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Effective on units with (SD) serial numbers and later.

Change the following component on power supply schematic.

Change R50 from 39 ohm 2W 10%
to 56 ohm 2W 10%

On Transmitter Model 100 Circuit Add Neon Bulb across the Relay Coil TR-1.

Addendum #2
Issued 5-24-62

Receiver Alignment

1. Change paragraph 5 to read as follows.

Turn the Executive unit on and set the Receive Selector to crystal 9 (use 115 VAC for these steps). Key the C12-B for a channel 9 signal and adjust the crystal trimmer in the Executive for maximum AVC or midway between the two "hiss levels" heard when the trimmer is rotated back and forth. (Center carrier)

2. Change paragraph 8 to read as follows.

After the above adjustments have been made, return to coil L7 and rotate the slug 1/4 turn in the direction of minimum inductance.

3. Move section entitled Adjustment of tunable First Oscillator to follow paragraph 8 under Receiver Alignment.

4. Add the following after section entitled Adjustment of Tunable First Oscillator.

Crystal Filter Test

1. To check for proper operation of the crystal filter, connect a C12-B through a 60 db pad to the Executive antenna receptacle.
2. Set the Receive Selector to tune and rotate the tuning dial to the channel 9 mark.
3. Key the C12-B for a channel 9 signal and carefully adjust the Executive tuning dial for maximum AVC or midway between the two "hiss levels" heard as the dial is moved back and forth across the channel 9 position.
4. Increase the C12-B LEVEL control until you obtain an AVC voltage of 9 volts. This is the approximate AVC voltage obtained when a 300 micro-volt signal is applied to the Executive.

5. Without changing the C12-B LEVEL control, set the C12-B to channel 8 and tune the Executive for the center of the pass band as in step 3 above. Repeat this procedure for channel 10. In both cases note that the AVC voltage does not vary more than 1.0 volt from that obtained in step 4 above.
6. Repeat step 3 above and leave the Executive tuning dial on channel 9.
7. Key the C12-B for a channel 8 signal and then a channel 10 signal. In both cases the AVC voltage should not change more than 10% of the AVC voltage obtained in step 4 above. Remember the receiver is tuned to channel 9 during this test.
8. If the voltage change is within this limit the filter is functioning properly and will give 50 db adjacent channel rejection.

Addendum #5 Model 100
Issued 12-3-62

11-26-62

Change the following components in the I.F. Unit:

1. Change R14 from 68k ohms 1/2 W 10%
to 56k ohms 1/2 W 10%
2. Change R24 from 68 ohms 1/2 W 10%
to 82 ohms 1/2 W 10%
3. Change C40 from .02 mfd disc capacitor
to .068 mfd tubular capacitor
4. Change C45 from .01 mfd disc capacitor
to .001 mfd disc capacitor
5. Connect a 220 mmfd disc capacitor from the high side of the volume control to the roter of said control.

Model 50

Effective on units with serial #30200ZD and later.

Model 100

Effective on units with serial #31300ZD and later.

1. In section I, Rear Panel Controls, change last sentence of paragraph titled Power to read as follows.
Five different cord assemblies are used; 115VAC, 6VDC negative ground, 6VDC positive ground, 12VDC negative ground, and 12VDC positive ground. Delete Caution note.
2. In section II under Power Supply Circuit Description change last sentence of first paragraph to read as follows.
On 6 or 12 volt battery operation a transistor oscillator circuit is used to supply the necessary AC, square wave voltage for the primary circuit of the power transformer.
3. Change second sentence of second paragraph under Power Supply Circuit Description to read as follows.
The unit may be operated either from 6 volt positive ground, 6 volt negative ground, 12 volt positive ground, 12 volt negative ground by use of the proper power cord assembly which may be purchased from your dealer.
4. In section III, delete section titled Vibrator Care Is Important.
5. In section IV, change paragraph titled Power Plugs to read as follows.

