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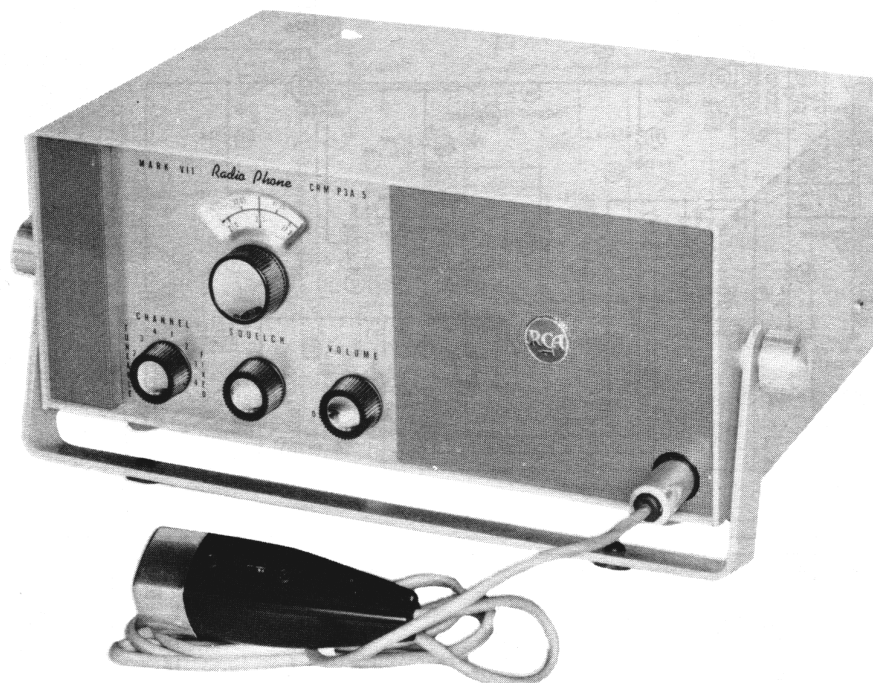
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RCA MODEL
CRM-P3A-5



RCA MODEL
CRM-P3A-5

TRADE NAME	RCA Model Mark VII Radio Phone CRM-P3A-5 (AC-6Volt Models MI-555565-1, -2, -3, -4) (AC-12Volt Models MI-555566-1, -2, -3, -4)
MANUFACTURER	Radio Corp. of America, Communication Products Dept., Radiomarine Marketing, Camden, N. J.
TYPE SET	AC-Battery Operated 7 Tube Crystal Controlled Citizens Band Transmitter-Receive
POWER SUPPLY	110 - 120 Volts AC, 60 Cycles/6 Volt Storage Battery (or) 110-120 Volts AC, 60 Cycles/12Volt Storage Battery
RATING	7.4 Amp. @6.3 Volts DC (Receive), 9 Amp. @6.3 Volts DC (Transmit) Or 3.7 Amp. @12.6 Volts DC (Receive), 4.5 Amp. @12.6 Volts DC (Transmit) Or 52 Watts, .5 Amp. @117 Volts AC
FREQ. RANGE	Any 4 of Citizens Band Channels 1 thru 23 Receiver is continuously tuneable when channel switch is in one of the "Tuneable" Channel positions.

