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RCA MODEL
CRM-P2A-5 (MI-555518)



NOTICE

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

RCA MODEL
CRM-P2A-5 (MI-555518)

TRADE NAME	RCA Model CRM-P2A-5, -MI-555518) Radiomarine
MANUFACTURER	Radio Corp. of America, Communication Products Dept., Radiomarine Marketing, Camden, N. J.
TYPE SET	AC-Battery Operated 5 Tube Crystal Controlled Citizens Band Transmitter-Receiver
POWER SUPPLY	110 - 120 Volts AC (or) 6 Volt Storage Battery (or) 12 Volt Storage Battery
RATING	30 Watts, .30 Amp. @117 Volts AC (Receiver); 37 Watts, .37 Amp. @117 Volts AC (Transmit) or 3.8 Amp. @6.3 Volts DC (Receive); 4.3 Amp. @6.3 Volts DC (Transmit) or 7.6 Amp. @12.6 Volts DC (Receive); 9.6 Amp. @12.6 Volts DC (Transmit)
TUNING RANGE	Any one of Citizens Band Channels 1 thru 22

ALIGNMENT INSTRUCTIONS

RECEIVER

Grid circuit tuning of the RF amplifier is automatically accomplished by the normal alignment for the transmitter. The receiver is tuned for the best signal-to-noise ratio on a weak modulated signal on the proper operating frequency by adjusting A6. This adjustment may be made without removing the unit from the case.

The lead length of screen bypass capacitor C8 is critical as it determines the neutralization of V1, and thus the amount of signal coupled from the superregenerative detector to the antenna circuit. If this capacitor is replaced, another of the same value and type should be used, with the same lead lengths.

In addition to the increased radiation that occurs when this tube is not neutralized, the receiver will oscillate. Oscillation will also occur if the relay does not short the crystal in the receiver position.

When squelch control is incorporated in receiver, turn to

maximum clockwise position.

TRANSMITTER

Connect DC probe of VTVM through 100K resistor to point A, low side to chassis. With the antenna disconnected, adjust A1 for maximum deflection.

Adjust A2 for minimum plate current.

Adjust A3 for maximum plate current, with antenna in place.

Adjust A4 to approximately 3/4 of maximum capacity.

The voltage variation at point A should be noted when A2 is tuned through resonance. Adjust A5 for minimum variation in grid voltage with the tuning of A2. When properly neutralized, this variation should not cause the grid voltage to be less than -5 volts.

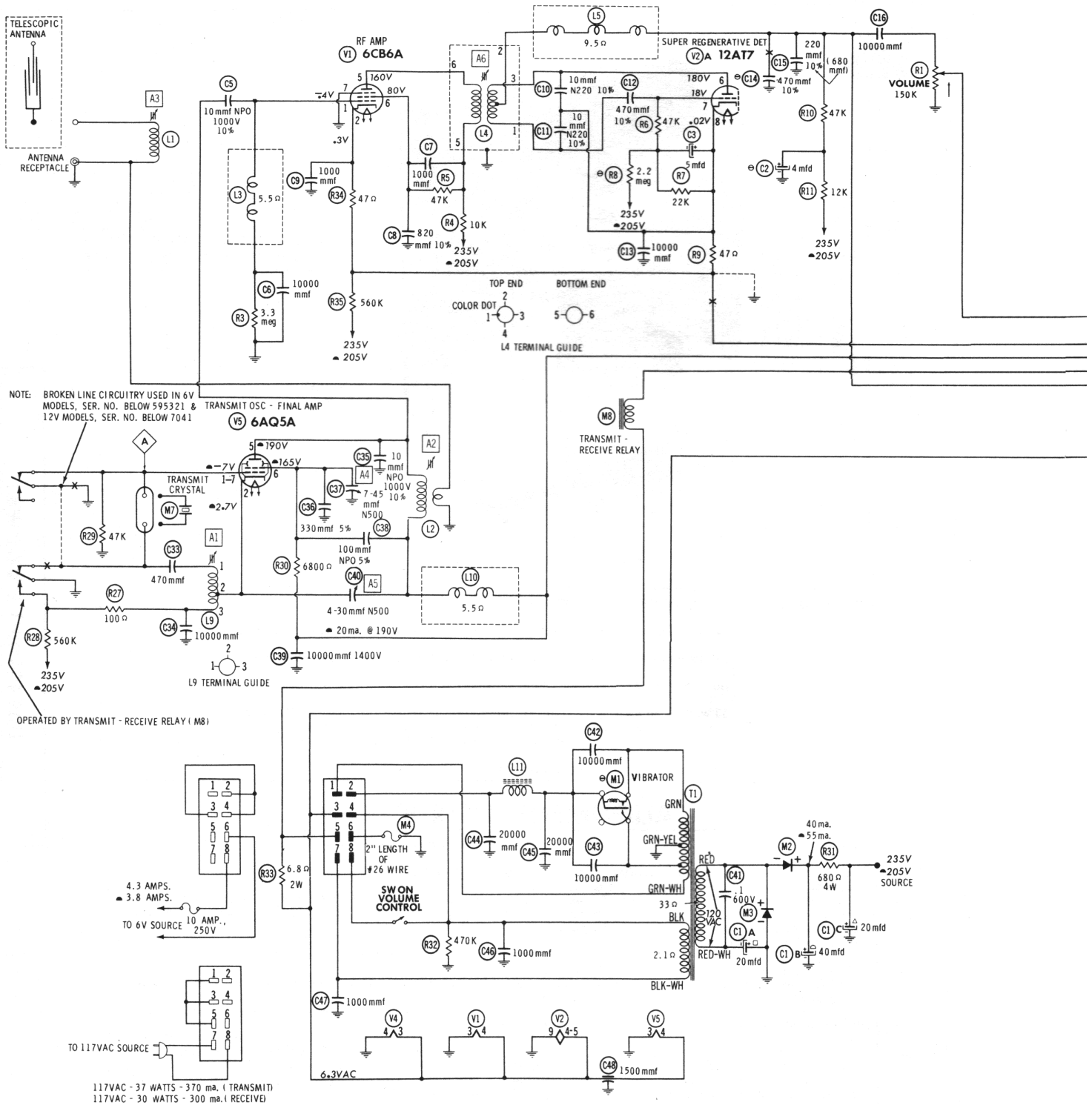
Do not readjust A2 with the antenna in place or an external antenna connected.