6VDC	plug	-gnd	Part No. 150-212	Price each	\$7.50
6VDC	plug	+gnd	Part No. 150-213	Price each	\$7.50
12VDC	plug	-gnd	Part No. 150-214	Price each	\$7.50
12VDC	plug	+gnd	Part No. 150-215	Price each	\$7.50
115VAC	plug		Part No. 150-174	Price each	\$7.50
DC	plug kit		Part No. 150-191	Price each	\$3.95
AC	plug kit		Part No. 150-192	Price each	\$3.95
6. In section IV, under title Wiring Power Plug For Model 100 change the first sentence to read as follows.
The 3-way power supply may be operated from any one of 5 different power systems; 115VAC; 6VDC positive ground, 6VDC negative ground, 12VDC positive ground, 12 VDC negative ground.
Delete all drawings and pin connections in this section and substitute the following.

115VAC Model 50 & 100

Part # 150-174

115VAC to pins 1 and 4

Jumper pins 2 and 3

Jumper pins 13 and 18

Part # 150-212
6VDC Neg. Gnd.

+6VDC Hot to pin 1 red
-6VDC Gnd. to pin 15 brown
Jumper pins 11 to 12 to 14 to 15 to 18
Jumper pins 2 to 5 to 17
Jumper pins 7 to 8
Jumper pins 6 to 9
Jumper pins 10 to 16

Part # 150-214
12VDC Neg. Gnd.

+12 VDC Hot to pin 1 red
-12VDC Gnd. to pin 15 brown
Jumper pins 10 to 14 to 15
Jumper pins 7 to 8 to 16
Jumper pins 2 to 5 to 18
Jumper pins 6 to 9

7. Delete Power Supply Shcematic

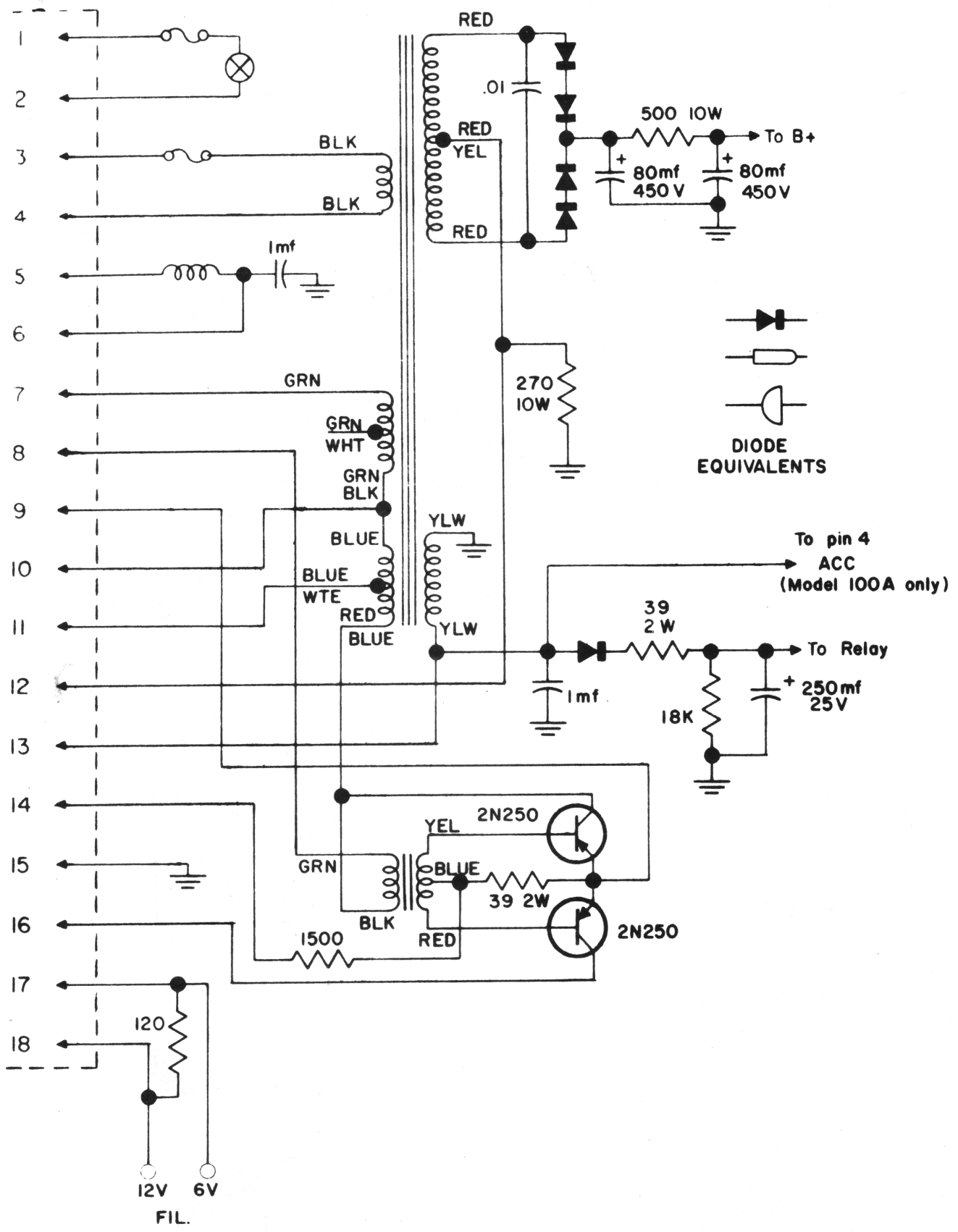
8. Add the following power supply circuit.

