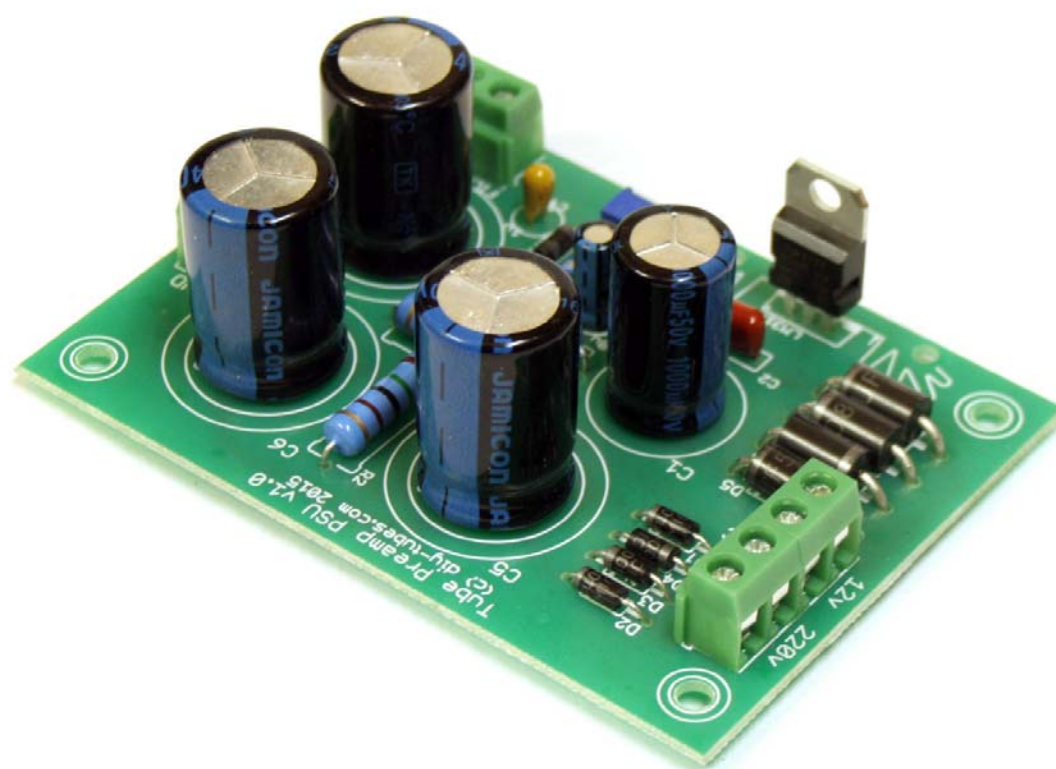


# Power Supply for guitar tube preamp (plate, filament)

## **Warning**

This document is distributed for educational purposes only. This equipment operates at **potentially lethal voltages**. Only trained, qualified personnel should operate, maintain, or service it.

## Plate and filament PSU PCB



The kit includes:

PCB

Rectifiers

Resistors

Film Capacitors

Electrolytic capacitors

Trimmer

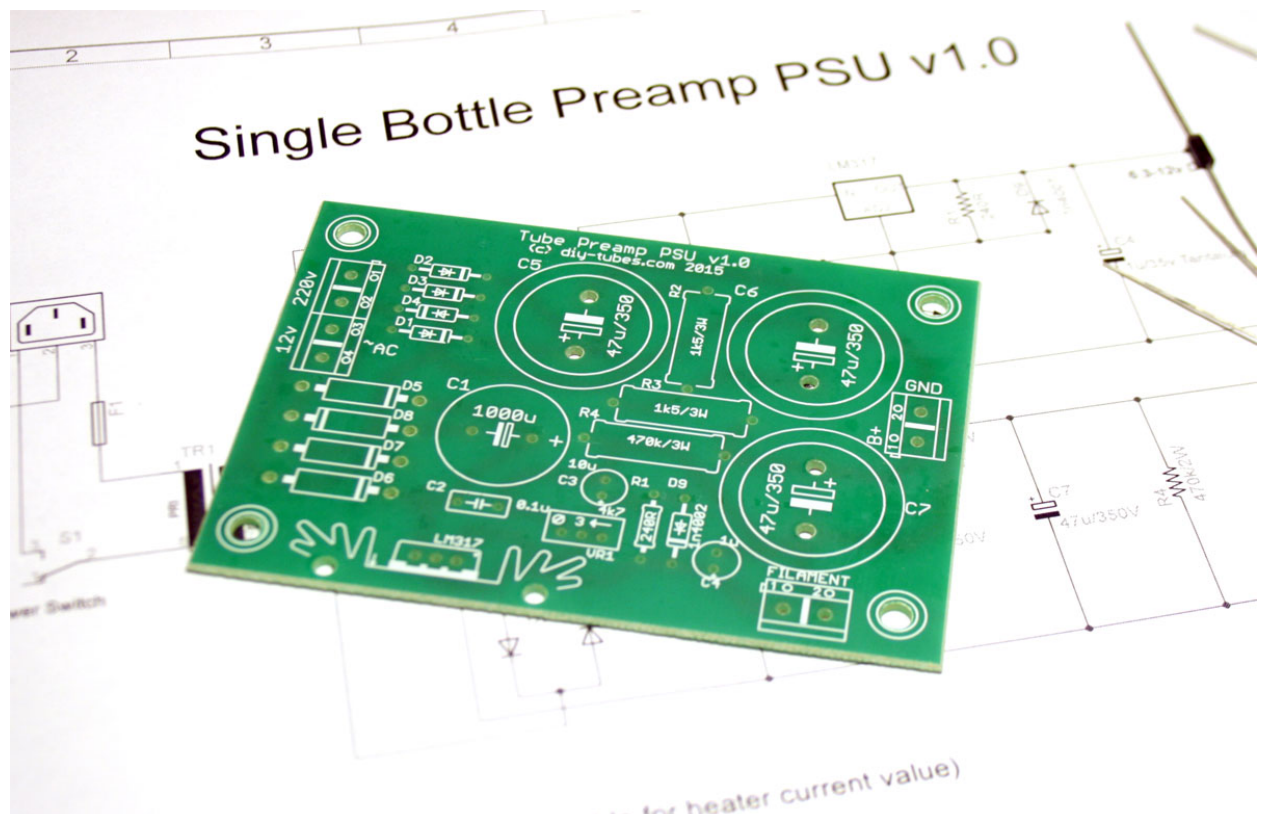
Connectors

Voltage Regulator

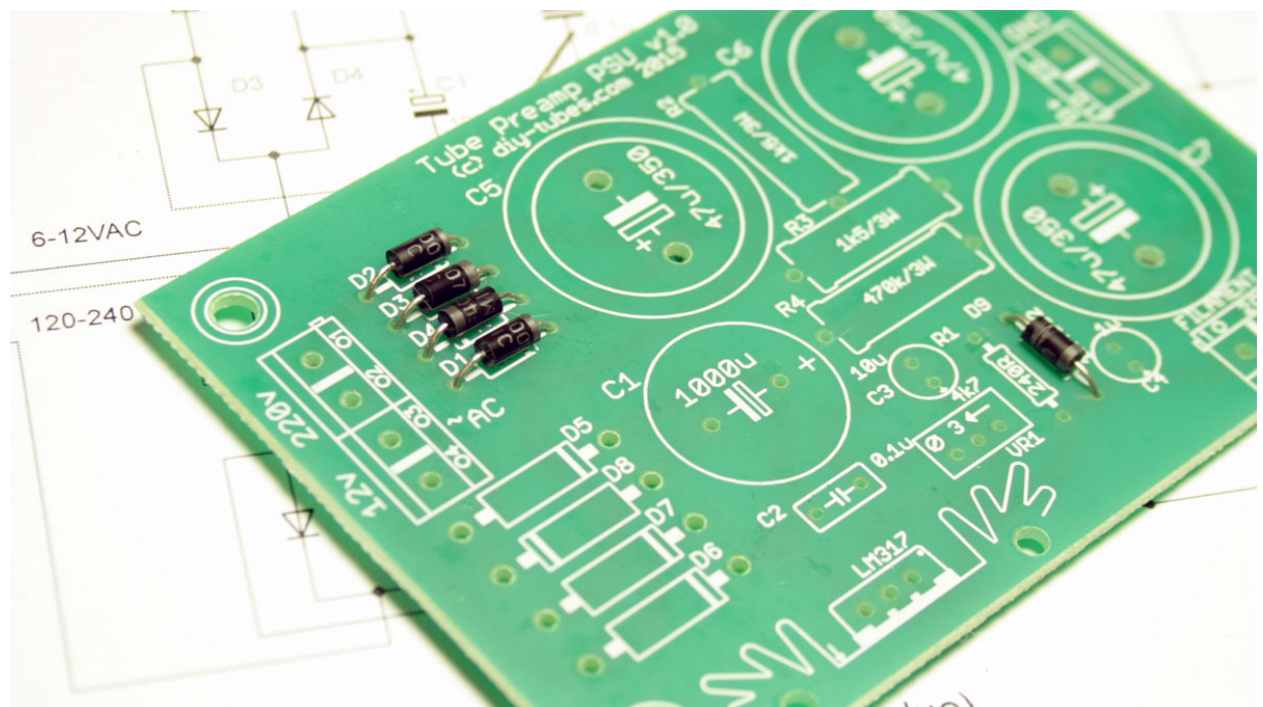
The radiator for the filament voltage regulator circuit

As a bonus - stands for a PCB, and hardware for a toroidal transformer (screws not supplied).



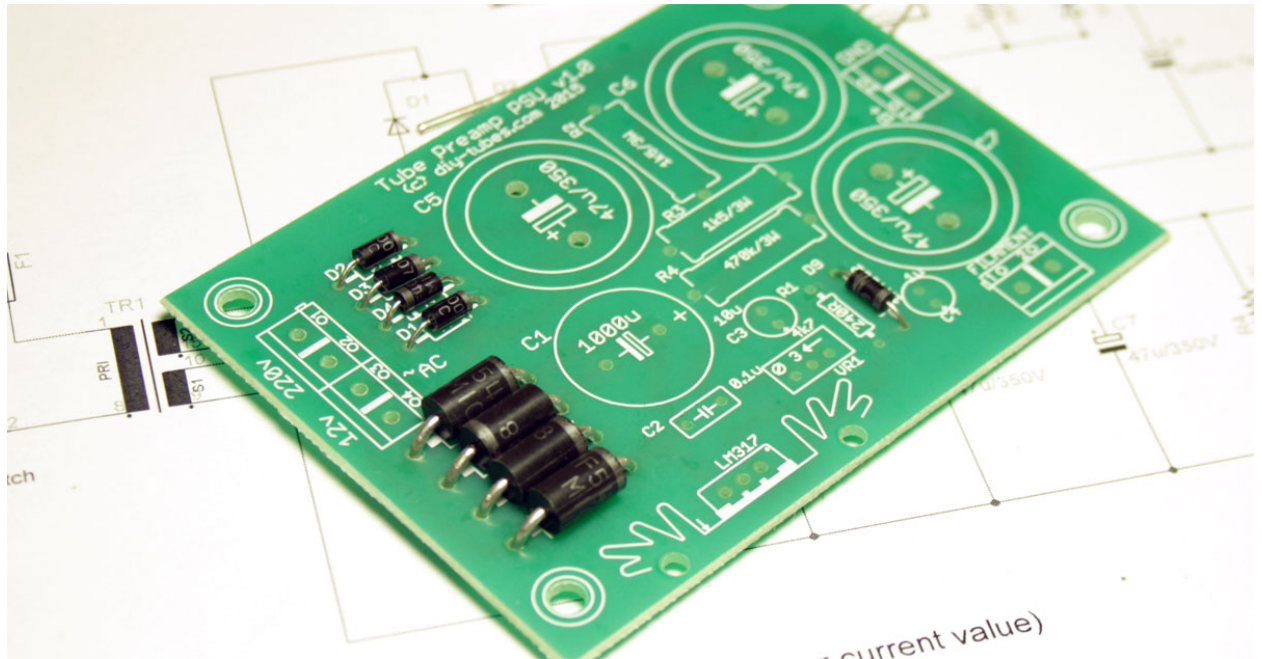


Start installation of the power supply diode in anode circuit (D5-D9). (D1-D4), and D9. (1N4002 on board, use here UF4007 from the kit). You can use 1N4007 (D1-D4) and 1N4002 as D9. Pay attention to how the diodes are oriented on the board.

