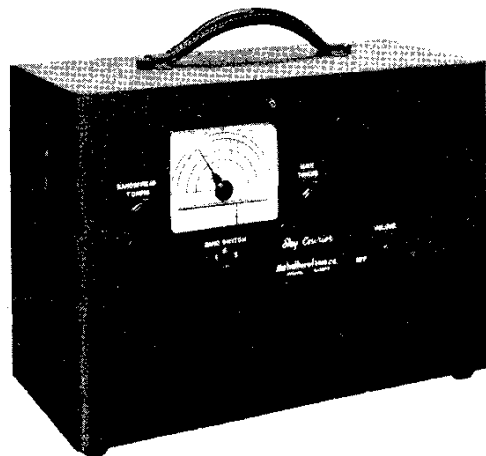
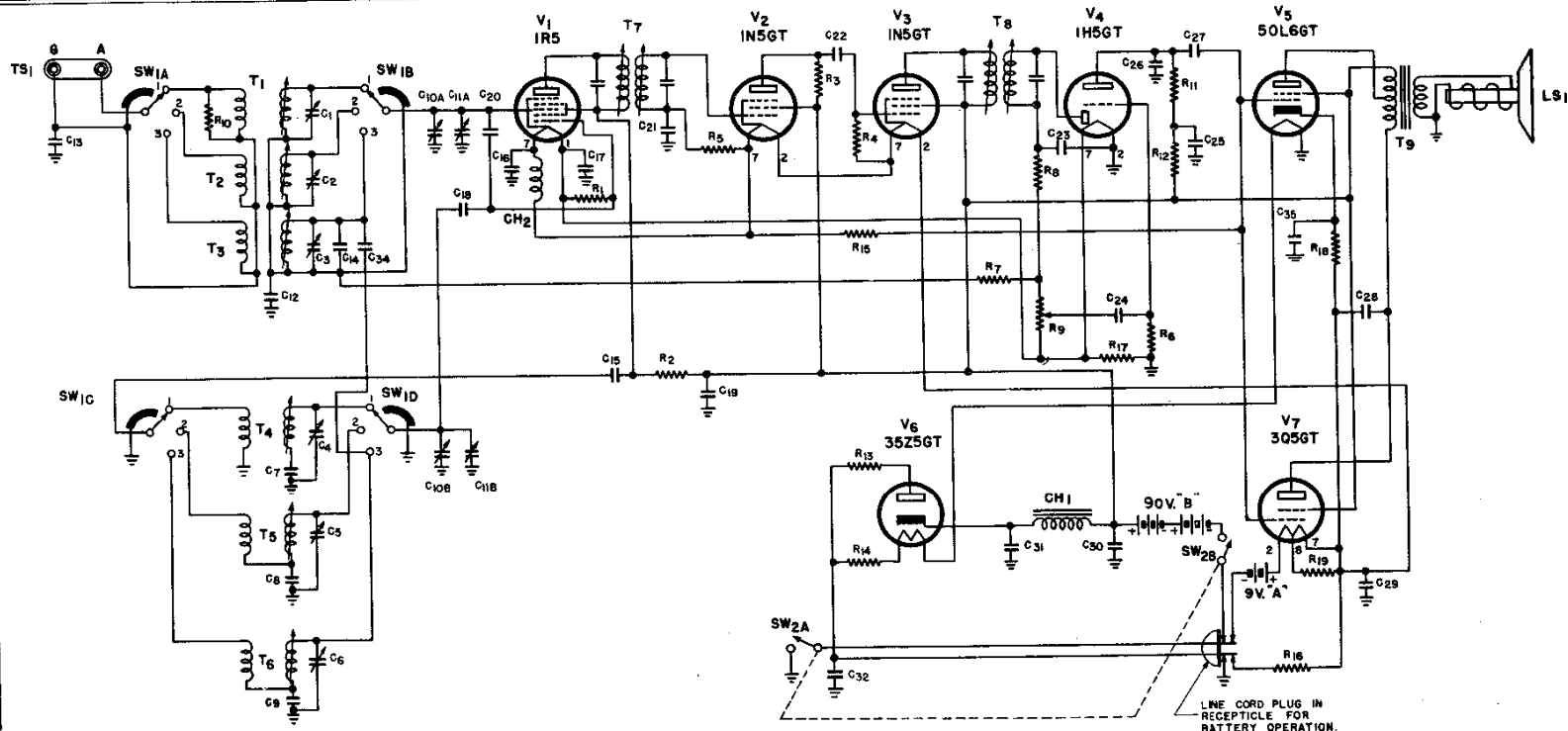




