

NOTE: RANGE SWITCH SHOWN IN BROADCAST(B.C.) POSITION; CENTRE POSITION IS SHORT WAVE (S.W.); RIGHT HAND POSITION IS BAND SPREAD (B.S.)

MODEL R-418

I.F. = 456Kc.

ALIGNMENT PROCEDURE:

Note: The bottom cover must be on the chassis but not necessarily fastened with the screws.

1. **I.F. ALIGNMENT:** Turn the range switch to the left hand (B.C.) position and the tuning condenser all out at the 1800 KC end. The volume and tone controls must be both turned full on to the right and left in this position throughout the whole alignment procedure. Use as weak a signal as possible for aligning that will give a readable output. The output meter can either be connected across the speaker voice coil or across the primary of the output transformer through a blocking condenser of say .1 mfd or greater.

Apply a 456 KC signal from the test oscillator to the grid of the 1C7G tube through a .05 mfd condenser, grounding the low lead of the oscillator to the chassis. Peak the IF transformers for maximum output beginning with the second stage. If appreciable readjustment is required repeat the operation. The third stage being resistance coupled, requires no alignment.

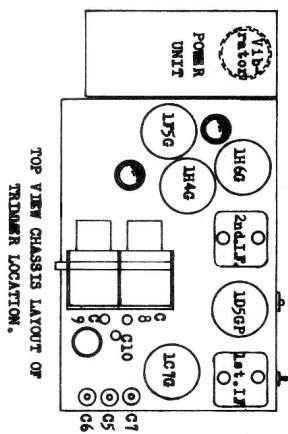
2. **WAVE TRAP ADJUSTMENT:** Remove the test oscillator lead from the 1C7G grid and connect it to the blue antenna lead from the chassis through a standard broadcast dummy antenna or a 200 mhmrd condenser. Increase the oscillator input until a signal is heard and then adjust the trap L1 for minimum output. A very strong signal is necessary for the final adjustment.

3. **BROADCAST ALIGNMENT:** With a 1400 KC signal from the test oscillator applied to the set as in 2, set the dial pointer to 1400 KC on the lower scale and adjust trimmer C9 for maximum output. Then rocking the gang condenser slightly adjust trimmer C6 for maximum output.

Then with a 600 KC signal adjust pad C37 for maximum output at 600 KC rocking the gang condenser meanwhile. If an appreciable change in C37 was required go back to 1400 KC and re-adjust C6 as before. If the dial pointer does not calibrate properly over the scale check to see that the pointer lines up with the last mark at the 1800 KC end of the dial when the gang is all out. It can be shifted by loosening the set screw on the dial drum and moving the drum around.

4. **SHORT WAVE ALIGNMENT:** Next change the dummy antenna to a 400 ohm carbon resistor and turn the range switch to the centre, short wave, position. Apply a 15000 KC signal and with the dial pointer set at 15000 KC on the middle scale adjust trimmer C8 for maximum output. Then, rocking the gang condenser slightly, adjust trimmer C5 for maximum output. This is the only alignment necessary on this band.

5. **BAND SPREAD ALIGNMENT:** It is important to perform the alignment in the order given in order that any adjustments made will not affect any circuits except the one being adjusted; viz. Broadcast then Shortwave and finally the Band Spread.



NOTE 1: + MAYER L-R-4181-SPEAKER-----No. 3006410
OUTPUT TRANS " 3006444
V.C. ADJ. LENS " 3006440
CONSOLE -R-4185-SPEAKER-----No. 3006536
OUTPUT TRANS " 3006445
V.C. & DIAPH. " 3006442

NOTE 2: VOLTAGES MEASURED FROM THE SCREWS TO CHASSIS WITH A 1000 OHM PER VOLT METER ON HIGHEST READABLE RANGE, BATTERY DRAIN AT 6 VOLTS---1.3 AMPS.

NOTE 3: ONLY VIBRATORS WHICH HAVE STARTING CONTACTS USE NO. 6 TERMINAL.

1938-39

Turn the range switch to the Band Spread, right hand, position and apply 9500 KC (exact) signal through the 400 ohm dummy to the antenna wire as in 4. With the dial pointer at 9500 on the upper scale, adjust trimmer C10 for maximum output and then adjust trimmer C7 likewise, rocking the gang condenser slightly meanwhile. In order to check your 9500 KC frequency either beat your oscillator with a 950 KC broadcast station signal and use the tenth harmonic or check on the air against a short wave station and set the dial pointer by adjusting C10 until the station logs on the upper dial scale at the proper frequency. Then turn the pointer back to 9500 and adjust the test oscillator to this frequency and peak the signal with C7 while rocking the gang.