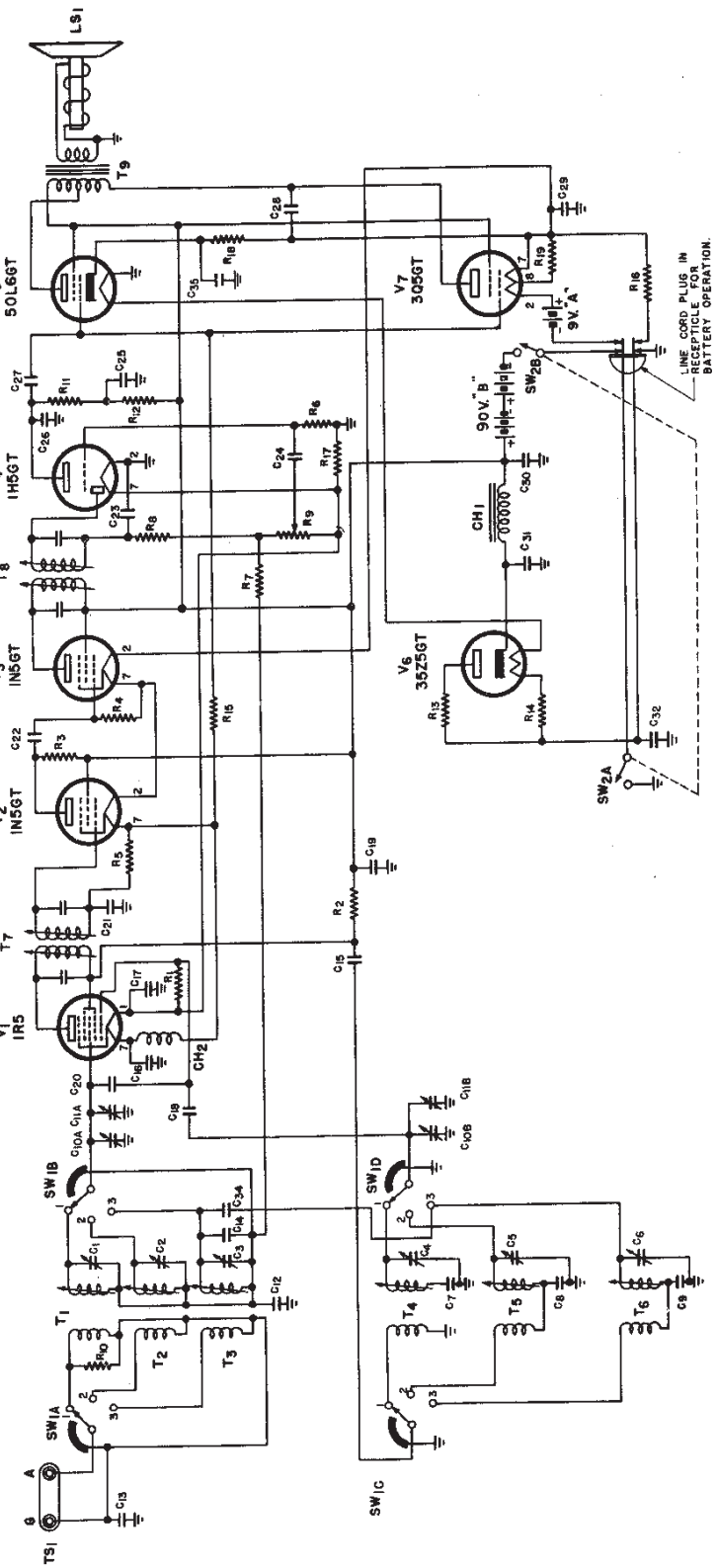
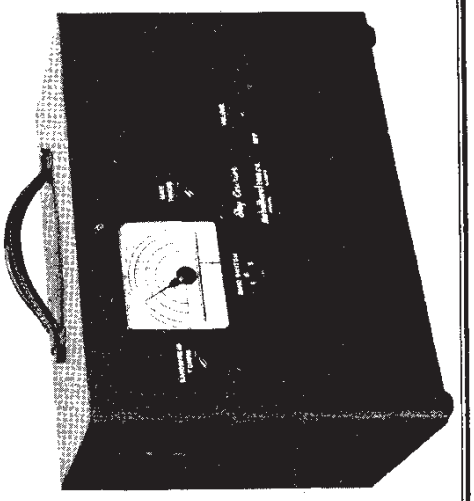
THE HALLICRAFTERS CO.