NOTICE

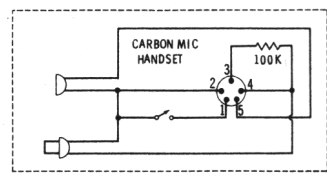
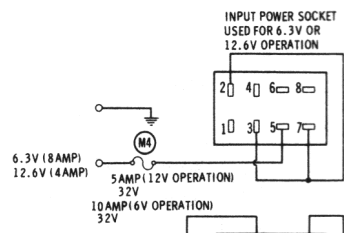
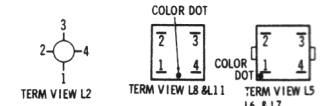
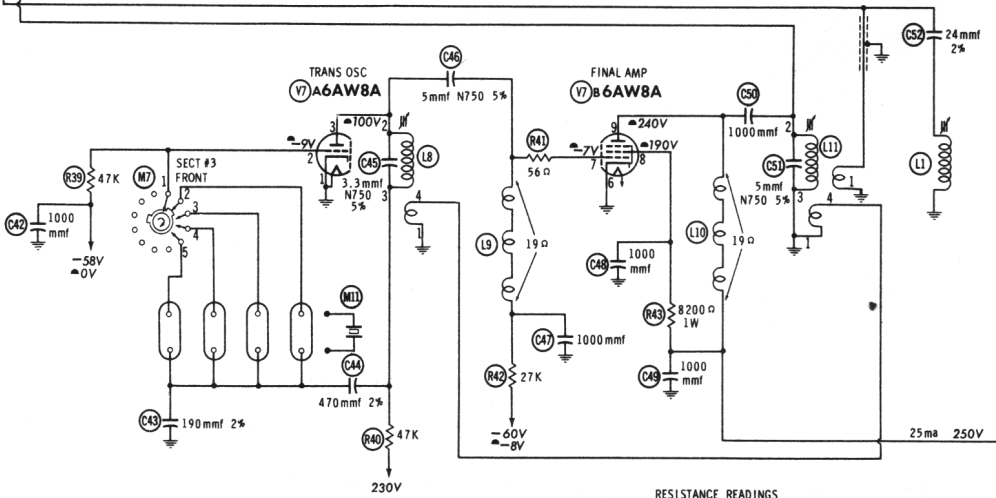
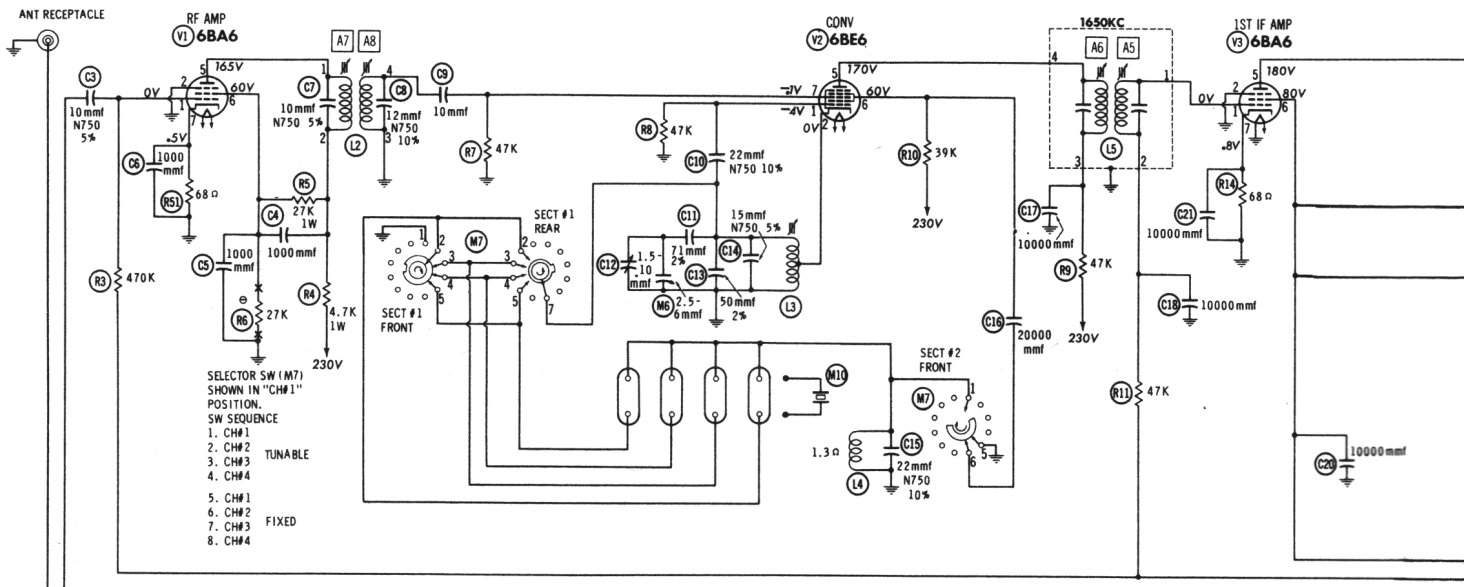
ONLY THOSE PERSONS PROPERLY LICENSED BY FCC ARE PERMITTED TO MAKE CRYSTAL SUBSTITUTION OR EFFECT REPAIRS ON THE TRANSMITTER PORTION OF THIS UNIT.

HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



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 KZ514

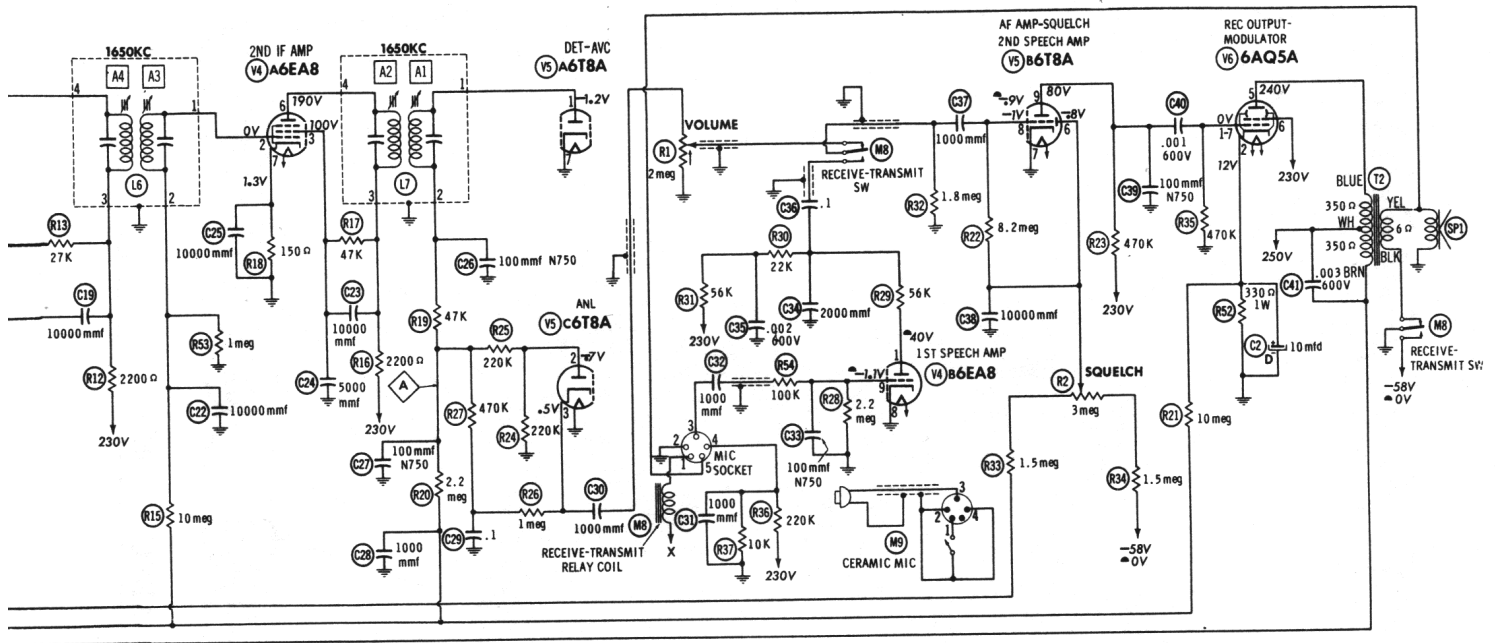
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RESISTANCE READINGS

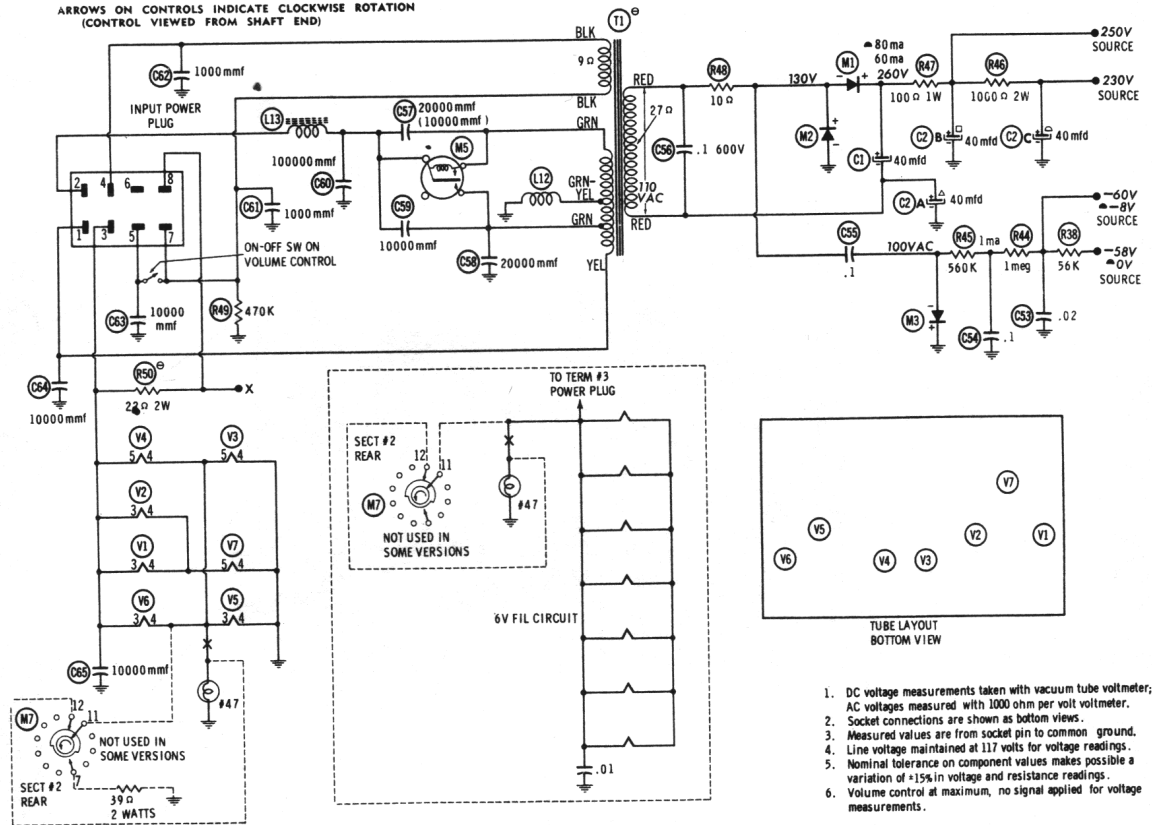
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BA6	2.3 meg	0 Ω	.2 Ω	.1 Ω	†5800 Ω	†25K	68 Ω		
V2	6BE6	47K	.1 Ω	.2 Ω	.1 Ω	†48K	†40K	47K		
V3	6BA6	2 meg	0 Ω	.8 Ω	0 Ω	†3300 Ω	†30K	68 Ω		
V4	6E8	†135K	1 meg	†50K	.8 Ω	.2 Ω	†3300 Ω	150 Ω	0 Ω	2.2 meg
V5	6T8A	490K	220K	1.9 meg	0 Ω	.3 Ω	†1.9 meg	0 Ω	10 meg	†470K
V6	6AQ5A	NC	330 Ω	.2 Ω	.3 Ω	†450 Ω	†1100 Ω	470K		
V7	6AW8A	0 Ω	.47K	†48K	0 Ω	.1 Ω	0 Ω	†183K	†9300 Ω	†470 Ω