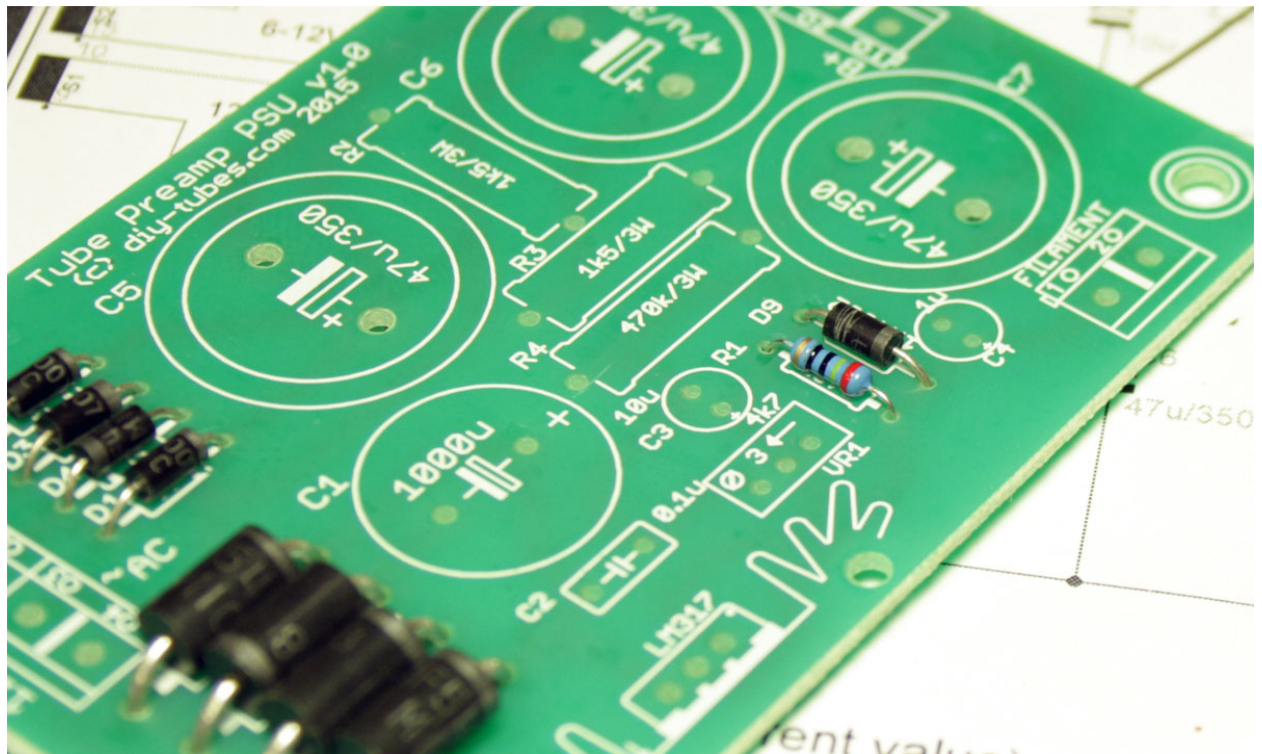




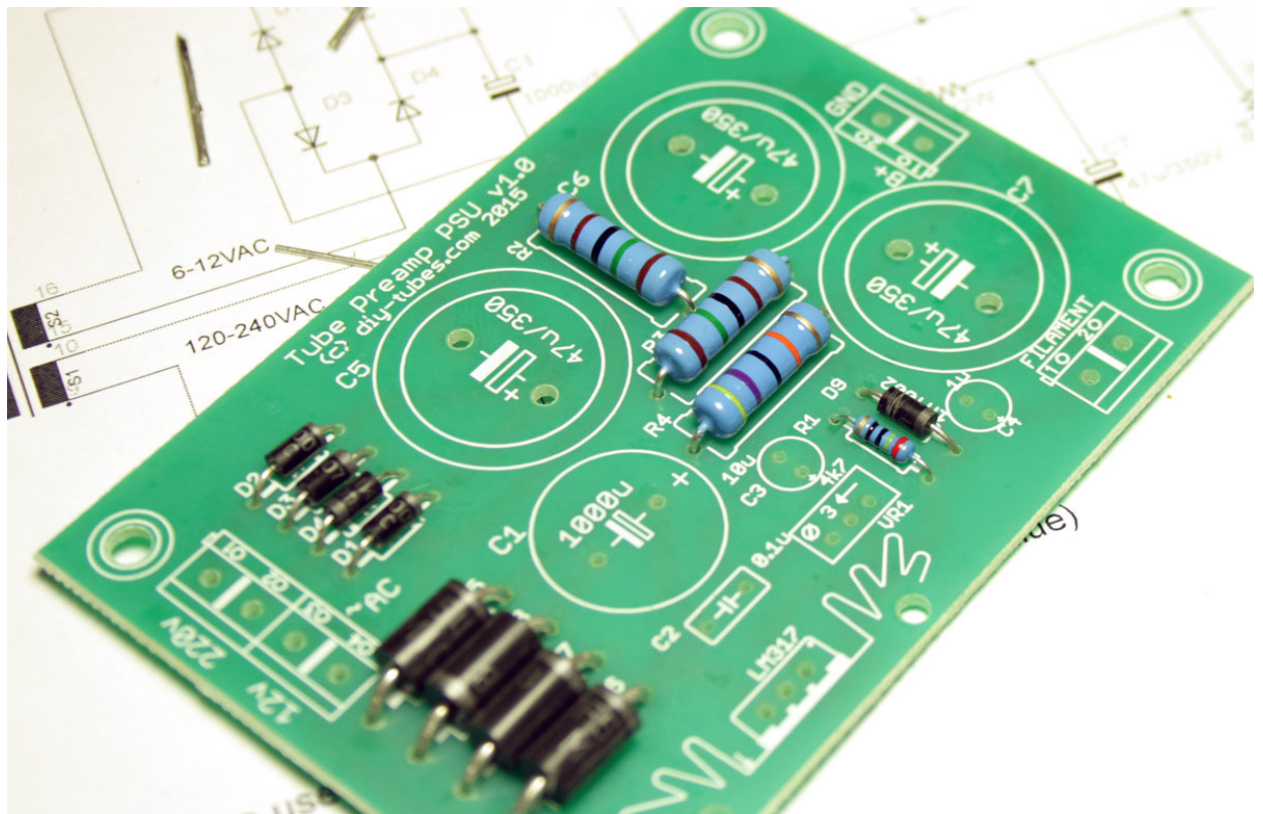
Solder filament diodes (UF5408). You can use other types for lower current. Pay attention to how the diodes are oriented on the board.