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 KZ547

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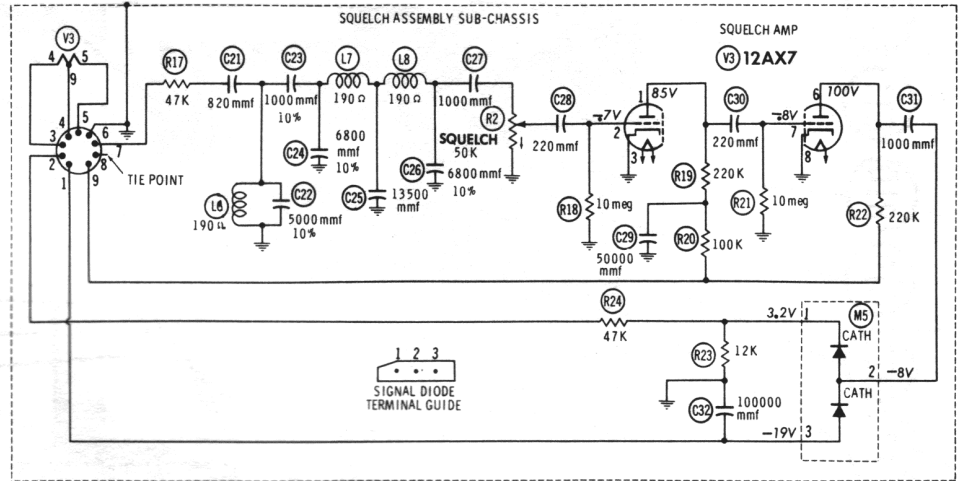
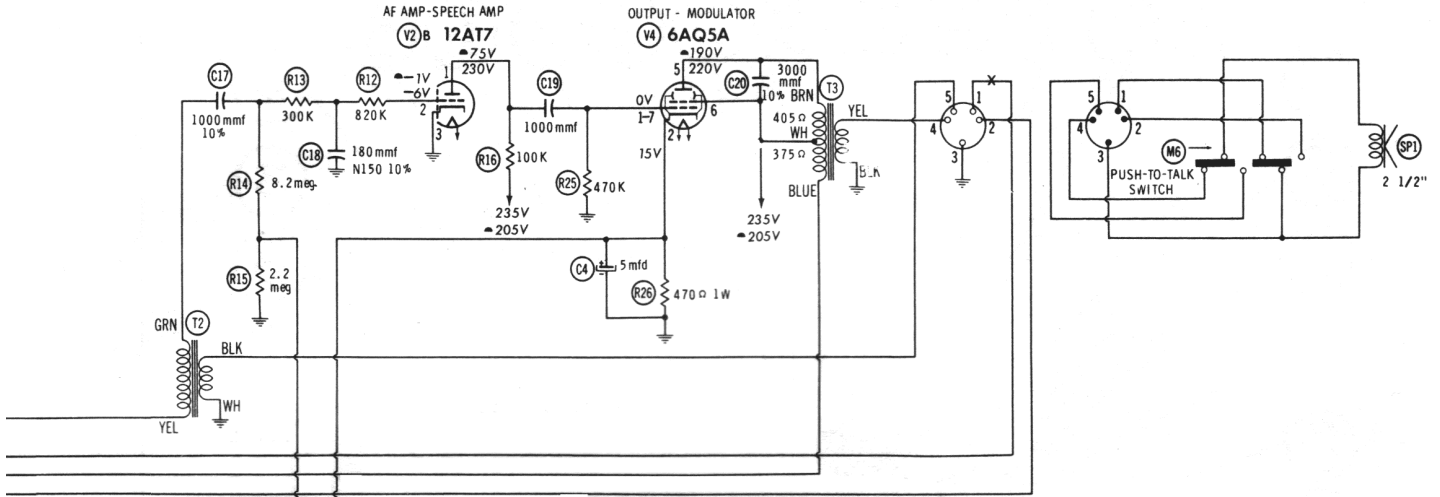


RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6CB6A	3.3 meg	47Ω	0Ω	.1Ω	†10K	†57K	0Ω		
V2	12A7	†100K	11.5 meg	0Ω	.1Ω	.1Ω	†60K	70K	47Ω	0Ω
V3	12AX7	†320K	10 meg	0Ω	0Ω	0Ω	†220K	10 meg	0Ω	.1Ω
V4	6AQ5A	470K	470Ω	.1Ω	0Ω	†1000Ω	†680Ω	470K		
V5	6AQ5A	47K	100Ω	0Ω	.1Ω	†1055Ω	†7100Ω	47K		

ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.
 ▲ MEASURED IN "TRANSMIT" POSITION. † MEASURED FROM OUTPUT OF M2.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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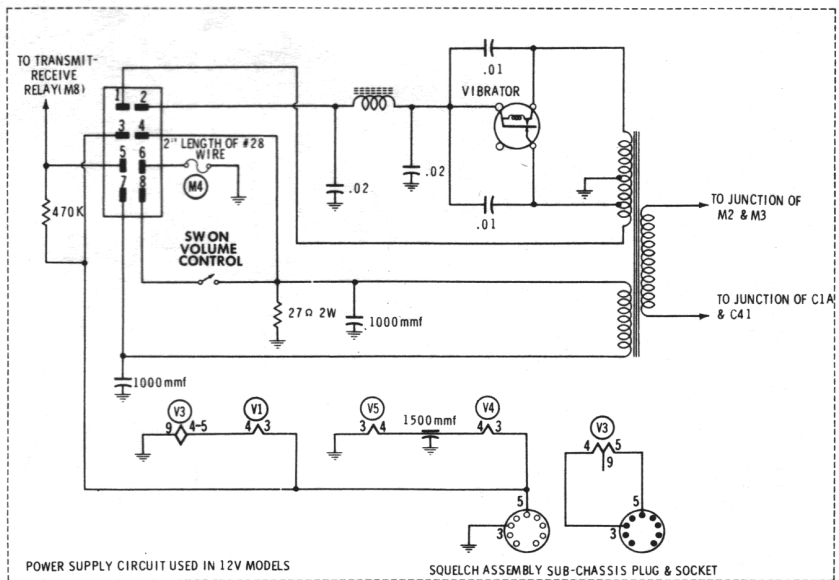
SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

DC COIL RESISTANCE VALUES UNDER ONE OHM NOT SHOWN ON SCHEMATIC DIAGRAM

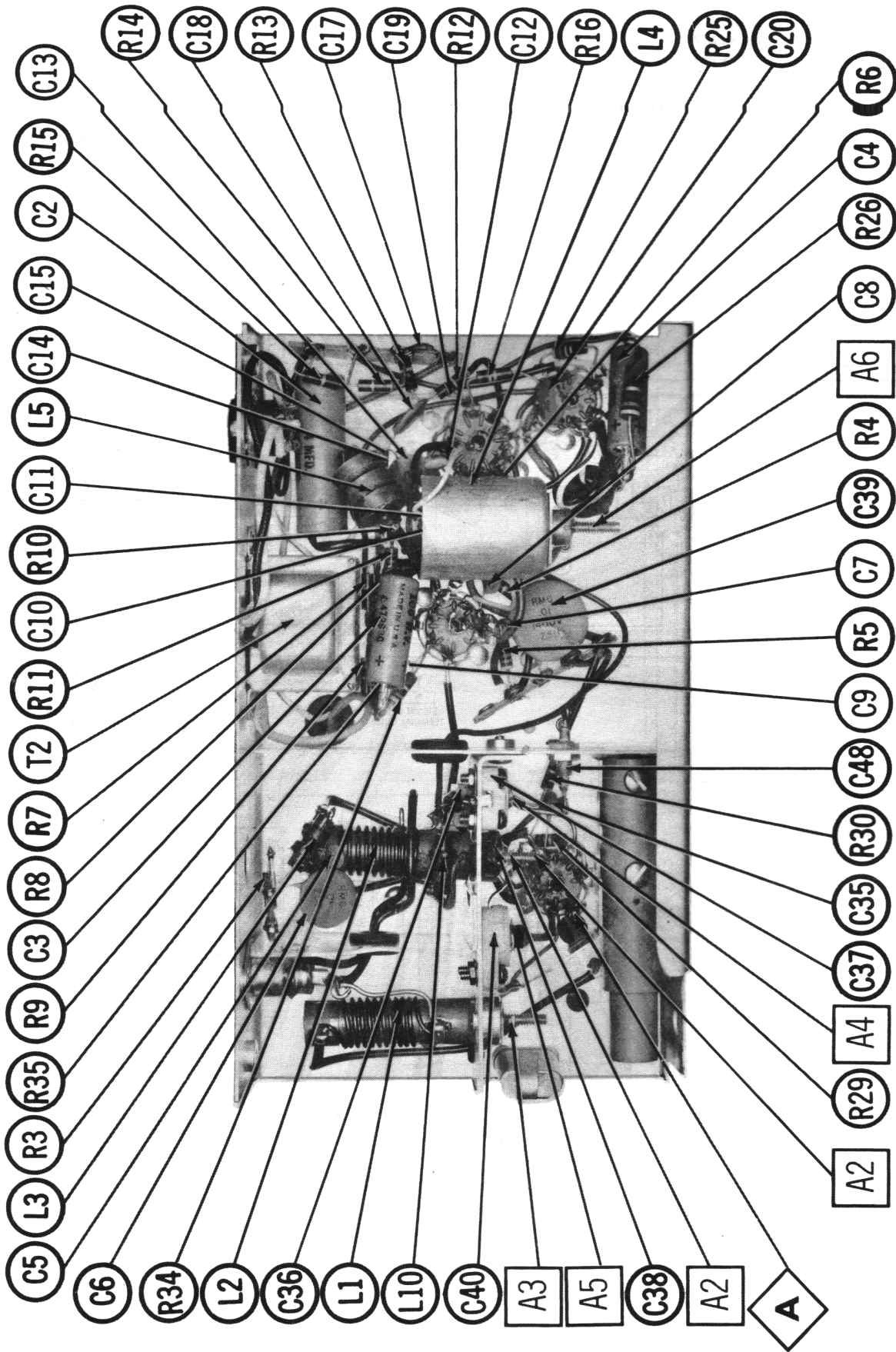
ARROWS ON CONTROLS INDICATE CLOCKWISE ROTATION (CONTROL VIEWED FROM SHAFT END)

