

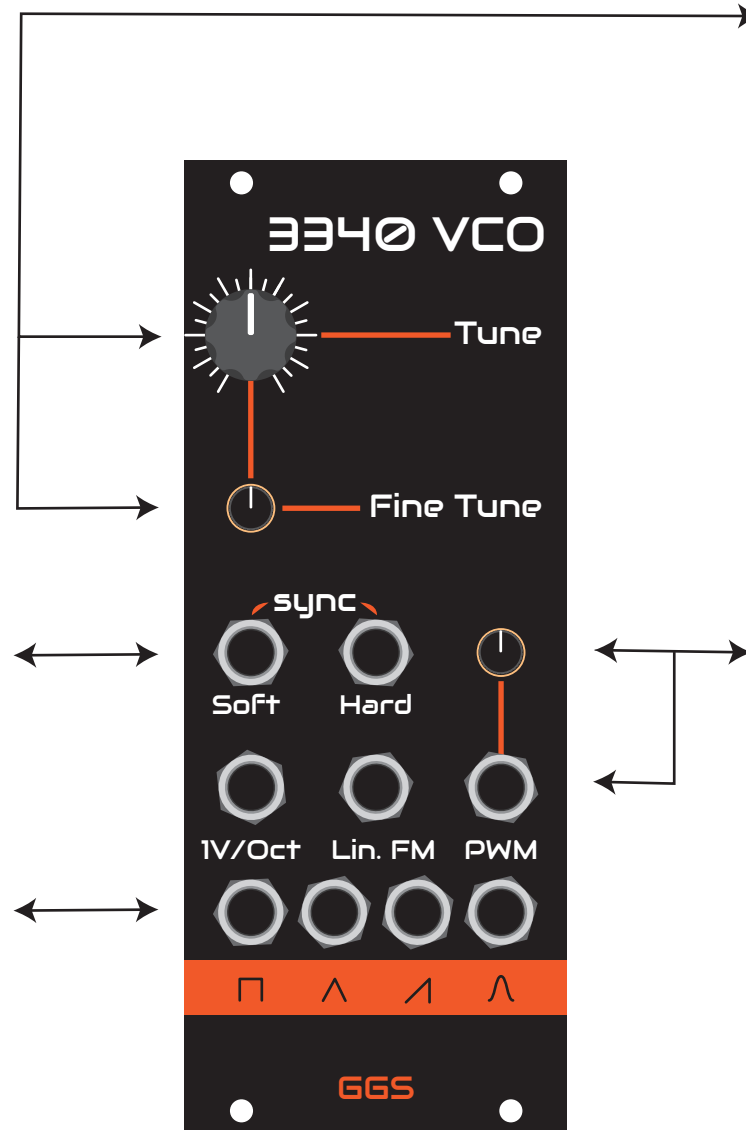
3340 VCO

3340 VCO is a high precision voltage controlled oscillator. Design is based on the vintage CEM3340 IC. It was widely used by many synth manufacturers in the 80s. This design is for eurorack modular synthesizers, available as a build unit and PCB + Front Panel kit. The front panel is also made out of PCB and screen printed by hand.

Sync inputs are compatible with waveforms from other oscillators in order to create standard hard sync or soft sync waveforms.

The core circuitry is capable of generating Square/pulse, triangle and ramp wave forms. Sine wave is generated by converting triangle. All waveforms outputs are 10V peak to peak, within -5V to +5V range.

Tune is the coarse adjustment of the pitch, and it's within a 10 octave range (10V, -5V to +5V). Fine Tune is used for precise adjustments of the pitch.



1V/Oct is exponential input that can generate notes. Lin. FM is the linear frequency modulation that can generate linear frequency response. PWM input is for modulating pulse width of the square wave. The range is 0V to +5V. PWM potentiometer becomes amount pot for PWM input when a CV/jack is inserted.



