

R.C.A. Victor Co., Inc.

Model: 110K

Chassis:

Year: Pre April 1941

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

Riders Volume 12 - CLARIFIED - RCA 12-7

Riders Volume 12 - CLARIFIED - RCA 12-8

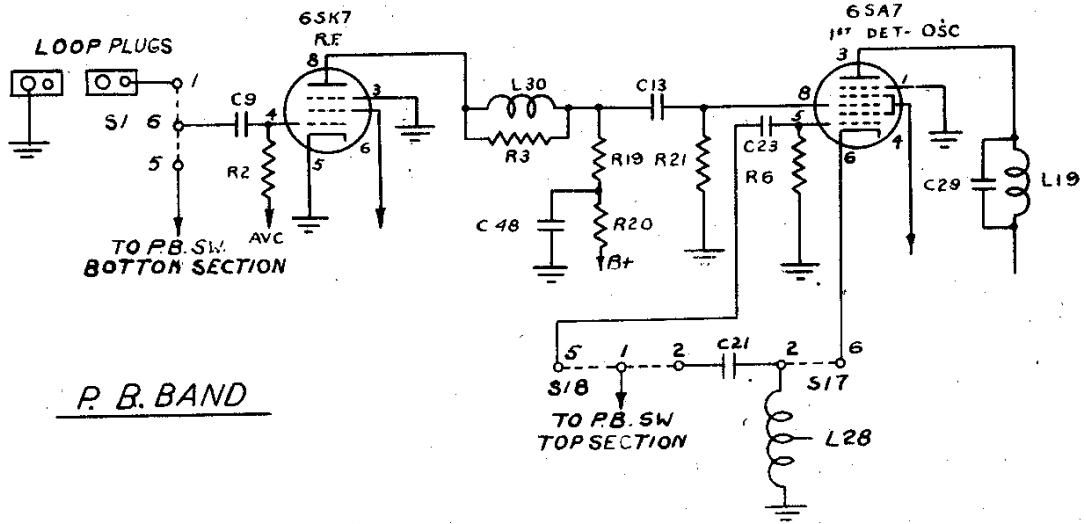
Riders Volume 12 - RCA 12-43

Riders Volume 12 - RCA 12-44

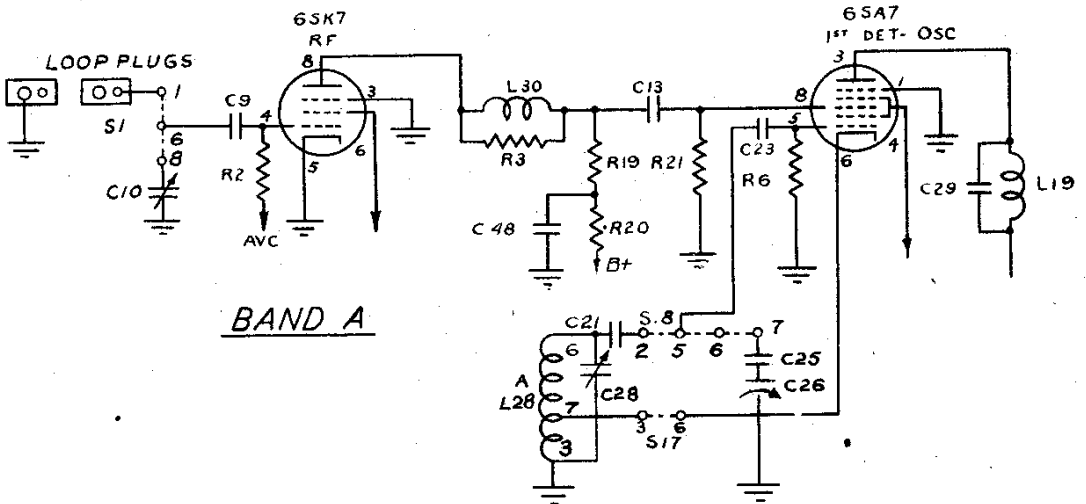
RCA MFG. CO., INC.

