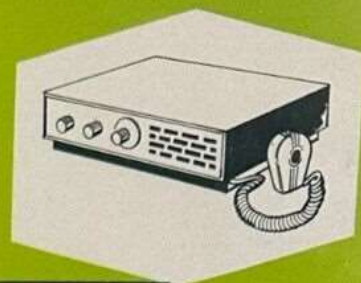


SAMS PHOTOFACT[®] CB RADIO SERIES



CB-13
13
APRIL 1967



CONTENTS

TRADE NAME AND MODEL	PAGE	TRADE NAME AND MODEL	PAGE	TRADE NAME AND MODEL	PAGE
AMPHENOL		GENERAL		PANASONIC	
650.....	5	Super MC-8.....	55	RJ-22.....	107
B & K		HALLICRAFTERS		RAYTHEON	
Cobra V.....	17	CB-19.....	65	TWR-9.....	115
CHANNEL MASTER		LAFAYETTE		REALISTIC	
6554.....	27	HA-303 (99-3091L).....	73	TRC-12 (21-909).....	125
E.C.I.		HB-444/25A (99-3074WX).....	81	REGENCY	
Courier TR-23S.....	33	METROTEK		Range Gain II.....	135
EICO		Colt 23.....	91	TRAM	
712.....	45	Pacer II.....	99	Titan.....	146

HOWARD W. SAMS & CO., INC.

Indianapolis, Indiana



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: Channel Master Model 6554
SUPPLIER: For Current Address, See Annual Index
TYPE SET: 8-Transistor Transceiver
POWER SUPPLY: 9 Volts DC
RATING: .010 Amp. @ 9VDC (Receive)
.024 Amp. @ 9VDC (Transmit)
TUNING RANGE: Any one (1) Channel 1 thru 23



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A5.....GENERAL CEMENT #8868, 8987, 9089..... WALSCO #2531-X, 2541, 2587
A6, A7, A8.....GENERAL CEMENT #8606L, Fabricate Tool..... WALSCO #8282, Fabricate Tool

Check for specified source voltage. Set Volume Control to normal level.
Adjust output of generator to radiate only enough signal into receiver to obtain a suitable indication.

RECEIVER ALIGNMENT

Connect AC VTVM across speaker voice coil.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
Highside thru .05mfd to Base X1 (Conv.) Lowside to common ground. Tune to 455KC (Mod. 30%, 1KC).	Any.	A1, A2, A3	Adjust for maximum deflection.
Highside thru .01mfd to point Δ (Ant.). Lowside to common ground. Tune to 27.085MC (Channel 11) (Mod. 30%, 1KC).	11	A4	Adjust A4 counterclockwise until oscillator stops. Readjust A4 clockwise until oscillator starts. Adjust one full turn clockwise from point of oscillation.
Highside thru .01mfd to point Δ (Ant.). Lowside to common ground. Tune to 27.085MC (Channel 11) (Mod. 30%, 1KC).	11	A5	Adjust for maximum deflection.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50 Ω dummy load or the normally used antenna system.

INDICATOR	ADJUST	REMARKS
RF Wattmeter or Field Strength Meter	A6, A7, A8	Key Transmitter several times to insure Oscillator starts. Adjust for maximum deflection.

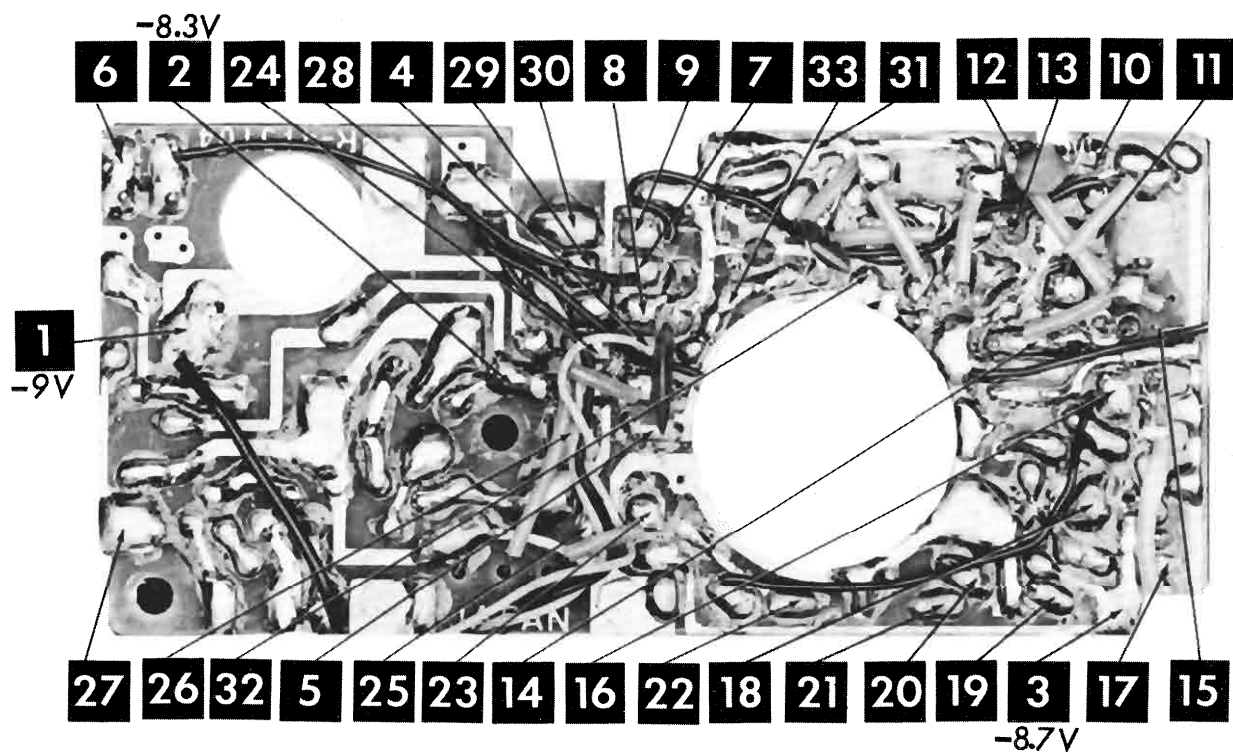
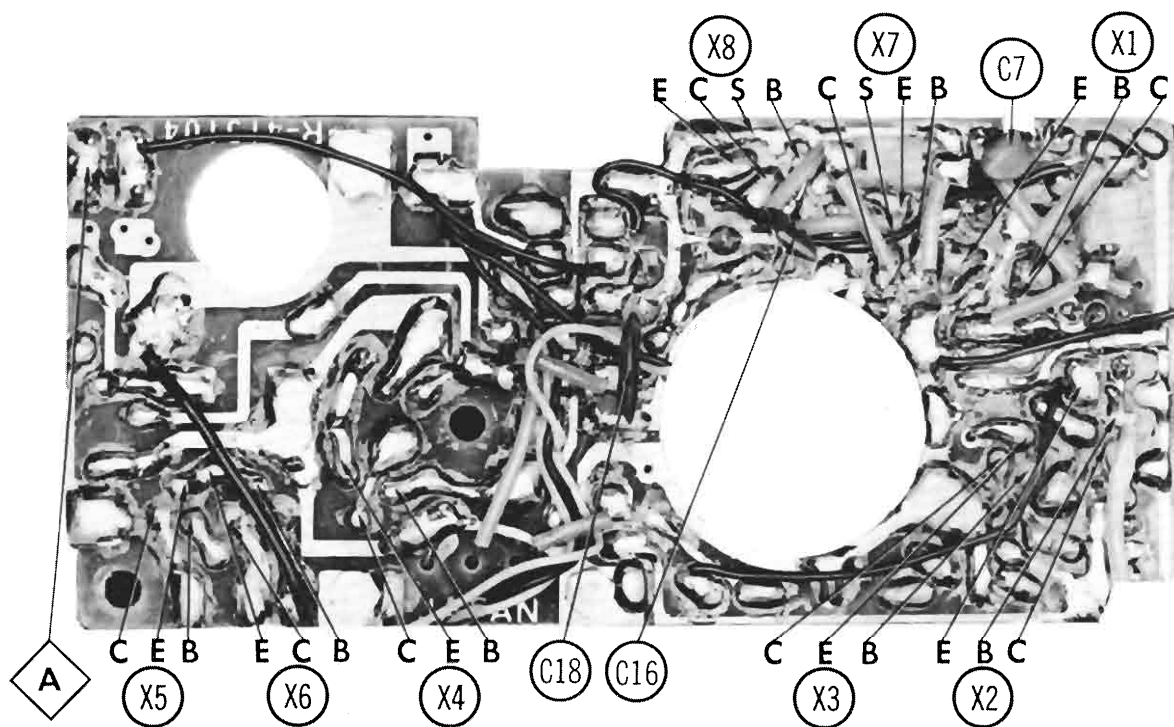
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RY508

CHANNEL MASTER MODEL 6554



CHANNEL MASTER MODEL 6554



PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors)
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8499 Single Conductor Shielded (Neoprene)
	8498 Single Conductor Shielded (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 in.)

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	
X1	2SA222	Converter		GE-1	TR-06	SK-3008	PNP
X2	2SA202	1st IF Amp.	DS-25	GE-9	TR-17	SK-3005	PNP
X3	2SA203	2nd IF Amp.	DS-25	GE-9	TR-17	SK-3005	PNP
X4	2SB186	Driver - Speech Amp.	DS-26	GE-2	TR-05	SK-3004	PNP
X5	2SB187	Output - Modulator	DS-26	GE-2	TR-05	SK-3004	PNP
X6	2SB187	Output - Modulator	DS-26	GE-2	TR-05	SK-3004	PNP
X7	2SA221	Transmit Osc.			TR-07	SK-3008	PNP
X8	2SA331	Final Amp.					PNP (Alt. Type 2SA74)

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.
X9		1S188		1N60A			1N60

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		Channel Master PART No.	REPLACEMENT DATA				
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	50	10		BCD10050	NLW50-10	MT1-16	PET1575	VL-1138
C2	50	10		BCD10050	NLW50-10	MT1-16	PET1575	VL-1138
C3	30	6		BCD6025	NLW30-6	MT1-15	TT6X25	VL-1090
C4	5	6		BCD6005	NLW3-15B	MT1-3	PET1210	VL-1084
C5	5	6		BCD6005	NLW3-15B	MT1-3	PET1210	VL-1084
C6	30	3		BCD3025	NLW30-6	MT1-13	PET130	VL-1041

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOPART No.	MALLORY PART No.	SPRAGUE PART No.
C7	20	①	NPO-DI 20	DTZ-20	HOY101ZV103P	CCTO-200	CNO422	10TCC-Q20
C8	.01		TTD-01	CK-103	CD10E430K500		TA110	TG-S10
C9	45		DI-47	DD-470		CCD-470	GP447	10TS-Q47
C10	8		NPO-DI 8.2					10TCC-V82
C11	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C12	6							10TCC-V56
C13	.005		TTD-005	CK-502	HOY101ZV502P		TA250	TG-D50
C14	.005		TTD-005	CK-502	HOY101ZV502P		TA250	TG-D50
C15	.04		TTD-05	CK-503	HOV101ZV503Z		TA150	TG-S50
C16	.005		TTD-005	CK-502	HOY101ZV502P		TA250	TG-D50
C17	30		DI-30	DD-300		CCD-300	GP430	10TS-Q30
C18	.01		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10
C19	.005		TTD-005	CK-502	HOY101ZV502P		TA250	TG-D50
C20	40		DI-39	DD-390	CD10E390K500	CCD-390	GP439	10TS-Q39
C21	.01		TTD-01	CK-103	HOY101ZV103P		TA110	TG-S10

① Some versions may use a 25pf capacitor in this application.

CONTROLS

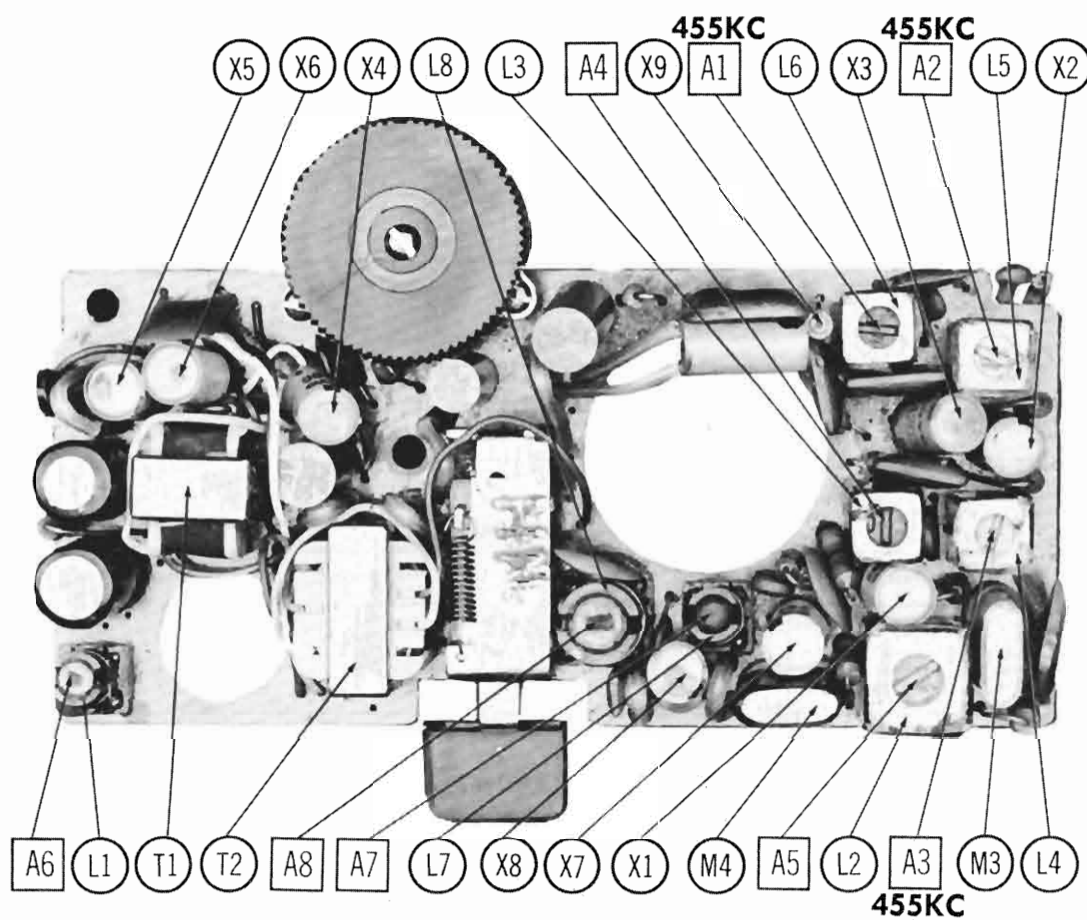
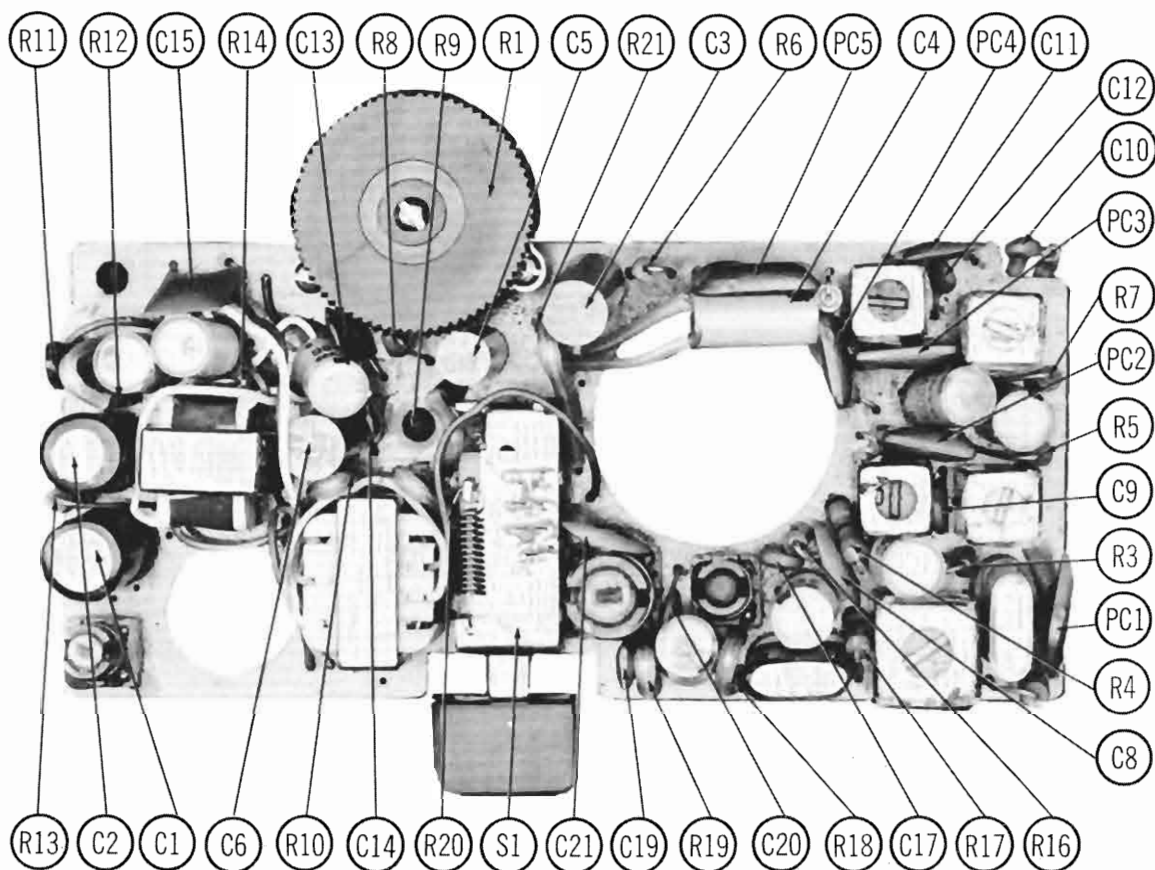
All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Channel Master PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	E391				

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Channel Master PART No.			IRC PART No.	WORKMAN PART No.	Channel Master PART No.
R11	200Ω (Cold)								

(CONTINUED ON PAGE 32)



PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Channel Master PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	Antenna Loading	E353				
L2	Antenna Matching					
L3	Rec. Oscillator	I687				
L4	1st IF Amp.	C234				
L5	2nd IF Amp.	C235				
L6	3rd IF Amp.	C236				
L7	Transmitter Osc. Coupling	I688				
L8	Final Amp. Coupling	I689				

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			Channel Master PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	PRI. 2	SEC. 1	C237					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			Channel Master PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	200Ω CT	SEC. 1	C238					
		8Ω						
		SEC. 2						
		55Ω DC Res.						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Channel Master PART No.	JENSEN PART No.	QUAM PART No.	
SP1	2" PM 8Ω	G232	P20001		

COMPONENT COMBINATIONS

ITEM No.	USE	DESCRIPTION	Channel Master PART NO.	REPLACEMENT DATA
PC1	Decoupling		A335	
PC2	Emitter Bias & Bypass		A065	
PC3	Decoupling		A335	
PC4	Emitter Bias & Bypass		A065	
PC5	Detector Filter		A047	

BATTERIES

ITEM No.	VOLTAGE	Channel Master PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	9V		2U6 or H146 or 2MN6	216 or E146X	M1604 or TR146X or Mn1604	

MISCELLANEOUS

ITEM No.	PART NAME	Channel Master PART No.	NOTES
M2	Battery Indicator Meter	I692	
M3	Receive Crystal		26.630MC
M4	Transmit Crystal		27.085MC
S1	Switch, Receive-Talk	E354	

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Cabinet, Complete	G228	Knob, Volume	I685
Back Cover	G229	Knob, Receive-Talk	I683
Battery Compartment Cover	G230	Rod Antenna	I691
Carrying Strap	I677		



PHOTOFACT®

TRADE NAME: Eico Model 712

SUPPLIER: For Current Address, see Annual Index

TYPE SET: 6-Tube, 2-Transistor Transceiver

POWER SUPPLY: 110 - 120 Volts AC, 60 Cycles (or)
12-Volt Storage Battery

RATING: 44 Watts, .44 A @ 117VAC (Receive)
52 Watts, .51A @ 117VAC (Transmit)
4A @ 12.6VDC (Receive)
4.6A @ 12.6VDC (Transmit)

TUNING RANGE: Any 12 CB Channels 1 thru 23
Receiver may be continuously tuned



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6, A10, A11, A15 GENERAL CEMENT #8606, 8606L, 8869
WALSCO #2543, 2544, 2588

A7, A8, A9, A12..... GENERAL CEMENT #8609, 9090, 8867, 8867-D
WALSCO #2527, 2586, 2586-D

A13, A14..... GENERAL CEMENT #8868, 8987, 9089
WALSCO #2531-X, 2541, 2587

RECEIVER ALIGNMENT

Connect a DC VTVM from Point Δ to chassis. Set to indicate Negative Voltage.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 2 of (Grid) V2 (Mixer), low side to chassis. Tune to 455KC (Unmod.).	Any	A1 thru A6	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 26.965MC (Chan. 1) (Unmod.).	1	A8, A10, A11	Set S2 (Receive Switch) to Tune. Turn C64 (Channel Tuning Capacitor) to Channel 1. Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.255MC. (Channel 23) (Unmod.).	23	A9, A10, A11	Set S2 (Receive Switch) to Tune. Turn C64 (Channel Tuning Capacitor) to Channel 23. Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.085MC. (Channel 11) (Unmod.).	11	A7	Insert 27,085MC Crystal into Socket. Set S2 (Receive Switch) to Xtal. Set (S1) (Channel Selector) to proper position. Adjust for maximum touchup A10, A11.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

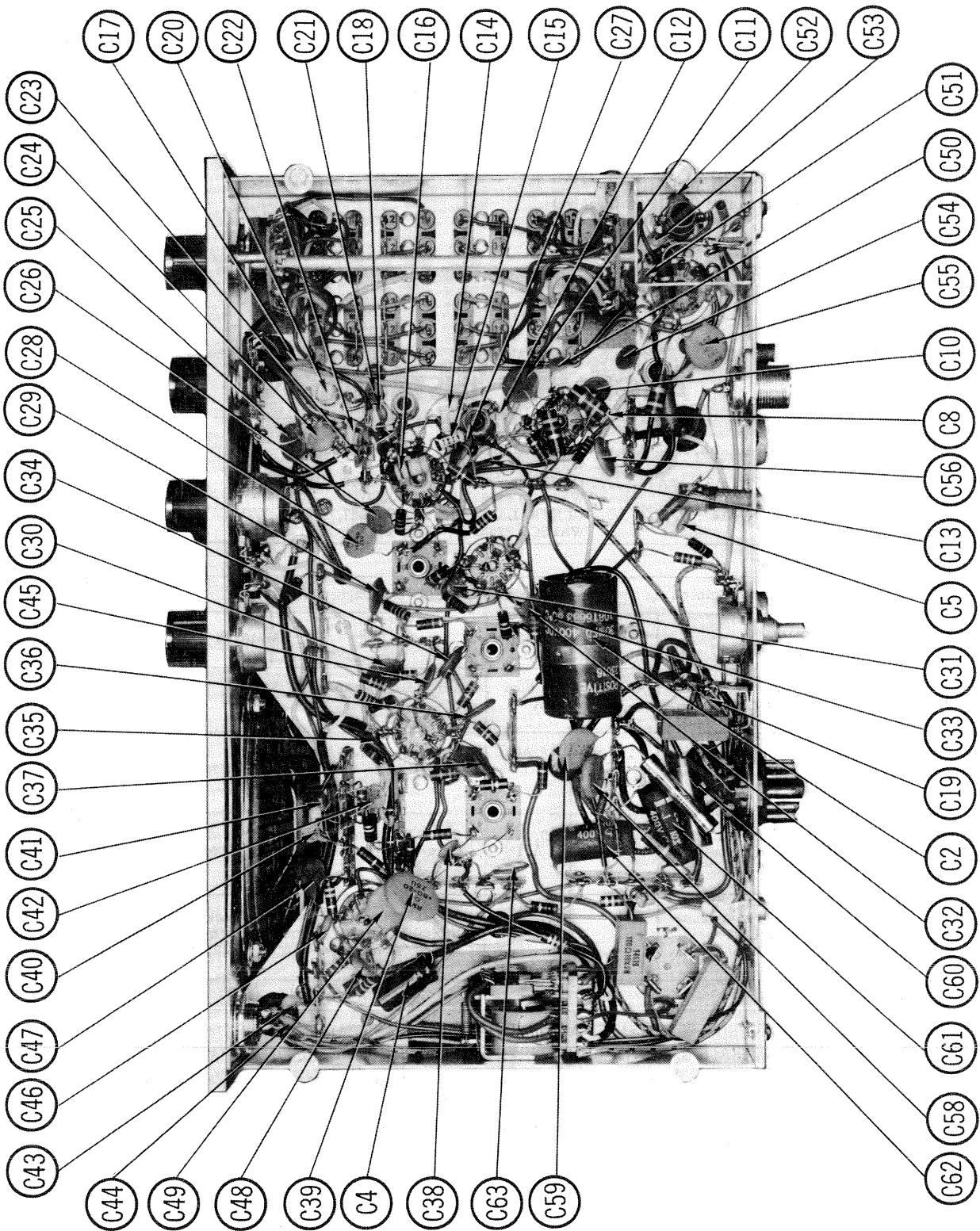
Connect either 50 Ω dummy load or the normally used antenna system.

