

Power Modification

THIS MOD NOT RECOMMENDED!

- 1) Remove cabinet cover, botton plate, and rear panel.
- 2) Remove 6DG6 tube and then hold down clamp.
- 3) Remove 12BY7A tube and shield.
- 4) Unsolder pin 3 of octal socket RF power amp VT202.
- 5) Make a parasitic suppressor by winding 6 turns of #20 Buss wire on a 47ohm 2w carbon resistor. Evenly spaced wrap the leads next to the body of the resistor and solder. Bend the leads of the parasitic suppressor so it will connect to the plate cap and lay parallel with the length of the tube. Solder to plate cap. Install 6DQ5 tube in VT202 socket, solder parasitic suppressor choke to plate cap connector and install on tube. Run a length of television HV wire from the other end of the parasitic suppressor and replace the wire that was unsoldered from pin 3. The free end of the new wire goes to the 4.7lw resistor and remove the old wires.
- 6) Remove the 3.9k 2w R211 on pin 4 and replace with a 39k ohm 2w resistor.
- 7) Remove all wires and connections and grounds from pins 1,6 and 8.
- 8) Install a .01/100v ceramic from pin 2 to pin 7 and solder.
- 9) Route the blue wire removed from pin 8 under terminal strip TB-1 to pin 3 and solder.
- 10) Install a 4.7ohm $\frac{1}{2}$ w resistor between pin 6 and 7 . Do not solder.
- 11) Install a .01/100v ceramic disc cap between pins 6 and 7. Solder pin 6.
- 12) Connect the ground buss wire to pin 7.
- 13) Connect the yellow and purple wires removed in step 7. Fill leads tp pin 7.
- 14) Connect the free end of C209 Now on pin 4 a .001 2kv cap to pin 7. The cap now run's between pin 4 and 7.
- 15) Connect the free end of the .001mf 2kv cap #C210 to the last lug on terminal strip TB-1.
- 16) Add a 450v 1mfd across R204 47k 2w resistor. Connect the positive side to terminal 2 and the negative to terminal 3.
- 17) Remove the wire from R309 2.2k ohm 10w to terminal 4 of TB-3 and discard.
- 17A Locate C308, it is a 4.7uf/450 or you could have a problem
ON TB3 from connection 4 to 7 Ground. Replace with a 4.7/600
- 18) Install a piece of insulated wire from 1000ohm 10w to terminal 4 of TB-3
- 19) Locate R210 56k $\frac{1}{2}$ w. This resistor is surrounded by a shield on the foil side of board.
- 20) Install a 33mf 6 volt cap frcm the collector of Q34. SQ amp to ground positive side of cap to collector.

- 20) Install a 33MF 6 volt cap from the collector of Q34 5Qamp to ground positive side of cap to collector.
- 21) Install a 4.7k $\frac{1}{2}$ w resistor between the mike lead and the mike plug.
- 22) Install a 12GN7 tube in VT201 and replace the tube shield.
- 23) Install a stancore part # p -8605 48v transformer as shown in drawing.
- 24) Route leads from new transformer . Throw holes in chassis with the other Transformer leads.
- 25) Connect red wire from new transformer to the fuse holder connection with the red wire.
- 26) Connect the yellow wire from the new transformer to terminal strip TB5 terminal 3.
- 27) Tape the brown and green wires separately. They are not used.
- 28) Also tape the black wire separately. It is not used.
- 29) Remove the yellow wire from TB-4, terminal 5 and connect to the light green wire from the new transformer and tape.
- 30) Connect the gray wire from the new transformer to TB-4, terminal 5.
- 31) Check all connections for shorts . Solder blob's, etc.
- 32) Set is ready to turn on. Turn standby switch to off and trun on set. Allow to warm up. CAUTION, the plate cap of the 6DQ5 has high voltage 480V dc.
- 33) Connect a 1khz tone source to the mike input, pin 2 + pin 2.
- 34) Jumper pin 3 and 4 together on the mike plug. This is for transmitter key up.
- 35) Rotate mike gain control to full counter-clockwise position.
- 36) Mode switch to USB.
- 37) Meter switch to plate current.
- 38) Channel selector to channel 20.
- 39) Connect a 50ohm 100w dummy load to the RF output.
- 40) Connect a low capaity scope probe across the dummy load.
- 41) Connect a voltmeter from pin 3 on the 6DQ5 tube socket to ground positive lead to pin 3. 3 volt range DC.
- 42) Turn transmit standby switch to transmit positive.
- 43) Adjust RV202 so voltmeter reads 0.47 volts DC at pin 3.
- 44) Adjust RV-802 so the plate meter reads 50 ma. This will allow the p.a. meter to read one half value. You must now multiply by two for correct reading.

