

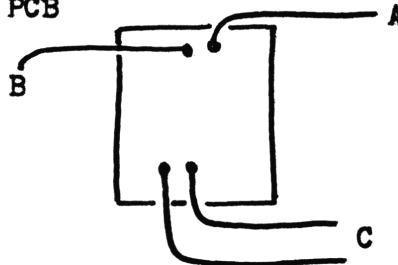
Power Supply Replacement in Excalibur SSB: MC145106-PLL Version  
by B.W.

I have been replacing power supplies in these units for some time, but haven't gotten around to writing it up.... Following was performed in S/N: 300011, one of the very first units.

This particular unit had a very CHEAP main PCB chassis decking, it had flexed and broken the board. Angle bracing was installed before installing the new power supply. CHECK first to make sure that frame is strong enough to support the new P/S.... \*will mean put in 'goodie-box'.

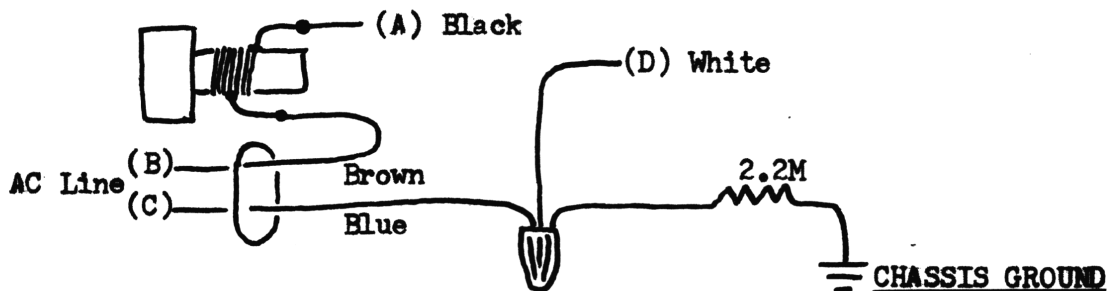
1. Use drawing below and follow directions:

Bottom View P/S Reg. PCB



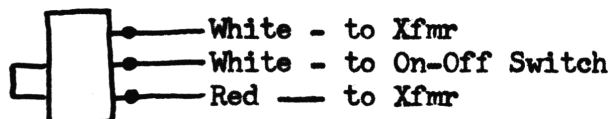
- A. Unsolder, reroute to point of origin (On-Off Sw.)
- B. Unsolder, let hang...
- C. Unsolder, pull up through chassis deck and leave hanging.

2. Carefully compress plastic grommet on AC line, pull cable forward. Save grommet for re-use.
3. "Cut" wires off the fuse holder - remove from chassis \*, use diagram below as a aid for remainder of this step.....



- A. Remove wire nut, \*
- B. Reroute White wire (D) to point of origin (On-Off sw.)
- C. Reroute Black wire (A) to point of origin (Xfmr Pri.)
- D. Remove power cable, \*
- E. Remove 2.2M resistor, \*

4. Remove 110V/220V switch from chassis, put screws back into switch hardware. Cut all wires off switch, and re-route all to point of origin. Switch to \*



P/S replacement in Exc. SSB, (Cont.)

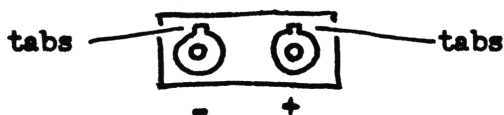
5. Remove Power Xfmr \*; put a label on the xfmr:

Primarys.....Black and White wires; 110VAC  
                  Black and Red wires; 220VAC  
Secondary.....Yellow wires, fuse 4A fast blow.