MODEL 110K

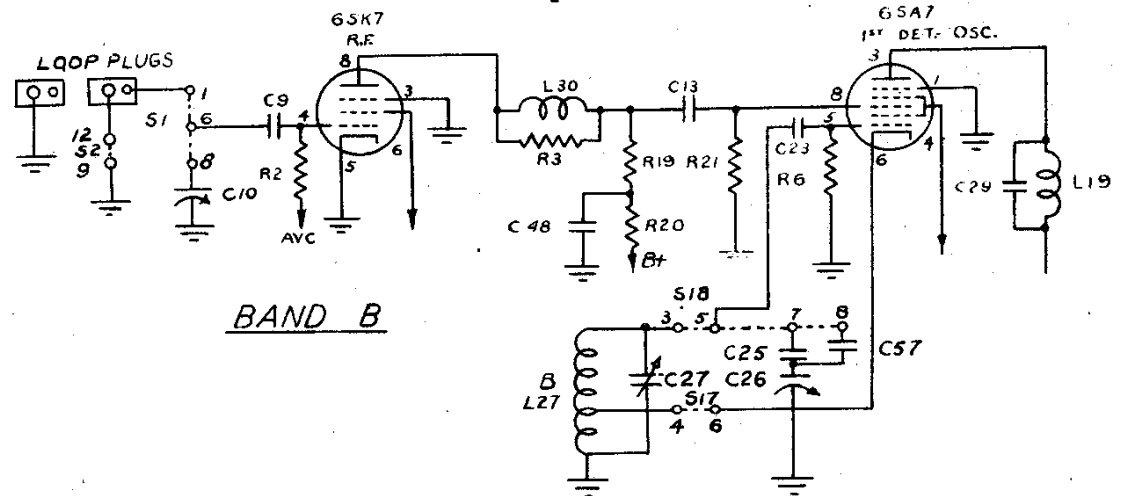
See RCA Page 12-43



P. B. BAND



BAND A

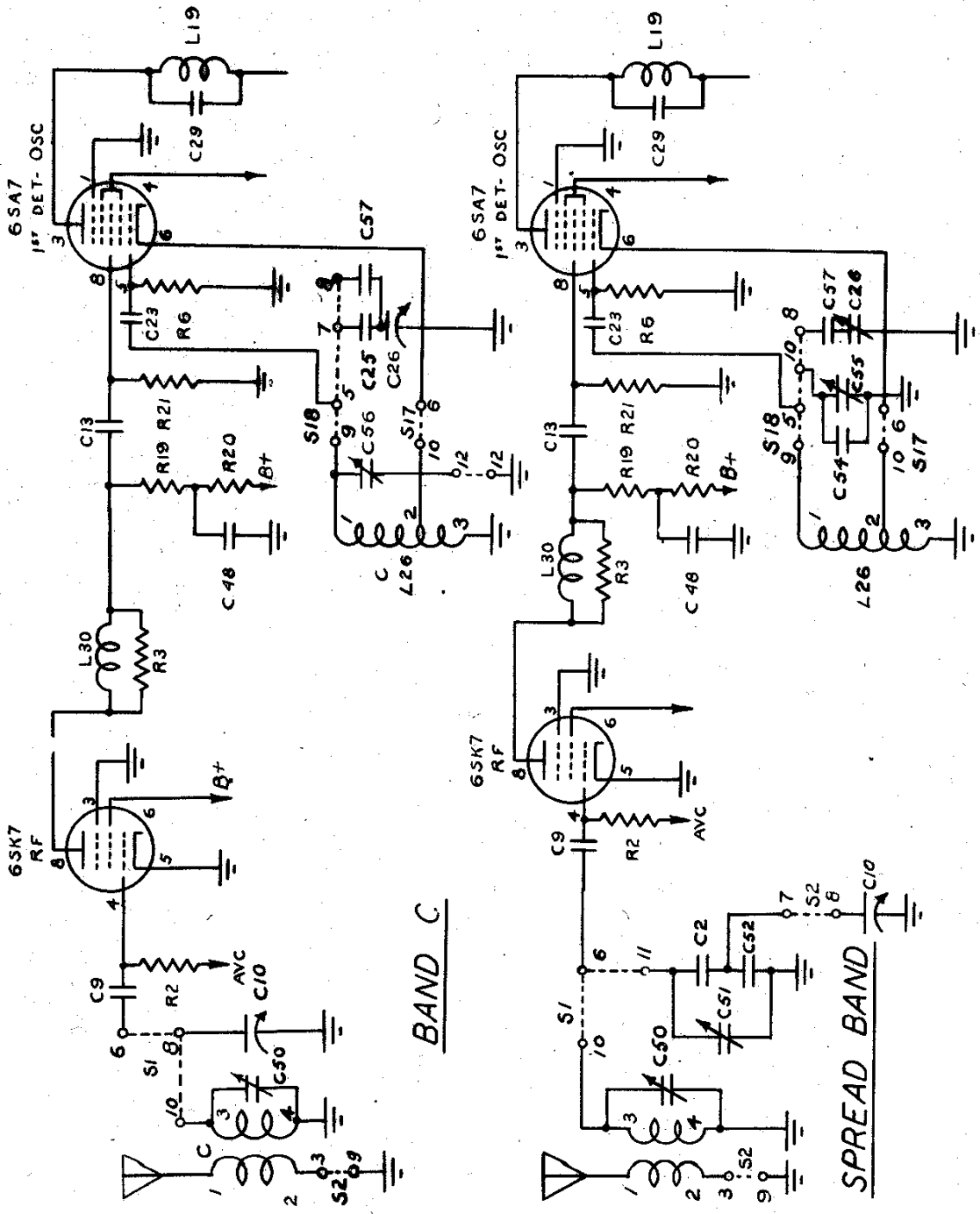