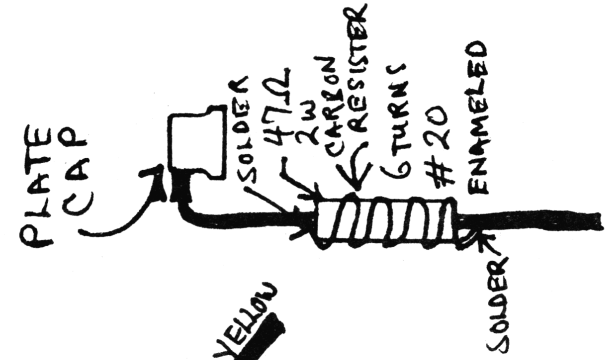
- 45) Turn mike gain control full clockwise position, then adjust c902 and then c903 back and forth until maximum power is obtained.
- 46) Change to channel 1. Adjust the bottom slug of L203 for maximum output on scope. Change to channel 40 and adjust the top slug of L203 and alternate until even output is obtained.
- 47) Change to two-tone signal. Checkscope for flat topping. If you observe flat topping adjust RV2 to correct.
- 48) Switch to AM mode and adjust RV201 for 50ma on plate meter. $50\text{ma} \times 2 = 100\text{ma}$
- 49) Adjust RV204 for 100% mod on scope.
- 50) Using a power meter adjust output meter. Adjust RV602 for AM and RV603 for SSB. AM should be approximately 20w, AM envelope power 35w, output SSB PeP approximately 75w output.