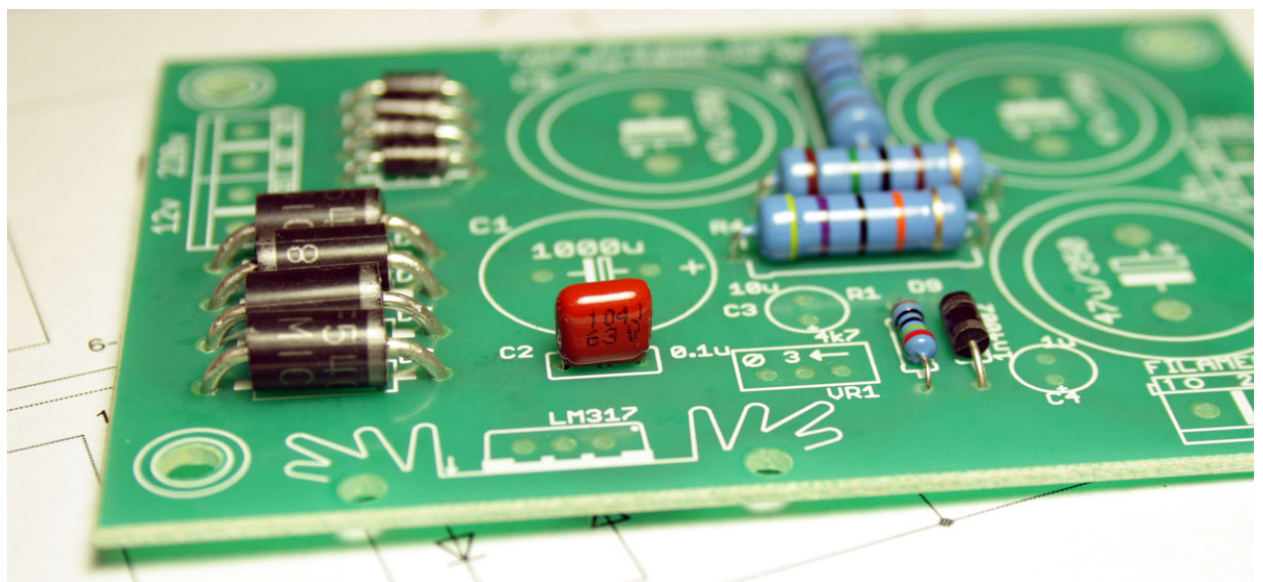
Solder R1 (240R).



Solder resistors R2-R4 (they're 3W on PCB, the kit includes 2W resistors).



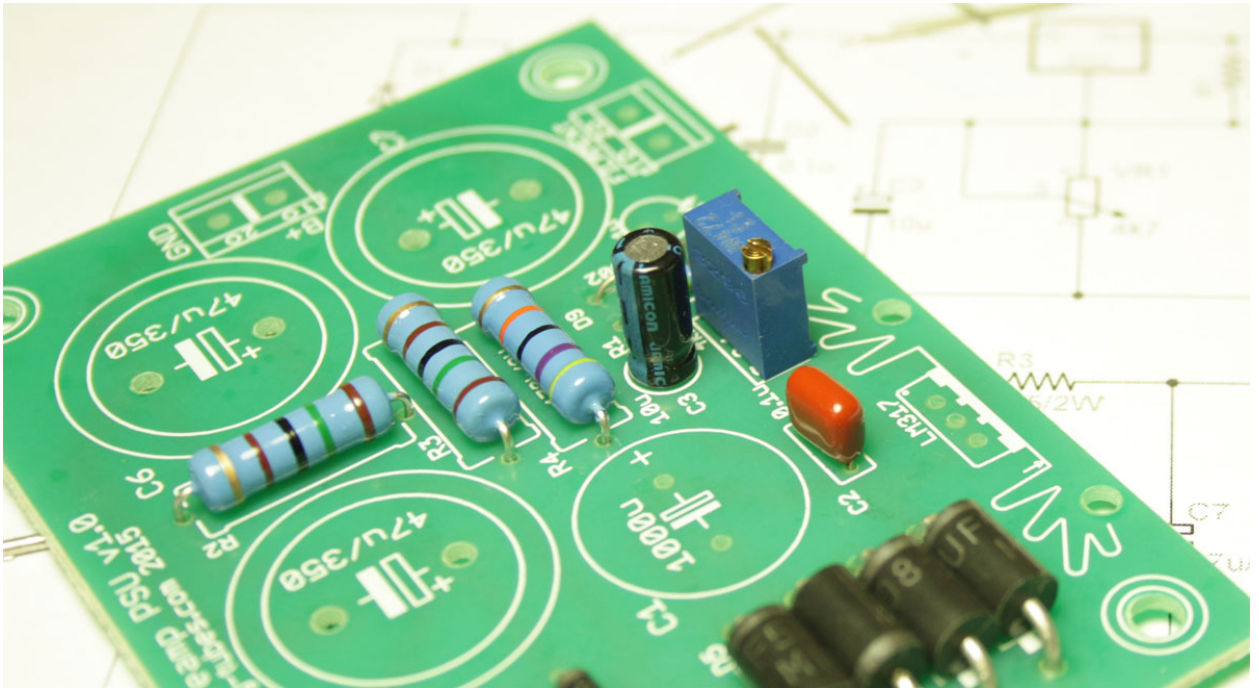
Film capacitor 100n (104, 0.1u)



