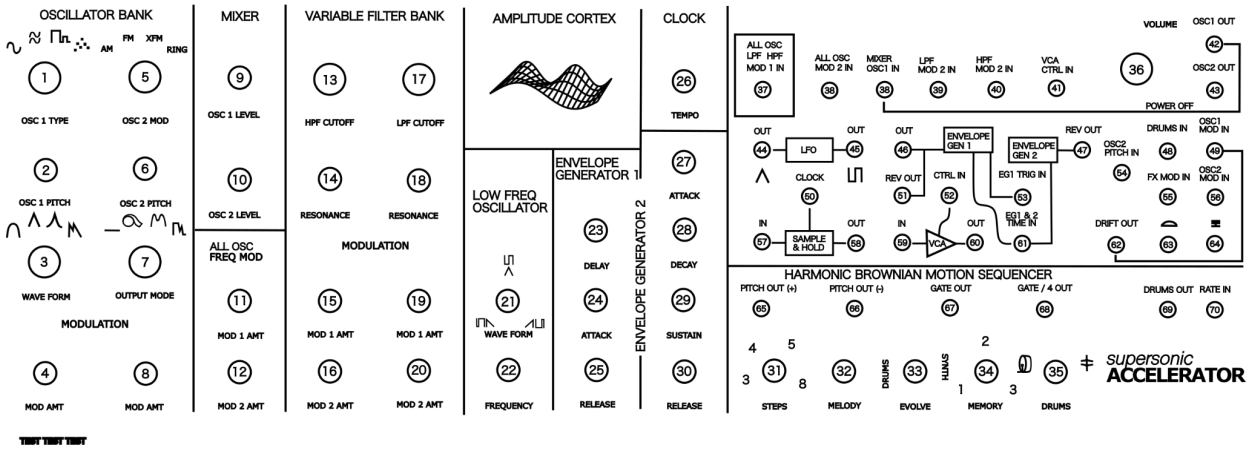

Oscillator Bank

1. **OSC 1 TYPE** - Select from four oscillator types: Sines, Polyphonic, Aggressive, and Granular
2. **OSC 1 PITCH -** Adjust the base frequency of Oscillator 1. For some sampling or granular oscillator wave forms, this may scrub through the buffer instead.
3. **OSC 1 WAVE FORM -** Select from four different oscillators per **OSC 1 TYPE**, with mellower waves on the left and more jagged waves on the right. The wave forms are as follows:

Sines - Sine, Decoupled Sine, Sine + Random Harmonic, Harmonic Bump
Polyphonic - Paraphonic Resonator, Chopped Sample, Pitched Sample, Pitched Sample 2
Aggressive - Triangle, Sawtooth, Comb Filter Resonator, Reese
Granular - Water, Percussion, Electrical 1, Electrical 2

4. **OSC 1 MOD AMT -** Adjust depth of frequency modulation applied to Oscillator 1. If there is nothing connected to input **49**, this is internally connected to **DRIFT**.
5. **OSC 2 MOD -** Select from four methods of modulating Oscillator 2. Turn up **8** to hear the different modulation effects:
   AM - sine carrier ring-modulation
   FM - sine carrier linear frequency modulation
   XFM - bass-compensated sine carrier synced exponential frequency modulation
   RING - square carrier ring-modulation.
6. **OSC 2 PITCH -** Adjust the base frequency of Oscillator 2.
7. **OUTPUT MODE -** Choose between four output modes:
   Clean - No processing.
   Tape - Inserts a tape simulation effect at the end of the audio signal chain.
   Wavefolder - Inserts a Buchla 259-inspired wavefolder in between the **Mixer** and the **Variable Filter Bank.** Different input levels lead to different tonal characteristics.
   Fuzz - Inserts a fuzz effect at the end of the audio signal chain.
8. **OSC 2 MOD AMT -** Adjust depth of frequency modulation applied to Oscillator 1. If there is nothing connected to input **56**, this is internally connected to **OSC 1 OUT**.

