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PHOTOFACT® Folder



**REALISTIC
MODEL TRC-27 (94L595)**



**REALISTIC
MODEL TRC-27 (94L595)**

TRADE NAME	Realistic Model TRC-27 (94L595)
SUPPLIER	Radio Shack Corp., 730 Commonwealth Ave., Boston 17, Mass.
TYPE SET	AC-Battery Operated 10 Tube— 2 Transistor Single Channel Crystal Controlled Citizens Band Transmitter-Receiver
POWER SUPPLY	105 – 125 Volts AC, 60 Cycles (or) 12 Volt Storage Battery
RATING	50 Watts, .5 Amp. @117 Volts AC (Transmit); 42 Watts, .42 Amp. @117 Volts AC (Receive) (or) 5 Amp. @12.6 Volts DC (Transmit or Receive)
FREQ. RANGE	Any one of Citizens Band Channels 1 thru 22

NOTICE

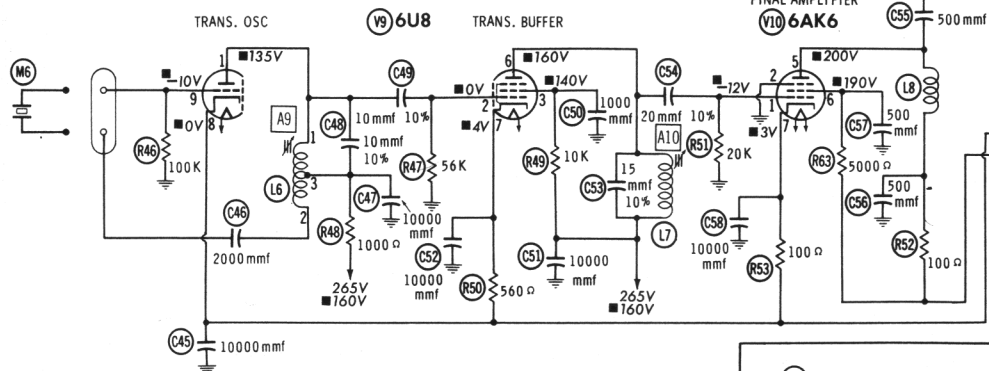
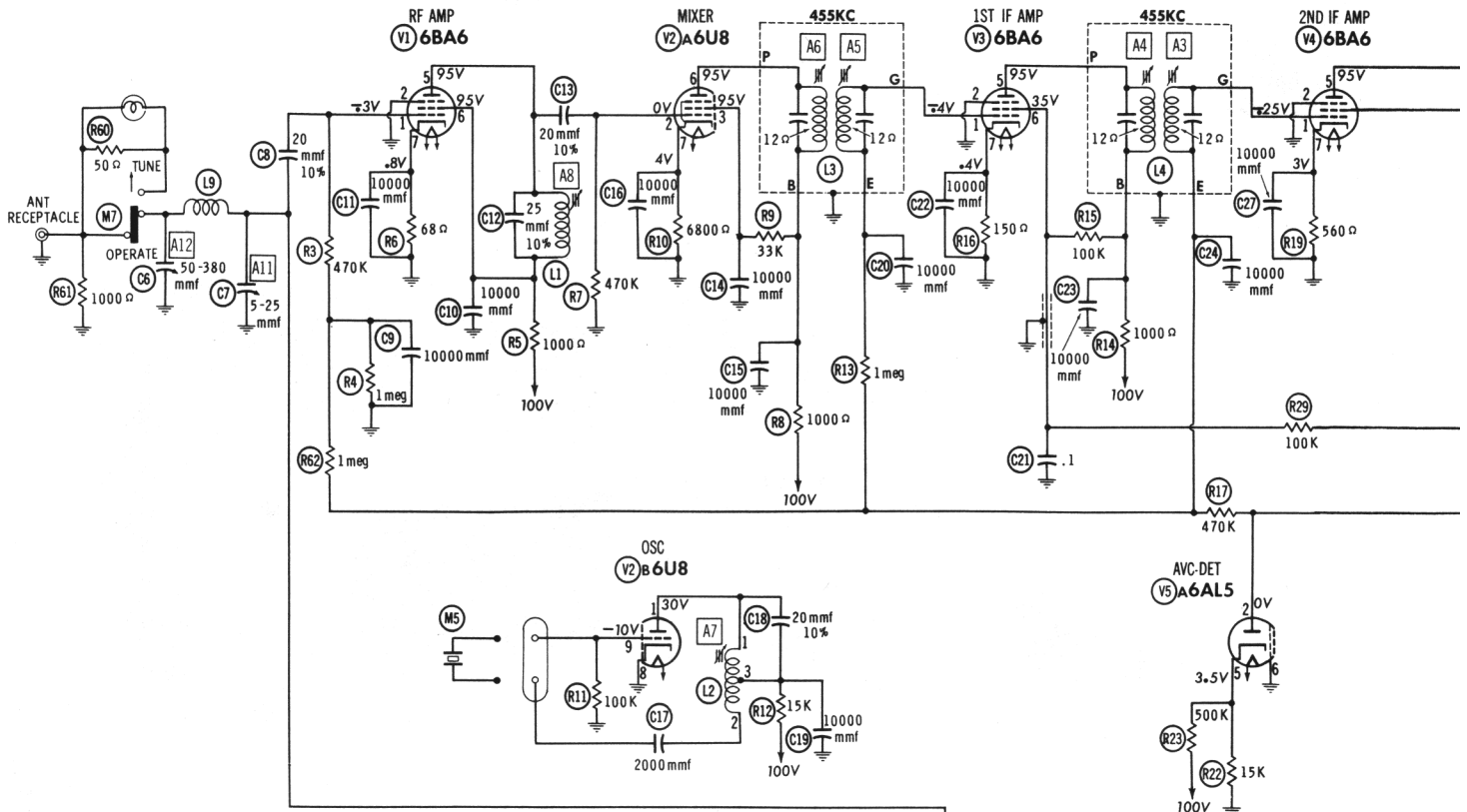
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HOWARD W. SAMS & CO., INC. Indianapolis 6, Indiana