MODEL RE-1,
Sky Courier



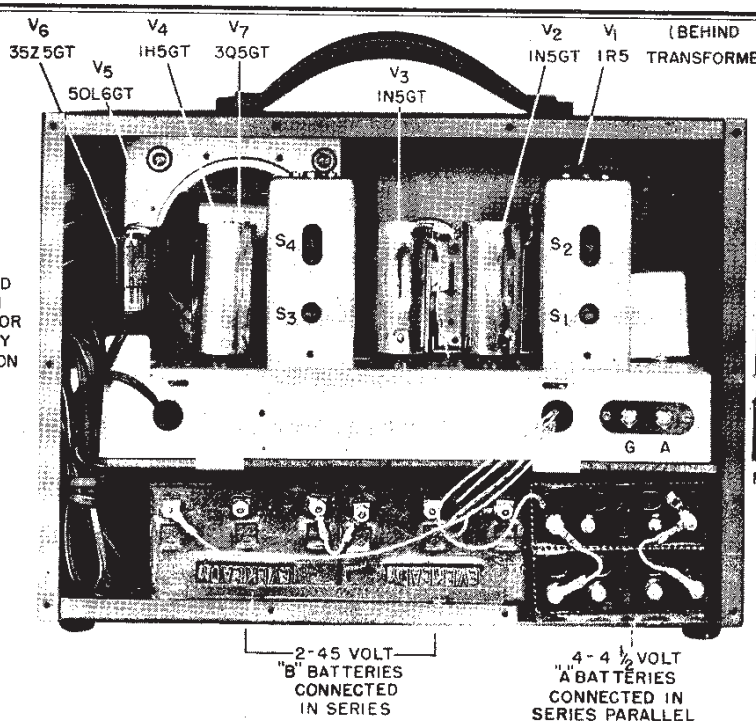


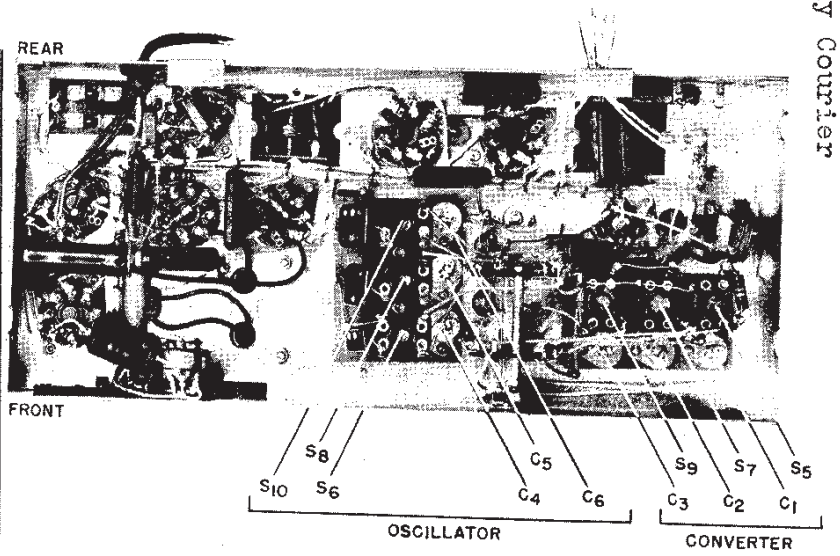
Note: When operating from a 110/125 volt direct current source, it may be necessary to turn the line plug around in the wall socket before the set will operate.

CAUTION: Remove run-down batteries from their compartment to avoid corrosion resulting from the deteriorating cells.

BATTERY -REPLACEMENT

Replace "B" batteries with Burgess #5308 or equivalent.
Replace "A" batteries with four Burgess #2370 Standard Terminal Type or two Burgess G3 Plug Type or equivalent.





BOTTOM VIEW OF CHASSIS

REAR VIEW—COVER REMOVED

ALIGNMENT AND SERVICE

EQUIPMENT REQUIRED -

(1) Signal generator covering 455 KC. to 20 MC. and equipped to provide a 400 cycle modulated signal.

(2) Non-metallic screw driver.

(3) Output meter.

(4) 0.1 mfd. condenser.

(5) 100 mmfd. condenser.

(6) 25 ohm non-inductive resistor.

