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# PHOTOFACT®



TRADE NAME : Raytheon Model Raycom  
SUPPLIER : Raytheon Co., Distributor Products Div.  
411 Providence Turnpike, Westwood, Mass.  
TYPE SET : AC-Battery, 9 Tube Transceiver  
POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles (or)  
12 VDC (or) 32VDC  
RATING : 4.5 Amp. @12.6VDC  
TUNING RANGE : Any 5 CB Channels 1 thru 22

RAYTHEON MODEL RAYCOM

## ALIGNMENT INSTRUCTIONS

### RECEIVER

Turn Gate Control (R2) to off.

Connect a signal generator tuned to 455KC (400v Mod.) thru .1mf to pin 2 of V2A (Mixer), common to chassis. Connect a DC VTVM to point  $\text{A}$ . Adjust A1, A2, A3, and A4 for maximum deflection.

Change connection of signal generator to the antenna socket and retune generator to 27.085KC (Channel 11). Adjust A5, A6 and A7 for maximum deflection.

### TRANSMITTER

Connect a 52 $\Omega$  dummy load to antenna socket. Using a Frequency Meter, adjust A8 to frequency indicated on osc. crystal for zero beat, (within 100 cps.)

Connect DC probe of VTVM to point  $\text{B}$ , common to chassis. Adjust A9 on channel 11 for maximum deflection of VTVM and then back off about 10% on the long slope. (When the crystal oscillator is tuned in one direction the output will increase slowly -- long slope -- then suddenly fall off).

Connect DC probe of VTVM to point  $\text{C}$ , common to chassis. Adjust A10 for maximum deflection (approximately 30 volts).

Connect DC milliammeter to two screw terminal strip and adjust A11 and A12 alternately until the meter reads 25ma. Care should be taken not to exceed this current, otherwise the maximum legal plate input of 5 watts will be exceeded.

Adjustment A13 is intended to cancel out the internal wiring inductance between the pi section load capacitor and the antenna coaxial feed. The output of the transmitter is designed to match from 25 to 75 ohms. This adjustment (A13) may also be used to compensate for a standing wave ratio appearing on the coaxial cable feed to the antenna. An antenna may be off frequency by several inches and yet be loaded efficiently by the adjustment of A13. A12 is shorted out of the circuit when fully meshed.

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

# PARTS LIST AND DESCRIPTIONS

## TUBES

ITEM No.	USE	GENERAL ELECTRIC		RCA		RAYTHEON		SYLVANIA		TYPE
		TYPE	ITEM No.	TYPE	ITEM No.	USE	ITEM No.	TYPE	ITEM No.	
V1	RF Amplifier	12AU6								6AQ5
V2	Mixer-Osc.	6U8A								12AU7
V3	IF Amplifier	12BA6								12AQ5
V4	Det. - AF Amp.	12CR6								12X4
V5	Noise Limiter-Squelch	12AL5								
V6	AF Output-Modulator									
V7	Trans. Osc.-Doublers									
V8	Final Amplifier									
V9	Rectifier									

