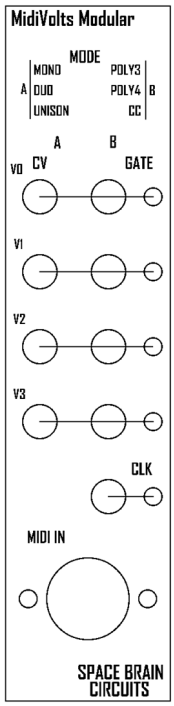
The **MidiVolts Modular** is a MIDI based 5 octave CV controller. The device contains 4 separate CV outputs with an associated Gate output. These CV outputs are called voices, and are named **V0**, **V1**, **V2**, **V3**. Each voice operates on the 1 volt per octave standard for eurorack and most hardware synthesizers. The device uses 6 different modes (**MONO, DUO, UNISON, POLY3, POLY4, CC**) to control each voice in different ways. See below for descriptions of each Mode. The device also contains a Midi to Clock output conversion and further customizations with SysEx midi messaging. Firmware versions may also be upgraded and/or changed by **USB** connection. Visit **github.com/spacebraincircuits/midivoltsmodular** for all operations and guide.

Power Source: DC power supply of +/- 12V ribbon cable provided.

DIV Switch: Determines which Mode is used to operate MidiVolts Modular. Options selectable by first choosing which column the Mode will access, as assigned by the **A | B** switch.

MIDI IN Jack: Connect MIDI Controller/ keyboard MIDI OUT to the MidiVolts Modular MIDI IN (**Channel 1**).

CV Jack: 3.5 mm jack used to output 1 V/Oct Control Voltages. Due to the outputs low output impedance (5Ω), multiple oscillators may be connected to any CV and retain precise voltages.



CLOCK Jack: The device will begin outputting clock pulses when it reads a Start/ Continue message. *Clock jack may be switched to act as a logic OR gate if desired.* (1KΩ Output Impedance)

GATE Jack: 3.5 mm jack used to output a 5V Gate Signal when a note has been pressed. (1KΩ Output Impedance)

The following may be adjustable with Midi SysEx messages.
Midi Channel : 1 - 16
CV Gain, **CV Offset** : These are adjustable per voice.
Pitch Bend Up, **Pitch Bend Down** : Specify the number of semitones.
CC1, **CC2**, **CC3** : May be assigned 0 - 127 as desired.
Lowest Midi Note: - Start of Midi Range (Default: 36).

MONO: Monophonic Mode

Voice 0 (V0) is Pitch CV for the key pressed.
Voice 1 (V1) is Velocity of key pressed.
Voice 2 (V2) is Aftertouch of key pressed.
Voice 3 (V3) is CC1. Default: Mod Wheel.

DUO: Duophonic Mode

Voice 0 (V0) is Pitch CV for first key pressed.
Voice 1 (V1) is Pitch CV for second key pressed.
Voice 2 (V2) is Velocity of first key pressed.
Voice 3 (V3) is Velocity of second key pressed.

UNISON: Unison Mode

The purpose of this mode is to aid in the tuning of all connected oscillators.

Voice 0 (V0) is Pitch CV for the key pressed.
Voice 1 (V1) is Pitch CV for the key pressed.
Voice 2 (V2) is Pitch CV for the key pressed.
Voice 3 (V3) is Pitch CV for the key pressed.

POLY3: 3 Voice Polyphonic Mode

Voice 0 (V0) is Pitch CV for the first key pressed.
Voice 1 (V1) is Pitch CV for the second key pressed.
Voice 2 (V2) is Pitch CV for the third key pressed.
Voice 3 (V3) is CC1. Default: Mod Wheel.

POLY4: 4 Voice Polyphonic Mode

Voice 0 (V0) is Pitch CV for the first key pressed.
Voice 1 (V1) is Pitch CV for the second key pressed.
Voice 2 (V2) is Pitch CV for the third key pressed.
Voice 3 (V3) is Pitch CV for the fourth key pressed.

CC: Continuous Control Mode

Voice 0 (V0) is Pitch CV for the key pressed.
Voice 1 (V1) is CC1. Default: Mod Wheel.
Voice 2 (V2) is CC2. Default: 74.
Voice 3 (V3) is CC3. Default: 71.

Key Logic: The MidiVolts Modular's key logic has a specific behavior so that the device may be used on devices with fewer VCA's than oscillators. When using the device in one of the Poly modes, the device will assign all oscillators to the pitch of the first note pressed. As more notes are pressed, the remaining oscillators will be reassigned until each oscillator is assigned an independent pitch. If more keys are pressed than allowable voices, the most recent pressed key will overwrite the previous, even if this key is still being held.

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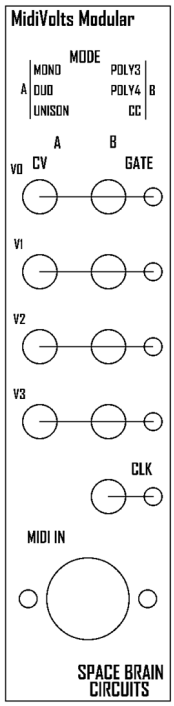

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Voice 2 (V2) is Velocity of first key pressed.
Voice 3 (V3) is Velocity of second key pressed.

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USER MANUAL

MidiVolts Modular

SPACE BRAIN CIRCUITS

SPACEBRAINCIRCUITS@GMAIL.COM

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SPACEBRAINCIRCUITS@GMAIL.COM