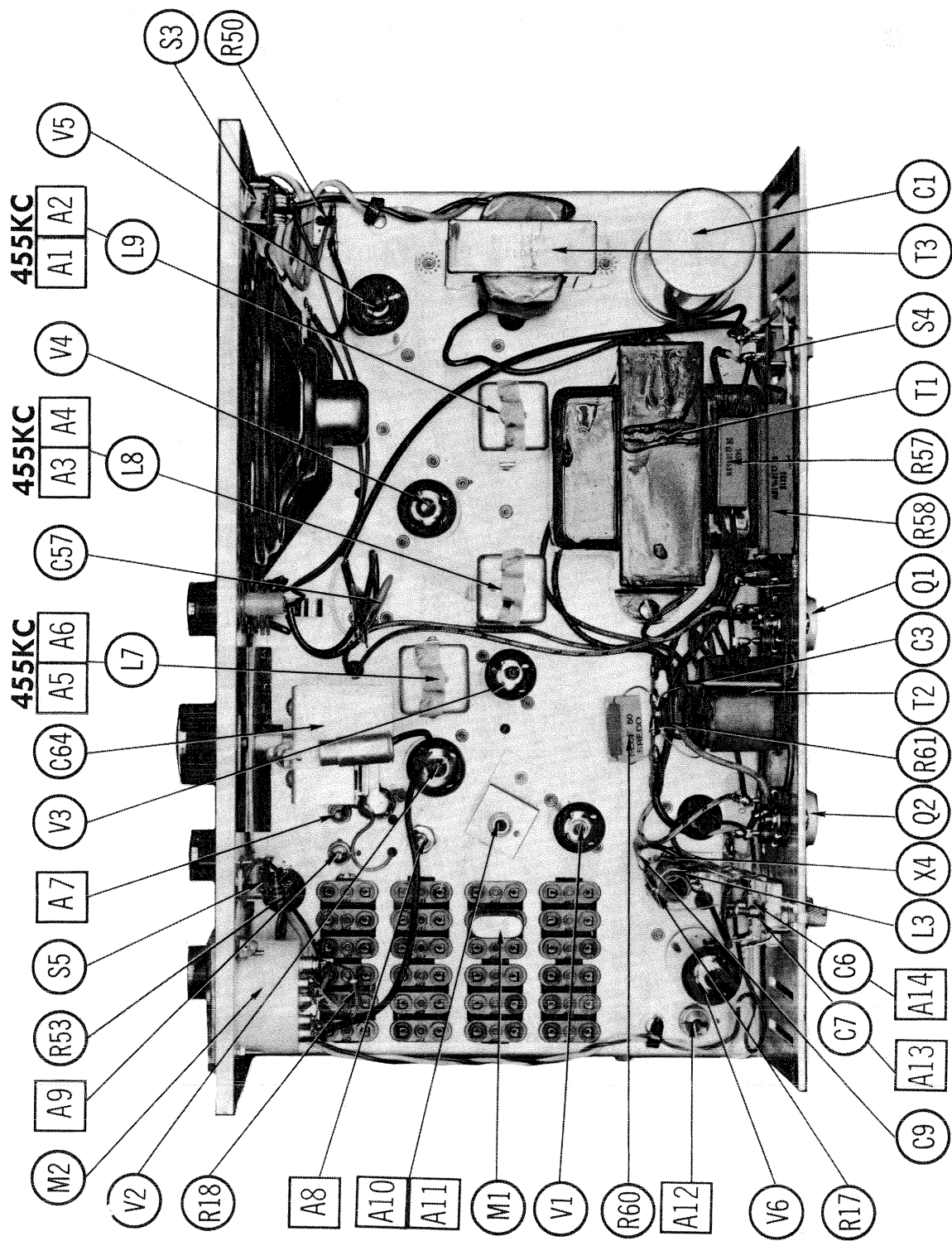
INDICATOR	ADJUST	REMARKS
RF Wattmeter, Field Strength Meter and RF Meter on Front Panel	A12, A13, A14	Key Transmitter and adjust for maximum.
Nearby TV Receiver.	A15	Set TV to low channel. Key Transmitter and adjust for MINIMUM.

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

© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RY875

EICO MODEL 712





EICO MODEL 712



RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	12BA6	1.6meg	0Ω	FIL	FIL	3300Ω †	20K † #	100Ω		
V2	6GH8	48K †	47K	221K †	FIL	FIL	48K †	18K	0Ω	47K
V3	12BA6	1.6meg	0Ω	FIL	FIL	36K †	27K †#	220Ω		
V4	6GH8	481K †	995K	101K †	FIL	FIL	10K †	820Ω	0Ω	2.2meg
V5	6GW8	6.5meg	0Ω	1100Ω †	FIL	FIL	340Ω †	330Ω	470K	481K †
V6	6GN8	0Ω	47K	47K †▲	FIL	FIL	0Ω	1.5meg †	7200Ω † 15K *†	381Ω † 7500Ω *†
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

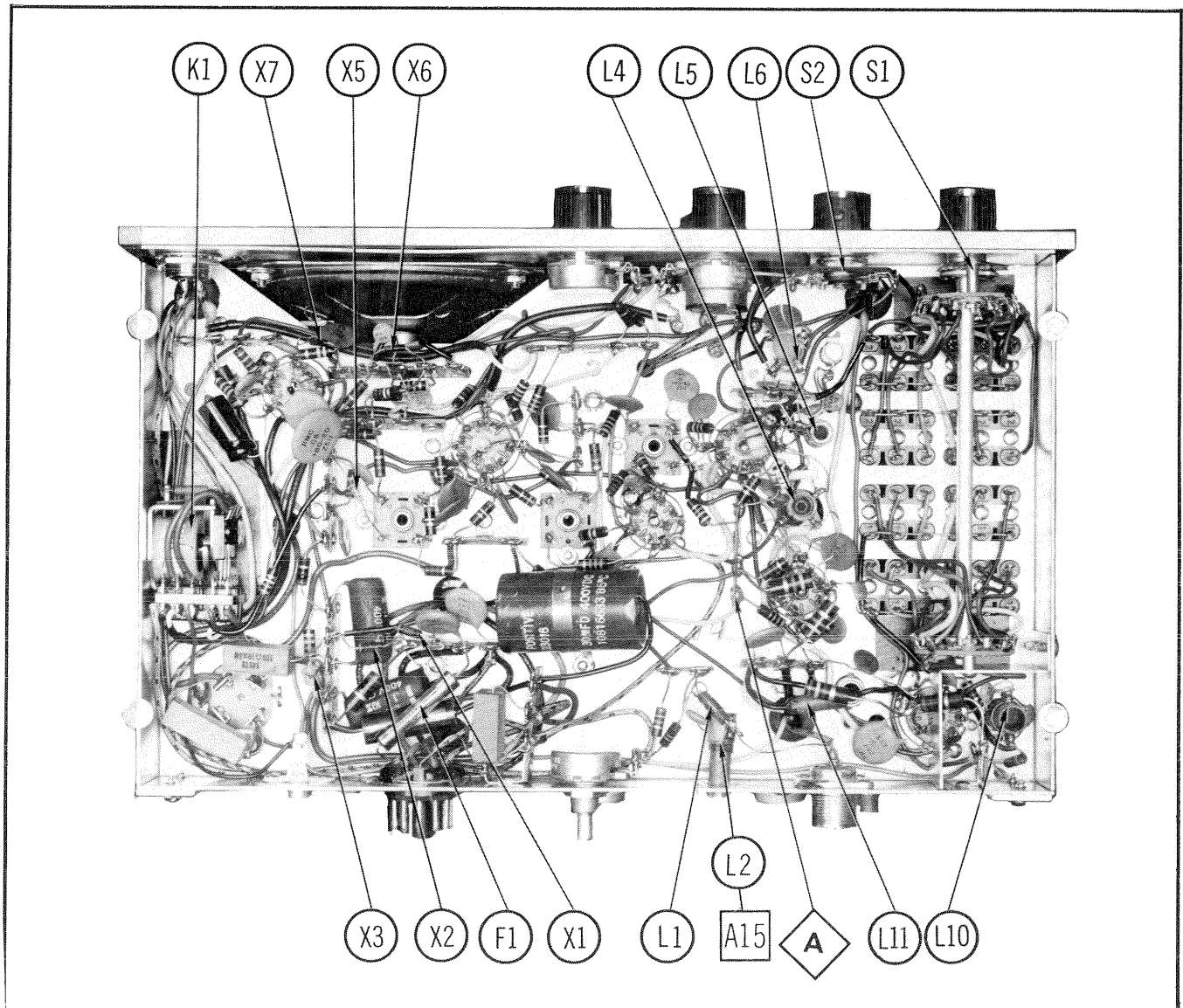
† MEASURED FROM OUTPUT OF X2 ▲ MEASURED IN TRANS. POSITION

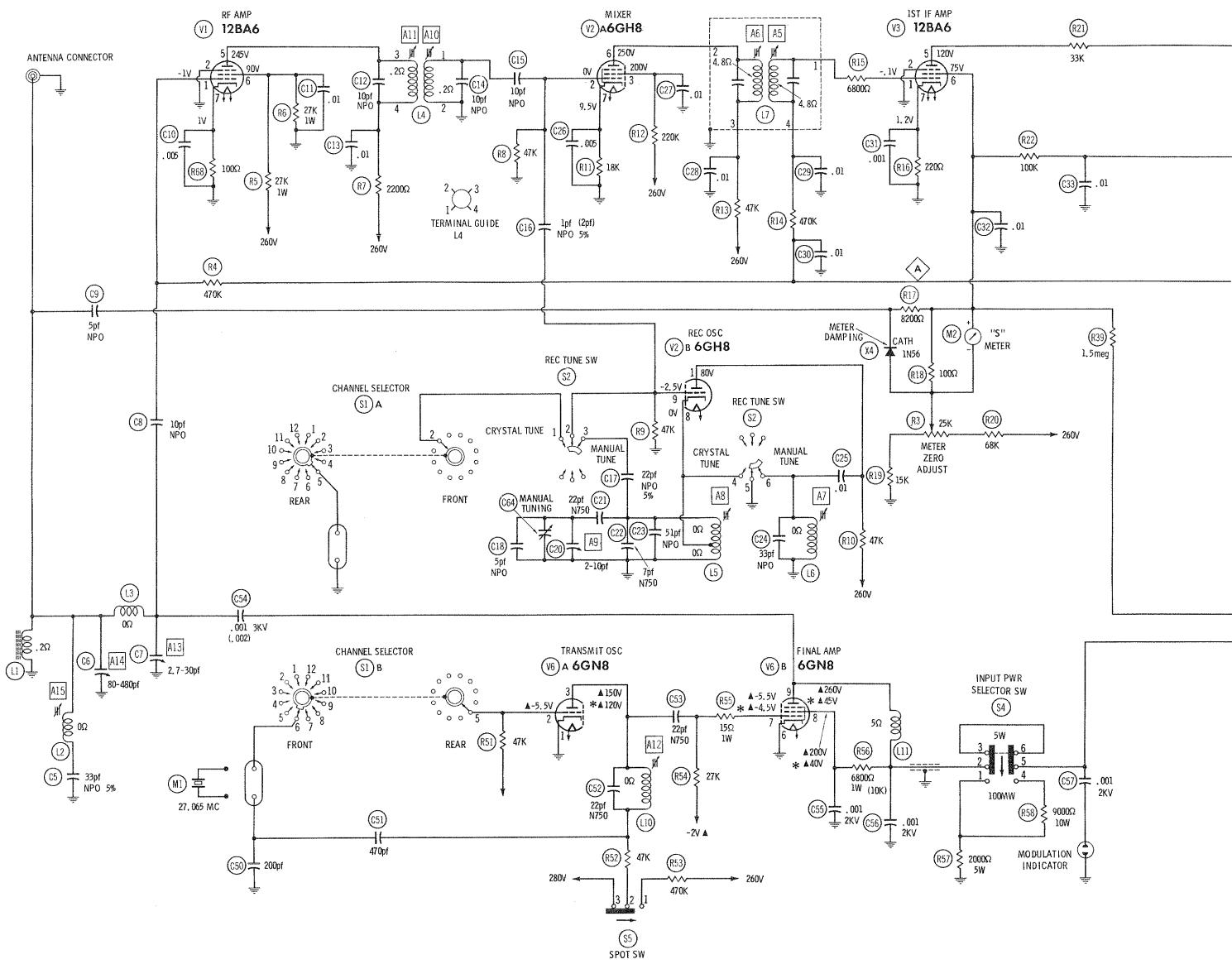
‡ MEASURED FROM JUNCTION OF X3, R66, & C61

THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.

* MEASURED IN 100MW POSITION

ALL MEASUREMENTS TAKEN WITH POWER SWITCH IN 5-WATT POSITION UNLESS OTHERWISE INDICATED.



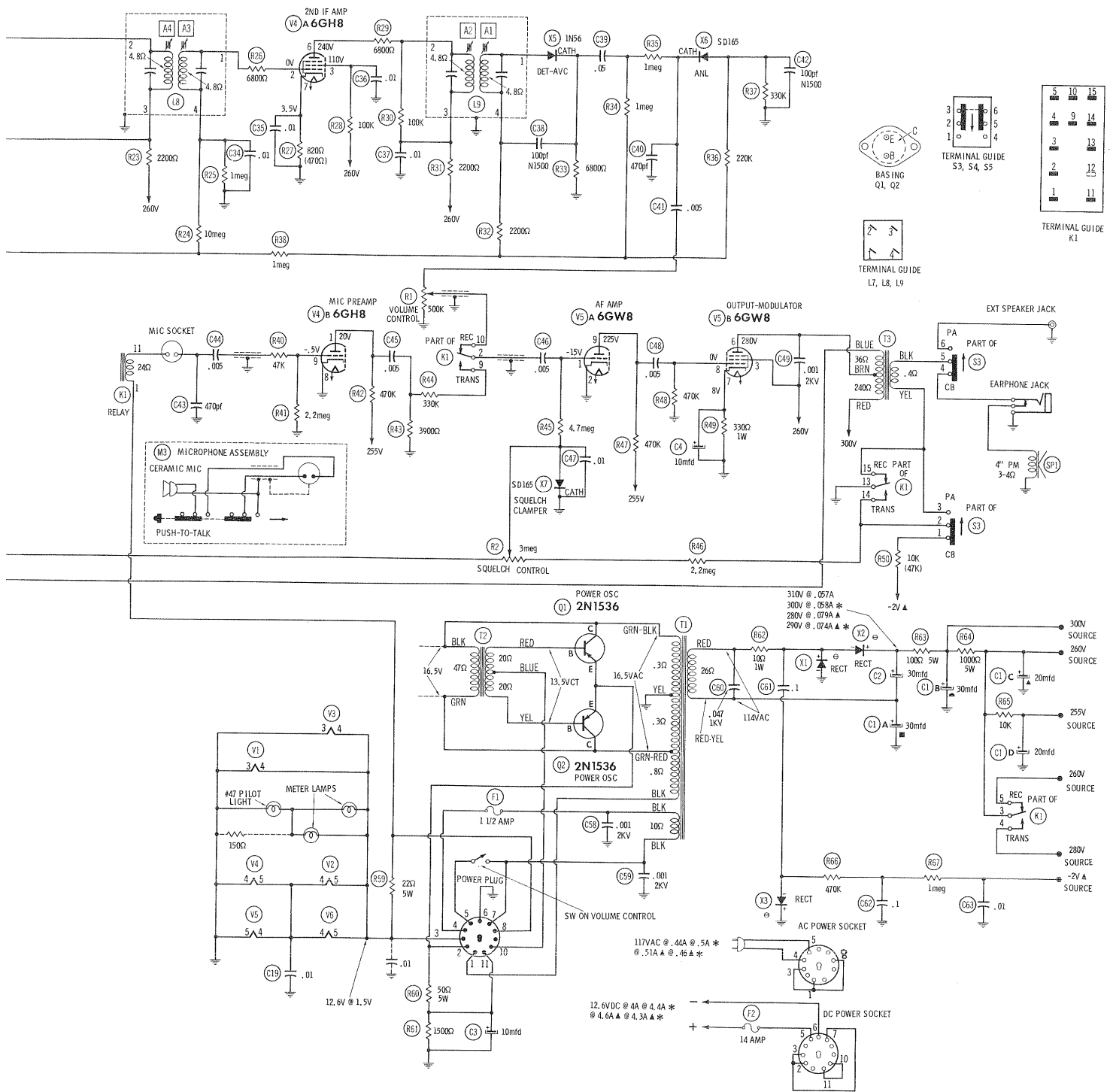


* MEASURED IN 100MW POSITION.
 ▲ MEASURED IN TRANSMIT POSITION.

Resistors are 1/2 watt or less and rated
 10% or 20% unless otherwise indicated.

- ⊙ See parts list
 1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
 © Howard W. Sams & Co., Inc. 1967



EICO MODEL 712

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene)
	8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 in.)

TUBES

* AMPEREX * GENERAL ELECTRIC * RCA * SYLVANIA *					
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	12BA6	V5	AF Amp. -Output-	6GW8
V2	Rec. Mixer-Osc.	6GH8		Modulator	
V3	1st IF Amp.	12BA6	V6	Transmit Osc. -	6GN8
V4	2nd IF Amp-Mic Preamp	6GH8		Final Amp.	

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				EICO PART No.	NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.		
Q1	2N1536	Power Osc.	DS-503	GE-3	TR-01	SK-3009	94032	PNP *
Q2	2N1536	Power Osc.	DS-503	GE-3	TR-01	SK-3009	94032	PNP *

* When replacing, apply silicone grease to both sides of insulator. Tighten mounting screws securely.

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	.079A	93022		SD600 or 5A6-D	1N1095 or VB500 ①	SK-3016 or SK-3017	F6 or 60C
X2	.079A	93022		SD600 or 5A6-D	1N1095 or VB500 ①	SK-3016 or SK-3017	F6 or 60C
X3		93023		SD500 or 5A4-D	1N538 or 1N2069	SK-3016 or SK-3017	F1 or 40C
X4		95014 (1N56)					
X5		95014 (1N56)					
X6		95015 (SD165)					
X7		95015 (SD165)					

① X1 and X2 Single Unit Replacement.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	EICO PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	30	450						
B	30	450	24037	AFH4-15-30	CC0344 & BR20-450	XC4-55	FP444.8	TVL4769.4
C	20	450						
D	20	450						
C2	30	400	23016	PRS1740	BR30-450	QT1-14	TC77	TVA-1711
C3	10	50	23065	CRE757A	NLW10-50	MT1-6	TT50X10	TE-1304
C4	10	50	23065	CRE757A	NLW10-50	MT1-6	TT50X10	TE-1304

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.
C5	33 NPO 5%		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330 S466	CNO433	10TCC-Q33
C6	80-480	#29524-1				S461		
C7	2.7-30	#29523						
C8	10 NPO			DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C9	5 NPO		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C10	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C11	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C12	10 NPO			DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C13	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C14	10 NPO			DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C15	10 NPO			DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C16	1 NPO 5%	(2) †		TCZ-1			CNO510	10TCC-V10
C17	22 NPO 5%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C18	5 NPO		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C19	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C20	2-10	#29528		829-10				
C21	22 N750		N750-DI 22	DTN-22	CZ601UJ220K	CCTN-220	CN7422	10TCU-Q22
C22	7 N750	#22014						

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

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.
C23	51 NPO	#22629	NPO-DI 33	TCN-51	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C24	33 NPO		DI-10000	DTZ-33	BYX601ZU103M	CCD-103	GP110	10TS-S10
C25	.01		DI-5000	DD-103	JBT601YP502K	CCD-502	GP250	10TS-D50
C26	.005		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C27	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C28	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C29	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C30	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C31	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C32	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C33	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C34	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C35	.01		DI-10000	DI-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C36	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C37	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C38	100 N1500				*	*	*	50TCY-T10
C39	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C40	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C41	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C42	100 N1500				*	*	*	50TCY-T10
C43	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C44	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C45	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C46	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C47	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C48	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C49	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CCD-102	3HV210	30GA-D10
C50	200		DI-200	DM-201		CCD-201	GP320	10TS-T20
C51	470		DI-470	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C52	22 N750		N750-DI 22	DTN-22	CZ601UJ220K	CCTN-220	CN7422	10TCU-Q22
C53	22 N750		N750-DI 22	DTN-22	CZ601UJ220K	CCTN-220	CN7422	10TCU-Q22
C54	.001		DAC-2	DD30-102	HVX162XP102M			30GA-D10
C55	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CCD-102	3HV210	30GA-D10
C56	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CCD-102	3HV210	30GA-D10
C57	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CCD-102	3HV210	30GA-D10
C58	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CCD-102	3HV210	30GA-D10
C59	.001 2KV		HVD-30-1000	DD30-102	HVV202XP102M	3CCD-102	3HV210	30GA-D10
C60	.047 1KV							30GA-D10
C61	.1 400V	#20097	DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C62	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C63	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C64		#29026						

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

Eico Part Number.

† Alternate Value

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			EICO PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	500K	18002	F1-500K, SRS014, KR-1	A47-500K-S, RS-2, SWE-12 or (NP-500K-S, UP-A-400, NWE-12)	Q11-133, 76-1, or (BUI, CF16, SS5, GC)*	UA55L, SL2500, US41 or (RU55L, SL2500, US41) or (U50, US26)
R2	Squelch	3meg	18168	F1-3meg, SRS014	A47-3meg-S, RS-2 or (NP-3meg-S, UP-A-400)	Q11-140 or (BUI, CF21, SS5, DC1)*	UA36L, SL2500 or (RU36L, SL38, SL2500) or (U59)
R3	Meter Adjust	25K	18158	F1-25K, SRS014	A47-25K-S, RS-2 or (NP-25K-S, UP-A-400)	Q11-120 or (BU2, CF11, SS5, DC1)*	UA253L, SL2500, or (RU253L, SL38, SL2500) or (U29)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	EICO PART No.			IRC PART No.	WORKMAN PART No.	EICO PART No.
R57	2000Ω 5W	PW5-2000	5W-SQ-2K	14521	R60	50Ω 5W	PW5-50	5W-SQ-50	14507
R58	9000Ω 10W	1 3/4A-9000	10W-SQ-9K	14318	R63	100Ω 5W	PW5-100	5W-SQ-100	14519
R59	22Ω 5W	PW5-20	5W-SQ-22, 5	14518	R64	1000Ω 5W	PW5-1000	5W-SQ-1K	14501

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		EICO PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	Ant. Filter	35078			4609	
L2	TVI Trap	36059				
L3	Final Plate Tank	35080				
L4	RF Amp. Interstage	36060				
L5	Rec. Osc. Cathode	36068				
L6	Rec. Osc. Plate	36057				
L7	1st IF	34653	19-6816		4202	
L8	2nd IF	34653				
L9	3rd IF	34653				
L10	Trans. Osc. Plate	36058			4202	
L11	RFC (30uh)	35079			72F335AP	

EICO MODEL 712

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI. 1	SEC. 1	SEC. 2	EICO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .51A	114VAC @ .079A DC	12.6V @ 1.5A	30079					▲ Transmit
	PRI. 2	SEC. 4	SEC. 5						
	16.5VCT @ 2.5A DC								

TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	EICO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	1.5CT	1	30080					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	EICO PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	9000Ω Tap @ 6500Ω	4Ω	32043					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		EICO PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" PM 3-4Ω	55005	P4W3	4A05	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	S/B	1 1/2A 125V	91018	97808	31501.5	155014	MDV 1 1/2	HHI-B
F2	SFE14	14A	91016		307014		SFE-14	

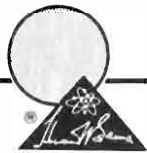
MISCELLANEOUS

ITEM No.	PART NAME	EICO PART No.	NOTES
K1	Transmit, Rec. Relay	39007	3PDT, 12V, 5A
M1	Transmit Crystal	49010	27,065MC (Channel 9)
M2	"S" Meter	71008	1ma
M3	Microphone Ass'y.	57504	Ceramic
S1	Switch, Selector	60184	Rotary
S2	Switch, Crystal & Tune	60180	2-Pole, 2-Position Rotary
S3	Switch, CB-PA	62029	DPDT
S4	Switch AC-DC	62029	DPDT
S5	Switch, Spot	62029	DPDT

CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob, Selector	53091	2-Prong, Male, Mic. Input Jack	51019
Knob, Volume, Squelch, Receive & Selector	53090	2-Prong, Female, Mic. Jack	50036
Cabinet	88135	Neon Bulb, Mod. Indicator	97715
Front Panel	80195	Mounting Bracket, Left Mobile	81449
Rear Panel Heat Sink	81446-2	Mounting Bracket, Right Mobile	81450
Tuning Dial Assembly	89783	Mounting Bracket, Cabinet	81451
Speaker Grill	55400		



PHOTOFACT®

TRADE NAME : Metrotek Model Colt 23

SUPPLIER : For Current Address, See Annual Index

TYPE SET : 9-Tube, 2-Transistor Transceiver

POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles (or)
12-Volt Storage Battery

RATING : 48 Watts, .48 Amp. @ 117VAC (Receive)
60 Watts, .58 Amp. @ 117VAC (Transmit)
4.2 Amp. @ 12.6VDC (Receive)
4.8 Amp. @ 12.6VDC (Transmit)

TUNING RANGE : All 23 CB Channels
Receiver may be continuously tuned.