(7) 400 ohm non-inductive resistor.

THE HALLICRAFTERS CO. MODEL RE-1, Sky Courier

I-F ALIGNMENT -

(1) Connect the "hot" lead of the signal generator to the stator of the front section of the gang condenser through the 0.1 mfd. condenser. Connect the ground lead of the generator to the ground terminal on the antenna terminal strip.

CAUTION - Do not ground the chassis of the receiver directly, make all ground connections to the G terminal of the terminal strip.

(2) Connect the output meter across the speaker terminals.

(3) Turn on the receiver and set the VOLUME control at maximum volume.

(4) Set the BAND SWITCH at BAND 2. and set the MAIN TUNING dial at approx. 7 MC.

(5) Set the signal generator at 455 KC. and turn on the 400 cycle modulation.

(6) Adjust i-f transformer slugs S_1, S_2, S_3 and S_4 for maximum output. Refer to the rear view of the receiver for location of the slug adjustments.

R-F ALIGNMENT -

(1) Connect the "hot" lead of the signal generator to the antenna terminal through the dummy antenna specified in the chart. Leave the ground lead of the generator connected to the ground terminal of the antenna terminal strip.

(2) Leave the output meter connected as for i-f alignment.

(3) Set the VOLUME control for maximum volume.

(4) Set the BAND SWITCH, MAIN TUNING dial, signal generator, trimmer condenser, and slug adjustments as follows:

SET BAND SWITCH	USE DUMMY ANT.	SET RECEIVER & SIGNAL GENERATOR	SET TRIMMER FOR MAX. OUTPUT	SET SLUG FOR MAX. OUTPUT
1	100 mmfd. condenser and 25 ohm resistor	1500 KC.	C_1 and C_4	-
1		600 KC.	-	S_5 and S_6
2		7 MC.	C_2 and C_5	-
2		3 MC.	-	S_7 and S_8
3	400 ohm resistor	18 MC.	C_3 and C_6	-
3		9 MC.	-	S_9 and S_{10}

NOTE: Refer to rear and bottom views of the receiver for location of adjustment screws.

MODEL RE-1, Sky Courier

THE HALLICRAFTERS CO.

LIST OF REPLACEABLE PARTS.