MIXER

9. **OSC 1 LEVEL -** Adjust the level of **Oscillator 1**.
10. **OSC 2 LEVEL -** Adjust the level of **Oscillator 2**.
11. **ALL OSC FREQ MOD 1 AMT -** Adjust the depth of frequency modulation applied to Oscillators 1 & 2 simultaneously. If there is nothing connected to input **37**, this is internally connected to **LFO TRIANGLE OUT.**
12. **ALL OSC FREQ MOD 2 AMT -** Adjust the depth of frequency modulation applied to Oscillators 1 & 2 simultaneously. If there is nothing connected to input **38**, this is internally connected to **ENVELOPE GENERATOR 1 OUT.**

VARIABLE FILTER BANK

13. **HPF CUTOFF -** Adjust the cutoff frequency of the high pass filter.
14. **RESONANCE -** Adjust the resonance of the high pass filter.
15. **MOD 1 AMT -** Adjusts depth of frequency modulation applied to the high pass filter cutoff. If there is nothing connected to input **37**, this is internally connected to **LFO TRIANGLE OUT.**

16. **MOD 2 AMT -** Adjusts depth of frequency modulation applied to the high pass filter cutoff. If there is nothing connected to input **40**, this is internally connected to **ENVELOPE GENERATOR 2 OUT.**
17. **LPF CUTOFF -** Adjust the cutoff frequency of the low pass filter.
18. **RESONANCE -** Adjust the resonance of the low pass filter.
19. **MOD 1 AMT -** Adjusts depth of frequency modulation applied to the low pass filter cutoff. If there is nothing connected to input **37**, this is internally connected to **LFO TRIANGLE OUT.**
20. **MOD 2 AMT -** Adjusts depth of frequency modulation applied to the low pass filter cutoff. If there is nothing connected to input **39**, this is internally connected to **ENVELOPE GENERATOR 2 OUT.**

LOW FREQ OSCILLATOR

21. **WAVE FORM -** Smoothly changes the shape of both simultaneous LFO outputs. **LFO TRIANGLE OUT** ranges from a sawtooth to a triangle to a ramp, while **LFO PULSE OUT** ranges from a thick pulse to a square to a narrow pulse.
22. **FREQUENCY -** Adjusts the frequency of the LFO.

ENVELOPE GENERATOR 1

23. **DELAY -** Delays the attack stage of **ENVELOPE GENERATOR 1**.
24. **ATTACK -** Onset duration of **ENVELOPE GENERATOR 1** to reach its maximum level after a gate signal is received (or a note is played).
25. **RELEASE -** Duration of **ENVELOPE GENERATOR 1** returning to zero after a gate signal is lost (or a note is let up).

CLOCK

26. **TEMPO -** Adjusts the tempo of the **SEQUENCER**.

****BUTTON + TEMPO -** Adjust the rate of the **TAPE DELAY.**

ENVELOPE GENERATOR 2

27. **ATTACK -** Onset duration of **ENVELOPE GENERATOR 2** to reach its maximum level while a note is being played.
28. **DECAY -** Falling duration of **ENVELOPE GENERATOR 2** to reach its sustain level after the maximum level has been reached.
29. **SUSTAIN -** Level at which **ENVELOPE GENERATOR 2** remains after the decay stage while a note is played.
30. **RELEASE -** Duration of **ENVELOPE GENERATOR 2** returning to zero after a note is let up.

HARMONIC BROWNIAN MOTION SEQUENCER

31. **STEPS -** Selects between (mostly) repeating sequences of length 3, 4, 5, or 8.
32. **MELODY -** Controls the amount of melodic diversity. At low values, rhythmic diversity increases.
33. **EVOLVE -** Biases of the evolution of sequences. Low values cause drum patterns to evolve more quickly, while high values cause synth lines to evolve faster. The center point causes both to evolve slowly and naturally.
34. **MEMORY -** Selects between three memory banks to create musical form. Only the selected memory bank evolves, while the others maintain their current state. This can be used to create song sections that can be freely switched between, drops, or to reset the sequencer if things spin out of control during a live performance.
35. **DRUMS -** Selects between different drum mute-mixes. Low values represent kick-focused mixes, and high values represent hi-hat-focused mixes. Center points contain the most active drum elements.

VOLUME

36. **VOLUME -** Adjusts master volume.

****BUTTON + VOLUME -** Adjust the **TAPE DELAY** feedback amount.

****BUTTON + MOD WHEEL -** Adjusts the **TAPE DELAY** FX send amount. At high values, the original signal fades away, like a wet/dry mix control.