Part # 150-213
6VDC Pos. Gnd.

-6VDC Hot to pin 1 brown
+6VDC Gnd. to pin 15 red
Jumper pins 9 to 12 to 15 to 18
Jumper pins 6 to 11 to 14
Jumper pins 2 to 5 to 17
Jumper pins 7 to 8
Jumper pins 10 to 16

Part # 150-215
12VDC Pos. Gnd.

-12 VDC Hot to pin 1 brown
+12VDC Gnd. to pin 15 red
Jumper pins 6 to 10 to 14
Jumper pins 7 to 8 to 16
Jumper pins 2 to 5 to 18 "
Jumper pins 9 to 15



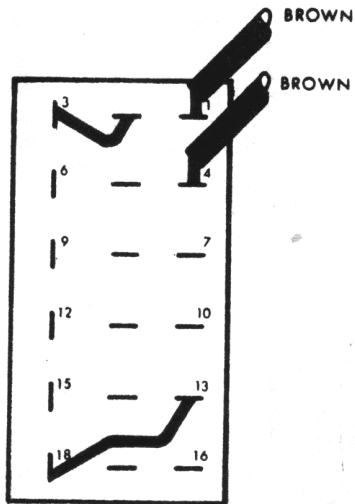
Revision of 7-18-62 *Lof*

POWER SUPPLY MODELS 50A & 100A		
DRAWN BY: <i>SM</i>	CHECKED BY: <i>SM</i>	APPROVED BY: <i>RF</i>
DATE: <i>6-11-62</i>	DATE: <i>6-11-62</i>	
INTERNATIONAL CRYSTAL MFG. CO., INC.		
18 N LEE, OKLAHOMA CITY, OKLAHOMA		

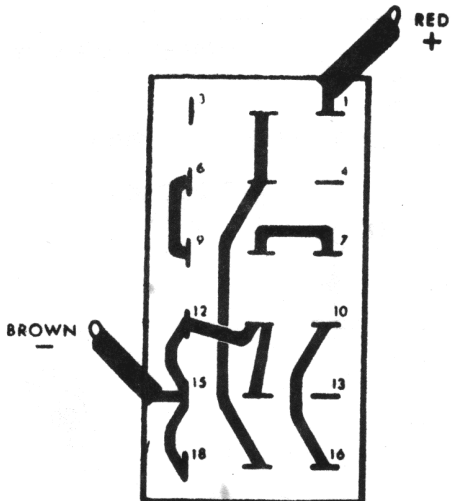
POWER PLUG WIRING

(ALL VIEWS FROM BACK OF PLUG)

