

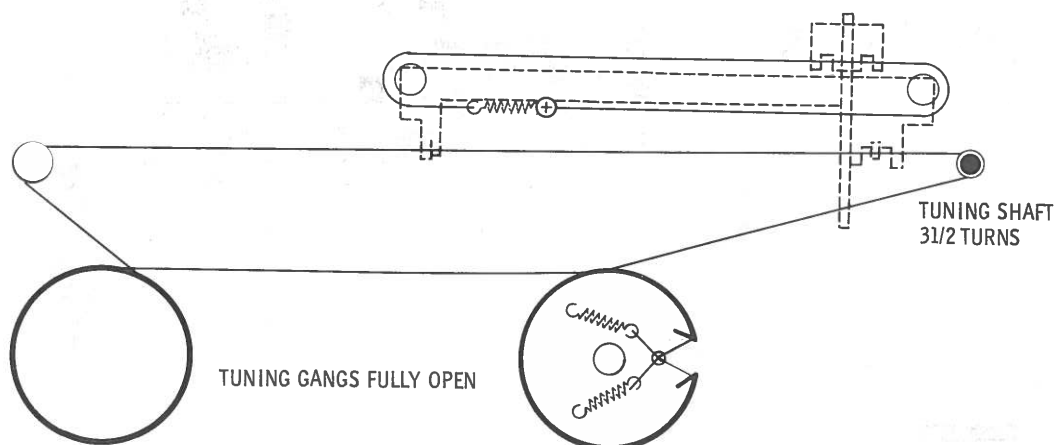
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with CIRCUITRACE®

WESTINGHOUSE
CHASSIS V-2543-3, V-2570-1/-2

TRADE NAME:	Westinghouse	MODEL	AM-FM Ch.	Audio/Pwr. Ch.
		H-230XN8	V-2543-3	V-2570-1
		H-230XN8A	"	V-2570-2
		H-231XN8	"	V-2570-1
		H-231XN8A	"	V-2570-2
		H-233XN8	"	V-2570-1
		H-233XN8A	"	V-2570-2
		H-235XLN8	"	V-2570-1
		H-235XLN8A	"	V-2570-2
		H-236XLN8	"	V-2570-1
		H-236XLN8A	"	V-2570-2
SUPPLIER:	For Current Address, See Annual Index			
TYPE SET:	8-Transistor AM-FM Receiver			
POWER SUPPLY:	110 - 120 Volts AC, 60 Cycles		RATING: 10 Watts, .105 Amp. @ 117 Volts AC	