ALL MEASUREMENTS MADE IN "RECEIVE" POSITION WITH MIKE UNPLUGGED UNLESS OTHERWISE DESIGNATED.
 † MEASURED IN "TRANSMIT" POSITION. NC NO CONNECTION
 ‡ MEASURED FROM OUTPUT OF M1. †† MEASURED FROM OUTPUT OF M3.



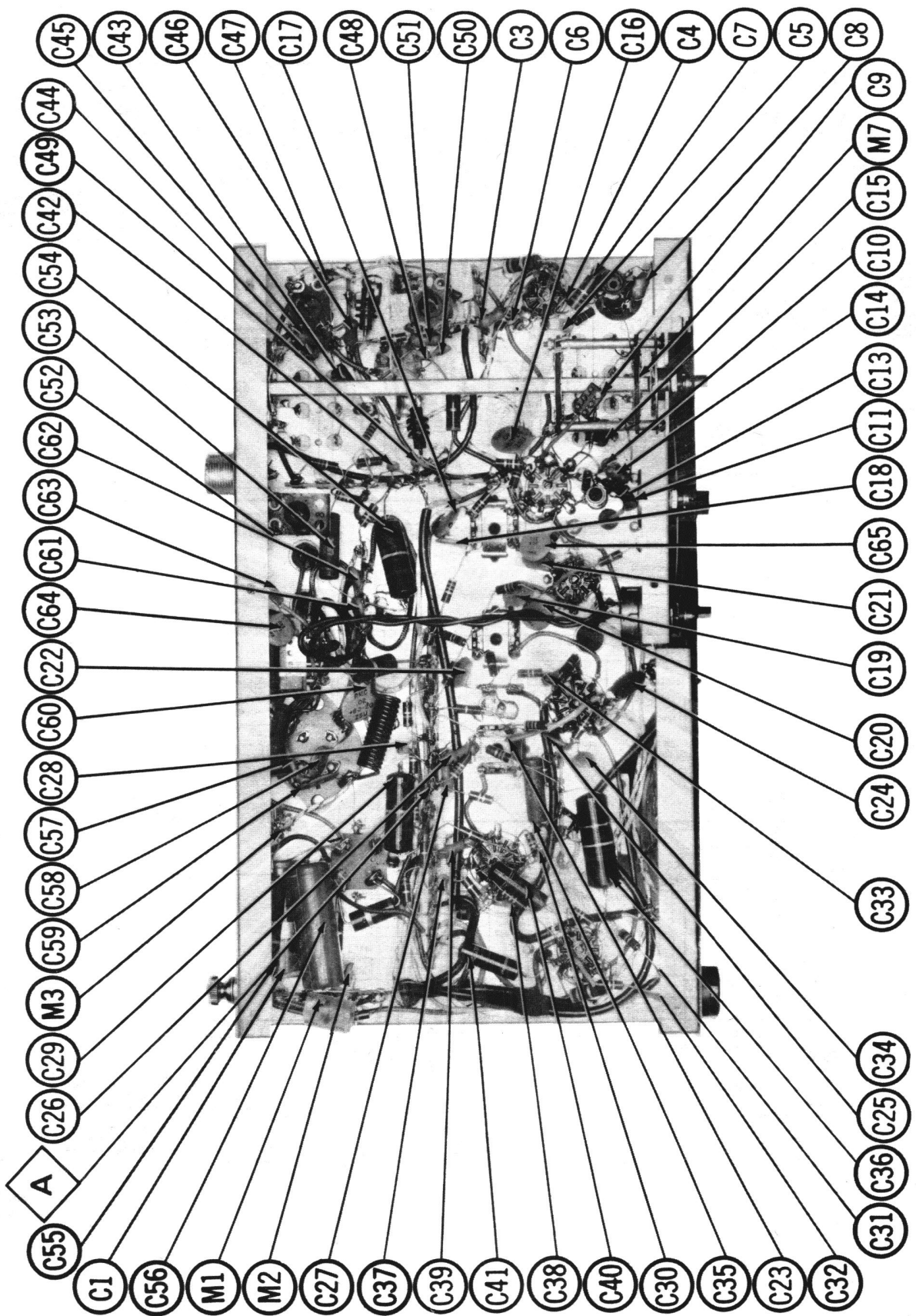
* SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION
 DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM
 ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