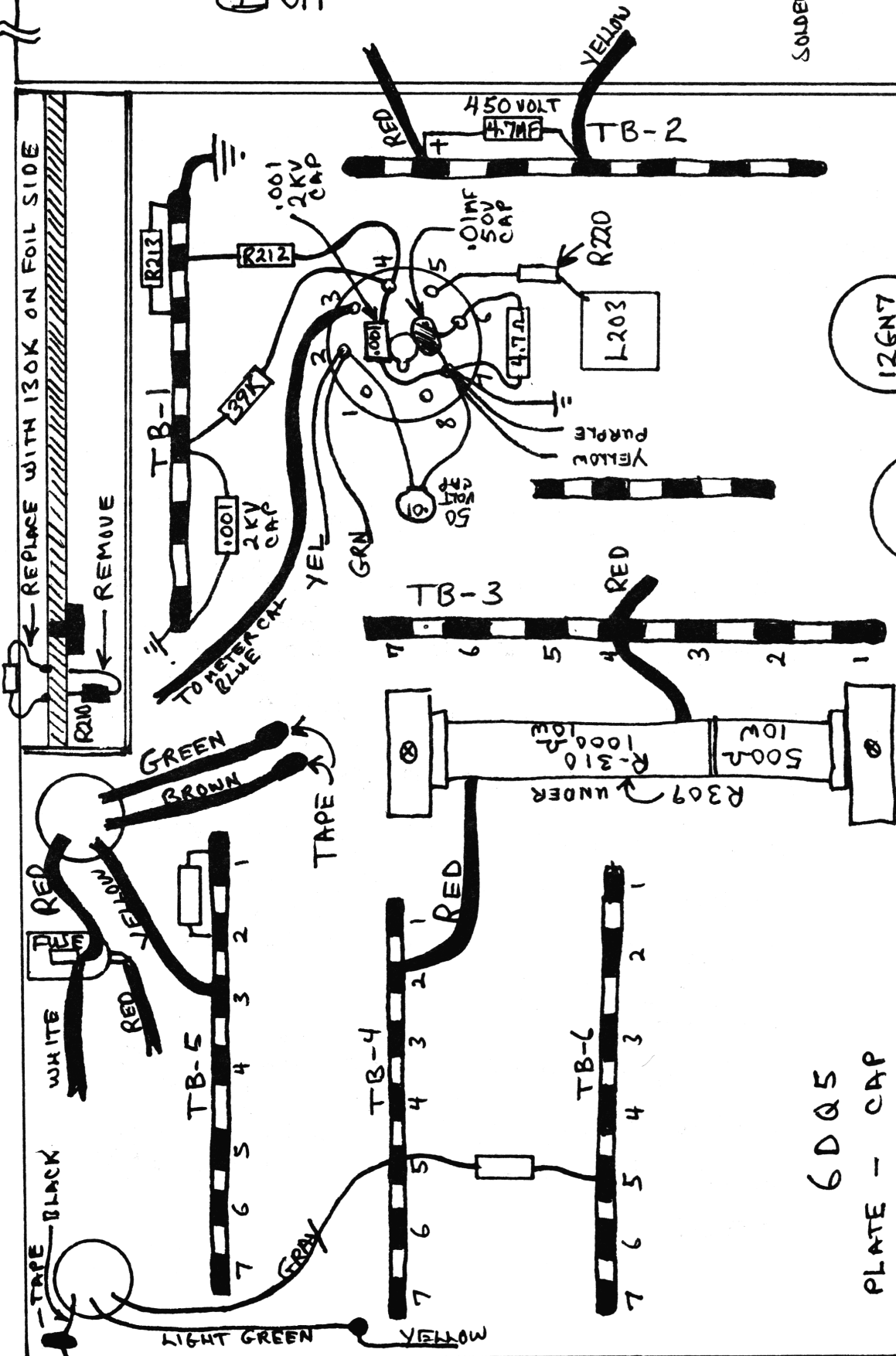
WARNING: BEWARE
OF ELECTRICAL SHOCK
HAZARD WHEN WORKING
AROUND RADIOS AND
OTHER ELECTRICAL
EQUIPMENT. WHEN WORKING
INSIDE LARGE RADIOS
LIKE THE OAK REMOVE
RINGS ETC.

IF YOU ARE NOT FAMILIAR
WITH ELECTRONICS SEEK
ADVICE FROM A COMPETENT
TECH.

PARASITIC SUPPRESSOR



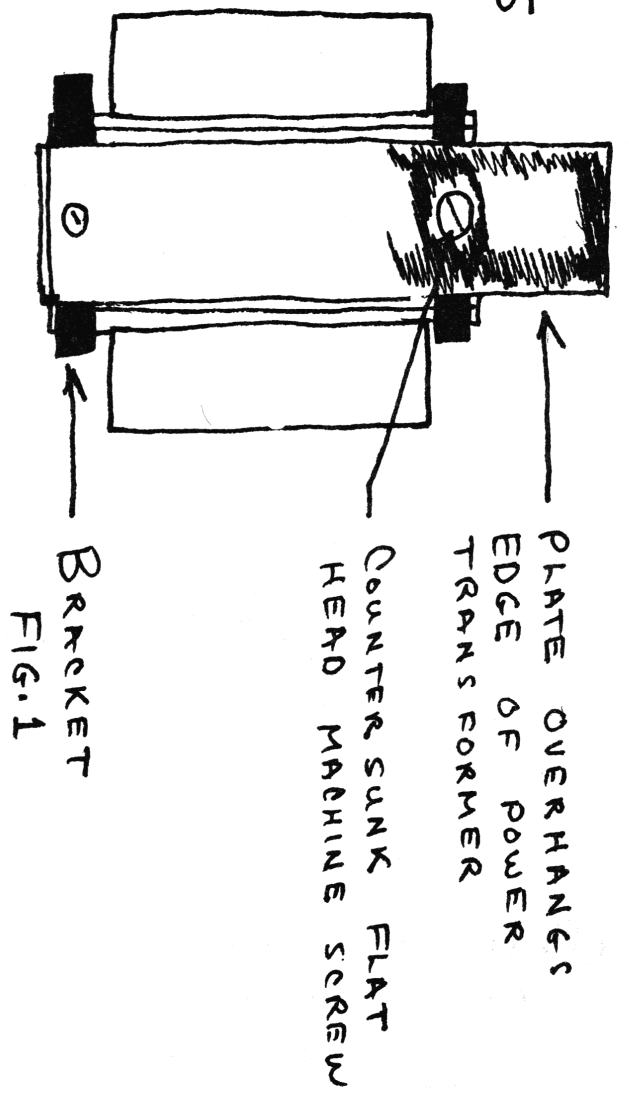
← REPLACE WITH 130K ON FOIL SIDE
← REMOVE