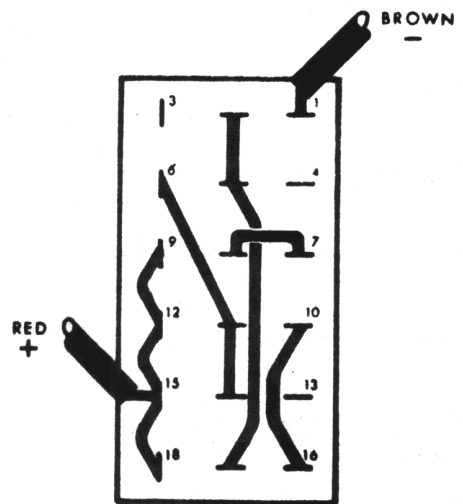
115 VAC 150-174



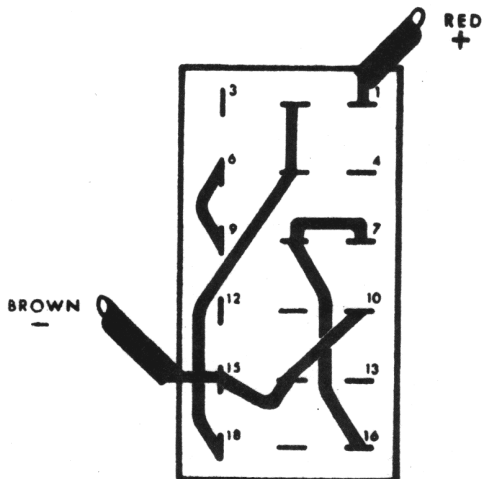
6 VDC Neg Gnd 150-212



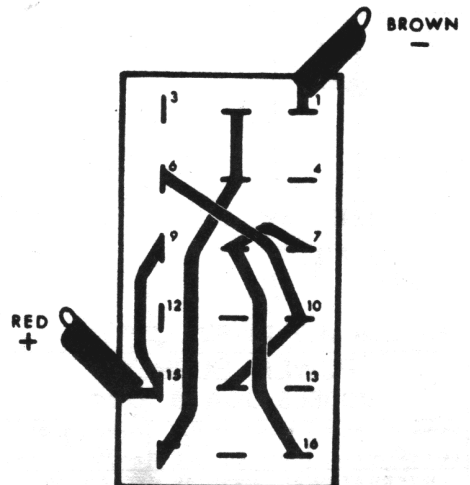
6 VDC Pos Gnd 150-213



12 VDC Neg Gnd 150-214

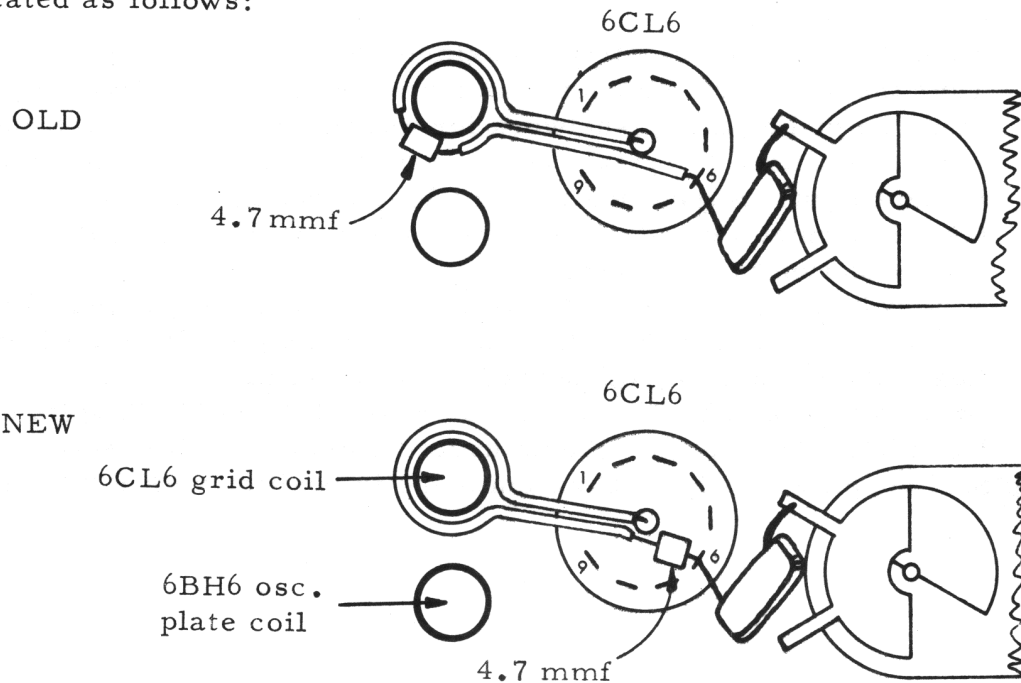


12 VDC Pos Gnd 150-215



The following changes have been made in late production Model 50A and Model 100A Executive transceivers. It is recommended that these changes be added to all sets where applicable.

1. Neutralization Loop. The 4.7 mmf neutralizing capacitor should be re-located as follows:



The 4.7 mmf capacitor should Solder directly to pin 6 of the 6CL6 socket with no more than 1/4 inch lead. Splice a piece of insulated wire on the other end of the 4.7 mmf capacitor and run the neutralization loop around the top end of the 6CL6 grid coil just under the top coil lead. This is same position on the coil the loop was previously positioned.

2. Grid Drive Coupling Loop. If the coupling loop has not been installed on sets with double coil coupling; it should be fabricated and installed as follows:

- (a) Cut a piece of #24 insulated hook-up wire 3 1/4 inches long. Strip 1/4 inch each end. Twist the two ends together, solder, and insulate the joint.
- (b) Form a loop and slip it over the ends of the two coupling coils. Position at the top end of the windings. Squeeze the loop together



between the coils to tighten. Do not twist the ends of the loop with respect to each other-leave as a flat loop as shown.