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONT'S. PART NO.
R_1	RESISTOR, 100,000 ohm ± 20%, ½ watt, carbon, insulated, humidity resistant. Same as R_{12}	Oscillator grid return for tube V_1	ASA	RC10AE104M
R_2	RESISTOR, 4,700 ohm ± 10%, ½ watt, carbon, insulated, humidity resistant	Decoupling for tube V_1	ASA	RC10AE472K
R_3	RESISTOR, 22,000 ohm ± 20%, ½ watt, carbon, insulated, humidity resistant	Plate load for tube V_2	ASA	RC10AE223M
R_4	RESISTOR, 470,000 ohm ± 10%, ½ watt, carbon, insulated, humidity resistant. Same as R_{11}, R_{15}	Grid return for tube V_3	ASA	RC10AE474K
R_5	RESISTOR, 2 megohm ± 20%, ½ watt, carbon, insulated, humidity resistant.	Grid return for tube V_2	ASA	RC10AE205M
R_6	RESISTOR, 10 megohm ± 20%, ½ watt, carbon, insulated, humidity resistant.	Grid return for tube V_4	ASA	RC10AE106M
R_7	RESISTOR, 3.3 megohm ± 20%, ½ watt, carbon, insulated, humidity resistant.	A-V-C decoupling	ASA	RC10AE335M
R_8	RESISTOR, 47,000 ohm ± 20%, ½ watt, carbon, insulated, humidity resistant.	Diode load for tube V_4	ASA	RC10AE473M
R_9	RESISTOR, variable, 500,000 ohm ± 20%, bushing 5/8-32 x ¼" long, shaft 5/8" long x ¼" dia., includes DPST toggle action switch on rear of control	VOLUME control	CT type 125	22A090
R_{10}	RESISTOR, 10,000 ohm ± 20%, ½ watt, carbon, insulated, humidity resistant	Primary loading for transformer T_1	ASA	RC10AE103M
R_{11}	RESISTOR, same as R_4	Plate load for tube V_4		
R_{12}	RESISTOR, same as R_1	Decoupling for tube V_4		
R_{13} R_{14}	RESISTOR, two sections, section #1 (R_{13}) 80 ohm ± 5%, 2.5 watts, wire wound; section #2 (R_{14}) 220 ohms ±5% 6.5 watts, wire wound; 3 solder lug terminals	Surge voltage stabilizing for tube V_6 Filament voltage dropping for tubes V_5 and V_6	U type X-1300	24A534
R_{15}	RESISTOR, same as R_4	Grid return for tubes V_5 and V_7		
R_{16}	RESISTOR, 680 ohms ± 10%, ½ watt, carbon, insulated, humidity resistant	Filament voltage divider for battery operation	ASA	RC10AE681K
R_{17}	RESISTOR, 270 ohm ± 10%, ½ watt, carbon, insulated, humidity resistant	Shunt for filament of tube V_4	ASA	RC10AE271K
R_{18}	RESISTOR, 47 ohm ± 10%, 2 watt, carbon, insulated, humidity resistant	Cathode bias for tube V_5	ASA	RC21AE470K
R_{19}	RESISTOR, 330 ohm ± 10%, ½ watt, carbon, insulated, humidity resistant	Shunt for filament of tube V_7	ASA	RC10AE331K
C_1	CAPACITOR, adjustable, min. cap. 4 mmfd., max. cap. 20 mmfd., ceramic dielectric, solder lug terminals and mtg.; same as C_2, C_3, C_4, C_5, C_6	Trimmer for transformer T_1	CRL type 820	44A118
C_2	CAPACITOR, same as C_1	Trimmer for transformer T_2		
C_3	CAPACITOR, same as C_1	Trimmer for transformer T_3		
C_4	CAPACITOR, same as C_1	Trimmer for transformer T_4		
C_5	CAPACITOR, same as C_1	Trimmer for transformer T_5		
C_6	CAPACITOR, same as C_1	Trimmer for transformer T_6		
C_7	CAPACITOR, fixed 300 mmfd. ± 5% 500 V. D-C working, mica dielectric, humidity resistant	Padder transforms T_4	ASA	CM20D391J
C_8	CAPACITOR, fixed, 1500 mmfd. ± 10%, 500 V. D-C working, mica dielectric, humidity resistant	Padder for transformer T_5	ASA	CM20E152K
C_9	CAPACITOR, fixed, 3900 mmfd. ± 10%, 500 V. D-C working, mica dielectric, humidity resistant	Padder for transformer T_6	ASA	CM35E392K
C_{10A} C_{10B}	CAPACITOR, 2 sections, ganged, section #1 (C_{10A}) min. cap. 39.7 mmfd., max. cap 353.4 mmfd., air dielectric, section #2 (C_{10B}) min. cap. 33.9 mmfd. max. cap. 353.5 mmfd., air dielectric; bandspread	Transformers T_1, T_2, T_3 main tuning	CM Special	46C125
C_{11A} C_{11B}	(C_{11A} and C_{11B}) consists of a single rotor plate for each section; three 6-32 NC-2A/3B "spade bolts mount assembly (2 on front frame 7/8" apart, 1 centered on rear frame 2-1/8" from front frame); a stamped sheet metal pulley 2-1/8" O.D. is fixed to the main gang and bandspread gang shafts.	Transformers T_4, T_5, T_6 main tuning Transformers T_1, T_2, T_3 bandspread tuning Transformers T_4, T_5, T_6 bandspread tuning		
C_{12}	CAPACITOR, fixed, .05 mfd. - 10 + 40%, 600 V. D-C working, paper dielectric, molded case. Same as C_{19}	A-V-C by-pass	MIC type 346	46M503J
C_{13}	CAPACITOR, fixed, .01 mfd. ± 10 + 40%, 600 V. D-C working, paper dielectric, molded case. Same as C_{32}	D-C voltage block between chassis and ground	MIC type 342	46A103J
C_{14}	CAPACITOR, fixed, 20 mmfd. ± 20%, 500 V. D-C working, ceramic dielectric, 0.00075 mfd./ mmfd./ degree Cent. temp. coeff.	Trimmer for transformer T_3 secondary	ASA	CC20UK200D
C_{15}	CAPACITOR, fixed, .005 mfd. - 20% + 40%, 400 V. D-C working, paper dielectric, molded case. Same as C_{24}	Coupling between oscillator inductance and plate circuit of tube V_1	ASA	CM5E502
C_{16}	CAPACITOR, fixed, .25 mfd. - 10 + 40%, 200 V. D-C working, paper dielectric, molded case	Filament by-pass for tube V_1	MIC type 342	46AE254J
C_{17}	CAPACITOR, fixed .1 mfd. - 10 + 40%, 400 V. D-C working, paper dielectric, molded case. Same as C_{25}	Filament by-pass for tube V_1	MIC type 342	46AF104J
C_{18}	CAPACITOR, fixed, 47 mmfd. ± 20%, 500 V. D-C working, mica dielectric, humidity resistant	Coupling between oscillator inductance and oscillator grid circuit of tube V_1	ASA	CM20A470M
C_{19}	CAPACITOR, same as C_{12}	Plate circuit by-pass		
C_{20}	CAPACITOR, fixed, 2.5 mmfd. ± 20%, 500 V. D-C working, bakelite dielectric, molded body. Same as C_{34}	Coupling between oscillator and converter	SC Special	49A001
C_{21}	CAPACITOR, fixed, .02 mfd. - 10 + 40%, 200 V. D-C working, paper dielectric, molded case	Grid return by-pass for tube V_2	MIC type 342	46A203J
C_{22}	CAPACITOR, fixed, 220 mmfd. ± 20%, 500 V. D-C working, mica dielectric, humidity resistant Same as C_{26}	Coupling between tubes V_2 and V_3	ASA	CM20A221M
C_{23}	CAPACITOR, fixed, 100 mmfd. ± 20%, 500 V. D-C working, mica dielectric, humidity resistant	Diode load r-f by-pass for tube V_4	ASA	CM20A101M
C_{24}	CAPACITOR, same as C_{15}	A-F coupling between detector circuit and 1st audio amplifier section of tube V_4		
C_{25}	CAPACITOR, same as C_{17}	Plate circuit decoupling for tube V_4		