## ELECTROLYTIC CAPACITORS

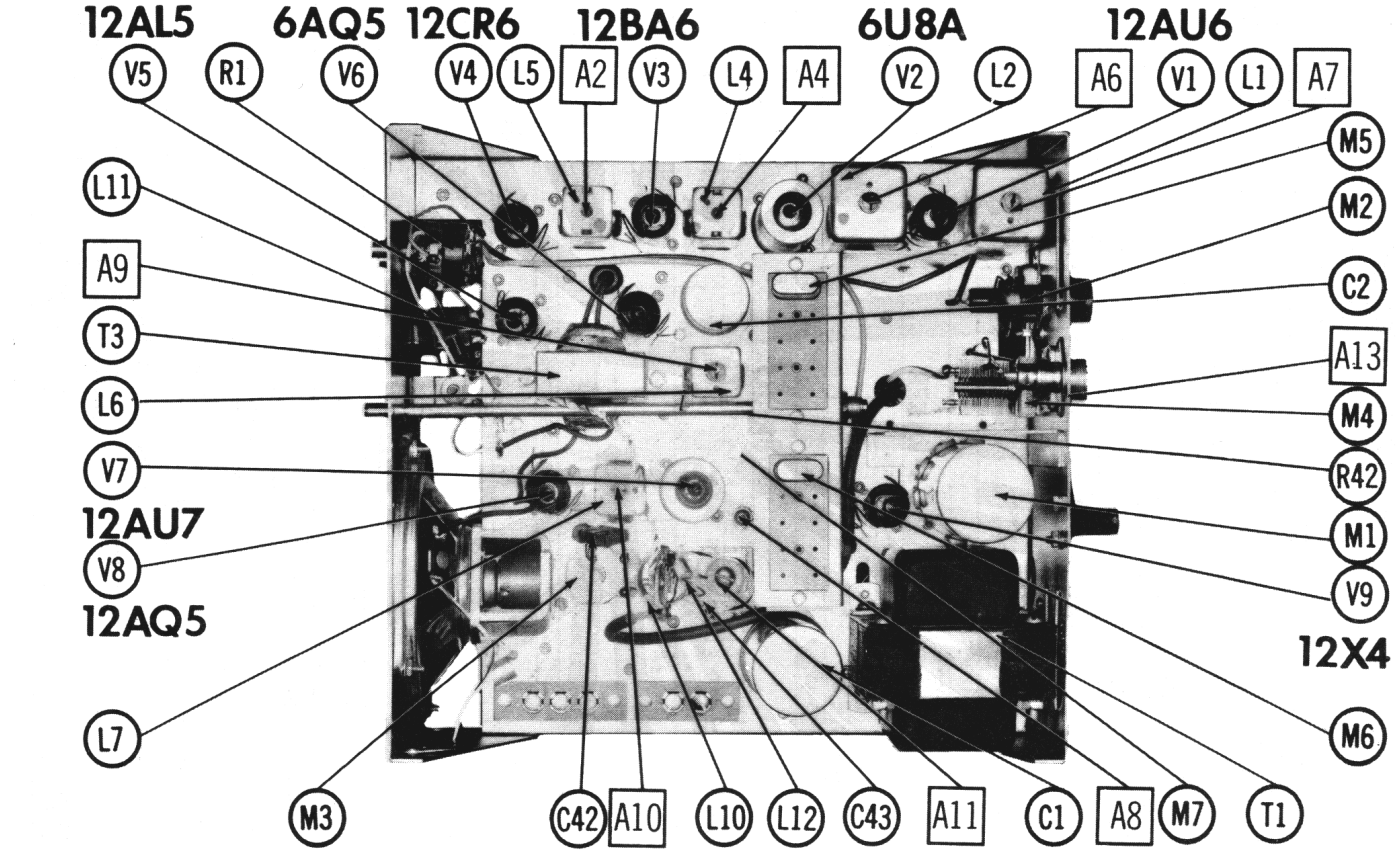
ITEM No.	RATING	REPLACEMENT DATA					NOTES
		RAYTHEON PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	
C1A	.60		AFH2-59	A0500	FPI48	TMS-1790	Note 1
C2A	.60		AFH2-08	BR6045	TC795	TD-50-450	Note 1
C2B	.20			B0090	FP208	TMD-2075	Note 1
C2C	.100						

Note 1. AC versions use 20-20mfd in this application.

