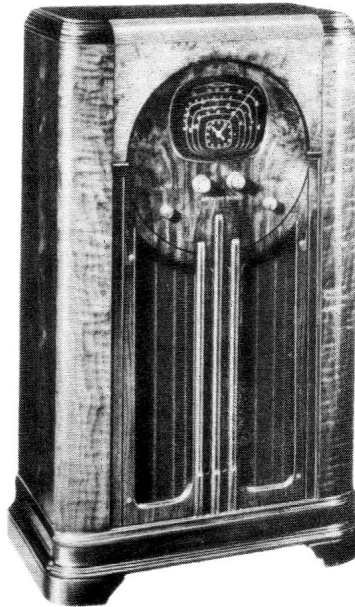


Model 911

Radio Receiver



Specifications

Frequency Range:

Broadcast, Silver Gray: 540 to 1700 K.C.
Police-Aviation, Green: 1.7 to 5.5 megacycles
Shortwave, Red: 5.5 to 17.5 megacycles

I.F.:

463 K.C.

Tubes:

Type	Function
6K7	R.F. Amplifier
6A8	1st Detector
6K7	I.F. Amplifier
6H6	2nd Detector; A.V.C.; A.N.S.
6F5	1st A.F. Amplifier
6F6	Output
6F6	Output

Push-Pull

6C5

Oscillator

5X4G

Rectifier

Power Supply:

105 to 125 volts A.C.

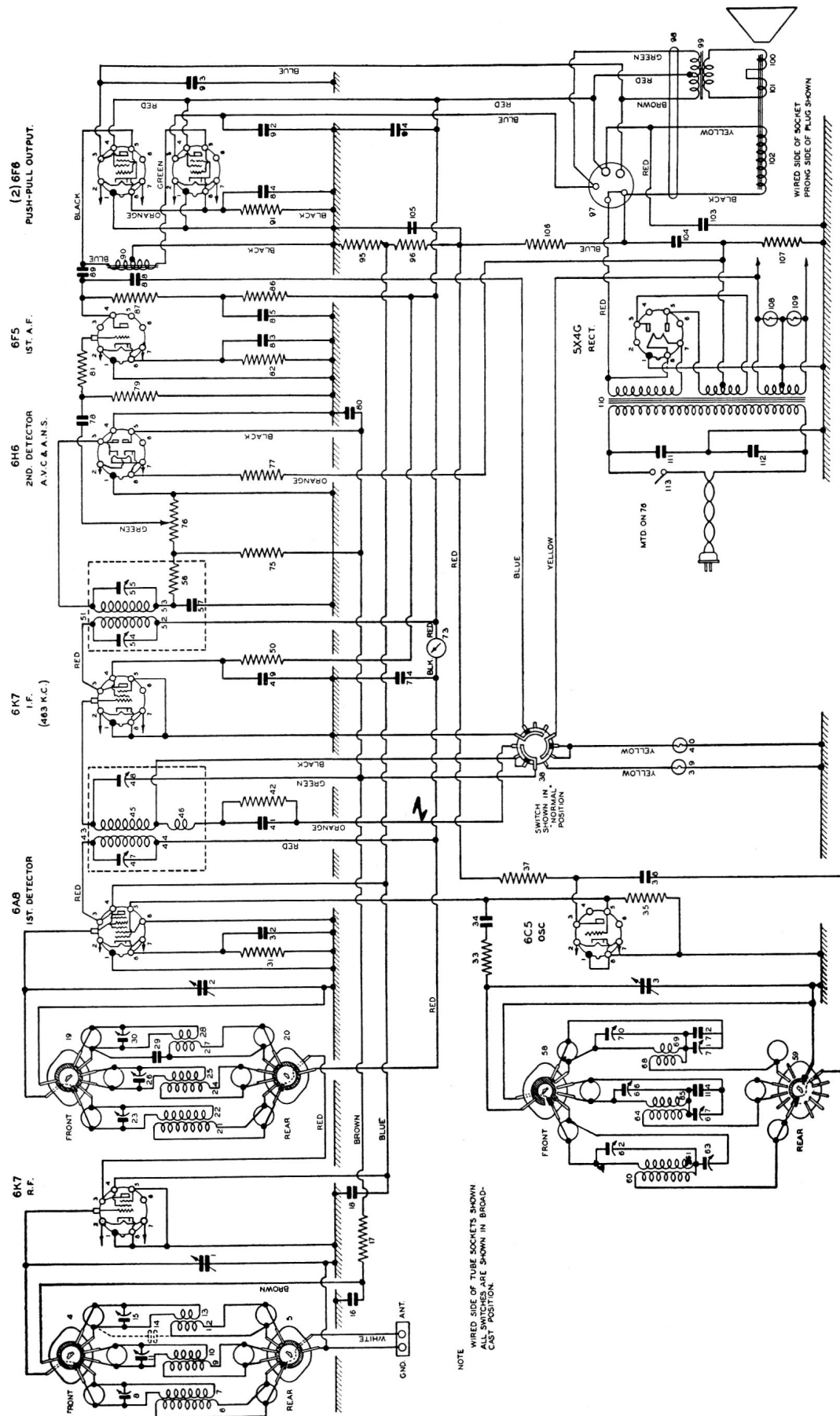
A.V.C.:

On 6K7 type tubes

Controls:

Left to Right—Volume control; wave change switch; tuning control (vernier); A.C. switch and fidelity control. Fidelity indicator lamp mounted in centre.

MODEL 911 RADIO RECEIVER



Schematic Circuit Diagram—Model 911.

REPLACEMENT PARTS LIST

Schematic Designation	Value and Description	Part Number	Schematic Designation	Value and Description	Part Number
1 Ant. Sect.	Capacitor Gang, max. cap. 451.7 mmf.	K-2586	50 Resistor, 75,000 ohms, 1/2 watt		K-2226-27
2 R.F. "			51 2nd I.F. Trans. Assem. (incl. items 52 to 57).....		K-2577
3 Osc. "			52 I.F. Trans. pri.....		K-2633
4 W.C. Switch (Ant. Sec.) Section.....		K-2532-1	53 I.F. Trans. Sec.....		
5 W.C. Switch (Ant. Pri.) Section.....		K-2532-4	54 100-500 mmf. Var. Trim. Cap.		K-2634-2
6 Ant. Trans. Pri. (bdct.).....		RC-95177	55 100-500 mmf. Var. Trim. Cap.		
7 Ant. Trans. Sec. (bdct.).....			56 Resistor, 50,000 ohms, 1/2 watt		K-2226-6
8 Capacitor, var. trim. 4-30 mmf.		CS-9554	57 Capacitor, mica, 100 mmf....		K-1611-2
9 Ant. Trans. pri. (pol.).....		RC-95174-A	58 W.C. Switch (osc. grid) Section.....		K-2532-3
10 Ant. Trans. sec. (pol.).....			59 W.C. Switch (osc. plate) Section.....		K-2532-2
11 4-30 mmf. var. Trim. cap....		CS-9554	60 Osc. Plate Coil (bdct.).....		RC-95179-A
12 Ant. Trans. pri. (S.W.).....		RC-95171-A	61 Osc. Grid Coil (bdct.).....		
13 Ant. Trans. sec. (S.W.).....			62 5-25 mmf. Var. Trim. cap....		CS-9540
14 Coupling Capacitor.....			63 300-600 mmf. Lag. cap.....		
15 4-30 mmf. var. trim. cap....		CS-9554	64 Osc. Plate Coil (Pol.).....		RC-95176-A
16 Capacitor, .05 mf, 175 volts..		K-1831-8	65 Osc. Grid Coil (Pol.).....		
17 Resistor, 1/4 meg, 1/2 watt....		K-2226-4	66 3-15 mmf. Var. Trim. cap....		CS-9520
18 Capacitor, .1 mf, 175 volts....		K-2227-9	67 800-1600 mmf. Lag. cap.....		
19 W.C. Switch (R.F. Sec.) Section.....		K-2532-1	68 Osc. Plate Coil (S.W.).....		RC-95173-A
20 W.C. Switch (R.F. Pri.) Section.....		K-2532-4	69 Osc. Grid Coil (S.W.).....		
21 R.F. Trans. pri. (bdct.).....		RC-95178-A	70 3-15 mmf. Var. Trim. cap....		CS-9520
22 R.F. Trans. sec. (bdct.).....			71 800-1600 mmf. Lag. cap.....		
23 4-30 mmf. var. trim. cap....		CS-9554	72 Capacitor, mica, 2,000 mmf....		K-1952-6
