

Note—Variable selectivity is incorporated in this receiver (right hand lever). Before proceeding with alignment, make sure that the selectivity switch lever is in the left hand position. This is the most selective position.

1. Connect an output meter to the speaker voice coil terminals, or between plate and screen of the 6-F-6 output tube.
2. Turn the manual volume control to maximum volume position (extreme right).
3. For all adjustments, use an all-bakelite aligning tool which has only a small metal screw-driver tip.

I. F. ALIGNMENT

Set the test oscillator to exactly 370 k.c. Connect the output leads of the oscillator through an .02 mfd. coupling condenser to the 6-A-8 control grid to chassis. Range switch should be set to the broadcast position (extreme right).

1. Carefully adjust the I.F. trimmers Nos. 10, 11, 12, 13, 14, and 15 for maximum output, beginning with 14 and 15. Repeat the six adjustments, since the adjustment of each trimmer has some effect on the others.

BROADCAST BAND ALIGNMENT

1. Check the position of the dial pointer on the condenser shaft by pushing the rotor plates of the gang condenser to maximum capacity position. The pointer should be set on centre of the black dividing line on 550 k.c. end of dial. Please note that the plates should be pushed with the fingers, and not turned by means of the dial drive knob.
2. The range switch (left-hand knob) should be set to the maximum clockwise position, which is the broadcast setting.
3. Connect a standard dummy antenna in series with the test oscillator output and the receiver antenna lead. If a standard dummy antenna is

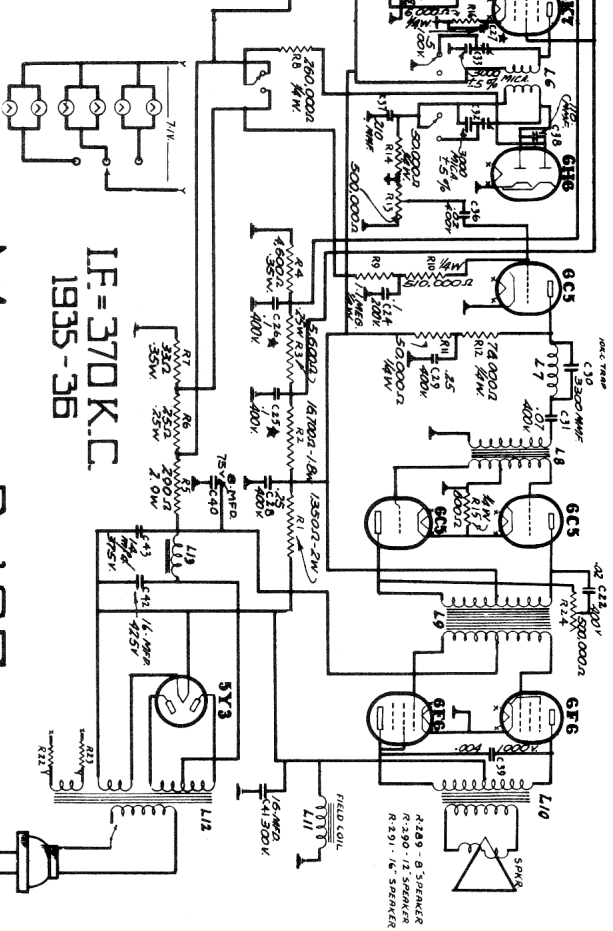
not available a 400 ohm, 1 watt carbon resistor may be substituted with fairly good results. THE DUMMY ANTENNA OR 400 OHM RESISTOR MUST REMAIN CONNECTED FOR ALL BROADCAST FREQUENCY ADJUSTMENTS IN ORDER TO SECURE PROPER ALIGNMENT OF THE ANTENNA STAGE. Ground the receiver chassis, and connect the oscillator ground to the chassis.

4. Whenever possible, use a broadcast station signal between 1300 and 1400 k.c. to calibrate the receiver dial. If no such station can be heard, you can use a 1400 k.c. signal from your oscillator, provided that it is properly calibrated. To calibrate the set, turn the dial pointer to the exact frequency setting of the signal, then carefully adjust trimmer No. 7 (broadcast oscillator shunt trimmer) until the signal is tuned in with maximum volume at its correct frequency setting.
5. With the test oscillator set at 1400 k.c., carefully tune receiver to the signal; adjust trimmer No. 4 (broadcast R.F. trimmer) and trimmer No. 1 (broadcast antenna shunt trimmer) for maximum output meter reading. Return the receiver and check the adjustments.
6. Set the test oscillator to approximately 600 k.c., and tune the receiver to the signal. Adjust trimmer No. 16 (broadcast oscillator series pad) to get maximum output meter deflection. Return the receiver dial pointer to a peak, and readjust the trimmer. Continue this procedure of adjusting the trimmer until the output meter reading cannot be increased. Trimmer No. 16 should also be used to adjust calibration of 550 k.c. end of dial. This procedure must be followed for the receiver will not be properly adjusted.
7. With a 1400 k.c. signal, recheck alignment of trimmers Nos. 1, 4, and 7.