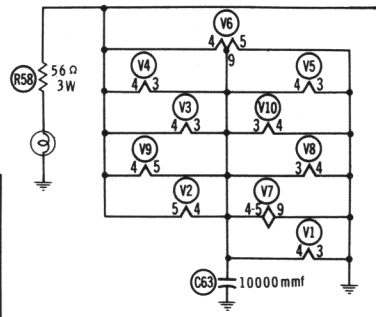
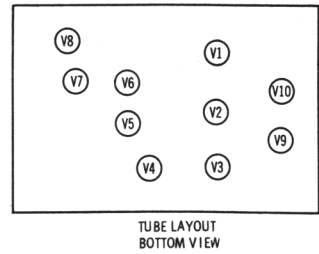
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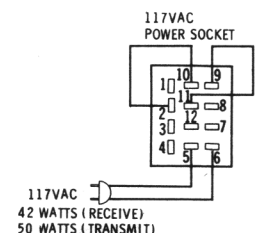
RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BA6	1.3 meg	0 Ω	0 Ω	.1 Ω	†1000 Ω	†1000 Ω	68 Ω		
V2	6U8	†15K	470K	†34K	.1 Ω	.1 Ω	†1000 Ω	6800 Ω	0 Ω	100K
V3	6BA6	2 meg	0 Ω	.1 Ω	.1 Ω	†1000 Ω	†100K	150 Ω		
V4	6BA6	1 meg	0 Ω	.1 Ω	.1 Ω	†1000 Ω	†1000 Ω	560 Ω		
V5	6AL5	1.3 meg	1 meg	0 Ω	.1 Ω	15K	0 Ω	500K		
V6	12AX7	†220K	0 Ω	27K	.1 Ω	0 Ω	†200K	†200K	1 meg	.1 Ω
V7	12AX7	†225K	470K	‡5000 Ω	.1 Ω	.1 Ω	†225K	22K	5000 Ω	0 Ω
V8	6AQ5	470K	500 Ω	.1 Ω	0 Ω	†1700 Ω	†1500 Ω	470K		
V9	6U8	†7500 Ω	56K	†16K	.1 Ω	.1 Ω	†6500 Ω	‡560 Ω	0 Ω	100K
V10	6AK6	20K	0 Ω	.1 Ω	0 Ω	†1800 Ω	†6700 Ω	‡100 Ω		



