

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

Model: 97K2

Chassis:

Year: Pre August 1939

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

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MODELS 96E2, 96K5, 96K6, 96T7

Chas. RC-351L, 97K2, 97T2

Chassis RC-351K

RCA MFG. CO., INC.

Alignment, Socket, Trimmers
Tuner Adjustments

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the chassis drawing.

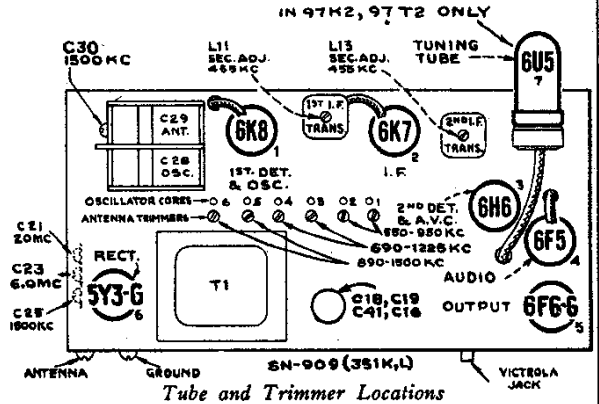
Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

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.

Calibration Scale on Indicator-Drive-Cord Drum.—The tuning dial is fastened in the cabinet and cannot be used for reference during alignment; therefore, a calibration scale is attached to the rear of the drum which is mounted on the front shaft of the gang condenser. The setting of the gang condenser is read on this scale, which is calibrated in degrees. The correct setting of the gang in degrees, for each alignment frequency, is given in the alignment table.

As the first step in r-f alignment, check the position of the drum. The 180° mark on the drum scale must be vertical, and directly over the center of the gang-condenser shaft when the plates are fully meshed. The distance from the front of the chassis to the drum must not exceed 3/8-inch. The drum is held to the shaft by means of two set screws, which must be tightened securely when the drum is in the correct position.

Pointer for Calibration Scale.—Improvise a pointer for the calibration scale by fastening a piece of wire to the gang-condenser frame, and bend the wire so that it points to the "180°" mark on the calibration scale when the plates are fully meshed.



Dial-Indicator Adjustment.—After fastening the chassis in the cabinet, attach the dial indicator to the drive cable with indicator at the left-hand end mark, and gang condenser fully meshed.

For additional details, refer to booklet "RCA Victor Receiver Alignment."

Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	6K7 I-F grid cap, in series with .01 mfd.	455 kc	"A" band, Quiet Point	L12 and L13 (2nd I-F Trans.)
2	6K8 det. grid cap, in series with .01 mfd.	455 kc	between 550-750 kc	L10 and L11 (1st I-F Trans.)
3	Antenna Terminal, in series with 200 mmf.	600 kc	600 kc (150.5°) "A" band	L9
4		1,500 kc	1,500 kc (28°) "A" band	C25 (osc.) C30 (ant.)
5	Repeat steps 3 and 4.			
6	Antenna Terminal, in series with 400 ohms	6 mc	6 mc (28.5°) "B" band	C23 (osc.)*
7		20 mc	20 mc (22°) "C" band	C21 (osc.)*
8	Follow "Adjustments for Electric Tuning."			

* Use minimum capacity peak if two peaks can be obtained, and rock gang condenser slightly while adjusting C23 and C21.

Note.—Oscillator tracks 455 kc above signal on all bands.

ADJUSTMENTS FOR ELECTRIC TUNING

These models have eight push buttons. The left-hand button is a Victrola switch. The right-hand button connects the gang condenser for manual tuning. The other six buttons are for electric tuning of six different stations in the standard-broadcast range. The station buttons connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an in-

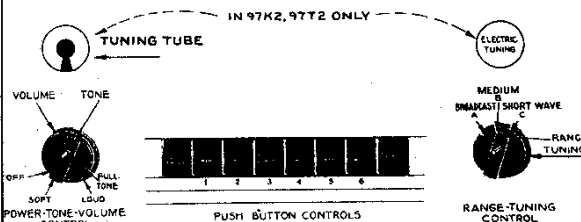
sulated screwdriver or alignment tool such as RCA Stock No. 31031. Allow at least five minutes warm-up period before making adjustments.

