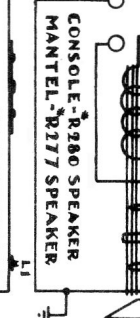


Model - R-407

Guardsman and Baronet™ Voltmeter

except 'S' * Measured from B-to ground. † Measured with 250,000-Ω.



***NOTE:** The alignment operation can all be performed without removing the chassis from cabinet in the Guardsman model and all but the 600 KC. pad (C13) can be adjusted in the Baronet. Connect an output meter to the speaker voice coil terminals or between plate and screen of the output tube.

ALIGNING THE I.F. AMPLIFIER: Turn the volume control to maximum volume position and keep it in this position throughout the entire alignment procedure. Turn the range switch to the broadcast position (fully clockwise). Turn the control grid and chassis with a .1 mfd. condenser in series with the oscillator output. Set the oscillator to exactly 465 KC. Set the receiver dial at any point where it has no tuning effect on the oscillator signal.

Adjust the four I.F. trimmers, beginning with last I.F., for maximum output meter deflection, then repeat the trimmer adjustment.

WAVE-TRAP ADJUSTMENT: The wave-trap adjusting screw (L-1) is located on the back of the chassis. Leave the test oscillator at 465 KC. Connect the oscillator output to the A and G terminals with a 400 ohm resistor in series with the A terminal and oscillator output. Then adjust the wave-trap screw (L-1) for minimum output. If some particular station with a frequency near 465 KC., causes code interference it may be desirable to adjust the wave-trap on the actual frequency of the interfering station.

IMPORTANT

To properly align the three bands in this receiver, it is necessary to follow a definite alignment procedure. That is, the short-wave band must be aligned first; Police Band second and Broadcast last. The reason for this is that the short-wave oscillator band utilizes a single secondary coil while the Police band secondary is in series with the short-wave for the police band, and in the Broadcast band all three secondaries are in series.

BAND NO. 3 CALIBRATION AND ALIGNMENT: With the gang condenser in full mesh, the dial pointer should be on the last vertical line to the left of 550 KC. on the dial scale.

Turn the range switch to the extreme counter-clockwise position and connect the test oscillator output to the A and G terminals of the receiver with a 400 ohm carbon resistor in series with the A terminal and the oscillator output.

Set the test oscillator to 16 MC. and turn the receiver dial pointer to exactly 16 MC. on the tuning dial.

To calibrate the dial, adjust trimmer No. C9 for maximum output. Check to see that it has been adjusted to the proper peak by turning the receiver to approximately 15.1 MC. A repeat signal should be heard at this point. If none is present, even with greatly increased oscillator output, retune the receiver

to 16 MC. and adjust trimmer No. C9 to the proper peak with the trimmer screw farther out.

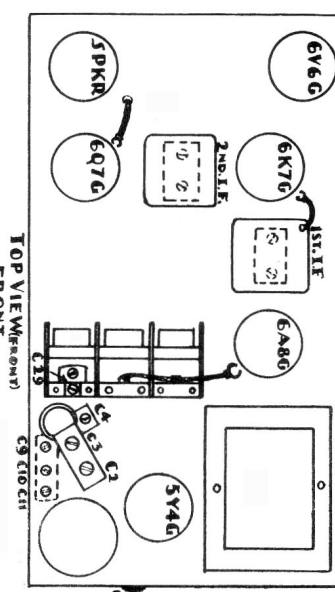
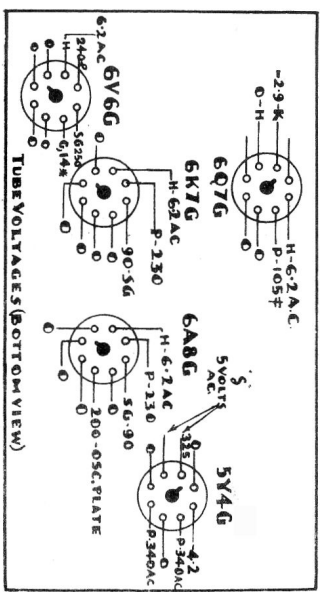
Carefully tune the receiver to the signal and adjust trimmer No. C2 to a peak. Then try to increase the output by detuning the trimmer slightly and returning the dial until a maximum output meter deflection is secured. Check the adjustment by tuning the receiver to the image at about 15.1 MC. The image should be much weaker than the 16 MC. signal. If the signal at 15.1 MC. dial setting is equal to or stronger than the 16 MC. signal, trimmer No. C2 is not set to the proper peak. Turn the trimmer in a turn or so, then readjust as above.

BAND NO. 2 CALIBRATION AND ALIGNMENT: Turn the range switch to the center position. Adjust the test oscillator to exactly 5.0 MC. and turn the receiver dial pointer to exactly 5.0 MC. on the tuning dial. To calibrate the dial adjust trimmer No. C10 for maximum output. If two peaks are found, the proper one is that with the trimmer screw farthest out.

Carefully tune the receiver to the signal and adjust trimmer No. C3 for maximum output. Then try to increase the output by detuning No. C3 slightly and returning the receiver dial. Continue detuning No. C3 and returning the dial until the output meter deflection is a maximum.

BROADCAST BAND ALIGNMENT: Set the range switch in the extreme clockwise position, and leave the test oscillator connected to the A and G terminals of the receiver through a 400 ohm resistor. Adjust the test oscillator to exactly 1500 KC. and turn the receiver dial pointer to the 1500 KC. on the tuning dial. To calibrate the dial, adjust trimmer No. C11 for maximum output. Carefully tune the receiver to the signal and adjust trimmers Nos. C4 and C29 for maximum output.

Adjust the test oscillator to 600 KC. and tune the receiver to the signal. Adjust trimmer No. C13 for maximum output. Then try to increase the output meter reading by detuning No. C13 slightly and returning the receiver dial. If the output goes down, detune the trimmer in the opposite direction. Continue detuning the trimmer and returning the receiver dial until maximum output meter deflection is secured. This operation is commonly known as "rocking" and when performed as described will give maximum selectivity and sensitivity even though the dial may be slightly off calibration at 600 KC.



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