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

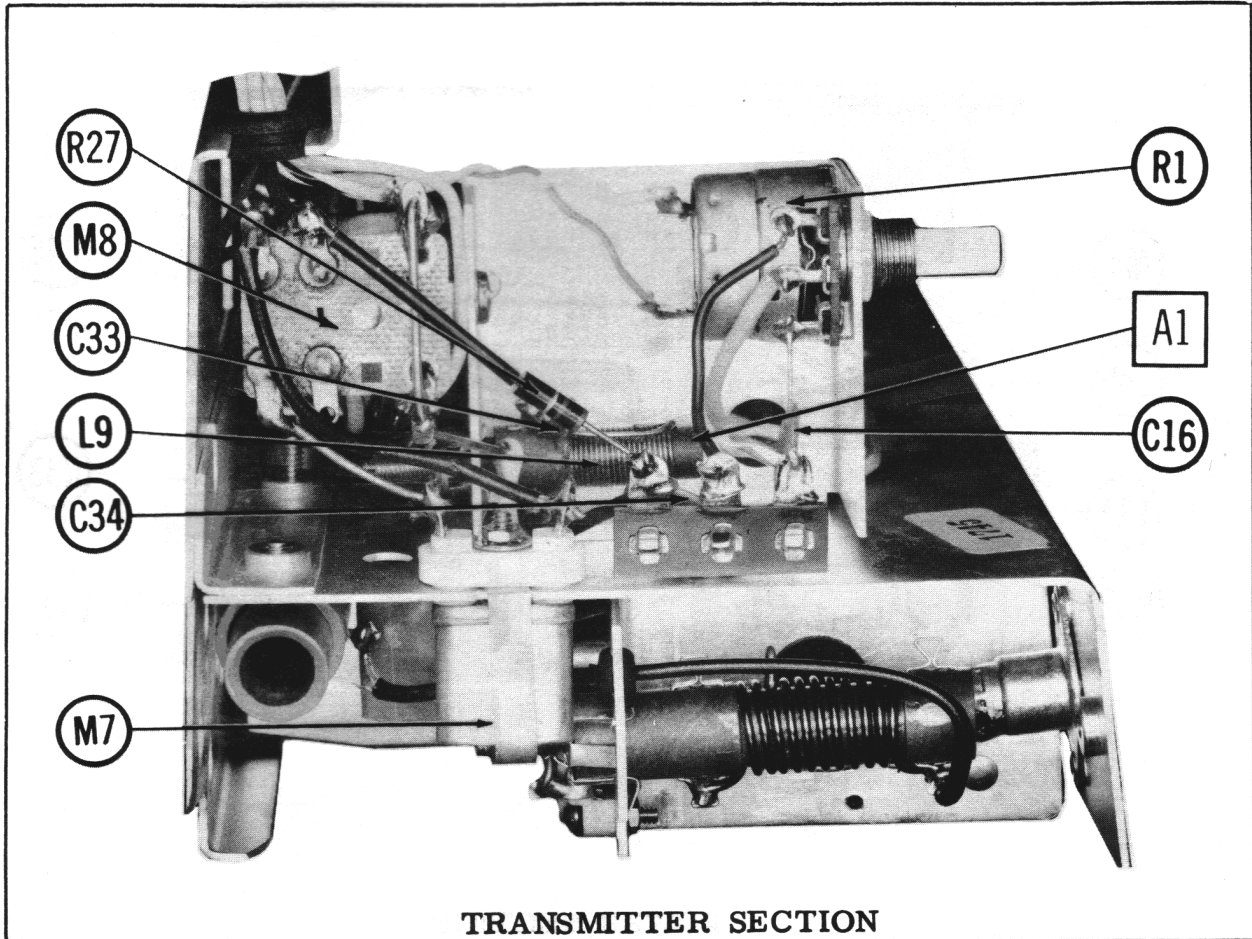
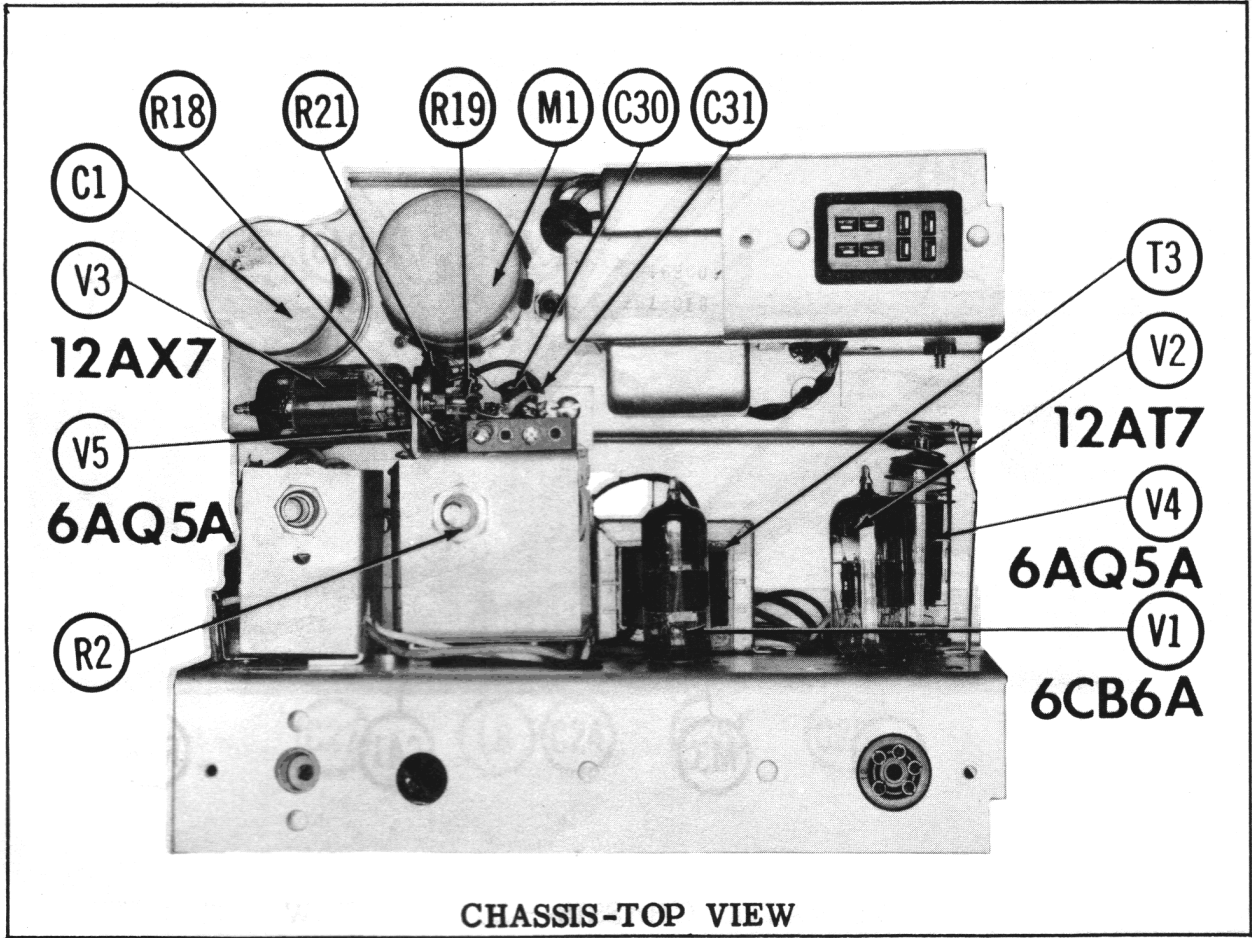
NUMBERS ASSIGNED TO COILS, SWITCHES, PLUGS, SOCKETS, AND TRANSFORMERS ARE TO FACILITATE CIRCUIT TRACING OR COMPONENT REPLACEMENT AND MAY NOT NECESSARILY BE FOUND ON THE UNIT.