24 R.F. Trans. pri. (pol.).....		RC-95175-A	73 Tuning Meter (D.C. Res. 590 ohms).....		K-2551
25 R.F. Trans. sec. (pol.).....			74 Capacitor, .05 mf, 350 volts..		K-2228-8
26 1.5-10 mmf. var. trim. cap....		CS-9553	75 Resistor, 2 meg, 1/2 watt....		K-2226-1
27 R.F. Trans. pri. (S.W.).....		RC-95172-A	76 Volume Control, Var, 1/2 meg.		K-2584
28 R.F. Trans. sec. (S.W.).....			77 Resistor, 1/2 meg, 1/2 watt....		K-2226-3
29 Capacitor, coupling, 6 mmf....		K-1838	78 Capacitor, .02 mf, 175 volts....		K-2227-7
30 4-30 mmf. var. trim. cap....		CS-9554	79 Resistor, 1 meg, 1/2 watt....		K-2226-2
31 Resistor, 300 ohms, 1/2 watt..		K-2226-20	80 Capacitor, .1 mf, 175 volts....		K-2227-9
32 Capacitor, .05 mf, 175 volts..		K-2227-8	81 Resistor, 1/10 meg, 1/2 watt....		K-2226-5
33 Resistor, 50 ohms, 1/2 watt....		K-2226-25	82 Resistor, 5,000 ohms, 1/2 watt.		K-2226-12
34 Capacitor, mica, 65 mmf....		K-1611-8	83 12 mf. Elec. Cap, 25 volts....		K-2553
35 Resistor, 50,000 ohms, 1/2 watt		K-2226-6	84 12 mf. Elec. Cap, 25 volts....		
36 Capacitor, .05 mf, 175 volts..		K-1831-8	85 Capacitor, .1 mf, 350 volts....		K-2228-9
37 Resistor, 5,000 ohms, 1 watt..		K-1870-1	86 Resistor, 10,000 ohms, 1/2 watt		K-2226-10
38 Fidelity Control Switch.....		K-2585	87 Resistor, 1/4 meg, 1/2 watt....		K-2226-4
39 Lamp, 6.3 v (Hi-fidelity cont.)		K-2589-3	88 Capacitor, .003 mf, 350 volts..		K-2228-3
40 Lamp, 3.2 v (tuning meter)...		K-2589-2	89 Capacitor, .02 mf, 350 volts....		K-2228-7
41 Capacitor, .015 mf, 175 volts..		K-2227-17	90 Input Transf. Assem.....		K-2587-1
42 Resistor, 1/10 meg, 1/2 watt....		K-2226-5	91 Resistor, vitreous, 500 ohms..		K-2627
43 1st I.F. Trans. Assem. (incl. 44 to 48).....		K-2616	92 Capacitor, .001 mf, 350 volts..		K-2228-1
44 I.F. Trans. pri.....		K-2617	93 Capacitor, .001 mf, 350 volts..		K-2228-1
45 I.F. Trans. sec.....			94 Capacitor, .1 mf, 350 volts....		K-2228-9
46 I.F. Trans. tertiary.....			95 Resistor, 30,000 ohms, 1/2 watt		K-2226-44
47 70-370 mmf. var. Trim. cap..		K-2634-1	96 Resistor, 15,000 ohms, 1 watt.		K-2363-20
48 70-370 mmf. var. Trim. cap..			97 Loudspeaker plug (Five contact).....		K-2579
49 Capacitor, .05 mf, 350 volts..		K-2228-8	98 Loudspeaker Cable.....		
			99 Output Trans. Assem.....		K-2623-1

