

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

Model: 111K

Chassis:

Year: Pre April 1941

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

[Riders Volume 12 - CLARIFIED - RCA 12-9](#)

[Riders Volume 12 - CLARIFIED - RCA 12-10](#)

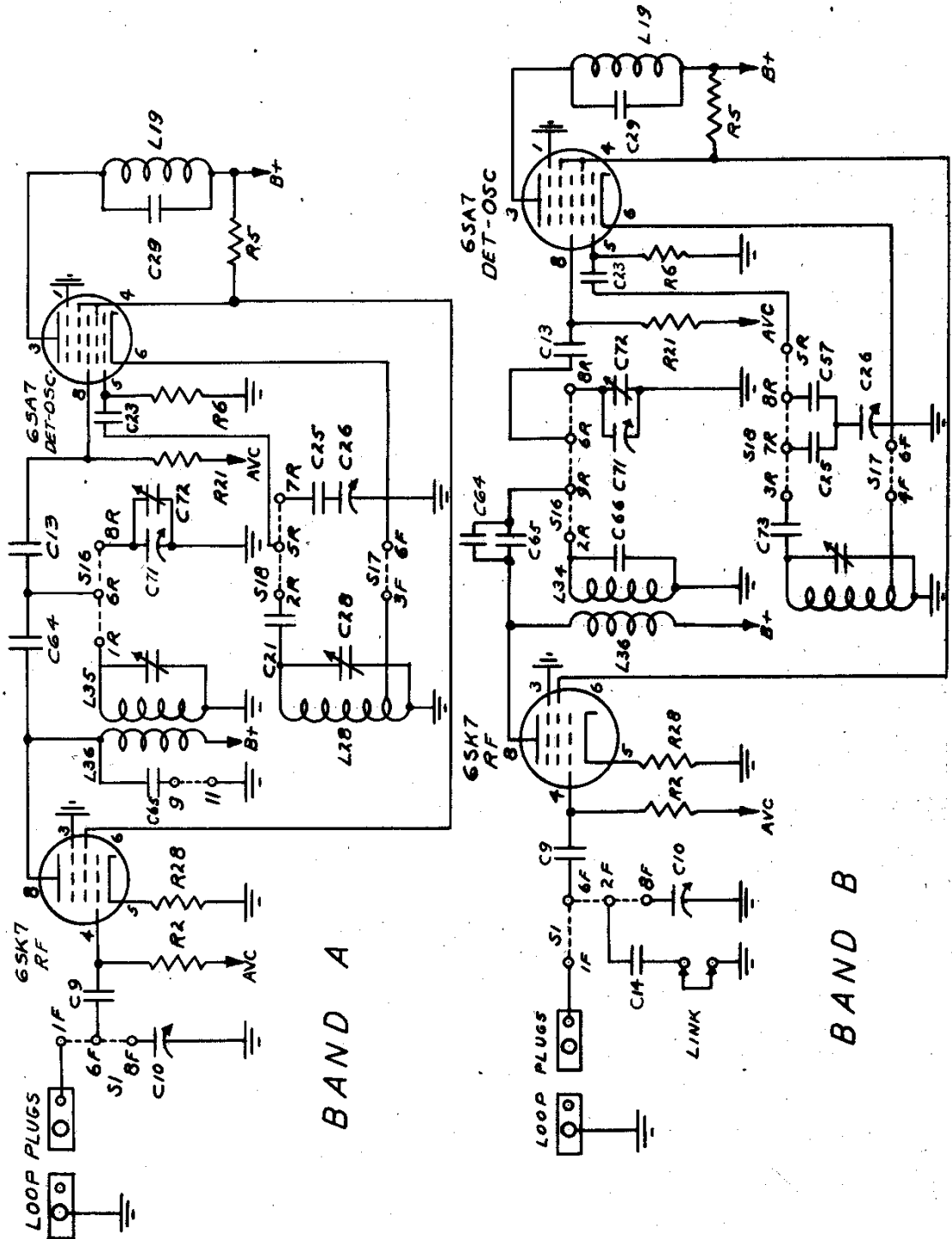
[Riders Volume 12 - RCA 12-45](#)

[Riders Volume 12 - RCA 12-46](#)

RCA MFG. CO., INC.

