

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

Model: 8T

Chassis:

Year: Pre October 1936

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

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MODELS 7T, 7K, 6T, 8K
Schematic, Socket

RCA MFG. CO., INC.

Trimmers, Photo.

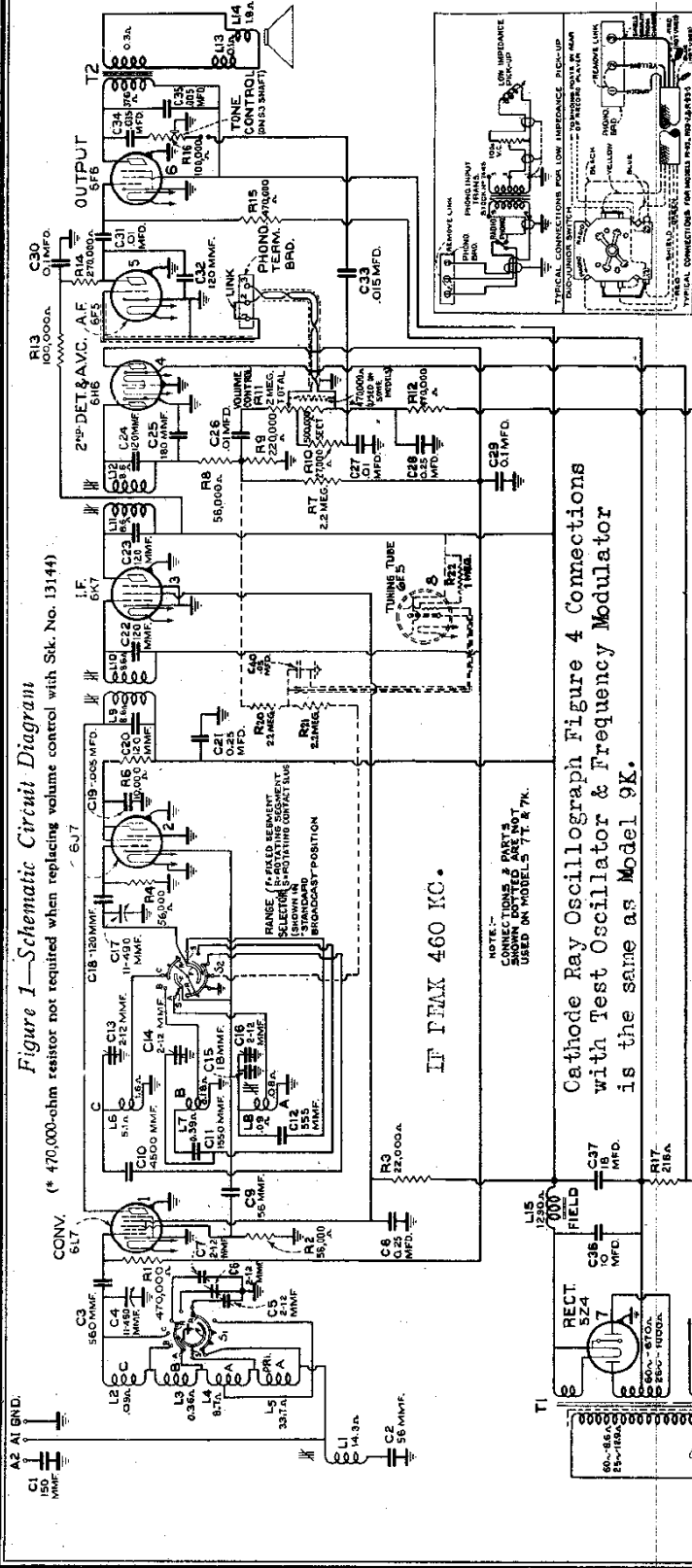


Figure 1—Schematic Circuit Diagram
(* 470,000-ohm resistor not required when replacing volume control with Stk. No. 13141).

Cathode Ray Oscillograph Figure 4 Connections
with Test Oscillator & Frequency Modulator
is the same as Model 9K.