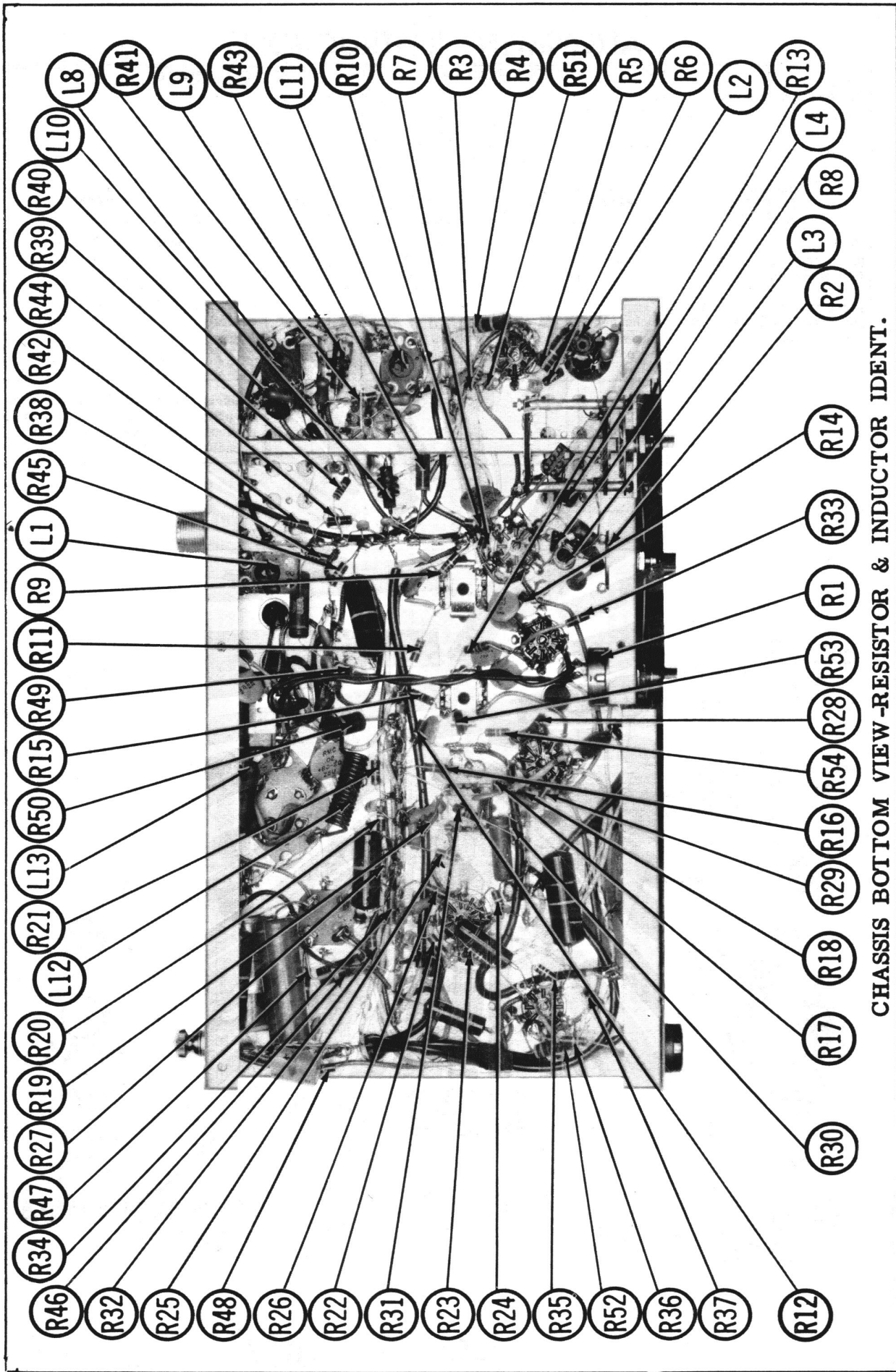


- DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured with 1000 ohm per volt voltmeter.
- Socket connections are shown as bottom views.
- Measured values are from socket pin to common ground.
- Line voltage maintained at 117 volts for voltage readings.
- Nominal tolerance on component values makes possible a variation of $\pm 15\%$ in voltage and resistance readings.
- Volume control at maximum, no signal applied for voltage measurements.

**RCA MODEL
CRM-P3A-5**



CHASSIS BOTTOM VIEW-CAPACITOR & MISC. IDENT.



CHASSIS BOTTOM VIEW-RESISTOR & INDUCTOR IDENT.