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6, A9, A11 thru A15, A18... GENERAL CEMENT #8606, 8606L, 8669.... WALSCO #2543, 2544, 2588
A7..... GENERAL CEMENT #9090, 8867, 8609..... WALSCO #2516, 2519, 2586
A8, A10, A16, A17..... GENERAL CEMENT #8868, 8987, 9089..... WALSCO #2531-X, 2541, 2587

RECEIVER ALIGNMENT

Connect a DC VTVM from point (A) to chassis. Set to indicate negative voltage. Turn Volume Control fully clockwise. Turn Squelch Control fully clockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 2 (Grid) of V3 (2nd Rec. Mixer), low side to Chassis. Tune to 595KC (Unmod.).	Any	A1 thru A6	Remove 24.1MC Crystal. Adjust for maximum. Replace Crystal.
Connect Negative lead of VTVM to Pin 9 (Grid) of V2B (1st Rec. Osc.), Positive Lead to Pin 1 (Plate) of V2B (1st Rec. Osc.).	Any	A11	Rotate slug counterclockwise until a pronounced decrease in reading is noted. Then, rotate slug clockwise until a sharp increase is noted. Rotate slug an additional 1/4 turn clockwise.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 27.255MC (Channel 23, Unmod.).	23	A7, A8, A9, A10	Adjust A8 and A10 approximately 1/8 turn out from closed position. Tune Receiver to Channel 23. Adjust A7, A8, A9 and A10 for maximum.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 26.965MC (Channel 1, Unmod.).	1	A7	Tune Receiver to Channel 1. Adjust A7, 1/4 turn clockwise for maximum. Check tracking of all channels. If channels are not tracking properly, carefully repeat Adjustments A7, A8, A9, A10 and A11.
High side thru .01mfd to Antenna Receptacle, low side to Chassis. Tune to 27.085MC (Channel 11, Unmod.).	11	A12, A13, A14	Tune Receiver to Channel 11. Adjust for maximum.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

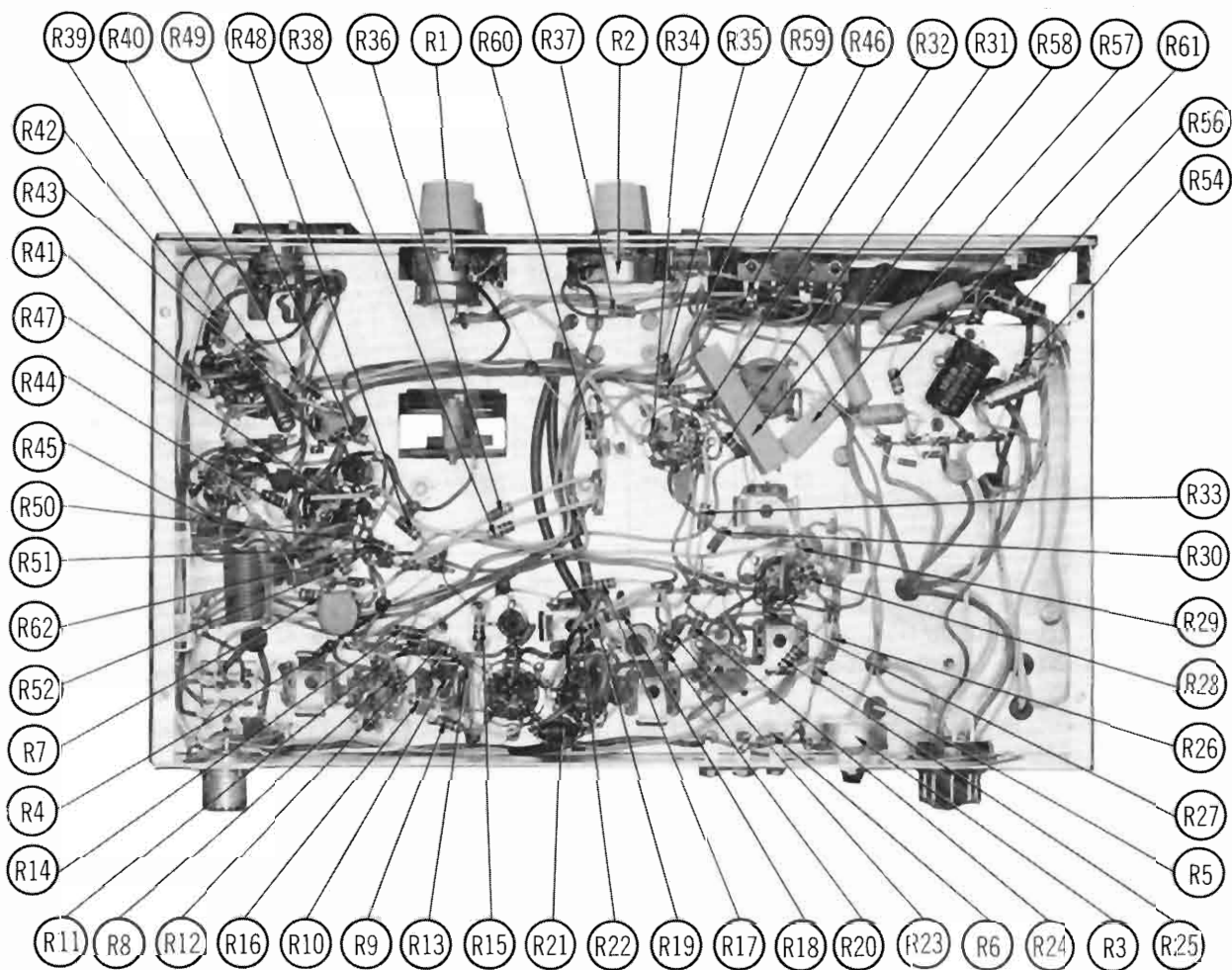
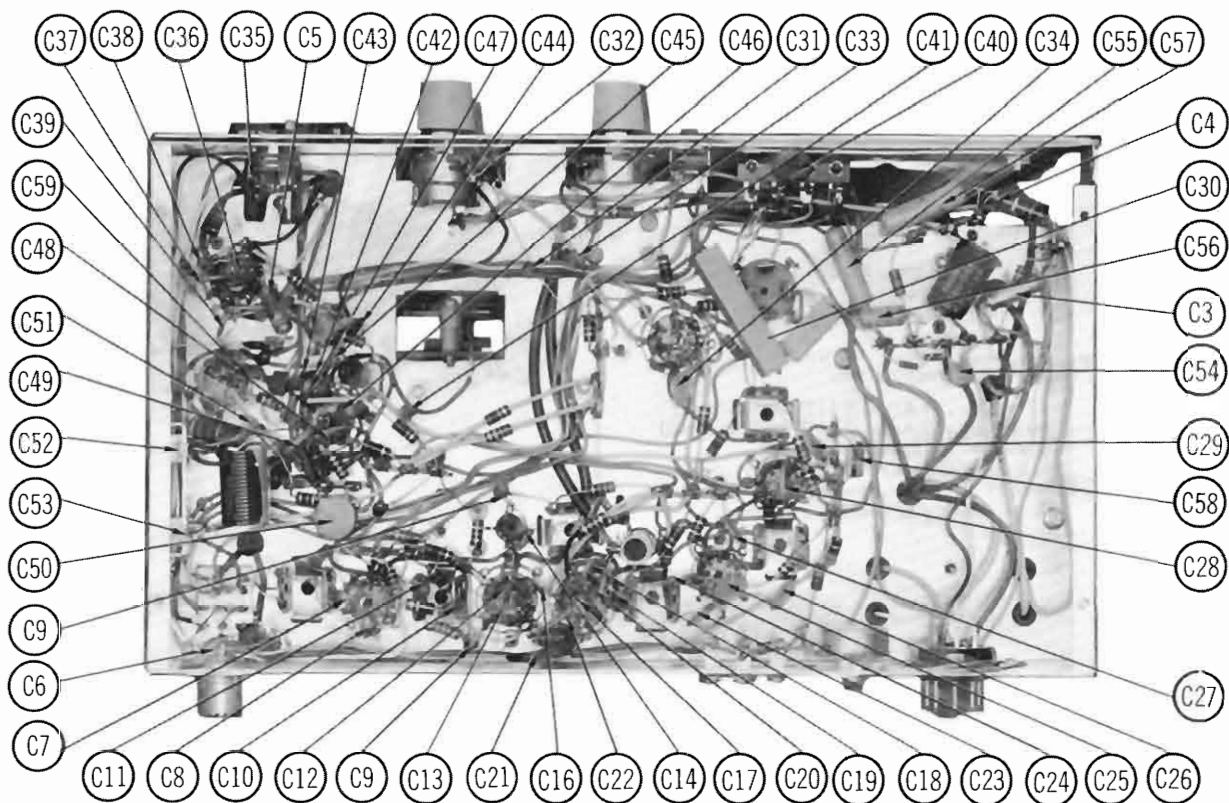
Connect either 50Ω dummy load or the normally used antenna system.

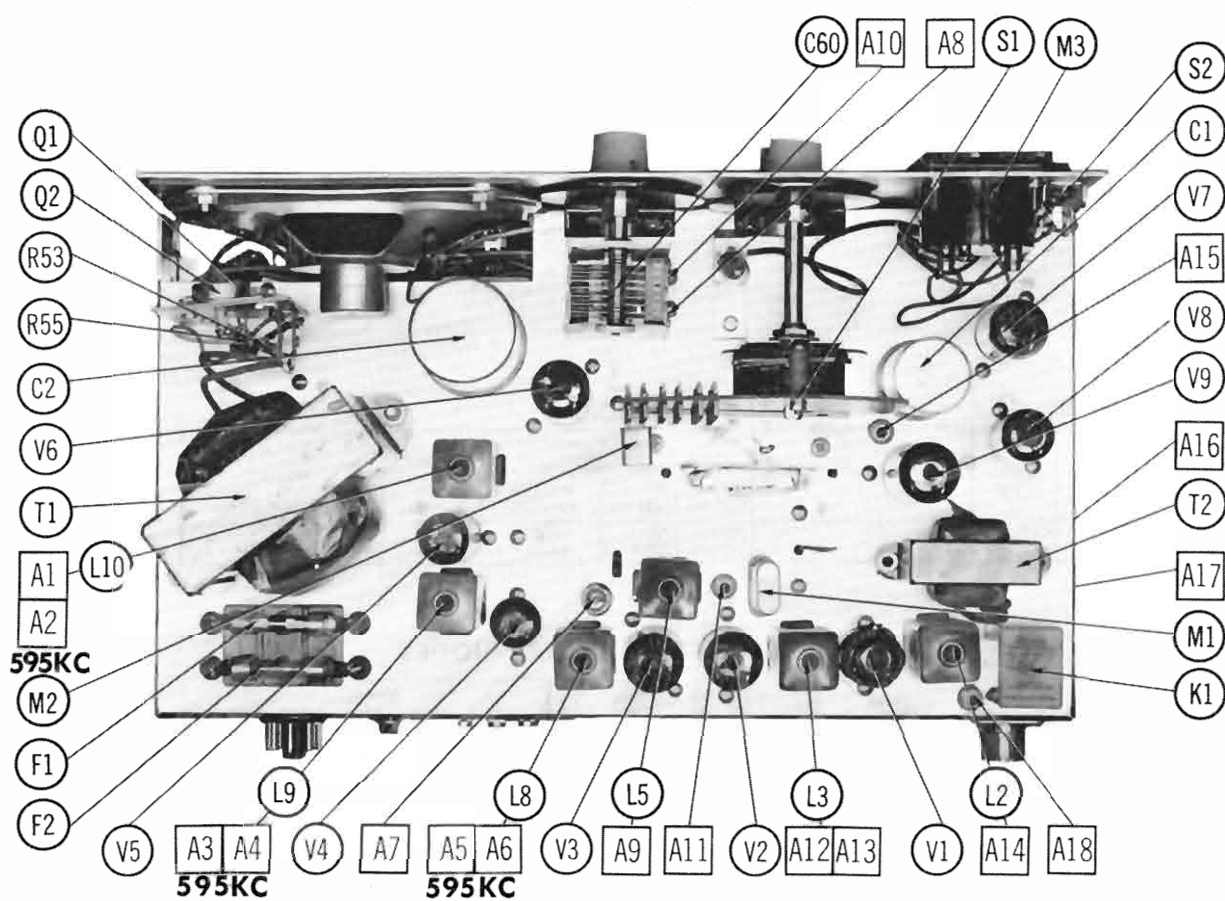
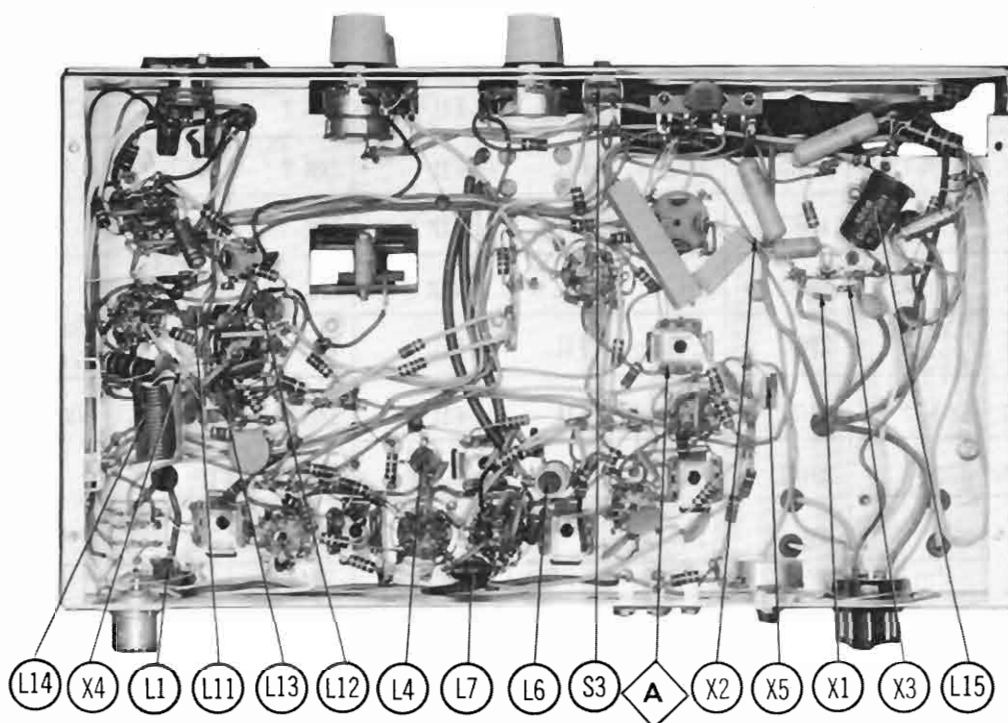
INDICATOR	ADJUST	REMARKS
RF Wattmeter, or Field Strength Meter. DC VTVM.	A15, A16, A17	Key Transmitter. Connect VTVM from Pin 7 (Grid) of V9A (Transmit Osc. to Chassis. Adjust A15 for maximum. Voltage at this point should be greater than -8 volts. Adjust A16, A17 for maximum. Key transmitter several times to ensure oscillator starts properly.
Nearby TV Receiver	A18	Key transmitter. Adjust for MINIMUM Interference.

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

© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RV879

METROTEK MODEL COLT 23





RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BZ6	1.8meg	0Ω	FIL	FIL	9800Ω †	26K †	0Ω		
V2	6EA8	277K †	2.5meg	550K #†	FIL	FIL	40K †	0Ω	0Ω	68K
V3	6EA8	277K †	2.5meg	477K †	FIL	FIL	14K †	0Ω	6.5Ω	33K
V4	6BJ6	2.5meg	180Ω	FIL	FIL	11K †	75K †	0Ω		
V5	6BJ6	1.5meg	180Ω	FIL	FIL	11K †	75K †	0Ω		
V6	6T8A	2.6meg* 1.6meg	270K	2.5meg	FIL	FIL	540K	0Ω	13meg* 12meg	340K †
V7	12AX7	340K †	470K	300K #	FIL	FIL	340K †	270K	300K #	FIL
V8	6AQ5A	470K	470Ω	FIL	FIL	300Ω †	1000Ω †	TP		
V9	6CX8	5Ω	45K	11K †▲	FIL	FIL	10Ω ▲	33K	5300Ω †	308Ω †
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

† MEASURED FROM OUTPUT OF X2 TP TIE POINT

THIS READING WILL VARY DEPENDING UPON THE CONDITION OF THE ELECTROLYTIC IN THE CIRCUIT.

ALL MEASUREMENTS TAKEN WITH SPOTTER SWITCH IN "OFF" POSITION UNLESS OTHERWISE NOTED.

* MEASURED WITH SPOTTER SWITCH IN "ON" POSITION.

▲ MEASURED IN TRANSMIT POSITION.

PARTS LIST AND DESCRIPTION

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

TUBES

• AMPEREX •			• GENERAL ELECTRIC •			• RCA •			• SYLVANIA •		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6BZ6	V6	Det. -AVC-AF Amp.	6T8A	V7	Mic. Preamp.	12AX7	V8	Output - Modulator	6AQ5A
V2	1st Rec. Mixer - 1st Rec. Osc.	6EA8	V8	Transmit Osc. - Final Amp.	6CX8	V9					
V3	2nd Rec. Mixer - 2nd Rec. Osc.	6EA8									
V4	1st IF Amp.	6BJ6									
V5	2nd IF Amp.	6BJ6									

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	
Q1	KT1017	Power Osc.	DS-503	GE-3	TR-01	SK-3009	PNP
Q2	KT1017	Power Osc.	DS-503	GE-3	TR-01	SK-3009	PNP

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	.090A	ED3004		5A6-D or SD600	A500 or VB500 ①	SK-3016 or SK-3017A	F-6 or S-596C-2 ①
X2	.090A	ED3004		5A6-D or SD600	A500 or VB500 ①	SK-3016 or SK-3017A	F-6 or S-596C-2 ①
X3		ED3004		5A6-D or SD600	A500 or 1N1095	SK-3016 or SK-3017A	F-6 or 60C
X4		1N34	1N34AS	1N34			
X5		ED3004		5A6-D or SD600	A500 or 1N1095	SK-3016 or SK-3017A	F-6 or 60C

① Single Unit Replacement for X1 and X2.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	METROTEK PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	40	150						
B	40	150		AFH3-10	CC0090	XC3-38	FP311, 5A	TVL-3440
C	40	150						
C2A	40	350						
B	20	350		AFH4-51	DD0624	XC4-54	FP430, 2	TVL-4021, 3
C	20	350						
D	25	25						
C3	10	64		CRE907A	NLW10-100	MT1-7	TT100X10	TE-1407
C4	10	64		CRE907A	NLW10-100	MT1-7	TT100X10	TE-1407
C5	10	64		CRE907A	NLW10-100	MT1-7	TT100X10	TE-1407

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.
C6	4 ±.25 NPO		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TCC-V39
C7	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C8	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C9	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C10	6.8 NPO 5%		NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D	CCTO-6R8	CNO568	10TCC-V68
C11	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C12	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C13	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C14	20 NPO 5%		NPO-DI 20	DTZ-20	JBS601YP102K	CCTO-200	CNO420	10TCC-Q20
C15	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C16	6.8 NPO 5%		NPO-DI 6.8	DTZ-6R8	CZ601CH6R8D	CCTO-6R8	CNO568	10TCC-V68
C17	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C18	33 N750 5%		N750-DI 33	DTN-33	CZ601UJ330K	CCTN-330	CN7433	10TCU-Q33
C19	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C20	50 NPO 5%		NPO-DI 50	DTZ-50		CCTO-510	CNO450	10TCC-Q50
C21	220 NPO 5%			DTZ-220				10TCC-T22
C22	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C23	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C24	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C25	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C26	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C27	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C28	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C29	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C30	100		NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C31	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C32	220		DI-220	DD-221	JRZ601YP221K	CCD-221	GP322	10TS-T22
C33	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C34	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C35	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C36	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C37	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C38	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C39	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C40	.004		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C41	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C42	15 NPO 5%		NPO-DI 15	DTZ-15	CZ601CG150J	CCTO-150	CNO415	10TCC-Q15
C43	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C44	150 5%		ADM-15-151	CPR-150J	CD15F151J500	DM-15-151	SX315	MS-315
C45	20 NPO 5%		NPO-DI 20	DTZ-20		CCTO-200	CNO420	10TCC-Q20
C46	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX31	MS-31
C47	2.2 ±.25 NPO		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO322	10TCC-V22
C48	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C49	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C50	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C51	270		DI-270	DD-271	CD15F270K500	CCD-271	GP327	5GA-T27
C52	2-25	#1505-0000-020				421		
C53	37-250	#1505-0000-019				426		
C54	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C55	.068 400V							
C56	.022 400V		DBE4S22		DMF4S22	4DP-2-223	PVC6122	4PS-S22
C57	.22 200V		DBE4P22		DMF4P22	4DP-5-224	PVC2047	2PS-P47
C58	.047 200V				DMF2S47	4DP-3-473	PVC2147	2PS-S47
C59	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C60								

† Alternate Value

Metrotek Part Number.