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					SPRAGUE PART No.
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	
C3	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C4	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C5	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C6	.68 10%		NPO-SI .68	TCZ-R68				
C7	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C8	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C9	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C10	10 10%		NPO-SI .10	D6-100	LI0Q1	CCD-100	GP410	10TS-Q10
C11	51 10%		NPO-SI 51	D6-500	LI0Q51	CCD-500	GP450	10TS-Q50
C12	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C13	5000		BPD-005	DD-502	BYA10D5	CCD-502	B-250	5HK-D50
C14	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C15	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C16	100 10%		NFO-SI .100	D6-101	LI0T1	CCD-101	GP310	10TS-T10
C17	100 10%		NFO-SI .100	D6-101	LI0T1	CCD-101	GP310	10TS-T10
C18	20000		BPD-02	DD-203	BYB6S2	CCD-203	B-120	5HK-S20
C19	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C20	100 10%		NFO-SI .100	D6-101	LI0T1	CCD-101	GP310	10TS-T10
C21	.05 600V		P688N-05	DD-503	CUB6S5	6DP-3-503	GEM-615	6TM-S50
C22	1000		BPD-001	DD-102	BYA10D1	CCD-102	B-210	5HK-D10
C23	.05 600V		P688N-05	DD-503	CUB6S5	6DP-3-503	GEM-615	6TM-S50
C24	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C25	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C26	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C27	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C28	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C29	3300 10%		1469-00033	DD-103	IR5D33	CM-20B-332K	MC1462	5M-233
C30	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C31	10 max.							
C32	56 10%		NFO-SI .56	DD-560	LI0Q56	CCD-560	GP456	10TS-Q56
C33	5000 2000V		BPD-01	DD30-502	HVC20D5	3CCD-502	2HV-247	BL-D50
C34	100 10%		NFO-SI .100	D6-101	LI0T1	CCD-101	GP310	10TS-T10
C35	24 10%		1469-00024	TCZ-24	22R5Q24	CM-19B-240K	MCB220	MS-424
C36	10000 1600V		DAC-27	DD16-103	HVE16S1	16DP-3-103	UAC-110	BL-S10
C37	24 10%		1469-00024	TCZ-24	22R5Q24	CM-19B-240K	MCB220	MS-424
C38	1000 10%		DI-1000	DD-102	5R5D1	CCD-102	GP210	10TS-D10
C39	4700 3000V		BPD-01	DD30-472	HVB20D1	3CCD-502	3HV-247	30GA-D47
C40	1000 1500V		DAC-2	DD30-102	HVB20D1	3CCD-102	UAC-210	BL-D10
C41	10000		BPD-01	DD-103	BYA10S1	CCD-103	B-110	5HK-S10
C42	470		1468-00047	DD-103	5W5T47	CM-19B-471M	MCJ244	IFM-347
C43	600 max.							
C44	4700 3000V							
C45	.5 200V		P288N-5	DD30-472	CUB2P5	3CCD-502	3HV-247	30GA-D47
						2DP-5-504	GEM-205	2TM-P50

RAYTHEON MODEL RAYCOM



# PARTS LIST AND DESCRIPTIONS (Continued)

## TRANSFORMER (POWER)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC.	RAYTHEON PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T1	12VCT ② 2.7A	520VCT ③ .085A	ST-86 ①				① Part #ST-89 used for AC Operation.

## TRANSFORMER MIC

ITEM No.	TURNS RATIO		REPLACEMENT DATA				NOTES
	PRI.	SEC.	RAYTHEON PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T2	1	14	ST-88				

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	RAYTHEON PART No.	Merit PART No.	Stancor PART No.	Thordarson PART No.	
T3	5900Ω	3-4Ω	ST-19				

## SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
	SIZE	FIELD	RAYTHEON PART No.	OUJAM PART No.	
SPI	5"	PM	3-40	220006	5A07

## VIBRATOR

ITEM No.	INPUT VOLTS/FREQUENCY		REPLACEMENT DATA		NOTES
	TYPE	INTERRUPTER	RAYTHEON PART No.	MALLORY PART No.	
M1	12.6	115%	G-8301	G1601	6301

## FUSES

ITEM No.	RATING		REPLACEMENT DATA			
	TYPE	AG	RAYTHEON PART No.	FUSE HOLDER	LITTELFUSE PART No.	FUSE HOLDER
M2	10A ①	32V			313010 (3AG 10A 32V)	342001 AGC 10

① AC versions use 1A in this application.

## MISCELLANEOUS

ITEM No.	PART NAME	RAYTHEON PART No.	NOTES
M3	Trimmer Cap		Final Amp. Tank 10mm Max. Antenna Series Receiver (Order Freq. Desired) Transmit (Order Freq. Desired) Channel Selector (Rotary Type) Transmitter Filaments (Toggle Type) Transmit
M4	Trimmer Cap		
M5	Crystal		
M6	Crystal		
M7	Switch		
M8	Switch		
M9	Relay	579	

## WIRING DATA

General-use Unshielded Hook-up Wire ..... Use BELDEN No. 8530 (Solid) Available in Ten Colors  
Shielded Hook-up Wire ..... Use BELDEN No. 8854 (Stranded) Available in Ten Colors  
Bonding Strap ..... Use BELDEN No. 8661

## FIXED CAPACITORS (cont)

ITEM No.	RATING	REMARKS	REPLACEMENT DATA			
			AEROVOX PART No.	CENTRALAB PART No.	CONQUEST DUBNELL PART No.	ELMENCO PART No.
C46	.5 200V	Note 1	P288N-5	CUB2P5	ZDP-5-504	GEM-205
C47	.5 200V	Note 1	P288N-5	CUB2P5	ZDP-5-504	GEM-205

Note 1. Not used in some versions.