MODEL 111K

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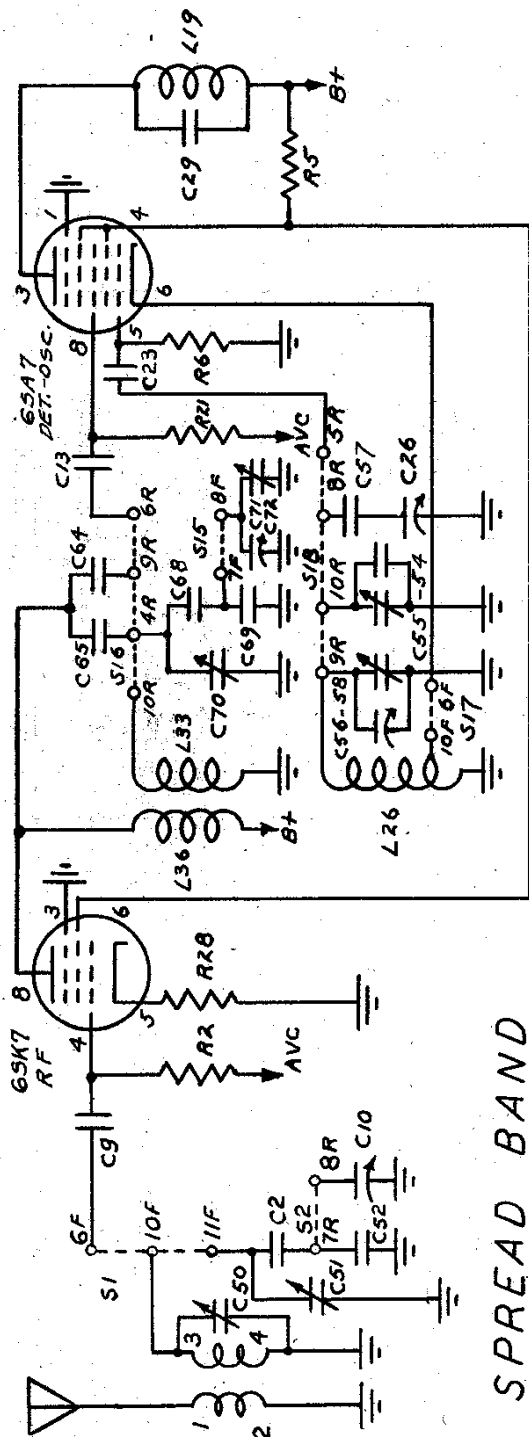
BAND A

BAND B

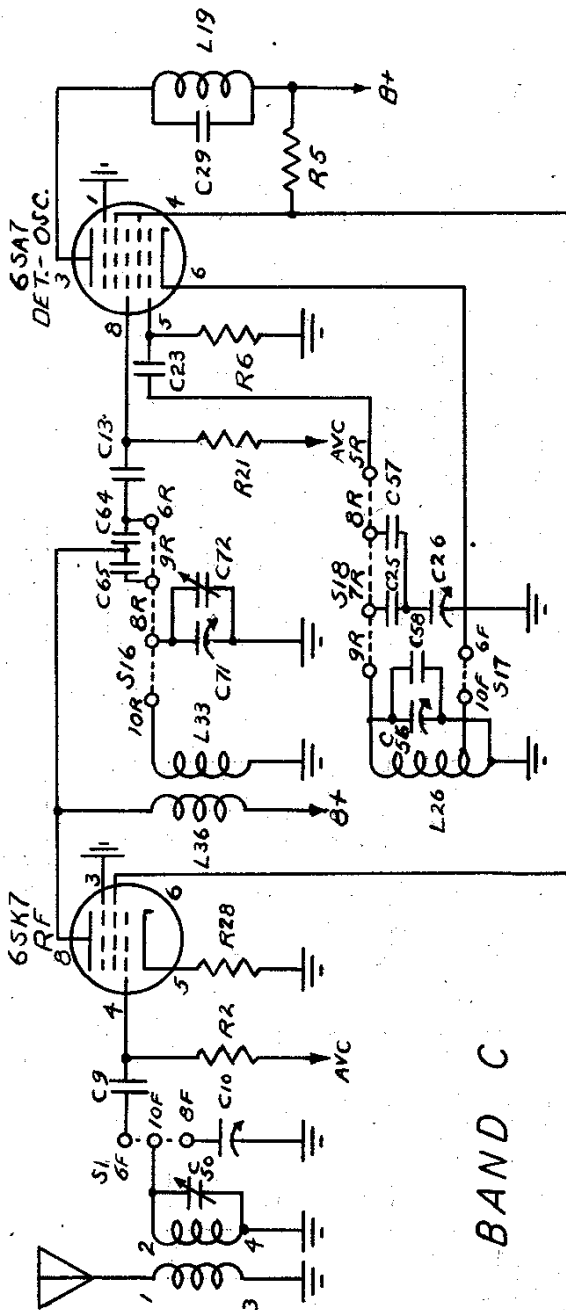
MODEL 111K

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SPREAD BAND



BAND C

RCA MFG. CO., INC.

