

# μMIDI2CVPLUS



Manual v1.0



# OVERVIEW

DSP Synthesizers uMIDI2CVplus is a USB-MIDI to CV interface enabling you to control a modular system or analog synth from a computer or smartphone/tablet equipped with a USB port. It is class-compliant and does not require any driver. It features Volt/octave and drum-trigger conversion.

- The uMIDI2CVplus is a **USB device** not a **USB host!** It can be connected to devices such as smartphones, tablets, laptop or desktop computers, but not to USB MIDI controllers.
- The CV output is for Volt/octave in the 0 to 5V range. Note range is C2 - C7
- The Gate output uses V-trig with 0/5V.

## OPERATING MODES

The uMIDI2CV interprets MIDI messages differently depending on the MIDI channel on which they are received. For example, when receiving messages on MIDI channel 1, it uses the Volt/octave and outputs a CV/Gate pair. When receiving messages on MIDI channel 10, it outputs a trigger for 4 drum instruments.

### Channel 1: Monophonic Volt/octave mode

This mode is enabled when any MIDI message is received on channel 1. The USB-MIDI2CVplus behaves like a classic monophonic Volt/octave - Gate converter using most recent note priority.

- PITCH: 1volt/octave Note CV
- GATE: Gate on/off
- CV1: MIDI-CC #01 CV output 0-5volt
- CV2: MIDI-CC #07 CV output 0-5volt

### Channel 10: Drums

This mode is enabled when a MIDI message is received on channel 10. PITCH and GATE are triggered by the MIDI notes 36 and 38 CV outputs 1 and 2 are triggered by the MIDI note 40 and 41

- PITCH: note 36 trigger output 0/5volt
- GATE: note 38 trigger output 0/5volt
- CV1: note 40 trigger output 0/5volt
- CV2: note 41 trigger output 0/5volt

## **Scaling & Tuning**

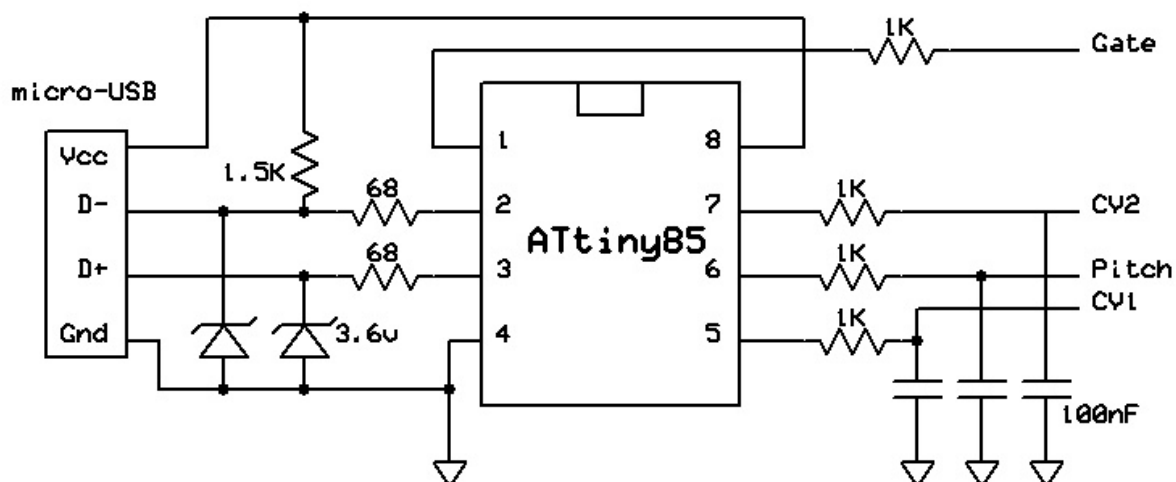
Some synthesizers may play out of tune due to different reasons so the scaling and tuning may be adjusted by sending MIDI-CC #03 and MIDI-CC #09.

CC #03 shifts the voltage up or down in 25 cent steps.

CC #09 stretches or shrinks the 1 volt/octave scale.

- MIDI-CC #03 set the tuning +/- 1 octave in 25 cent steps. 64 is 0 tuning.
- MIDI-CC #09 adjusts the total tracking scale in +/- 16 steps. 64 is default 1 volt/octave.

## Hardware schematics



## V-USB Open-Source Disclaimer

The module is based on an ATtiny85 MCU programmed with V-USB firmware that makes it able to handle USB communication without any USB controller.

The V-USB library can be found here: <https://www.obdev.at/products/vusb/index.html>



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## Contact & Support

For support and questions please use these contact addresses:

Website: <http://www.dspsynth.eu>

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