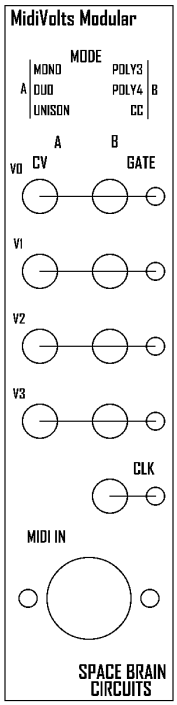
The **MidiVolts Modular** is a MIDI based 5 octave CV controller. The device contains 4 separate CV outputs with an associated Gate output. These CV outputs are called voices, and are named **V0**, **V1**, **V2**, **V3**. Each voice operates on the 1 volt per octave standard for eurorack and most hardware 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.



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.

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.

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.* (IKΩ Output Impedance)

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

Voice Allocation: The MidiVolts Desktop's key-assignment behavior can be changed depending on playing style and the gear being used. The available options are Normal (Default), Round Robin, and Pitch Order, assignable by SysEx. 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.
Normal (Default): Normal mode allows the MidiVolts Desktop to 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.
Round Robin: Each key press is assigned to the next voice, cycling though all voices evenly.
Pitch Order: Voices are assigned according to note pitch, with lower notes routed to lower-numbered voices.

Voice Offset: Voice Offset allows the MidiVolts Desktop to ignore the first set of incoming notes and begin generating a response only after those notes have been consumed by another synthesizer. This means your paraphonic synth handles the first voices, while the MidiVolts Desktop picks up the additional voices afterward. This makes it ideal for adding extra voices to existing paraphonic setups without interfering with the synth's own internal voice allocation.

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.

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.

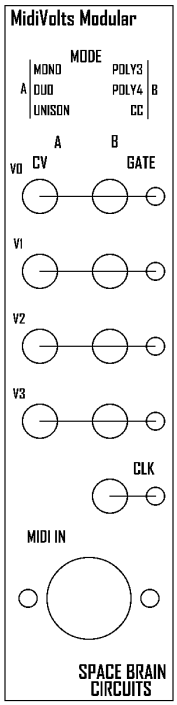
POLY4: 4 Voice Polyphonic Mode
Voice 0 (V0) is Pitch CV for the first key pressed.
Voice 1 (V1) is Pitch CV for the second key pressed.
Voice 2 (V2) is Pitch CV for the third key pressed.
Voice 3 (V3) is Pitch CV for the fourth key pressed.

CC: Continuous Control Mode
Voice 0 (V0) is Pitch CV for the key pressed or CC0 if assigned by SysEx.
Voice 1 (V1) is CC1. Default: Mod Wheel.
Voice 2 (V2) is CC2. Default: 74.
Voice 3 (V3) is CC3. Default: 71.

The following may be adjustable with Midi SysEx messages.

Midi Channel : 1 - 16 **CV Gain**, **CV Offset** : These are adjustable per voice. **PPQN:** Change ppqn of clock division.
Pitch Bend Up, **Pitch Bend Down** : Specify the number of semitones. **Voice Allocation:** Normal (Default), Round Robin, or Pitch Order. **Voice Offset:** Offset operation by number of midi notes played: 0-8 (Default: 0—none) **Hold Gate For Release:** Gate is retained if all notes are released at same time.

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.



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.

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.

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.* (IKΩ Output Impedance)

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

Voice Allocation: The MidiVolts Desktop's key-assignment behavior can be changed depending on playing style and the gear being used. The available options are Normal (Default), Round Robin, and Pitch Order, assignable by SysEx. 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.
Normal (Default): Normal mode allows the MidiVolts Desktop to 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.
Round Robin: Each key press is assigned to the next voice, cycling though all voices evenly.
Pitch Order: Voices are assigned according to note pitch, with lower notes routed to lower-numbered voices.

Voice Offset: Voice Offset allows the MidiVolts Desktop to ignore the first set of incoming notes and begin generating a response only after those notes have been consumed by another synthesizer. This means your paraphonic synth handles the first voices, while the MidiVolts Desktop picks up the additional voices afterward. This makes it ideal for adding extra voices to existing paraphonic setups without interfering with the synth's own internal voice allocation.

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.

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 or CC0 if assigned by SysEx.
Voice 1 (V1) is CC1. Default: Mod Wheel.
Voice 2 (V2) is CC2. Default: 74.
Voice 3 (V3) is CC3. Default: 71.

The following may be adjustable with Midi SysEx messages.

Midi Channel : 1 - 16 **CV Gain**, **CV Offset** : These are adjustable per voice. **PPQN:** Change ppqn of clock division.
Pitch Bend Up, **Pitch Bend Down** : Specify the number of semitones. **Voice Allocation:** Normal (Default), Round Robin, or Pitch Order. **Voice Offset:** Offset operation by number of midi notes played: 0-8 (Default: 0—none) **Hold Gate For Release:** Gate is retained if all notes are released at same time.

SPACEBRAINCIRCUITS@GMAIL.COM

SPACE BRAIN CIRCUITS

MidiVolts Modular

4 VOICE CV CONTROLLER

USER MANUAL

SPACEBRAINCIRCUITS@GMAIL.COM

SPACE BRAIN CIRCUITS

MidiVolts Modular

4 VOICE CV CONTROLLER

USER MANUAL