(3) Tuning Grid Coupling. The double coil coupling is tuned as follows:

- (a) Connect the dc probe of a VTVM to the center post of the 6BH6 tube socket. Use the 30volt negative range.
- (b) Install a channel 1, 9, and 23 crystal in the transmitter. Set the switch for channel 9. Connect wattmeter to transmitter output and key transmitter.
- (c) Tune the 6BH6 plate coil for maximum voltage on VTVM.
- (d) Tune the 6CL6 grid coil for maximum voltage on VTVM.
- (e) Tune the 6CL6 plate pi-network for maximum power to wattmeter.
- (f) Remove channel 9 crystal, key transmitter, and check neutralization for no output. Adjust neutralizing loop if required.
- (g) Install channel 9 crystal and repeat steps (c) thru (f) until neutralization is complete.
- (h) Now switch the crystals alternately between channel 1 and 23 noting grid drive. Adjust the 6BH6 plate coil for equal drive on 1 and 23. Leave the 6CL6 grid coil peaked for channel 9.
- (i) Grid voltage will be 20-25 volts dc channel 9 and 15-20 volts channels 1 and 23. Grid voltage should exceed 13 volts in all cases.
- (j) Seal coupling and neutralization loops in position with RTV compound.

FILTER ADJUSTMENT

- (a) Check filter bandpass
- (b) Set receive crystal trimmer for center of bandpass
- (c) Adjust 455 KC IF for peak AVC
- (d) Check adjacent channel rejection

The above steps are made as follows:

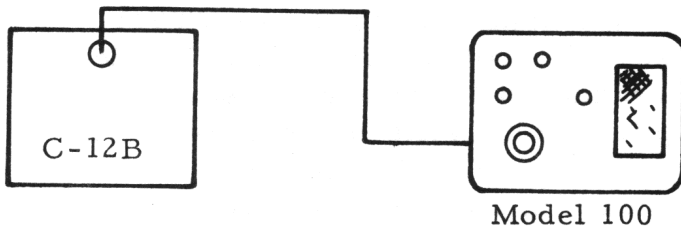


FIG. 1

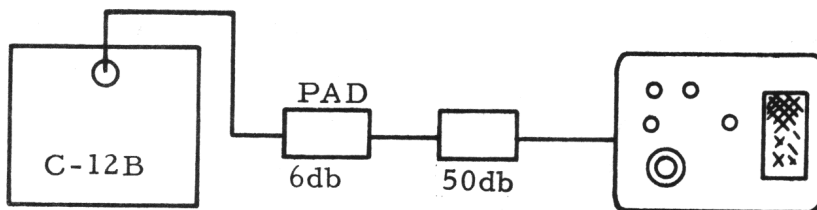
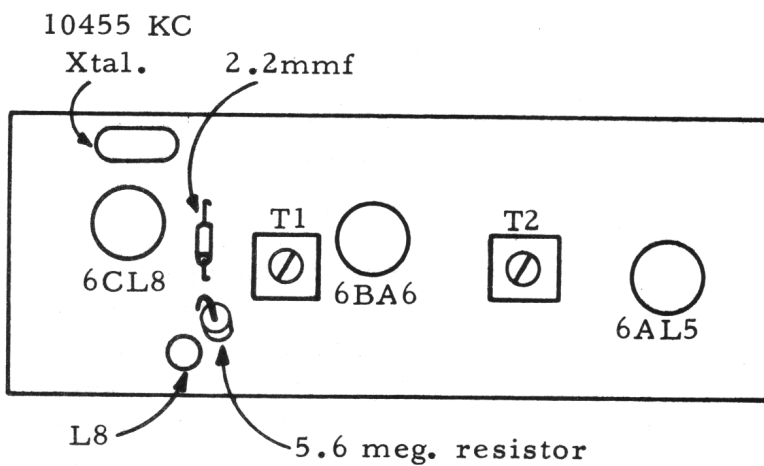


FIG. 2

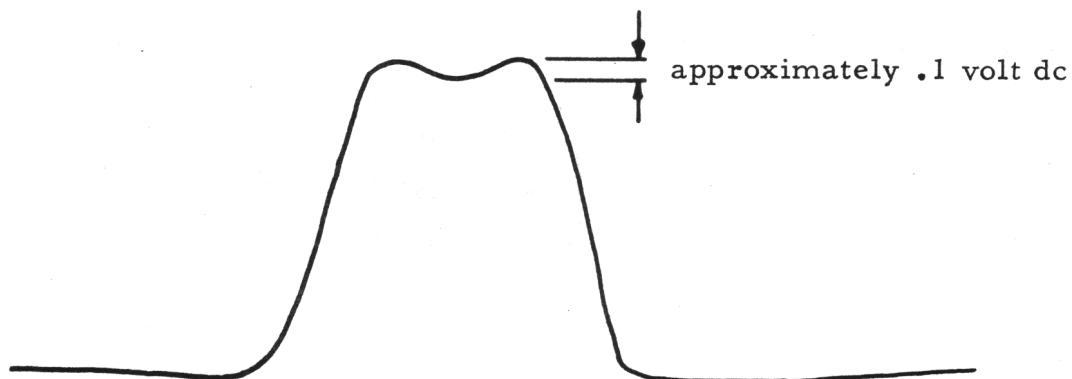


FUG. 3

- (1) Remove case from the Executive
- (2) Remove 10455 KC second IF crystal
- (3) Connect high impedance DC VTVM probe to grid of second mixer. On late models 100 this will be the top of the 5.6 megohm resistor. On earlier sets this will be the lead from the 2.2 mmf capacitor nearest L8. (figure 3)
- (4) Set the Receive Selector to Tune
- (5) Apply a channel 9 signal from the C-12B to the Executive model 100A. Set the C-12B LEVEL control full clockwise. (figure 1)
- (6) Slowly tune the receiver thru channel 9 and note the VTVM reading. Off channel the VTVM will read between .5 and 1.0-dc. As you reach the channel the reading will increase (depending upon the amount of signal being applied) to 1.5 volts-dc or more. If the reading goes higher than 2.5 reduce the C-12B signal.

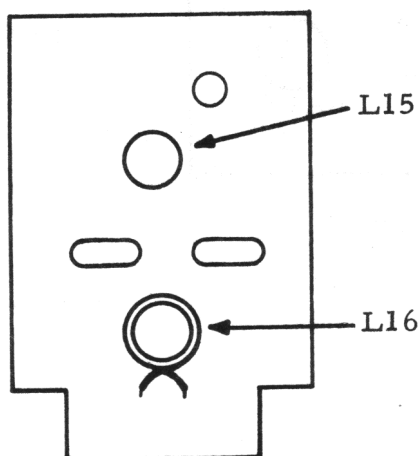
NOTE: No signal will be heard in the speaker since the second mixer crystal has been removed.

