TRIWATT

OD Footswitch Builder's Guide

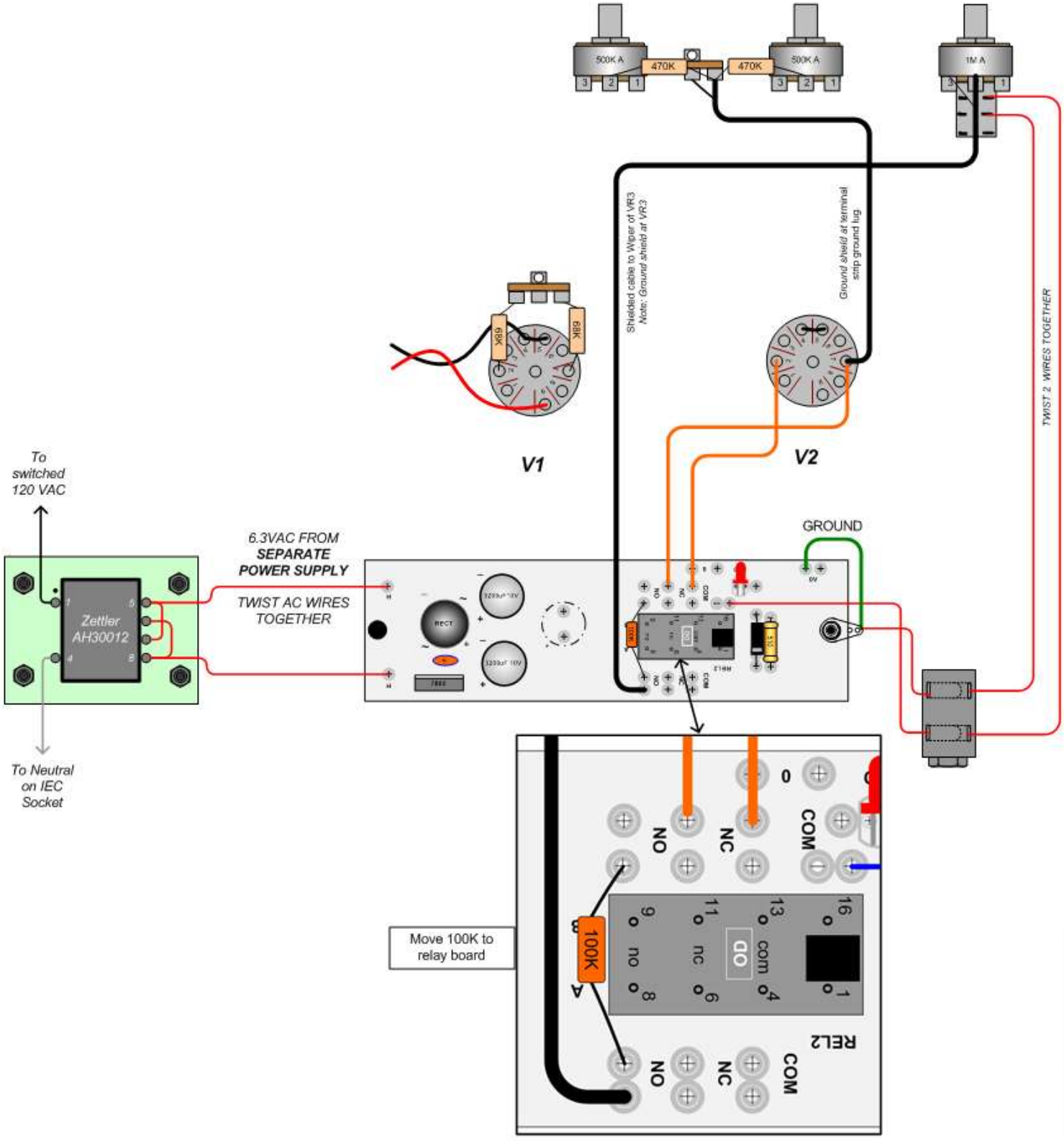
5V

May 2020, Version 21.1

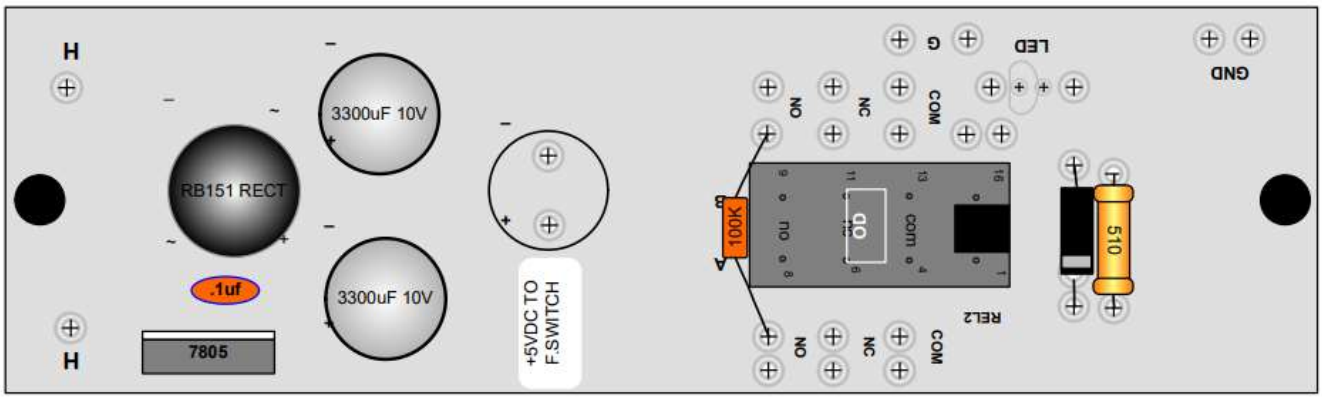
www.trinityamps.com

Contents

TRIWATT Overdrive Footswitch with Outboard Transformer



TRIWATT FOOTSWITCH RELAY BOARD INSTALLATION LAYOUT



TRIWATT FOOTSWITCH RELAY BOARD COMPONENT LOCATION

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

Locate the:

1 - Relay PCB
1 - Linear Voltage Reg 1A
2 - Al. El. Cap. - 3300uf 10V
1 - Multilayer Cer. Cap Leaded 0.1uf
1 - Standard LED - RED
1 - Low Signal RELAY PCB Thru hole
1 - Carb. Film Res. - 510 Ohms
1 - Bridge Rectifier 1.5A,50v
1 - IN4007 Diode 1000V 1A Glass Passivated
1- 100K metal film resistor
6 - #4 X ¾"Screws;
6- ¼" long Nylon stand-offs
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!