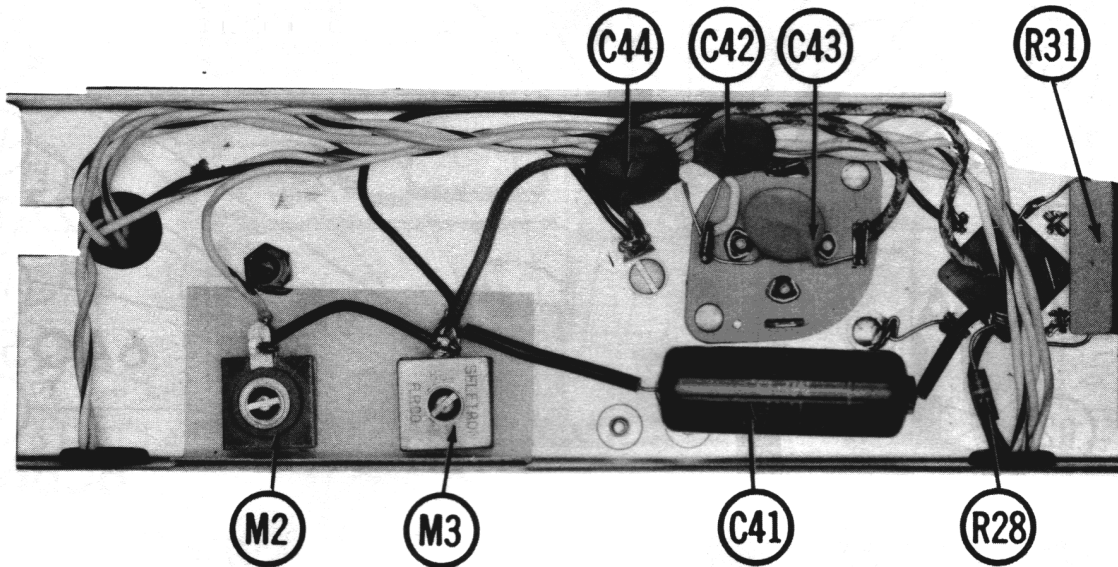


RCA MODEL
CRM-P2A-5 (MI-555518)

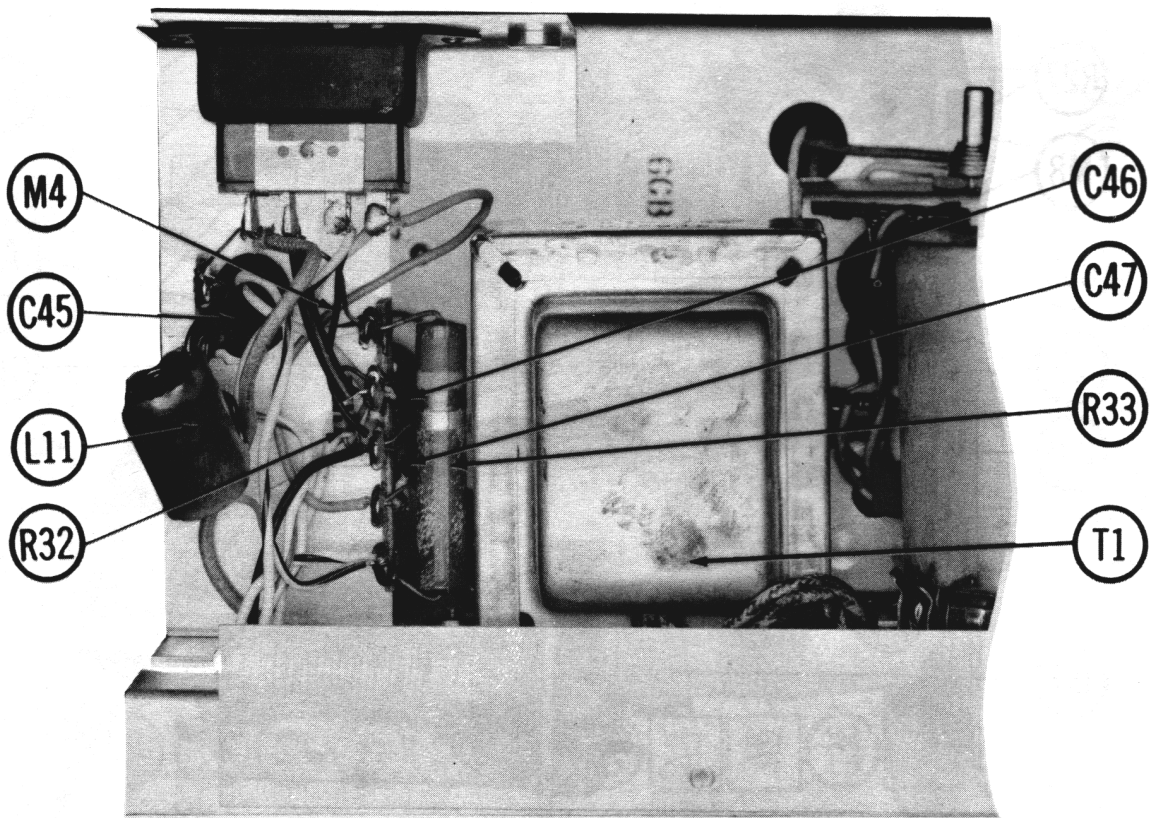


CHASSIS - BOTTOM VIEW





VIBRATOR CHASSIS-BOTTOM VIEW



POWER SECTION

PARTS LIST AND DESCRIPTIONS TUBES

SOUELCH UNIT

GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	ITEM No.	USE	ITEM No.	TYPE
V1	RF Amplifier	6C36A	Squeelch Amp.	12AX7	
V2	Superregen. Det. - AF Amp. - Speech Amp.	12AT7	Output-Modulator	6AQ5A	
			Trans. Osc. - Final Amp.	6AQ5A	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	CAP.	VOLT.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	RAYTHEON PART No.	SPRAGUE PART No.	
C1A	20	350	A PF4-04	C0150	FP420-35	TMD-2840	TVL-3724-4
C1B	20	350				TD-40-350	
C1C	4	350	FRS1600	BR435	TC687	TD-4-450	TVA-1601
C2	5	100	SRE150V5	BER4-150	TC40	TD-4-150	TVA-1403
C3	5	100	FRS1310	BER5-50	TC30	TD-5-25	TVA-1203
C4	5	25					

⊙. Some versions may use 5mfd in this application.