Tune slowly across channel 9. The voltage should vary as below



The correct filter setting should have equal peaks plus or minus .1 volt dc from mean value. The valley between peaks should be no greater than .1 volt dc lower than mean.

FIG. 4



- (7) Where the bandpass is out of tolerance, remove the seal from L15 and L16. L15 will effect the peak height and L16 the depth of the valley. These coils are touchy to adjust and only small

changes should be made between each tune thru of channel 9. Normal position of the slug in L15 is near the top of the form to 1/8 inch in the form. The slug in L16 extends approximately 1/16 to 1/8 inch out the top of the form. Be sure to seal the slugs after adjustment. Alternately adjust L15 and L16, and then tune across the channel until the desired bandpass is obtained.

(8) Set the RECEIVE SELECTOR to channel 9 crystal receive and rotate its associated trimmer. Note the VTVM reading and leave the trimmer set to a point midway between the bandpass peaks.

(9) Repeat step 8 for each receive crystal using the appropriate channel on the C-12B.

(10) Reinstall the 10455 KC crystal. Install a 6db / 50 db pad between the C-12B and the Executive. (figure 2)

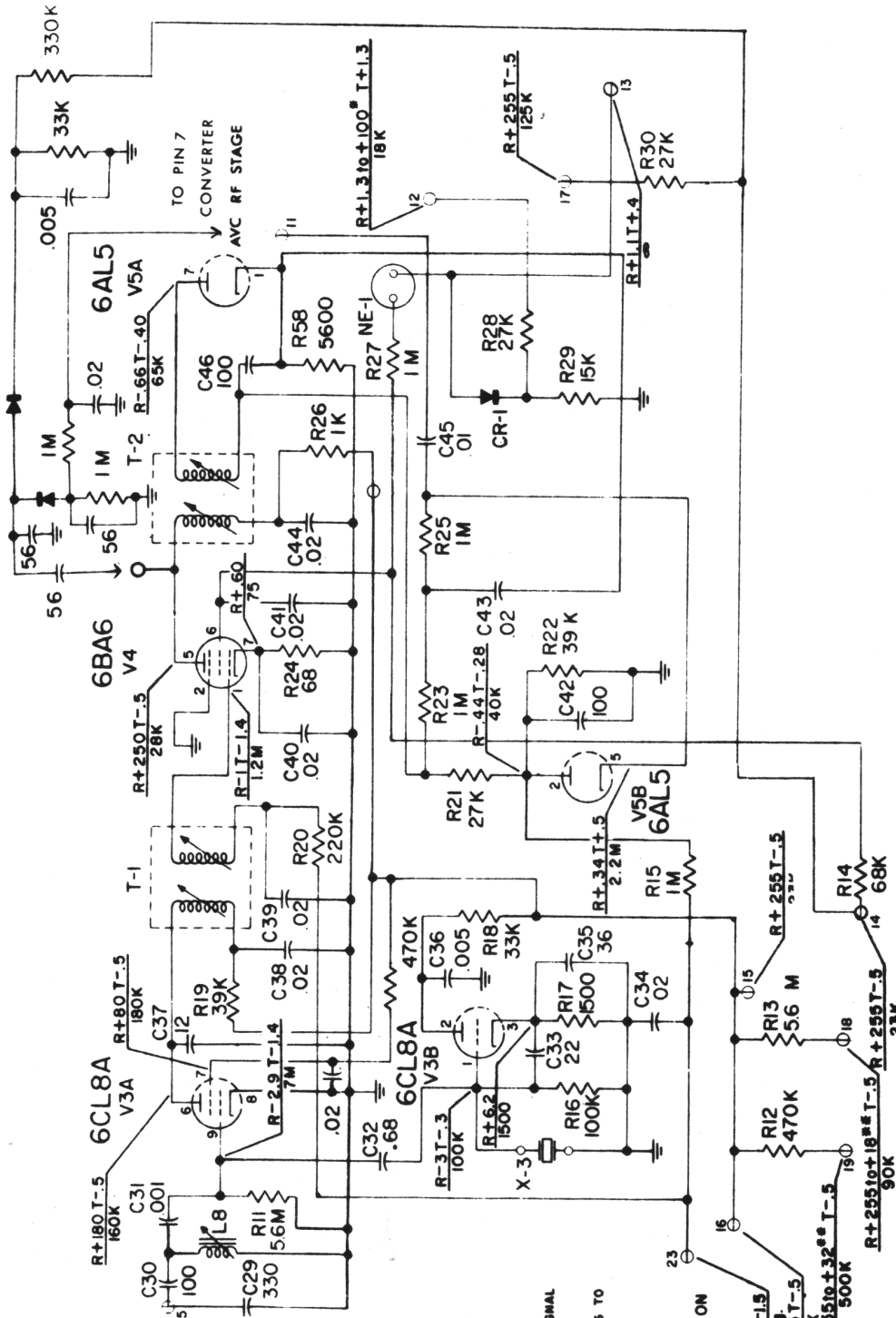
(11) Using channel 9 crystal receive, apply sufficient signal on 9 from the C-12B to give 2 to 3 volts AVC as measured at the accessory socket ACC. Peak the 455 KC IF transformers for maximum AVC.

