

5.1.2 OSCILLATOR/MULTIPLIER ALIGNMENT - Connect a VHF/UHF RF Millivoltmeter or Spectrum Analyzer to the base of the first multiplier transistor Q105 and peak osc. coil L110 for max RF output at the oscillator's frequency. In a similar fashion, connect your probe to the base of each following multiplier or amplifier stage, and peak the preceding stage's collector output trim caps for maximum RF output at the proper frequency. (See Schematic and Layout dwgs.) Tune C131, 135, 137 and 141 on VHF boards; plus C143, 145 and 147 on UHF units. (Probe at TP1.) Repeat this entire procedure about 3 times.

Finally, with your probe at TP1, tune all of the preceding adjustments slightly for max power at TP1. [If you are without test equipment in the field, all of the above may be roughly tuned for best reception of a very weak signal, appx. 0.25uV.] If there is a problem with a spurious response, carefully tune all of the Multiplier Coil slugs (L111, 112, 113, 114) to minimize the response. Otherwise, the coil slugs need not be touched.

5.1.3 21.4MHZ IF ADJUSTMENT - L120 should be adjusted for best SINAD or quieting with a weak signal, (appx. 0.25uV). (This adjustment is very non-critical.)

5.1.4 QUADRATURE COIL AND DISCRIMINATOR METER ADJUSTMENT -

If this meter function is used, set the meter switch to the "Disc. or Freq. Error" function. Adjust L122 to center the meter with a strong input signal which is exactly on frequency. Apply a 100uV (nom.) unmodulated signal to the receiver at exactly 3KHz above the proper receive frequency. Adjust R133 so that the meter reads +3 on the green scale. Reset the signal to center freq., and readjust L122 to center the meter. Repeat this process until the proper meter calibration and centering is obtained. (Check calibration at -3KHz.) Then apply a small drop of cement to the coil slug and the pot. If the Discriminator Meter Function is not used, simply peak L122 for max audio output with a strong tone modulated input signal.

5.1.5 DEVIATION METER ADJUSTMENT - Apply a 100uV (nom.) signal to the receiver RF input at the proper frequency. Set the FM modulation on the generator to exactly 4KHz. Set the meter switch to the "Rx Dev" function. Adjust R163 so that the panel meter reads "4". The meter circuit is gated to read zero when the squelch is closed.

5.1.6 SIGNAL STRENGTH (S METER) ADJUSTMENT - Set the meter switch to the "Rx Signal" function. With no input signal, adjust R137 for a 'zero' meter reading.

5.1.7 CRYSTAL FREQUENCY ADJUSTMENT - Connect an accurate and sensitive frequency counter to TP1, and adjust the crystal trimmer cap (C122) for the correct frequency. The LO output frequency will be 21.400MHz above the desired receive frequency for 30-54, 136-151.00MHz and 216-250MHz Receive Frequencies; and 21.400MHz below the desired receive frequency for 151.001-174MHz, 406-512MHz, and 66-88MHz Receive Frequencies.