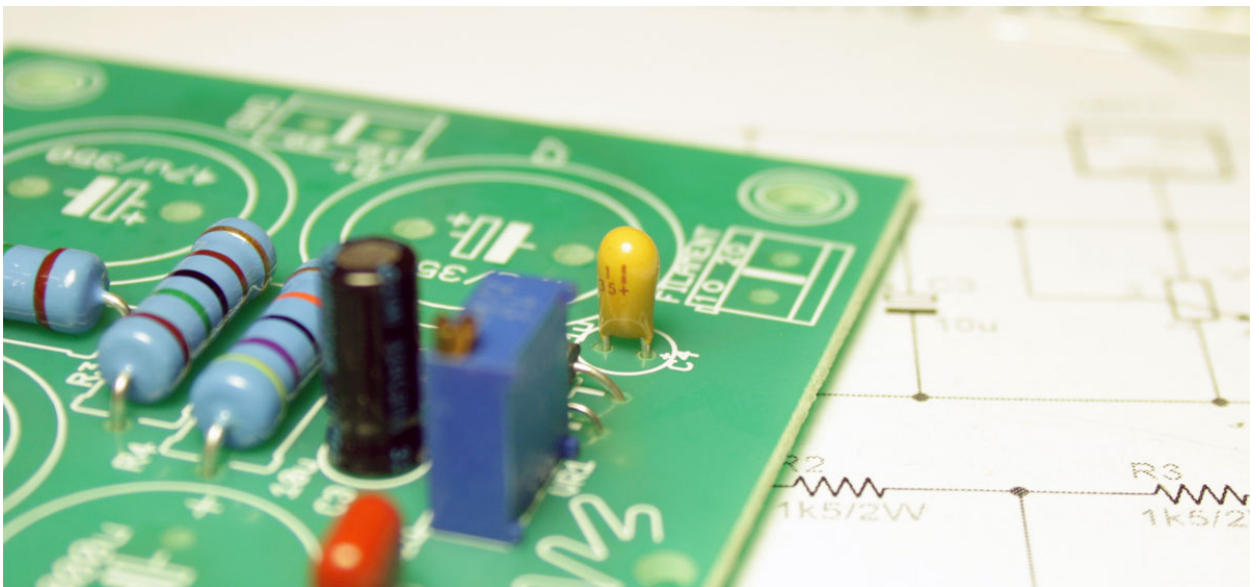


A photograph of a green printed circuit board (PCB) with various electronic components soldered onto it. The components include several integrated circuits (ICs), resistors, and capacitors. The PCB is placed on a white surface with a circuit diagram visible underneath.

(can be used any type, suitable for heater current value)

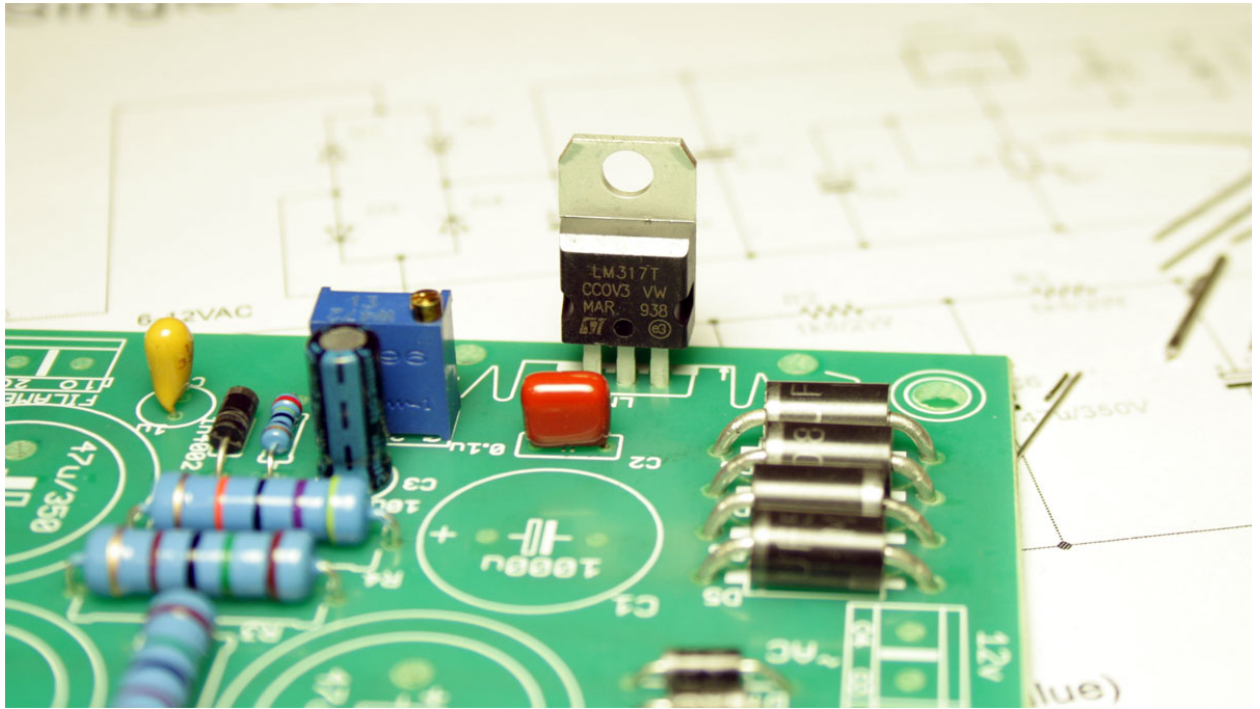


Solder tantalum capacitor. You can use 1u electrolytic capacitor here. Pay attention to how the capacitor is oriented on the board. Plus is marked on body.

