VCO Manual

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General Info

The VCO is an analog voltage controlled oscillator with a wide frequency range and 8 trackable octaves. It uses the Curtis CEM3340 reissue chip, which is famous for its outstanding sound quality.

Features:

- Simultaneously available triangle, saw and square wave outputs
- Frequency range: 5Hz to 28kHz
- FM input and attenuation control
- PWM input and CV control
- 1V/o input, tracks 8 octaves

Specifications:

- Width: 4HP
- Depth: 53mm
- Power draw:
  - +12V: 42mA
  - -12V: 31mA

Includes power cable and module screws.

Synthrotek VCO Quick Start Guide

Coarse Rate Slide Pot
Range: 5Hz - 28kHz

Fine Rate Slide Pot

Frequency Modulation Attenuation Slide Pot
(limits MOD IN)

Pulse Width Modulation Manual Control

Frequency Modulation Input Jack

Pulse Width Modulation Input Jack

1 Volt Per Octave CV Input Jack

Triangle Waveform Output

Sawtooth Waveform Output

Square Waveform Output

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Important Links

Store Page
Assembly Instructions
Bill of Materials

Powering Up your Module

Turn off your modular system before plugging in your VCO module. Plugging in your module while the power is on (“hot swapping”) can damage a module. Plug a 10 to 16 pin power cable into the module and then into your power supply, aligning the stripe of the cable with the STRIPE indicator on the power supply. Then power it on!

Calibration

If you built the VCO yourself or need to calibrate your module for your system, use these instructions here to calibrate it.

Front Panel Controls and Jacks

TUNE

- Coarse tune control. The LED flashes according to the oscillator rate. The combined range of the FINE and TUNE pots is approximately 5Hz to 28kHz.

FINE

- Fine tune control. The LED flashes according to the oscillator rate. The FINE pot has a range of a 9th, or an octave plus one whole step.

MOD IN

- Frequency modulation input. Synthrotek's VCO uses linear FM.

MOD ATTN

- Frequency modulation attenuator. This pot attenuates the signal from the MOD IN jack, and will only work when the MOD IN jack is patched. The LED flashes according to the rate of the oscillator plugged into the MOD IN jack. It will not flash if MOD IN is not patched. When patched, it will gradually become brighter as the pot moves upward. The brightness will also vary depending upon the strength of the signal patched into the MOD IN jack. When the MOD IN jack is patched and pot is slid downward to zero, the oscillator's frequencies will not be modulated.

PW IN

- Pulse width Input. This input will receive audio and CV signals and will affect the pulse width of the square wave output. It has a pronounced effect on the square wave, but it can be used to create a slight pleasant tremolo effect on the triangle and sawtooth when patched with an LFO. The incoming signal to the PW IN jack is additive to the position of the PW slide pot.

PW

- Pulse width. The PW pot changes the pulse width. This primarily affects the square wave output, and will affect it whether or not the PW IN jack is patched (it does very little with the sawtooth and triangle waves on its own). When the pot is centered, the square wave will be symmetrical (50% duty cycle). When the pot moves upward, the duty cycle ratio is higher; when it moves downward, the duty cycle ratio is lower. The PW pot LED will gradually become brighter as the pot moves upward.

1V/O

- 1 Volt per Octave input. Accurately tracks 8 octaves when calibrated. Additive to the pot position.

- Triangle waveform.

- Sawtooth waveform.

- Square waveform.

More questions? Get a hold of us here:
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