MODEL 111K
Ch. RC-513A

APPROX. GAIN
BY THIS
ANALYST

12 X (400 X) 6K6GT OUTPUT

40 X (400 X) 6SF5 PH. INVER.

60 X (400 X) 6SF5 A.F.

2ND. DET.-A.V.C. 6HG

1ST. DET.-OSC. 6SA7

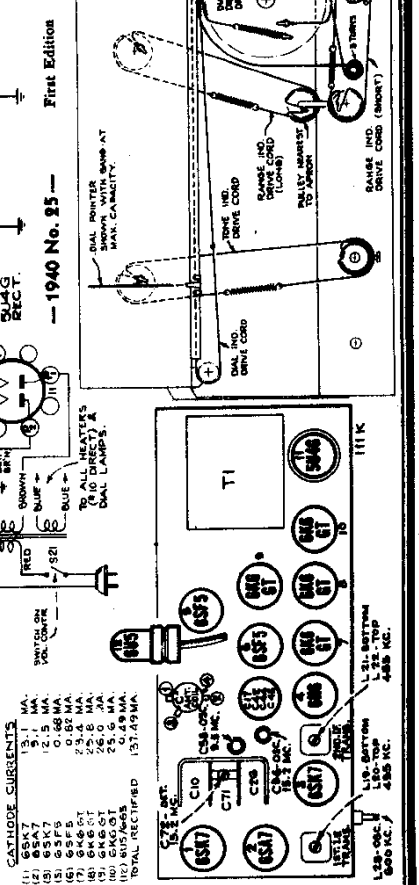
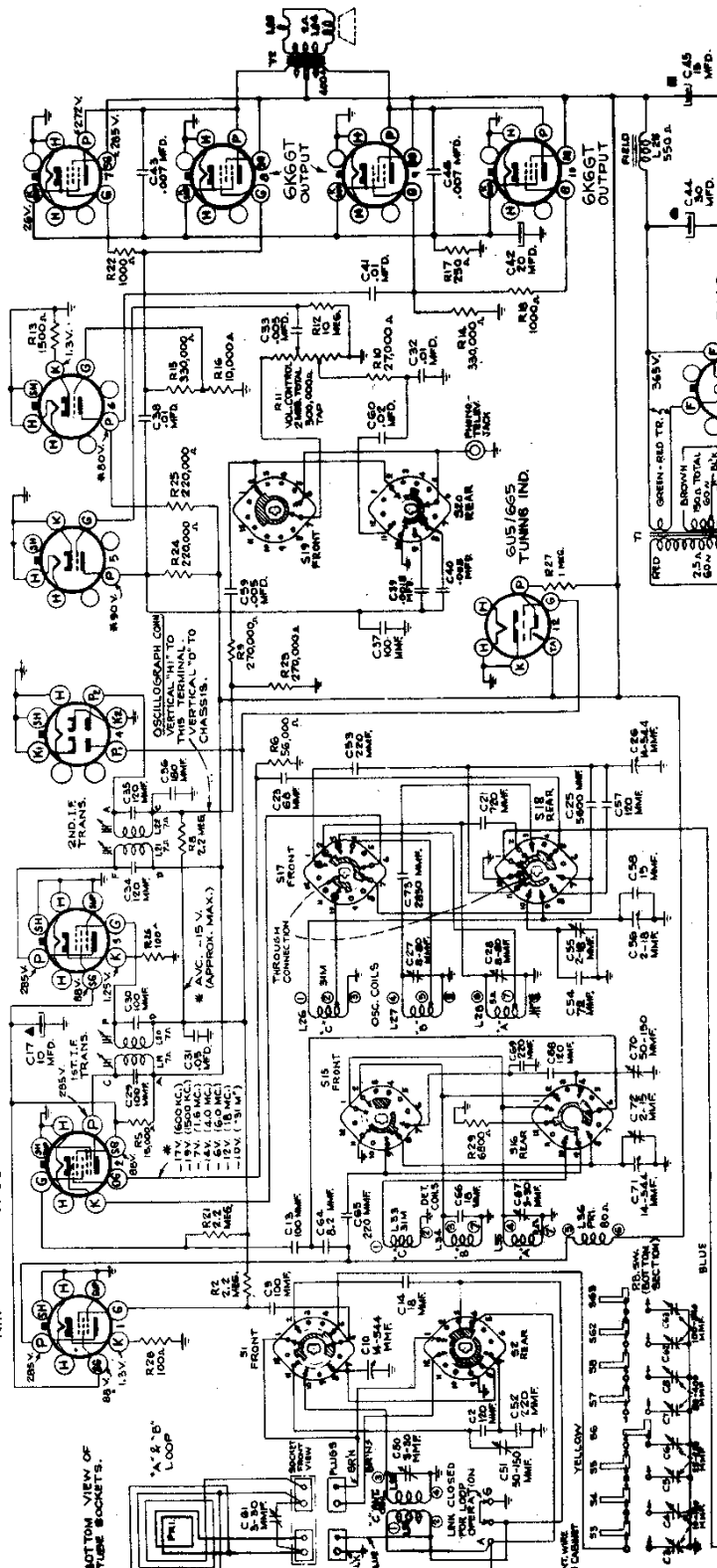
0.6 X (A.V.C. WORKING) 1 ST. DET. CONVERSION GAIN
20 X (A.V.C. WORKING) 2ND. DET. (A.C. DERIVED) 1.5 X (A.V.C. WORKING)
3 X (A.C. DERIVED) 1.85 X (A.C. DERIVED) 1.65 X (A.C. DERIVED)