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			METROTEK PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	500K	4703-019	F2-500K, SSK010, KR-1	A47-500K-Z, KSS-3, SWE-12 or (NP-500K-Z, UP-C-400, NWE-12)	Q13-133, 76-1 or (BU1, CF25, SS1, GC)*	UA55A, SK750, US41 or (RU55A, SL38, SK750, US41) or (U48, US26)
R2	Squelch	500K	4703-018	F1-500K, SSK010	A47-500K-S, KSS-3 or (NP-500K-S, UP-C-400)	Q11-133 or (BU1, CF16, SSI, DC1)*	UA55L, SK750 or (RU55L, SL38, SK750) or (U50)
R3	"S" Meter Adjust	150K	4703-021	F1-150K, SRS008	A47-150K-S, FKS-1/2 or NP-150K-S, UP-S-014	B11-328, SK2 or (BU1, CF72, SS2, DC1)*	UA1253L, SK750 or (RU154L, SL38, SK750) or (U315)

* "SNAPTROL"

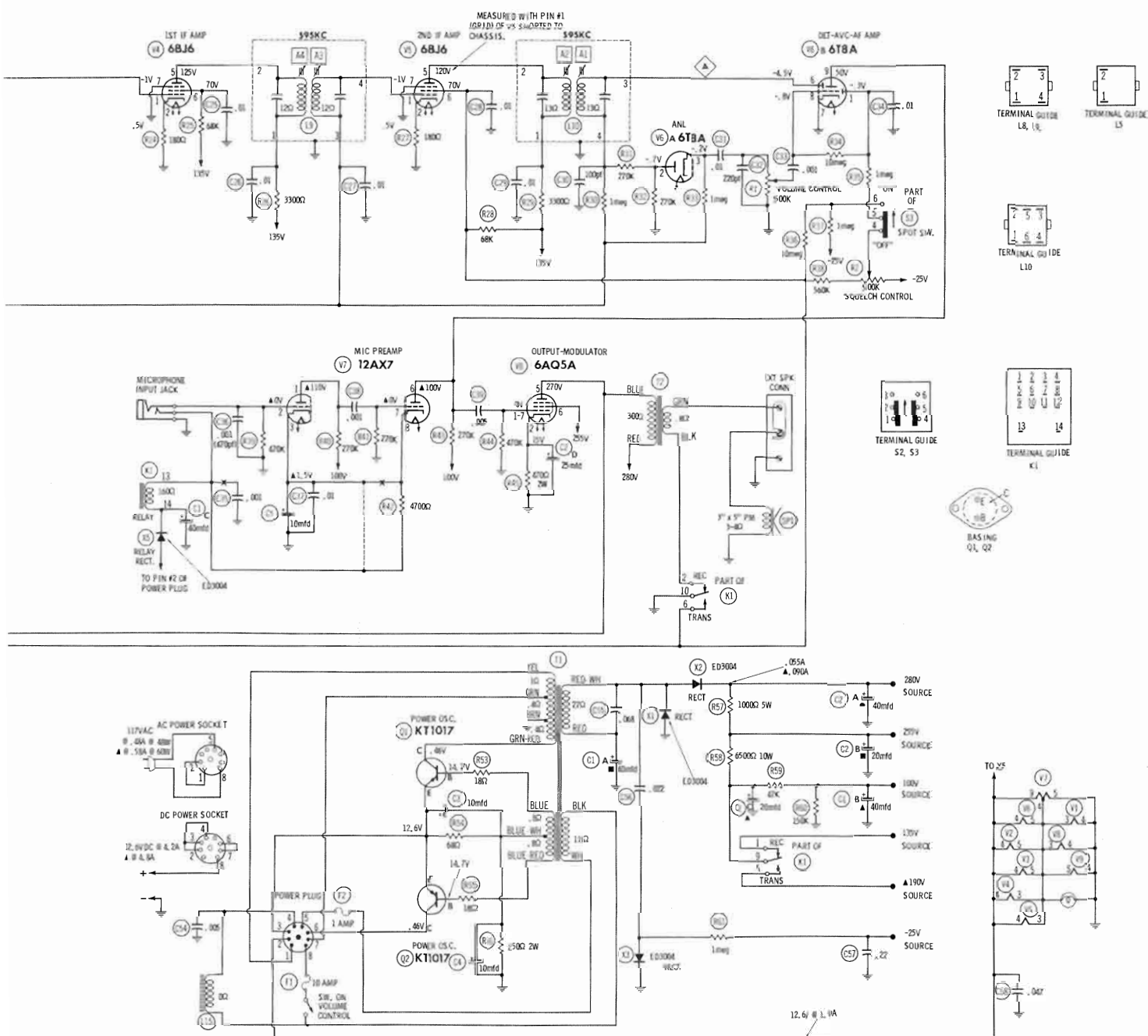
(CONTINUED ON PAGE 98)

METROTEK MODEL COLT 23



1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.

96



METROTEK MODEL COLT 23

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	METROTEK PART No.			IRC PART No.	WORKMAN PART No.	METROTEK PART No.
R57	1000Ω 5W	PW5-1000	5W-SQ-1K		R58	6500Ω 10W	MR4	10W-SQ-6.8K	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		METROTEK PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	TV I Trap				4203	
L2	Antenna Input					
L3	RF Amp. Plate					
L4	Rec. Osc. Plate					
L5	RF Interstage					
L6	2nd Rec. Osc.					
L7	RF Choke (108uh)		19-2025		6112	T-301
L8	1st IF					
L9	2nd IF					
L10	3rd IF					
L11	RF Choke (120uh)		19-3125	TV-195	72F124AP	T-307
L12	Trans. Osc. Plate		19-6816		4202	
L13	RF Choke (22uh)		19-6022		72F225AP	TA311
L14	Final Plate					
L15	Filament Choke (30uh)	1808-0000-001			5240	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI 1	SEC 1	SEC 2	METROTEK PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC # .58A▲	130VAC # .090A DC ▲	12.6V # 1.9A	5604-0000-018					▲ Transmit
	PRI 2 12.6VDC # 2.9A▲								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	METROTEK PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	7200Ω	4Ω	5605-0000-008	A-3026	A-3309	22S25	S-48X	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		METROTEK PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 3-4Ω	1301-0000-002	P3X5X3	35A05	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	3AG	10A-32V①			311010	357002	AGC 10	4408
F2	3AG	1A-250V ②			312001	357002	AGC 1	4408

① DC Version

② AC Version

MISCELLANEOUS

ITEM No.	PART NAME	METROTEK PART No.	NOTES
R1	Relay		4PDT 12 VDC
M1	Rec. Crystal		24.1MC (Channel 11)
M2	Trans. Crystal		13.5425MC (Channel 11)
M3	"S" Meter		
M4	Mic. Assembly		Ceramic
S1	Switch, Selector		23-Position (Printed Circuit Type)
S2	Switch, Signal-Modulation		DP5T
S3	Switch, Spotter		DP5T

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58/U)
Coiled Microphone Cable	Use BELDEN No. 8497 : Conductor - 1 Shielded for Press-to-Talk (Neoprene)
	8498 : Conductor - 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)



PHOTOFACT[®]

TRADE NAME : Lafayette Model HB-444/25A(99-3074WX)
SUPPLIER : For Current Address, See Annual Index
TYPE SET : 12-Tube, 2-Transistor Transceiver
POWER SUPPLY : 110-120 Volts AC, 60 Cycles (or)
 12-Volt Storage Battery
RATING : 62 Watts, .56 Amp. @ 117VAC (Receive)
 75 Watts, .68 Amp. @ 117VAC (Transmit)
 5.1 Amp. @ 12.6VDC (Receive)
 5.9 Amp. @ 12.6VDC (Transmit)
TUNING RANGE: All 23 CB Channels plus 2 H.E.L.P.
 Channels
 Receiver may be continuously tuned



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A16, A18, A19, A20.... GENERAL CEMENT #8606, 8606L, 8869.... WALSCO #2543, 2544, 2588
 A17..... GENERAL CEMENT #8868, 8987, 9089..... WALSCO #2531-X, 2541, 2587

RECEIVER ALIGNMENT

Transmitter Alignment should be performed before attempting to align Receiver. Connect a DC VTVM from point **A** to chassis. Set to indicate Negative Voltage. Set Fine Tuning to Mid-range Position; set Volume Control fully clockwise; set Squelch Control fully counterclockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 7 (Grid) of V4 (2nd Rec. Mixer), low side to chassis. Tune to 455KC (Unmod.).	Any	A1 thru A8	Adjust for maximum.
High side thru .01mfd to Pin 4 (Grid) of V2 (1st Rec. Mixer), low side to chassis. Tune to 6.2MC (Unmod.).	Any	A9, A10	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.115MC (Channel 23) (Unmod.).	13	A20	Set Channel Selector to 23. Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.115MC (Channel 23) (Unmod.) 100uV Input.	13	R5	Adjust for "S9" Meter Reading. With generator and antenna disconnected, "S" Meter should indicate Zero deflection.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

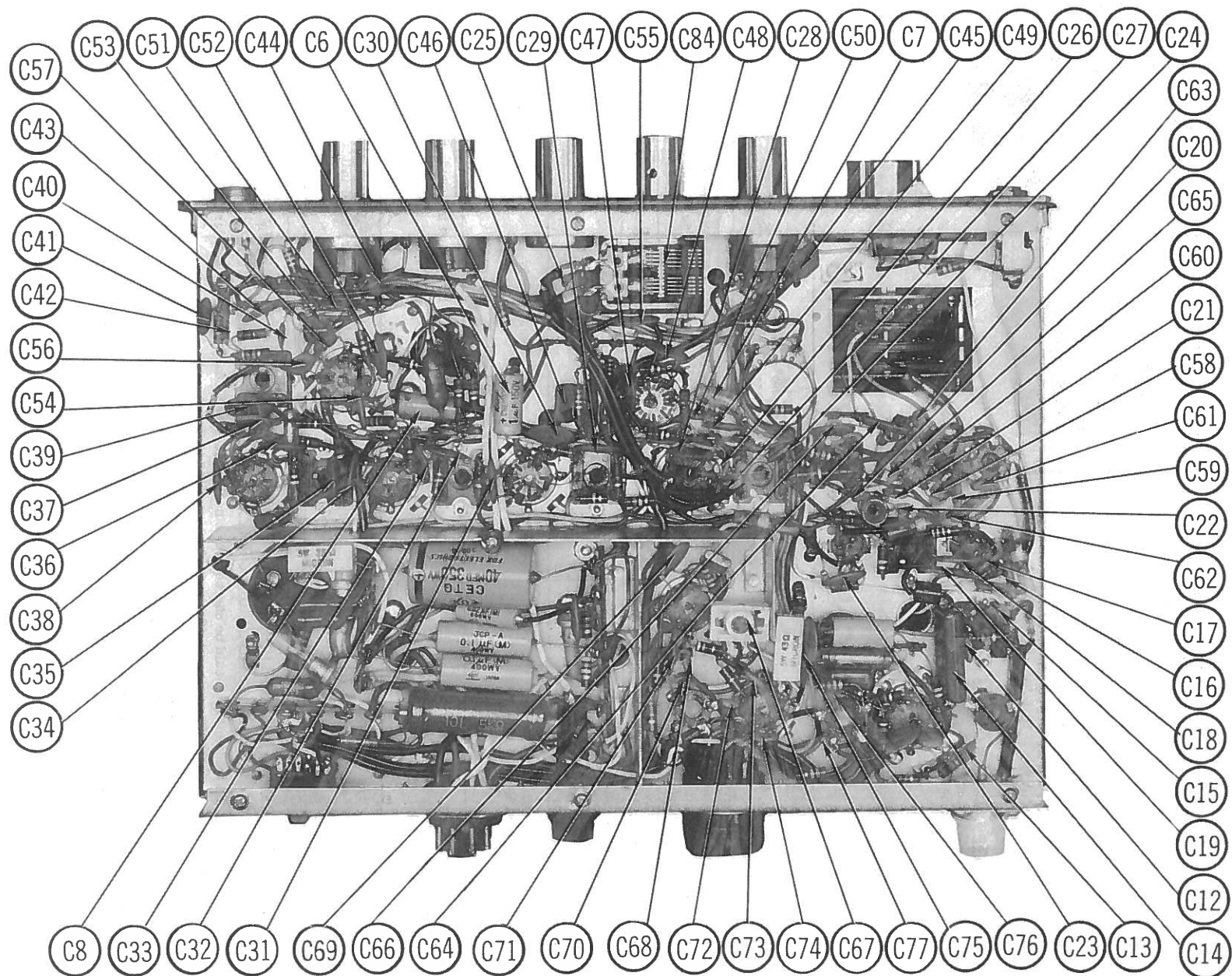
Connect either 50Ω dummy load or the normally used antenna system.

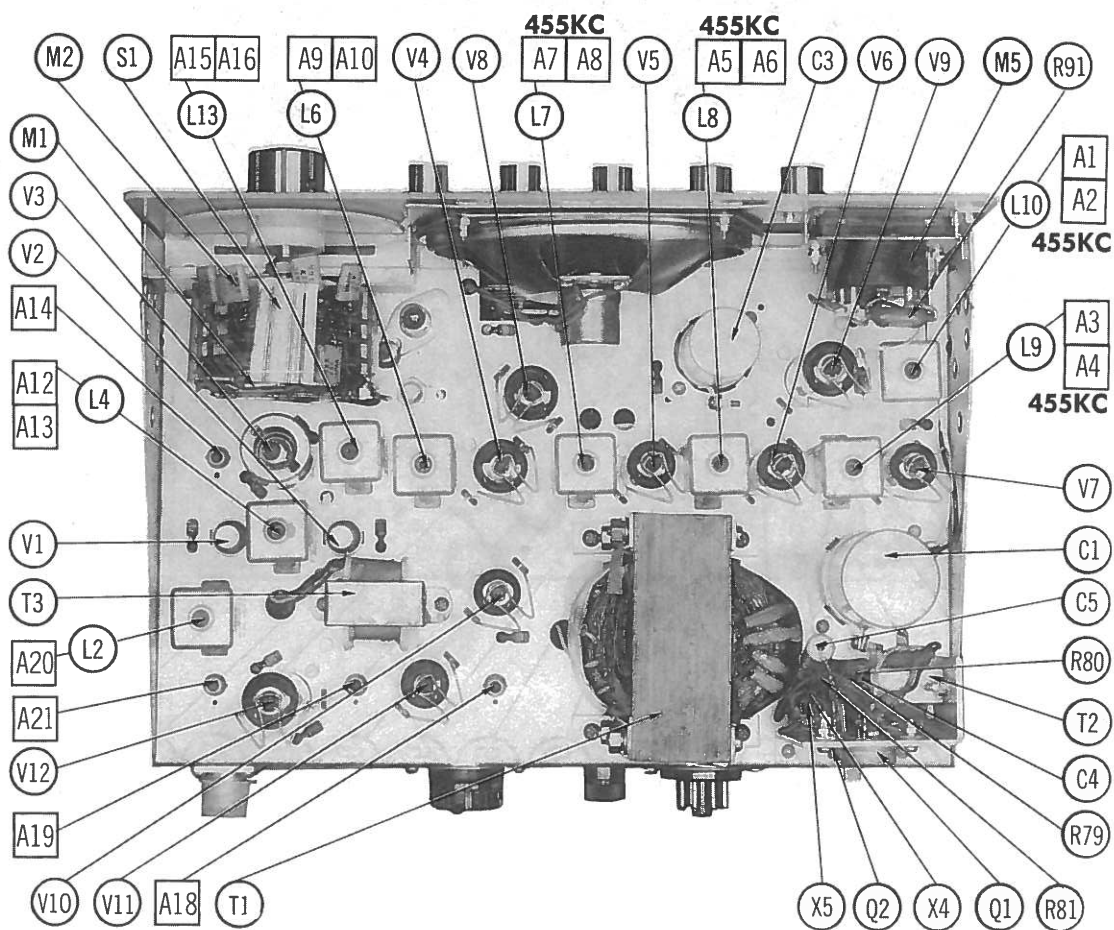
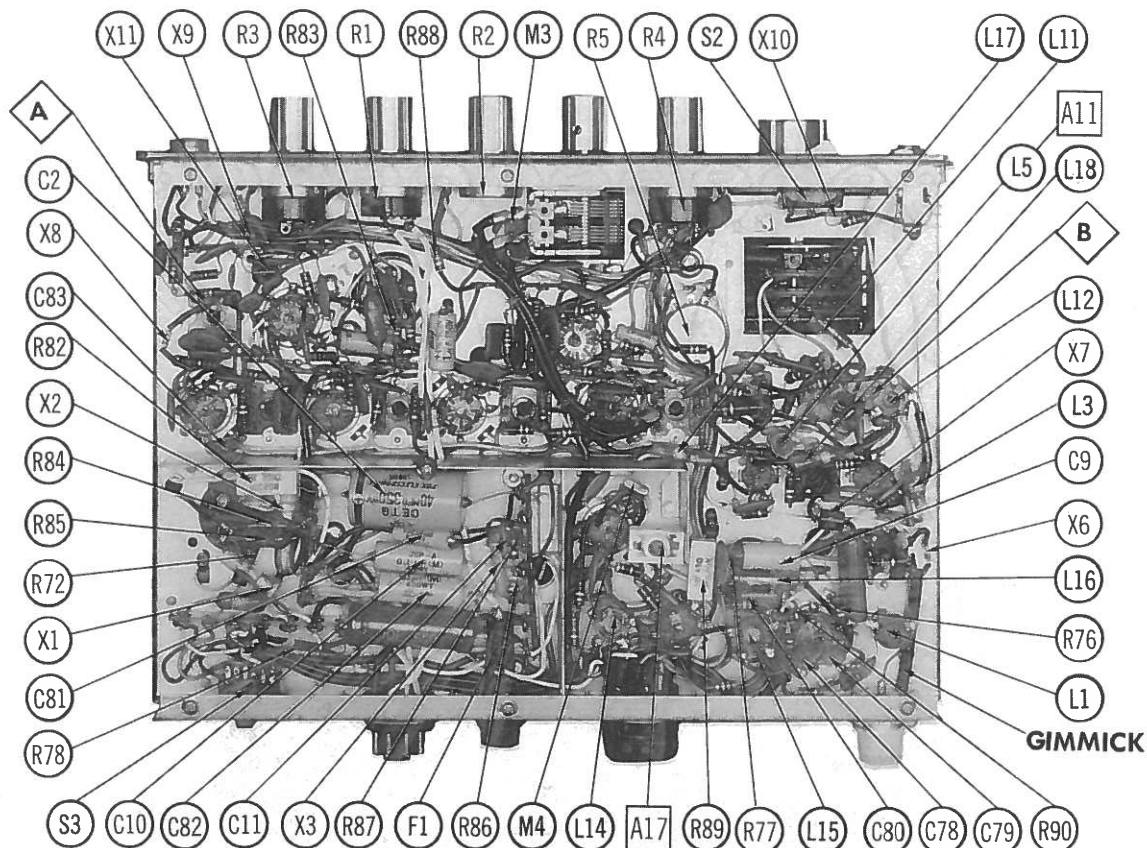
INDICATOR	ADJUST	REMARKS
Connect a DC VTVM from Point B to chassis.	A14	Set Channel Selector to Channel 23. Adjust core clockwise for maximum, then adjust core counterclockwise from peak to about 70% of maximum reading. Check all channels for activity.
Accurate Frequency Meter.	A15, A16	Adjust for 33MC output.
RF Wattmeter or Field Strength Meter.	A17, A18, A19, A20	Key Transmitter. Adjust for maximum. Check all channels for equal output and correct frequency. Readjust A17 and A18 if necessary.
Nearby TV Receiver.	A21	Key Transmitter and adjust for MINIMUM.

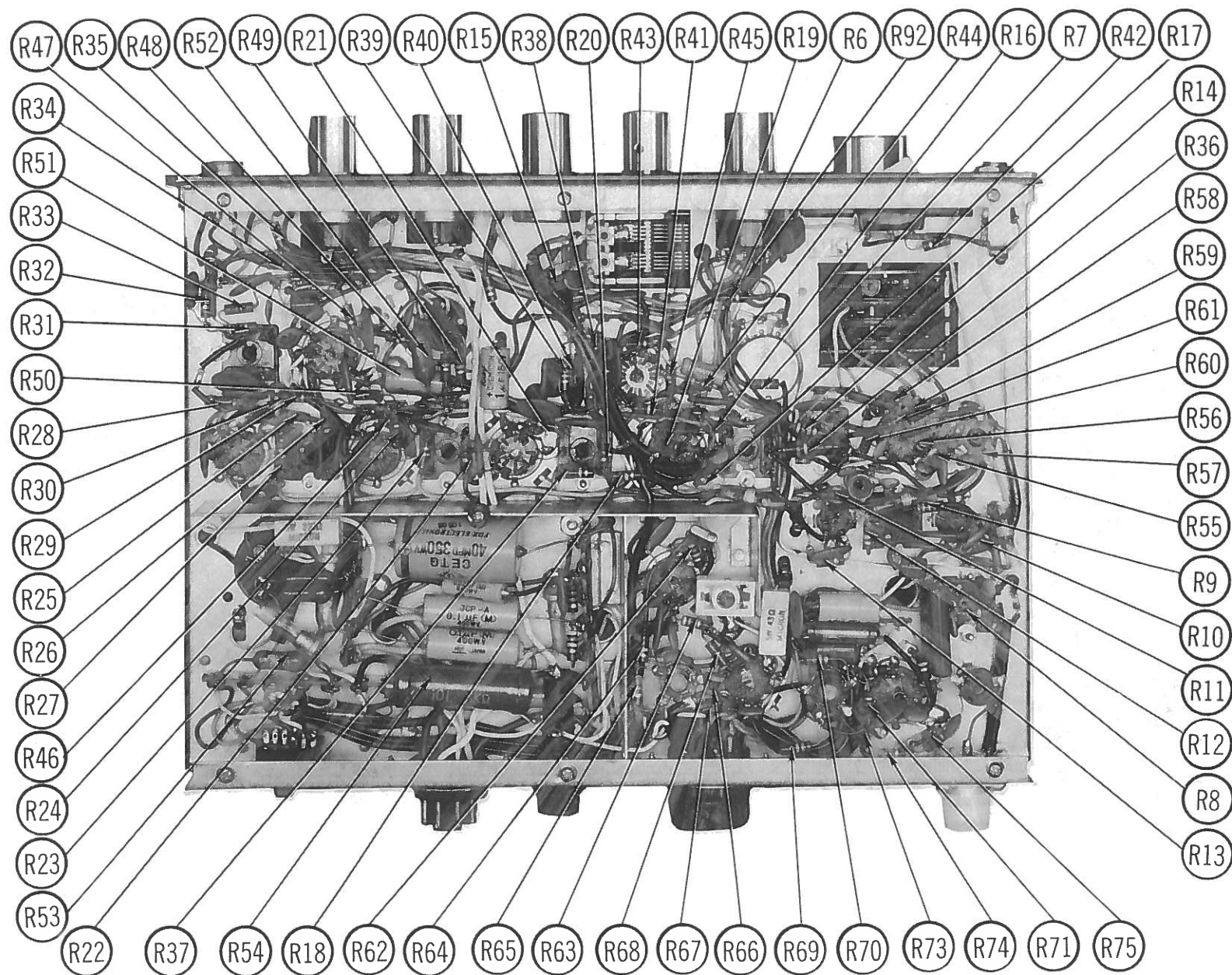
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RY898

LAFAYETTE MODEL HB-444/25A (99-3074WX)







RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12
V1	6CW4	NC	9500Ω†	NC	800K	NC	NC	NC	220Ω	NC	FIL	NC	FIL
V2	6CW4	NC	48K†	NC	280K	NC	NC	NC	1000Ω	NC	FIL	NC	FIL
V3	6AN8	23K†	27K†	0Ω	FIL	FIL	22K ‡	48K †	100K	0Ω	0Ω		
V4	12AT7	151K†	100K	0Ω	FIL	FIL	2500Ω†	.2Ω	1000Ω	FIL			
V5	6BA6	3.7Ω	0Ω	FIL	FIL	2500Ω†	8600Ω†	500Ω					
V6	6BA6	290K	0Ω	FIL	FIL	2500Ω†	45K†	220Ω					
V7	6BA6	290K	0Ω	FIL	FIL	2500Ω†	9200Ω†	220Ω					
V8	12AX7	230K‡	560K	2200Ω	FIL	FIL	230K‡	100K	14K ‡	NC			
V9	6BM8	3.6meg	290Ω	560K	FIL	FIL	431Ω‡	10K ‡	0Ω	252K ‡			
V10	6BE6	47K	47Ω ▲	FIL	FIL	1300Ω ‡	100K ‡	0Ω					
V11	6CB6	94K	220Ω▲	FIL	FIL	1300Ω ‡ 53K *†	27K ‡ 79K*†	0Ω					
V12	6BQ5	NC	16K	0Ω ▲	FIL	FIL	0Ω	1431Ω ‡ 44K*‡	0Ω	10K ‡ 53K * ‡			
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9	Pin 10	Pin 11	Pin 12

‡ MEASURED FROM OUTPUT X2

† MEASURED FROM JUNCTION OF C2, C1A, R84, & R85

▲ TRANSMIT POSITION

* MEASURED IN 100MW POSITION

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type) 8237 Low Loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3 Conductor-1 Shielded for Press-to-Talk (Neoprene) 8498 3 Conductor-1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8861 (3/8 in.)

