

# Hallicrafters S-120 Power Supply Mod

By Bill Sepulveda, K5LN

The power supply has a Selenium Diode which after 50 years has to be replaced. Also changing to a two prong polarized plug is a MUST! Before starting the mods please study the schematic and the diagram below!

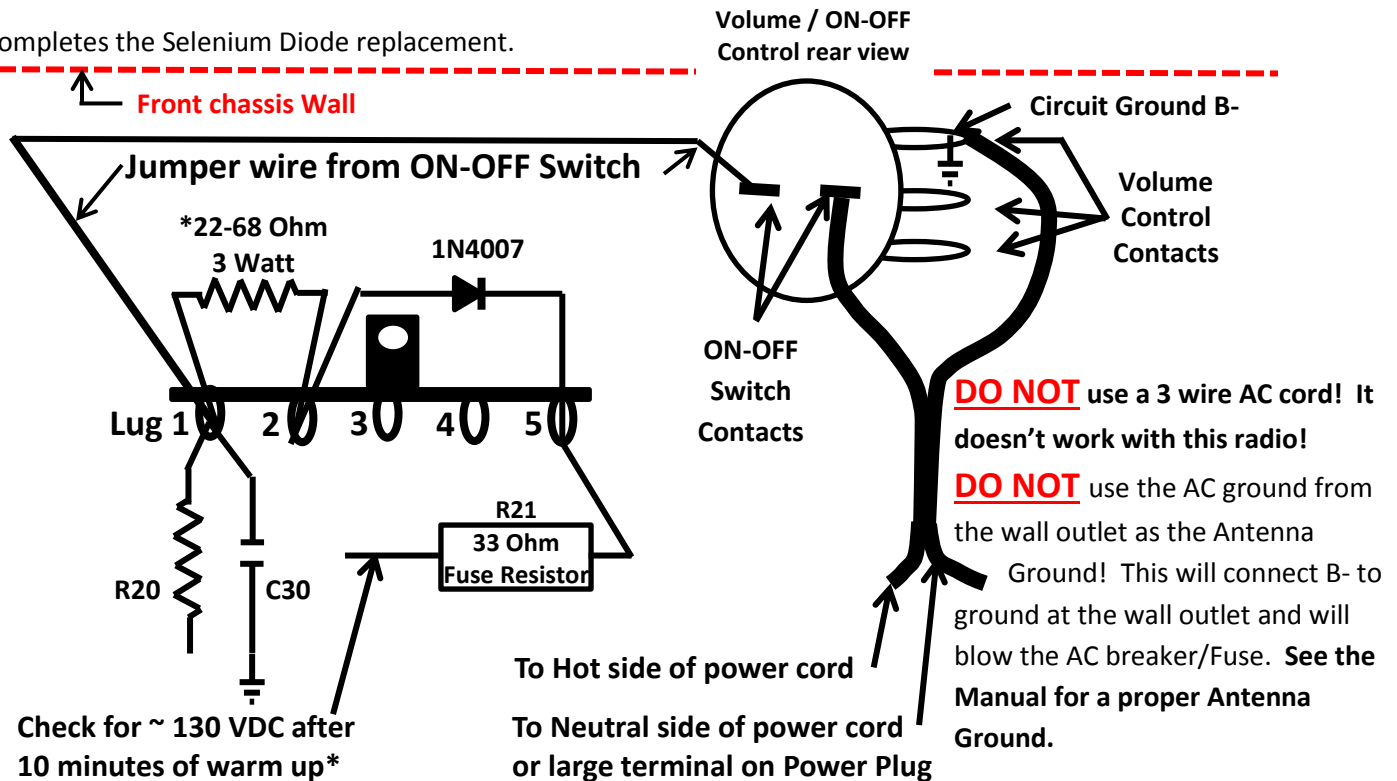
**Remember I'm not responsible for any mods YOU make to your equipment!**

First we'll remove the Selenium Diode and replace it with a \*22 to 68 Ohm 3 watt resistor, a 1N4007, and Terminal Strip (TS). A four Lug TS may be used if available. I only had a five Lug and it's what will be referenced in the procedure. The \*resistor is changed to get close to 130V at the junction of R21 & R22 as show in the schematic. Also, it's assumed the person making the mods will not have to be told to strip and tin wires before soldering. ☺