LIST OF REPLACEABLE PARTS (Cont'd.)

THE HALLICRAFTERS CO.

MODEL RE-1, Sky Courier

LIST OF REPLACEABLE PARTS - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONTP'S. PART NO.
C_{26}	CAPACITOR, same as C_{22}	Plate circuit r-f by-pass for tube V_4		
C_{27}	CAPACITOR, fixed, .006 mfd. -20 - 60%, 600 V. D-C working, paper dielectric, humidity resistant. Same as C_{22}	Coupling between tube V_4 and V_5	ASA	CN41B602
C_{28}	CAPACITOR, same as C_{27}	Plate circuit equalizer for tubes V_5 and V_7		
C_{29}	CAPACITOR, 3 section unit, 4 prong plug-in type dry electrolytic; section #1 (C_{29}) 40 mfd. - 10 - 50%, 150 V. D-C. working; section #2 (C_{30}) 40 mfd. -10 - 50%, 150 V. D-C. working; section #3 (C_{29}) 100 mfd. 10 - 65%, 50 V. D-C. working, terminal #1 common to all sections	Filament circuit by-pass for battery operation Output filter capacitor for A-C/D-C operation Input filter capacitor for A-C/D-C operation	IC type P-1	45A772
C_{30}				
C_{31}				
C_{32}	CAPACITOR, same as C_{13}	Line filter for A-C/D-C operation		
C_{33}	Not used.			
C_{34}	CAPACITOR, same as C_{20}	Coupling between transformers T_3 and T_6 on band #3		
T_1	TRANSFORMER, R-F, 3 unit assembly; unit #1 (T_1) 550-1600 KC., universal windings primary and secondary, Hallowax #2012 impregnation, variable iron core adjustment; unit #2 (T_2) 2.8 - 7.8 MC., universal winding primary, single layer winding secondary, Hallowax #2012 impregnation, variable iron core adjustment; unit #3 (T_3) 7.0 - 19.0 MC., single layer windings primary and secondary, Hallowax #2012 impregnation, variable iron core adjustment; assembly mounted on a xx bakelite board 3" long x 1-3/4" wide x 1/16" thick with 2 mtg. holes 1" apart centered on the board; coils wound on bakelite form 1" long x ½" O.D.	Coupling between antenna and tube V_1 on band #1 Coupling between antenna and tube V_1 on band #2 Coupling between antenna and tube V_1 on band #3	GU type 30-5228-2	51C661
T_2				
T_3				
T_4	TRANSFORMER, R-F, 3 unit assembly; unit #1 (T_4) 550-1600 KC, universal windings primary and secondary, Hallowax #2012 impregnation, variable iron core adjustment unit #2 (T_5) 2.8 - 7.8 MC., single layer windings, Hallowax #2012 impregnation, variable iron core adjustment; unit #3 (T_6) 7.0 - 19.0 MC., single layer interwoven primary and secondary, Hallowax #2012 impregnation, variable iron core adjustment; assembly mounted on a XP bakelite board 3" long x 2-3/8" wide x 1-1/16" thick with 2 mtg. holes 1" apart centered on the board; coils wound on bakelite form 1" long x ½" O.D.	Oscillator inductances for band #1 Oscillator inductances for band #2 Oscillator inductances for band #3	GU type 30-5225-2	51C660
T_5				
T_6				
T_7	TRANSFORMER, I-F, 455 KC., fixed trimer capacitors, variable iron core tuning, shielded assembly	Coupling between tubes V_1 and V_2	GU type 30-5223-2	50B152
T_8	TRANSFORMER, I-F, 455 KC., fixed trimer capacitors, variable iron core tuning, shielded assembly	Coupling between tubes V_3 and V_4	GU type 30-5224-2	50B153
T_9	TRANSFORMER, A-F; primary to match a 8000 ohm 3Q5GT tube plate load, tapped to match a 2500 ohm 50L6GT tube plate load; secondary to match 2.3 ohm voice coil; metal case covered with corite wax except on mounting surface; two single hole mtg. feet with 1-5/4" mtg. centers.	Coupling between tube V_5 or V_7 and speaker	F Special	53A064