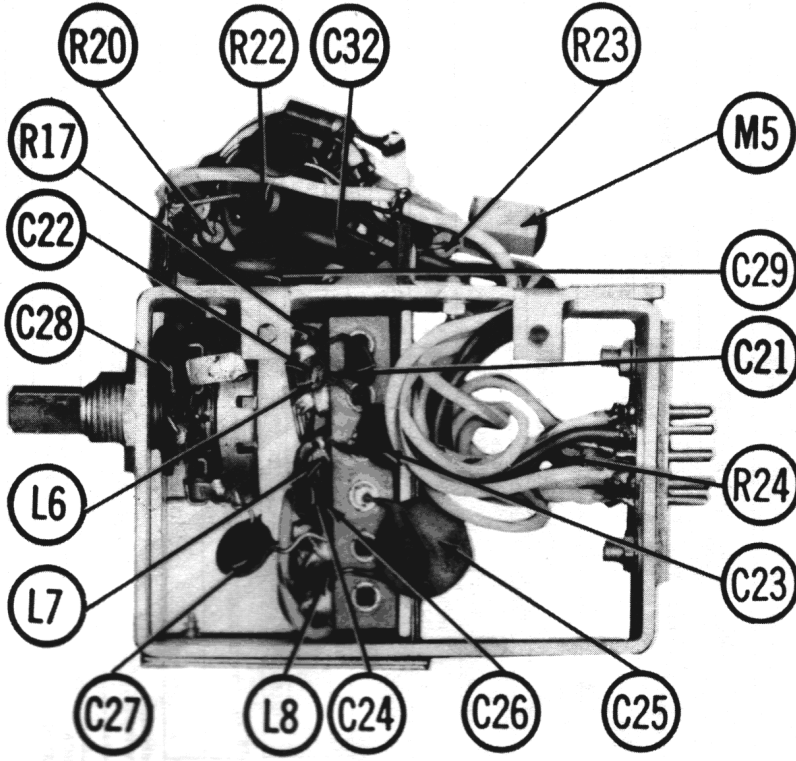
FIXED CAPACITORS

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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						SPRAGUE PART No.
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELABENCO PART No.	MALLORY PART No.	SPRAGUE PART No.		
C5	10 1000V NPO 10%		BPD-01	DD-103	C10Q10C	CCTO-100	CNO-410	10TCC-Q10	
C6	10000		BPD-001	DD-102	BYA1081	CCD-103	B-110	5HK-S10	
C7	1000		DI-820	DD-821	BYA10D1	CCD-102	B-120	5HK-D10	
C8	820 10%		BPD-001	DD-102	5R5T82	CCD-821	GP382	10TS-T82	
C9	1000				BYA10D1	CCD-102	B-210	5HK-D10	
C10	10 N220 10%							10TCR-Q10	
C11	10 N220 10%							10TS-T47	
C12	470 10%		DI-470	DD-471	5R5T47	CCD-221	GP347	5HK-S10	
C13	10000		BPD-01	DD-103	5R5T47	CCD-471	GP347	10TS-T87	
C14	470 10%	Note 1	DI-470	DD-471	5R5T47	CCD-471	GP347	10TS-T87	
C15	220 10%	(680) †	DI-220	DD-221	L10T22	CCD-221	GP322	10TS-T22	
C16	10000		BPD-01	DD-103	BYA1081	CCD-103	B-110	5HK-S10	
C17	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10	
C18	180 N150 10%							10TS-D10	
C19	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C20	3000 10%		DI-3000	DD-821	PM6D3	CCD-302	JL-233	10TS-D30	
C21	820		DI-820	DD-821	BYA10T82	CCD-821	B-382	10TS-T82	
C22	5000 10%		DI-5000	DD-102	IR5D5	CCD-502	JL-250	10TS-D50	
C23	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10	
C24	6800 10%		DI-6800	DD-102	IDR5D68	CCD-682		10TS-D68	
C25	13500 25%		DI-10000	DD-102	IDR5D68	CCD-103		10TS-S10	
C26	6800 10%		BPD-001	DD-102	IDR5D68	CCD-682	B-210	5HK-D10	
C27	1000		DI-220	DD-221	LI0T22	CCD-221	B-322	10TS-T22	
C28	220		BPD-05	DD-503	H-0555	IDP-2-503	GP550	5HK-S5	
C29	50000		DI-220	DD-221	LI0T22	CCD-221	B-322	10TS-T22	
C30	220		BPD-001	DD-102	BYA10D1	CCD-102	B-210	10TS-T22	
C31	1000		DI-1000	DD-102	H-05P1	IDP-2-104	TA-010	10TS-T47	
C32	100000 75V		BPD-00047	DD-471	BYA10T47	CCD-471	B-110	5HK-S10	
C33	470		BPD-01	DD-103	C10Q1C	CCTO-100	CNO-410	10TCC-Q10	
C34	10000		1469-00033		22R5T33	CM-19B-331J			
C35	10 1000V NPO 10%		DAC-21	DTZ-100	C10T1C	CCD-101	ST-557-N	10TCC-T10	
C36	330 5%		NPO-21	DD16-103	HVE16S1	6DP-3-103	UAC-110	BL-S10	
C37	7-45 N500						ST-554-N		
C38	1000 NPO 5%						GEM-611	6TM-P10	
C39	10000 1400V						B-110	5HK-S10	
C40	4-30 N500						B-120	5HK-S20	
C41	1 600V		P688N-1	DP-104	CUE8P1	6DP-4-104	B-120	5HK-S20	
C42	10000		BPD-01	DD-103	BYA1081	CCD-103	B-210	5HK-D10	
C43	10000		BPD-01	DD-103	BYA1081	CCD-103	B-210	5HK-D10	
C44	20000		BPD-02	DD-203	BYE8S2	CCD-203	B-210	5HK-D10	
C45	20000		BPD-02	DD-203	BYE8S2	CCD-203	B-210	5HK-D10	
C46	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C47	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10	
C48	1500		EF-0015	DD-102	BYA10D1	CCF-152	FC5215		

