

 **STEFFCORP**

**2600 VCO**

**Operation Manual**

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# Introduction

## General

The Steffcorp 2600 VCO is an analogue oscillator with full voltage control based on the 4027-1 'VCO-2' oscillator used in the ARP 2600.

It's not just a copy however, we have gone to great lengths to bring it into the 21st century.

A much needed precision reference voltage was added, as well as buffers and a few other goodies.

Going SMT offered the means of improving the PCB-layout even further, as well as a selection of easy-to-source parts. No more treasure hunts and extravaganza prices.

On top of this, a good bit of time was spent on analyzing and comparing modern parts to find the best matches of the original part specifications.

## About power supply and buffering

In the world of Eurorack, albeit it is supposed to be a standard format, problems sometimes occur when it comes to module power supply since developers have different takes on the matter. To make sure the 2600 VCO operates in a faultless manner, it includes a 10 V 'precision reference voltage' from which the core of the oscillator is run. This pretty much makes it immune to noise and/or cross-modulation via the power-rails. Thus, the protection prevents the VCO from unintentionally soft-syncing to other oscillators, especially when having several different VCOs on the same rail.

The Steffcorp 2600 VCO also features buffered inputs and outputs. This means that the FM inputs will not cross-modulate and that 'multing' the ins and outs will not result in any loss of signal.

The power input protection of the 2600 VCO also prevents any mistakes when connecting it to a PSU.

## Features

Main controls: frequency, fine-tune, pulse width and attenuators for pulsewidth modulation and frequency modulation.

Inputs: keyboard control voltage, frequency modulation (x2), pulse width modulation and hard-sync.

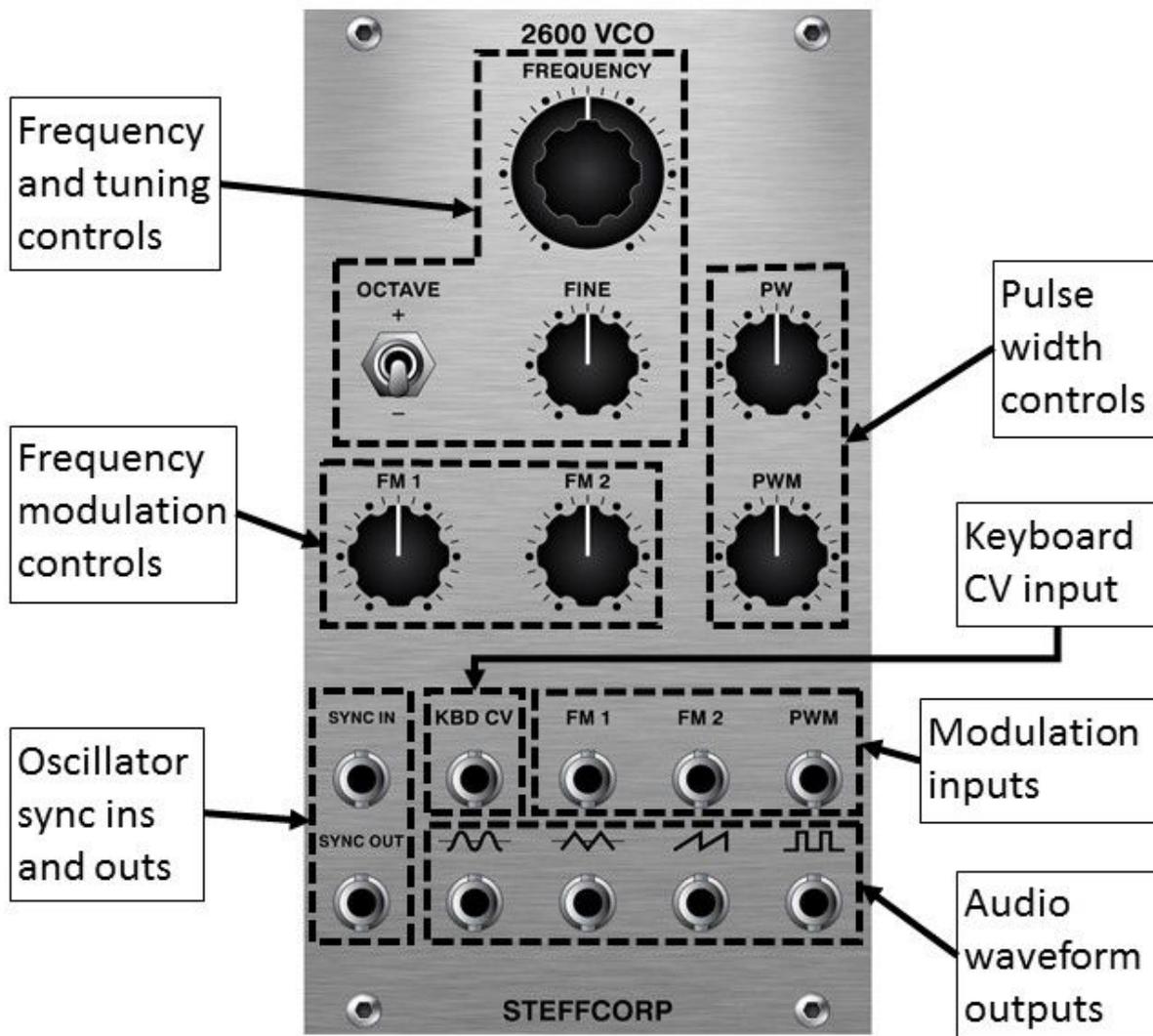
Outputs: saw, pulse, triangle and sine waveforms and sync-trig signal.

