

rev3

## PRC-10 Transmitter Alignment

NOTE: Do a Complete Alignment if the set has been ham hacked. Otherwise just do a partial "high end" alignment to peak RF output and to put the set on frequency within 5 kc. Start with the 54.0 Mc step below. Most Collectors use 51.0 Mc as a net frequency.

Read the manual instructions first to get details then to make things simpler use this check list - some steps are different from the manual.

Turn L3 CW to bottom position.

Turn C11 to position stem flush with the bottom bracket (stem all the way in).

Adjust C17 to minimum capacitance with arrow towards side.

Connect DVM minus lead to R13-R11 Junction and positive to pin 5 (AFC) of Test socket.

Set dial to 39.0 Mc (low end alignment) using CAL position.

Adjust L3 for "correct" zero voltage on DVM.

Adjust L9 for max power into 50 ohm load.

Readjust L3 for "correct" zero on DVM.

### High End Alignment

**Set Dial to 54.0** (high end alignment) using CAL position.

Adjust C11 for correct zero on DVM.

Adjust C20 for max power into 50 ohm load.

Readjust C11 for "correct" zero voltage.

Remove watt meter from BNC aux connector.

Adjust C17 for "correct zero" or as close as you can get it.

Then:

CALibrate receiver to 51.0 using CAL position. Do an accurate "zero beat".

Measure frequency of transmitter with a frequency counter. Repeat CAL again on the receiver and again measure transmit frequency several times to average determine error.

IMPORTANT: In the event the transmitter is off by a small amount adjust readjust C11 slightly and if that does not work read the Frequency TIP below. Often due to the age of the components in the transmitter AFC module the transmit frequency may be off 20 -30 kcs from the receiver frequency. In this case C11 will not correct the problem. See OFF FREQUENCY TIP below.

Note: This frequency correction procedure is not in the manual.

**OFF Frequency TIP:** Coil L2 on the AFC module can be used to correct small errors in the transmit frequency. The "Correct Zero" voltage reading during used during the alignment steps above may be

slightly in error due to aging of components such as CR1 and CR2 as well as R4 and R5 in the AFC module. After calibrating using the CAL position and placing the set on exactly on 51.0, measure transmitter frequency and if the transmitter is still off frequency by more than 5 kcs then L2 on the AFC module can be adjusted slightly. CW of L2 raises the frequency - - CCW lowers the frequency. Turn in very small increments such as 1/8 turn etc. Turns more than 1/2 of a turn to correct the frequency will be rare. The target is to be on frequency within 5 kcs or better..

After all has been done check the set on short and long antennas. Any unstable operation probably can be corrected with C17 the neutralization capacitor and retuning of C11.

Overall the preferred method of transmitter alignment is to just touch up the "high end" alignment. Assuming that the set has not been complete ham hacked.

The PRC-10A alignment has a procedure for adjustment of C17 see Chapter 5 paragraph 100, m through P