- 126N7
- RV202
- RV201

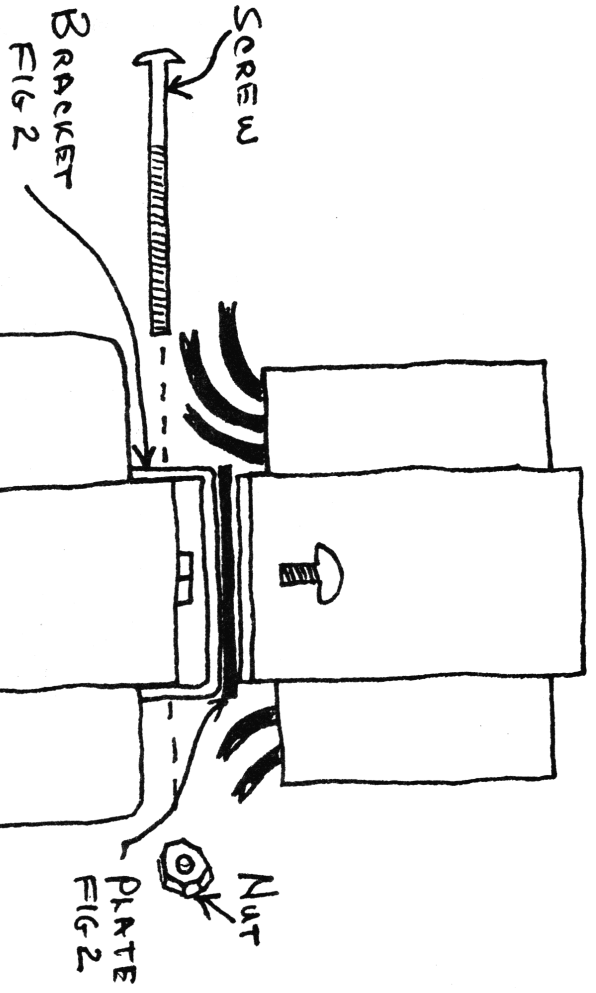
6DQ5
 PLATE - CAP
 PINS
 4+8
 5+1
 3+6
 2+7
 G2
 G1
 K
 F

FIG 5



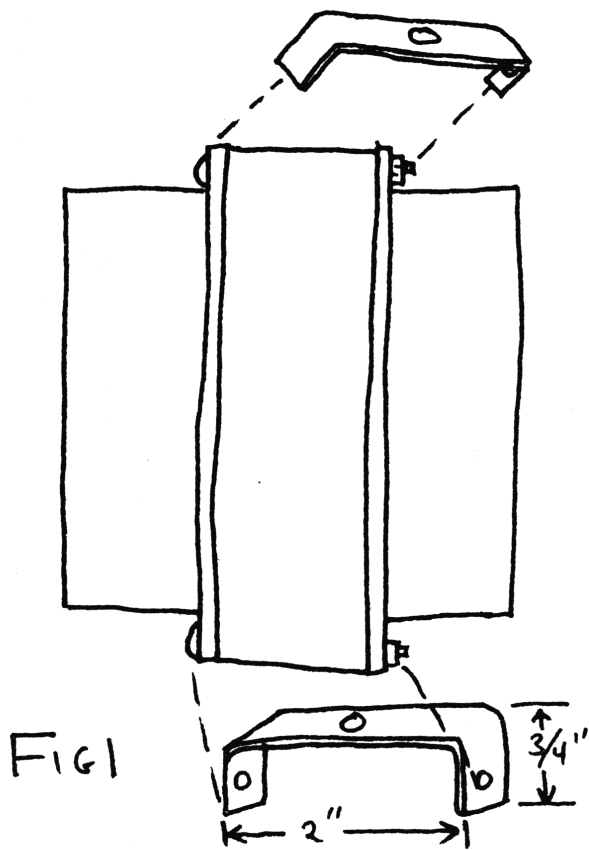
4. Mount plate on top of brackets. Do not bolt to transformer at this time.