6. Unsolder TR603 on the regulator PCB, then remove entire unit. \*

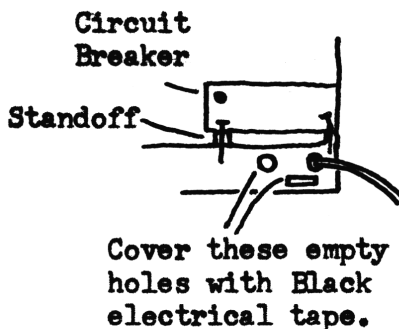
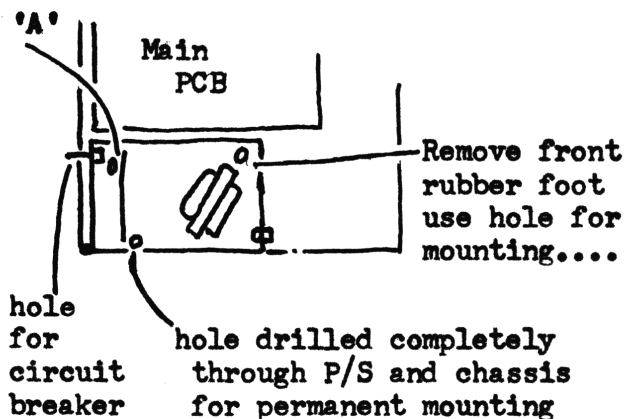
7. Obtain a Radio Shack 22-124A Regulated Power Supply - (NOTE: Any unit that fits may be used as long as it fits and has adequate voltage/current regulation.)

- A. Use a 9/64 drill bit and carefully drill out the pop rivets, then remove cover.\*
- B. Remove screws on the rear terminals; bend flat the small tabs; cover the terminal board with 3 strips of electrical tape..



C. Remove AC line grommet, unsolder/remove the AC line (clean off all places where removed.)

8. "FIT", do not install yet.... the new power supply, case and all! It will not fit flat onto the chassis frame (It might in later production runs). Use drawings below for mounting and drilling holes:



**CAUTION:** Make sure that when mounted permanently the main chassis frame does not flex. DO NOT MOUNT PERMANENTLY YET...

9. Route the AC line removed from the power supply through the rear chassis AC hole up to the On-Off Sw. Use original grommet and install permanently, after making sure of 6" to 'play' with. slack are present at switch end.

10. Now you can permanently install the power supply, **USE EXTREME CAUTION WHEN TIGHTENING DOWN HARDWARE. CHECK COMPONENTS IN POWER SUPPLY TO MAKE SURE THAT YOU HAVEN'T SHORTED SOMETHING.** (Bridge Rectifier.....leads touching each other..)

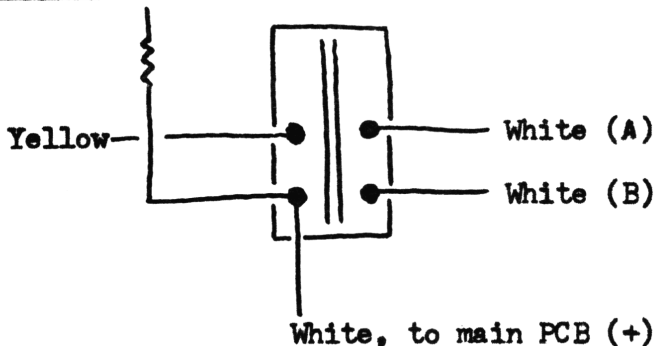
P/S replacement in Exc. SSB, (Cont.)

11. Route Yellow wire hanging from main PCB up through chassis bottom and ('A') hole. ...See Step 8 for 'A'... Solder Yellow wire to -standoff on P/S's rear terminal standoff, a Black wire is already soldered to this position.

12. Use drawing below for steps 13 and 14.....

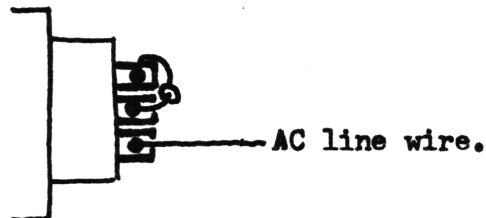
....REAR OF ON-OFF Switch....