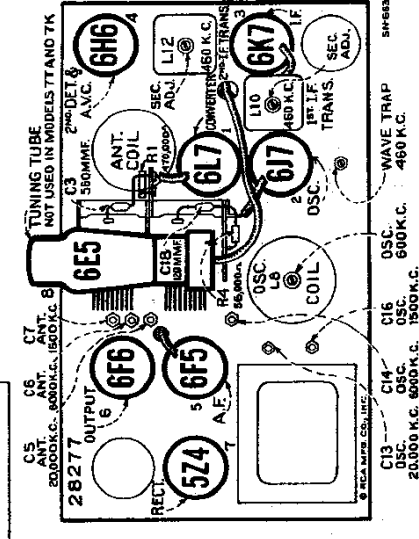


Figure 3—Radiotron, Coil, and Trimmer Locations

RCA MFG. CO., INC.

- ALIGNMENT FREQUENCIES
"Standard Broadcast" 600 kc (osc.), 1,500 kc (osc., ant.)
"Medium Wave" 6,000 kc (osc., ant.)
"Short Wave" 20,000 kc (osc., ant.)
Intermediate Frequency 460 kc
- POWER-SUPPLY RATINGS
Rating A 105-125 volts, 50-60 cycles, 80 watts
Rating B 105-125 volts, 25-60 cycles, 80 watts
Rating C 100-130/140-160/195-250 volts, 40-60 cycles, 80 watts
- LOUDSPEAKER
Type Electrodynamic
Impedance (V.C.) 2.2 ohms at 400 cycles
- Pilot Lamps (3)
. Mazda No. 46, 6.3 volts,
0.25 amperes
- POWER OUTPUT
Undistorted 2 watts
Maximum 4.5 watts

MODELS 7T, 7K, 8T, 8K
Voltage, Socket, Trimmers

RCA MFG. CO., INC.

Resistance, Loudspeaker

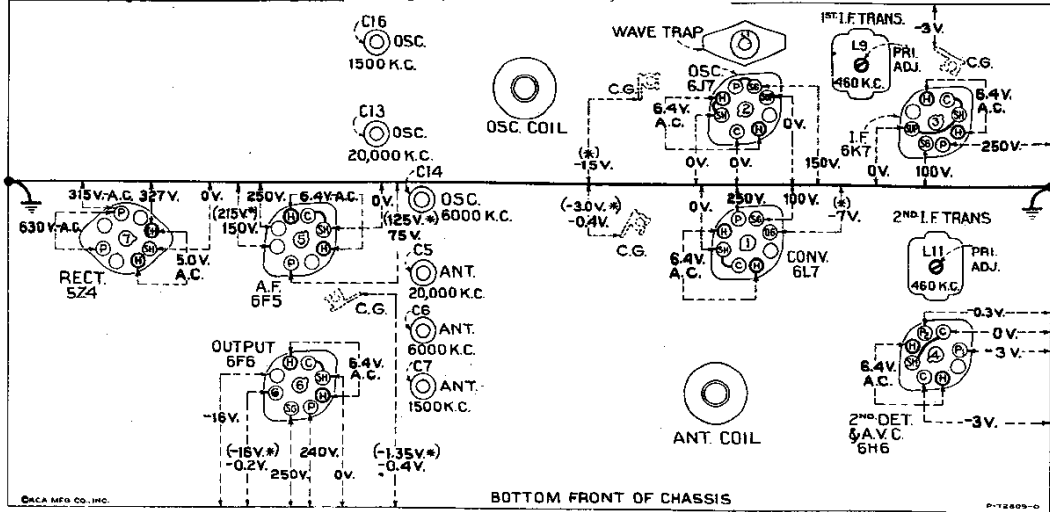


Figure 7—Radiotron Socket Voltages, Coil, and Trimmer Locations

Measured at 115 volts, 60-cycle supply—Tuned to approximately 1,000 kc—No signal being received—
Radiotron Socket Voltages Volume control minimum

Note: Two voltage values are shown for some readings. The higher value shown in parenthesis with asterisk (*) indicates operating conditions without voltmeter loading. The lower value is the actual measured voltage and differs from the higher value because of the additional loading of the voltmeter through the high series circuit resistance.