VOLTAGE CHART

TUBE	TUBE DESIGNATION	MEASURED BIAS VOLTAGE	MEASURED SCREEN VOLTAGE	MEASURED PLATE VOLTAGE
6A7	R.F. AMP.	6.3	320	150
6A8	1ST DET.	6.3	250	175
6A8	2ND DET.	6.3	250	175
6A7	1ST I.F.	6.3	320	150
6A7	2ND I.F.	6.3	320	150
6A7	3RD I.F.	6.3	320	150
6A7	4TH I.F.	6.3	320	150
6A7	5TH I.F.	6.3	320	150
6A7	6TH I.F.	6.3	320	150
6A7	7TH I.F.	6.3	320	150
6A7	8TH I.F.	6.3	320	150
6A7	9TH I.F.	6.3	320	150
6A7	10TH I.F.	6.3	320	150
6A7	11TH I.F.	6.3	320	150
6A7	12TH I.F.	6.3	320	150
6A7	13TH I.F.	6.3	320	150
6A7	14TH I.F.	6.3	320	150
6A7	15TH I.F.	6.3	320	150
6A7	16TH I.F.	6.3	320	150
6A7	17TH I.F.	6.3	320	150
6A7	18TH I.F.	6.3	320	150
6A7	19TH I.F.	6.3	320	150
6A7	20TH I.F.	6.3	320	150

MEASURED FROM JUNCTION BETWEEN 255-R-1 CHASSIS AND 255-R-2 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-1 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-2 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-3 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-4 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-5 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-6 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-7 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-8 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-9 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-10 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-11 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-12 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-13 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-14 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-15 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-16 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-17 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-18 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-19 CHASSIS. MEASURED FROM JUNCTION BETWEEN 66 AND 67-R-20 CHASSIS. NOTE: ALL ABOVE VOLTAGES MEASURED WITH SELECTIVITY SWITCH IN THE MOST SELECTIVE POSITION AND ON BROADCAST BAND. BIAS VOLTAGE - 6.3 V. IS CHANGED TO 3 VOLTS IN BROADCAST POSITION.



**MODEL-R-183
-MENDELSSOHN-MOZART-STRAUSS-**

SHORT-WAVE ALIGNMENT

VERY IMPORTANT—A 400-ohm, 1-watt carbon resistor ONLY must be connected in series with the antenna lead to the oscillator. DO NOT OMIT THIS RESISTOR OR THE ALIGNMENT WILL BE INCORRECT.

The following alignment procedure is extremely critical.

1. Turn the receiver range switch to the short-wave band position (centre position).
2. Set the test oscillator to give a 15000 k.c. signal. If the oscillator cannot reach this frequency, use the second harmonic of 7500 k.c., the third harmonic of 5000 k.c., or the fourth harmonic of 3750 k.c., all of which will give a 15000 k.c. signal.
3. To calibrate this point, turn the receiver dial indicator to 15 (15 megacycles or 15,000 k.c.) on short-wave position of dial, and adjust trimmers No. 9 (short-wave oscillator shunt trimmer) to give maximum output. Generally, two peaks will be found. Align on the peak secured with the trimmer screw farthest out. Then adjust trimmer No. 6 (short wave R.F. shunt trimmer) for maximum output. (When adjusting trimmer No. 6 two peaks may be found. The correct one is when trimmer is turned farthest in.) Then adjust trimmer No. 3 (short wave antenna shunt trimmer) for maximum output.

4. With a strong 15,000 k.c. signal from the oscillator, tune the receiver to 14260 k.c. and check for the image signal which should be weaker than

INTERMEDIATE OR POLICE BAND

A 400 ohm resistance for dummy antenna should be used the same as in short-wave band.

1. Turn the receiver range switch to the extreme left position.
2. Set the test oscillator to give a 5000 k.c. signal.
3. To calibrate this point, turn the receiver dial pointer to 50 (5000) on middle wave frequency oscillator shunt trimmer No. 8 (2nd band output). The correct signal will be the one found when the trimmer is screwed the furthest out, or the lowest capacity setting. Adjust trimmers Nos. 5 and 2 for maximum output.

Note—If the 6-A-8-G or 6-K-7G Octal base tubes are interchanged with the 6-A-8 and 6-K-7 type metal tubes, the receiver should be completely realigned, otherwise a very noticeable reduction in sensitivity and selectivity will result. This is due to the difference in inter-electrode capacity between the metal and octal base glass tubes. However all tubes except the 6-K-7 and 6-A-8 types may be interchanged without affecting the alignment.