Original wiring

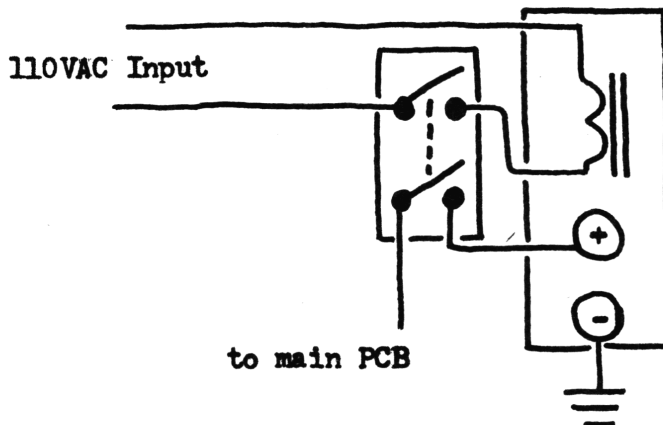


13. A. Remove the Yellow and both White wires (A and B), SAVE - clean of switch locations.  
B. Resolder a White wire to where the Yellow was removed - reroute other end to + terminal of power supply and carefully solder. (A Red wire is at this location.)  
C. Solder Yellow wire to bottom terminal where White wire (B) was, reroute/solder other end to top lug on P/S switch.  
D. Split about 6" of the new AC line. Solder one wire to where White wire (A) was, solder the other wire to P/S transformer standoff.

....Xfmr standoffs....



14. Double-check wiring - rough skematic below - also make sure that nothing is shorted.....



P/S replacement in Exc. SSB (Cont.)

15. Turn switch on the P/S to ON position. Plug in AC line, turn on the main chassis switch and check out.
16. Remember to keep schematic that came with power supply. If it goes bad all you have to do is unsolder 4 wires, unbolt/screw to remove for service.... no problem!

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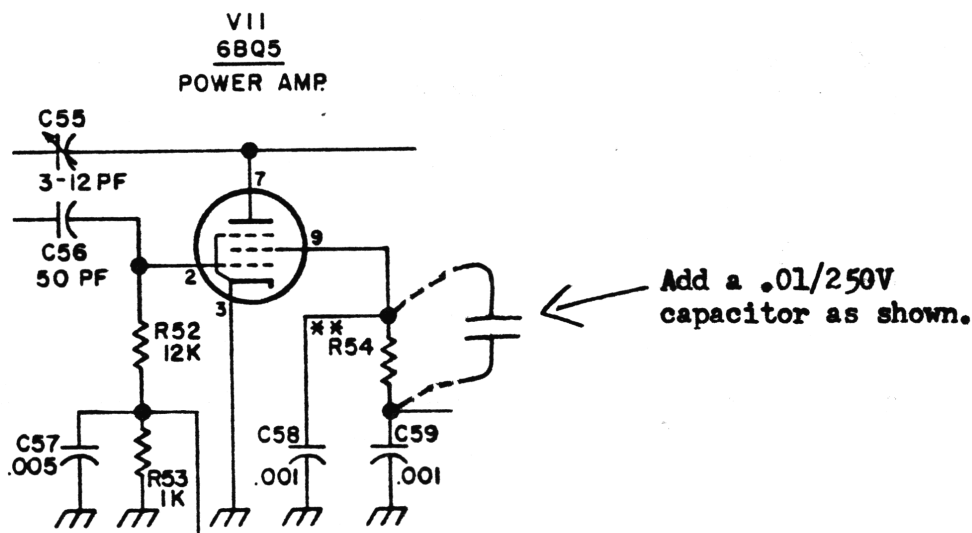
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SONAR FS-2340, UPDATE  
by W.H.

Check for missing part in R.F. Output Circuit (V-11, 6BQ5):

Screen Grid Circuit, Pin 9 should have a .01Mfd/250V in parallel with R54 (22K, 1W, 10%).

See partial schematic blow-up with update, as to how it should be modified.



(Ed. Note) R54 controls screen voltage so that the FCC limit on RF is maintained.

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