6SK7 R.F.

6SK7 I.F.

OSCILLOGRAPH COM. THIS TERMINAL TO CHASSIS.

100 X (A.V.C. WORKING) 1 ST. DET. CONVERSION GAIN
20 X (A.V.C. WORKING) 2ND. DET. (A.C. DERIVED) 1.5 X (A.V.C. WORKING)
3 X (A.C. DERIVED) 1.85 X (A.C. DERIVED) 1.65 X (A.C. DERIVED)



CATHODE CURRENTS

(1) 6SA7	15.1 MA.
(2) 6SK7	12.5 MA.
(3) 6SK7	1.0 MA.
(4) 6SF5	0.85 MA.
(5) 6SF5	2.4 MA.
(6) 6K6GT	25.6 MA.
(7) 6K6GT	25.6 MA.
(8) 6K6GT	25.6 MA.
(9) 6K6GT	25.6 MA.
(10) 6K6GT	25.6 MA.
(11) 6K6GT	25.6 MA.
(12) 6K6GT	25.6 MA.
6K6GT TOTAL	137.49 MA.

POWER SUPPLY RATINGS

540-1,030 kc	10 watts
1,440-1,350 kc	Undistorted
5.8-13.0 mc	10 watts
9.85-9.86 mc	13 watts

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MODEL 111K
Ch. RC-513A

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, C72, and C50 "31-meter" trimmers during actual reception of a station of known frequency near 9.5 megacycles.

- * 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. 31031. 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-32) to receive the station.
4. After oscillator core is set correctly, adjust C63 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 880 to 1,550 kc push-button, the higher frequency stations may be received with L9 or L10 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.

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	L21 and L22 (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	15.2 mc (150°) "C" band	C56 (osc.)* C72 (det.)** C50 (ant.)* Rock in C72, C50
4		9.5 mc	9.5 mc (64°) "31M" band	C55 (osc.)* C70 (det.)* C51 (ant.) Rock in C70, C51
5	Green lead on loop plug, in series with 300 ohms	2.44 mc	2.44 mc (90.5°) "B" band	C27 (osc.)
6		600 kc	600 kc (30.5°) "A" band	L28 (osc.)
7		1,500 kc	1,500 kc (180°) "A" band	C28 (osc.) C67 (det.)
8	Repeat steps 6 and 7.			
9	Fasten chassis in cabinet, close ant. link, adjust indicator to left-hand end of dial scales with gang closed.			
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 signal "A" band	C81 (ant. on loop)
11		600 kc	600 kc "A" band	L28 (osc.) Rock in
12	Repeat steps 10 and 11.			