DIAL CORD STRINGING



HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

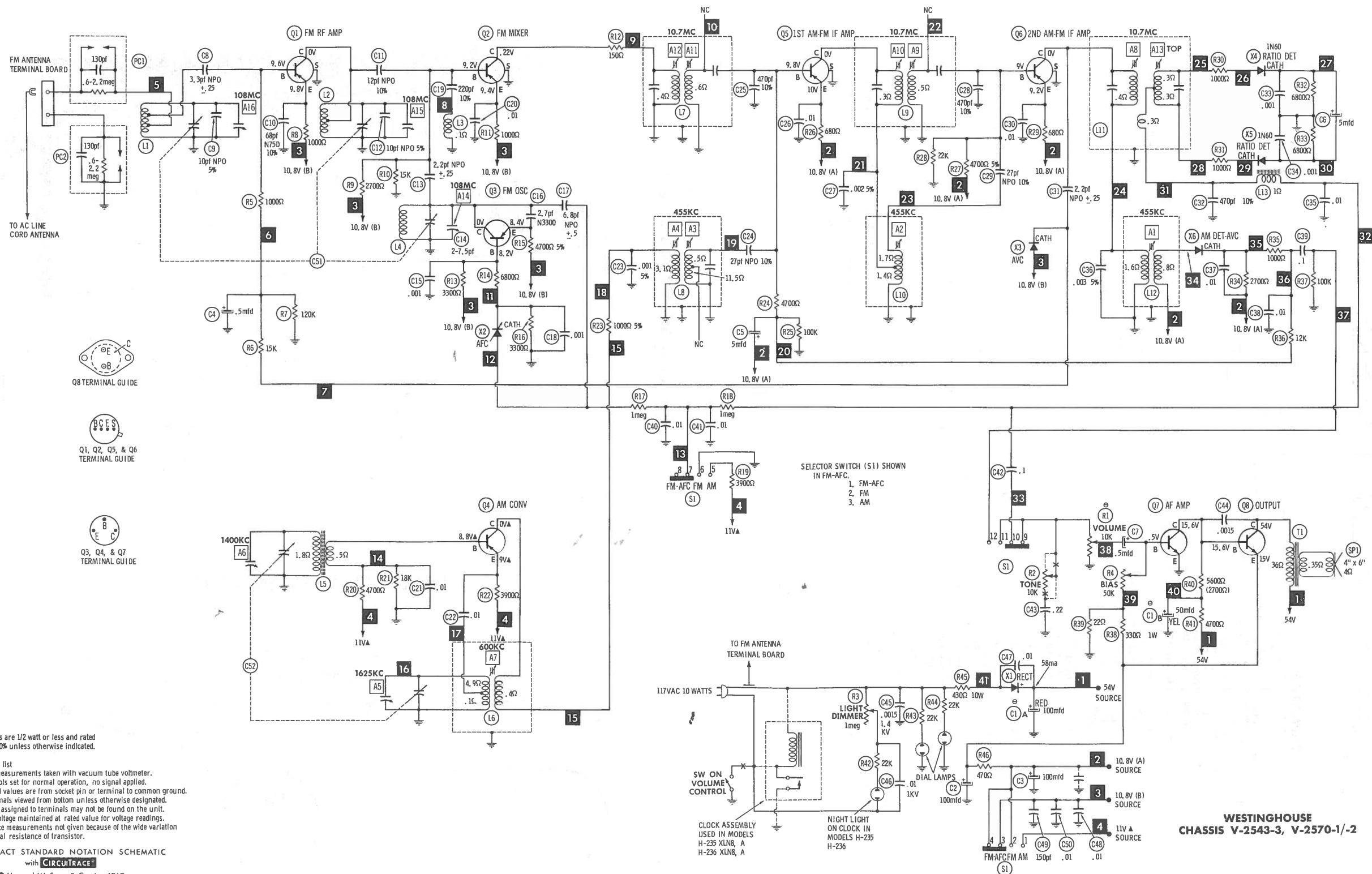
The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed. SK170

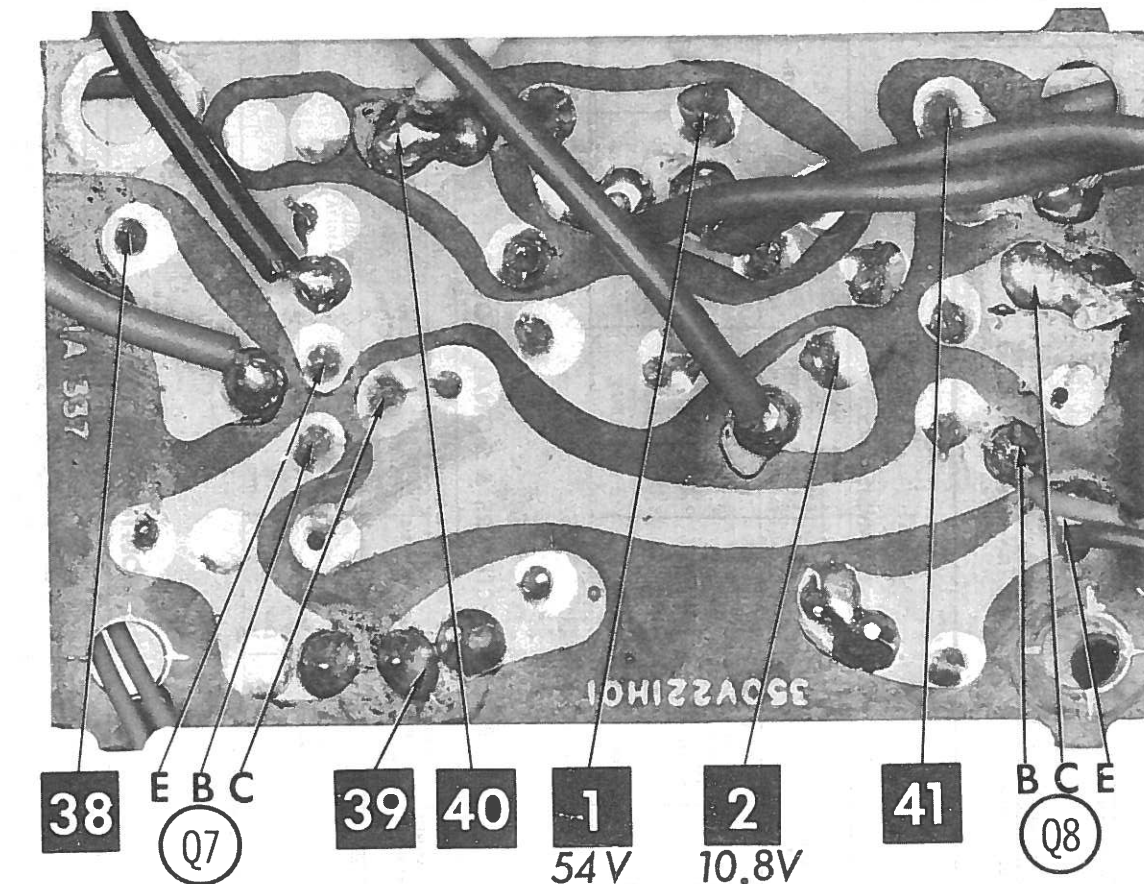
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DATE 5 -67