TRANSISTOR CIRCUIT RESISTANCE NOT GIVEN BECAUSE OF THE WIDE VARIATION IN INTERNAL TRANSISTOR RESISTANCE.
 ALL MEASUREMENTS TAKEN IN "RECEIVE" POSITION UNLESS OTHERWISE INDICATED.
 † MEASURED FROM JUNCTION OF R56 AND C3 (100VOLT SOURCE).
 ‡ MEASURED FROM OUTPUT OF M1.
 ■ MEASURED IN "TRANSMITT" POSITION.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading.

Suggested Alignment Tools: A1 thru A10, A12... GENERAL CEMENT #8721, 8722
 WALSCO #2519
 All..... GENERAL CEMENT #5000, 5003, 8276, 8290
 WALSCO #2512, 2515, 2522, 2523, 2525, 2537

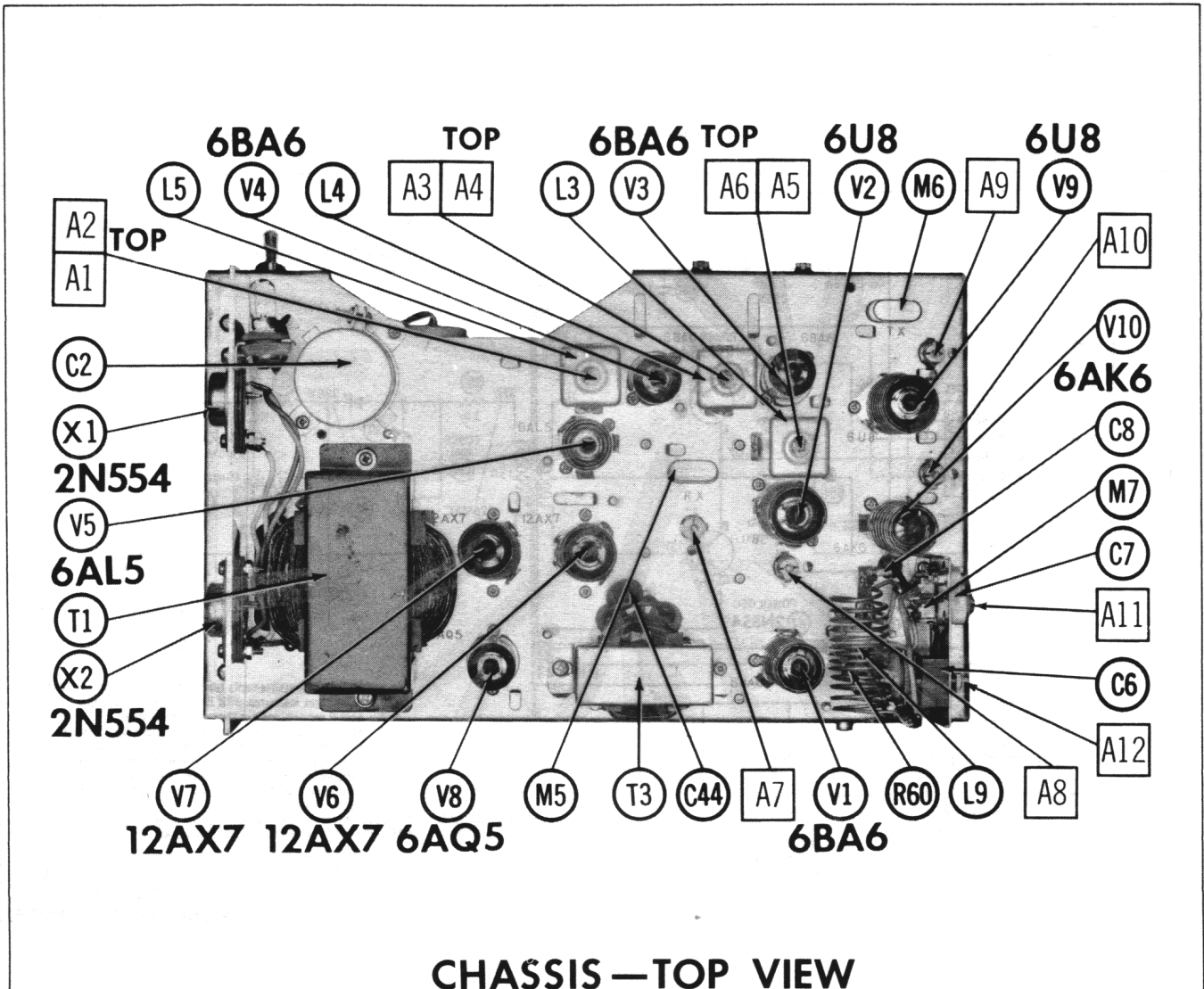
RECEIVER ALIGNMENT

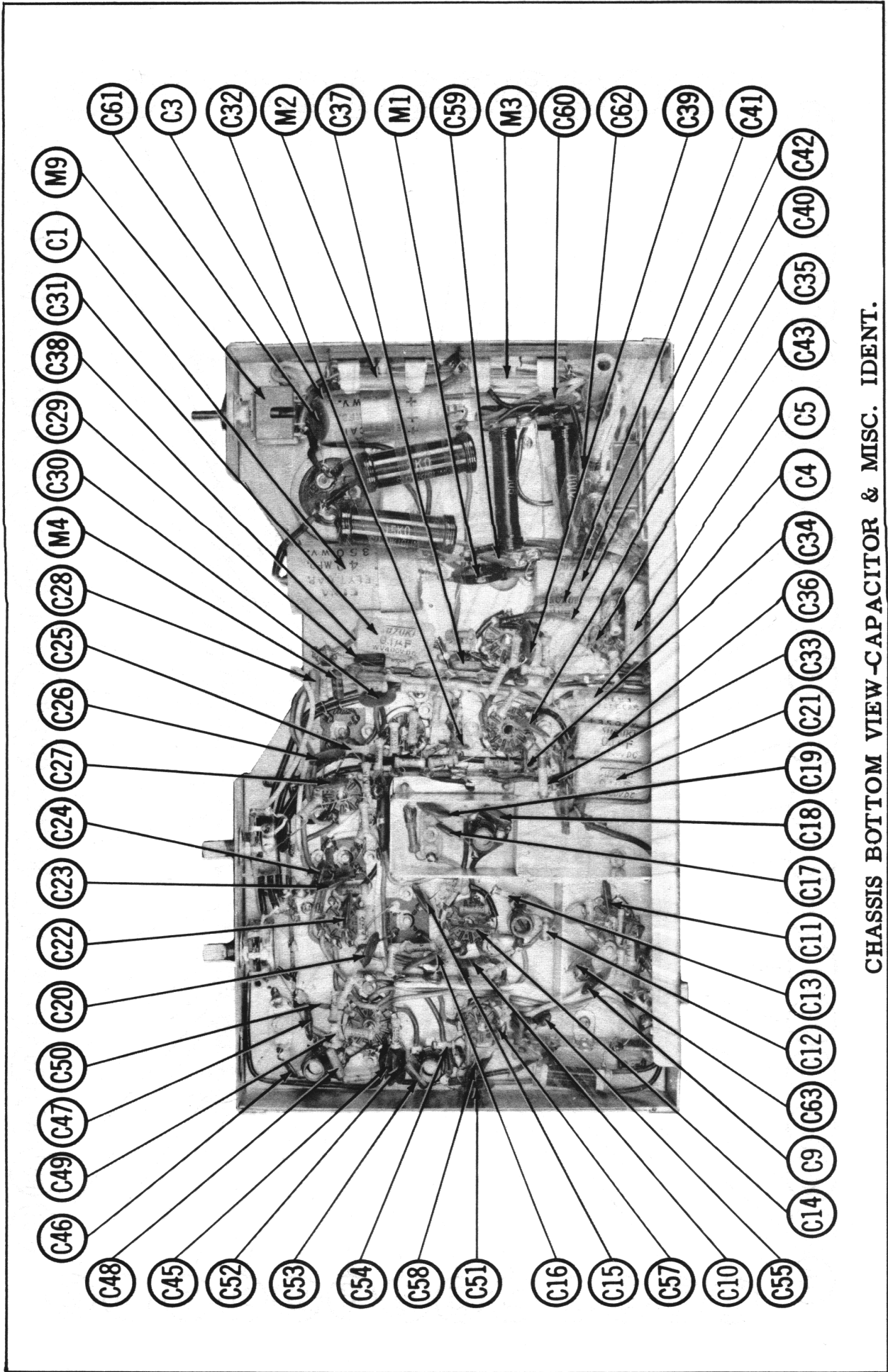
	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	High side thru .01mfd to pin 2 (grid) of Mixer. Low side to chassis.	455KC (400% Mod.)		Across voice coil.	A1, A2, A3, A4, A5, A6	Adjust for maximum output.
2.	High side thru 50mmf to antenna input.	Frequency to be received.		"	A7, A8	"

