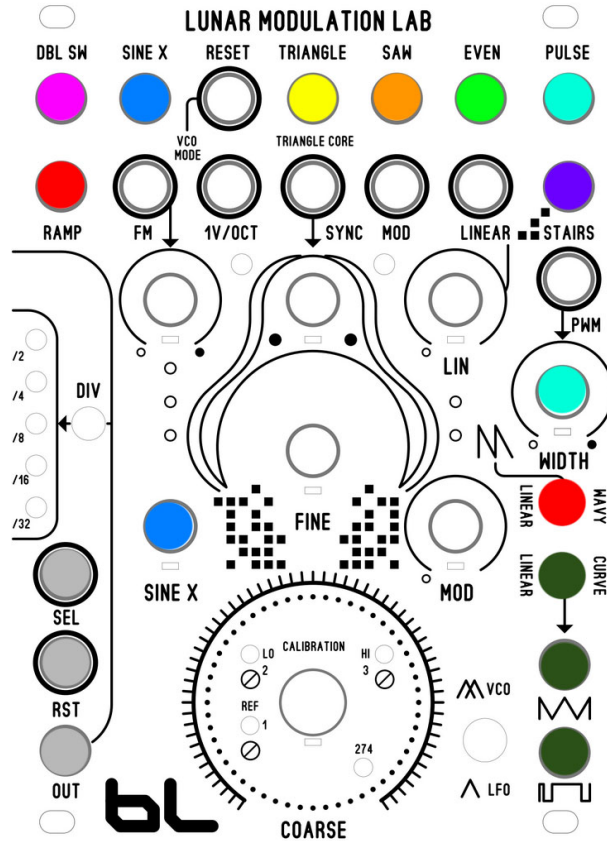


Lunar Modulation Lab VCO



Model: Lunar Modulation Lab VCO

Current: 91mA, -61mA

Width: 18HP

Depth: (1 stack) PCB design for power cable. Skiff friendly.

Violet Output Jack: 2x speed Double Saw Wave output.

Red Jack: Ramp wave output.

Red Toggle Switch: changes the following wave shapes: ramp/saw/even.

The middle section of the ramp or saw wave will become wavy or linear (normal). You can actually hear the harmonic changes. Even wave is less dramatic, when using this toggle switch.

SINE X and Sine X knob: sine wave output with level control. You can use this level control to modulate another vco for example to do cross modulation.

Yellow Output Jack: Triangle wave output.

Orange Output Jack: Saw wave output.

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Green Output Jack: Even Wave output. This is an even harmonic between the double saw and sine waves.

Aqua Output Jack: Pulse wave output, with Pulse Width Modulation control and input.

Purple Output Jack: Falling staircase output wave.

Dark Green Section: toggle switch is to change the triangle curve output waves right below it. The bottom pulse waves are not affected by the toggle switch.

The above 10 Wave Forms are all part of the vco core.

Grey Section:

Select CV input: use this to trigger the DIV push button.

RST input jack: use this to reset the internal divider.

Output Jack: this is the output for the divider circuit.

The internal clock for this divider is using the VCO internal square wave output.

Sorry there is no way to use your own clock for the divider circuit.

So this brings us to 11 possible Wave Forms total for this new updated vco.

The following are CV input related jacks for the vco.

Reset Input: use this to reset the internal timing capacitor for the vco. This only has affect in VCO mode.

Using square waves or triggers works best.

FM input Jack and Bi-polar Level Knob: this is an exponential cv input for the vco core. It is bi-polar.

1v/octave input Jack: use this for precise tuning CV control. For example, your keyboard or sequencer.

Sync input Jack: this is a unique triangle core based sync circuit.

Mod input jack and Mod level knob: this is the same as a 1v per octave input, but with level control.

Linear Input jack and Lin Level knob: Linear based FM modulation.

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History about this product.

The core vco was developed by Bergfotron Electronics for a product called 'Advanced' vco. It is using a discrete, transistor core, to create a triangle oscillator. Based on an early Buchla design.

I first ported this design to Euro Format with a product called Lunar Modulation Center VCO. There were purple and white panel versions made.

The later and last version of the Lunar Modulation Center VCO was converted to a vca based exponential converter instead of the 'matched' transistor type converter. This was done to improve 1v per octave accuracy and drift.

The project has now graduated into Lunar Modulation 'Lab' VCO. Many trimmers were eliminated, modern smt parts were introduced and substituted, and the panel is now jacks on top.

For those that also remember my 'Dwarf Star Synth', this vco is also very close to that design.