

BOARD MEMBER

CV/Expression Controlled Voltage Sag

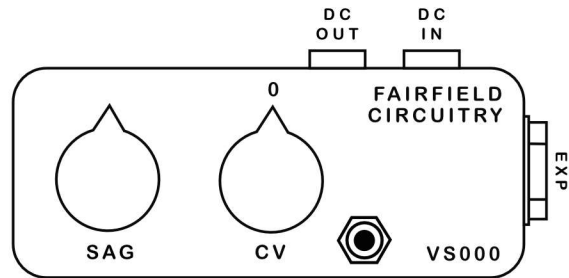
enthusiastic (to learn) about governance... brilliant career move... independent governing (bodies)... ultimately responsible... make connections... you are liable... Climb the ladder...

Voltage controlling voltage. A new, much more annoying way of patching signals together.

Pairs particularly well with modular/semi-modular signals, giving LFOs, sequencers and (especially) envelopes new ways of interacting with pedals that don't have CV capabilities.

Bipolar CV/expression to either flake out or come alive. Unexpected fuzz sounds, chirps and weird decays abound.

This is a volunteer position.



DISCLAIMER

Voltage sag in general is mostly interesting with simple analog circuits with relatively simple internal power conditioning and true bypass switching. This sadly rules out many modern "boutique" pedals, which are trending towards complexity. Overdrives usually work quite well. Vintage or cheap effects tend to reveal the most interesting non-linearities. Some simpler digital effects with internal clocks can get wild, but anything microcontroller based is a no-go.

Check the compatibility list at fairfieldcircuitry.com

CONTROLS

SAG

Controls the base output voltage, clockwise being fully powered and counter-clockwise providing almost no voltage output.

CV

Attenuverter for the CV/expression inputs.

Setting this to noon will null the incoming CV/exp, clockwise will make positive CV increase the output voltage, while counter-clockwise will make it decrease the output voltage.

CONNECTIONS

CV

1/8" CV input
This port reacts to bipolar CV

EXP

TRS expression pedal input or TS alternate CV input
Positive voltage only

DC In

2.1mm 9VDC centre-negative tip
See notes on powering

DC Out

2.1mm 0 - 9VDC centre-negative tip
To whatever pedal you want to effect

NOTES ON POWERING

Board Member was designed to operate using your typical centre negative, regulated 9 - 9.6 VDC power supply. Its output voltage is, at maximum, one schottky diode drop below the input voltage, which should not be noticeable in practice.

The pedal and the pedal it is powering are protected against reversed polarity conditions. If the DC inputs / outputs are reversed, the power will safely pass through unaffected.

Board Member has a current draw of 10mA. Fast changes in voltage, such as sending an oscillator to the CV input can momentarily create transient current spikes, to be completely safe and not overwork your PSU, we recommend at least 30mA of headroom in addition to the connected pedal's current draw.

Always check your power supply for proper voltage and polarity before connecting. There is no battery connection inside the pedal.

18V OPERATION

Board Member can safely sag 18V pedals. Simply power it with a 18 VDC power supply. The range trimpot, TP2, will need to be adjusted counter-clockwise, following the procedure below.

The range jumper will cease to be useful at 18v, set it to "Low" for easier calibration.

REVERSE POLARITY

Board Member cannot be used with a center positive power supply. If you need to power a center positive pedal, use a polarity reversal cable after Board Member, i.e. between it and the pedal you are powering.

INTERNAL CONTROLS

RANGE JUMPER

The voltage range of Board Member depends on the current draw of the connected pedal. An internal jumper allows the user to select between high and low current draw.

Some overdrives, like the Barbershop, have very low current requirements, some others can tolerate very low voltages and still sound fine. Meaning that even when the Sag knob is fully CCW, you won't hear much of an effect. Moving the jumper to the "Low" position makes Board Member much more usable for pedals in the 0-30mA range.

In that setting, it will not properly power more complex pedals such as Randy's Revenge or Meet Maude. Board Member ships with the jumper set to "High"

RANGE TRIMPOT / CALIBRATION

TR2 (u shouldn't) adjusts the output range. You probably shouldn't have to touch this. The default setting should be more than enough to power pedals up to 100mA, which should cover most pedals that you would want to use this with. But if you're adventurous, it can be useful in certain cases.

Adjusting the trimpot clockwise will allow it to go over this 100mA limit, allowing it to fully power some more complex pedals. You can also tune the range to a specific pedal you're pairing it with to maximize sweet spots.

It is recommended to have a voltmeter or oscilloscope connected to TP3 to perform this adjustment. No CV should be connected and the SAG knob should be fully clockwise.

You can then connect your pedal and check the output voltage on TP3. Adjust the trimpot until it reaches 9 - 9.6V. We usually calibrate it so that the middle of the SAG knob's travel corresponds to ~6V at the output.

If you don't have a scope, rest assured, the nature of the circuit makes it so that the output cannot get over 9.6V and fry your pedal. Simply trim until the pedal subjectively sounds fully powered and the connected pedal's LEDs are well lit. It is a bit finicky, but you'll get there.

Board Member has been carefully tested and can safely dissipate up to 9.6V / 300mA (~3W). Probably much more.

Since we mostly anticipate low current use, heat dissipation measures haven't really been implemented so going over 300mA is not recommended. In the rare case where you'd want to sag something beefier than that (an analog synth maybe?), hit up support@fairfieldcircuitry.com and we'll walk you through it.

TR1 sets the bias of the CV attenuverter, it should not need to be adjusted. If you feel like the attenuverter's behaviour is peculiar, contact support@fairfieldcircuitry.com

TECHNICALS

• dimensions	3.6" x 1.5"
• CV input range	+/- 5V normal ; +/- 8V max
• EXP input range	0 - 5V normal ; 0 - 8V max
• power supply	9 to 18 VDC
• current draw	10mA @ 9.6 VDC

EXTENDED WARRANTY

Fairfield Circuitry will repair or replace any malfunctioning product for a period of 2 years after purchase date. Problems resulting from modifications or misuse may cancel this warranty. The owner will cover all shipping expenses.

In short, the best thing to do is to contact us as soon as possible with a description of the symptoms, even if the warranty is expired.

INTERACTIONS

