

ALIGNMENT

The VFO-821, in normal service, will need an occasional touch-up on the oscillator trimmers to keep its calibration accuracy. Unless tampered with, the 24 to 26 MHz broadband amplifier should not need any adjustment. Drift can be minimized by adjustment of the temperature compensating trimmers.

Alignment Procedure

Equipment Required:

Sweep generator with at least a 21 to 29 MHz sweep width.
Oscilloscope with RF detector.
Tuning wrench, plastic, .100" hexagon, GC0606L or similar.
Marker generator.
Receiver covering 12 to 13 MHz and 24 to 26 MHz with calibration crystal oscillator.
Screwdriver, 1/8" blade, or GC8272.
Vacuum tube voltmeter with RF probe - Hewlett Packard 410B or equivalent.

NOTES:

DO NOT disturb the temperature compensation trimmer capacitors unless drift correction is desired.

All adjustments on the variable oscillator must be done in the order listed as there is interaction between adjustments.

The normal output voltage of the VFO into a high impedance RF VTVM is 1.4 to 3.0 volts.

Keep the output of the VFO to the oscilloscope below 1 volt.

Alignment of the 24 - 26 MHz Amplifier:

1. Remove the VFO from the cabinet and remove the bottom cover.
2. Disable the oscillator by unsoldering the 2.2 k resistor (R4) from the feedthru capacitor, C21, near the power switch.
3. Connect the output of the VFO (the dummy crystal) to the RF detector of the oscilloscope.
4. Connect the sweep generator, through a .001 uF capacitor to pin 2 (grid) of V1, 6KZ8.
5. Turn the power switch ON. The positions of the other controls will have no effect.
6. Align both cores in T4 for a flat response over 24 to 26 MHz.
7. Reconnect the sweep generator to pin 9 (doubler grid) of V1, 6KZ8.
8. Align both cores in T3 in the same manner as in Step 6.
9. Touch up the alignment by repeating Steps 6 and 8.
10. Disconnect the sweep generator and oscilloscope. Reconnect R4 to C21.

Preliminary alignment of the variable oscillator:

Put the bottom on the VFO with a few screws. See Figure 3