TRIWATT

OD Footswitch Builder's Guide

3V

May 2020, Version 1.1

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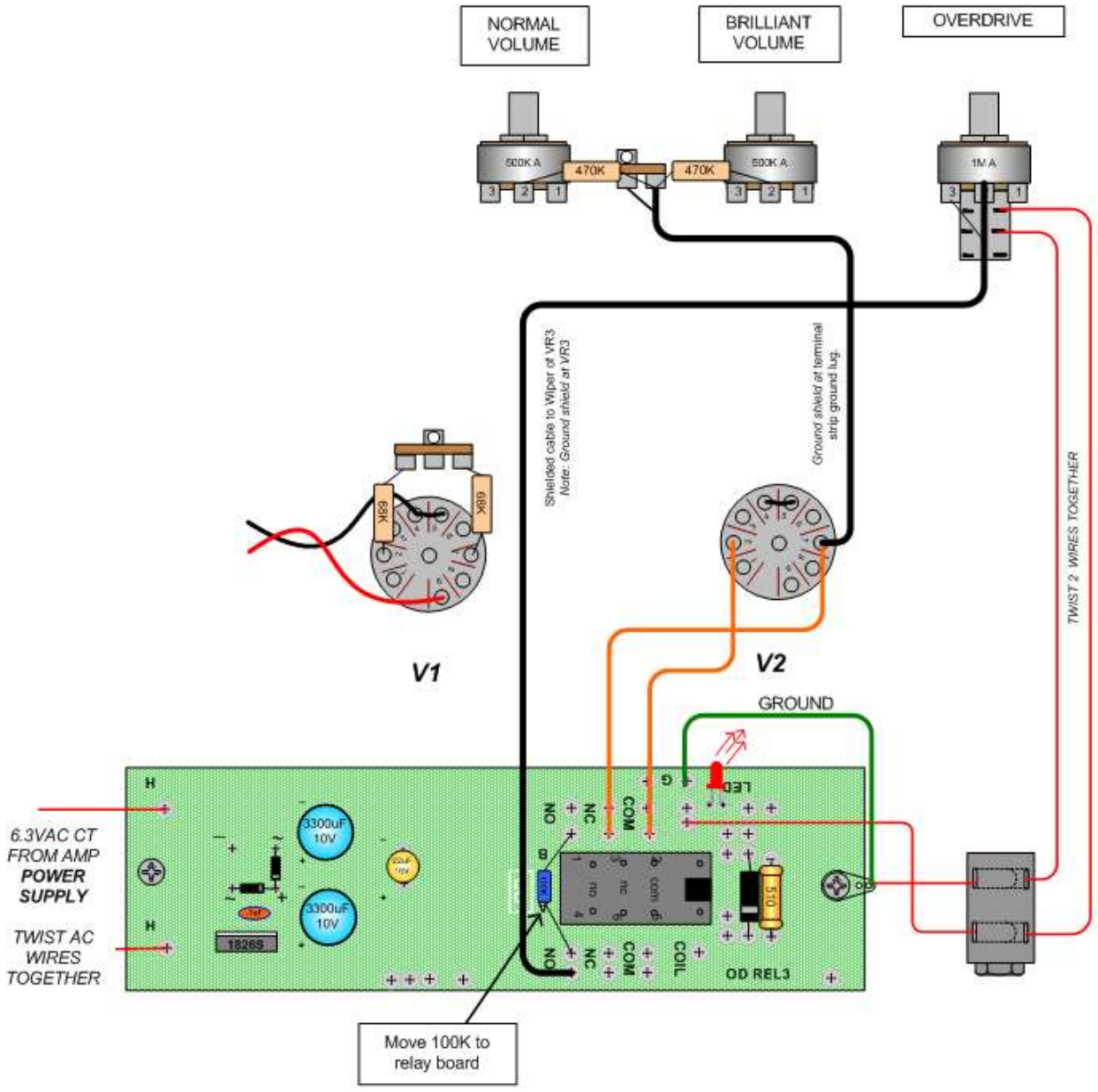
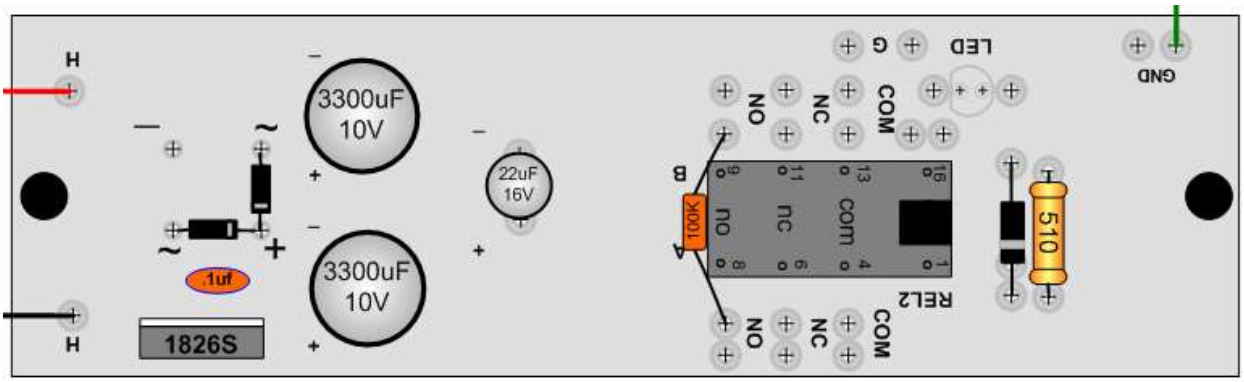
Contents