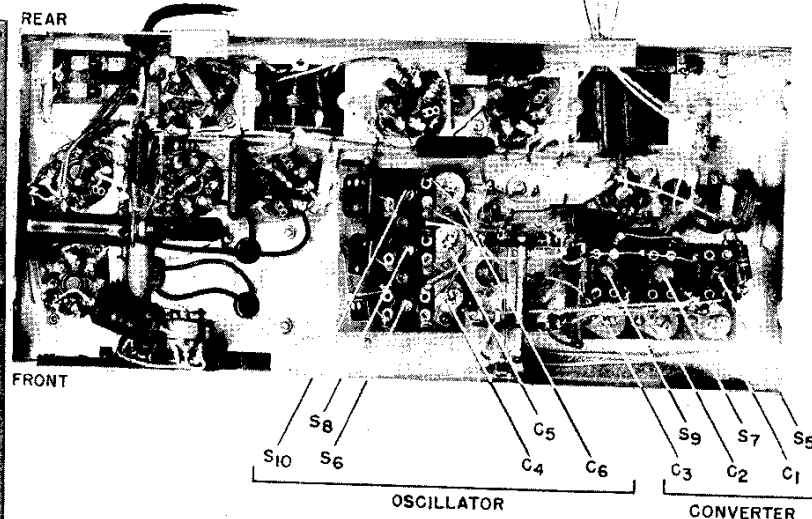
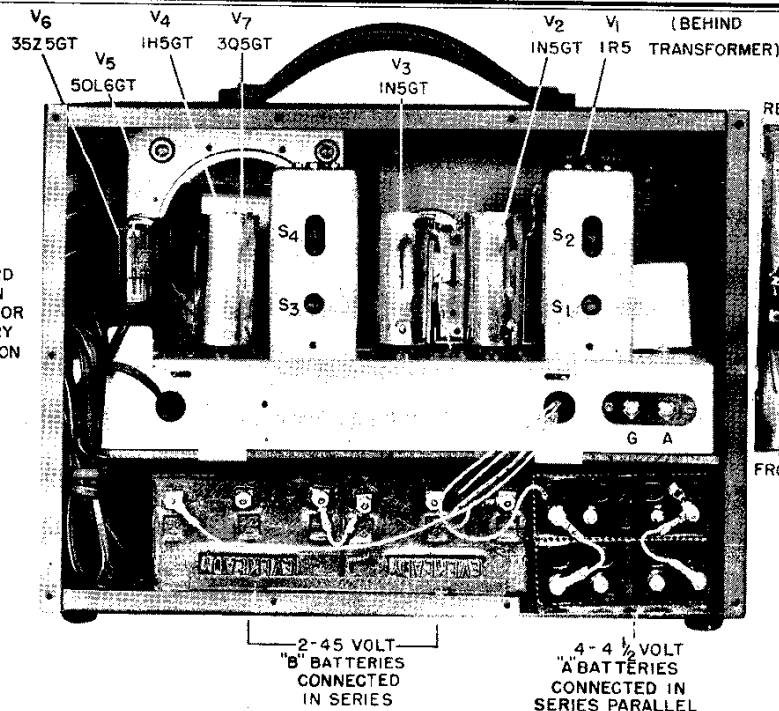
Note: When operating from a 110/125 volt direct current source, it may be necessary to turn the line plug around in the wall socket before the set will operate.

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.

LINE CORD
PLUG IN
SOCKET FOR
BATTERY
OPERATION



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.

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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.

LIST OF REPLACEABLE PARTS.

