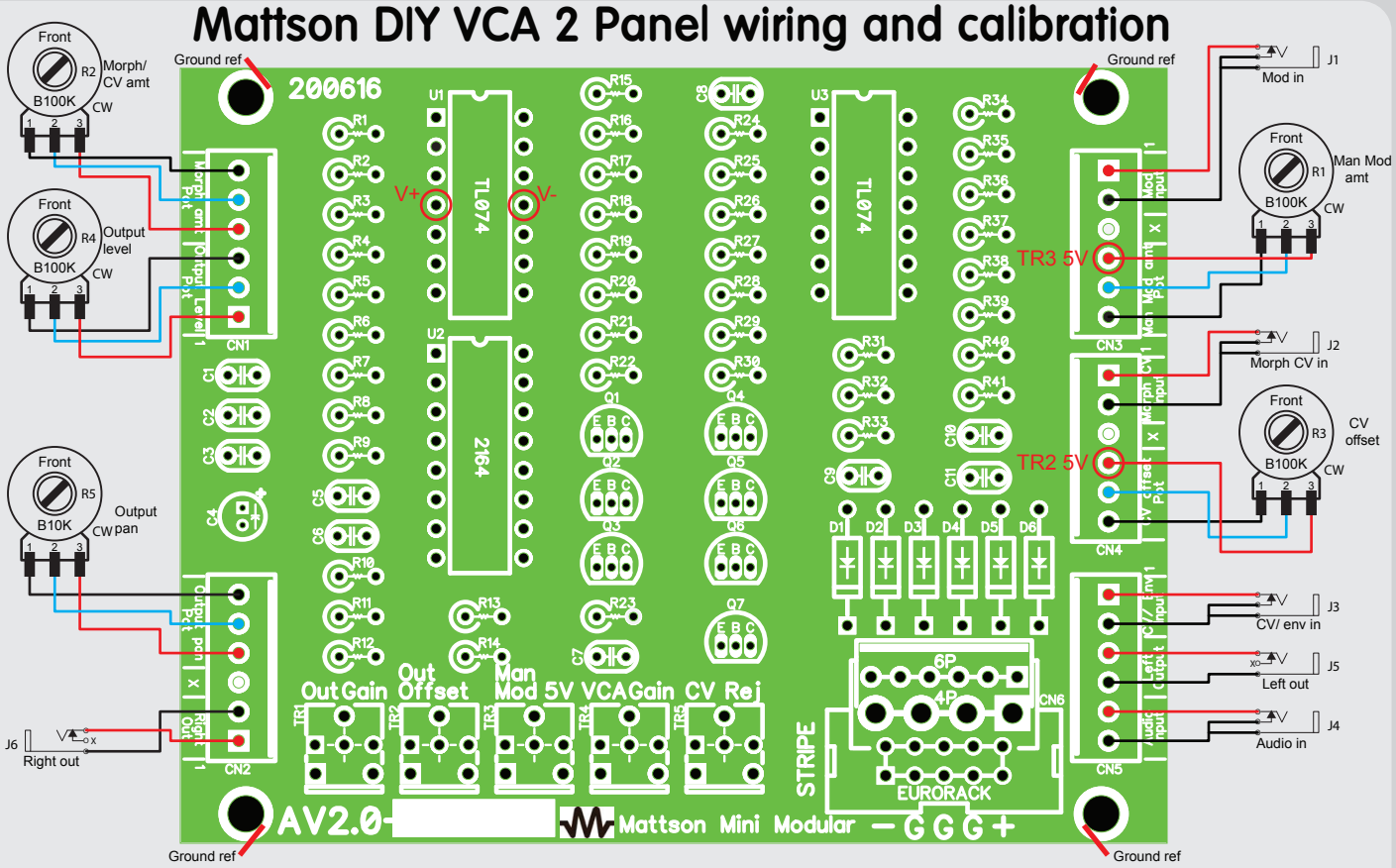
Mattson DIY VCA 2 Panel wiring and calibration



Panel components required:

Qty 6, TS Jacks, switched, Normally closed. J1-J6
Qty 4, B100K Potentiometers (Linear). R1-R4
Qty 1, B10K Potentiometer (Linear). R5

MMM VCA 2 Calibration

Required test equipment:

*Volt meter capable of measuring DC volts.
*Audio source. Preferably Triangle or Sine waveforms 5V Peak (10V P-P)
*Additional audio or low frequency source. Same specs as above.
*2-channel oscilloscope or a mixer input with a VU meter.

Initial VCA 2 module configuration:

*No connection to any of the inputs or outputs.
*Set fully CCW: Man mod amt, Morph CV amt and CV offset.
*Set fully CW: Output level.
*Center: Output pan.
*Center all trim pots TR1-TR5.

Apply power to the VCA 2 module: Either bipolar 12V or 15V.
Verify that power is available to the module:
Using a DC volt meter, measure between ground (one of the corner mounting holes) and:
*U1 (TL074) Pin 4: Should read V+ less about a volt.
*U1 (TL074) Pin 11: Should read V- plus about a volt.

Trim pot calibrations:

Trim pots TR2 and TR3 are used to set 5V to the CV offset and Man mod pots to emulate a 5VDC signal to the unbalanced gain and the modulation amp gain busses respectively. Use the following procedure to adjust:

Using the DC volt meter:

*Measure between a corner ground and **CN4 pin 4**. Adjust **TR2** until the meter reads 5V.
*Measure between a corner ground and **CN3 pin 4**. Adjust **TR3** until the meter reads 5V.

Measure the audio signal source amplitude with an oscilloscope or by plugging it into a mixer channel and noting the meter level.

*Patch the audio signal into the VCA 2 Audio in jack.Rotate the CV offset full CW. Patch either L or R output into the same mixer channel or measure output with an oscilloscope.
*Adjust **TR1** until the output level matches the input level. (TR1 adjusts the output amp level)

Leaving the audio signal setup as is, Apply a second signal source or LFO into the Mod in jack. Rotate the Man mod amount full CW.

*Adjust **TR4** until the original audio signal disappears and only the side tones remain if using audio modulation. Or until the tremelo rate doubles if using a low frequency sub-audio modulation source.
* **TR5** is a CV reject adjustment and should remain in the center position.