BAND B

MODEL 110K

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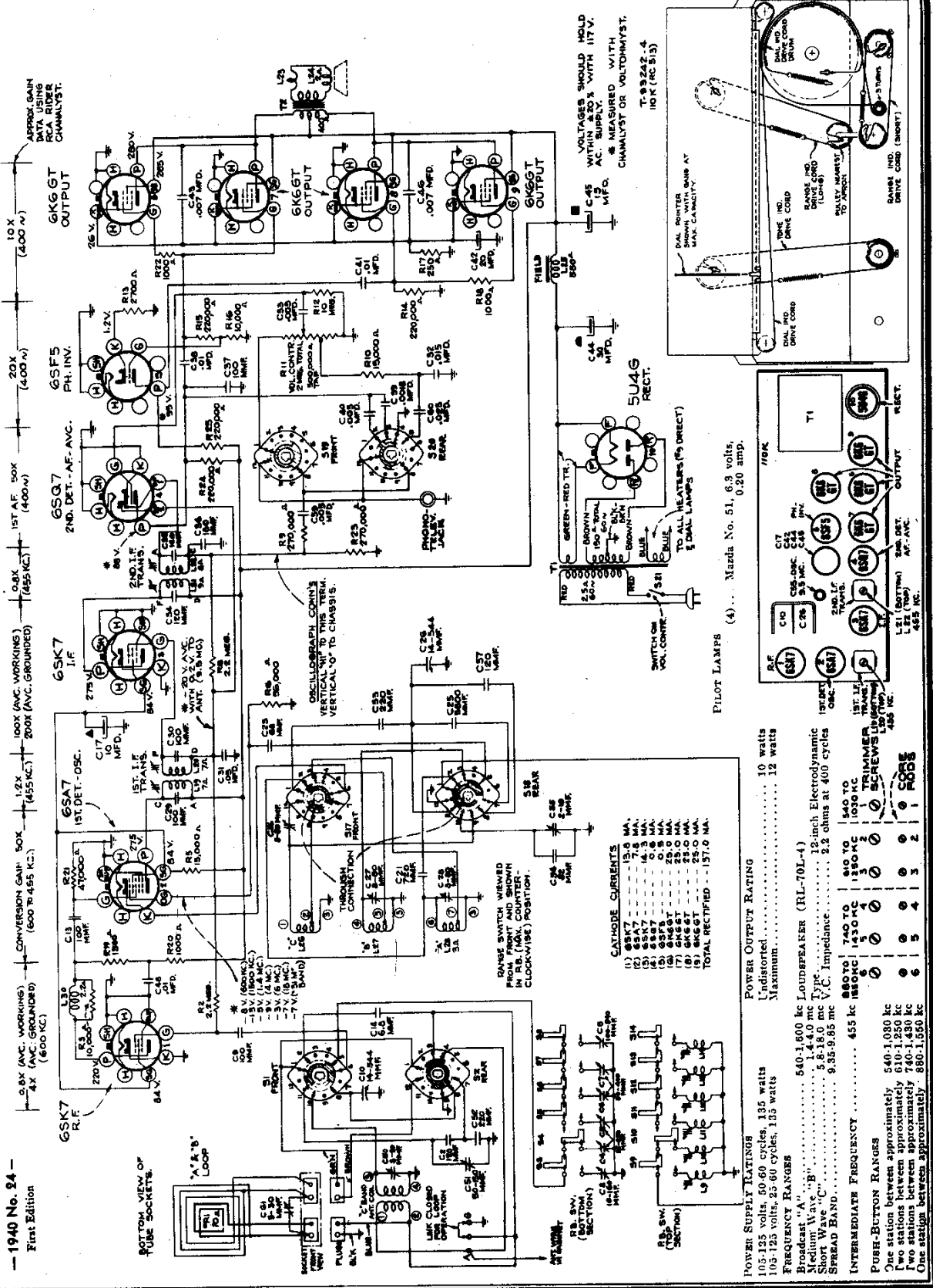
BAND C