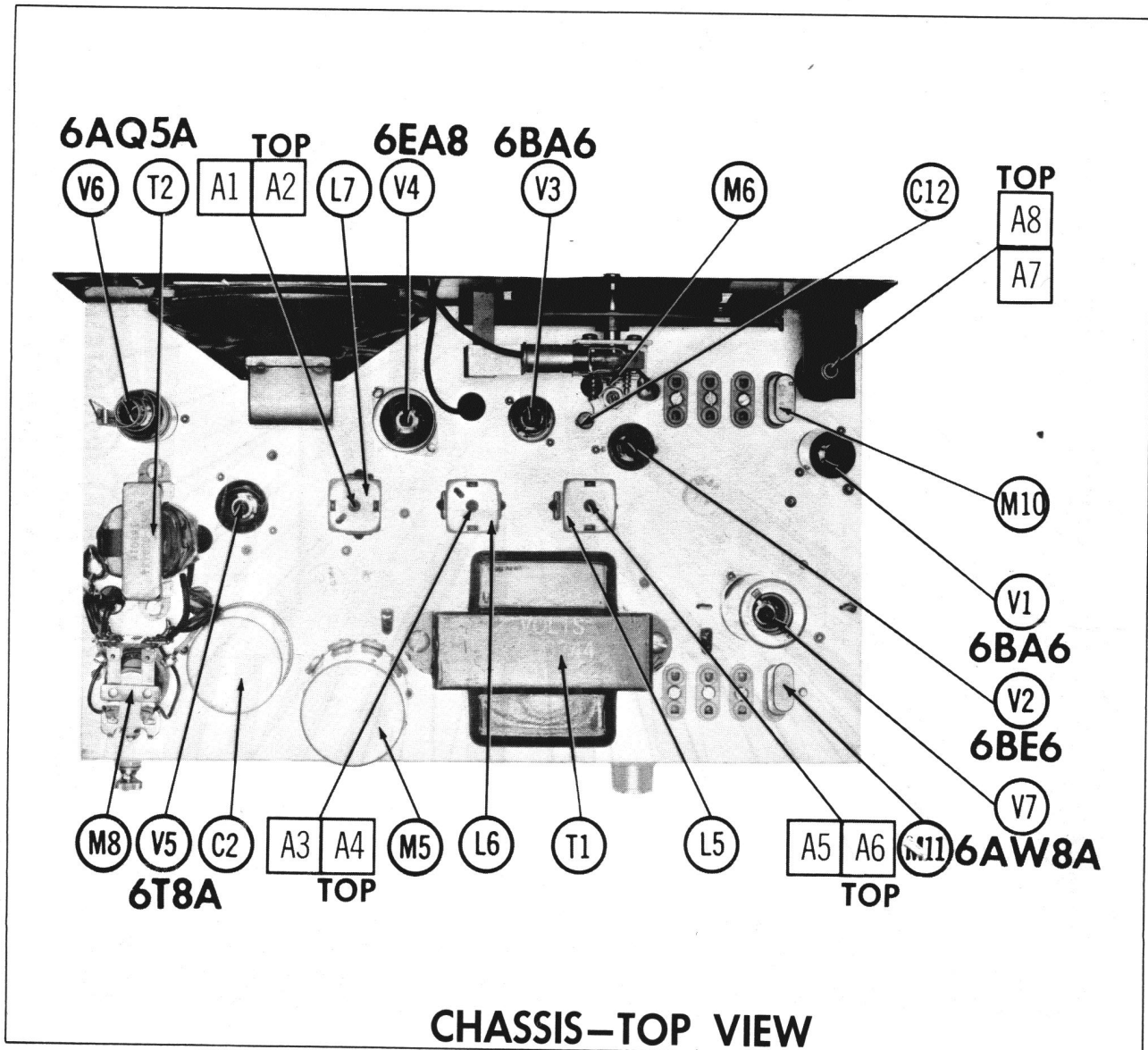
ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Generator output should not exceed 2 volts as indicated on VTVM during alignment.

Suggested Alignment Tools: A1 thru A6.....GENERAL CEMENT #5097, 8727
 WALSCO #2515
 A7, A8..... GENERAL CEMENT #8282, 8606, 8606-L, 9295, 9440
 WALSCO #2526, 2543, 2544, 2545

	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
1.	High side thru .01mfd to pin 7 (grid) of Converter. Low side to chassis.	1650KC (Unmod.)		DC probe to point A. Common to chassis.	A1, A2, A3, A4, A5, A6	Adjust for maximum deflection.
2.	Place generator output lead near receiver antenna. Use maximum output.	Frequency of channel receiver is set to operate on.		"	A7	Connect a 100Ω resistor and .005mfd capacitor in series across L2 Secondary. Adjust for maximum deflection
3.	"	"		"	A8	Connect resistor and capacitor across L2 primary. Adjust for maximum deflection. Remove resistor and capacitor.