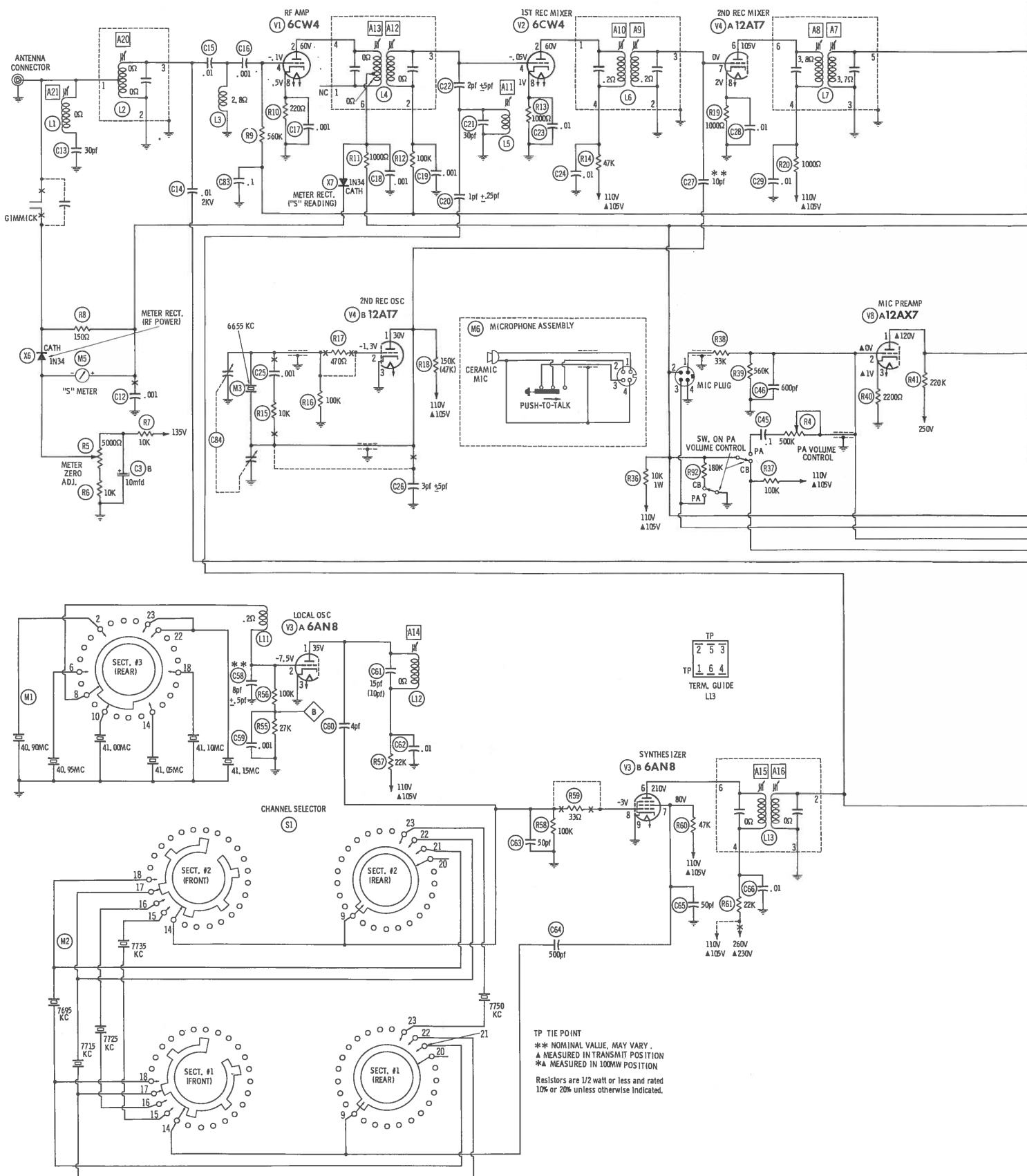
TUBES

♦ AMPEREX ♦			♦ GENERAL ELECTRIC ♦			♦ RCA ♦			♦ SYLVANIA ♦		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6CW4	V7	3rd IF Amp.	6BA6						
V2	1st Rec. Mixer	6CW4	V8	Mic. Preamp. -	12AX7						
V3	Local Osc. -Synthesizer	6AN8		Range Boost Amp.							
V4	2nd Rec. Mixer -	12AT7	V9	AF Amp. -Modulator	6BM8						
	2nd Rec. Osc.		V10	Transmit-Converter	6BE6						
V5	1st IF Amp.	6BA6	V11	Buffer	6CB6						
V6	2nd IF Amp.	6BA6	V12	Trans. Final Amp.	6BQ5						

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	
Q1	2SB471 (2SB338)	Power Osc.	DS-520	GE-3	TR-01	SK-3009	PNP
Q2	2SB471 (2SB338)	Power Osc.	DS-520	GE-3	TR-01	SK-3009	PNP

(CONTINUED ON PAGE 88)



1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
 © Howard W. Sams & Co., Inc. 1967

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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	.1A	1S93/5GJ		5A6-D or SD-600	A500 or VB500 ①	SK-3016 or SK-3017A	F-6 or S-5960-1 ①
X2	.1A	1S93/5GJ		5A6-D or SD-600	A500 or VB500 ①	SK-3016 or SK-3017A	F-6 or S-5960-1 ①
X3		1S93/5GJ		5A6-D or SD-600	A500	SK-3016 or SK-3017A	F-6
X4		5GF					
X5		5GF					
X6		1N34	1N34AS	1N34A			
X7		1N34	1N34AS	1N34A			
X8		1N60	1N60	1N60			
X9		1S180/5GB		5A4-D or SD500	D50 or 1N536	SK-3016 or SK-3017A	F-4 or 40C
X10		1N702		5A6-D or 8D6	D500 or A500	SK-3017A	F-6 or 60C
X11		5GA					

① Single Unit Replacement for X1 & X2.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	Lafayette PART No.	AEROVOX PART No.	CORNELL- DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	40	350		AFH3-44	CCO355	XC3-40	PFP338, 8A	TVL-3787
B	40	350						
C	40	350						
C2	40	350						
C3A	10	350	AFH4-03	PRS1670	BR40-350	QT1-14	TC67	TVA-1611
B	10	350						
C	10	350						
D	10	350						
C4	10	50		CRE757A	NLW10-50	MT1-6	TT50X10	TE-1304
C5	25	50						
C6	1	150						
C7	10	15						
C8	10	25						
C9	1	150						
			AFH4-03	DDO180	XC4-12	FP434	TVL-4760	
			CRE950A	NLW1-150	MT1-2	TT150X1	TE-1500	

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.
C10	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C11	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C12	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C13	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C14	.01 2KV				9D-51010JB	VDM-30-103J	2HV110	30GA-S10
C15	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C16	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C17	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C18	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C19	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C20	1 ±.25pf		NPO-DI 1.0	TCZ-1			CNO510	10TCC-V10
C21	30		DI-30	DD-300	CD10E300J500	CCD-300	GP430	5GA-Q30
C22	2 ±.5pf		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C23	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C24	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C25	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C26	3 ±.5pf		NPO-DI 3.0	DTZ-3R3		CCTO-3R3	CNO533	10TCC-V30
C27	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C28	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C29	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C30	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C31	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C32	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C33	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C34	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C35	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C36	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C37	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C38	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C39	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C40	100		NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C41	500		DI-500	DD-501	JBZ601YP501K	CCD-501	GP350	10TS-T50
C42	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C43	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C44	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C45	.1 100V		TTD-1	DF-104	HOV101ZV104Z	1DP-2-104	TA010	5HK-P10
C46	600			DD-601			GP360	5GA-T60
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	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.
C51	100	(10) †	NPO-DI 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C52	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C53	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C54	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C55	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C56	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C57	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C58	8 ± .5pf		NPO-DI 8.2	DD-102	JBS601YP102K	CCD-102	GP210	10TCC-V82
C59	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C60	4							10TCC-V39
C61	15		SI-1-15	DTZ-15	CZ601CG150J	CCTO-150	CNO415	10TCC-Q15
C62	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C63	50		DI-500	DD-500	JBZ601YP500K	CCD-500	GP450	10TS-Q50
C64	500		DI-500	DD-501	JBZ601YP501K	CCD-501	GP350	10TS-T50
C65	50		DI-500	DD-500	JBZ601YP500K	CCD-500	GP450	10TS-Q50
C66	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C67	30pf max			822-EN		461	ST554-N	
C68	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C69	100		DI-1000	DD-101	JBZ601YP101K	CCD-101	GP310	10TS-T10
C70	8							10TCC-V82
C71	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C72	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C73	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C74	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C75	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C76	20		SI-1-20	D6-200		CCTO-200	CNO420	10TCC-Q20
C77	10		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C78	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C79	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C80	.001 2KV			DD30-102	1DRP20D1JF	VDM-20-102J	2HV210	30GA-D10
C81	.02 600V		DBE6S22		DMF6S22	6DP-2-223	PVC6122	6PS-S22
C82	.1 400V		DBE4P1		DMF4P1	4DP-3-104	PVC601	4PS-P10
C83	.1 100V		TTD-1	DF-104	HOV101ZV104Z	1DP-2-104	TA010	5HK-P10
C84								

† Alternate Value

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			Lafayette PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Sw.	1meg		F2-1meg ①, SSK014, KR-1	A47-1meg-Z ①, KSS-3, SWE-12, or (NP-1meg-Z ①) UP-C-400, NWE-12)	Q13-137 ①, 76-1 or (BU1 ①, CF26, SS1, GC)*	RU16A, SL36, SL3250, US41 or (UA16A ①, SL3500, US41) or (U53 ①, US26)
R2	Squelch	2meg		F1-2meg ①, SSK014	A47-2meg-S ①, KSS-3 or (NP-2meg-S ①, UP-C-400)	Q11-139 ① or (BU1 ①, CF19, SS1, DC1)*	RU26L, SL36, SL3250 or (UA26L ①, SL3500 or U56 ①)
R3	ANL & Switch	1meg		F1-1meg ①, SSK014, KR-1	A47-1meg-S ①, KSS-3, SWE-12 or (NP-1meg-S ①) UP-C-400, NWE-12)	Q11-137 ①, 76-1 or (BU1 ①, CF17, SS1, GC)*	RU16L, SL36, SL3250, US41 or (UA16L ①, SL3500, US41) or (U54 ①, US26)
R4	P.A. Volume & Switch	500K					
R5	"S" Meter Adjust	5000Ω		F1-5000 ①, SRS006	A47-5000-S ①, FKS-1/2, or (NP-5000-S ①, UP-S-014)	B11-114, SK2 ① or (BU1 ①, CF8, SS2, DC1)*	RU53L, SL36, SL3250 or (UA53L ①, SK750) or (U14 ①)

① Enlarge Mtg. Hole
* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	Lafayette PART No.			IRC PART No.	WORKMAN PART No.	Lafayette PART No.
R54	5000Ω, 10W	PW10-5000	10W-SQ-5K		R89	43Ω, 5W	PW5-40	5W-SQ-42.5	
R82	310Ω, 5W	PW5-300	5W-SQ-300						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		Lafayette PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	TVI Trap					
L2	RF Input					
L3	RF Choke (230uh)		19-2027		72F224AP	
L4	RF Plate					
L5	Image Rejection				4200	
L6	Rec. Mixer Plate					
L7	1st IF					
L8	2nd IF					
L9	3rd IF					
L10	4th IF					
L11	RF Choke (1.1uh)		19-1000	BC-561	74F106AP	T805
L12	Local Osc. Plate				4201A	
L13	Synt. Osc. Plate					
L14	Trans.-Conv. Plate				4203	
L15	Buffer Plate				4203	
L16	RF Choke (20uh)			TV-192	6152	T300
L17	Fil. Choke (22uh)				72F225AP	
L18	Fil. Choke (22uh)				72F225AP	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .68A ▲	110VAC @ .1ADC	12.6V @ 2.3A						▲ Transmit
	PRI. 2	SEC. 4	SEC. 5						
	12.6V @ 3.6ADC ▲								

TRANSFORMER (POWER OSC)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	2	1CT						

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	Lafayette PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	5000Ω	8Ω						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		Lafayette PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 6-8Ω		P3X5X8	35A05Z8	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1		2 Amp.			312002		AGC 2	HKP
F2		8 Amp.			312008		AGC 8	HHJ

MISCELLANEOUS

ITEM No.	PART NAME	Lafayette PART No.	NOTES
M1	Transmit & Receive Crystals		40,900KC (Channels 1 thru 4) 40,950KC (Channels 5 thru 8) 41,000KC (Channels 9 thru 12) 41,050KC (Channels 13 thru 16) 41,100KC (Channels 17 thru 20) 41,150KC (Channels 21, 22, 23 Plus A and B)
M2	Transmit & Receive Crystal		7,735KC (Channels 1, 5, 9, 13, 17, 21) 7,725KC (Channels 2, 6, 10, 14, 18, 22) 7,715KC (Channels 3, 7, 11, 15, 19, A) 7,695KC (Channels 4, 8, 12, 16, 20, 23) 7,705KC (Channel B)
M3	2nd Rec. Osc. Crystal		6655KC
M4	Transmit-Converter Crystal		6.2MC
M5	"S" Meter		
M6	Microphone Ass'y.		Ceramic
S1	Switch, Selector		3-Section Wafer
S2	Switch, Range Boost		DPDT
S3	Switch, Power Output		4PDT (5 Watt — 100MW)



PHOTOFACT®

TRADE NAME: Metrotek Model Pacer II
SUPPLIER: For Current Address, See Annual Index
TYPE SET: 7-Tube, 2-Transistor Transceiver
POWER SUPPLY: 110 - 120 Volts AC, 60 Cycles (or)
12-Volt Storage Battery
RATING: 46 Watts, .48 Amp. @ 117VAC (Receive)
54 Watts, .54 Amp. @ 117VAC (Transmit)
4 Amp. @ 12.6VDC (Receive)
4.5 Amp. @ 12.6VDC (Transmit)
TUNING RANGE: Any 11 CB Channels 1 thru 23
Receiver may be continuously tuned



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A4.....GENERAL CEMENT #8727, 8195, 8606..... WALSCO #2515
A5 thru A9.....GENERAL CEMENT #8609, 8868, 9087, 9089..... WALSCO #2528, 2541, 2587

RECEIVER ALIGNMENT

Connect VTVM from Point **A** to ground.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 9 (grid) of V2 (Mixer), low side to chassis. Tune to 455KC (unmod.).	Any	A1, A2, A3, A4	Turn squelch control fully clockwise. Adjust for maximum deflection.
High side thru .01mfd to antenna receptacle. Tune to 27.085, channel 11 (unmod.).	11	A5	Set crystal-tune switch to tune. Set dial reading to channel 11. Turn A5 all the way out (counterclockwise), then turn back and adjust for second maximum peak deflection.
High side thru .01mfd to antenna receptacle. Tune to 27.085, channel 11 (unmod.).	11	A6	Adjust for maximum deflection.

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50Ω dummy load or the normally used antenna system.

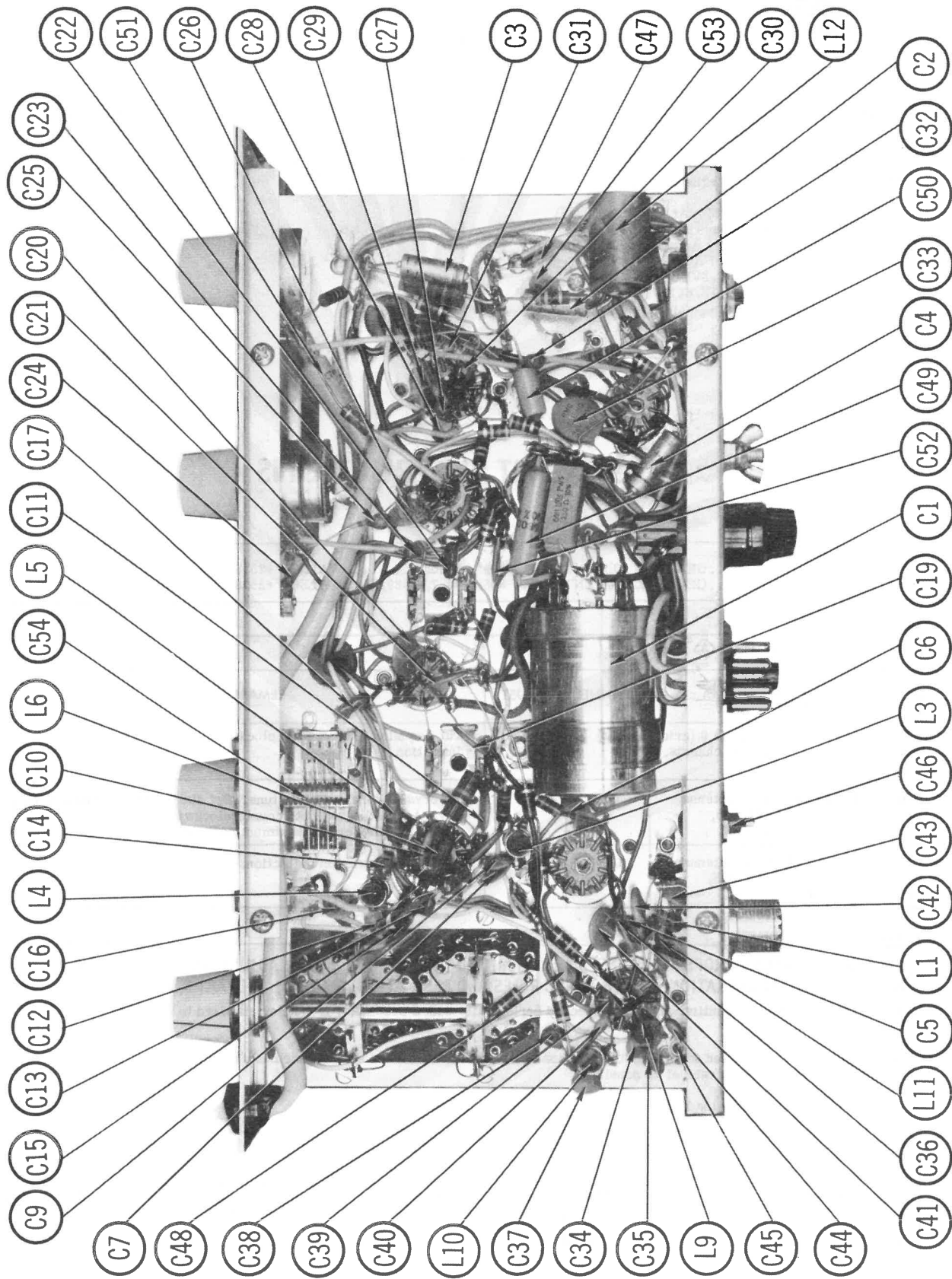
INDICATOR	ADJUST	REMARKS
Accurate Frequency Meter	A7	Key Transmitter. Adjust for maximum deflection. Set A7 slightly below peak to insure proper oscillation. Key Transmitter several times to be sure oscillator starts. Check all channels used.
Field Strength Meter	A8	Adjust for maximum. Repeat adjustment of A8 several times for maximum. Readjustment of A7 for maximum output may be required.

Adjust A9 for MINIMUM Interference on nearby TV Receiver.

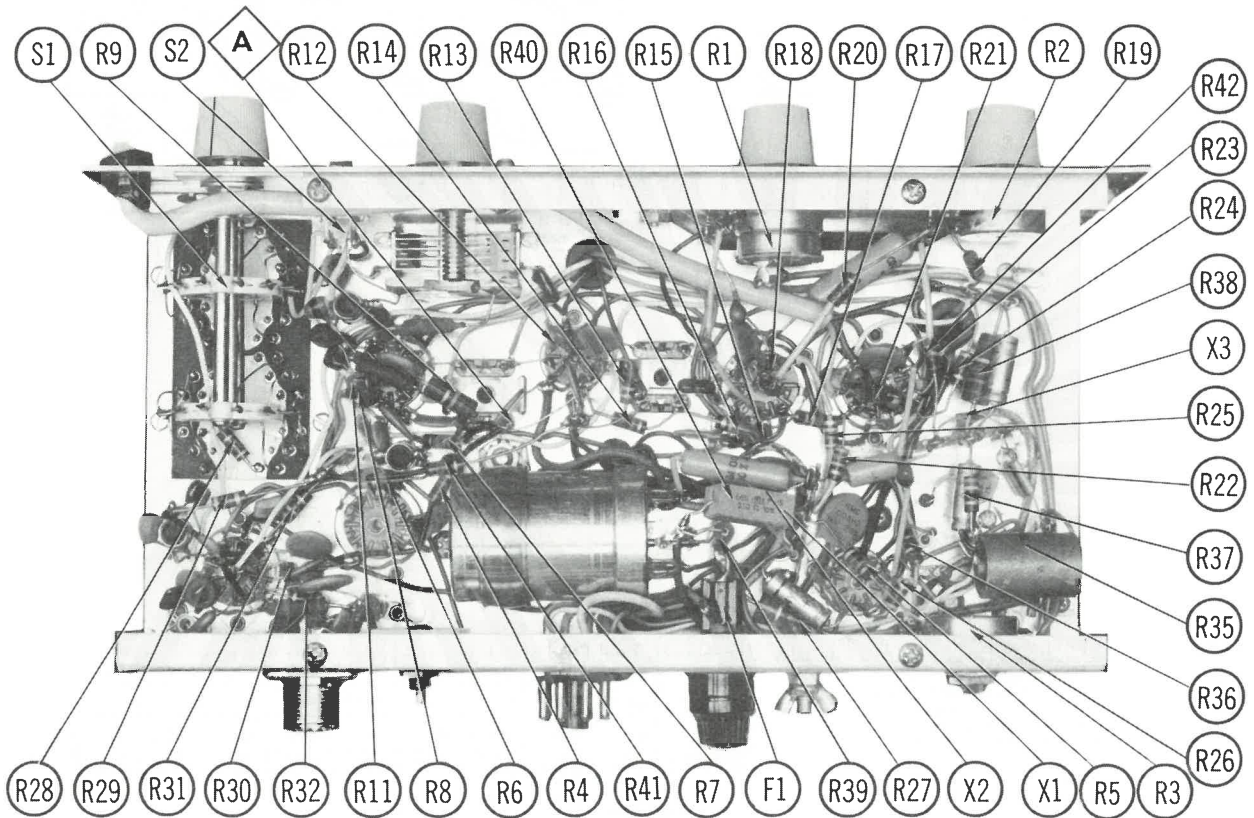
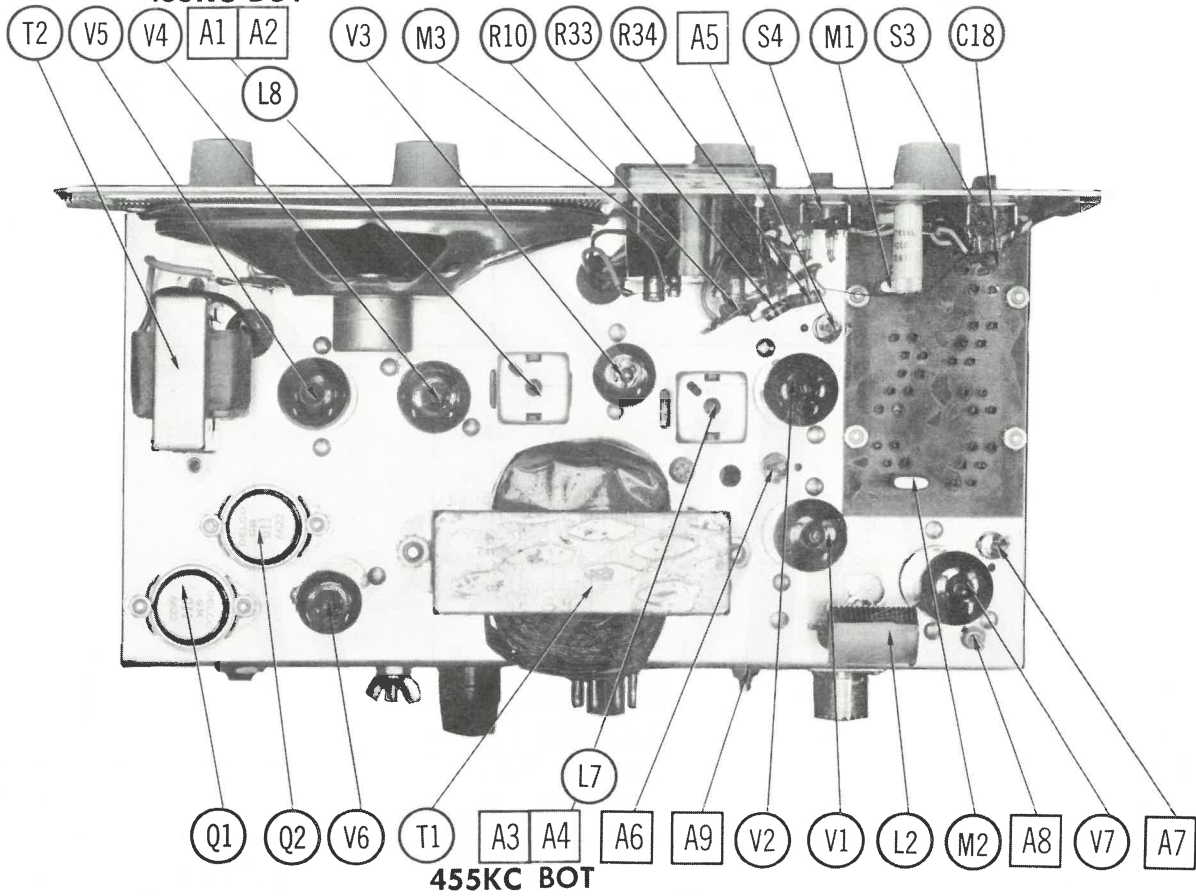
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