† Alternate Value.

## CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES
	RESIST. ANCE	WATTS	RAYTHEON PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	
R1A	1meg	1/2	CM-16666	B-69	A47-1meg-S	Q11-137	U54
B	Switch			Not Req.	RS-2	Not Req.	Not Req.
C	Switch			KR-2	SWE-20	76-2	US-27
R2A	1meg	1/2	CM-18888	B-69	A47-1meg-S	Q11-137	U54
B	Switch			Not Req.	RS-2	Not Req.	Not Req.
C	Switch			KR-1	SWE-12	76-1	US-26

## RESISTORS

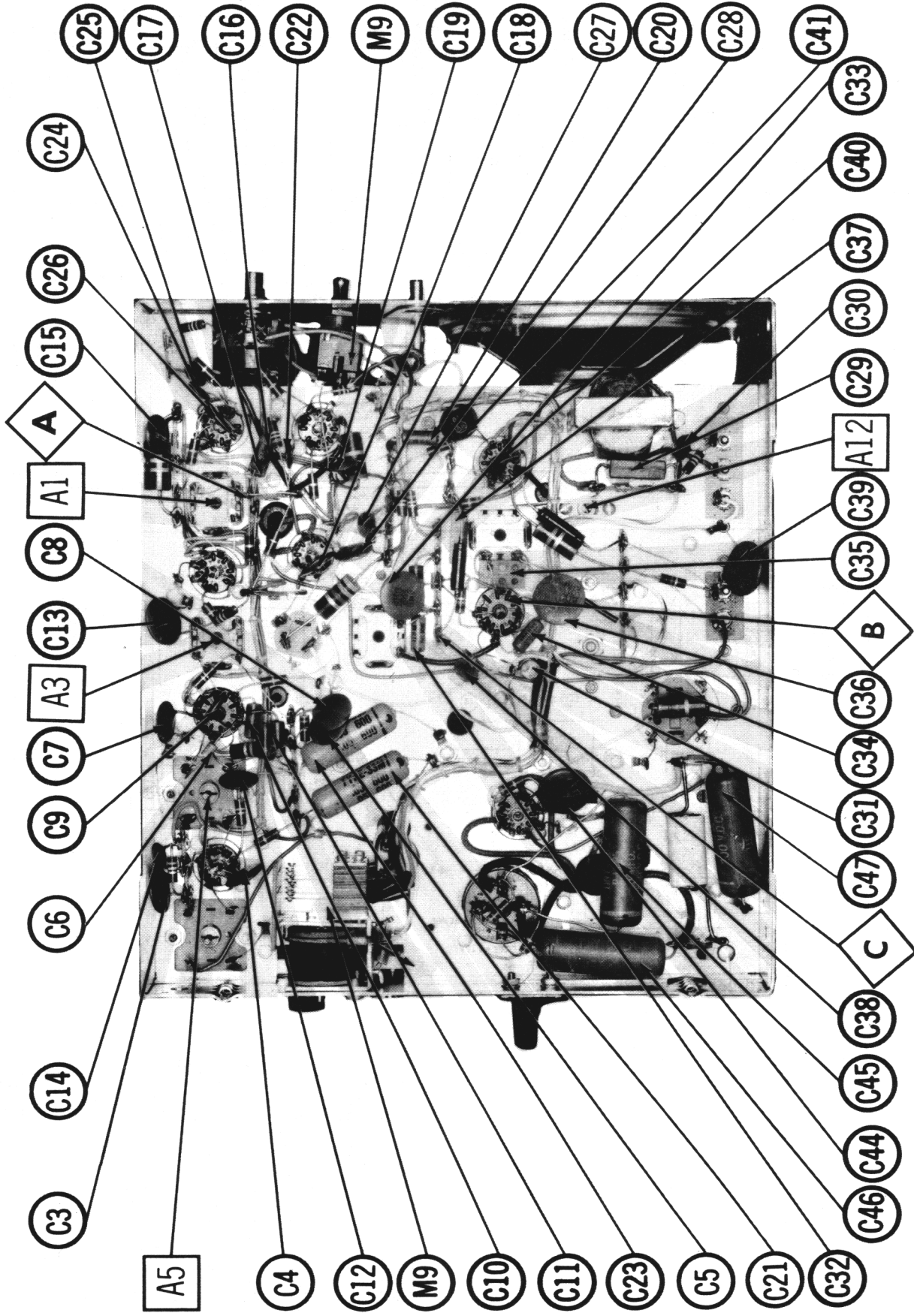
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		REMARKS
	WATTS	RESISTANCE	RAYTHEON PART No.	WORKMAN TV PART No.	
R3	560K				
R4	100K				
R5	1meg				
R6	3300Ω				
R7	100K				
R8	2200Ω				
R9	100Ω				
R10	270K				
R11	1meg				
R12	22K 1W				
R13	22K 1W				
R14	270K				
R15	270K				
R16	1meg				
R17	1meg				
R18	1meg				
R19	1meg				
R20	270K				
R21	270K				
R22	2.2meg				
R23	270K				