PARTS LIST AND DESCRIPTIONS

TUBES

GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	ITEM No.	USE	ITEM No.	TYPE
V1	RF Amplifier	6BA6	Det.-ANL-AVC-AF Amp. -		
V2	Converter	6BE6	2nd Speech Amp.		6T8A
V3	1st IF Amplifier	6BA6	Rev. Output-Modulator		
V4	2nd IF Amplifier - 1st Speech Amp.	6EA8	Trans. Osc. - Final Amp.		6AQ5A 6AW8A

ELECTROLYTIC CAPACITORS

REPLACEMENT DATA					
ITEM No.	RATING	AEROVOX PART No.	CORNBELL DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	40 200	PB81580	BR4025	TC58	
C2A	40 200				TVA-1511
C3	40 350				TVA-3839,14
C4	40 350				TVA-1304
C5	40 50				

* Not normally in distributor's stock. Available thru distributor on order to manufacturer.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

REPLACEMENT DATA							
ITEM No.	RATING	REMARKS	AEROVOX PART No.	CORNBELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	10 N750 5%		N750-SI 10	CUQ10U	CCTN-100	CNT-410	10TCU-Q10
C4	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C5	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C6	1000		N750-SI 10	CUQ10U	CCTN-100	CNT-410	10TCU-Q10
C7	10 N750 5%		1468-00001	CUQ12U	CCTN-120	CNT-412	10TCU-Q12
C8	12 N750 5%		N750-SI 22	CUQ22U	CM-19B-100M	MC215	1FM-41
C9	10				CCTN-220	CNT-422	10TCU-Q22
C11	71 2%	#219999					
C12	1.5-10						
C13	50 2%	#219975					
C14	22 N750 5%		N750-SI 15	CUQ15U	CM-15E-500Q	MC225	10TCU-Q15
C15	22 N750 10%		BPD-02	BYB82	CCTN-220	CNT-422	10TCU-Q22
C16	20000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C17	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C18	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C19	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C20	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C21	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C22	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C23	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C24	5000		BPD-05	BYA081	CCD-502	B-250	5HK-D50
C25	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C26	100 N750		N750-SI 100	CU10U	CCTN-101	CNT-310	10TCU-T10
C27	100 N750		BPD-001	BYA10D1	CCTN-101	CNT-310	10TCU-T10
C28	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C29	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C30	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C31	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C32	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C33	100 N750		N750-SI 100	CU10U	CCTN-101	CNT-310	10TCU-T10
C34	2000		BPD-002	BYA081	CCD-202	B-220	5HK-D20
C35	.002 600V		P488N-002	CUBA2	4DP-3-104	GEM-621	6TM-D20
C36	1.1 400V		P488N-1	CUBA1	4DP-3-104	GEM-401	4TM-P10
C37	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C38	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C39	100 N750		N750-SI 100	CU10U	CCTN-101	CNT-310	10TCU-T10
C40	.001 600V		P688N-001	CUBA1	6DP-1-102	GEM-621	6TM-D10
C41	.003 600V		P688N-003	CUBA3	6DP-1-302	GEM-623	6TM-D30
C42	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C43	190 2%	#219998					

FIXED CAPACITORS (cont)

REPLACEMENT DATA							
ITEM No.	RATING	REMARKS	AEROVOX PART No.	CORNBELL DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.
C44	470 2%		N750-SI 3.3	TCN-3R3	CM-15E-471G	MCE244	10TCU-V33
C45	3.3 N750 5%		N750-SI 5.0	TCN-5	CCTN-050	CNT-533	10TCU-V50
C46	5 N750 5%		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C47	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C48	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C49	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C50	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C51	5 N750 5%		N750-SI 5.0	TCN-5	CCTN-050	CNT-550	10TCU-V50
C52	24 2%			TCZ-24		MCE220	
C53	.02 200V		P288N-02	CUBAS2	4DP-2-203	GEM-202	2TM-S20
C54	.1 200V		P288N-1	DF-104	4DP-3-104	GEM-201	2TM-P10
C55	.1 400V		P488N-1	DF-104	4DP-3-104	GEM-401	4TM-P10
C56	1.600V		P488N-1	DF-104	6DP-4-104	GEM-601	6TM-P10
C57	20000		BPD-02	BYB82	CCD-203	B-120	5HK-S20
C58	20000		BPD-02	BYB82	CCD-203	B-120	5HK-S20
C59	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C60	100000		BPD-01	BYA081	IDP-2-104	BT-010	TH-P10
C61	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C62	1000		BPD-001	BYA10D1	CCD-102	B-210	5HK-D10
C63	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C64	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10
C65	10000		BPD-01	BYA081	CCD-103	B-110	5HK-S10

RCA Part Number.

† Alternate Value.

CONTROLS

REPLACEMENT DATA

ITEM No.	RATING	RCA PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.	INSTALLATION NOTES
RIA	2meg Shaft	219971	B-76	A47-2meg-Z	Q13-139	U55	Volume
R1A	3 Switch		Not Req.	SWE-12	Not Req.		Not Req.
R2A	3meg Shaft	219972	KR-1	A47-3meg-S	76-1	U59	Power Off-On Squeech
R	Shaft		Not Req.	FS-3	Not Req.		Not Req.