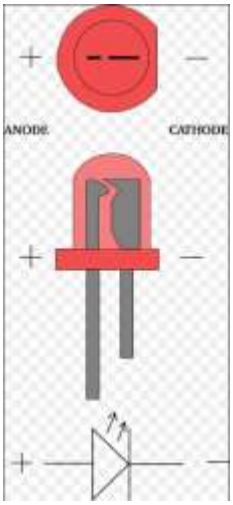
Install the 0.1uf power supply capacitor

Familiarize yourself with the Bridge Rectifier. There is a positive (+)orientation to this. Device and it is very important. Locate it correctly (long lead is positive) and insert it into the PCB. The Positive lead faces the 3300uF filter caps. Solder it in place.

Familiarize yourself with the LED. LEDs 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.

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.

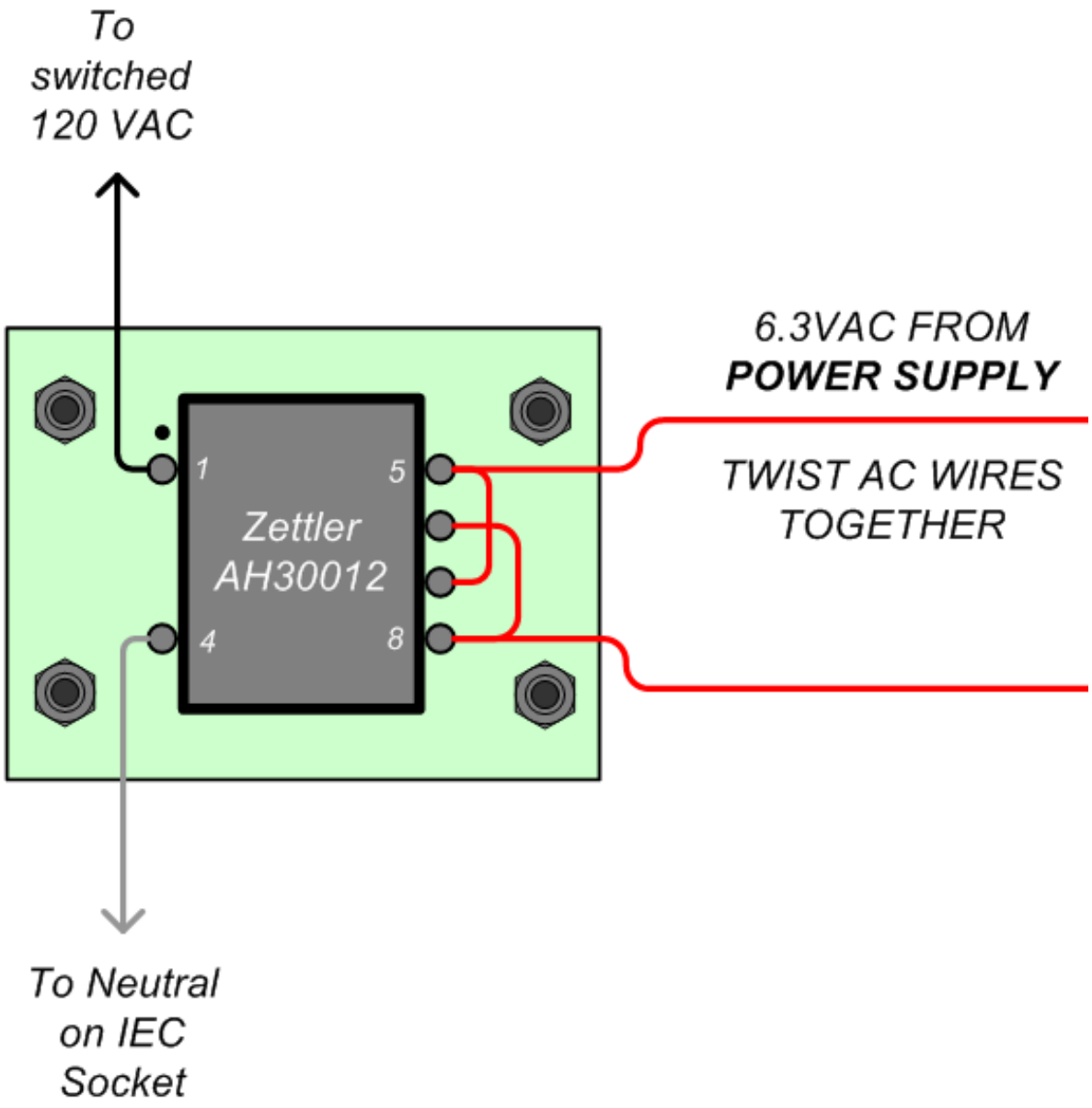
Familiarize yourself with the 2 – 3000uf Power Supply Filter Capacitors. They have a positive (+) lead and must be installed correctly. The PCB is marked with the correct orientation. Insert them into the board and solder them in place.