LIST OF REPLACEABLE PARTS - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONTP'S. PART NO.
CH_1	CHOKE, filter, 2250 turns of #35 wire wound on a ½" x ½" metal core, rated at 50 milliamperes, entire unit dipped in black corite wax except for mtg. surface; two single hole mtg. feet with 2-1/16" mtg. centers.	Plate voltage inductance for A-C/D-C line operation	F Special	54A062
CH_2	CHOKE, R-F, 37 turns of #22 SCE universal winding, air core, inductance 46 microhenries	R-F filter for filament of tube V_1	GU type 30-5233-2	53B069
SW_{1A}	SWITCH, 2 section, 3 positions, bakelite wafers, mounted by a 3/8-32 bushing ½" long, shaft 7/8" long	Converter stage transformer primary selector	OM Special	60A182
SW_{1B}		Converter stage transformer secondary selector		
SW_{1C}		Oscillator stage transformer primary selector		
SW_{1D}		Oscillator stage transformer secondary selector		
SW_{2A}	SWITCH, DPST, located on the rear or resistor R_9	A-C/D-C line switch		
SW_{2B}		Battery power supply switch		
TS_1	TERMINAL STRIP, two terminals brass solder lugs with 6-32 x 3/8" binding head metal screws, mounted with centers 3/4" apart on a XP brown bakelite strip 2" long x 11/16" wide x 1/16" thick, 2 mtg. holes with centers 1-11/16" apart; marked "A" and "G"	Antenna and ground connections	CN type 1720	86A143
LS_1	SPEAKER; 5 inch seal moisture proof cone; 4.25 ounce field P.M; 3.8 ohm voice coil; 8" long insulated leads soldered to speaker terminals at one end and a cinch plug (type #2724) at other end; includes a metal mtg. plate 4-5/8"x3-1/4" with three 7/16" dia. mtg. holes; mtg. centers 4" x 3-11/16" x 4-1/2"	Loudspeaker	CRK type X-1241	85C094
V_1	TUBE, pentagrid converter, type 1R5	Oscillator and converter	RCA	90T1R5
V_2	TUBE, r-f amplifier pentode, type 1R5GT/G	1st I-F amplifier	RCA	90T1R5GT/G
V_3	TUBE, same as V_2	2nd I-F amplifier	RCA	90T1R5GT/G
V_4	TUBE, diode high-mu triode, type 1R5GT/G	Detector and 1st audio amplifier	RCA	90T1R5GT/G
V_5	TUBE, beam power amplifier, type 50L6GT	Audio power amplifier for A-C/D-C operation	RCA	90T50L6GT
V_6	TUBE, half-wave high-vacuum rectifier, type 35Z5GT/G	Rectifier for A-C/D-C operation	RCA	90T35Z5GT/G
V_7	TUBE, beam power amplifier, type 3Q5GT/G	Audio power amplifier for battery operation	RCA	90T3Q5GT/G