REPLACEMENT PARTS LIST—continued

Schematic Designation	Value and Description	Part Number
100	Voice Coil & Diaph. (imp. 6 ohms).....	K-2583
101	Humbucking Coil.....	
102	Field Coil (1800 ohms).....	K-2582
103	18 mf. reg. Elect. Cap, 300 volts.....	K-2554
104	12 mf. reg. Elect. Cap, 410 volts.....	K-2555
105	8 mf. Reg. Elect. Cap, 450 volts.....	K-2556
106	Resistor, 10,000 ohms, 2 watts	K-1095-5
107	Resistor, 37 ohms, 1/2 watt..	K-2226-41
108	Dial Lamp, 3.2 volt.....	K-2589-2
109	Dial Lamp, 3.2 volt.....	K-2589-2
110	Power Transformer (60 cycles)	K-2600-1
110-A	Power Transformer (25 cycles)	K-2600-2
111	Capacitor, .025 mf, 1100 volt	K-1750
112	Capacitor, .025 mf, 1100 volt	
113	A.C. Switch (mtd. on item 75).....	
114	Capacitor, mica, 500 mmf....	K-1952-3

MISCELLANEOUS: (Not included in item designations)

Loudspeaker plug.....	K-2579
Sockets, octal base.....	K-1924-1
Antenna terminal strip.....	K-2595
Loudspeaker socket (5 contact)...	K-1194-4
Dial window glass.....	K-2618
Dial Scale.....	K-2557
Spring clips for dial.....	K-2436
Dial Indicator (large pointer)....	K-2558
Dial Indicator (small pointer)....	K-2572
Celluloid Indicator disc.....	K-2606
Gear Assembly (dial) (intermediate).....	GE-9514-A
Gear Assembly (dial) (large shaft)	GE-9516-A
Pulley & pinion gear assembly....	GE-9520-A

Spring lock (for indicator bearing)	PP-65772
Reduction Drive.....	K-2573
Pulley (belt drive).....	PU-9523
Set Screws for belt drive pulley...	K-1521-9

Schematic Designation	Value and Description	Part Number
Belt idler pulley.....		PU-9524
Belt idler spring.....		SP-9541
Belt.....		BT-952
Cord (26'').....		K-1929
Lamp Socket (fidelity indicator)...		K-2347
Lamp socket (dial).....		SO-9520
Band indicator pulley.....		K-2576
Switch section (front).....		K-2532-1
Switch section (rear).....		K-2532-4
Switch section (front) (osc.)....		K-2532-3
Switch section (rear) (osc.)....		K-2532-2
Wave change switch shaft only...		K-2550
Lamp for fidelity indicator (6.3 v.)		K-2589-3
Dial Lamps (3.2 v.).....		K-2589-2
Knob, large, tuning.....		K-2355
Knob, vernier, tuning.....		K-2354
Knob, wave change switch.....		K-2353
Knob, volume and fidelity.....		K-2628