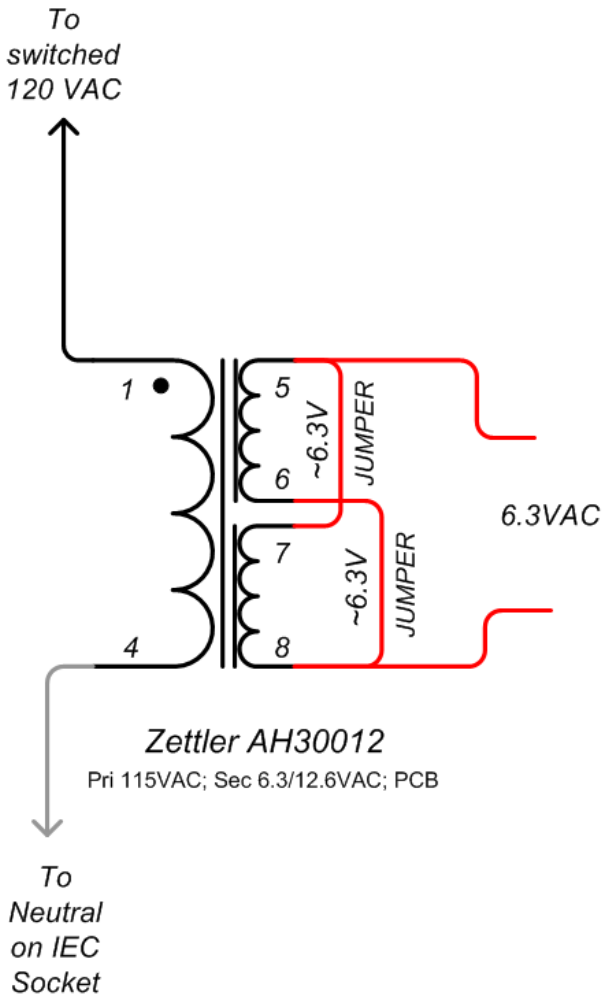
Finally, familiarize yourself with the LM7805, 5V Linear Voltage Reg 1A. It is a good idea to 'ground' your body to make sure static does not destroy the semiconductor.

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.

BUILD THE POWER TRANSFORMER BOARD

1. Align the Small power transformer pins to fit the holes in the supplied PCB. Solder Jumpers as required.





2. Install the Footswitch Cliff Jack (jack MUST be insulated from Chassis)
3. Install the Footswitch Relay Board on standoffs onto the chassis
4. Twist two 6.3VAC wires from the Transformer board secondaries and solder to the 'H' terminals on the Relay board.
5. Connect the switched 120V AC from Power switch ON position, (White/Red Black/Red) to the transformer board Primary Side. (Pin 1)
6. Connect Neutral from IEC socket to the Transformer board Primary Side. (Pin 4)
7. Connect coaxial cable to the fro
8. nt panel; Connect coaxial cable to the front panel to V2
9. Connect wires to tubes socket (V2) footswitch jack and front panel switch, carefully following the ***TRIWATT FOOTSWITCH RELAY BOARD INSTALLATION LAYOUT***
10. Test the Relay operation.

11. Test the OD operation on the working amp.