

# Voice of Saturn Voltage Controlled Filter

## Operating Guide

**Support:** [CuriousInventor.com/forums](http://CuriousInventor.com/forums)

**Description:** The VoS Voltage Controlled Filter is based around a CEM3372 filter IC (4-pole resonant low-pass filter)—the same chips found in the filters of such analog classics as the Sequential Circuits Prophet 600, Prophet T8 and Oberheim Xpander. It features two inputs that are summed and then fed into the low-pass filter. The input and output volumes, cutoff frequency and resonance can all be controlled by VC (voltage control) and knobs.

One very cool feature of the CEM series filter chips is that as the resonance is turned up, the volume level does not drop as dramatically (as it does in other analogs, including the famous Moog Ladder Filter).



**Cutoff CV (0-5V):** Input control for the cutoff frequency of the filter

**Cutoff Knob:** Adds an offset to the cutoff CV signal—be sure to set this all the way counter-clockwise if using the CV. If either the CV or knob is maxed out, the other control input will have no effect.

**Res CV (0-5V):** Input control for the resonance, or feedback of the filter.

**Resonance Knob:** Adds an offset to the resonance CV signal—be sure to set this all the way counter-clockwise if using the CV. If either the CV or knob is maxed out, the other control input will have no effect.

**In A:** Audio channel A input

**In B:** Audio channel B input

**In A CV:** Control voltage input for channel A (controls the volume of the input).

**In B CV:** Control voltage input for channel B (controls the volume of the input).

**In A Vol Knob :** Adds an offset to the In A CV signal. If no signal is connected, it simply acts as a volume knob.

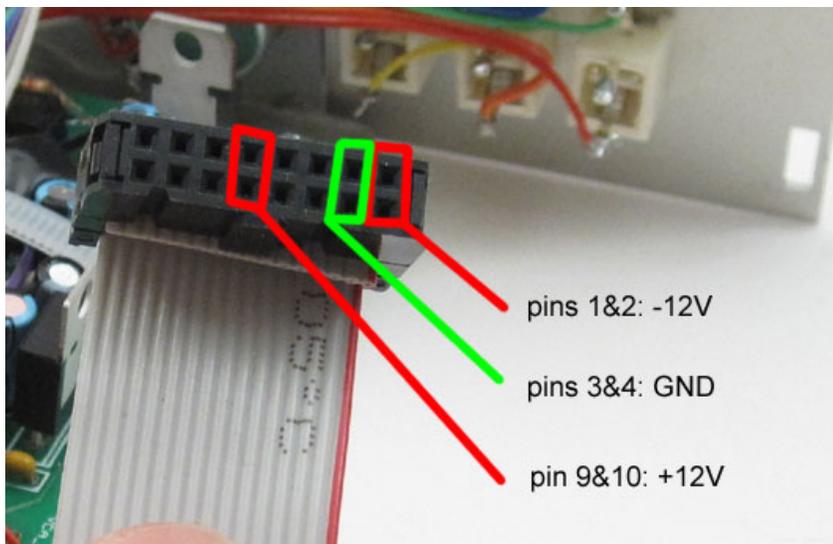
**In B Vol Knob:** Adds an offset to the In B CV signal. If no signal is connected, it simply acts as a volume knob.

**Output:** Audio output (sum of A & B)

**Output CV:** Control voltage for outputs signal (controls volume of the output).

**Output Vol Knob:** Adds an offset to the Output CV signal. If no signal is connected, it simply acts as a volume knob.

**Power:** The filter can operate on +9 to +15V. The eurorack version comes with a standard doepfer power bus 16 pin IDC socket with the following connections:



**Getting Started (suggested setup):** Get an audio source (such as a Voice of Saturn Synth) and connect its output to In A. Set the In A Vol to about the 1 o'clock position, the Cutoff to 5 o'clock, the Resonance to 12 o'clock, and the Output Vol knob all the way to the right. You should hear the filtered sound, and be able to change it with the cutoff knob. Experiment with different Cutoff and Resonance settings.

If the resonance knob or CV is all the way up, it will self resonate.