VACTROL CV CONTROLLER KIT

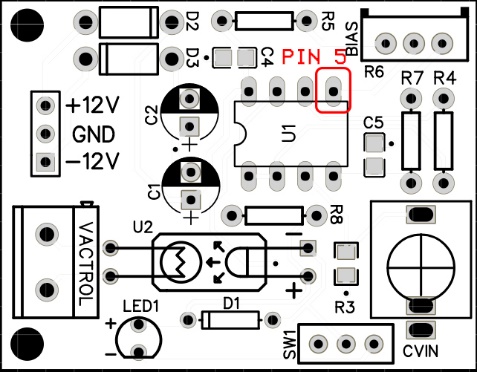
designed by hzinside

This module is a constant current circuit for driving vactrols to provide cv control over parameters that are controlled by a potentiometer or resistance. It is an add-on board for modifying a module. It features a bias trimmer for the LEDs, to adjust the range of the LED. An additional LED is in the circuit to provide visual feedback of LED inside the vactrol.

There are multiple ways to configure this module. The parts can be mounted directly on the board or attached with wires for panel mounting. Depending on your power source, the electrolytic caps may be omitted. The visual feedback LED can be removed as well. The switch can also be omitted by connecting two of the pads together for an always on setting. Omitting D1 will likely burn out your LEDs, so this part is required.

Power is provided via a 3 pin header on the board for +12V, -12V and GND. Pins may be used or wires may be soldered into the pads depending on your preference. Reverse power protection is included via diodes D2 and D3. If feel that you do not need the protection, these can be replaced with a wire, 10 ohm resistor, or some ferrite beads.

When building this board, install all components except the TL072 opamp. Power the board and measure the voltage on pin #5 (indicated in red in the below image). Adjust the BIAS trimmer (R6) until you read around 0v. The TL072 can then be installed. Once installed, the trimmer can be adjusted to your preference.



Vactrols may be purchased or can be made yourself with a photoresistor and a LED sealed inside some heat shrink tubing. A photoresistor is also known as a photocell, or light-dependent resistor, LDR, or photo-conductive cell. There are many resources for information regarding building your own vactrols, so I will not include that information here.

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