† Alternate Value.

⊙. Not used in some versions.



PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	REPLACEMENT DATA			INSTALLATION NOTES
	RATING RESISTANCE	CENTRALAB PART No.	CLAROSTAT PART No.	
R1A	150K Shaft	B-44	Q13-128	Volume
R1B	50K Switch	Not Req. KR-1	Not Req. US-26	Power Off-On
R2A	50K Shaft	B-1802	Q11-123	Squelch
R2B		Not Req. B-31	Not Req. U35	
R2C		Not Req. FS-3	Not Req. U42	

RESISTORS

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

ITEM No.	REPLACEMENT DATA		REMARKS	RATING	REPLACEMENT DATA	
	WORKMAN TV PART No.	IRC PART No.			WORKMAN TV PART No.	IRC PART No.
R3				100K		
R4				10meg		
R5				220K		
R6				12K		
R7				47K		
R8				470K		
R9				470K 1W		
R10				1000		
R11				560K		
R12				47K		
R13				6800Ω		
R14				8.2meg		
R15				470K 4W		
R16				6.8Ω 2W		
R17				47Ω		
R18				10meg		
R19				560K		

Note 1. 12 volt versions below serial #7041 and 6 volt versions below serial #595331 use 1meg.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		RCA PART No.	Miller PART No.	Stancor PART No.	
L1	Ant. Loading				
L2	Ant.				
L3	RF Choke (100uh)	TV-194	6112	RTC-8574	T305
L4	Detector	BC-513	4652	RTC-8532	T873
L5	RF Choke (1MH)	BC-511	693		T948
L6	RF Choke (60MH)	BC-511	693		T948
L7	RF Choke (60MH)	BC-511	693		T948
L8	RF Choke (60MH)	BC-511	693		T948
L9	Oscillator				
L10	RF Choke (100uh)	TV-194	6112	RTC-8574	T305
L11	Hash Choke (27uh)	BC-537	5220	RTC-9182	T980

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			NOTES
		RCA PART No.	Meritt PART No.	Stancor PART No.	
T1	117V @ 120V @ .37A (AC only) 6.3VCT 2.5A	C-8702756			

TRANSFORMER (MIC.)

ITEM No.	TURNS RATIO	REPLACEMENT DATA			NOTES
		RCA PART No.	Meritt PART No.	Stancor PART No.	
T2	1 25	C-8702753	A-4748		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			NOTES
		RCA PART No.	Meritt PART No.	Stancor PART No.	
T3	15K CT	C-8702754	A-2800	A-3856	24S04 S-51X

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		RCA PART No.	QUAM PART No.	
SP1	2 1/2" PM	8702750-1	25A07	Used For Mic. and Speaker

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS/FREQUENCY	REPLACEMENT DATA			NOTES
			RCA PART No.	ALLORY DUMMER PART No.	RADIART PART No.	
M1	Interrupter	6.3 115%	5301	1801	5301	
	Interrupter	12.6 115%	6301	31601	6301	

POWER RECTIFIERS

ITEM No.	RATING CURRENT (Measured)	RCA PART No.	REPLACEMENT DATA		NOTES
			SARKES TARBAN PART No.	SYLVANIA PART No.	
M2	.040A	1N1783 *	65A *	SR200 *	* Selenium Type
M3	.040A	1N1783 *	65A *	SR200 *	* Silicon Type

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			NOTES
			RCA PART No.	LITTELFUSE PART No.	BUFSS PART No.	
M4	2" Length #26 Wire	3AG 10A ①				
		250V				
		3AG 5A ②				
		250V				

① Used in 6 Volt versions.
② Used in 12 Volt versions.

SIGNAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		RCA PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.	
M5		6CD1			Dual Selenium

MISCELLANEOUS

ITEM No.	PART NAME	RCA PART No.	NOTES
M7	Crystal		
M8	Relay		

WIRING DATA

General-use Unshielded Hook-up Wire Use BELDEN No. 8530 (Solid) Available in Ten Colors
8524 (Stranded) Available in Ten Colors
Power Cord Use BELDEN No. 1765-B (6 Ft. Length)
1725-K (7 1/2 Ft. Length)