SET 887 FOLDER 8







A Howard W. Sams **CIRCUITRACE®** Photo

ALIGNMENT INSTRUCTIONS

Maintain line voltage at 117 volts. Use only enough generator output to obtain a suitable indication. Allow a 15 minute warmup for receiver and equipment.
CAUTION: Use isolation transformer, if available. If not, observe polarity when connecting test equipment.
Suggested Alignment Tools:
A1, A2, A5, A6, A7, A14, A15, A16.....GENERAL CEMENT #8868, 8987, 9089... WALSCO #2531-X, 2541, 2587
A3, A4, A8 thru A13.....GENERAL CEMENT #8606, 8869, 9302... WALSCO #2511, 2543, 2588

AM ALIGNMENT – SELECTOR IN AM POSITION

Fashion loop of several turns of wire and connect generator across loop. Set volume control at maximum.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
1. 455KC (400v Mod.)	Tuning gang fully open.	Output Meter across Voice coil.	A1, A2, A3, A4	Adjust for maximum. Repeat until no further improvement can be made.
2. 1625KC	"	"	A5	Adjust for maximum.
3. 1400KC	Tune to signal.	"	A6	"
4. 600KC	"	"	A7	Rock tuning gang and adjust for maximum. Repeat steps 2 thru 4 until no further improvement can be made.

FM ALIGNMENT USING AM SIGNAL GENERATOR – SELECTOR IN FM POSITION

Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC (Unmod.)	Point of non-interference.	DC probe of VTVM to point A; common to ground.	A8, A9, A10, A11, A12	Adjust for maximum.
6. "	"	DC probe to point B; common to ground.	A13	Adjust for zero reading. A positive or negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR – SELECTOR IN FM POSITION

