



10. Make the following alignment touch-ups. All are in accord with your Collins manual:

- a. Tune in WWV and zero-beat the Calibrator by adjusting "100KC ADJUST" C61.
- b. Tune to 100 on the dial and set the pointer with the Crystal Calibrator, then check the 0 and 200 dial positions for end point spread. ST102 matches the tube closely. You should find less than 2 kHz change in the dial center calibration and less than 1 kHz change in the end point spread. Return the Function switch to STANDBY.
- c. RF Alignment Touch-up: Set the dial at 100, either LSB or USB mode, RF Gain maximum, Rejection Tuning OFF, BFO OFF. Band-by-band, set the Preselector per the following table and peak the ANT, RF and OSC trimmers for maximum signal (these are the two rows of trimmers beneath the long Preselector yoke-and-rod assembly):

| <u>Band</u> | <u>Set Preselector</u> | <u>Band</u> | <u>Set Preselector</u> |
|---------------|------------------------|---------------|------------------------|
| <u>Switch</u> | <u>Logging Scale</u> | <u>Switch</u> | <u>Logging Scale</u> |
| 3.6 | 2.1 | 21.0 | 7.9 |
| 7.0 | 3.9 | 28A | 8.9 |
| 14.2 | 6.6 | | |

Note: The Collins manual describes a way of gimmicking the Calibrator to provide a variable level signal source for this alignment, and recommends using a 47 ohm dummy load in the antenna jack during the procedure. These are certainly applicable with the Tubesters installed, should you wish to use them. However, we prefer peaking these trimmers with the antenna that we use on each band connected, simply using front-end noise and/or incoming signals at or near 100 on the dial as the signal sources.

- d. IF Alignment: The ST106 and ST107 IF Tubesters match the tube so closely that none of the IF circuits in the receiver need be touched due to their exchange for the tubes. Should you wish to check your receiver's IF alignment, the Collins manual procedures apply.
- e. Tunable BFO: Turn on the Calibrator and zero-beat the signal using the USB mode with the BFO OFF. Now turn on the BFO to position "0". If the Calibrator signal is not again zero-beat or close enough to it, zero-beat it by turning the slug in L10.

11. RF GAIN ADJUST (R57) in 75S-3/3A; termed IF GAIN ADJUST (R57) in 75S-3B/3C: Setting this potentiometer per the Collins manual requires an RF signal generator not readily available to most amateurs. The following simple "by ear" alternate procedure will result in just as nearly optimum a setting on this important adjustment:

Place the receiver in normal operation on one of the higher bands, with Preselector peaked, RF Gain maximum and Audio Gain at your normal listening level. Rotate R57 fully counter-clockwise (minimum gain position), then turn it back up just far enough to bring weak signals and front-end noise to an easily audible level, and NO FARTHER. Higher settings will decrease the receiver's dynamic range without improving the minimum level of signal that can be copied.

The Tubester Set installation is complete.