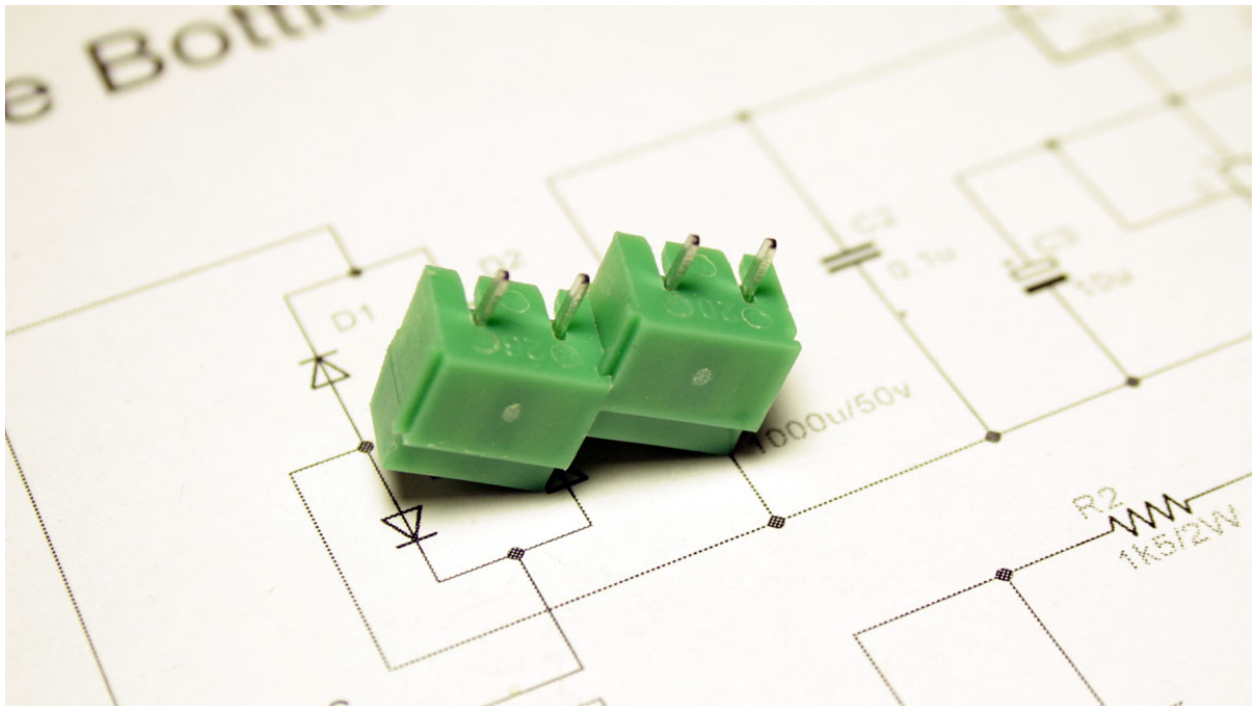


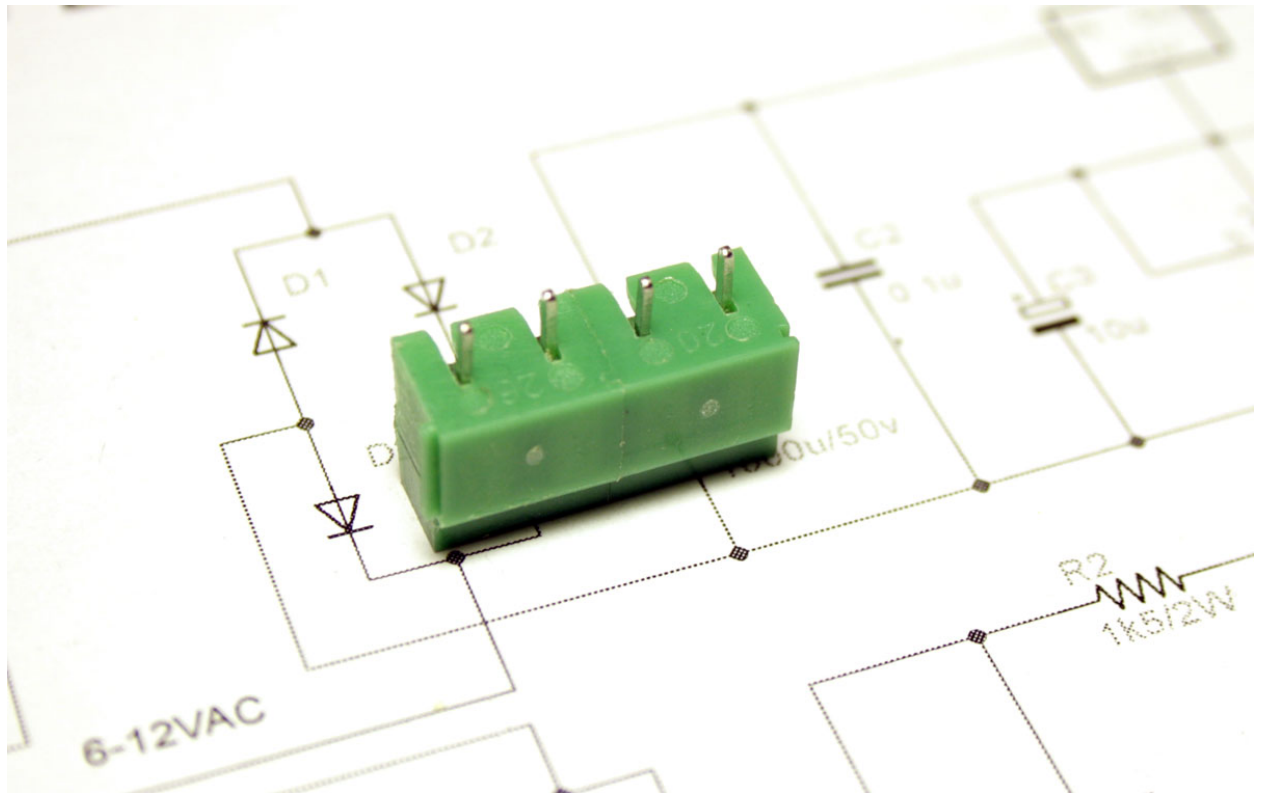


Then solder voltage regulator LM317 in the heater supply chain.

