

## RV-3 REMOTE VFO INSTRUCTIONS

## DESCRIPTION:

The RV-3 Remote VFO consists of highly stable permeability tuned VFO, cathode follower, voltage regulator, and the required control circuitry to permit reception, transmission, or both transmission and reception on a frequency removed from the TR-3 VFO setting but in the same band to which the TR-3 is tuned.

The unit is housed in an attractive cabinet which matches the TR-3 and contains a 5-inch 4 ohm speaker. Our model AC-3 power supply can also be housed in this cabinet. (See AC-3 instructions.) The dimensions are as follows: 5-3/8 inches high, 10-3/4 inches wide, and 11-1/8 inches deep. Weight 6-1/2 lbs.

## INSTALLATION:

To install the RV-3 with our TR-3, it will first be necessary to remove the bottom cover of the TR-3 and remove the jumper wire between pins 2 and 8 of the RV-3 jack (J2). Now replace the bottom cover of the TR-3 and connect the RV-3 cable to J2. Connect the speaker lead to the 6-inch lead protruding from the AC-3 or DC-3 power cable connector. This completes the installation.

If it is desired to disconnect the RV-3 from the TR-3, it will be necessary to replace the RV-3 cable connector with a jumper plug. This plug should consist of an 8 conductor male plug (Cinch Jones Type P-308 with either the CCE, FHE, FHT, or CCT metal caps - remove cable clamps) with a jumper wire connected between pins 2 and 8.

NOTE: It is necessary to bond RV-3 Chassis to TR-3 Chassis and to a good ground with a short piece of braid.

## OPERATION:

The RV-3 has two controls: The main tuning and the RV-3 FUNCTION switch. The main tuning control determines the frequency of the VFO and is calibrated in exactly the same way as the TR-3 VFO. The RV-3 FUNCTION control has four positions: OFF, RCV, RCV/XMIT, and XMIT.

In the OFF position, the unit draws B+ and filament current but does not provide any output. The TR-3 will transceive normally.

In the RCV position, the RV-3 determines the receiving frequency and the TR-3 VFO determines the transmitting frequency.

In the RCV/XMIT position, both transmit and receive frequencies are determined by the RV-3.

In the XMIT position, the RV-3 determines the transmitting frequency and the TR-3 VFO determines the receiving frequency.

## SERVICE DATA

We will check and factory align your RV-3 for a nominal fee of \$5.00 plus transportation charges if the set has not been tampered with. If repairs are necessary, we will advise you of the cost before proceeding with the work. Units that have been tampered with or misaligned will be repaired on a time and material basis.

## A. REMOVAL FROM CABINET:

1. If the AC-3 power supply is installed in the RV-3 cabinet, it will first be necessary to remove it by removing the four screws holding it to the bottom of the RV-3 cabinet and sliding it out the rear.
2. Now loosen the six screws holding the RV-3 in the cabinet and slide it out the rear.

## B. TUBE REPLACEMENT:

In general, most trouble encountered in radio equipment of good design is due to tube failure. The RV-3 has been designed so that tube replacement can be done without need for realignment. The best method of finding defective tubes is direct substitution. It is best not to rely too heavily on tube checkers.

## C. TROUBLESHOOTING:

Careful consideration has been given in the design of the RV-3 to keep maintenance problems to a minimum. However, it is quite possible that some problem will arise which cannot be cured by tube substitution. If this occurs, we suggest that you either return your unit to your dealer or write direct to our service department describing your problem in detail. Include full information concerning external connections, control settings, tubes substituted etc. Do not return equipment to the factory without prior authorization.

The voltage and resistance charts and the schematic diagram should be valuable in isolating minor problems. However, no attempt should be made to service the RV-3 unless you are thoroughly familiar with electronic circuitry and servicing technique.

## D. ALIGNMENT

The RV-3 is very carefully aligned at our factory and should require no further adjustment. If a tracking error in the VFO is noted, the unit should be returned to our factory.

However, if the unit has the same calibration error from one end of the dial to the other, and if the error cannot be corrected by the movable index line, the dial scale can be slipped slightly on its shaft until the discrepancy is eliminated.

Alignment of transformer T1 requires that the RV-3 be connected to the TR-3 and that an alignment load consisting of a 1000 ohm resistor in series with a .005 mfd capacitor be used. Before alignment of the RV-3 is attempted, care should be taken to make sure that T4 in the TR-3 is aligned as described on page 31 paragraph C of the TR-3 Instructions.

1. Switch the RV-3 function switch to RCV and tune its VFO to the 3.8 Mc crystal calibrator signal. (The TR-3 FUNCTION switch should be on CAL.)
2. Apply the alignment load to the input terminal of T1 in the RV-3 (The input terminal is the one connecting to the 6.8 K resistor) and peak the bottom slug for maximum S-meter reading.
3. Move the alignment load to the output terminal of T1. (The output terminal connects only to a 35 uuf capacitor) and adjust T1 top for maximum S-meter reading.

This completes the alignment procedure. Note that the input coil L1 has a fixed value which is determined by the length of the cable connecting the RV-3 with the TR-3. Do not change the length of the cable or misalignment will result.

