Worng Electronics — Vector Space

- Manual PDF

WORNG Electronics Vector Space Manual (PDF)

WORNG Electronics Vector Space

Eurorack Cheat Sheet

Overview

Vector Space is an analog CV/mixing processor that combines 3 input sources into 17 unique, interrelated outputs for complex modulation and voltage processing.

- **Maximum input/output voltage:** ±10V
- **Accepts and generates CV/audio signals**

Quick Reference

Inputs

Jack	Function	Voltage Range	Switch	Switch Function
i	Main CV/ Audio Input 1	±5V or 0–10V	++ / +-	Choose bipolar (+/-5V) or unipolar (0–10V) operation. Switch acts as an offset when toggled.
j	Main CV/ Audio Input 2	±5V or 0–10V	++ / +-	As above
k	Main CV/ Audio Input 3	±5V or 0–10V	++ / +-	As above

- **Switches ("++/+-")** above each input select unipolar or bipolar range for that channel.
- **Offset:** Switching also offsets voltage regardless of unipolar/ bipolar for live use/performance.

Outputs

Cube Outputs (8 total)

- **Location:** Corners of the "cube" graphical diagram
- **Signal:** In- and out-of-phase combinations of i, j, k
- **LEDs:** Green (positive), Red (negative)
- **Voltage Range:** Typically within ±10V
- **Usage:** Quadrature LFO, panned audio, logic combinations

Plane Outputs (6 total)

- **Location:** Centers of the cube's faces/intersections
- **Signal:** Mix of 2x rectified inputs + one in/out of phase input
- **LEDs:** Gold (positive), Red (negative)
- **Special:** Outputs are always skewed positive, can double modulation frequency if input oscillator is bipolar
- **Voltage Range:** 0–10V typical (rectification skews toward positive)

Sphere Outputs (3 total)

- **Location:** Center column, with special LED indicators
- **Outputs:**
- **Sphere:** Sum of all rectified inputs (maximal "distance from center")
    - **LED:** Pink/purple nearby
    - **Voltage Range:** 0–10V typical
- **NegSphere:** Inverted Sphere output (negative sum)
    - **Voltage Range:** 0 to –10V typical
- **UnSphere:** "Distance to closest edge"; +5V when inputs are zero, drops as point moves outward
    - **LED:** White
    - **Voltage Range:** +5V (center), drops towards 0V (edges)
- **Usage:** Randomization, audio, special morphs/envelopes

Controls

- **3 Input Switches (labelled ++/+-):**
- Set for unipolar (0–10V) or bipolar (–5V to +5V) range for each input jack (i, j, k).
- Act as live offset for additional performance modulation.

Voltage Ranges

- **Input:** ±5V (bipolar) or 0–10V (unipolar) for all three input jacks

- **Output:** Up to ±10V (audio or CV) for all 17 outputs

Patch Tips

- **Generative counterpoint:** Three sequencers/randoms into i/j/k, Plane outs → quantizers → VCOs.
- **Ultimate LFO logic:** Three LFOs into inputs, use Plane/Cube/Sphere outs for complex modulations.
- **Spatialization (Quad/Cubic):** Joystick to i/j, Cube outs to VCAs for quad panning; add k for cubic.
- **Vector Synthesis:** Five VCO waveshapes → VCAs → mixer, VCAs modulated from Cube/UnSphere/joystick for timbre morphing.
- **Timbral garden:** Three close-frequency VCOs into i/j/k, audition all outputs for rich combinations/panning.

Installation Notes

- Fits any Eurorack case with +12V/-12V supply.
- **Current draw:** ~150 mA per rail
- **Ribbon cable:** Red stripe DOWN (marked "STRIPE")

Resources

WORNG Electronics Vector Space Manual (PDF)
Generated With Eurorack Processor