

ALIGNMENT INSTRUCTIONS

Warning : Any repairs or adjustment should be made under the supervision of a qualified radiotelephone technician.

8.1. VCO

- a. Connect the power supply (DC 13.8 V)
- b. Connect the oscilloscope probe to test point C84
- c. Adjust the coil T7 for 3.8V at 40-Ch RX.
- d. Check that T6 voltmeter of receiver reads from 2 to 4 volts for all channels.

8.2. Transmitter

- a. TX Power alignments

With RF voltmeter at base of Q24, transmit of channel 19. Adjust in turn T8, T9 for maximum reading on RF voltmeter. Repeat as needed. Remove RF voltmeter.

- b. Max Mod Alignments

Adjust VR4 to obtain 90% MOD. At 16 dB greater than 50% MOD. AF 1 kHz.

- c. Final Check

1. Output power should be from 3.6 to 4.0 watts.
2. Frequency should be within +400 Hz of channel center frequency.
3. Spurious content as observed on spectrum synthesizer should be at least 60 dB below carrier.
4. With 2500 Hz modulation at 16 dB greater than that required to produce 50% modulation, occupied bandwidth should be at least 2 dB better than limit spec.

8.3. RX

Sensitivity Alignment

- a. Set the signal generator to provide 27.185 MHz, 1 kHz 30% modulation. Place the channel selector in channel 19 position.
- b. Adjust T1, T2, T3, T4, and T5 for maximum audio output across the 8 ohm dummy load resistor. This alignment should be performed by gradually decreasing the signal output signal to a minimum level required for tuning to avoid inaccurate alignment due to AGC action.

Squelch Circuit Alignment

- a. Set the signal generator to provide 60 dB, 1 kHz, 30% mod antenna input.
- b. Rotate the squelch control in full clockwise direction.
- c. Temporarily adjust for maximum audio output, and note the audio output level. Then adjust so that audio output just appeared.
- d. Next, reduce the antenna input signal level to 53~58 dB and make sure the audio output decreases to zero.
- e. Reduce antenna signal input level to zero, and adjust the SQ control until the noise output decreases to just disappear.