## Technical Specifications

- Power supply: +/- 12 V with reverse voltage protection.
- Current draw: approximately +46mA / -36mA.
- Size: 14HP.
- Depth: approximately 40 mm (measured from the panel to the power header).

# Core Operation

## Panel Layout



## Controllers and inputs/outputs

### Controllers

**FREQUENCY:** The default range is 0-10kHz. The VCO will track at least 9 octaves with good accuracy. *Note: remember to allow the module to heat up for at least 20 minutes in order to become stable.*

**OCTAVE:** The switch shifts the FREQUENCY up or down 1 octave.

**FINE:** The potentiometer allows for approximately +/- 3 semitones of fine-tuning.

**PW:** The potentiometer adjusts the pulse width waveform duty cycle from approximately 10% to 90%.

**FM1 och FM2:** Both potentiometers allow for exponential frequency modulation.

**PWM:** The potentiometer allow for pulse width modulation.

## **Inputs**

SYNC IN: Feeding this input puts the 2600 VCO in slave mode when synced to another VCO. This way the other VCO sets the basic frequency.

*Note: Steffcorp 2600 VCO's are designed to sync to each other. When syncing to other oscillators users should learn that the expected trig level is to be between -3.5 to roughly +10 V.*

KBD CV: This is standard 1 V/octave input.

FM1/FM2: These are bipolar, exponential frequency modulation inputs.

PWM: Feeding this input modulates the pulse width duty cycle.

## **Outputs**

SYNC OUT: This output is used to sync another 2600 VCO.

SINE: This is a +/- 5 V sine wave output.

TRI: This is a +/- 5 V triangle wave output.

SAW: This is a 0-10 V saw (ramp) wave output.

PULSE: This is 0-10 V pulse wave output.

## **Limited Warranty**

From the day of manufacture the 2600 VCO is guaranteed for a period of two years against any manufacturing or material defects. Any such defects will be repaired or replaced at the discretion of Steffcorp©.

This does, however, not apply to:

- Physical damage arising from mistreating (i.e. dropping, submerging etc.).
- Damage caused by incorrect power connections.
- Overexposure to heat or direct sunlight.
- Damage caused by inappropriate misuse.
- Self-made alterations to any parts of the product.

No responsibility is implied or accepted for harm to person or apparatus caused through operation of this product.

By using this product you agree to these terms.

## **Support**

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