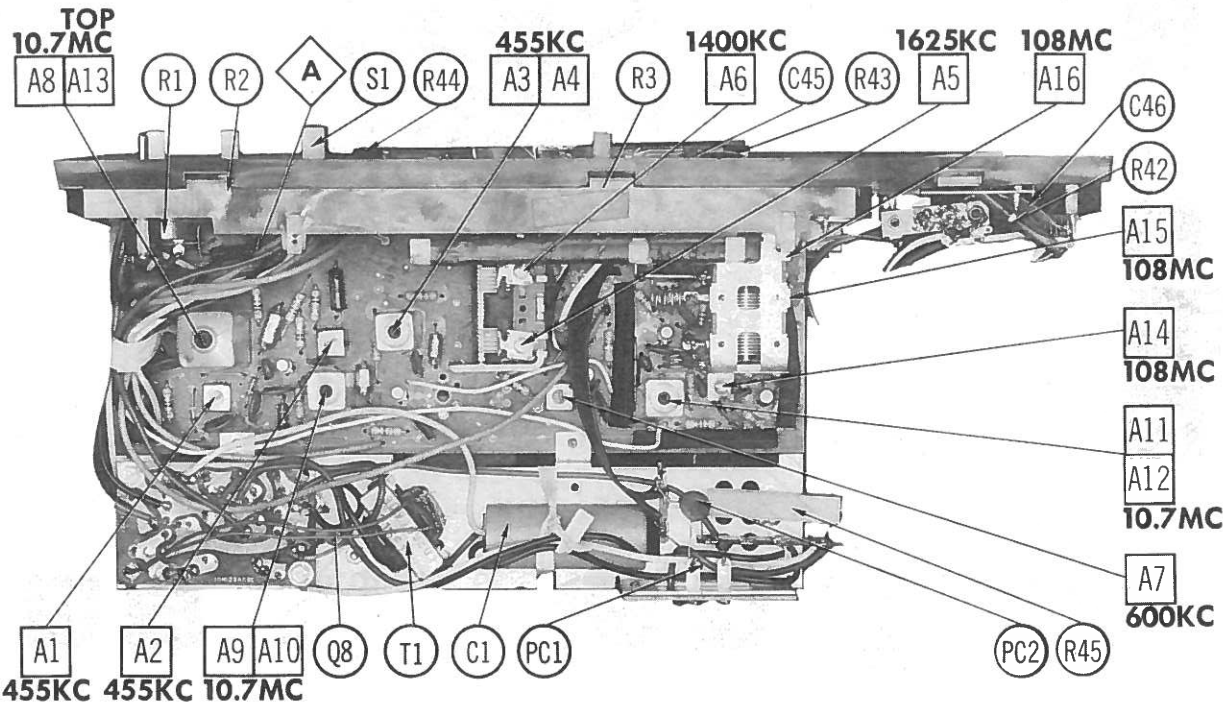
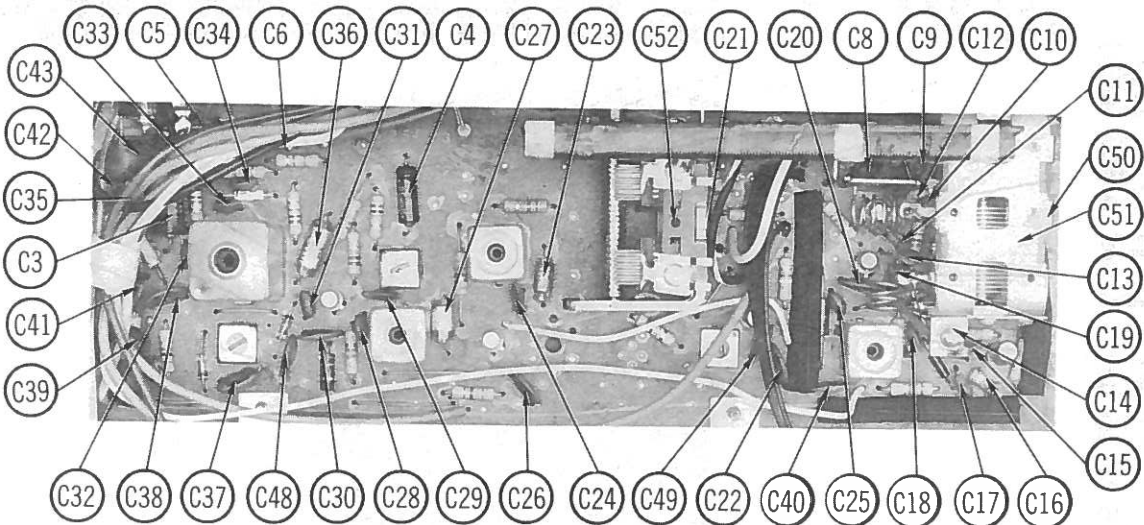
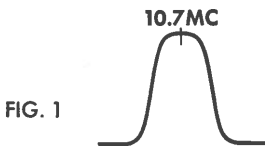
Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead. Use only enough marker signal to obtain indication. Use 60v frequency modulated signal with 450KC sweep. Use 120v sawtooth voltage in scope for horizontal deflection.