TRANSMITTER ALIGNMENT

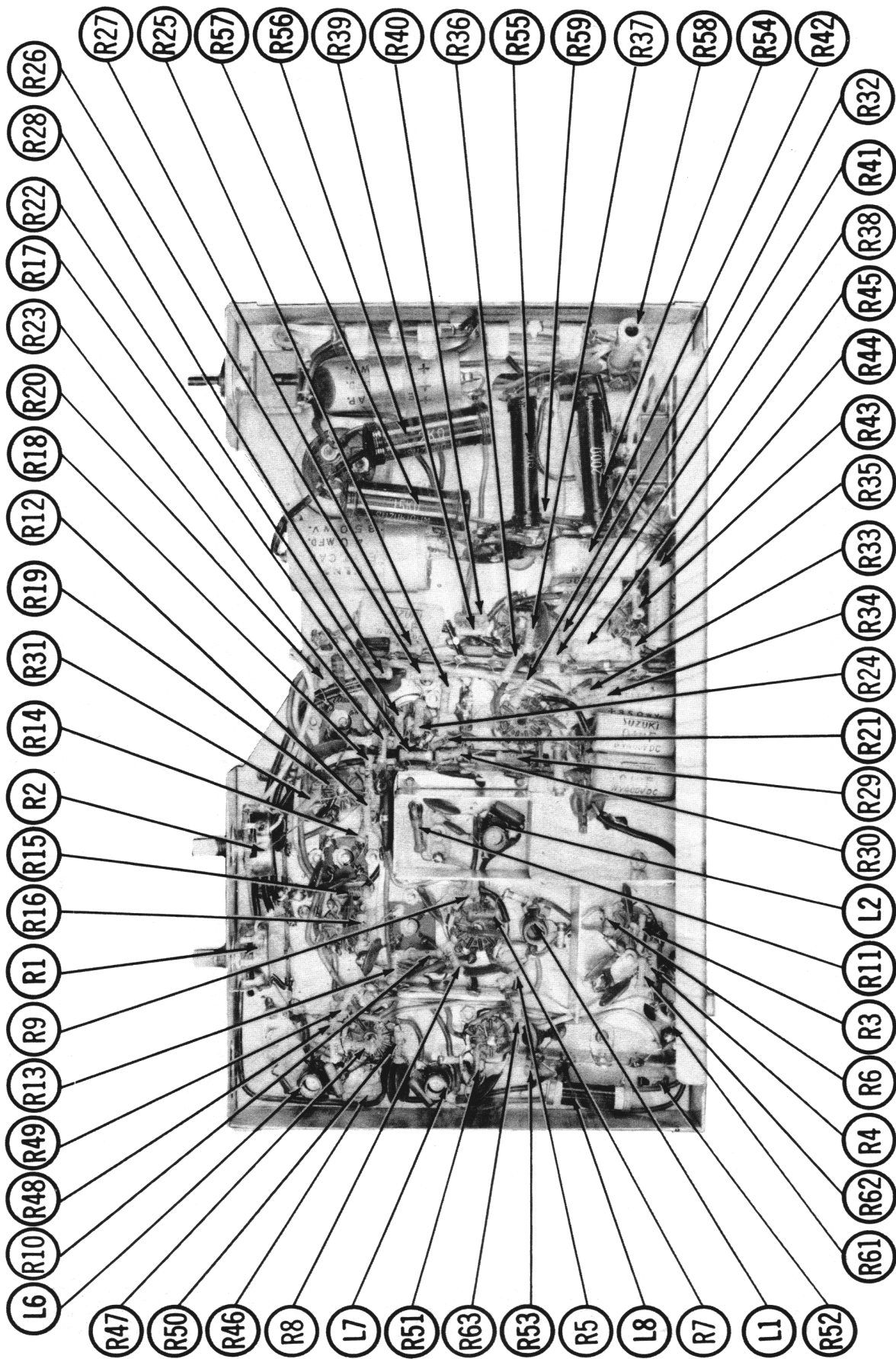
- Connect DC probe of VTVM to pin 1 (grid) of Final Amplifier. Common to chassis. Depress Transmit switch and adjust A9 and A10 for maximum deflection. Push slide switch to Tune Position. Press Transmit switch and adjust A11 and A12 for maximum bulb brilliance. Repeat adjustment of A11 and A12.