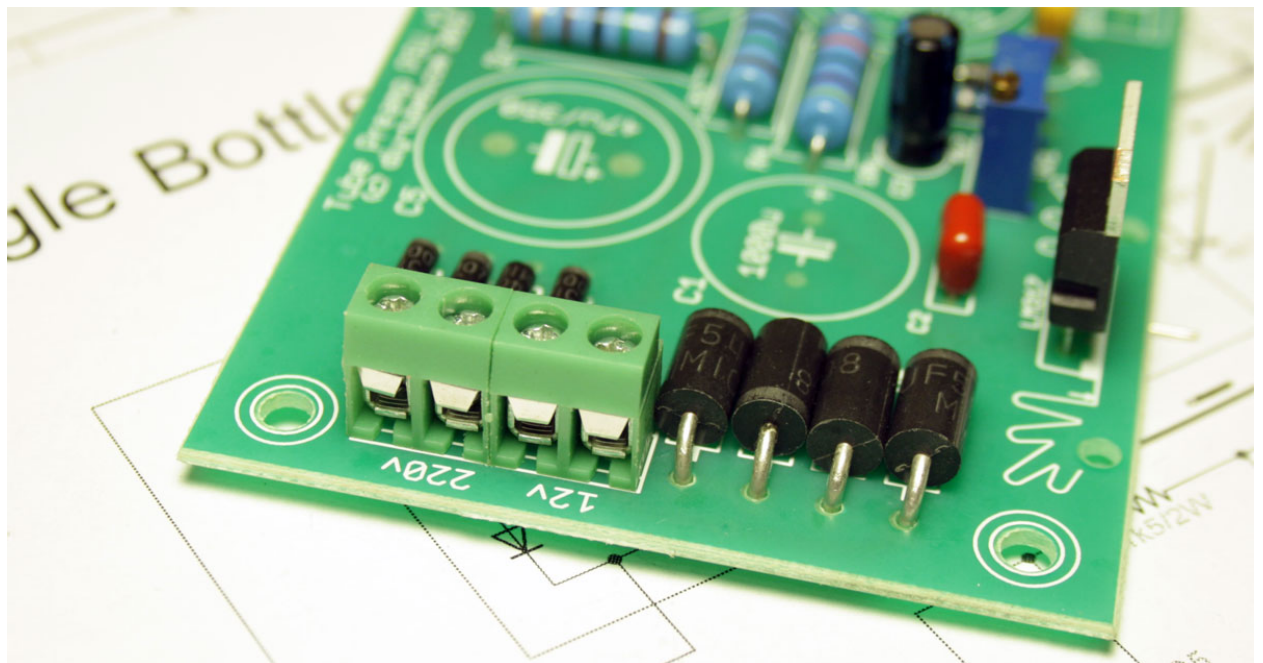


Prepare connectors. Combine two two-pin connector - groove and comb let us get a single 4-pin block.





Solder the sockets.







Solder C1 (1000u/50v). Pay attention to how the capacitor is oriented on the board. The negative pole is marked on the body of the condenser with light stripe.

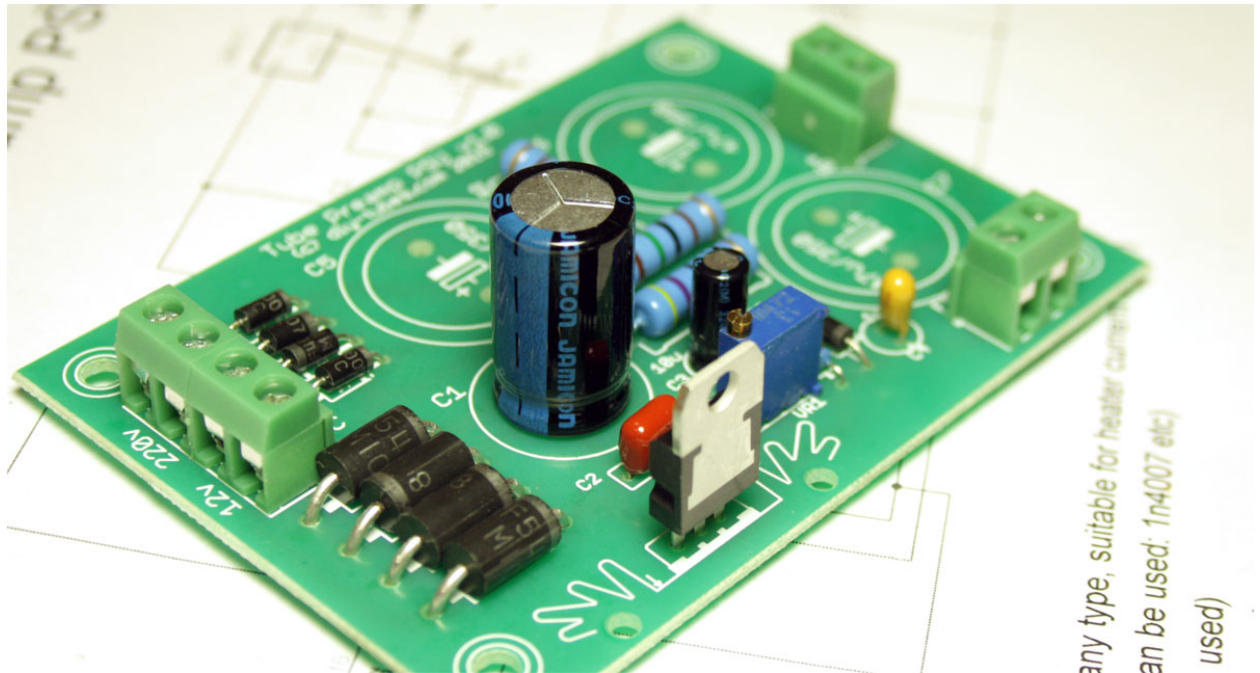
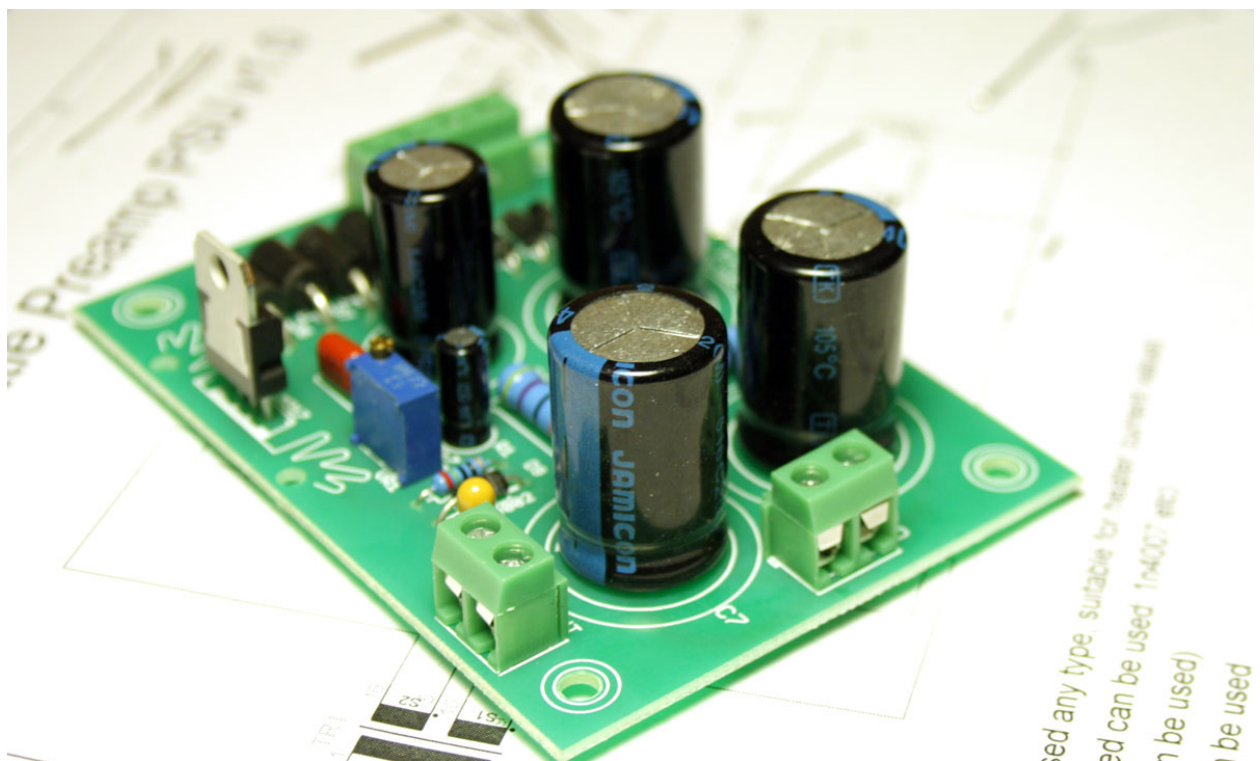
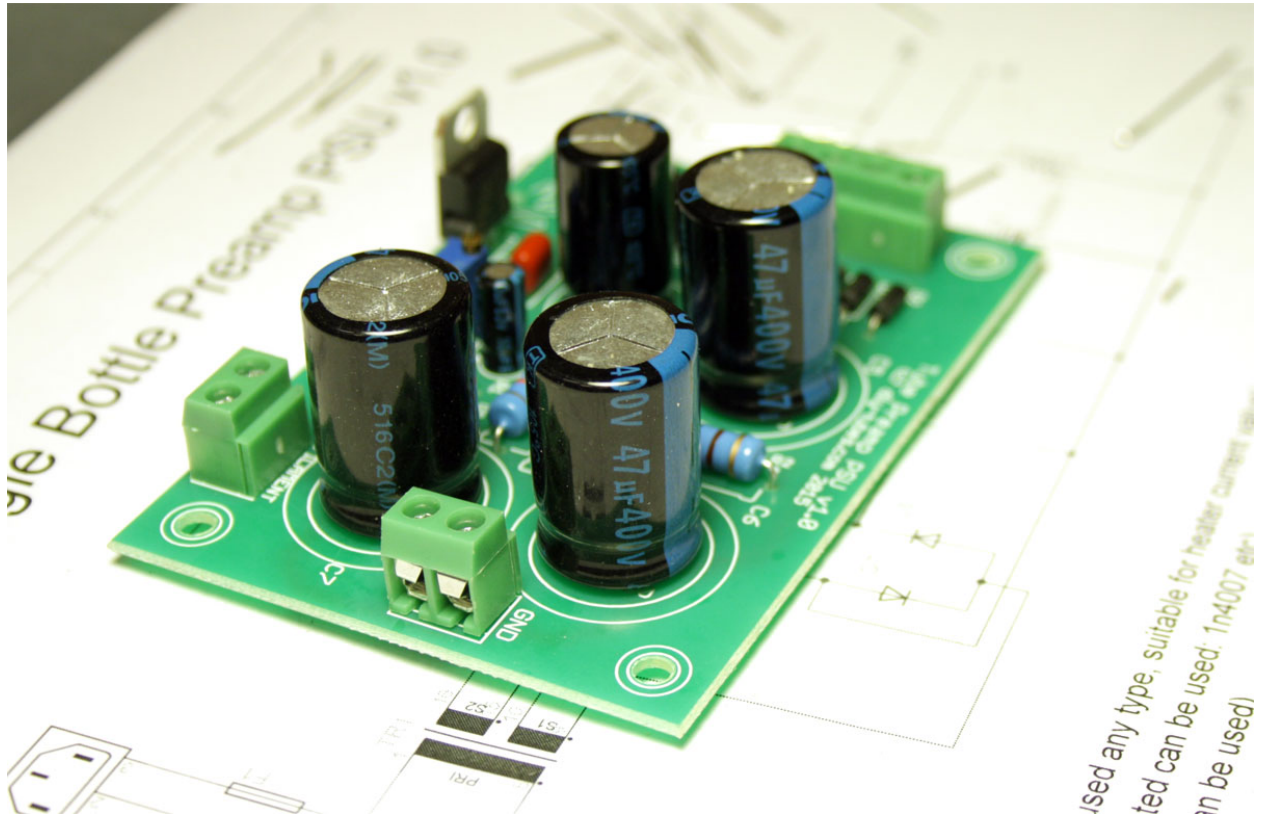