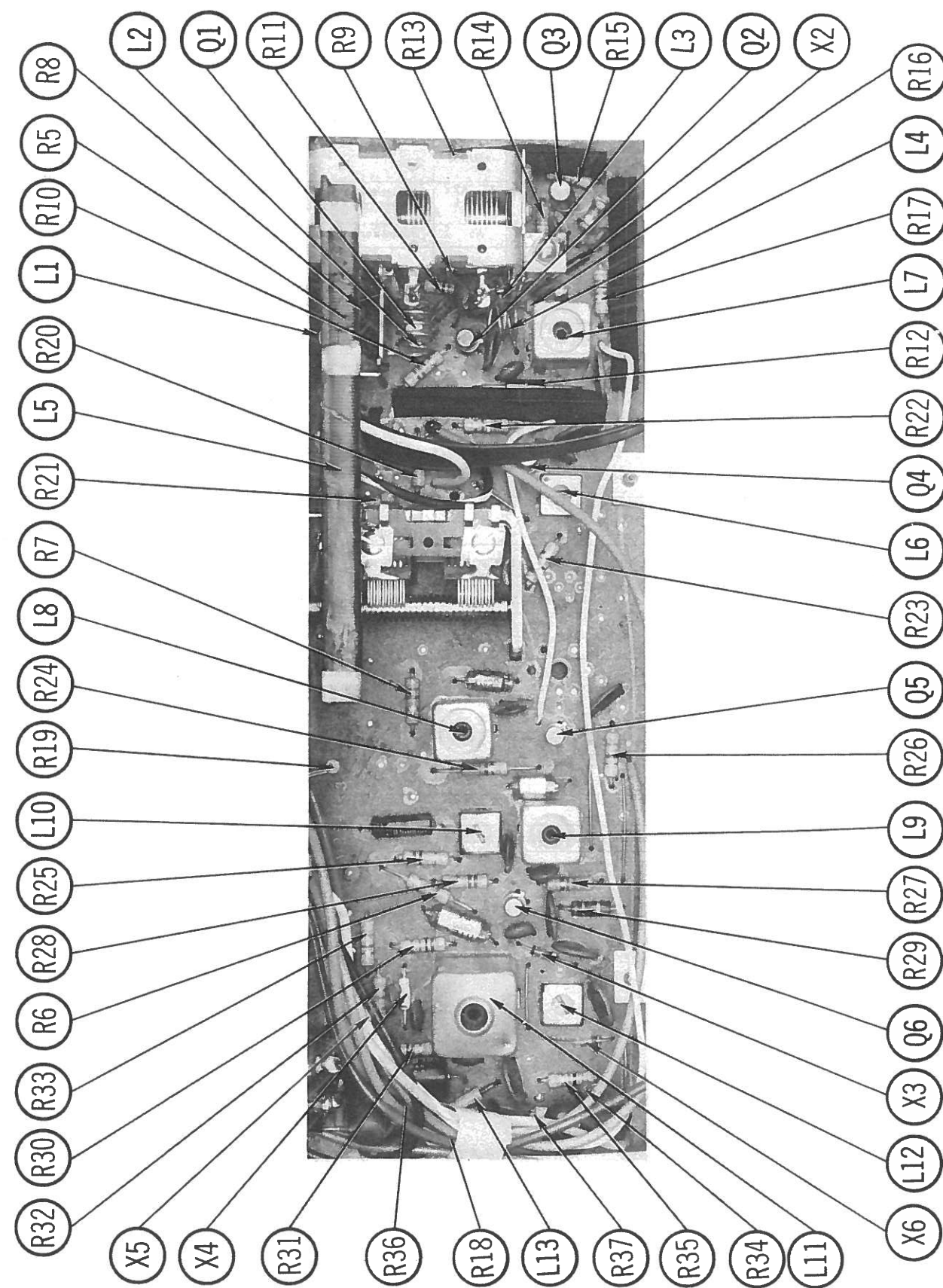
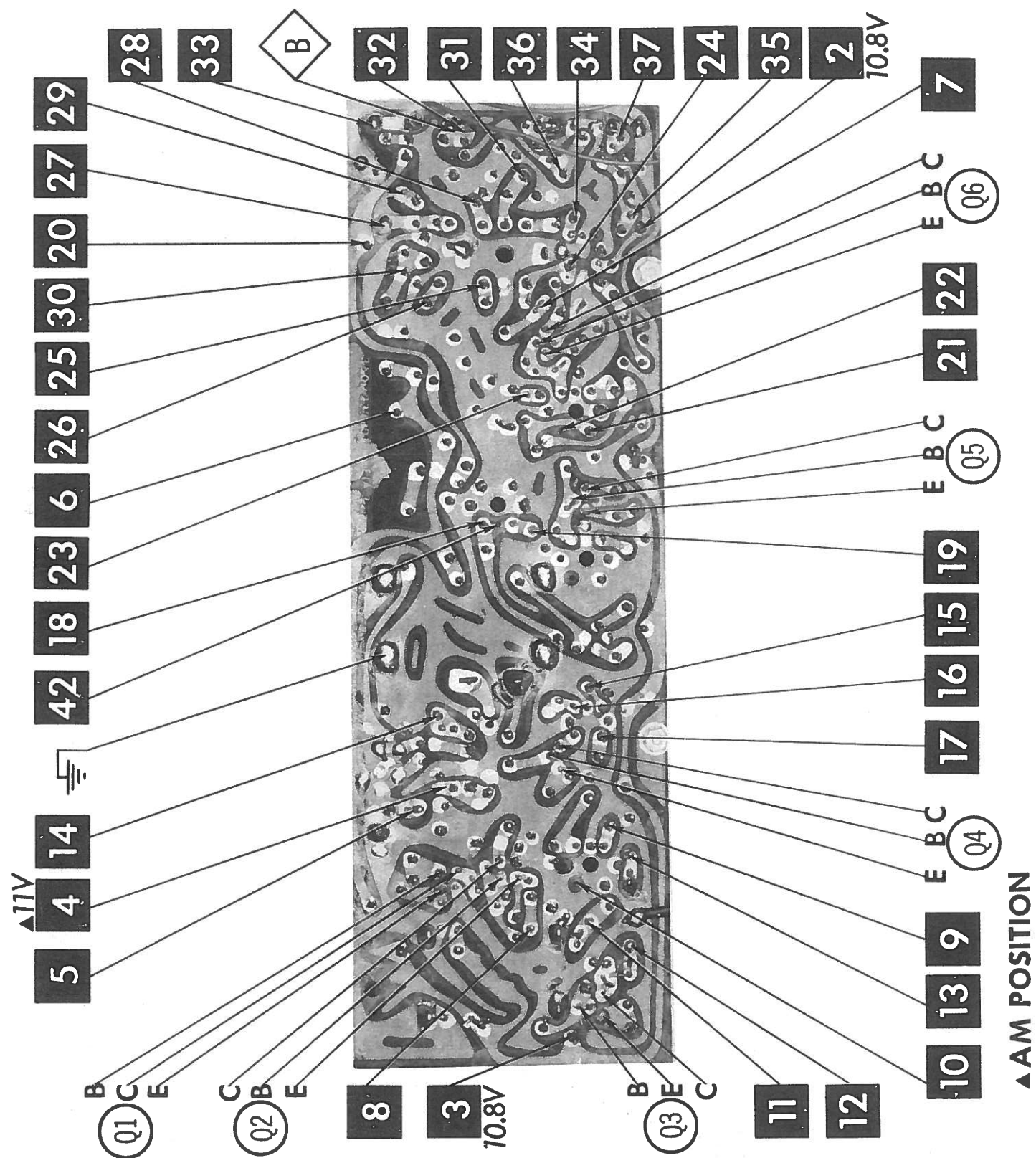
GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
5. 10.7MC (450KC Swp.)	Point of non-interference	Vert. amp. of Scope to point A; low side to ground.	A8, A9, A10, A11, A12	Disconnect stabilizing capacitor C6. Adjust for maximum gain and symmetry of response similar to Fig. 1 with marker as shown. Reconnect C 6.
6. "	"	Vert. amp. to point B; low side to ground.	A13	Adjust A13 (Secondary) to place marker at center of crossover lines similar to Fig. 2. Adjust A8 (Primary) for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