NOTE: To check plate power input to final amplifier, measure voltage drop across R52 (approximately 2V) and from R52 to chassis (approximately 215V). Multiply the 2 voltages and divide by 100. At no time should this exceed 5 watts.





CHASSIS BOTTOM VIEW-CAPACITOR & MISC. IDENT.



CHASSIS BOTTOM VIEW-RESISTOR & INDUCTOR IDENT.

PARTS LIST AND DESCRIPTIONS

TUBES

GENERAL ELECTRIC		RAYTHEON		SYLVANIA	
ITEM No.	USE	ITEM No.	USE	ITEM No.	TYPE
V1	RF Amplifier	6BA6	Speech - AF Amp.	12AX7	12AX7
V2	Mixer-Osc.	6U8	Speech Amplifier	6AQ5	6AQ5
V3	1st IF Amplifier	6BA6	Output-Modulator	6U8	6U8
V4	2nd IF Amplifier	6BA6	Trans. Osc. - Buffer	6AL5	6AL5
V5	AVC Det. - Noise Limiter	6AL5	Final Amplifier	6AK6	6AK6

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA		NOTES
			RAYTHEON PART No.	SYLVANIA PART No.	
X1	2N554	Power Osc.		PNP	
X2	2N554	Power Osc.		PNP	

ELECTROLYTIC CAPACITORS

ITEM No.	CAP.	VOL.	REALISTIC PART No.	REPLACEMENT DATA		NOTES
				AEROVOX PART No.	CORNELL-DUBILIER PART No.	
C1	40	350	PR81670	TC78	TD-40-350	TVA-1611
C2A	100	450	AFH2-57	FP238	TMD-2650	TVL-2764
C3	20	350	PR81735	TC695	TD-20-350	TVA-1608
C4	3	350	PR81600	TC697	TD-4-350	TVA-1601
C5	25	25	PR81260	BBR25-25	TD-25-25	TVA-1205