The procedure is as follows:

1. Make a list of the desired six stations, arranged in order from low to high frequencies.
2. Push in the dial-tuning button, and manually tune in the first station on the list.
3. Push in station button No. 1 (second from left) and adjust No. 1 oscillator core (L37) to receive this station. Screw the core all the way in, to lowest frequency, and then unscrew slowly until station is received.
4. Adjust No. 1 antenna trimmer (C36) for maximum output on this station.

Clockwise adjustment of cores and trimmers tunes the circuits to lower frequencies.

5. Adjust for each of the remaining five stations in the same manner.
6. Make a final careful adjustment of the oscillator cores and antenna trimmers.



Location of Controls

The left-hand push button is a Victrola-Attachment switch. The right-hand push button is for dial tuning.

Schematic, Lead Dress

RCA MFG. CO., INC.

MODELS 96E2, 96K5, 96K6, 96T7

Chas. RC-351L; 97K2, 97T2

Chassis RC351K

FREQUENCY RANGES

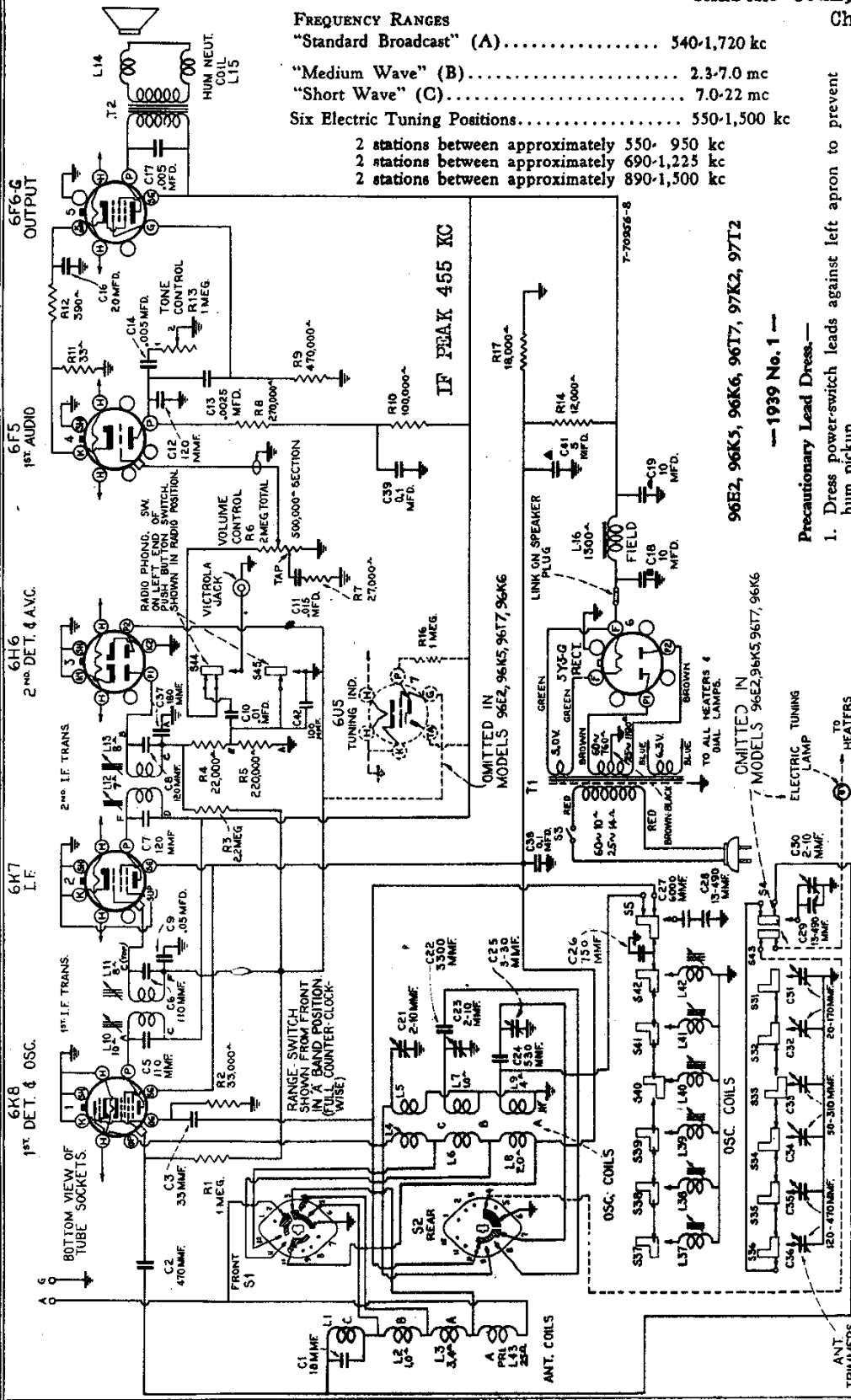
"Standard Broadcast" (A)..... 540-1,720 kc