Note 1. Not used in some versions.

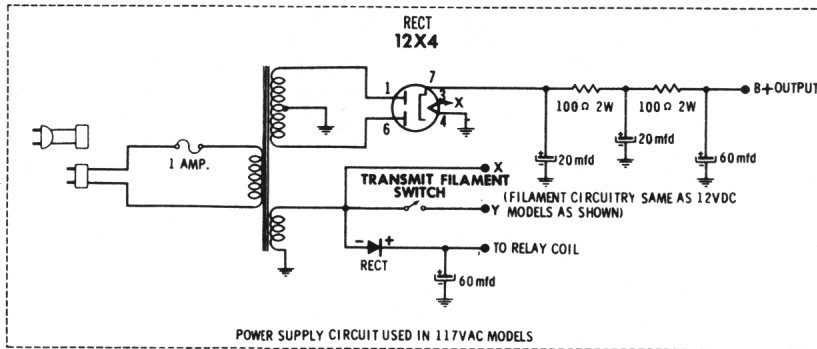
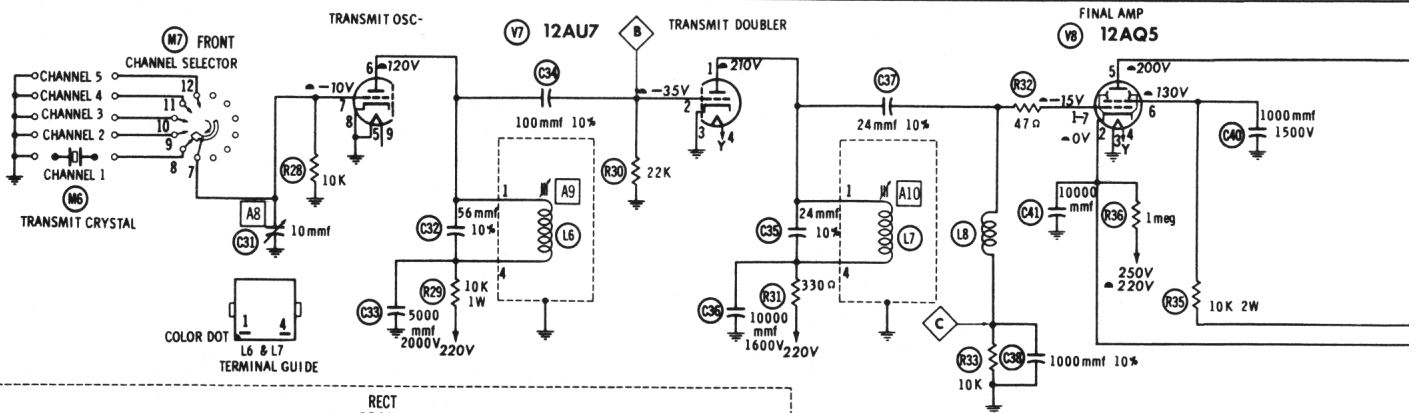
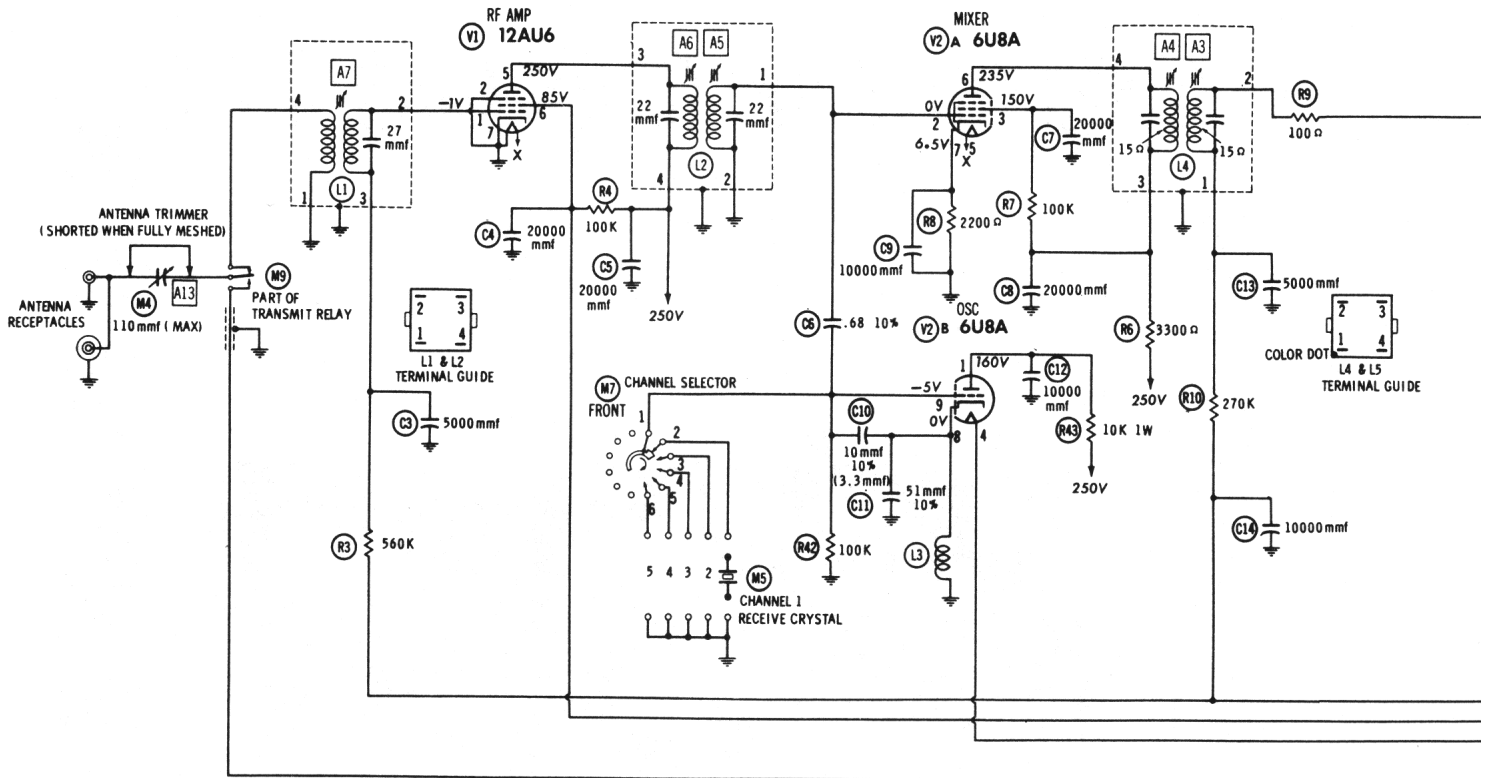
## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			NOTES
		RAYTHEON PART No.	Merit PART No.	Miller PART No.	
L1	Ant.	TL-61			
L2	RF Choke (1.5uh)	TL-62			
L3	RF Choke (1.5uh)	302217K	BC-562	4604	RTC-8516
L4	Output IF	302225K	BC-352	I2-C1	RTC-8632
L5	Oct. Plate	TL-65	BC-352	I2-C2	RTC-8633
L6	Doublet Plate	TL-64			
L7	RF Choke (2uh)		BC-563	4606	RTC-8517
L8	RF Choke (15uh)			4624	RTC-8524
L9	Final Plate	TL-63			
L10	RF Choke (15uh)			4624	RTC-8524
L11	Output				
L12	Hash Choke (10uh)	T105-116T	BC-537	7825-8	RTC-9182



CHASSIS - BOTTOM VIEW - ALIGNMENT, CAPACITOR & MISC. IDENT.