5. Assemble P-8605 transformer as shown in Fig 6.

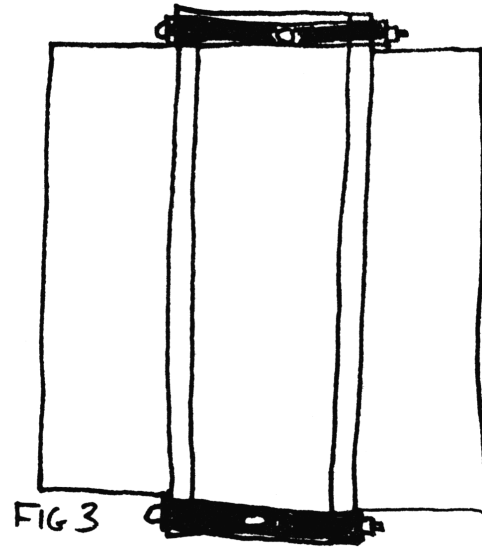


Assemble P-8605 on plate and bracket assembly and bolt to transformer as above.

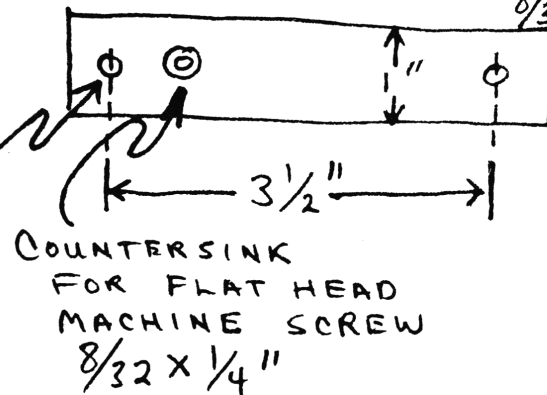
FIG 6.



LOCATION OF
MOUNTING
BRACKET SUPPORTS

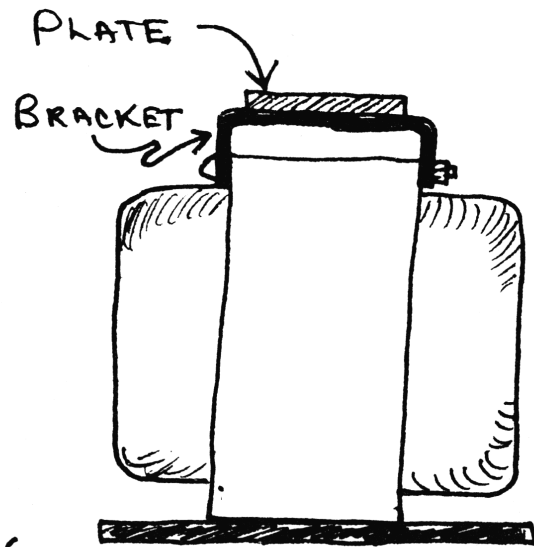


HOLE FOR
 $8/32 \times 3/8$ "
SCREW



18 GA.
ALLUMIN.
OR
STEEL

- ① MAKE 2 BRACKETS TO FIT TOP OF POWER TRANSFORMER AS SHOWN IN FIG. 1 (USE ALLUMINUM STRIP .090 THICK.)
- ② MAKE PLATE AS SHOWN IN FIG 2.
- ③ REMOVE SCREWS FROM POWER TRANSFORMER. TOP SCREWS ONLY. LEAVE PLASTIC WASHER IN PLACE WHEN REMOVING SCREWS.