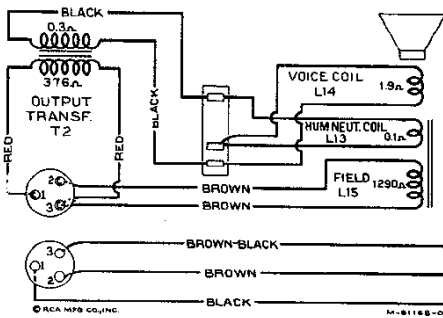
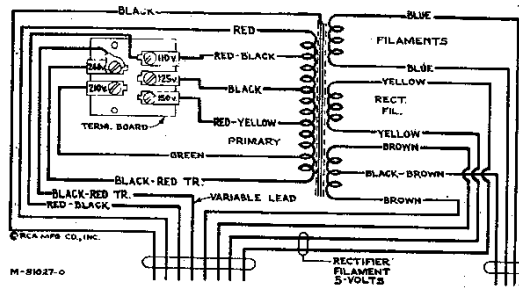


Figure 5—Loudspeaker Wiring



Primary resistance—24.5 ohms total
Secondary resistance—668 ohms total
Figure 8—Universal Transformer

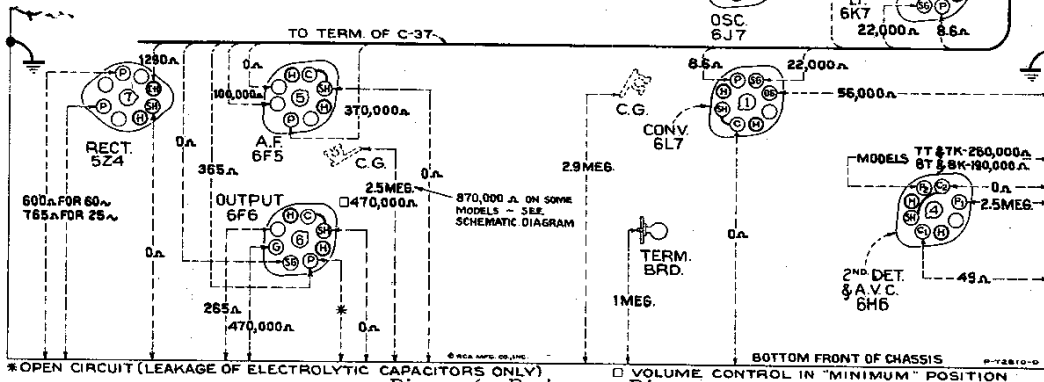


Figure 6—Resistance Diagram

Power supply disconnected—Radiotrons in sockets—Tuning condenser in full-mesh—
Range selector in "Standard broadcast" position—Volume control maximum

MODELS 7T, 7K, 8T, 8K
Alignment, Part 2
Parts List

RCA MFG. CO., INC.

It is advisable to repeat the adjustment of all i-f magnetite core screws to assure that the interaction between them has not disturbed the original adjustments.

R-F Adjustments

Calibrate the pointer of the tuning dial by adjusting it to the extreme low-frequency end of dial scale (key-act 55 on dial) with the plates of the gang tuning condenser in full mesh. Alignment must be made in sequence of "Short wave" band, "Medium wave" band, "Wave-trap", and "Standard broadcast" band.

"Short Wave" Band

(d) Connect the "Ant." output of the test oscillator to the antenna terminal "AL" through a 300-ohm resistor, leaving the "Gnd." of the oscillator connected to the receiver chassis.