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			
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	SPRAGUE PART No.
C6	50-380		NPO-SI 20	L10Q2	465	GP420
C7	5-25		BPD-01	BYA1081	461	B-110
C8	10000		BPD-01	BYA1081	CCD-103	B-110
C9	10000		BPD-01	BYA1081	CCD-103	B-110
C10	10000		BPD-01	BYA1081	CCD-103	B-110
C11	10000		BPD-01	BYA1081	CCD-103	B-110
C12	25 10%		NFO-SI 25	TCZ-25	CTC O-240	CNO-425
C13	20 10%		NFO-SI 20	TCZ-20	L10Q2	GP420
C14	10000		BPD-01	BYA1081	CCD-103	B-110
C15	10000		BPD-01	BYA1081	CCD-103	B-110
C16	10000		BPD-01	BYA1081	CCD-103	B-110
C17	2000		BPD-002	BYA1081	CCD-103	B-110
C18	20 10%		BPD-01	BYA1081	CCD-103	B-110
C19	10000		1469-00002	TCZ-20	2R25Q2	CNO-422
C20	10000		BPD-01	BYA1081	CCD-103	B-110
C21	.1 400V		BPD-01	BYA1081	CCD-103	B-110
C22	10000		BPD-01	BYA1081	CCD-103	B-110
C23	10000		BPD-01	BYA1081	CCD-103	B-110
C24	10000		BPD-01	BYA1081	CCD-103	B-110
C25	50 10%		NFO-SI 50	TCZ-50	L10Q5	GP450
C26	10000		BPD-01	BYA1081	CCD-103	B-110
C27	10000		BPD-01	BYA1081	CCD-103	B-110
C28	1000 10%		1469-0001	5R5D1	CM-19B-102K	MCS-21
C29	10000 10%		1469-0001	5R5D1	CM-19B-102K	MCS-21
C30	10000		BPD-01	BYA1081	CCD-103	B-110
C31	.1 400V		BPD-01	BYA1081	CCD-103	B-110
C32	2000		BPD-002	BYA1081	CCD-103	B-110
C33	300 10%		BPD-002	BYA1081	CCD-103	B-110
C34	2000		BPD-002	BYA1081	CCD-103	B-110
C35	10000		BPD-01	BYA1081	CCD-103	B-110
C36	.1 400V		BPD-01	BYA1081	CCD-103	B-110
C37	1000 10%		1469-0001	5R5D1	CM-19B-102K	MCS-21

FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	SPRAGUE PART No.
C38	.05 400V		P488N-05	DD-503	4DP-3-503	GEM-415
C39	10000		BPD-01	BYA1081	CCD-103	B-110
C40	10000		BPD-01	BYA1081	CCD-103	B-110
C41	.05 400V		P488N-05	DD-503	4DP-3-503	GEM-415
C42	.1 400V		P488N-1	DF-104	4DP-3-104	GEM-401
C43	1500		BPD-0015	BYA10D15	CCD-152	5HK-D15
C44	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C45	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C46	2000		BPD-002	BYA10D2	CCD-202	5HK-D20
C47	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C48	10 10%		1469-00001	TCZ-10	CM-19B-100K	MS-41
C49	10 10%		NFO-SI 10	L10Q1	CCD-100	107S-Q10
C50	10000		BPD-001	BYA10D1	CCD-102	5HK-D10
C51	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C52	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C53	15 10%		1469-000015	TCZ-15	CM-19B-150K	MS-415
C54	20 10%		NFO-SI 20	TCZ-20	L10Q2	107S-Q20
C55	500		BPD-0005	DD-501	CCD-501	107S-T50
C56	500		BPD-0005	DD-501	CCD-501	107S-T50
C57	500		BPD-0005	DD-501	CCD-501	107S-T50
C58	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C59	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C60	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C61	10000		BPD-01	BYA1081	CCD-103	5HK-S10
C62	.05 400V		P488N-05	DD-103	4DP-3-503	GEM-415
C63	10000		BPD-01	BYA1081	CCD-103	5HK-S10

CONTROLS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				INSTALLATION NOTES
			REALISTIC PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	SPRAGUE PART No.	
R1A	500K		B-60	Q13-133	U48	Volume	
B	Shaft		Not Req.	Not Req.	Not Req.		
R2A	500K		B-59	Q11-133	U50	Squelch	
B	Shaft		Not Req.	Not Req.	Not Req.		