Chassis mounting bolts.....	K-2566-9
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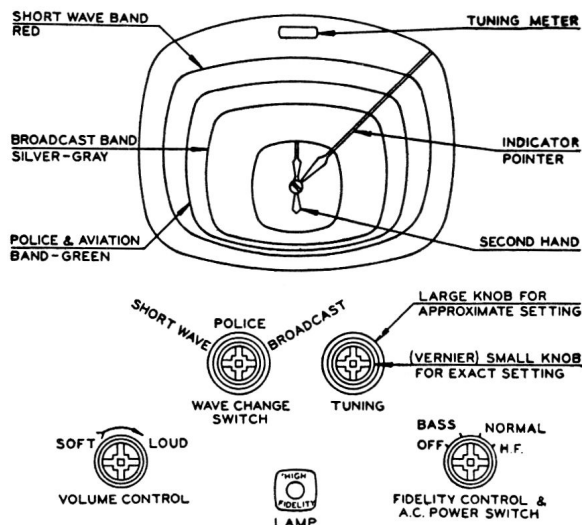
Washers for chassis mounting....	K-1725-1
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Lamp cap (red) (fidelity indicator)	K-2379
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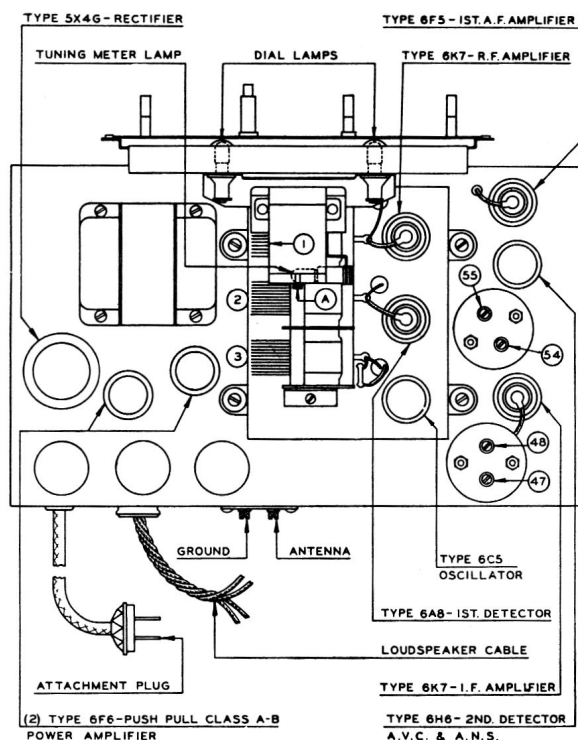
Escutcheon label.....	K-2346
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Escutcheon pins.....	PP-2453
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Tuning wrenches (all models)....	K-836
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Control Positions—Model 911 Receiver



Chassis Layout showing Aligning Positions

SOCKET VOLTAGE AND CURRENT READINGS

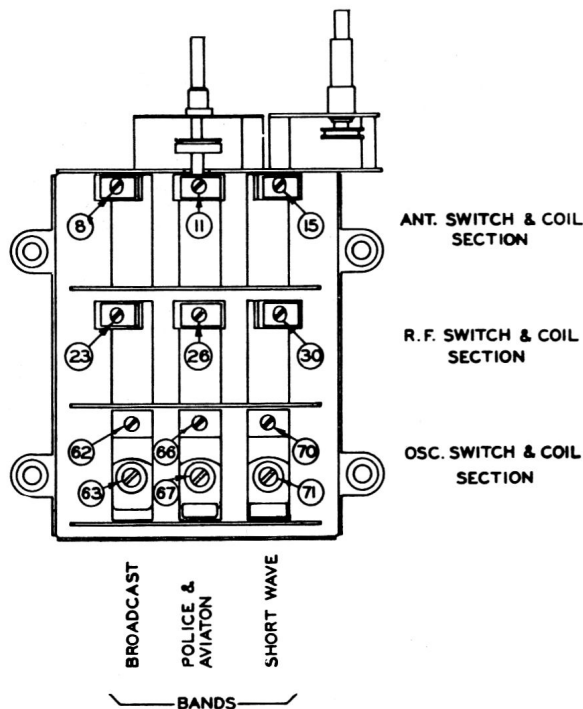
TUBE	VOLTAGES				CURRENTS—M.A.		
	Heater (a-c)	Plate	Screen	Cathode	Screen	Plate	
						Normal Bias	Bias Reduced 4 1/2 V.
Type 6K7 (R.F.)	6.15	260	95	0	3.0	7.5	11.
Type 6A8	6.15	260	95	1.8	3.7	4.5	6.0
Type 6C5	6.15	190	—	—	—	9.0	11.5
Type 6K7 (I.F.)	6.15	260	95	0	2.3	9.5	11.5
Type 6H6	6.15	.25	—	0	—	—	—
Type 6F5	6.15	125	—	.9	—	.32	.68
Type 6F6	6.15	255	265	21	3.5	18	23
Type 6F6	6.15	255	265	21	3.5	18	23
Type 5X4G	4.82	415	—	—	(Plate) 41	41	—

