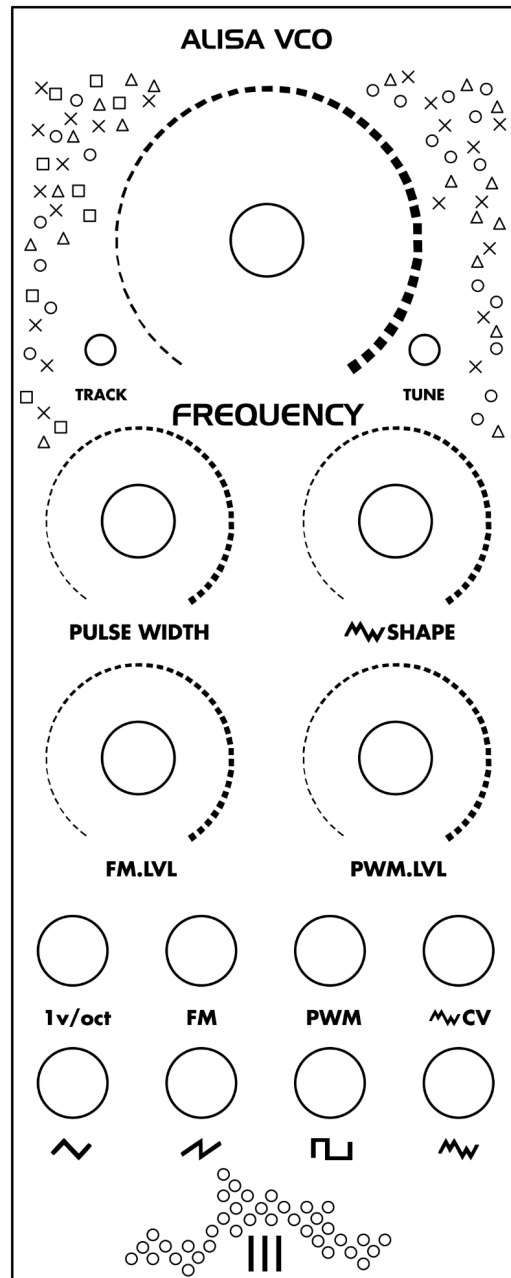# Tre Modular - Alisa VCO

User Manual

Thank you for choosing the Tre Modular - Alisa VCO Eurorack module!

This guide will walk you through the features, and usage of the Alisa VCO.

Alisa VCO:

Alisa VCO is a voltage controlled oscillator based on the Alisa 1377. It has triangle, ramp, pulse and waveshaped waveform outputs. It offers 1v/oct tracking, frequency modulation and pulse width modulation.

Features:

- Analog VCO based on the Alisa 1377 synthesizer.
- Voltage control over Waveshaping and Pulse width.
- Exponential frequency modulation
- Fully analog signal processing.
- Compact 10 HP size.
- Temperature compensated.

Waveshaped output:

Alisa VCO incorporates the most famous part of Alisa 1377 synthesizer, its waveshaper. Same as on Alisa 1377 here it is presented as the fourth signal output labeled **/\/\/**.

It is a VCA based waveshaper/wavefolder which can be controlled with its dedicated knob or CV input.

It uses the triangle wave as an input waveform. Output signal goes from sine like wave to triangle that has been folded multiple times in on itself.

With CV input you can close the waveshaper completely.

Outputs:

Alongside waveshaped signal Alisa VCO offers three classic outputs - triangle, ramp and pulse.

Since some waveforms are naturally louder than others. In Alisa VCO we made so that outputs are at different voltage levels. This was done so that all waveforms would sound somewhat equally loud.

Alisa VCO has built in pulse width control. It has two modes that can be selected with a jumper on the back of the module. With jumper on it ranges from 10% to 90% duty cycle and without the jumper it ranges from 10% to 50% duty cycle.Through PWM input you can control the pulse width using control voltage.

FM:

Alisa VCO offers frequency modulation through its FM input. It has exponential characteristics. There is also an FM.LVL knob that controls the level of the incoming modulation signal.

Tuning:

To make it easier to tune the oscillator we have made it so that tune and tracking trimpots are accessible from the front panel. Exception being high frequency tracking that can be found on the back of the module.

Specifications:

Module width: 10 HP

Module depth: 25mm

Frequency range: 32Hz - 7kHz

Power Consumption: 46mA at +12V / 42mA at -12V

Controls:

Frequency: Adjusts the frequency of the oscillator.

Pulse Width: Adjusts the pulse width of the pulse waveform.

Shape : Adjusts the shape of waveshaped signal.

PWM.LVL: Adjusts the pulse width modulation level.

FM.LVL: Adjusts the frequency modulation level.

Inputs:

1v/oct: 1 volt per octave input.

FM: Frequency modulation input.

PWM: Pulse width modulation input.

CV: Waveshapers control input.

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Outputs:

∧∨: Triangle wave output.

∿: Ramp wave output.

⊓⊔: Pulse wave output.

⋀⋁: Waveshaped wave output.

Installation:

Power off your Eurorack system.

Insert the module into an available slot.

Connect the power cable, ensuring correct polarity.

Power on your Eurorack system.

Enjoy!

Additional Information:

For any additional questions or support, please contact Tre Modular at
support@tremodular.com .

Happy patching!