TRIWATT Overdrive Footswitch using Centre Tapped Heater Leads



TRIWATT FOOTSWITCH RELAY BOARD INSTALLATION LAYOUT



TRIWATT FOOTSWITCH RELAY BOARD COMPONENT LOCATION

Build the Relay PCB following the *Footswitch Relay Board Component Location*.

Locate the:

1 - Relay PCB
1 - Linear Voltage Reg MCP1826S 3V 1A
2 - Al. El. Cap. - 3300uf 10V
1 - Multilayer Cer. Cap Leaded 0.1uf
1 – Tantalum Capacitor 22uf 16V
1 - Standard LED - RED
1 - Low Signal 3V RELAY OMRON G5V-2-H1 DC3 Thru hole
1 - Carb. Film Res. - 510 Ohms
3- Rectifier 1N4007, 1000V 1A Glass Passivated
6 - #4 X ½ "Screws; #4 X ¼" Nylon Spacers.
1 #4 Chassis Lug
1- Cliff Jack

GENERAL: On the PCB locate and then insert each component then bend the leads slightly, just enough to keep it in place while you turn it over and solder it in place. While keeping your soldering iron at a 45 degree angle to your work, let the tip of your iron contact both the lead of your component and PCB at the same time. Apply the solder from the opposite side from the tip. Heat the surfaces until solder flows freely to the tip side of the work. Be careful not to overheat the pad as this can damage the PCB by lifting the pad from the board.

When finished soldering, let the joint cool and then snip off the excess leads.

RELAY BOARD - BARE

BUILD THE RELAY BOARD

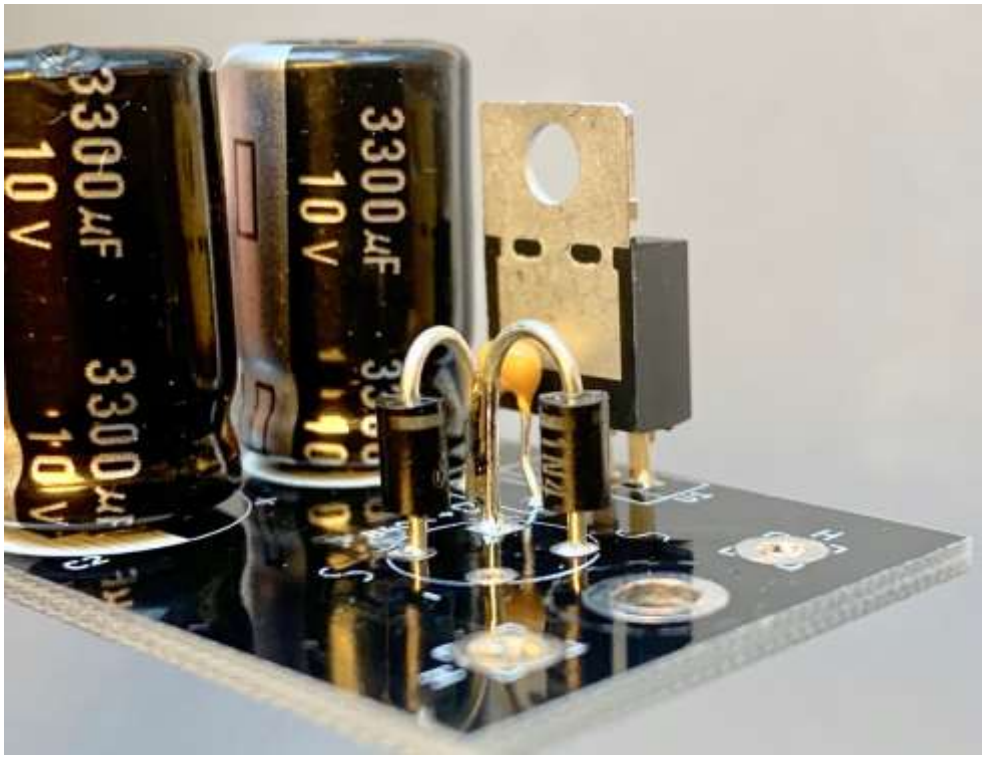
First install the 510R resistor.