VOLTAGE CHART

Pin	1	2	3	4	5	6	7	8	9
V1	170	0	4.2	6.3*	6.3*	170	0	4.2	12.6*
V2	-7.0	0	0	6.3*	130	140	0		
V3	150	0	0	0	150	0	0		

NOTE: These measurements were made from ground with an 11 megohm VTVM. The RV-3 was connected to the TR-3 which was in the receive condition. The RV-3 FUNCTION switch was on the RCV/XMIT position. An \* indicates AC voltage.

RESISTANCE CHART

Pin	1	2	3	4	5	6	7	8	9
V1	15K	33K	180	0	0	15K	33K	180	0
V2	150K	0	0	0	22K	22K	6.0		
V3	16K	0	INF.	0	16K	INF.	0		

NOTE: These measurements were made from ground with the RV-3 connected to the TR-3 but with the TR-3 disconnected from the power supply. The RV-3 FUNCTION switch was in the RCV/XMIT position.

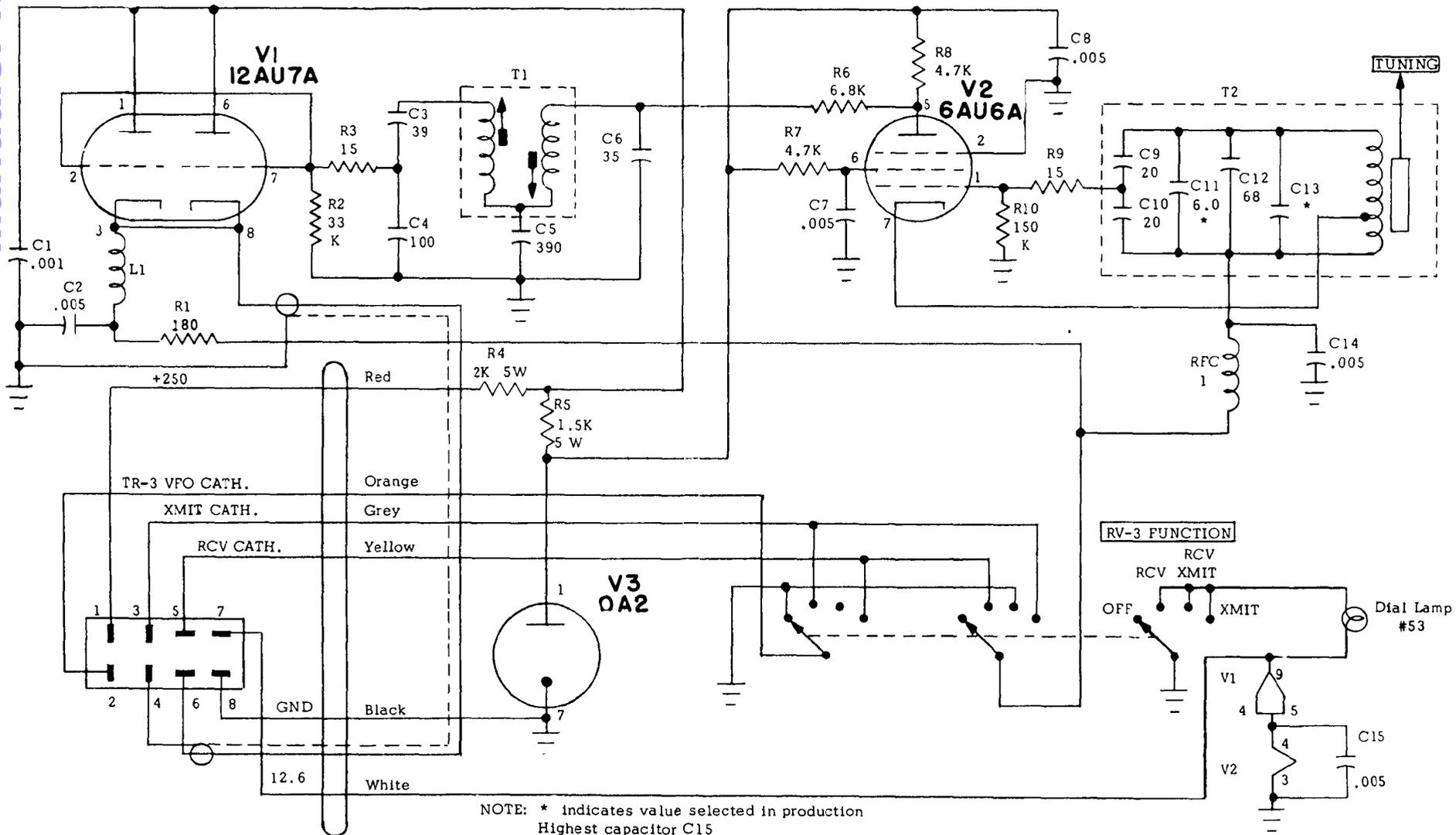


Fig. 14

NOTE: \* indicates value selected in production  
 Highest capacitor C15  
 Highest resistor R10  
 Resistors are 1/2 watt 10% unless noted.  
 Capacitor value from 1 to 1000 are in uuf and those from .001 up are in mfd unless otherwise noted.  
 Connector is shown from solder terminal end.

**SCHEMATIC DIAGRAM  
 MODEL RV-3  
 REMOTE VFO**