(e) Place range selector to its "Short wave" position. Set receiver dial pointer to 20,000 kc. Adjust test oscillator to 20,000 kc. Set oscillator air trimmer C13 to minimum capacity (plunger full out), and antenna air trimmer C5 to maximum capacity (plunger full in). Slowly push in oscillator trimmer C13 until maximum (peak) output is reached. Two peaks may be found. Adjust C13 to the peak with minimum capacity (plunger near out) for maximum indication. Tighten lock nut. Slowly pull out plunger of antenna air trimmer C5 until maximum (peak) output is reached while slightly rocking the gang tuning condenser back and forth through the signal. Two peaks may be found with this circuit. The peak with maximum capacity (plunger near in) should be used. Tighten lock nut.

"Medium Wave" Band

(f) Place the receiver range selector to its "Medium wave" position, with the receiver dial pointer set to 6,000 kc. Tune test oscillator to 6,000 kc. Carefully adjust the oscillator and antenna air trimmers C14 and C6 respectively, so that each brings about maximum (peak) output. When adjusting the oscillator trimmer C14, two peaks may be found. The one of minimum capacitance (plunger near out) should be used.

"Wave-Trap" Adjustment

(g) Connect the "Ant." output of the test oscillator to the antenna terminal "A1" through a 200 mmfd. (important) capacitor. Place the range selector to its "Standard broadcast" position and set the receiver dial pointer to a position of no extraneous signals near 600 kc. Tune the test oscillator to 460 kc. Adjust the wave-trap magnetite core screw to the point which causes minimum output (maximum suppression of signal). An increase of the test-oscillator output may be necessary before the point of minimum output, obtained by adjustment of wave-trap screw, becomes apparent on the output indicator.

"Standard Broadcast" Band

(h) Reduce output of test oscillator to a minimum. Tune the test oscillator to 600 kc and set receiver dial pointer to 600 kc. Adjust output of test oscillator until a slight indication of output is visible.

(i) Adjust the oscillator magnetite core screw (top of oscillator coil) so that maximum (peak) output results.

(j) Set receiver dial pointer to 1,500 kc. Tune the test oscillator to 1,500 kc. Carefully adjust the oscillator and antenna air trimmers C16 and C7 respectively so that each brings about maximum (peak) output.

(k) Tune the test oscillator to 600 kc. Tune the receiver to pick up this signal disregarding the dial reading at which it is best received. Adjust oscillator magnetite core screw (top of oscillator coil) for maximum (peak) output while rocking gang tuning condenser. After completing this adjustment, the trimmers C16 and C7 should be re-adjusted as in (j) to correct for any change in the oscillator high-frequency tuning which has been caused by the preceding adjustment.

Antenna and Ground Terminals

These receivers are equipped with an antenna-ground terminal board having three terminals. These terminals are marked "A2", "A1", and "G", the latter being the ground terminal and should always be connected to a good external ground. The transmission line leads of the RCA RK-40A antenna system should be connected to terminals "A2" and "A1". The receiver coupling units of the RCA RK-40 and the RCA Spider-Web antenna systems should be connected to terminals "A1" and "G." Connect a single-wire antenna to terminal "A1."

Phonograph Terminal Board

A terminal board is provided for connecting a phonograph into the audio amplifying circuit. Typical methods of connecting a low-impedance pickup, or the RCA Victor Models R-93, R-93-2, and R-93-3 Record Players are shown on the Schematic Diagram (figure 1).

RADIOTRON COMPLEMENT

- (1) RCA-6L7.....First Detector
- (2) RCA-6J7.....Oscillator
- (3) RCA-6K7.....Intermediate Amplifier
- (4) RCA-6H6.....Second Detector and A.V.C.