Connect generator across antenna terminals with 120Ω carbon resistors in series with each lead.

GENERATOR FREQUENCY	DIAL SETTING	INDICATOR	ADJUST	REMARKS
7. 108MC	Set at high end.	DC probe of VTVM to point A; common to ground.	A14, A15, A16	Adjust for maximum.





PARTS LIST AND DESCRIPTION

(When ordering parts, state Model, Part Number, and Description.)

WIRING DATA

General-use Unshielded Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) - 6 Ft. 17109 (Plastic) or 17129 (Rubber) - 9 Ft.
Power Cord (Interlock Type)	Use BELDEN No. 8874 (Rubber) or 8896 (Plastic)
Low-Loss Shielded Lead (Interconnecting)	Use BELDEN No. 8401 or 8421
Phono Pick-up Arm Cable	Use BELDEN No. 8430 (Two Conductor-Unshielded) 8429 (Two Conductor-Shielded) 8419 (Three Conductor-Shielded)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				Westinghouse PART No.	NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.		
Q1		FM RF Amp.	DS-41		TR-17	SK-3006	297V042H04	PNP
Q2		FM Mixer	DS-41		TR-17	SK-3006	297V045H01	PNP
Q3		FM Osc.	DS-41		TR-17	SK-3006	297V064B01	PNP
Q4		AM Converter	DS-25	GE-1	TR-06	SK-3008	297V038H06	PNP
Q5		1st AM-FM IF Amp.	DS-56	GE-9	TR-17	SK-3006	297V063C01	PNP
Q6		2nd AM-FM IF Amp.	DS-56	GE-9	TR-17	SK-3006	297V063C01	PNP
Q7		AF Amp.	DS-56	GE-10	TR-21	SK-3020	297V059H02	NPN
Q8		Output	DS-66		TR-23	SK-3021	(295V074C07)* (297V071C03)*	NPN

* Power Ch. V-2570-2

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MEASURED CURRENT	ORIGINAL Part or Type No.	RECTIFIERS & DIODES		RECTIFIERS		
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	RCA PART No.	SARKES TARZIAN PART No.
X1	.058A	295V008H03	GE-504A or GE-505	8D4 or 5A4-D	1N2069 or 1N538	SK-3016 or SK-3017A	F-4 or 40C
X2		296V012B01 ①					
X3		296V002H07	1N60	1N60			
X4		1N60	1N60	1N60			
X5		1N60	1N60	1N60			
X6		296V002H07	1N60	1N60			

① Variable Capacitor Diode.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				
	CAP.	VOLT.	Westinghouse PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C1A	100	100	218V025H71	PR2-045	BBRD0183.7	QT2-10.2	WD235
B	50	75	①				
C2	100	25	218V060A29	PTT86	NLW100-25	MT1-20	TT25X100
C3	100	15	218V060A09	CRE473A	NLW100-15	MT1-19	TT15X100
C4	.5	15	218V060A03	CRE450A	NLW1-50	MT1-1	TT15X1
C5	.5	15	218V060H04	CRE454A	NLW5-15	MT1-3	TT15X5
C6	.5	15	218V060H04	CRE454A	NLW5-15	MT1-3	TT15X5
C7	.5	15	218V060A03	CRE450A	NLW1-50	MT1-1	TT15X1