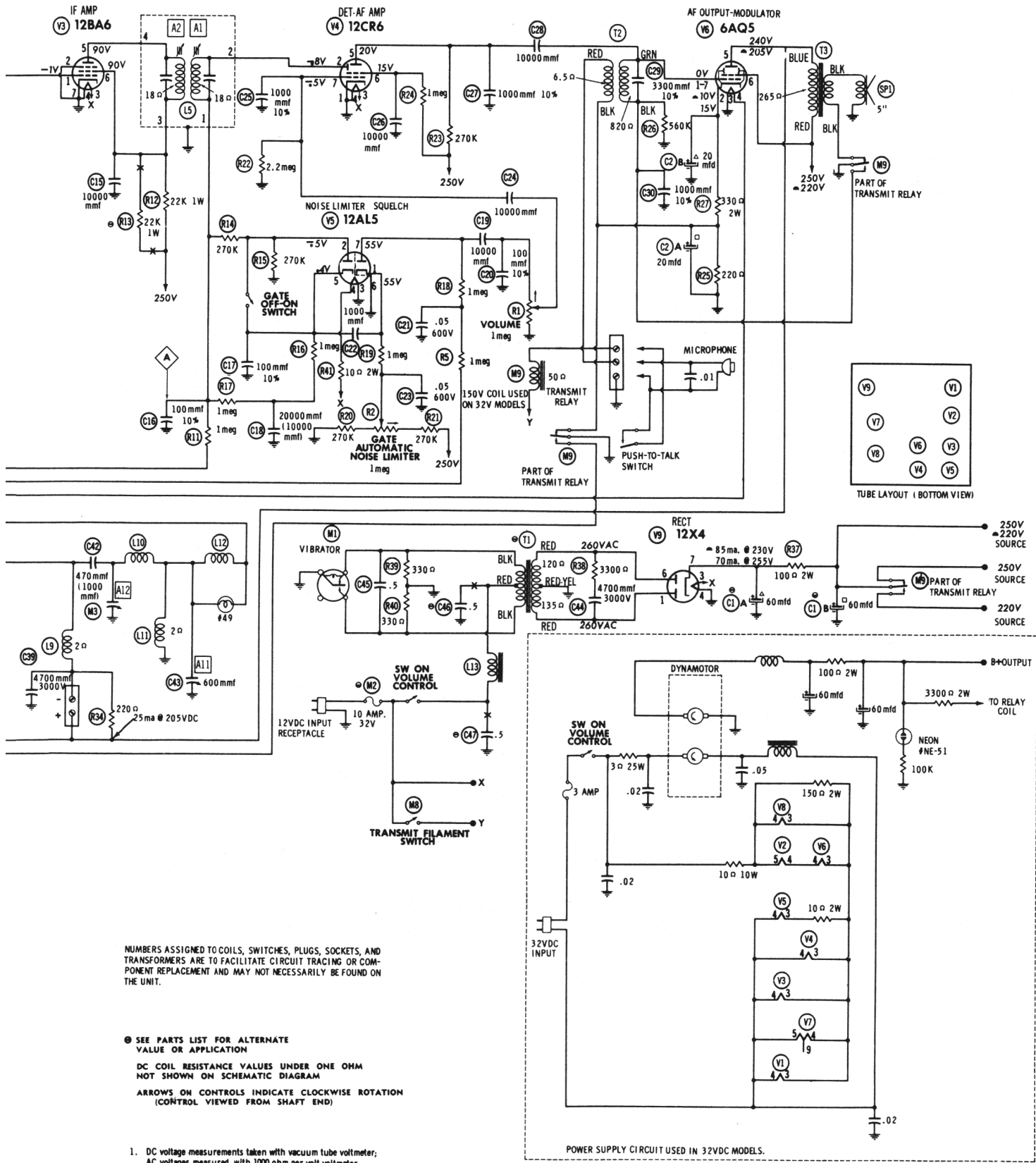
RAYTHEON MODEL RAYCOM



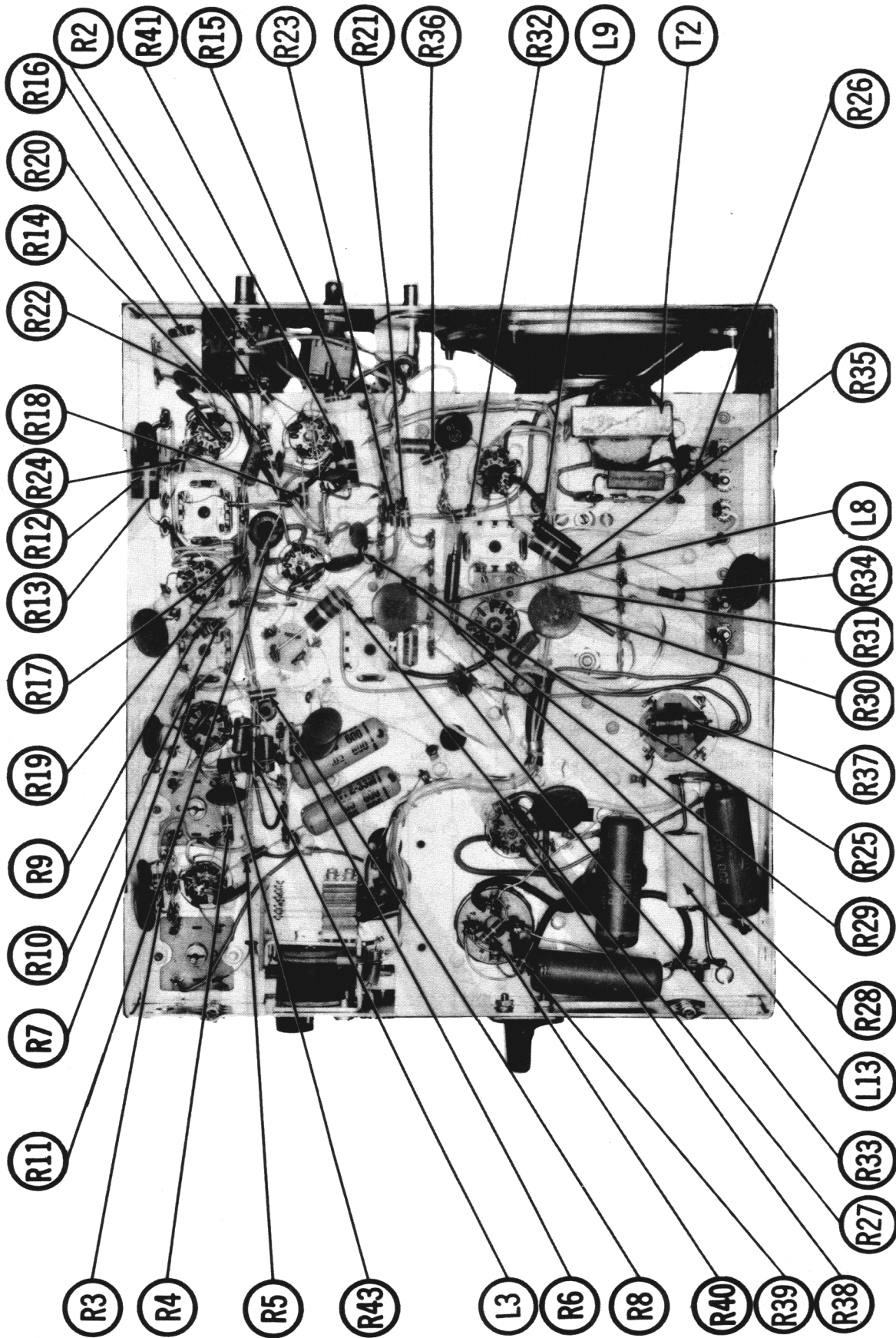
RESISTANCE READINGS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12AU6	2meg	0Ω	0Ω	2Ω	†100Ω	†100K	0Ω		
V2	6U8A	†10K	0Ω	†100K	2Ω	3Ω	†3400Ω	2200Ω	0Ω	100K
V3	12BA6	1.8meg	0Ω	0Ω	2Ω	†11K	†11K	0Ω		
V4	12CR6	0Ω	520K	2Ω	0Ω	†270K	†1meg	2.2meg		
V5	12AL5	†1.2meg	270K	0Ω	4Ω	2.5meg	0Ω	†2.1meg		
V6	6AQ5	560K	330Ω	0Ω	3Ω	†365Ω	†100Ω	560K	†820Ω	
V7	12AU7	†430Ω	22K	0Ω	0Ω	2Ω	†10K	10K	0Ω	NC
V8	12AQ5	NC	0Ω	2Ω	0Ω	†585Ω	†10K	10K		
V9	12X4	135Ω	TP	0Ω	2Ω	NC	120Ω	†		

ALL MEASUREMENTS MADE IN "RECEIVE" POSITION UNLESS OTHERWISE DESIGNATED.  
 † MEASURED IN "TRANSMIT" POSITION.  
 NC NO CONNECTION  
 † THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.  
 † MEASURED FROM PIN 7 OF V9.  
 TP TIE POINT



**RAYTHEON  
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