

# Alignment instructions

## WARNING

Any repairs or adjustments should be made under the supervision of a qualified radio-telephone technician.

## TRANSMITTER

### 1. Power Supply Voltage

The power supply voltage should be set for 6.0 VDC measured at the radio during transmit. Periodically check the power supply voltage during the alignment procedure.

### 2. Frequency Setting

- A. Connect a frequency counter or Communications Service Monitor to the antenna connector through an RF power attenuator (5 watt minimum rating, 20 dB minimum attenuation).
- B. Depress the PTT switch.
- C. Adjust the C73 trimmer capacitor such that the output frequency is equal to the channel frequency with a maximum error of  $\pm 200$  Hz.
- D. Release the PTT switch.

### 3. Output Power Alignment.

- A. Set the power supply voltage for 6.0 VDC.
- B. Connect a Communications Service Monitor or watt meter and dummy load to the antenna connector.
- C. Depress the PTT switch.
- D. To be convinced for 0.5 Watt (50 ohm load) output power with a maximum error of -0.15 Watts.
- E. Release the PTT switch.

### 4. Modulation Adjustment.

- A. Connect an audio generator.

The audio frequency should be set at 1 KHz.

- B. Connect an FM deviation meter or Communications Service Monitor to the antenna connector through an RF power attenuator ( 5 watt minimum rating, 20dB minimum attenuation). Set the monitor to read peak deviation.
- C. Press the PTT switch.
- D. Adjust RV 1 for  $\pm 2.5$  KHz maximum deviation.
- E. Release the PTT switch.



## RECEIVER

NOTE: Insure that the proper channel has been selected before proceeding with the alignment procedure.

### 1. Power Supply Voltage.

The proper voltage for testing is 6.0 VDC.

### 2. Receiver Alignment

A. Connect an RF signal generator or Communications Service Monitor to the antenna connector.

B. Connect a SINAD meter and oscilloscope across the speaker terminals.

**NOTE : Don't share speaker & antenna ground.**

C. Set the output level of the RF signal generator for -47dBm, the generator should be set for +/- 1.5KHz deviation of a 1KHz tone.

D. Set the audio output level for 0.5Vrms, by adjusting volume.

E. Adjust L1 for maximum audio output.