CHANNEL EXPANSION, POWER AND SLIDE MODIFICATION

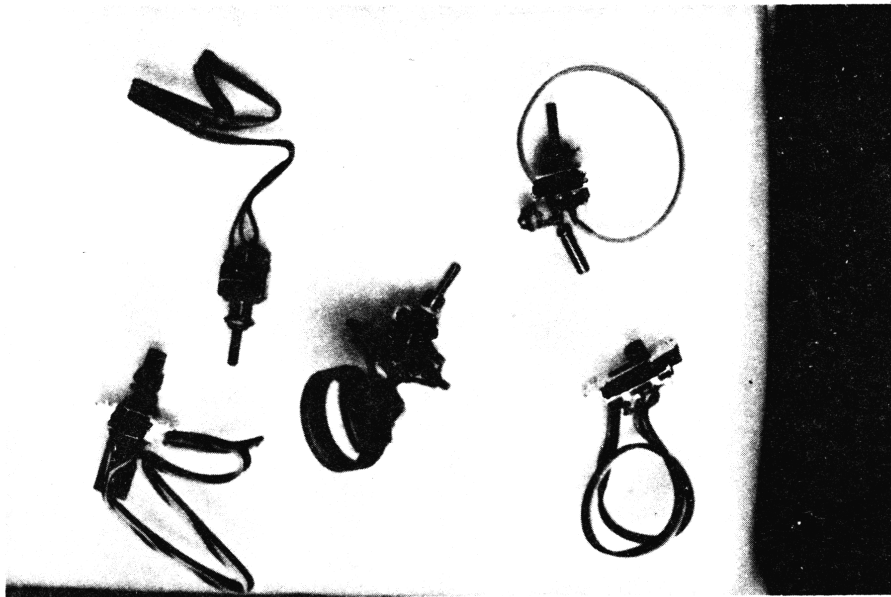
1. PLL IC 1 (P11 2)

Cut the PC Board on pins 9-10-11 with a xacto knife and isolate them as close to the IC as possible. Install a 3K $\frac{1}{2}$ w across each cut. Install a IN914 on Pin 11 & 10 anode towards the IC pin and tie the cathodes together. Install 2 Single Pole Single Throw Switches and run a wire from one side of the switch to ground. Connect the other side of one switch to the cathode of the diodes that run from pin 10. Run wire from pin 9 of the IC to the other switch. This completes the Channel Expansion.

2. Slide cut D5 - Cut R24. Install a 18PF in place of C17 33PF. Run a wire from the unused terminal on VR4 to the wiper of the squelch control. This will allow -2 and +8 KHZ.

3. RV12 adjust for max AM Mod with 1000 HZ tone & R204. RV2 & RV11 adjust with two tone source for max power.

4. Install a 12GN7 tube in place of VT201 12BY7/. Install a 6y6 in place of VT202 6DG6 tube, short R310 1.5 KHZ resistor with a jumper wire. Adjust L201-C903 for max AM power with 1000Hz tone on peak reading meter. This modification will allow approximately 35W SSB.



CHANNEL	(SWITCH - 1) FREQUENCY	(SWITCH - 2) FREQUENCY
1	27.445	27.605
2	27.455	27.615
3	27.465	27.625
4	27.485	27.645
5	27.495	27.655
6	27.505	27.665
7	27.515	27.675
8	27.535	27.695
9	27.545	27.705
10	27.555	27.715
11	27.565	27.725
12	27.585	27.745
13	27.595	27.755
14		27.765
15		27.775
16		27.795
17		27.805
18		27.815
19		27.825
20		27.845
21		27.855
22		27.865
23		27.895
24		27.875
25		27.885
26		27.905
27		27.925
28		27.935
29		27.945
30		27.955
31		27.965
32		27.975
33		27.985
34		27.995
35		28.005
36		28.015
37		28.025
38		28.035
39		28.045
40		

Use a pencil to change FØ SW 1 at a time the SW's are push type