- (5) RCA-6F5.....Audio Voltage Amplifier
- (6) RCA-6F6.....Power Output
- (7) RCA-1Z4.....Full-Wave Rectifier
- (8) RCA-6E5 (Models 8T and 8K only). Tuning Tube

FREQUENCY RANGES

- "Standard Broadcast"..... 530-1,800 kc
- "Medium Wave".....1,800-6,300 kc
- "Short Wave".....6,300-22,000 kc

REPLACEMENT PARTS

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

Stock No.	DESCRIPTION	List Price	Stock No.	DESCRIPTION	List Price
RECEIVER ASSEMBLIES					
12706	Arm-Hub and arm complete for operation shutter (located on range switch shaft)	.22	12714	Capacitor-Adjustable capacitor (C5, C6, C7, C13, C14, C16)	.38
12716	Board-Antenna and ground terminal board	.20	12722	Capacitor-18 Mmfd. (C15)	.20
12717	Board-Phonograph terminal board	.22	12723	Capacitor-56 Mmfd. (C9)	.20
5237	Bushing-Variable capacitor mounting bushing assembly-Package of 3	.43	12726	Capacitor-56 Mmfd. (C2)	.20
12730	Cable-Shielded cable approximately 141-in. long-volume control to phono terminal board	.40	12724	Capacitor-120 Mmfd. (C18, C23)	.28
11625	Cable-Tuning tube cable and socket complete (Models 8T and 8K)	1.26	12404	Capacitor-120 Mmfd. (C20, C22, C23, C24)	.26
12511	Cap-Grid contact cap-Package of 5	.15	12725	Capacitor-190 Mmfd. (C31)	.28
11315	Capacitor-.015 Mfd. (C33)	.20	12406	Capacitor-180 Mmfd. (C25)	.26
11414	Capacitor-.015 Mfd. (C34)	.20	12727	Capacitor-555 Mmfd. (C12)	.20
4841	Capacitor-.01 Mfd. (C29)	.22	12337	Capacitor-560 Mmfd. (C3)	.20
4840	Capacitor-.025 Mfd. (C28)	.20	12729	Capacitor-1,550 Mmfd. (C11)	.26
5212	Capacitor-.025 Mfd. (C28)	.20	12728	Capacitor-4,500 Mmfd. (C10)	.36
11240	Capacitor-18 Mfd. (C37)	1.08	4858	Capacitor-.005 Mfd. (C19, C35)	.20
12708	Coil-Antenna coil and shield (L2, L3, L4, L5)	1.16	4858	Capacitor-.01 Mfd. (C26, C27, C31)	.25
13709	Coil-Oscillator coil and shield (L6, L7, L8)	2.04	11195	Socket-5-contact 5Z4 radiotron socket	.15
12701	Condenser-gang variable tuning condenser (C4, C17)	2.02	11198	Socket-7-contact 6J7, 6K7 or 6L7 radiotron socket	.15
5119	Connector-3-contact female connector for speaker cable	.25	11196	Socket-8-contact 6F5, 6F6, 6H6, radiotron socket	.15
12711	Core-Adjustable core and stud for Stock No. 12709	.16	11222	Socket-Dial lamp socket	.18
12006	Core-Adjustable core and stud for Stock No. 12652 and 12653	.22	11381	Socket-Tuning tube socket and cover (Models 8T and 8K)	.45
12664	Core-Adjustable core and stud for Stock No. 12654	.22	12007	Spring-Retaining spring for core Stock No. 12006, 12664 and 12711-Package of 10	.36
12703	Dial-Station selector dial scale	.80	12849	Spring-Tension spring for band indicator shutter link-Package of 5	.18
12702	Drive-Vernier driver for tuning capacitor	.68	12707	Switch-Range switch (S1, S3)	1.64
12712	Indicator-Station selector indicator pointer	.22	12668	Tone Control-Control and operating switch (R16, S3)	1.22
5236	Lamp-Indicator dial lamp 6.3 volt-Package of 5	.70	12652	Transformer-First I.F. transformer complete (L9, L10, C20, C21)	1.60
12718	Mark-Dial light diffuser complete with red, orange and green colored screen	.40	11999	Transformer-Power transformer 105-125 volts, 60 cycle (T1)	3.80