Next, install the IN4007 diode paying attention to the correct orientation of the marked end. Diode Orientation: Pay particular attention to the orientation of the diodes when they are installed. Even though Rectifier diodes are quite robust and require no special precautions for soldering them, use a minimum amount of heat.

DIODES must be connected the correct way round, and circuit diagrams may be labeled 'a' or '+' for anode and 'k' or '-' for cathode (yes, it really is 'k', not 'c', for cathode!). The cathode is marked by a line painted on the body of the diode. Diodes are labeled with their code in small print, and you may need a magnifying glass to read!

Install the two RECTIFYING DIODES into the AC pads with arrows pointing away. This is very important. Bend the diode leads 180 degrees. Locate one correctly and insert it into the PCB. The arrow faces the 3300uF filter caps. Solder it in place.

Repeat with the second diode but solder the bent lead to the other diode lead.

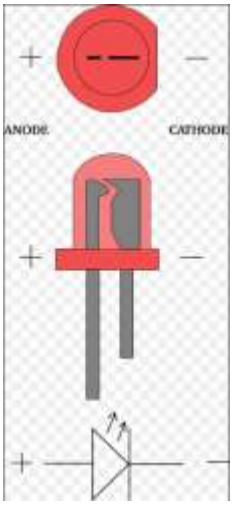


Install the 0.1uf power supply capacitor. Install the 22uf power supply capacitor

Familiarize yourself with the LED. They have one flat side (cathode) and one anode, the long lead, which is positive. The PCB pad for the anode is square and is printed onto the PCB. These LEDs are optional but will help to test the amplifier RELAY circuitry so they are recommended to be installed. You can also drill a hole in the front panel and run a wire to the front panel so the relay operation is visible by looking at the amp.

Bend the leads to 90 degree at about ¼" from the LED base.

Install the cathode and anode leads into the correct holes by looking at the PCB printing. You will see a flat side to the circle labelled LED. Solder in place.



Familiarize yourself with the RELAY. It will go into the PCB one way. There is a NOTCH at the COIL end. Insert them into the board with the NOTCH/COIL end towards the 510R resistor and solder them in place.

Familiarize yourself with the 2 – 3000uf POWER SUPPLY FILTER CAPACITORS. They have a positive (+) lead and must be installed correctly. The PCB is marked with the correct orientation. Insert them into the board and solder them in place.

Finally, familiarize yourself with the MCP1826S, 3V Linear Voltage Reg 1A. It is a good idea to 'ground' your body to make sure static does not destroy the semiconductor.

Note that it has a metal tab on one side. This faces "inwards" towards the Bridge Rectifier. The PCB is marked with the correct orientation. Insert it into the board and solder it in place.

INSTALLATION

1. Install the Footswitch Cliff Jack (jack MUST be insulated from Chassis)
2. Install the Footswitch Relay Board on standoffs onto the chassis
3. Twist the two 6.3VAC wires from V1 to the 'H' terminals on the Relay board.
4. Connect coaxial cable to the front panel; Connect coaxial cable to the front panel to V2
5. Connect wires to tubes socket (V2) footswitch jack and front panel switch, carefully following the ***TRIWATT FOOTSWITCH RELAY BOARD INSTALLATION LAYOUT***
6. Test the Relay operation.
7. Test the OD operation on the working amp.

Move 100K to relay board