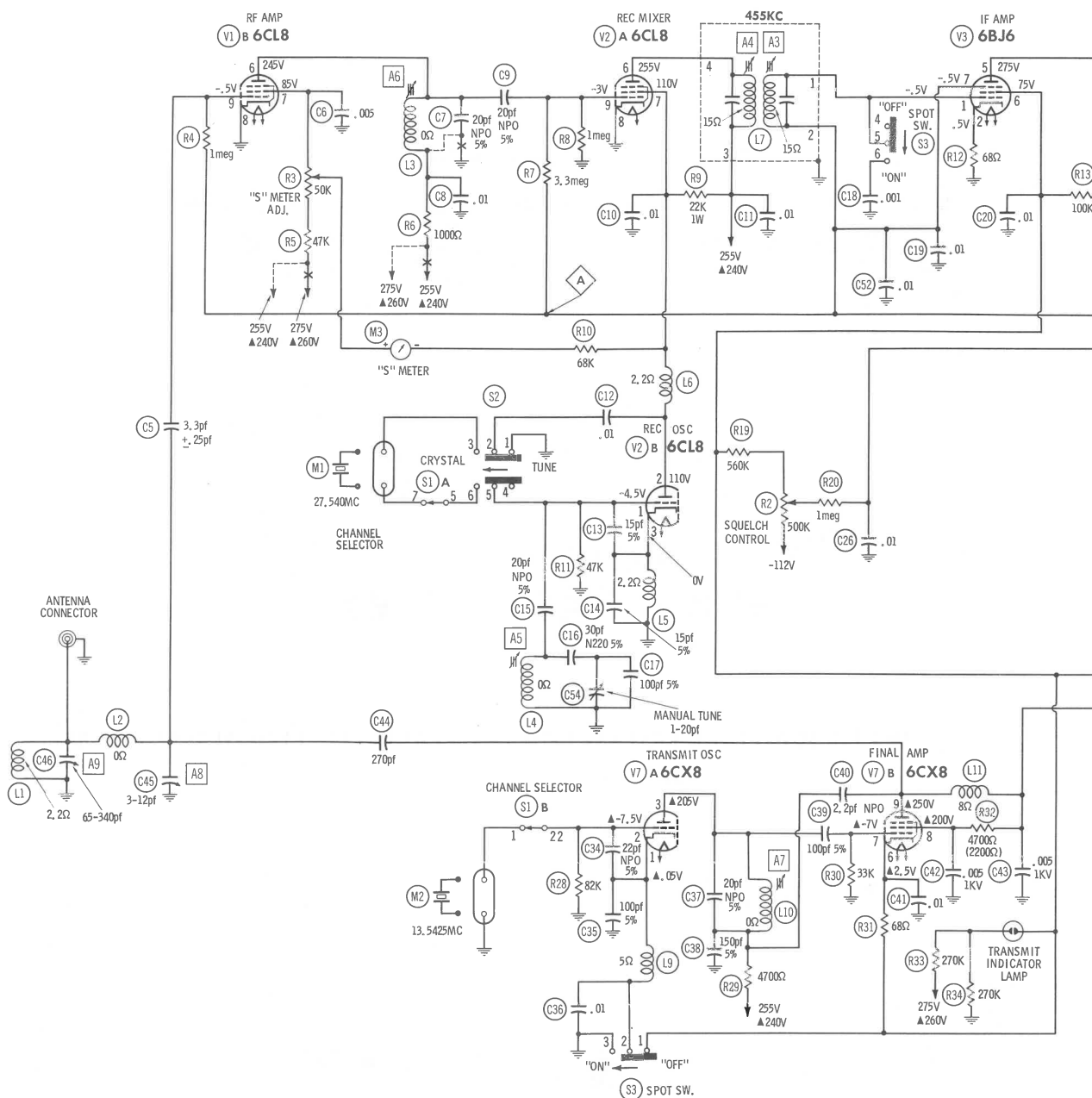
© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RY876

METROTEK MODEL PACER II



455KC BOT





RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6CL8	NC	NC	NC	FIL	FIL	2350Ω †	60K †	0Ω	2.5meg
V2	6CL8	47K	2.2Ω	20K †	FIL	FIL	1350Ω †	20K †	0Ω	850K
V3	6BJ6	1.5meg	68Ω	FIL	FIL	350Ω †	100K †	1.5meg		
V4	6T8	1.5meg	270K	2.2meg	FIL	FIL	500K	0Ω	11meg	470K †
V5	12AX7	470K †	1meg	4700Ω ▲	FIL	FIL	470K †	1meg	0Ω ▲	FIL
V6	6AQ5	470K	470Ω	FIL	FIL	400Ω †	350Ω †	TP		
V7	6CX8	5Ω ▲	82K	6050Ω †	FIL	FIL	68Ω ▲	33K	5100Ω †	408Ω †
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

† MEASURED FROM OUTPUT OF X2 NC NO CONNECTION
 ▲ MEASURED IN TRANSMIT POSITION TP TIE POINT
 ALL MEASUREMENTS TAKEN WITH ANL SWITCH IN ON POSITION

▲ MEASURED IN TRANSMIT POSITION

Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.

⊙ See parts list

1. Voltage measurements taken with vacuum tube voltmeter.
2. All controls set for normal operation, no signal applied.
3. Measured values are from socket pin or terminal to common ground.
4. All terminals viewed from bottom unless otherwise designated.
5. Numbers assigned to terminals may not be found on the unit.
6. Supply voltage maintained at rated value for voltage readings.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

© Howard W. Sams & Co., Inc. 1967

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
	8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
	8237 Low Loss (RG-8/U)
	8240 (Solid) Miniature (RG-58/U)
	8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene)
	8496 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)

TUBES

◆ AMPEREX ◆			◆ GENERAL ELECTRIC ◆			◆ RCA ◆			◆ SYLVANIA ◆		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V1	RF Amp.		6CL8A			V5	1st & 2nd Mic Preamp.		12AX7		
V2	Rec. Mixer - Osc.		6CL8A			V6	Output - Modulator		6AQ5		
V3	IF Amp.		6BJ6			V7	Trans. Osc. -Final Output		6CX8		
V4	Det. -AVC-Noise Limiter - AF Amp.		6T8								

TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA				NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	
Q1	DTG110	Power Osc.	DS-503	GE-3	TR-01	SK-3009	PNP
Q2	DTG110	Power Osc.	DS-503	GE-3	TR-01	SK-3009	PNP

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	.093A	ED3004		5A8-D or SD600	A500 or VB500 ①	SK-3016 or SK-3017	F-6 or 60C
X2	.093A	ED3004		5A8-D or SD600	A500 or VB500 ①	SK-3016 or SK-3017	F-6 or 60C
X3		ED3004		5A8-D or SD600	A500 or 1N1095	SK-3016 or SK-3017	F-6 or 60C

① Single Unit Replacement for X1 and X2.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	METROTEK PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	▲40	350						
B	▲20	350						
C	■10	350		AFH4-04-25	CCO330 & BR40-150		FP420, 36A	TVL-4635, 12
D	-40	150						
C2	10	64		CRE907A	NLW10-100	MT1-7	TT100X10	TE -1407
C3	10	64		CRE907A	NLW10-100	MT1-7	TT100X10	TE -1407
C4	10	64		CRE907A	NLW10-100	MT1-7	TT100X10	TE -1407

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.
C5	3.3 ±.25pf		NPO-DI 3.0	DTZ-3R3	JBT601YP502K	CCTO-3R3	CNO533	10TCC-V30
C6	.005		DI-5000	DD-502	CY601CG220K	CCD-502	GP250	10TS-D50
C7	20 NPO 5%		NPO-DI 22	DTZ-22	BYX601ZU103M	CCTO-220	CNO422	10TCC-Q22
C8	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C9	20 NPO 5%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C10	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C11	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C12	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C13	15 5%		ADM-15-150		CD10C150J500	DM-15-150	SX415	MS-415
C14	15 5%		ADM-15-150		CD10C150J500	DM-15-150	SX415	MS-415
C15	20 NPO 5%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C16	30 N220 5%					*	*	10TCN-T22
C17	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C18	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C19	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C20	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C21	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C22	100 10%		ADM-15-101	CPR-100J	CD10E10K500	DM-15-101	SX310	MS-31
C23	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C24	.220		DI-220	DD-221	JBT601YP221K	CCD-221	GP322	10TS-T22
C25	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C26	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C27	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C28	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C29	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C30	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C31	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C32	.001			DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C33	.005	(.005) †	DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C34	22 NPO 5%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C35	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C36	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C37	20 NPO 5%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C38	150 5%		ADM-15-151	CPR-150J	CD15F151J500	DM-15-151	SX315	MS-315
C39	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101	SX310	MS-31
C40	2.2 NPO		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C41	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C42	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C43	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C44	.270		DI-270	DD-271	RR05CW271K	CCD-271	GP327	5GA-T27
C45	3-12			829-10				
C46	65-340					303-M		
C47	.047		DBE4S47		DMF4S47	4DP-3-473	PVC4147	4PS-S47
C48	.047		DBE4S47		DMF4S47	4DP-3-473	PVC4147	4PS-S47
C49	.068 400V		VBC-34					
C50	.022 400V		DBE4S22		DMF4S22	4DP-2-223	PVC6122	4PS-S22
C51	.22 200V		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C52	.01			DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C53	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C54	1-20							

† Alternate Value.

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

CONTROLS

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

ITEM No.	USE	RESISTANCE	REPLACEMENT DATA				
			METROTEK PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	500K	4703-019	F2-500K, SSK010, KR-1	A47-500K-Z, KSS-3, SWE-12 or (NP-500K-Z, UP-C-400, NWE-12)	Q13-133, 76-1, or (BUI, CF25, SS1, GC)*	UA55A, SK750, US41 or (RU55A, SL38, SK750, US41 or (U48, US26)
R2	Squelch	500K	4703-018	F1-500K, SSK010	A47-500K-S, KSS-3 or (NP-500K-S, UP-C-400)	Q11-133 or (BUI, CF16, SS1, DC1)*	UA55L, SK750, or (RU55L, SL38, SK750) or (U50)
R3	"S" Meter Adjust	50K	4703-020	F1-50K, SNK010	A47-50K-S, FKS1/2 or (NP-50K-S, NML-A-300)	B11-123, SK-6 or (BUI, CF12, SS6) *	UA54L, SN1000, or (RU54L, SL38, SN1000) or (U35)

* "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	METROTEK PART No.			IRC PART No.	WORKMAN PART No.	METROTEK PART No.
R40	250Ω 5W	PW5-250	5W-SQ-250						

METROTEK MODEL PACER II

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		METROTEK PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (10uh)		19-1005	BC-566	4612	T860
L2	Final Plate (17 turns)					
L3	RF Plate		19-6816		4202	
L4	Rec. Osc.		19-6816		4202	
L5	RF Choke (10uh)		19-1005	BC-566	4612	T860
L6	RF Choke (10uh)		19-1005	BC-566	4612	T860
L7	1st IF		19-6844	BC-352	12-C30	T607
L8	2nd IF		19-6846	BC-353	12-C31	T608
L9	RF Choke (120uh)		19-3125	TV-195	72F124AP	T307
L10	Trans. Osc. Plate		19-6816		4202	
L11	RF Choke (22uh)		19-6022		72F225AP	TA311
L12	Filament Choke (30uh)				5240	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
				METROTEK PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI. 1	SEC. 1	SEC. 2						
T1	117VAC @ .54A ▲	110VAC @ .093A DC ▲	12.6VAC @ 1.6A	5604-0000-016					▲ Transmit
	PRI. 2	SEC. 4	SEC. 5						
	12.6VDC @ 2.9A ▲								

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			METROTEK PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T2	24K CT	4Ω	5605-0000-002-2					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		METROTEK PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 3-4Ω	1301-0000-002	P3X5X3	35A05	

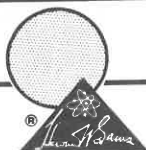
FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	AGC 1	1 Amp, 250V			312001	342012	AGC 1	HKP
	3AG	10 Amp 32V ①			311010	342012	AGC 10	HKP

① DC Version

MISCELLANEOUS

ITEM No.	PART NAME	METROTEK PART No.	NOTES
M1	Receive Crystal		27.540MC (Channel 11)
M2	Transmit Crystal		13.5425MC (Channel 11)
M3	"S" Meter		
M4	Mic. Assembly		Ceramic
S1	Switch, Selector		Troxex
S2	Switch, Crystal-Tune		DPDT
S3	Switch, Spot		DPDT
S4	Switch, ANL		DPDT



PHOTOFACT[®] with

CIRCUITRACE[®]

TRADE NAME: Regency Model Range Gain II

SUPPLIER: For Current Address, See Annual Index

TYPE SET: 12-Tube Transceiver

POWER SUPPLY: 110 - 120 Volts AC, 60 Cycles (or)
12 Volt Storage Battery

RATING: 80 Watts, .74 Amp. @ 117VAC
83 Watts, .77 Amp. @ 117VAC

TUNING RANGE: All 23 CB Channels



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A6, A7, A9, A10....	GENERAL CEMENT #5097, 8727.....	WALSCO #2522
A11 thru A22.....	GENERAL CEMENT #8606, 8606L, 8869..	WALSCO #2543, 2544, 2588
A24, A25.....	GENERAL CEMENT #8606, 8606L.....	WALSCO #2520, 2522

RECEIVER ALIGNMENT

Connect DC VTVM between point Δ and chassis. Set to indicate positive voltage. Turn volume control to midrange position; squelch control fully clockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Pin 2 (Grid) V3 (2nd Mixer). Low side to chassis. Tune to 262KC (Unmod.)	Any	A1 thru A6	Adjust for maximum deflection.
High side thru .01mfd to Pin 7 (Grid) V1B (1st Mixer). Low side to Chassis. Tune to 7.5MC (Unmod)	Any	A7 thru A10	"
High side thru .01mfd to antenna receptacle. Low side to chassis. Tune to 27.085MC (Channel 11) (Unmod.).	11	A11 thru A17	"

TRANSMITTER ALIGNMENT

ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

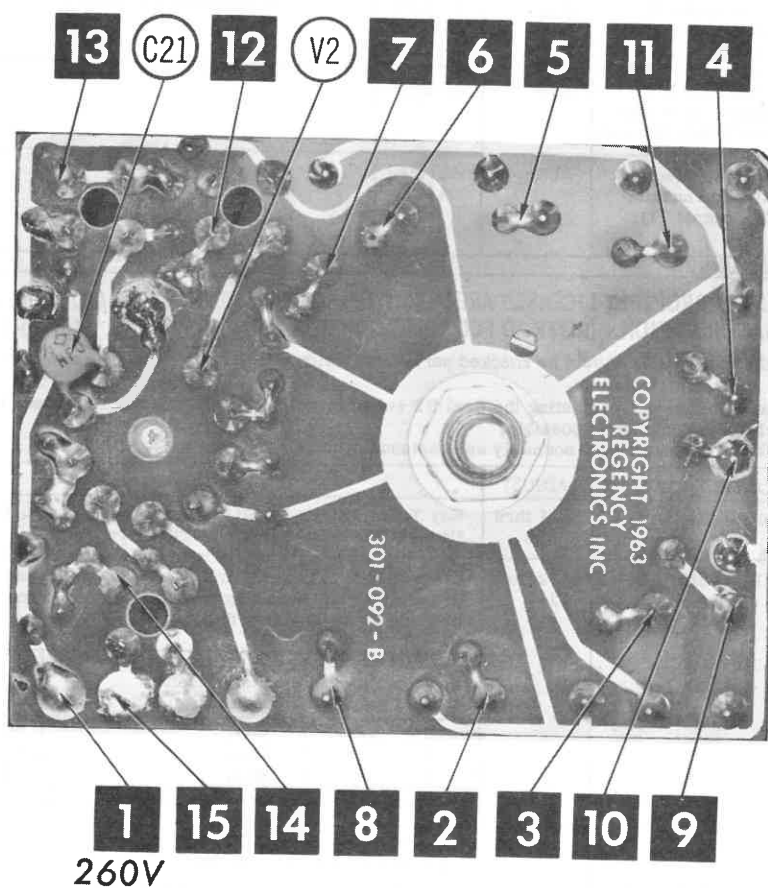
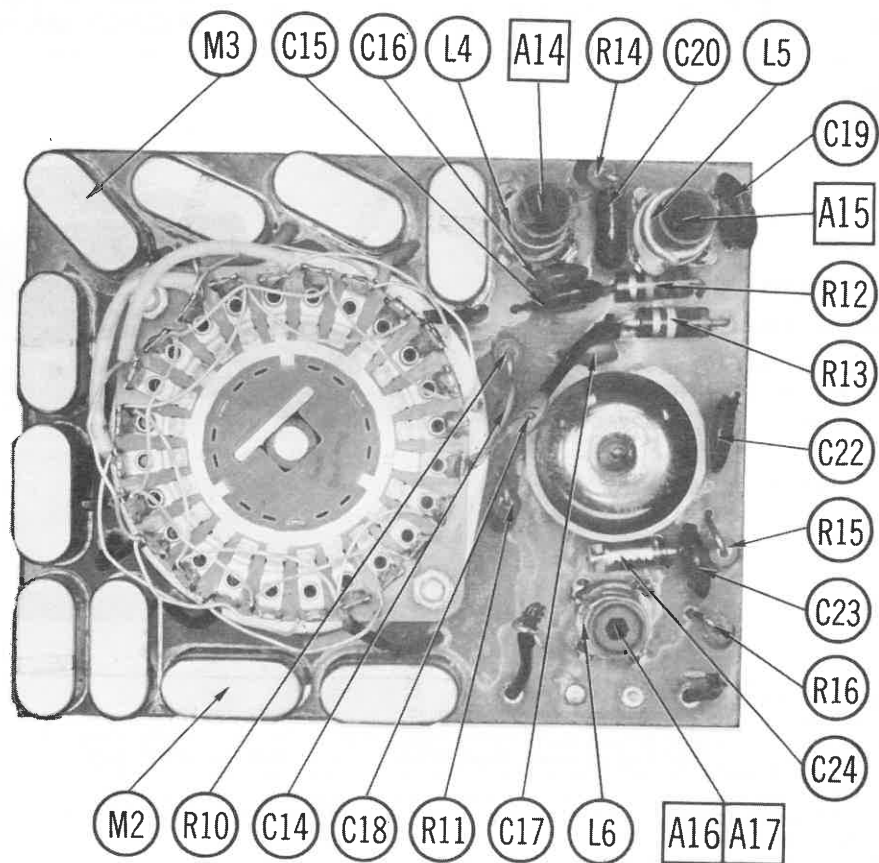
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

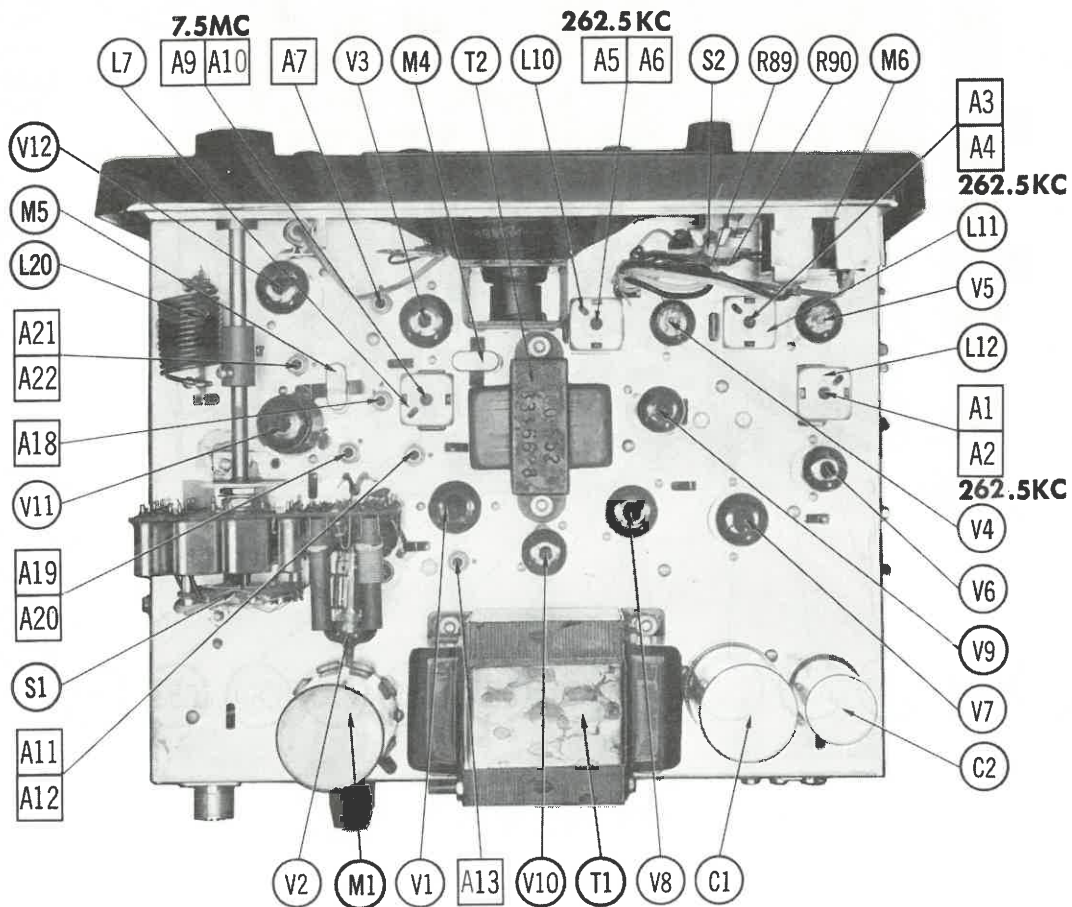
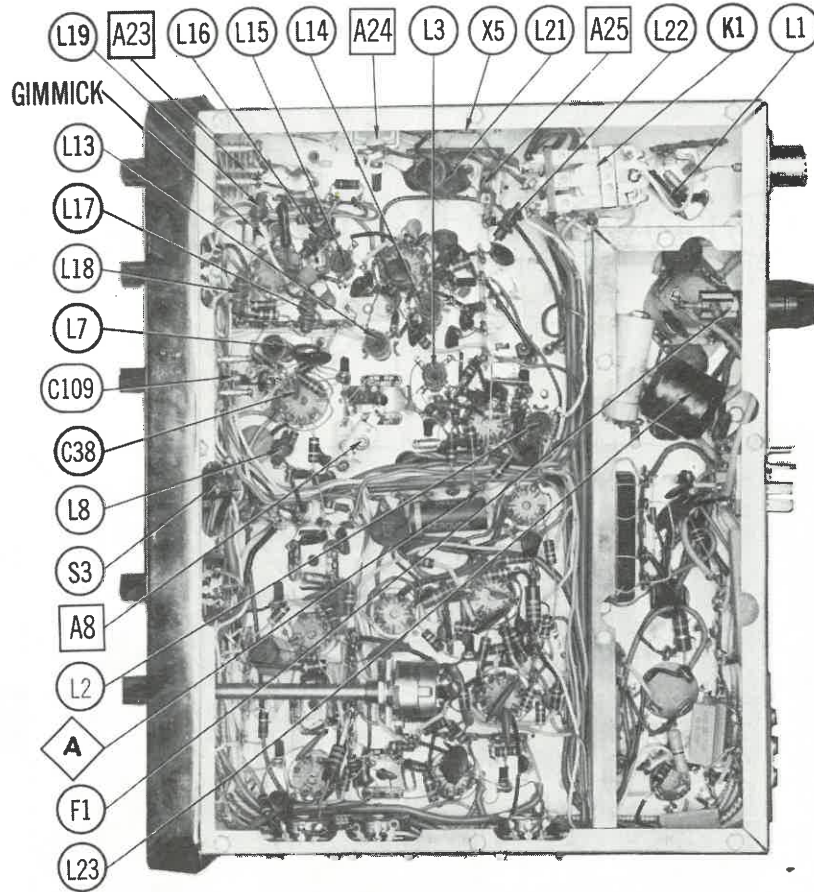
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

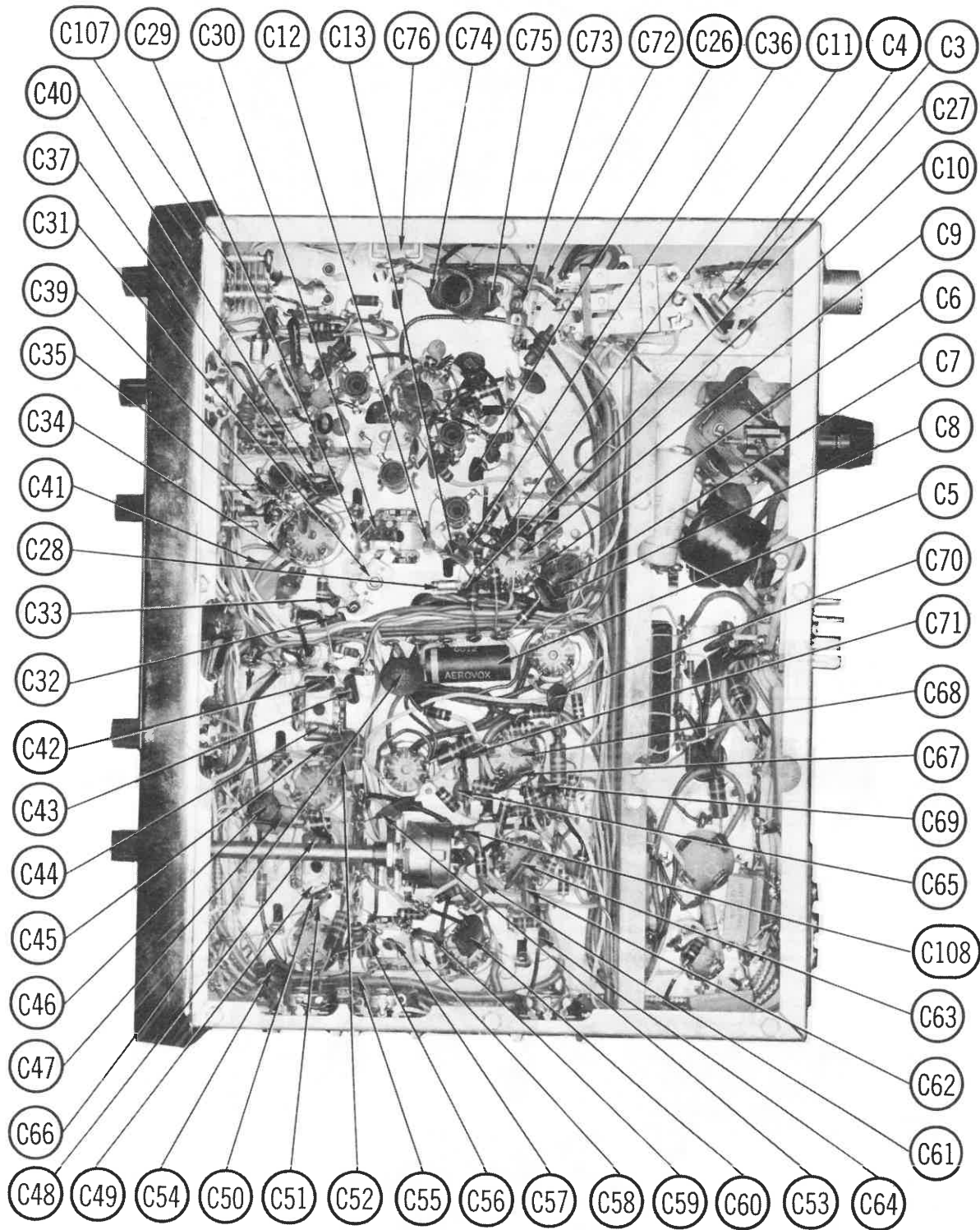
Connect either 50Ω dummy load or the normally used antenna system.