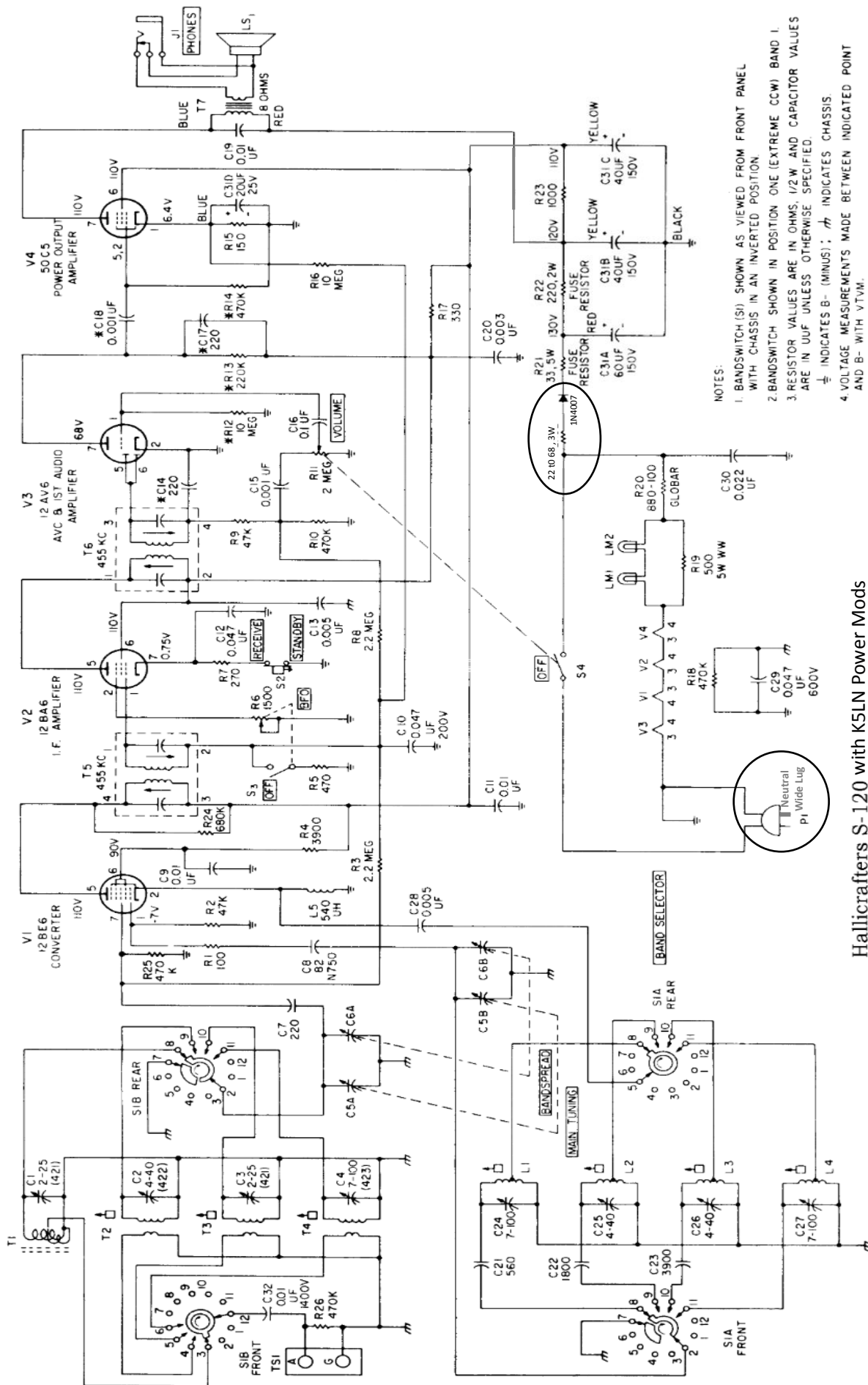
## Procedure:

- 1 – Remove R20, C30, and any wires connected to the Anode side of the Selenium Diode. See schematic
- 2 – Remove R21 (33 Ohm Fuse Resistor) from the Cathode, or other side of the Selenium Diode. See schematic
- 3 – Than remove the Selenium Diode from the chassis and throw it away, but keep the screw.
- 4 – Using the Selenium Diode mounting screw, mount the five Lug TS to the same hole that was holding the Selenium Diode; align it parallel to the front edge of the chassis and tighten. Mount the TS as shown in the diagram below. This will ensure R20 and C30 will reach TS lug 1.
- 5 – Remove all wires connected to the ON-OFF switch contacts.
- 6 – Next solder a **jumper wire** to left lug on the ON-OFF switch as shown in the diagram, and position the other end of the jumper to TS Lug 1. Do not solder this end of the wire to Lug 1 at this time. See diagram below.
- 7 – Position the leads of **R20 and C30** into TS Lug 1. See diagram below.
- 8 – Mount a \*22 to 68 Ohm 3 Watt resistor to Lug 1 and 2, and solder all four connections to Lug 1 only!
- 9 – Now form the 1N4007 to fit between TS Lug 2 and 5. **Nothing connects to Chassis ground lug 3!!!**
- 10 – Place the diode in position with the Cathode or line side of the diode closest to lug 5. **Solder all leads to Lug 2.**
- 11 – Now position the open Lead from **R21** to TS Lug 5 and **solder the diode and fuse resistor to lug 5.** See diagram

This completes the Selenium Diode replacement.



**Power Cord:** Remove the Power Cord from the radio. Install a new 2 Wire Polarized Cord as shown in the diagram.



- NOTES:
- BANDSWITCH (S1) SHOWN AS VIEWED FROM FRONT PANEL WITH CHASSIS IN AN INVERTED POSITION.
  - BANDSWITCH SHOWN IN POSITION ONE (EXTREME CCW) BAND 1.
  - RESISTOR VALUES ARE IN OHMS, 1/2 W AND CAPACITOR VALUES ARE IN UUF UNLESS OTHERWISE SPECIFIED.
  - VOLTAGE MEASUREMENTS MADE BETWEEN INDICATED POINT AND B- WITH VTVM.
  - \* INDICATES PART OF COUPLATE 049-000225.

Hallicrafters S-120 with K5LN Power Mods