RESISTORS

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

REPLACEMENT DATA				REPLACEMENT DATA			
ITEM No.	RATING	REMARKS	ITEM No.	RATING	REMARKS	ITEM No.	RATING
R3	470K		R28	2 2meg		R28	2 2meg
R4	4700Q 1W		R29	50K		R29	50K
R5	27K		R30	22K		R30	22K
R6	27K		R31	50K		R31	50K
R7	47K		R32	1.8meg		R32	1.8meg
R8	47K		R33	1.9meg		R33	1.9meg
R9	47K		R34	470K		R34	470K
R10	39K		R35	220K		R35	220K
R11	47K		R36	10K		R36	10K
R12	2200Q		R37	10K		R37	10K
R13	27K		R38	56K		R38	56K
R14	68K		R39	47K		R39	47K
R15	10meg		R40	47K		R40	47K
R16	2200Q		R41	56Q		R41	56Q
R17	47K		R42	27K		R42	27K
R18	150Q		R43	8200Q 1W		R43	8200Q 1W
R19	47K		R44	1meg		R44	1meg
R20	2 2meg		R45	560K		R45	560K
R21	10meg		R46	1000Q 2W		R46	1000Q 2W
R22	470K		R47	100Q		R47	100Q
R23	470K		R48	470K		R48	470K
R24	220K		R49	220 2W		R49	220 2W
R25	1meg		R50	68Q		R50	68Q
R26	1meg		R51	330Q 1W		R51	330Q 1W
R27	470K		R52			R52	

Note 1

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (cont)

ITEM No.	REPLACEMENT DATA		RATING	REPLACEMENT DATA	
	WORKMAN PART No.	REMARKS		IRC PART No.	TV PART No.
R53			1meg		
R54			100K		

Note 1. 6 volt versions use 50 in this application.
 Note 2. Not used in some versions.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		RCA PART No.	Miller PART No.	Stancor TV PART No.	
L1	Ant. Loading	219889			
L2	RF Osc.	220251			
L3	RF Choke (7.2uh)	219885			
L4	1st IF	219883	4611	RTC-8521	T859
L5	2nd IF	219878			
L6	3rd IF	219878			
L7	Osc. Plate	219881			
L8	RF Choke (500uh)	219888	6174	RTC-8532	T324
L9	RF Choke (500uh)	219888	6174	RTC-8532	T324
L10	Final Plate	219880			
L11	Hash Choke (10uh)	219884			
L12	Hash Choke (30uh)	219882			

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			NOTES
		RCA PART No.	Merit PART No.	Stancor PART No.	
T1	117V @ 1.5A 12.6VCT ② 2.5A	219887 ①			① Part #219886 used in 6 volt versions.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			NOTES
		RCA PART No.	Merit PART No.	Stancor PART No.	
T2	3-4Ω	219990	A-2938	A-3850	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		RCA PART No.	QUAM PART No.	
SPI	4" PM	79696-B	4A05	

POWER RECTIFIERS

ITEM No.	CURRENT (Measured)	REPLACEMENT DATA			NOTES
		RCA PART No.	SARKES FAZAN PART No.	SYLVANIA PART No.	
M1	.080A	219873 *	2F4 *	SR200 *	* Silicon Diode
M2	.080A	219873 *	2F4 *	SR200 *	* Silicon Diode
M3	.001A	218022 *	Model 10 *		

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA		
			RCA PART No.	LITTELFUSE PART No.	BUSS PART No.
M4	3AG	5A 32V 10A 32V			
			312005 3AG 5A 32V		
			312010		
			3AG 10A 32V		

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA			NOTES
				CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M5	Interrupter	12.6	115%	220001 *			* 12 Volt versions * 6 Volt Versions.
	Interrupter	6.3	115%	220000 *			

MISCELLANEOUS

ITEM No.	PART NAME	RCA PART No.	NOTES
M6	Variable Cap	219974	2.5 - 6mmf Selector (Includes Water #219992) Rotary Type Switching, 12 Volt Includes 48" Cable & Connector Replace * with Channel Number Transmit (Crystal is marked 019-002362-*) Replace * with Channel Number.
M7	Switch	219991	
M8	Relay	219970	
M9	Microphone	219984	
M10	Crystal	MI-55568-*	
M11	Crystal	MI-55562-*	

CABINETS & CABINET PARTS

(When Ordering Cabinets & Cabinet Parts, Specify Model, Chassis & Color)

NAME	PART NO.	DESCRIPTION
Indicator Scale Knob	219985	Dial
Knob	219986	Tuning
Knob	219966	Volume, Channel, Squelch
Knob	219968	Handle Retaining

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
 9224 (Stranded) Available in Ten Colors
 Power Cord Use BELDEN No. 1692-B (6 Ft. Length)
 1723-K (1 1/2 Ft. Length)