Transmitter Tune-up (Alignment) Procedure

Transmitter Unit

Note: there are no RF tuning adjustments for the transmitter. It is a broadband circuit.

1. FVR201 alignment
This potentiometer determines the modulation balance. Carefully align this potentiometer to obtain equal deviation on the lowest and the highest RF frequency programmed into the transmitter.

2. FVR202 alignment
This potentiometer determines the low frequency (below 300Hz) deviation. When POCSAG, CTCSS or DCS are used, it is necessary to adjust to have enough deviation at low frequency.

3. FVR203 alignment
This potentiometer sets the maximum deviation, normally set at 5KHz. Programming can set 2KHz or 2.5KHz deviation for narrow spacing.

4. FVR204 alignment
Adjust the transmitter output power to 80mW or less.

5. VCO alignment
The VCO has already been aligned at the factory; however if you need to re-adjust, set the VCO voltage at 10.5V at the highest sub band frequency.

5.2 Power Amplifier (PA Unit)

1. FVR501
Terminate 71-50610D with 50 ohm load, and adjust this potentiometer for the minimum level of reverse power.

2. FVR502
This potentiometer sets the SWR alarm threshold when the transmitter is terminated with 50 ohms load. Set just slightly past the alarm point.

3. FVR503
Adjust this potentiometer for the low power alarm threshold, usually –3dB. Turn power down to 12.5 watts (using FVR504) and adjust FVR503 for alarm to trigger.

4. FVR504
Adjust for maximum desired power output, but do not exceed 13 W.

5.4 Logic Unit

1. FVR1 adjustment
Not used.

2. FVR2 adjustment
Adjusts the deviation level when the 71-50610D used as a repeater. Set to 3.5 KHz modulation with receiver modulated at 3.5 KHz .

3. FVR3 adjustment
Adjusts the TX output power (hi power level), usually set to 10 W. Will not exceed level set in Step 5.3.4.

4. FVR4 adjustment
Adjusts Low Power level when program calls for low power. Usually set to 4 to 6 W.