"Medium Wave" (B)..... 2.3-7.0 mc

"Short Wave" (C)..... 7.0-22 mc

Six Electric Tuning Positions..... 550-1,500 kc

- 2 stations between approximately 550- 950 kc
- 2 stations between approximately 690-1,225 kc
- 2 stations between approximately 890-1,500 kc



96E2, 96K5, 96K6, 96T7, 97K2, 97T2

— 1939 No. 1 —

Precautionary Lead Dress.—

1. Dress power-switch leads against left apron to prevent hum pickup.
2. Dress R1 away from front of chassis.
3. Electric-tuning lamp leads must be dressed in front of range switch.
4. Dress lead from L5 to range switch away from other leads.
5. Dress leads away from antenna coil.
6. Dress other parts and leads away from R14, as it becomes heated.

96E2, 96K5, 96K6, 97K2

96T7, 97T2

Power Output

Undistorted..... 2.0 watts

Maximum..... 4.0 watts

Power Supply Rating

Rating A..... 105-125 volts, 50-60 cycles, 80 watts

Rating B..... 105-125 volts, 25-60 cycles, 80 watts

Rating C..... 100-130/140-160/195-230 volts, 40-60 cycles, 80 watts

MODELS 96E2, 96K5, 96K6, 96T7
Chassis RC-351L
LOUDSPEAKER

RCA MFG. CO., INC.

97K2, 97T2, Chas. RC351K
R-F Chassis Wiring, Data

Type..... Electrodynamic
Voice-coil impedance 84308-1, 84308-4, RL63H-3, RL70H-1... 2.2 ohms, RL79-1..... 3.4 ohms..... at 400 cycles
Pilot Lamps (1 on Models 96K5, 96K6, 96E2, 96T7) (2 on Models 97K2, 97T2)..... Mazda No. 47, 6.3 volts, .15 amp.

Loudspeaker.—Centering of the loudspeaker voice coil is accomplished in the usual manner with three narrow celluloid or paper feelers after first removing the front dust cover. A dust cover should be cemented in place with ambroid upon completion of adjustment.

