

# Dizygote - User Manual

Firmware 0.0.1



## Dictionary

- CV - control voltage
- FM - frequency modulation
- VOCT - voltage per octave (pitch CV)
- VCA - voltage controlled amplifier

## Hardware

- 10 HP
- 35 mm deep
- 100 mA +12V
- 40 mA -12V
- 0 mA 5V

## Usage

dizygote is an a-side/b-side digital oscillator with a built-in envelope generator/VCA. the a-side builds harmonies with a square wave and frequency modulation (FM). the b-side distorts a sine wave with phase modulation. both oscillators output in stereo. they can be heard either together or individually based on toggling the module's state.

## Inputs:

Note: CV inputs do NOT have a circle graphics around their hex nuts

- **trig** - button and gate in can be used to trigger the internal envelope. This envelope will be applied to the active oscillator VCA.
- **switch** - button, gate in and two LEDs for toggling between the a and b oscillators. There are three possible states. If the left LED is on, the square wave oscillator will be output, if the right LED is on, the sine wave oscillator will be output, if both LEDs are on both oscillators will output sound.
- **length** - knob and CV in for changing the envelope length. at max length value, the oscillators will continue to play sounds regardless of whether or not the built in envelope is triggered.
- **mod** - knob and CV in for changing the FM (a/left square oscillator) and phase (b/right sine oscillator) modulation amounts
- **mfreq** - knob and CV in for changing the FM (a/left square oscillator) and phase (b/right sine oscillator) modulation frequencies
- **freq** - knob for setting the oscillator frequency
- **v/oct** - voltage per octave CV for modulating the oscillator frequency

## Outputs:

Note: CV outputs have a circle graphic around their hex nuts

- **out l and out r** - audio output
- **env** - CV envelope out based on the module's internal VCA envelope. The width of this envelope should be slightly squeezed; meaning, the peak of this envelope will match the VCA envelope but its total duration will be shorter. It can be delightful to feed this envelope into a filter further down the audio signal path.

## Additional Resources

<https://github.com/rawyawmedia/eurorack/tree/main/firmware>