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONTR.'S. PART NO.
R ₁	RESISTOR, 100,000 ohms $\pm$ 20%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant. Same as R ₁₂	Oscillator grid return for tube V ₁	ASA	RC10AE104M
R ₂	RESISTOR, 4,700 ohms $\pm$ 10%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Decoupling for tube V ₁	ASA	RC10AE472K
R ₃	RESISTOR, 22,000 ohms $\pm$ 20%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Plate load for tube V ₂	ASA	RC10AE223M
R ₄	RESISTOR, 470,000 ohms $\pm$ 10%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant. Same as R ₁₁ , R ₁₅	Grid return for tube V ₃	ASA	RC10AE474K
R ₅	RESISTOR, 2 megohms $\pm$ 20%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Grid return for tube V ₂	ASA	RC10AE203M
R ₆	RESISTOR, 10 megohms $\pm$ 20%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Grid return for tube V ₄	ASA	RC10AE103M
R ₇	RESISTOR, 3.3 megohms $\pm$ 20%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	A-V-C decoupling	ASA	RC10AE333M
R ₈	RESISTOR, 47,000 ohms $\pm$ 20%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Diode load for tube V ₄	ASA	RC10AE473M
R ₉	RESISTOR, variable, 500,000 ohms $\pm$ 20%, bushing 3/8-32 x $\frac{1}{2}$ " long, shaft 5/8" long x $\frac{1}{2}$ " dia., includes DPST toggle action switch on rear of control	VOLUME control	CT type 120	25A090
R ₁₀	RESISTOR, 10,000 ohms $\pm$ 20%, $\frac{1}{2}$ 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	RESISTOR, two sections, section #1 (R ₁₃) 50 ohms $\pm$ 5%, 2.5 watts, wire wound; section #2 (R ₁₄) 220 ohms $\pm$ 5%, 5.5 watts, wire wound; 3 solder lug terminals	Surge voltage stabilizing for tube V ₆	U type X-1300	24A834
R ₁₄		Filament voltage dropping for tubes V ₅ and V ₆		
R ₁₅	RESISTOR, same as R ₄	Grid return for tubes V ₅ and V ₆		
R ₁₆	RESISTOR, 660 ohms $\pm$ 10%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Filament voltage divider for battery operation	ASA	RC10AE661K
R ₁₇	RESISTOR, 270 ohms $\pm$ 10%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Shunt for filament of tube V ₄	ASA	RC10AE271K
R ₁₈	RESISTOR, 47 ohms $\pm$ 10%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Cathode bias for tube V ₅	ASA	RC21AE470K
R ₁₉	RESISTOR, 330 ohms $\pm$ 10%, $\frac{1}{2}$ watt, carbon, insulated, humidity resistant	Shunt for filament of tube V ₇	ASA	RC10AE331K
C ₁	CAPACITOR, adjustable, min. cap. 4 mfd., max. cap. 20 mfd., ceramic dielectric, solder lug terminals and mg.; same as C ₂ , C ₃ , C ₄ , C ₅ , C ₆	Trimmer for transformer T ₁	CRL type S20	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 mfd. $\pm$ 5%, 500 V. D-C working, mica dielectric, humidity resistant	Padder transformer T ₄	ASA	CM20DS91J

LIST OF REPLACEABLE PARTS (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONTR.'S. PART NO.
C ₈	CAPACITOR, fixed, 1500 mfd. $\pm$ 10%, 500 V. D-C working, mica dielectric, humidity resistant	Padder for transformer T ₅	ASA	CM30E152K
C ₉	CAPACITOR, fixed, 3900 mfd. $\pm$ 10%, 500 V. D-C working, mica dielectric, humidity resistant	Padder for transformer T ₆	ASA	CM30E392K
C _{10A}	CAPACITOR, 2 sections, ganged, section #1 (C _{10A}) min. cap. 39.7 mfd., max. cap. 355.4 mfd., air dielectric, bandspread (C _{10B}) min. cap. 33.9 mfd., max. cap. 355.3 mfd., air dielectric; bandspread (C _{11A} and C _{11B}) consists of a single rotor plate for each section; three 6-32 NC-2x9/32" 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 ₁ , T ₂ , T ₃ main tuning Transformers T ₄ , T ₅ , T ₆ main tuning Transformers T ₁ , T ₂ , T ₃ band-spread tuning Transformers T ₄ , T ₅ , T ₆ band-spread tuning	CM Special	48C125
C _{10B}				
C _{11A}				
C _{11B}				
C ₁₂	CAPACITOR, fixed, .005 mfd. $\pm$ 10 $\pm$ 40%, 600 V. D-C working, paper dielectric, molded case, Same as C ₁₉	A-V-C by-pass	MIC type 346	46AME05J
C ₁₃	CAPACITOR, fixed, .01 mfd. $\pm$ 10 $\pm$ 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	46AG100J
C ₁₄	CAPACITOR, fixed, 20 mfd. $\pm$ 20%, 500 V. D-C working, ceramic dielectric, 0.00075 mfd./mfd./degree Cent. temp. coeff.	Trimmer for transformer T ₃ secondary	ASA	CM20UK200M
C ₁₅	CAPACITOR, fixed, .005 mfd. $\pm$ 20% $\pm$ 60%, 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	CM30B602
C ₁₆	CAPACITOR, fixed, .25 mfd. $\pm$ 10 $\pm$ 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. $\pm$ 10 $\pm$ 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 mfd. $\pm$ 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 mfd. $\pm$ 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. $\pm$ 10 $\pm$ 40%, 200 V. D-C working, paper dielectric, molded case	Grid return by-pass for tube V ₂	MIC type 342	46AE200J
C ₂₂	CAPACITOR, fixed, 220 mfd. $\pm$ 20%, 500 V. D-C working, mica dielectric, humidity resistant. Same as C ₂₆	Coupling between tubes V ₂ and V ₃	ASA	CM20A222M
C ₂₃	CAPACITOR, fixed, 100 mfd. $\pm$ 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.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONTR.'S. PART NO.
C26	CAPACITOR, same as C22	Plate circuit r-f by-pass for tube V ₄	ASA	CN41B602
C27	CAPACITOR, fixed, .006 mfd. -20 - 50%, 500 V. D-C working, paper dielectric, humidity resistant. Same as C28	Coupling between tube V ₄ and V ₅		
C28	CAPACITOR, same as C27	Plate circuit equalizer for tubes V ₅ and V ₇		
C29	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 ₃₁) 40 mfd. - 10 - 50%, 150 V. D-C working; section #3 (C ₃₃) 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	45A072
C32	CAPACITOR, same as C13	Line filter for A-C/D-C operation		
C33	Not used.			
C34	CAPACITOR, same as C20	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 x 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 1/2" 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 30-5225-2	51C661
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 winding primary and secondary, Hallowax #2012 impregnation, variable iron core adjustment; assembly mounted on a XF 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 1/2" O.D.	Oscillator inductances for band #1 Oscillator inductances for band #2 Oscillator inductances for band #3	GU type 30-5225-2	51C660
T ₇	TRANSFORMER, I-F, 455 KC., fixed trimmer 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 trimmer 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 1-3/4" mtg. centers.	Coupling between tube V ₅ or V ₇ and speaker	F Special	55A064