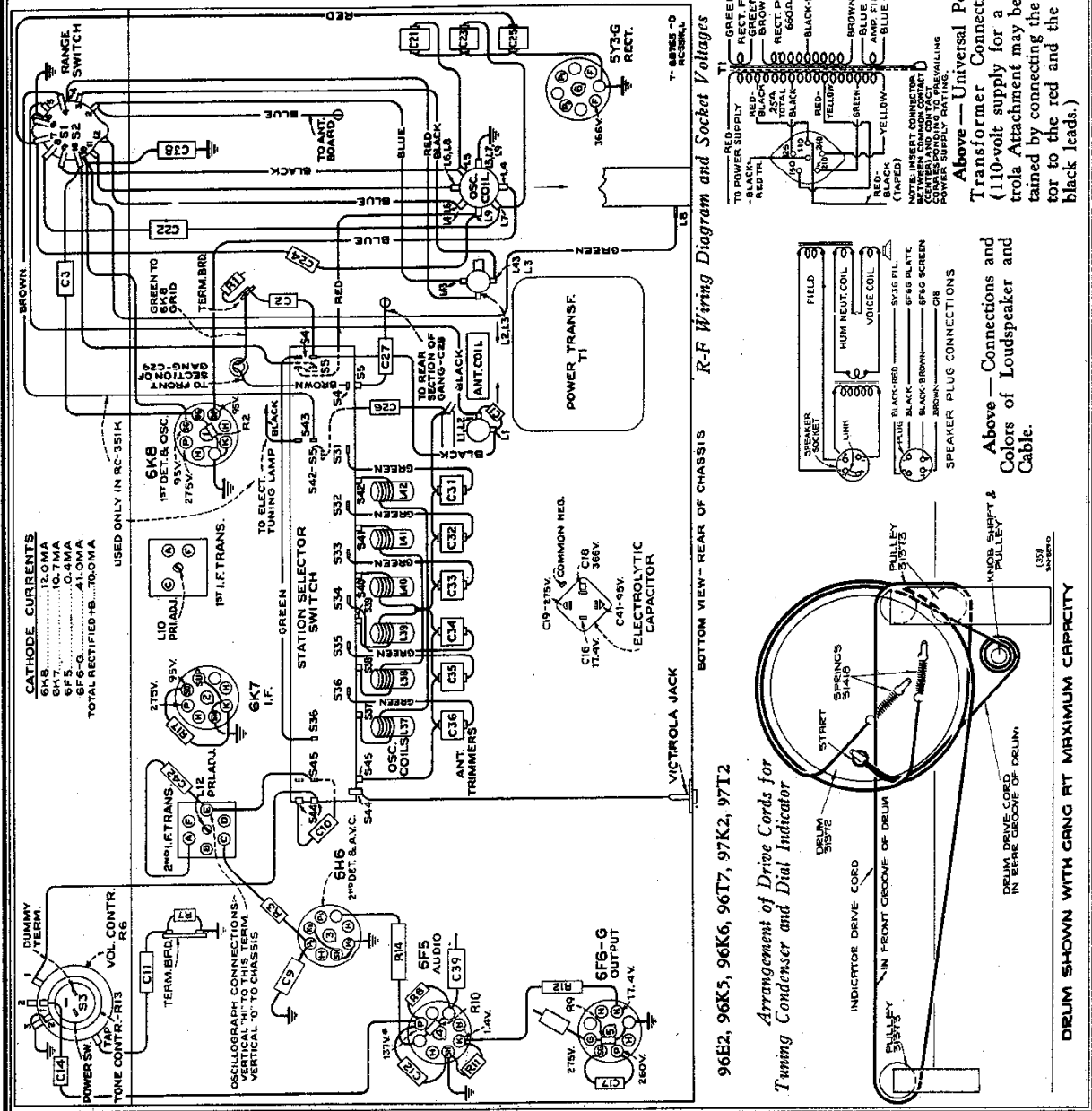
The seven-tube models have a "Magic Eye" tuning tube and illuminated indicator to show when the set is being operated on electric tuning. All models have electric tuning for six stations in the standard broadcast range.

Features of design include: Magnetite-core electric-tuning coils; magnetite-core "A" band oscillator coil; magnetite-core i-f transformers; temperature-compensated capacitor in the oscillator circuit; aural-compensated volume control; high-frequency tone control; jack and switch for Victrola attachment; straight-line dial; dust-proof electrodynamic loudspeaker.

Victrola Attachment.—A jack is provided on the rear of the chassis for connection to a Victrola Attachment. The cable from the Victrola Attachment should be terminated in a Stock No. 31048 plug to fit the jack.

Measurements made to chassis unless otherwise indicated, with set tuned to quiet point and volume control at minimum. Values should hold within $\pm 20\%$ with 117-volt a-c supply.

NOTE: Values with star () are operating voltages in circuits with high series resistance. The actual measured voltages will be lower, depending on the voltmeter loading.



96E2, 96K5, 96K6, 96T7, 97K2, 97T2
Arrangement of Drive Cords for
Tuning Condenser and Dial Indicator

Below — Connections and
Colors of Loudspeaker and
Cable.

Universal Power
Transformer Connections.
110-volt supply for a Vic-
trola Attachment may be ob-
tained by connecting the mo-
tor to the red and the red-
black leads.)

R-F Wiring Diagram and Socket Voltages