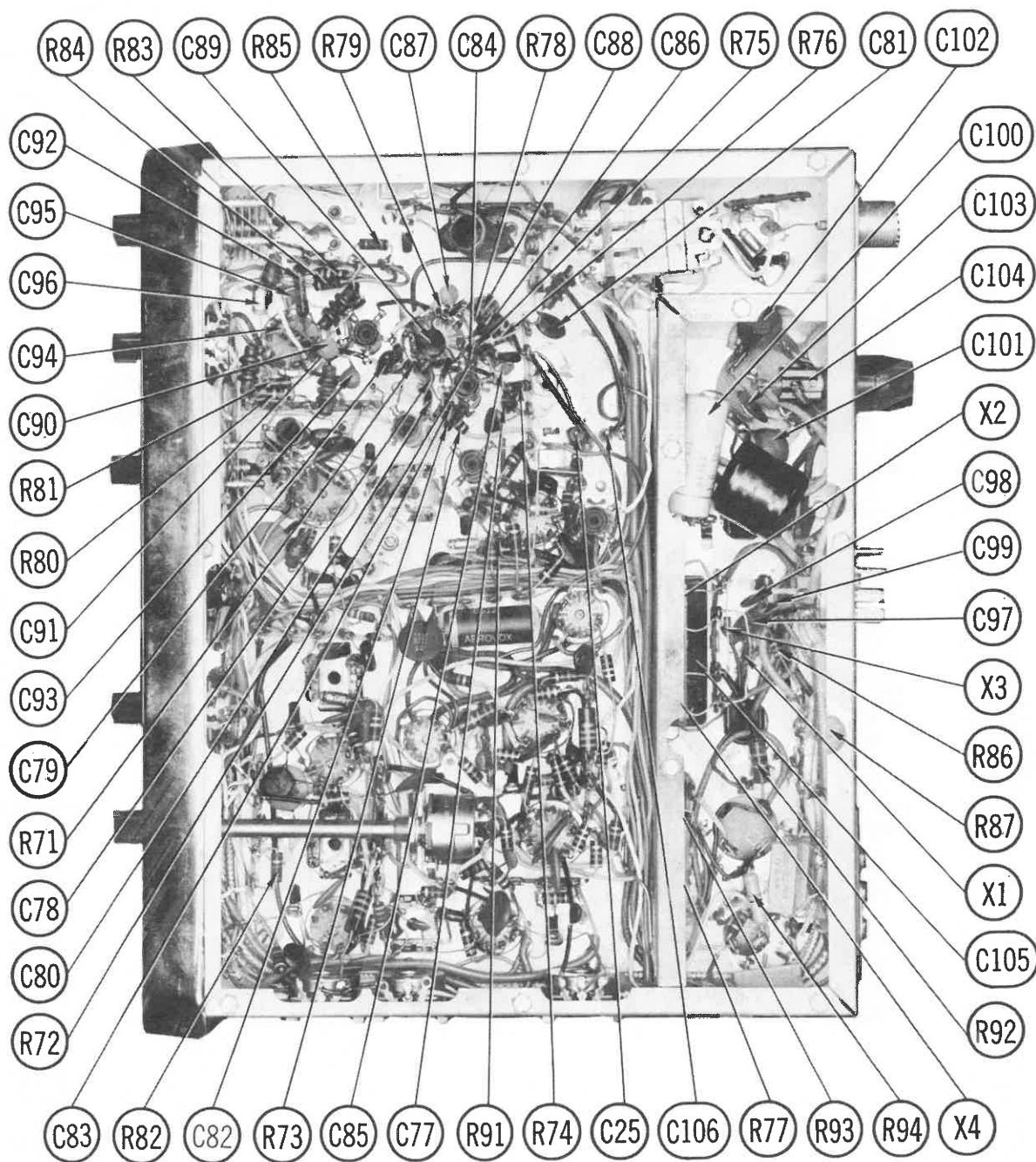
INDICATOR	ADJUST	REMARKS		
Accurate Frequency Meter	A14 thru A18	Key Transmitter. Adjust for correct frequency. Key Transmitter several times to ensure oscillator starting properly.		
RF Wattmeter or Field Strength Meter, and meter on front panel.	A19 thru A24	Correct R. F. Transmitter adjustment will be accomplished by keying Transmitter and adjusting for the following Front Panel, RF Wattmeter or Field Strength Meter Readings:		
		S2 (SVC Switch) Position	RF Wattmeter or Field Strength Reading	Front Panel Meter Reading
		S V C	Max. Max. Max.	Max. 170-190 (Bottom Scale X10) 15-18ma (Max.)
		Repeat above steps until optimum performance is accomplished.		
Front Panel Meter	R5	Disconnect Antenna. Short L20 directly to chassis. Key Transmitter and adjust for zero on Panel meter.		
Front Panel Meter	R4	Disconnect Antenna. Adjust for zero on Panel meter.		

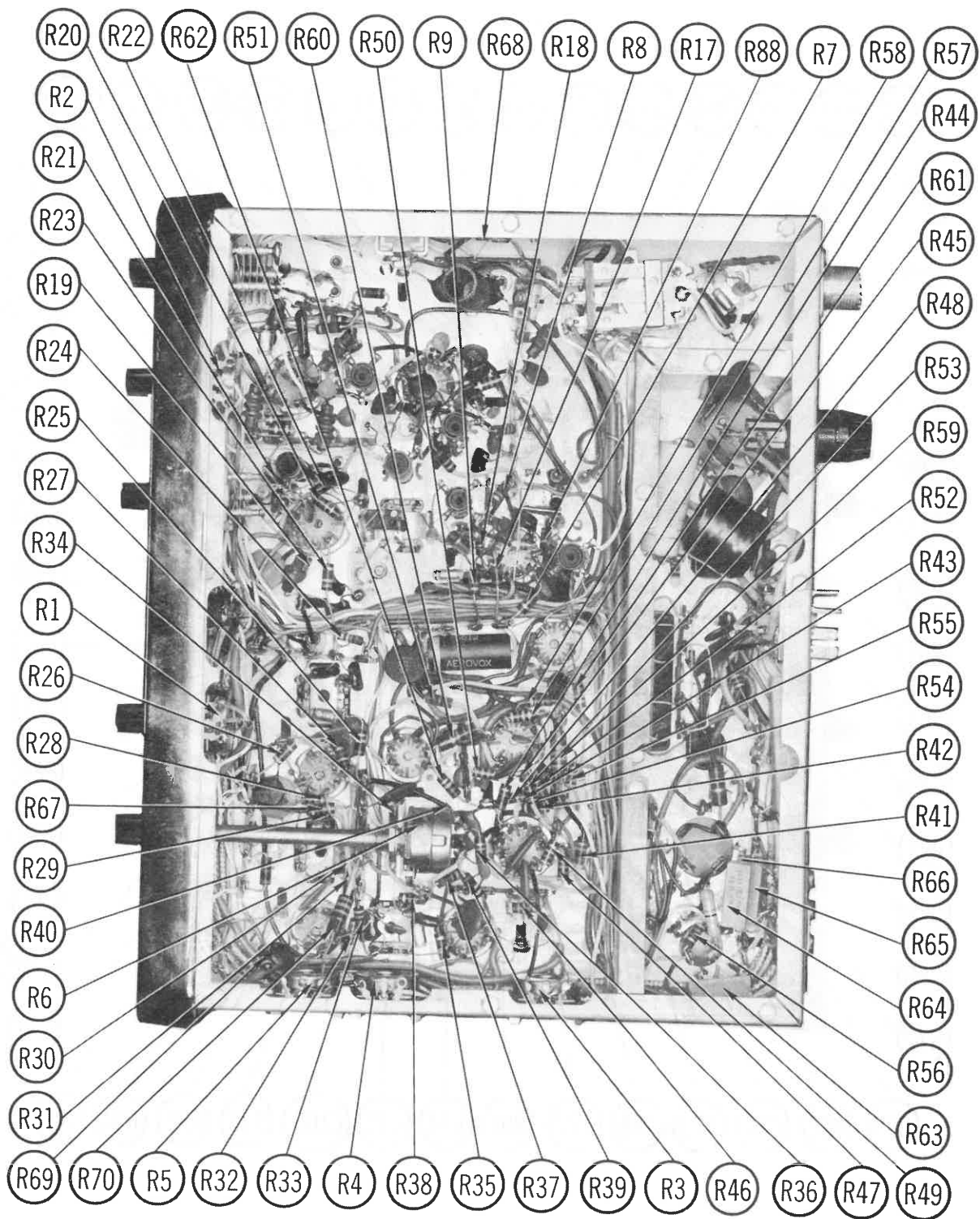
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206











PARTS LIST AND DESCRIPTION

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

TUBES

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp. -1st Mixer	6ES8	V7	Speech Amp. -Squelch Amp.	6CM8	V8	AF Amp. -Phase Inv.	6AN8	V9	Output-Modulator	6AQ5
V2	Synthesis Osc. - Converter	6AN8	V10	Output-Modulator	6AQ5	V11	Trans. Osc. -Buffer	6AN8	V12	Final Amp.	12BH7A
V3	2nd Mixer-Rec. Osc.	6BC8									
V4	1st IF Amp.	6BJ6									
V5	2nd IF Amp.	6BJ6									
V6	Det. -Noise Limiter	12AL5									

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	.12ADC	(ED3006)		SD60 or 10DB6A ①	1N547 or FW600 ①	SK-3016 or SK-3017	F-6 or 60B
X2	.12ADC	(ED3006)		SD60 or 10DB6A ①	1N547 or FW600 ①	SK-3016 or SK-3017	F-6 or 60B
X3	.12ADC	(ED3006)		SD60 or 10DB6A ①	1N547 or FW600 ①	SK-3016 or SK-3017	F-6 or 60B
X4	.12ADC	(ED3006)		SD60 or 10DB6A ①	1N547 or FW600 ①	SK-3016 or SK-3017	F-6 or 60B
X5		1N34A	1N34AS	1N34A			

① Replaces X1 thru X4

ELECTROLYTIC CAPACITORS

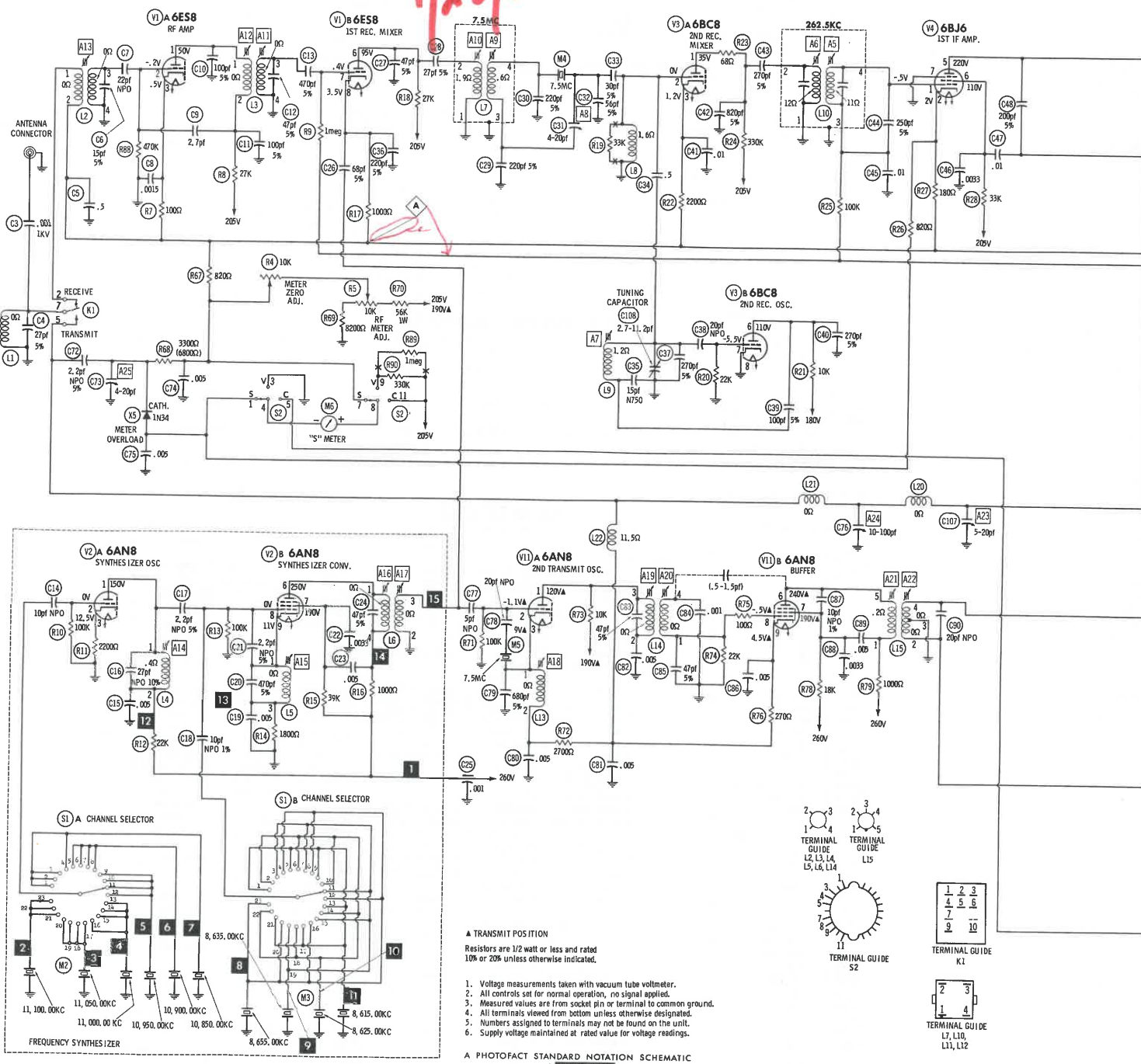
ITEM No.	RATING		REGENCY PART No.	REPLACEMENT DATA			
	CAP.	VOLT.		AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.
C1A	40	450		AFH3-45	CCO410	XC3-15	FP376.8
B	40	450					
C	10	450					
C2A	30	350		AFH3-169	CCO830	XC3-28.1	FP331A
B	30	300					
C	20	25					

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.	
C3	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10	
C4	27 5%		ADM-15-270	CPR-27J	CD10E270J500	DM-10-270	SK427	MS-427	
C5	.5 200V		BE2P5		PM2P5	2DP-5-504	PVC205	2PS-P50	
C6	15 5%		ADM-15-150	DTZ-15	CZ601CG150J	CCTO-150	CNO415	10TCC-Q15	
C7	22 NPO		NPO-DI 22	DTZ-22	CDECY601CG220K	DM-10-220	CNO422	10TCC-Q22	
C8	.0015		BPD-0015	DD-152	CDECY601CG220K	CCD-152	B215	5HK-D15	
C9	2.7		NPO-DI 3	DTZ-2R2			CNO533	10TCC-V27	
C10	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-10-101	SK310	MS-31	
C11	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-10-101	SK310	MS-31	
C12	47 5%		ADM-15-470	CPR-47J	CD10E470J500	DM-10-470	SK447	MS-447	
C13	470 5%		ADM-15-471	CPR-470J	CD15F470J500	DM-15-471	SK347	MS-347	
C14	10 NPO		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10	
C15	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50	
C16	27 NPO 10%		NPO-DI 25	DTZ-25		CCTO-270	CNO427	10TCC-Q27	
C17	2.2 NPO 5%		NPO-DI 2.2	DTZ-2R2	CDECZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22	
C18	10 NPO 10%		NPO-DI 10	DTN-10			CNO410	10TCC-Q10	
C19	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50	
C20	470 5%		ADM-15-471	CPR-470J	CD15F470J500	DM-15-471	SK347	MS-347	
C21	2.2 NPO 5%		NPO-DI 2.2	DTZ-2R2	CDECZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22	
C22	.0033		BPD-0033	DD-332	BYX601ZU332P	CCD-332	B233	5HK-D33	
C23	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50	
C24	47 5%		ADM-15-470	CPR-47J	CD10E470J500	DM-10-470	SK447	MS-447	
C25	.001		EF-001	MFT-1000		CCF-102	CT280A		
C26	68 5%		ADM-15-680	CPR-68J	CD10E680J500	DM-10-680	SK468	MS-468	
C27	47 5%		ADM-15-470	CPR-47J	CD10E470J500	DM-10-470	SK447	MS-447	
C28	27 5%		ADM-15-270	CPR-27J	CD10E270J500	DM-10-270	SK427	MS-427	
C29	220 5%		ADM-15-221	CPR-220J	CD10E221J500	DM-10-221	SK322	MS-322	
C30	220 5%		ADM-15-221	CPR-220J	CD10E221J500	DM-10-221	SK322	MS-322	
C31	4-20			825-AZ		402	ST554-N		
C32	56 5%		ADM-15-560	CPR-56J	CD10E560J500	DM-10-560	SK456	MS-456	
C33	30 5%		ADM-15-300	CPR-30J	CD10E300J500	DM-10-300	SK430	MS-43	
C34	.5µf								
C35	15 N750		N750-DI 15	DTN-15	CDECZ601UJ150J	CCTN-150	CN7415	10TCU-Q15	
C36	220 5%		ADM-15-221	CPR-220J	CD10E221J500	DM-10-221	SK322	MS-322	
C37	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-10-271	SK327	MS-327	
C38	20 NPO		NPO-DI 20	DTZ-20	CDECY601CG220K	CCTO-200	CNO420	10TCC-Q20	
C39	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-10-101	SK310	MS-31	
C40	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-10-271	SK327	MS-327	
C41	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C42	820 5%		ADM-19-821	CPR-820J	CD19F821J500	DM-15-821	SK382	MS-382	
C43	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-10-271	SK327	MS-327	
C44	250 5%		ADM-15-251	CPR-240J	CD10E251J500	DM-10-251	SK324	MS-325	
C45	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C46	.0033		BPD-0033	DD-332	BYX601ZU332P	CCD-332	B233	5HK-D33	
C47	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C48	200 5%		ADM-15-201	CPR-200J	CD10E201J500	DM-10-201	SK320	MS-32	
C49	4.7			DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50	
C50	250 5%		ADM-15-251	CPR-240J	CD10E251J500	DM-10-251	SK324	MS-325	
C51	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C52	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50	
C53	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50	
C54	.0033		BPD-0033	DD-332	BYX601ZU332P	CCD-332	B233	5HK-D33	
C55	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10	
C56	200 5%		ADM-15-201	CPR-200J	CD10E201J500	DM-10-201	SK320	MS-32	
C57	2.2 NPO 5%		NPO-DI 2.2	DTZ-2R2	CDECZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22	

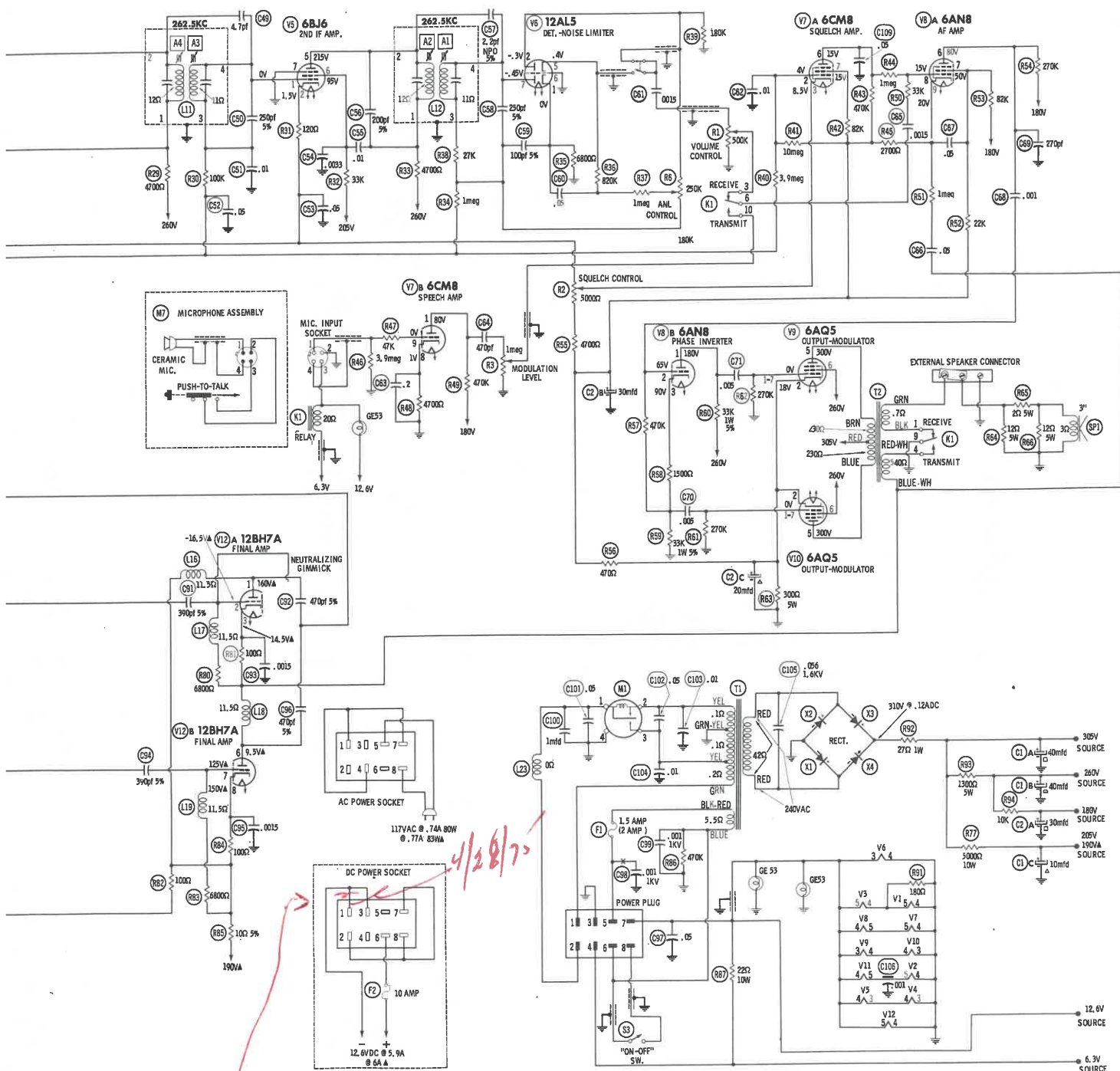
(CONTINUED ON PAGE 144)