LIST OF REPLACEABLE PARTS - (Cont'd.)

REF. SYMBOL	NAME OF PART AND DESCRIPTION	FUNCTION	MFG. CODE	CONTR.'S. PART NO.
CH ₁	CHOKER, filter, 2250 turns of #35 wire wound on a 1/2" x 1/2" 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	56A062
CH ₂	CHOKER, 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	53B059
SW1A	SWITCH, 2 section, 3 positions, bakelite wafers, mounted by a 3/8-32 bushing 1/2" long, shaft 7/8" long	Converter stage transformer primary selector	OM Special	60A182
SW1B		Converter stage transformer secondary selector		
SW1C		Oscillator stage transformer primary selector		
SW1D		Oscillator stage transformer secondary selector		
SW2A	SWITCH, DPST, located on the rear of resistor R ₉	A-C/D-C line switch	CN type 1720	88A143
SW2B		Battery power supply switch		
TS ₁	TERMINAL STRIP, two terminals brass solder lugs with 4-32 x 3/8" binding head metal screws, mounted with centers 3/4" apart on a XF brown bakelite strip 2" long x 1 1/16" 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	88A143
LS ₁	SPEAKER; 5 inch semi moisture proof cone; 4.25 ounce field P.M.; 13.8 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 special mtg. plate 4-5/8" x 2-1/4" with three 7/16" dia. mtg. holes; mtg. centers 4" x 3-11/16" x 4-1/2"	Loudspeaker	CRI type X-1241	85C024
V ₁	TUBE, pentagrid converter, type 1R5	Oscillator and converter	RCA	90J1R5
V ₂	TUBE, r-f amplifier pentode, type 1R5GT/G	1st I-F amplifier	RCA	90J1R5GT/G
V ₃	TUBE, same as V ₂	2nd I-F amplifier	RCA	90J1R5GT/G
V ₄	TUBE, diode high-mu triode, type 1R5GT/G	Detector and 1st audio amplifier	RCA	90J1R5GT/G
V ₅	TUBE, beam power amplifier, type 50L6GT	Audio power amplifier for A-C/D-C operation	RCA	90J50L6GT
V ₆	TUBE, half-wave high-vacuum rectifier, type 35Z6GT/G	Rectifier for A-C/D-C operation	RCA	90J35Z6GT/G
V ₇	TUBE, beam power amplifier, type 3Q5GT/G	Audio power amplifier for battery operation	RCA	90J3Q5GT/G

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