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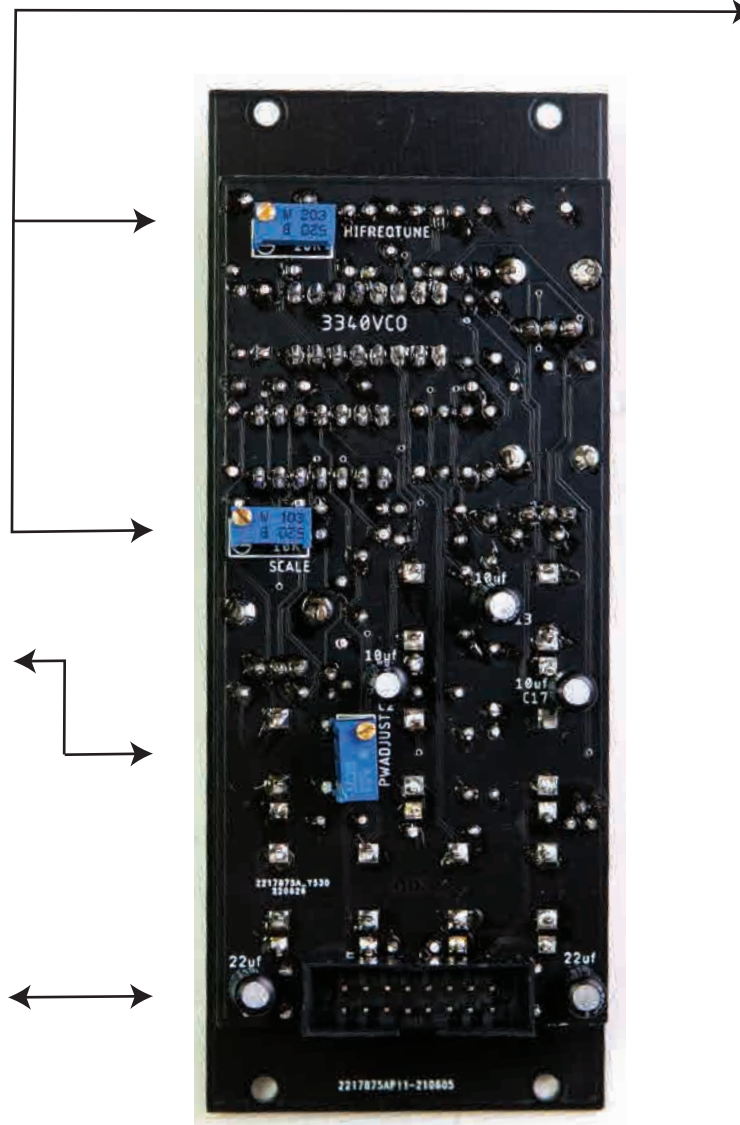
Calibration

Before you begin, set the Tune and Fine Tune knobs to the middle position (V2.7 or later versions). Also, turn the Hi Frequency Tune trimmer all the way down, ensuring that the middle pin shorts with ground when fully lowered.

Pulse Width Calibration:

The PW adjust trimmer sets the endpoint of the square wave cycle. It should be adjusted to a point just before the wave disappears when the PW pot is turned all the way up.

The unit is equipped with a 16-pin IDC socket, making it compatible with Eurorack modular synthesizers. It operates on +/-12V. Additionally, a switched jack is integrated to receive CV from the bus when there is no jack connected to the 1V/Octave input.



1- Connect a voltage-generator (VC) source, such as a keyboard, to the 1V/octave input of the VCO.

2 - Play note C1 (1 volts) on the keyboard. Use the Tune and Fine Tune knobs on the VCO to tune it to C1.

3 - Press C2 (2 volts) on the keyboard. Adjust the scale trimmer on the VCO to tune it to C2.

4 - Return to C1 and ensure it is still accurately tuned using the Tune and Fine Tune knobs.

5 - Press C2 again and fine-tune it using the scale trimmer on the back.

6 - Repeat the process with C1 and C3, ensuring accurate tuning with coarse and fine adjustments.

7 - Check the upper octaves for fine-tuning using the scale trimmer.

8 - Press C9 (9 volts) on the keyboard and adjust the Hi Frequency trimmer to tune the VCO to C9.