SPREAD BAND

RCA MFG. CO., INC.

MODEL 110K
Ch. RC-513

— 1940 No. 24 —
First Edition



(4) ... Mazda No. 51, 6.3 volts, 0.20 amp.

CATHODE CURRENTS

(1) 6SA7	13.5 MA.
(2) 6SK7	7.5 MA.
(3) 6SK7	5.0 MA.
(4) 6SQ7	0.5 MA.
(5) 6SF5	25.0 MA.
(6) 6X4	25.0 MA.
(7) 6X5	25.0 MA.
(8) 6X6	25.0 MA.
(9) 6X7	25.0 MA.
(10) 6X8	25.0 MA.
(11) 6X9	25.0 MA.
(12) 6X10	25.0 MA.
(13) 6X11	25.0 MA.
(14) 6X12	25.0 MA.
(15) 6X13	25.0 MA.
(16) 6X14	25.0 MA.
(17) 6X15	25.0 MA.
(18) 6X16	25.0 MA.
(19) 6X17	25.0 MA.
(20) 6X18	25.0 MA.
(21) 6X19	25.0 MA.
(22) 6X20	25.0 MA.
(23) 6X21	25.0 MA.
(24) 6X22	25.0 MA.
(25) 6X23	25.0 MA.
(26) 6X24	25.0 MA.
(27) 6X25	25.0 MA.
(28) 6X26	25.0 MA.
(29) 6X27	25.0 MA.
(30) 6X28	25.0 MA.
(31) 6X29	25.0 MA.
(32) 6X30	25.0 MA.
(33) 6X31	25.0 MA.
(34) 6X32	25.0 MA.
(35) 6X33	25.0 MA.
(36) 6X34	25.0 MA.
(37) 6X35	25.0 MA.
(38) 6X36	25.0 MA.
(39) 6X37	25.0 MA.
(40) 6X38	25.0 MA.
(41) 6X39	25.0 MA.
(42) 6X40	25.0 MA.
(43) 6X41	25.0 MA.
(44) 6X42	25.0 MA.
(45) 6X43	25.0 MA.
(46) 6X44	25.0 MA.
(47) 6X45	25.0 MA.
(48) 6X46	25.0 MA.
(49) 6X47	25.0 MA.
(50) 6X48	25.0 MA.
(51) 6X49	25.0 MA.
(52) 6X50	25.0 MA.
(53) 6X51	25.0 MA.
(54) 6X52	25.0 MA.
(55) 6X53	25.0 MA.
(56) 6X54	25.0 MA.
(57) 6X55	25.0 MA.
(58) 6X56	25.0 MA.
(59) 6X57	25.0 MA.
(60) 6X58	25.0 MA.
(61) 6X59	25.0 MA.
(62) 6X60	25.0 MA.
(63) 6X61	25.0 MA.
(64) 6X62	25.0 MA.
(65) 6X63	25.0 MA.
(66) 6X64	25.0 MA.
(67) 6X65	25.0 MA.
(68) 6X66	25.0 MA.
(69) 6X67	25.0 MA.
(70) 6X68	25.0 MA.
(71) 6X69	25.0 MA.
(72) 6X70	25.0 MA.
(73) 6X71	25.0 MA.
(74) 6X72	25.0 MA.
(75) 6X73	25.0 MA.
(76) 6X74	25.0 MA.
(77) 6X75	25.0 MA.
(78) 6X76	25.0 MA.
(79) 6X77	25.0 MA.
(80) 6X78	25.0 MA.
(81) 6X79	25.0 MA.
(82) 6X80	25.0 MA.
(83) 6X81	25.0 MA.
(84) 6X82	25.0 MA.
(85) 6X83	25.0 MA.
(86) 6X84	25.0 MA.
(87) 6X85	25.0 MA.
(88) 6X86	25.0 MA.
(89) 6X87	25.0 MA.
(90) 6X88	25.0 MA.
(91) 6X89	25.0 MA.
(92) 6X90	25.0 MA.
(93) 6X91	25.0 MA.
(94) 6X92	25.0 MA.
(95) 6X93	25.0 MA.
(96) 6X94	25.0 MA.
(97) 6X95	25.0 MA.
(98) 6X96	25.0 MA.
(99) 6X97	25.0 MA.
(100) 6X98	25.0 MA.
(101) 6X99	25.0 MA.
(102) 6X100	25.0 MA.

