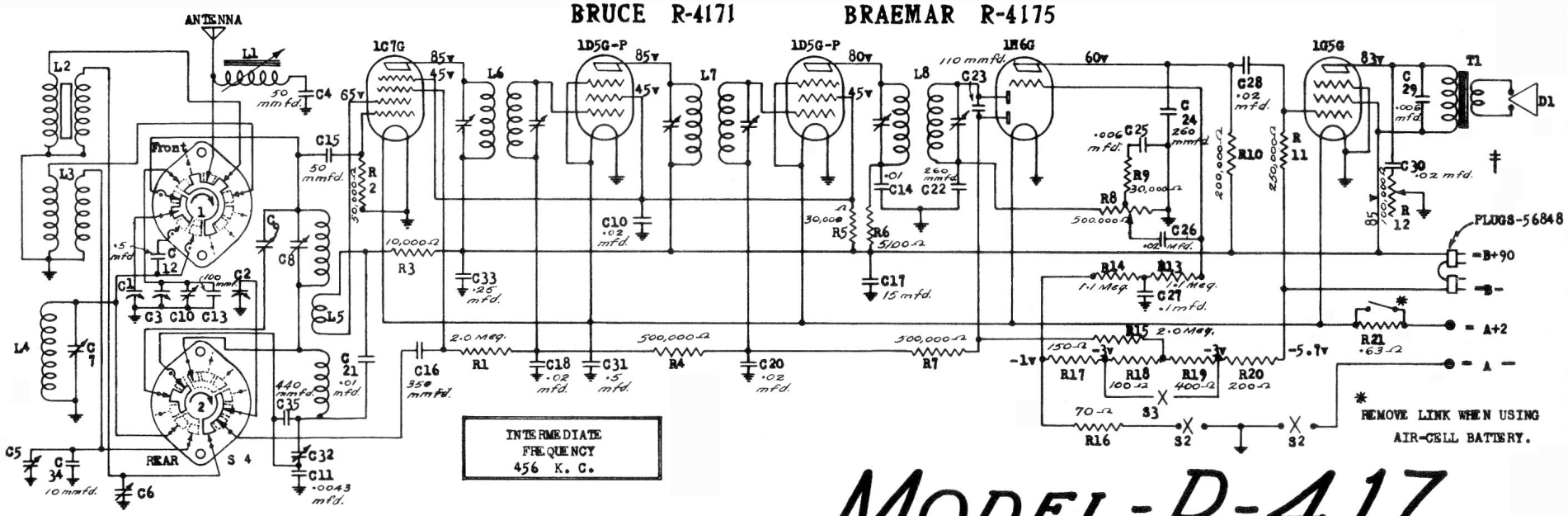
BRUCE R-4171 BRAEMAR R-4175



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-417

I.F. = 456 Kc.

1938-39

ALIGNMENT PROCEDURE:

The bottom cover of the chassis must be in place although not necessarily fastened with the screws.

1. INTERMEDIATE FREQUENCY: Connect a test oscillator tuned to 456 KC through a .05 mfd condenser to the grid of the 1C7G tube and connect the low end of the test ocsillator to the chassis.

Rotate the gang condenser to the extreme 1800 KC end of the dial and turn the volume and tone controls on full. These controls must be full on during the complete aligning procedure and the weakest readable signal input used. The output meter may be either connected to the speaker voice coil terminals, or across the primary of the output transformer, through a suitable blocking condenser of .1 mfd or greater. Turn range switch to Broadcast position. Adjust the six I.F. trimmers beginning with the third stage for maximum output and if the adjustments were far out repeat the operation.

2. WAVE TRAP: Transfer the test oscillator to the blue antenna wire through a standard broadcast dummy antenna or a 200 mmf condenser. With the gang and range switch set as in part No. 1 adjust wave trap L1 for minimum output. A very strong 456 KC signal is required for the final adjustment.

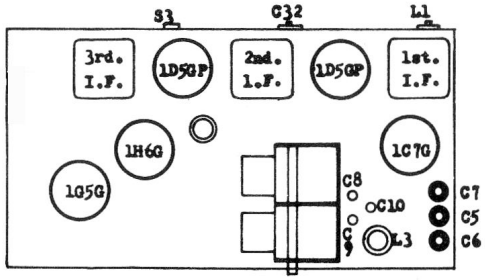
† NOTE; 1

MANTEL-	R-4171-SPEAKER------	300606
	OUTPUT TRANS.NO.----	300641
	V.C.&DIAPH.ASSY.----	300640
CONSOLE-	R-4175-SPEAKER------	300609
	OUTPUT TRANS.NO.----	300643
	V.C.& DIAPH.ASSY.NO.	300642

NOTE; 2

VOLTAGES MEASURED WITH 90 V. B, AND 2 V.A. FROM TUBE SOCKET TO CHASSIS WITH 1000 OHM PER VOLT METER ON HIGHEST READABLE RANGE; WITH S3 CLOSED.

"B" DRAIN- NORMAL- 13.5 MILS.
"B" DRAIN-"ECONOMY" 9.0 MILS.
"A" DRAIN---------420 MILS.



TOP CHASSIS LAYOUT SHOWING TRIMMER LOCATIONS

3. BROADCAST BAND ALIGNMENT: With the oscillator connected to the set as in 2, set the dial pointer to 1400 KC on the lower scale and with a 1400 KC input signal adjust oscillator trimmer C9 to peak. Then adjust C6 for maximum output. Then with a 600 KC signal tune the receiver for maximum output adjusting series pad C32 while rocking the gang back and forth. If an appreciable change in C32 was required, then C6 should be rechecked at 1400 KC with a 1400 KC input signal.

If the dial pointer does not calibrate over the scale, check to see that it lines up with the last mark at the 1800 KC end of the scale when the gang condenser is all out at that end of its rotation.

1. SHORT WAVE ALIGNMENT: Turn the range switch to the centre position and set the dial pointer to 15000 KC on the centre dial scale. Apply a 15000 KC signal through a 400 ohm carbon resistor to the antenna and peak trimmer C8. Then while rocking the gang condenser adjust trimmer C5 for maximum output.

5. BAND SPREAD ALIGNMENT: Turn the range switch to the right hand position and apply a 9500 KC signal through the 400 ohm dummy antenna. Set the pointer at 9500 KC on the upper dial scale and peak trimmer C10 and then while rocking the gang adjust C7 for maximum output. The 9500 KC input must be accurate. It may be checked against a short wave station of known frequency or also beat the test oscillator with a 950 KC broadcast station signal and use the tenth harmonic for the band spread alignment.

DATA SHEET