(12) Set the output of the C-12B for 3 volts AVC channel 9. Check the C-12B output on channels 8 and 10 by tuning them in on the receiver. Plus or minus .25 volts of channel 9 level is satisfactory.

(13) Return to channel 9 crystal receive and switch out 50 db of pad. Apply signal from C-12B on channel 8 and 10. The AVC reading should not exceed the level of channel 9 noted with the 50 db pad in the circuit.

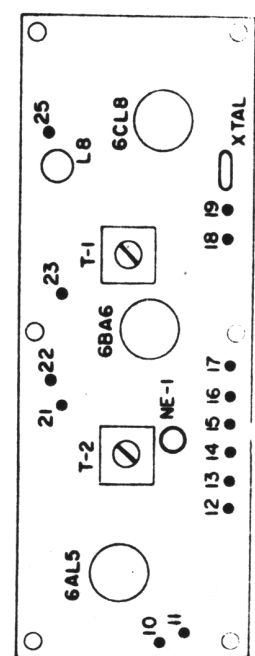
NOTE: There should be at least 6 db of pad in the circuit at all times to prevent variation in load to the C-12B. For accurate rejection check, the above settings must be made with care and no signal leakage can be present.

The following Diagram applies to the EXECUTIVE transceiver Model 100-C.
All other pertinent data in this manual is applicable to this MODEL.



NOTE
Voltage Resistances
T- TRANSMIT
R- RECEIVE
VOLTAGE MEASUREMENTS, NO SIGNAL
115 V OPERATION
VOLTAGES WILL VARY FROM 6 TO 12 TO 115 VOLT OPERATION.
VOLTAGE MEASUREMENTS MADE WITH VTVM
SQUELCH OFF TO FULL ON
**CALIBRATE ON ALL READINGS ±10%

- POWER PIN CONNECTIONS**
- 10 AUDIO OUT GND
 - 11 AUDIO OUT
 - 12 TO SQUELCH CONTROL
 - 13 TO SW-3 & AUDIO GRID
 - 14 TO SW-6
 - 15 TO SW-6
 - 16 B+
 - 17 TO SQUELCH CONTROL
 - 18 TO SW-6
 - 19 TO SW-6
 - 21 12V FIL
 - 22 6V FIL
 - 23 AVC
 - 25 10MC IN



**I.F. UNIT
MODEL 100 C**

DRAWN BY: *[Signature]* CHECKED BY: *[Signature]* APPROVED BY: *[Signature]*
DATE: 1-16-63 DATE: _____

INTERNATIONAL CRYSTAL MFG. CO., INC.
18 N. LEE, OKLAHOMA CITY, OKLAHOMA