POWER SUPPLY RATINGS

105-125 volts, 50-60 cycles, 135 watts	10 watts
105-125 volts, 25-60 cycles, 135 watts	Undertorted
	Maximum..... 12 watts

FREQUENCY RANGES

Broadcast "A"	540-1,600 kc	12 inch Electrodynamic Loudspeaker (RL-701-4)
Medium Wave "B"	1,440 mc	
Short Wave "C"	5.8-18.0 mc	
SPREAD BAND.....	9.35-9.85 mc	

INTERMEDIATE FREQUENCY..... 455 kc

PUSH-BUTTON RANGES

One station between approximately 540-1,030 kc	880 TO 1,030 KC	1
One station between approximately 610-1,250 kc	1,160 TO 1,310 KC	2
Two stations between approximately 740-1,430 kc	1,340 TO 1,490 KC	3
One station between approximately 880-1,550 kc	1,520 TO 1,670 KC	4
	1,700 TO 1,850 KC	5
	1,880 TO 2,030 KC	6
	2,060 TO 2,210 KC	7
	2,240 TO 2,390 KC	8
	2,420 TO 2,570 KC	9
	2,600 TO 2,750 KC	10
	2,780 TO 2,930 KC	11
	2,960 TO 3,110 KC	12
	3,140 TO 3,290 KC	13
	3,320 TO 3,470 KC	14
	3,500 TO 3,650 KC	15
	3,680 TO 3,830 KC	16
	3,860 TO 4,010 KC	17
	4,040 TO 4,190 KC	18
	4,220 TO 4,370 KC	19
	4,400 TO 4,550 KC	20

MODEL 110K
Ch. RC-513

RCA MFG. CO., INC.

Alignment Procedure

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the schematic diagram.

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

Electronic Voltmeter.—The electronic voltmeter in the Chanalyst or Volt Ohmyst provides an unexcelled output indicator. It should be connected to the AVC bus, and the test-oscillator output adjusted to produce several volts of AVC.