① Some versions may use 100mfd-50mfd @ 100V

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C8	3.3 NPO ±.25		NPO-DI 3.0	DTZ-3R3		CCTO-3R3	CNO533	10TCC-V30	
C9	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO _g 100	CNO410	10TCC-Q10	
C10	68 N750 10%		N750-DI 68	DTN-68	CS801UJ680K	CCTN-680	CN7468	10TCU-Q68	
C11	12 NPO 10%			TCZ-12	CZ601CG120J	CCTO-120	CNO412	10TCC-Q12	
C12	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C13	2.2 NPO ±.2		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22	
C14	2-7.5	#217V513H01							
C15	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10	
C16	2.7 N3300	#215V304H07							
C17	6.8 NPO ±.5		NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D	CCTO-6R8	CNO568	10TCC-V68	
C18	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10	
C19	220 10%		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22	
C20	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C21	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C22	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C23	.001 125V 5%		TTD-01	CPR-1000J	CD19F102J500	DM-19-102J	SX210	MS-210	
C24	27 NPO 10%		TCZ-27			CCTO-270	CNO427	10TCC-Q27	
C25	470 10%		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47	
C26	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C27	.002 5%		TTD-01	CPR-2000J	CD19F202J500	DM-19-202J	SX220	MS-22	
C28	470 10%		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47	
C29	27 NPO 10%		TTD-01	TCZ-27		CCTO-270	CNO427	10TCC-Q27	
C30	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C31	2.2 NPO ±.25		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22	
C32	470 10%		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TCC-T47	
C33	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10	
C34	.001		DI-1000	DM-102	JBS601YP102K	CCD-102	SM210	5GAB-D10	
C35	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C36	.003 125V 5%		TTD-01	CPR-3000J	CD19F302J500	DM-19-302J	SX230	MS-23	
C37	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C38	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C39	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10	
C40	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C41	.01		TTD-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10	
C42	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10	
C43	.22 100V		DBE2P22		DMF2P22	2DP-4-224	PVC2022	2PS-P22	
C44	.0015		DI-1500	DD-152		CCD-152	GP215	10TS-D15	
C45	.0015 1400V		HVD-30-1500	CI-102	ACY142ZU102P		UAC210	125L-D10	
C46	.01 1400V		DAC-27	CI-103	ACT142ZU103P		UAC110	125L-S10	
C47	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10	
C48	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10	
C49	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10	
C50	.150		DI-150	DD-151		CCD-151	GP315	10TS-T15	
C51		#330V057C01							
C52		#330V059C01							

Westinghouse Part Number.

CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			Westinghouse PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume/Switch	10K	270V171C02 ②	F2-10K, SNK012, KR-1	A47-10K-Z, RN-3, SWE-12 or (NP-10K-Z, NML-A-300, NWE-12)	BU1, CF61, SS6, GC *	UA14A, SN1000, US41 or (RU14A, SL38, SN1000, US41)
R2	Tone	10K	270V171C05	F2-10K, SNK012	A47-10K-Z, RN-3 or (NP-10K-Z, NML-A-300)	B13-116, SK6, or (BU1, CF61, SS6)*	UA14A, SN1000 or (RU14A, SL38, SN1000)
R3	Light Dimmer	1meg	270V171C06	F3-1meg, SNK012	NP-1meg-V, NML-A-300	B17-137, SK6, or (BU1, CF65, SS6)*	UA16R, SN1000, or (RU16R, SL38, SN1000)
R4	Bias	50K	270V158H03			X201R503B ①	MTC54L1 ①

* "SNAPTROL"

① Cut off one of the outside terminals and bend to fit "PC" board.

② Part #270V171C02 used in Models H-230XN8, H-231XN8 and H233XN8.

Part #270V171C01 (Volume) used in Models H-235XLN8 and H-236XLN8.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Westinghouse PART No.			IRC PART No.	WORKMAN PART No.	Westinghouse PART No.
R45	430Ω 10W	PW10-400	10W-SQ-450	251V033H16					

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Westinghouse PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	FM Ant.	230V143B03				
L2	FM RF	230V143B02				
L3	10.7MC Trap (1.1uh)	230V130C03	19-2009	BC-561	4602	T805
L4	FM Osc.	230V143B01				
L5	Loopstick	310V095C02			7789	TB505
L6	AM Osc.	230V145B01				
L7	1st FM IF	235V135C02				
L8	1st AM IF	235V133C01				
L9	2nd FM IF	235V135C01				
L10	2nd AM IF	235V134B01				
L11	Radio Det.	235V137C01				
L12	3rd AM IF	235V136C01				
L13	RF Choke (14uh)	230V130H04	19-1006		4624	T862

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Westinghouse PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	1200Ω	3-4Ω	430V159B01					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Westinghouse PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 6" PM 3-4Ω	570V152B01	P4X6X3	46A07	

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Westinghouse PART NO.	REPLACEMENT DATA
PC1	Antenna Isolation	.6-2.2meg, 130pf (Includes Spark Gap)	219V032A03	Aerovox PA-821 Centralab RC-428
PC2	Antenna Isolation	.6-2.2meg, 130pf (Includes Spark Gap)	219V032A03	Aerovox PA-821 Centralab RC-428

MISCELLANEOUS

ITEM No.	PART NAME	Westinghouse PART No.	NOTES
S1	Switch	756V107C01	AM-FM-FM AFC

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Tuning	550V270H02	Knob, Volume, Tone	550V355C01