REALIGNING INSTRUCTIONS

To secure full advantage of the performance characteristics of this receiver, and especially of the variable selectivity feature, any realignment necessary should be carried out carefully. (A cathode ray oscillograph and a signal generator with a frequency-sweep modulator are used in the factory to ensure perfect tracking of both r-f and i-f circuits). A reliable signal generator and an output meter should be used. Oscillators utilizing harmonics should not be employed.

I. F. ALIGNMENT:

- Set the wave-change switch in the broadcast position with the gang closed, and fidelity switch in the normal (contracted-selectivity) position. Accuracy in setting the signal generator to the required intermediate frequency of 463 K.C. is essential to good tracking of the r-f and i-f circuits. Couple the output of the generator through an 0.1 mf. capacitor to the grid cap of the first detector (type 6A8) tube.
- The first i-f transformer has a single sharp response (in the contracted-sensitivity position). The second, by itself, has a broader response with two peaks having a small dip in between. However, unless the trimmers are badly out of adjustment the re-alignment can be carried out in the usual manner, and this double peak will be masked in the composite response of the two transformers. Adjust trimmers, items 55, 54, 48 and 47 for maximum output.



Underside of Centromatic Unit showing Aligning Positions.

REALIGNING INSTRUCTIONS (Cont.)

R.F. ALIGNMENT—POLICE AND AVIATION (GREEN) BAND:

- (a) Substitute a 400 ohm resistor in place of the capacitor in the lead from the signal generator.
- (b) Set the generator and the receiver at 5.0 megacycles. Adjust trimmer, item 66, to bring the signal in. (Make sure that the set is not tuned to the image frequency, which should come in with the generator frequency reduced to approximately 4.37 m.c.).
- (c) Adjust trimmer, items 26 and 11, for maximum sensitivity while rocking the gang.
- (d) Set the generator at 1.9 m.c., and tune the set to the signal. Adjust trimmer, item 67, for maximum response while rocking the gang.
- (e) Recheck at 5.0 m.c.

R.F. ALIGNMENT—SHORT-WAVE (RED) BAND:

- (a) With the signal generator still connected as for the police-aviation band, set the wave-change switch for the short-wave band.
- (b) Set the signal generator and receiver at 16 megacycles and adjust the trimmer, item 70, to bring in the signal. (Make sure that the set is not tuned to the image frequency).
- (c) Adjust trimmers, items 30 and 15, for maximum sensitivity while rocking the gang.
- (d) Set the generator at 6 m.c., and tune the set to the signal. Adjust trimmer, item 71, for maximum output while rocking the gang.
- (e) Recheck at 16 m.c.

- (c) Reduce the output from the signal generator to as low a value as will give an output reading and check the adjustments. All trimmers should peak properly.
- (d) Set the fidelity switch in the high-fidelity (expanded-selectivity) position. If the adjustments previously made are correct, as the generator output is varied a few kilocycles on either side of 463 K.C. the output should remain nearly constant due to the flat band-pass characteristic and then should drop off fairly abruptly and symmetrically for frequencies above and below.

R.F. ALIGNMENT—BROADCAST (SILVER-GRAY) BAND:

- (a) Connect the output of the signal generator to the antenna terminal through a 200 mmf. mica capacitor. Connect the ground terminal to ground.
- (b) Check that the main indicator pointer lines up with the lower ends of the armature and 49 metre band markings on the dial scale when the gang is turned all in.
- (c) Set the signal generator and the receiver at 1600 kilocycles. Adjust trimmer, item 62, to bring in the signal. Then adjust trimmers, items 23 and 8, for maximum sensitivity.
- (d) Set the generator at 600 K.C., and tune the receiver to it. Adjust trimmer, item 63, for maximum sensitivity while rocking the gang.
- (e) Recheck at 1600 K.C.