Calibration for Alignment.—The dial calibration for alignment purposes can be set up in two ways:

1. The dial may be removed from the cabinet by sliding out the two spring pieces which clamp it in its mounting position. The condenser plates should then be turned into full mesh, the pointer adjusted to the scratch at the left end of the dial backing plate, and the dial placed on the frame so that its extreme left calibration mark coincides with the pointer. The dial may be held in place with scotch tape. In this manner the actual receiver dial is used for alignment. When alignment is finished, the scale should be replaced including the fibre light shields which are folded under the ends of the glass scale.
2. A calibration scale is attached to the tuning drum. The correct setting of the gang, in degrees, for each alignment frequency is given in the alignment table. Check the position of the drum, making sure that the 0 degree scale mark is horizontal with the gang in full mesh.

Pointer for Calibration Scale.—If method (2) is used, improvise a pointer for the calibration scale by fastening a piece of wire to the chassis, and bend the wire so that it points to the 0 degree mark on the calibration scale when the plates are fully meshed.

Spread-Band Alignment.—Make final adjustment of C56 and C60 during actual reception of a station of known frequency near 9.5 megacycles.

Steps	Connect the high side of the test-osc. to—	Tune test osc. to—	Turn radio dial to—	Adjust the following for maximum peak output—
1	I-F grid in series with .01 mfd.	455 kc	"C" Band Quiet Point at 18 mc end of dial	L81 and L82 (2nd I.F. Trans.)
2	1st-det. grid in series with .01 mfd.		L19 and L20 (1st I.F. Trans.)	
3	Antenna terminal (A), in series with 47 mmfd. (link closed)	15.2 mc	15.2mc (149°) "C" band	C58 (osc.)* C60 (ant.)* Rock in
4		9.5 mc	9.5 mc (85.5°) "S1M" band	C55 (osc.)* C61 (ant.)* Rock in
5	Stator of antenna section of gang, in series with 300 ohms	2.44 mc	2.44 mc (97°) "B" band	C27 (osc.)
6		600 kc	600 kc (30.5°) "A" band	L28 (osc.)
7		1,500 kc	1,500 kc (150°) "A" band	C59 (osc.)
8	Repeat steps 6 and 7.			
9	Fasten chassis in cabinet, see that link is closed on antenna terminal board, indicator at left end of dial scales with gang at maximum capacity.			
10	Radiation loop consisting of two turns of wire 18 inches in diameter located 4 to 6 feet from receiver	1,500 kc	1,500 kc "A" band	C61 (ant.) (mounted on loop)
11		600 kc	600 kc "A" band	L28 (osc.) Rock in
12	Repeat steps 10 and 11			

* Use minimum capacity peak if two peaks can be obtained.
** Use maximum capacity peak if two peaks can be obtained.
NOTE: Oscillator tracks 455 kc above signal on all bands.

Push Button Adjustment

The station push buttons connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an insulated screwdriver or alignment tool such as RCA Stock No. 81031. Allow at least five minutes warm-up period before making adjustments.

In the event that the receiver is to be used with an external antenna use one or two feet of wire (as an antenna) to ensure sharp peaking during the final adjustment procedure. For loop operation, the link should be strapped across terminals on back of set. In either case the procedure is as follows:

1. Make a list of the desired stations, arranged in order from low to high frequencies.
2. Turn the range selector to "A" band, and manually tune in the first station on the list.
3. Turn range selector to "PB" position, push in station button No. 1 (extreme left). Then adjust the No. 1 oscillator core (L-14) to receive the station.
4. After oscillator core is set correctly, adjust C-8 for maximum output.
Clockwise adjustment of cores and trimmers tunes the circuits to lower frequencies.
5. Adjust for each of the remaining stations in the same manner.
6. Make a final careful adjustment of the oscillator cores and antenna trimmers.

Owing to the relatively high r-f gain, it may be found that a given station can be tuned in at several different settings of the magnetite-core oscillator push-button coils. In such cases, it is advisable to unscrew the loop push-button trimmers to minimum capacity before adjusting the magnetite cores.

On the 690 to 1,550 kc push-button, the higher frequency stations may be received with L-9 either in or out (oscillator frequency either 455 kc below or 455 kc above the station frequency). The adjustment with this core in its out position (oscillator frequency 455 kc above the station frequency) is the correct one.