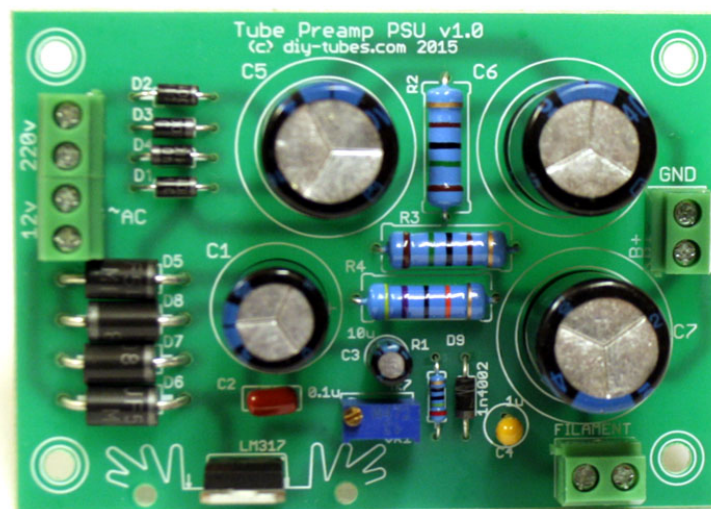
Plate filter capacitors – 3pcs 47u/400v (C5-C7). Other types (voltage and capacitance) can be used here. Pay attention to how the capacitor is oriented on the board. The negative pole is marked on the body of the condenser with light stripe.





After we finished the installation, it is necessary to connect the secondary winding of the transformer to the appropriate connectors power supply and set the required voltages with trimmer potentiometer and changing R2-R4 (if needed).

Always remember this PSU operates at **potentially lethal voltages**. Be warned when operating with transformers and electrolytic capacitors. The charge stored in the capacitor even after disconnecting PSU from the mains.



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