RESISTORS

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

ITEM No.	RATING	REMARKS	REPLACEMENT DATA				REMARKS
			IRC PART No.	WORKMAN TV PART No.	ITEM No.	RATING	
R3	470K				R26	500K	
R4	1meg				R27	500K	
R5	1000K				R28	200K	
R6	68K				R29	100K	
R7	470K				R30	1meg	
R8	1000K				R31	47K	
R9	33K				R32	220K	
R10	6800K				R33	470K	
R11	100K				R34	2200K	
R12	15K				R35	220K	
R13	1meg				R36	22K	
R14	100K				R37	470K	
R15	100K				R38	220K	
R16	150K				R39	5000K	
R17	470K				R40	470K	
R18	1000K				R41	220K	
R19	500K				R42	5000K	
R20	47K				R43	470K	
R21	1.5meg				R44	5000K 3W	
R22	15K				R45	5000K 1W	
R23	500K				R46	100K	
R24	500K				R47	56K	
R25	500K				R48	1000K	

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS (cont)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		IRC PART No.	WORKMAN TV PART No.			IRC PART No.	WORKMAN TV PART No.
R49	10K			R57	15000 5W	PW5-1500	5W-SQ-1500
R50	500Ω			R58	500 3W	PW5-56	5W-SQ-56
R51	20K			R59	500		
R52	100Ω			R60	500		
R53	1000			R61	10000		
R54	2000 5W		PW5-200	R62	1meg		
R55	900 5W		PW5-90	R63	50000		
R56	2000 5W		PW5-2000				

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		REALISTIC PART No.	Miller PART No.			Stancor PART No.	Workman TV PART No.
L1	RF						
L2	Osc. Plate						
L3	1st IF						
L4	2nd IF						
L5	3rd IF						
L6	Osc. Plate						
L7	Buffer Plate						
L8	RF Choke						
L9	Ant. Loading						

TRANSFORMER (POWER)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		REALISTIC PART No.	Merit PART No.	Stancor PART No.			Thordarson PART No.	Triad PART No.	NOTES
T1	117V @ 125V @ 12.6VCT .5A (or) .230A @ 1.8A 12.6VCT AC (AC Only) @ 3.6A								

TRANSFORMER (MIC.)

ITEM No.	TURNS RATIO	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		REALISTIC PART No.	Merit PART No.	Stancor PART No.			Thordarson PART No.	Triad PART No.	NOTES
T2	PRI. SEC. 1 18 1 IMP. IMP. 40Ω 50K								Part of M8

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		REALISTIC PART No.	Merit PART No.	Stancor PART No.			Thordarson PART No.	Triad PART No.	NOTES
T3	7000Ω Tap @ 5000Ω								A-3817 ① ① Drill New Mounting Hole (s).

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		REALISTIC PART No.	QUAM PART No.			REALISTIC PART No.	NOTES
SP1	4" PM 3-4Ω		4A07				

POWER RECTIFIERS

ITEM No.	CURRENT (Measured)	REPLACEMENT DATA			ITEM No.	NOTES
		REALISTIC PART No.	RCA PART No.	SARKES TARZIAN PART No.		
M1	.065A					Dual Selenium

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA			
			REALISTIC PART No.	HOLDER	FUSE	BUSS PART No.
M2	LA	250V				
M3	10A	250V				

SIGNAL DIODES

ITEM No.	OMC. TYPE	REPLACEMENT DATA			ITEM No.	NOTES
		REALISTIC PART No.	GENERAL ELECTRIC PART No.	RAYTHEON PART No.		
M4	OK79			1N295	1N295	Detector (Pigtail)

MISCELLANEOUS

ITEM No.	PART NAME	REALISTIC PART No.	REPLACEMENT DATA		ITEM No.	NOTES
			GENERAL ELECTRIC PART No.	RAYTHEON PART No.		
M5	Crystal					Receive
M6	Crystal					Transmit
M7	Switch					Operate-Tune (SPDT Slide Type)
M8	Microphone Assy					Includes Press-to-talk Switch and T2
M9	Switch					Power Off-On (Toggle)

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 (7½ Ft. Length)