12738	Resistor-27,000 ohms, insulated, 1/4 watt-Package of 5 (R10)	1.00	12132	Transformer-Power transformer 105-125 volts, 25 cycle (T1)	5.48
11282	Resistor-36,000 ohm, carbon type, 1/10 watt-Package of 5 (R8)	.75	12133	Transformer-Power transformer 100-250 volts, 60 cycle (T1)	6.25
12286	Resistor-36,000 ohm, carbon type, 1/4 watt-Package of 5 (R2)	1.00	12653	Transformer-Second I.F. transformer complete (L11, L12, C23, C24, C25, R8, R9)	2.06
11283	Resistor-36,000 ohm, carbon type, 1/10 watt-Package of 5 (R4)	.75	13144	Trap-Wave trap complete (L1)	.75
11281	Resistor-100,000 ohm, carbon type, 1/10 watt-Package of 5 (R13)	.75	12667	Volume Control-Control and operating switch (R11)	1.00
11398	Resistor-219,000 ohm, carbon type, 1/10 watt-Package of 5 (R9)	.75	REPRODUCER ASSEMBLIES		
11453	Resistor-270,000 ohm, carbon type, 1/10 watt-Package of 5 (R14)	.75	12641	Board-Reproducer terminal board	.15
11452	Resistor-470,000 ohm, carbon type, 1/10 watt-Package of 5 (R1, R15)	.75	12640	Bracket-Output transformer mounting bracket	.18
12285	Resistor-470,000 ohm, insulated, 1/4 watt-Package of 5 (R12)	1.00	12012	Coil-Field coil (L15)	1.85
12013	Resistor-1 meg, carbon type, 1/10 watt-Package of 5 (R22) (Models 8T and 8K)	.75	11469	Coil-Neutralizing coil (L13)	.20
11626	Resistor-2.2 meg, carbon type, 1/4 watt-Package of 5 (R7, R20, R21)	1.00	12642	Cone-Reproducer cone and dust cap (L14) (Models 7T and 8T)	.94
12004	Resistor-Voltage divider complete one 210 ohm, one 27 ohm and one 22 ohm sections (R17, R18, R19)	.45	12667	Cone-Reproducer cone and dust cap (L14) (Models 7K and 8K)	1.00
12715	Resistor-Wire wound, composite one 22,000 ohm and one 10,000 ohm sections (R3, R6)	.56	5118	Connector-3-contact male connector for speaker cable	.25
4669	Screw-No. 8-32 set screw for arm Stock No. 12706-Package of 10	.15	12666	Cover-Speaker cover (Models 7K and 8K)	.65
12651	Shield-Coil shield for Stock No. 12708	.15	9699	Reproducer Complete-(Models 7T and 8T)	6.90
12710	Shield-Dial lamp shield-Package of 5	.28	11253	Transformer-Output transformer (T2)	6.38
12008	Shield-I.F. transformer shield for Stock No. 12652 and 12653	.28	11886	Washer-Spring washer to hold field coil securely-Package of 5	1.56
12581	Shield-Shield top for I.F. transformer Stock No. 12653	.26	MISCELLANEOUS ASSEMBLIES		
12607	Shield-Shield top for I.F. transformer Stock No. 12652	.30	11996	Bracket-Tuning tube mounting bracket (Models 8T and 8K)	.22
12704	Shutter-Dial scale holder and shutter assembly for band indicator	.58	12698	Control-Station selector crystal and escutcheon	1.02
			12742	Escutcheon-Tuning tube escutcheon (Models 8T and 8K)	.22
			12599	Knob-Large tuning knob-Package of 5	.68
			11582	Knob-Tone control knob-Package of 5	.50
			12700	Knob-Vernier tuning knob (small)-Package of 5	.58
			11347	Knob-Volume control range switch knob-Package of 5	.75
			11377	Screw-Chassis mounting screw assembly for Table Model-Package of 4	.12
			11210	Screw-Chassis mounting screw assembly for Console Model-Package of 4	.12
			4982	Spring-Retaining spring for knob Stock No. 12699-Package of 10	.26
			11349	Spring-Retaining spring for knob Stock No. 11347, 11582 and 12700-Package of 5	.15

Prices quoted above are subject to change without notice.