

# ANALOG VCO

Manual



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# THINGS TO KNOW

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## What is 1U?

1U is a measurement of height in the 19" rackmount standard. Eurorack modules adhere to 3 rack units, or 3U. Mosaic tiles adhere to 1 rack unit in height, and require appropriate rails to mount in a rack or modular case.

## What 1U format are Mosaic modules?

We ship our modules with [Intellijel 1U formatted front panels](#). If you use the Pulp Logic format, don't worry! You can purchase Pulp Logic replacement front panels on our [Replacement Panels page](#).

## Mosaic Color Guide

Each color indicates a function across the Mosaic lineup.

**Green:** Audio Signals

**Purple:** Gate Signals

**Blue:** Control Voltage

# OVERVIEW

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## Description

This all analog voltage controlled oscillator revolves around the reissue of the legendary Curtis CEM3340 IC, which is found in synthesizers such as the Prophet 5, Roland Jupiter Series, and more.

- CEM3340 based VCO (triangle core)
- Waveforms: Sine, Triangle, Sawtooth, Square
- Linear and Exponential FM
- PWM
- Sync capability
- 1V/Oct tracking over 10 octaves

## Tech Specs

- Width: 20HP
- 38mm
- Front Panel: Ships in Intellijel format. Pulp Logic replacement panels available [here](#).
- Current Consumption: +12V = 27mA, -12V = 24mA

## Installation

To install, locate space in your Eurorack case for your 1U module, and confirm the positive 12 volts and negative 12 volts sides of the power distribution lines. Plug the connector into the power distribution board of your case, keeping in mind that the red band corresponds to negative 12 volts. In most systems, the negative 12 volt supply line is at the bottom. The power cable should be connected to the module with the red band facing the front of the module.

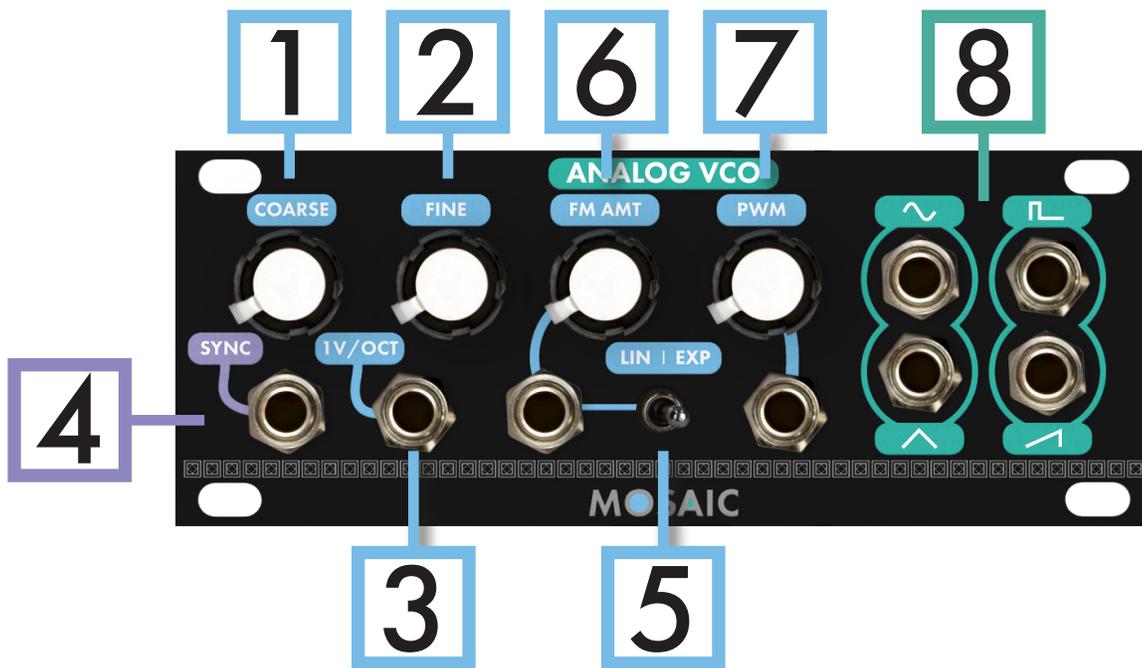
# DETAILS

## How It Works

The oscillator is the quintessential sound source in the synthesizer landscape, and the analog oscillator has been a part of electronic music since the very beginning. Oscillators are sound sources which comprise the primary sonic material of an east coast or west coast synthesizer voice.

The Analog VCO carries the iconic CEM3340 style IC on its back, which has lent its sound to vintage synthesizer legends such as the Prophet 5, Roland Jupiter series, and more. Each waveform outputs simultaneously, allowing for complex timbres when combined with a mixer. When the frequency is increased or decreased, the oscillators audible pitch increases and decreases as well, suiting it for melodic purposes. At the very lowest frequencies, some VCOs can act as low frequency oscillators (LFO) for modulation. Despite its perceived simplicity, a VCO is capable of producing a cacophony of sounds and modulation for your system, and is always recommended as a first pickup!

## Diagram



# DETAILS

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## 1. Coarse Frequency

Controls the coarse frequency of the oscillator.

Freq Range: 4.3Hz to 22kHz

## 2. Fine Frequency

Controls the fine frequency of the oscillator.

## 3. 1V/oct Input

CV input that tracks 1V/oct for melodic pitch sequencing.

Range:  $\pm 10V$

## 4. Sync

Trigger input for synchronizing the frequency of the output waveform with another oscillator.

## 5. Linear/Exponential FM Toggle

Toggles between FM modes

Linear: Input jack and knob act as control voltage input and attenuator for linear frequency modulation of waveforms.

Exponential: Input jack and knob act as control voltage input and attenuator for exponential frequency modulation of waveforms.

# DETAILS

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## 6. FM Amount

Attenuates the FM amount of the chosen FM mode.

## 7. PWM

Pulse width modulation control over the pulse waveform.

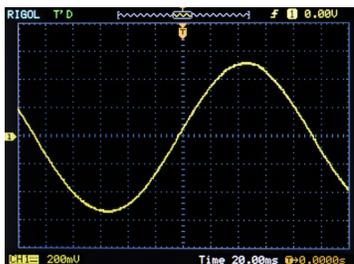
Input Range: -12V to +12V

Duty Cycle: 1% to 98%

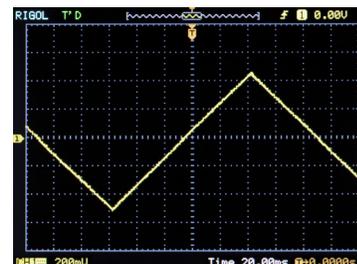
## 8. Waveform Outputs

Outputs for 4 unique waveforms: Sine, Triangle, Sawtooth, and Pulse.

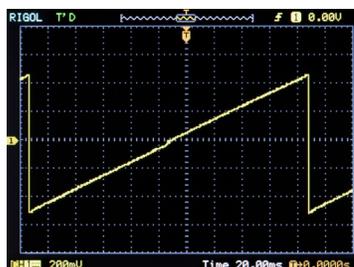
Sine



Triangle



Sawtooth



Pulse