4/26/77



- A TRANSMIT POSITION**
- Resistors are 1/2 watt or less and rated 10% or 20% unless otherwise indicated.
1. Voltage measurements taken with vacuum tube voltmeter.
 2. All controls set for normal operation, no signal applied.
 3. Measured values are from socket pin or terminal to common ground.
 4. All terminals viewed from bottom unless otherwise designated.
 5. Numbers assigned to terminals may not be found on the unit.
 6. Supply voltage maintained at rated value for voltage readings.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
© Howard W. Sams & Co., Inc. 1966



REGENCY MODEL RANGE GAIN II

Delete connection to Terminal 5
Connected 5-18-70
5TH PRINTING

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

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.
C58	250 5%		ADM-15-251	CPR-240J	CD10E251J500	DM-10-251	SX324	MS-325
C59	100 5%		ADM-15-201	CPR-100J	CD10E101J500	DM-10-101	SX310	MS-31
C60	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C61	.0015		BPD-0015	DD-152		CCD-152	B215	5HK-D15
C62	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C63	.2 20V			UK20-204				
C64	470		BPD-00047	DD-471	BYZ601ZU471P	CCD-471	B347	5GA-T47
C65	.0015		BPD-0015	DD-152		CCD-152	B215	5HK-D15
C66	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C67	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C68	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C69	270		DI-270	CPR-270J	CD15F271J500	DM-10-271	GP327	10TS-T27
C70	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C71	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C72	2.2 NPO 5%		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D	CCTO-2R2	CNO522	10TCC-V22
C73	4-20			825-AZ		402	ST554-N	
C74	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C75	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C76	10-100					463		
C77	5 NPO		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CNO547	10TCC-V50
C78	20 NPO		NPO-DI 20	DTZ-20		CCTO-200	CNO422	10TCC-Q20
C79	680 5%		ADM-19-681	CPR-680J	CD19F681J500	DM-15-681	SX368	MS-368
C80	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C81	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C82	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C83	47 5%		ADM-15-470	CPR-47J	CD10E470J500	DM-10-470	SX447	MS-447
C84	.001		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C85	47 5%		ADM-15-470	CPR-47J	CD10E470J500	DM-10-470	SX447	MS-447
C86	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C87	10 NPO		NPO-DI 10	DTN-10			CNO410	10TCC-Q10
C88	.0033		BPD-0033	DD-332	BYX601ZU332P	CCD-332	B233	5HK-D33
C89	.005		BPD-005	DD-502	BYX601ZU502P	CCD-502	B250	5HK-D50
C90	20 NPO		NPO-DI 20	DTZ-20		CCTO-200	CNO422	10TCC-Q20
C91	390 5%		ADM-15-391	CPR-390J	CD15F391J500	DM-10-391	SX339	MS-339
C92	470 5%		ADM-15-471	CPR-470J	CD15F470J500	DM-10-471	SX347	MS-347
C93	.0015		BPD-0015	DD-152		CCD-152	B215	5HK-D15
C94	390 5%		ADM-15-391	CPR-390J	CD15F391J500	DM-10-391	SX339	MS-339
C95	.0015		BPD-0015	DD-152		CCD-152	B215	5HK-D15
C96	470 5%		ADM-15-471	CPR-470J	CD15F470J500	DM-10-471	SX347	MS-347
C97	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C98	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C99	.001 1KV		BPD-001	DD-102	HVX162XP102M	CCD-102	B210	5HK-D10
C100	1mf 100V		BPD-001	DD-102	PM2W1	1DP-5-105	PVC11	2WF-M1
C101	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C102	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50
C103	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C104	.01		BPD-01	DD-103	BYV102ZU103M	CCD-103	B110	5HK-S10
C105	.056 1.6KV					16DP-5-503		
C106	.001		EF-001	MFT-1000		CCF-102	CT280A	
C107	5-20							
C108	2.7-11.2							
C109	.05		BPD-05	DD-503		CCD-503	GP150	5HK-S50

CONTROLS

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

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			REGENCY PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	500K	(101-734-2)	F2-500K, SSK104, BA006, CA005	A47-500K-Z, KSS-3 or (NP-500K-Z, UP-E-400)	QCB1 ①, B13-133, TM5 or (BU2, CF25, SS1, DC1)*	UA55A, SK1000 or (RU55A, SL41 ②, SK1000) or (U48)
R2	Squelch	5000Ω	(101-734-1)	F1-5000, SNK104, BA006, CA005	A47-5000-S, KSS-3 or (NP-5000-S, UP-E-400)	QCB1 ①, B11-114, TM5 or (BU2, CF8, SS1, DC1)*	UA55A, SK1000 or (RU53L, SL41 ②, SK1000) or (U14)
R3	Modulation Level	1meg	(301-094-1)	F2-1meg, SNK010, AK-38	B47-1meg-Z, or (NP-1meg-Z, NML-A-300, TT-2)	B13-137, TM4 or (BU1, CF26, SS6)*	RU16A, SL37, SN281
R4	Meter Zero Adjust	10K	(301-094-2)	F1-10K, SNK010, AK-38	B47-10K-S, or (NP-10K-S, NML-A-300, TT-2)	B11-116, TM4 or (BU1, CF9, SS6)*	RU-14L, SL37, SN281
R5	Meter Adjust	10K	(301-094-2)	F1-10K, SNK010, AK-38	B47-10K-S or (NP-10K-S, NML-A-300, TT-2)	B11-116, TM4 or (BU1, CF9, SS6)*	RU-14L, SL37, SN281
R6	ANL & Switch	250K	(A-100-093-11)	F1-250K, SU500, KR-2, AK-16 ③	A47-250K-S, KSS-5, SWE-20, or (NP-250K-S, UP-E-400, NWE-20)	Q11-130, 76-1, C3 ③ or (BU2, CF15, SS15, SS1, WF, CS ③)*	UA254L, SK3500, US42, EC240 ③ or (RU254L, SL38, SK3500, US42, EC240 ③) or (U46, US27, EC240 ③)

① Use QCB1 Bushing instead of Tab Mount Plate in TM5 Kit. ③ Use Coupler with Portion of original Shaft to obtain desired length.
② Alter Bushing to meet Requirements. * "SNAPTROL"

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REGENCY PART No.			IRC PART No.	WORKMAN PART No.	REGENCY PART No.
R63	300Ω 5W	PW5-300	5W-SQ-300		R77	5000Ω 10W	PW10-5000	10W-SQ-5000	
R64	12Ω 5W	PW5-12	5W-SQ-12.5		R87	22Ω 10W	PW10-22	10W-SQ-22.5	
R65	2Ω 5W	PW5-2	5W-SQ-2		R93	1300Ω 5W	PW5-1300	5W-SQ-1250	
R66	12Ω 5W	PW5-12	5W-SQ-12.5						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		REGENCY PART No.	MEISSNER Part No.	MERIT PART No.	WORKMAN PART No.
L1	TVI Trap (1.7uh)		19-1001	BC-562	4604
L2	Antenna				T856
L3	RF				
L4	Synthesizer Osc.				

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)(cont)

ITEM No.	USE	REPLACEMENT DATA				
		REGENCY PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L5	Synt. Conv. Cathode	(119-65-19)			23A106RPC	
L6	Synt. Conv. Plate					
L7	1st Mixer					
L8	RFC (14uh)				72F155AP	
L9	2nd Rec. Osc.	(119-65-16)	16-6752	BC-350	4204	
L10	1st IF				14-H1	T804
L11	2nd IF				14-H2	T805
L12	3rd IF	(119-65-16)	16-6754	BC-351	14-H2	T805
L13	Trans. Osc. Cathode				4201-A	
L14	Trans. Osc. Coupling					
L15	Buffer Plate					
L16	RFC (220uh)		19-3250	BC-673	72F224AP	T852
L17	RFC (220uh)		19-3250	BC-673	72F224AP	T852
L18	RFC (220uh)		19-3250	BC-673	72F224AP	T852
L19	RFC (220uh)		19-3250	BC-673	72F224AP	T852
L20	PI Network					
L21	PI Network					
L22	RFC (220uh)		19-3250	BC-673	72F224AP	T852
L23	Hash Filter (80uh)				5248	

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	REGENCY PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .77A (or) 12.6V @ 2.8A DC	240VAC @ .12A DC	12.6V @ 3.1A	(500-553-1)					▲ Transmit

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	REGENCY PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	11000Ω CT	3-4Ω	(500-552-1)					
		SEC. 2 540Ω DC Resistance						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		REGENCY PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 3-4Ω	(301-102)	35A05	P3X5X3	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	3AG	1 1/2A 250V			312001, 5	342001	AGC 1 1/2	HKP
F2	3AG	10A-32			311010	155020	AGC 10	HHJ

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FRE-QUENCY	REPLACEMENT DATA			NOTES
				REGENCY PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	
M1	Interrupter	12V	115v		6301	G1501	

MISCELLANEOUS

ITEM No.	PART NAME	REGENCY PART No.	NOTES
K1	Relay	200-106	6PDT 12 Volt, 60 Cycles
M2	Transmit & Rec. Crystals		10.85MC (Channels 1 thru 4)
			10.90MC (Channels 5 thru 8)
			10.95MC (Channels 9 thru 12)
			11.00MC (Channels 13 thru 16)
			11.05MC (Channels 17 thru 20)
			11.10MC (Channels 21, 22, 23)
M3	Transmit & Rec. Crystals		8.615MC (Channels 1, 5, 9, 13, 17, 21)
			8.625MC (Channels 2, 6, 10, 14, 18, 22)
			8.635MC (Channels 3, 7, 11, 15, 19)
			8.655MC (Channels 4, 8, 12, 16, 20, 23)
M4	Receive Crystal		7.5MC
M5	Transmit Crystal		7.5MC
M6	"S" Meter		
M7	Microphone Ass'y.		Ceramic
S1	Switch, Selector		2-Section, Wafer
S2	Switch, SVC		3-Position Trollex
S3	Switch, On-Off		SPDT

WIRING DATA

General-use Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
 8524 (Stranded) Available in 12 Colors
 Shielded Antenna Lead Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
 8237 Low Loss (RG-8/U)
 8240 (Solid) Miniature (RG-58/U)
 8259 (Stranded) Miniature (RG-58A/U)
 Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor- 1 Shielded for Press-to-Talk (Neoprene)
 8498 3 Conductor- 1 Shielded for Press-to-Talk (Vinyl)
 Ignition Noise Suppression Use BELDEN No. 7300-Series Spark-Plug Sets
 Bonding Strap Use BELDEN No. 8661 (3/8 In.)

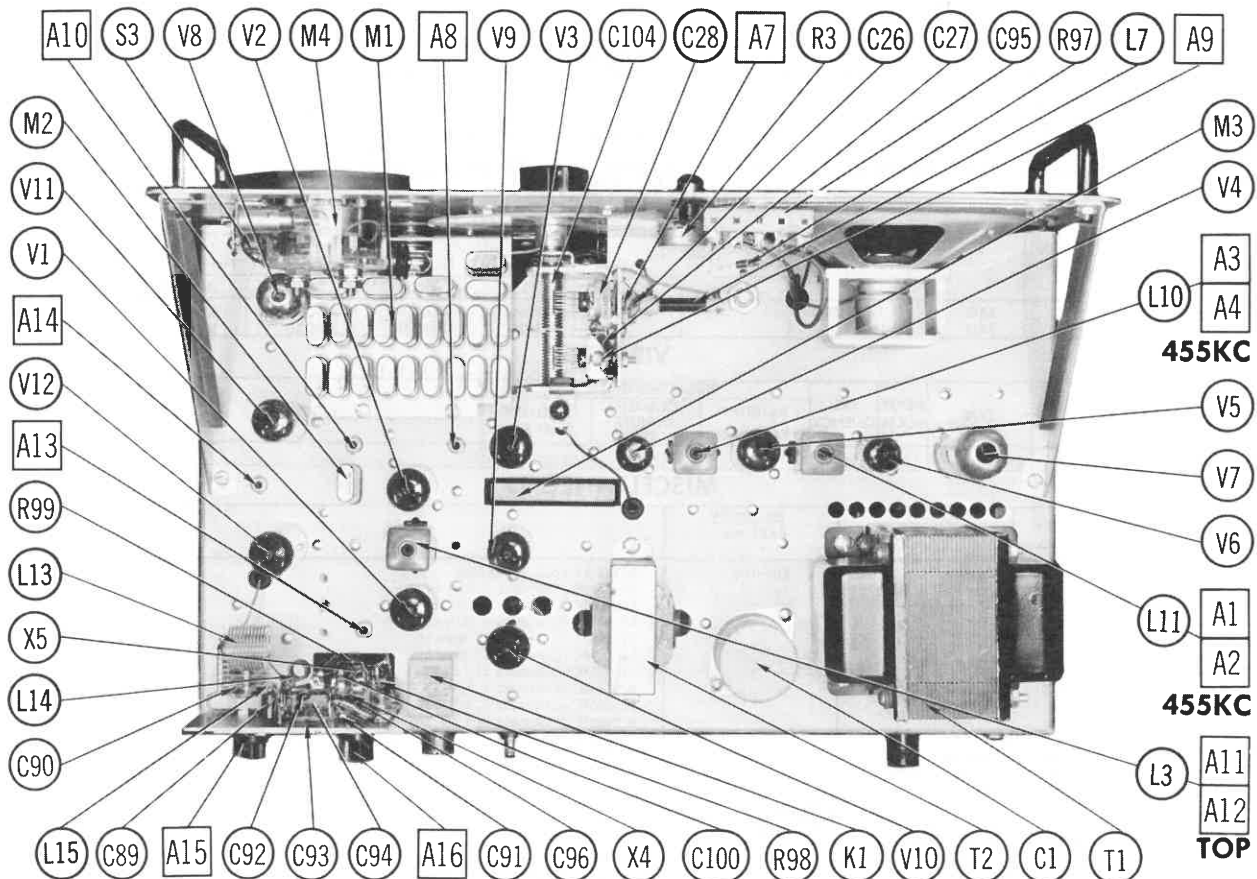


PHOTOFACT®



TRADE NAME : Tram Model Titan
SUPPLIER : For Current Address, See Annual Index
TYPE SET : 10-Tube Transceiver
POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles
RATING : 80 Watts, .73 Amp. @ 117VAC (Receive)
 86 Watts, .76 Amp. @ 117VAC (Transmit)
TUNING RANGE : All 23 CB Channels
 Receiver may be continuously tuned.

TRAM MODEL TITAN



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

© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RY900



PHOTOFACT[®]



TRADE NAME : Tram Model Titan

SUPPLIER : For Current Address, See Annual Index

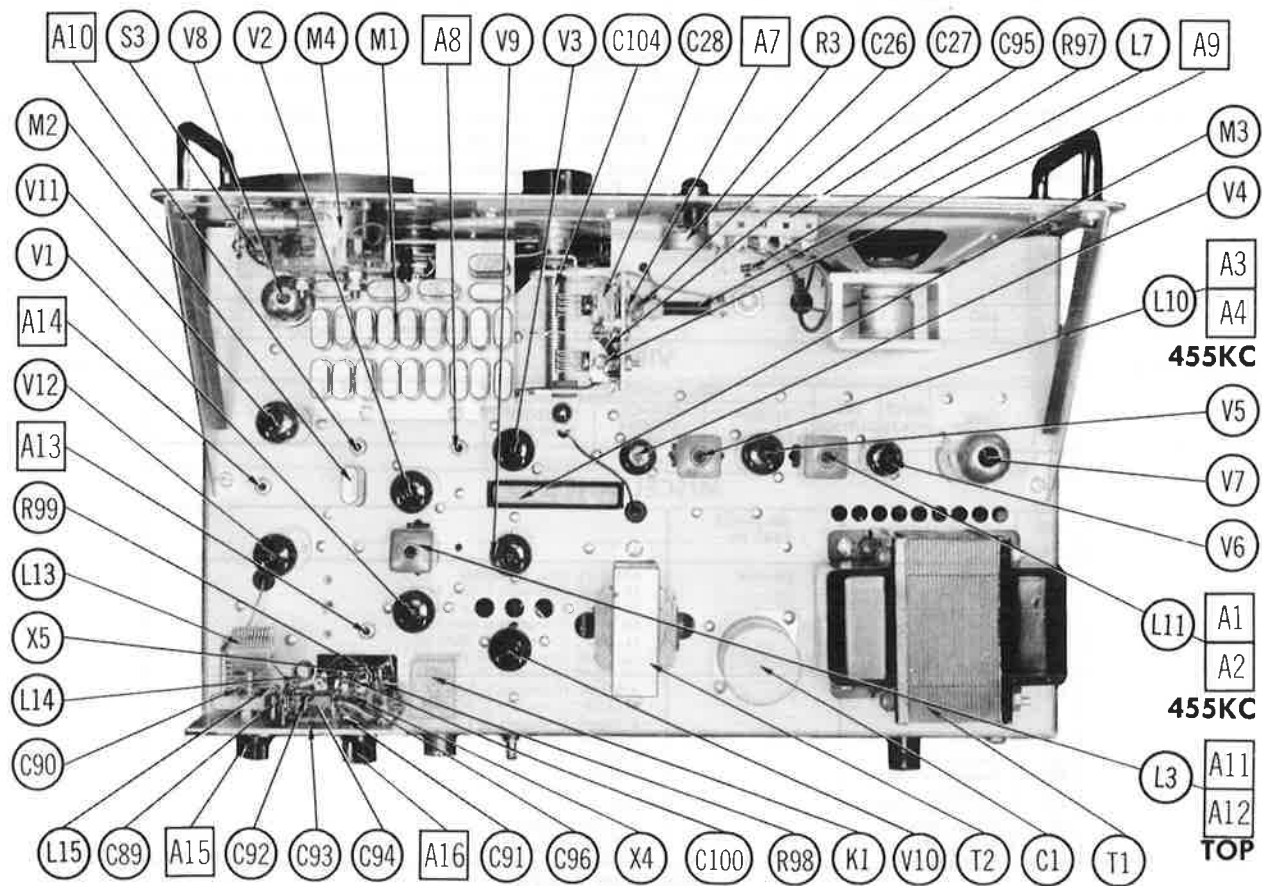
TYPE SET : 10-Tube Transceiver

POWER SUPPLY : 110 - 120 Volts AC, 60 Cycles

RATING : 80 Watts, .73 Amp. @ 117VAC (Receive)
86 Watts, .76 Amp. @ 117VAC (Transmit)

TUNING RANGE : All 23 CB Channels
Receiver may be continuously tuned.

TRAM MODEL TITAN



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

© 1967 Howard W. Sams & Co., Inc. Printed in U. S. of America RY900

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A4, A8, A10, A11, A12, A13, A14... GENERAL CEMENT #8606, 8606L, 8869
WALSCO #2543, 2544, 2588
A5, A6, A7, A9, A15, A16..... GENERAL CEMENT #8868, 8987, 9089
WALSCO #2531-X, 2541, 2587

RECEIVER ALIGNMENT

Connect a DC VTVM from point Δ to chassis. Set to indicate Negative Voltage. Set Volume Control fully clockwise. Set Squelch Control fully counterclockwise; Set RF Gain Control fully clockwise. Check mechanical Dial Setting on last mark above Channel 23.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
	Any	A10	Connect a DC VTVM to Pin 7 (Grid), V2B (1st Rec. Osc.). Adjust for approximately -5 Volts.
High side thru .01mfd to Pin 7 (Grid) of V3A (2nd Rec. Mixer), low side to chassis. Tune to 455KC.	Any	A1 thru A6	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 26.975MC (Channel 2).	2	A7	Set M-X Switch to "X" position. Insert channel 2 crystal. Adjust for maximum, then disconnect signal generator. Press Spot switch. Output Indicator should be observed on "S" Meter and DC VTVM.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.085MC (Channel 11).	11	A11, A12, A13	Set M-X Switch to "M" position. Tune Dial to channel 11. Adjust A11, A13 for maximum. Detune A12 slightly. Check Spot switch operation as explained above.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 26.965MC (Channel 1).	1	A9, A12	Set M-X Switch to "M" position. Tune Dial to channel 1. Adjust for maximum. Check Spot switch operation as explained above.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.225MC (Channel 22).	22	A8	Set M-X switch to "M" position. Tune Dial to channel 22. Adjust for maximum. Check Spot switch operation as explained above. Tune Dial thru all channels. Output should be equal on all channels; if not, repeat above step.
High side thru .01mfd to Antenna Receptacle, low side to chassis. Tune to 27.085MC (Channel 11) (50 microvolts output).	11	R7	Set M-X Switch to "M" position. Tune Dial to Channel 11. Adjust for "S9" indication on "S" meter.

TRANSMITTER ALIGNMENT

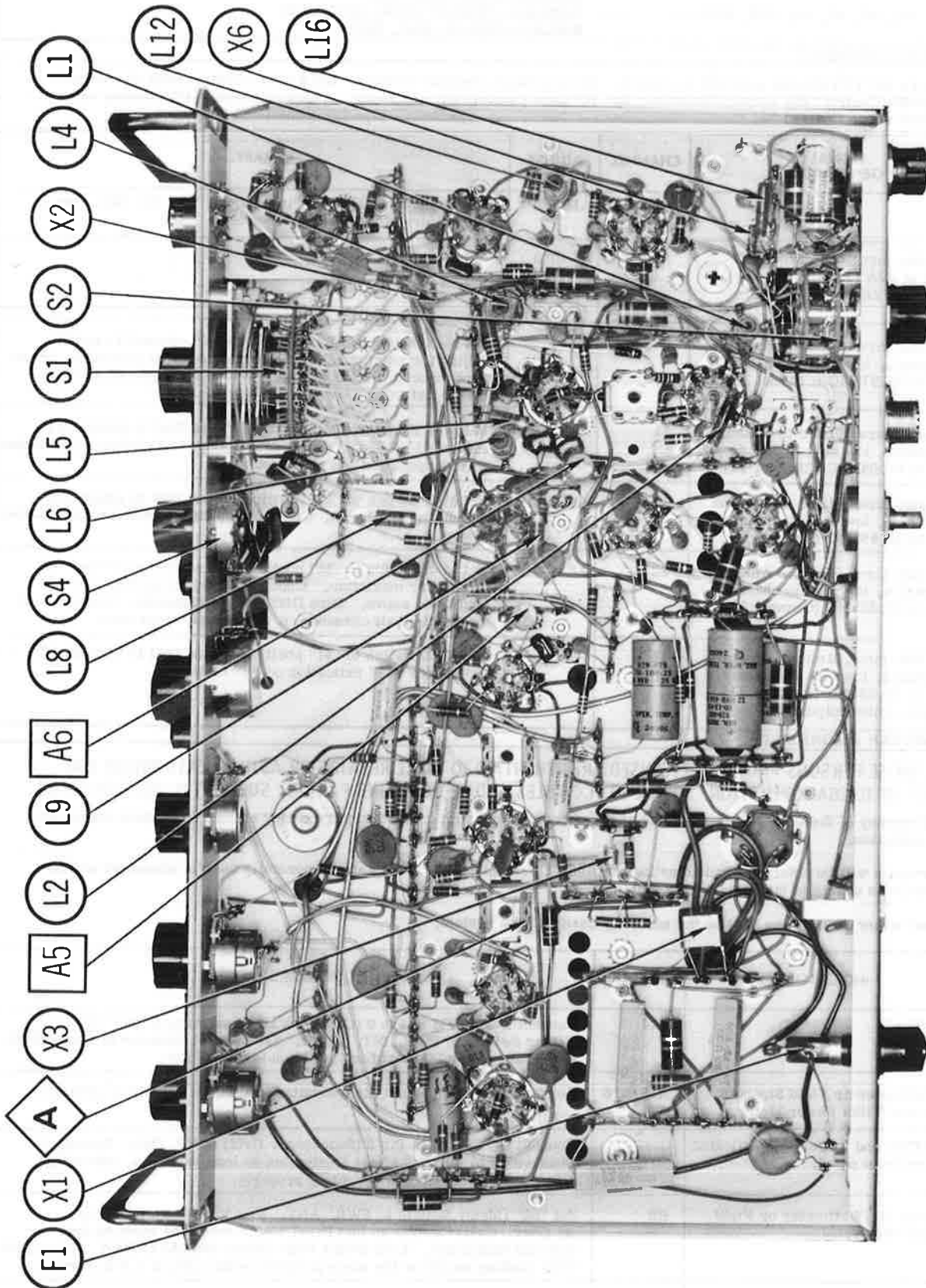
ONLY THOSE PERSONS PROPERLY LICENSED ARE PERMITTED TO MAKE REPAIRS OR ADJUSTMENTS WHICH MAY RESULT IN ILLEGAL OPERATION. (REFER TO FCC RULES AND REGULATIONS PART 95, SUBPART D, SECTION 95.95).

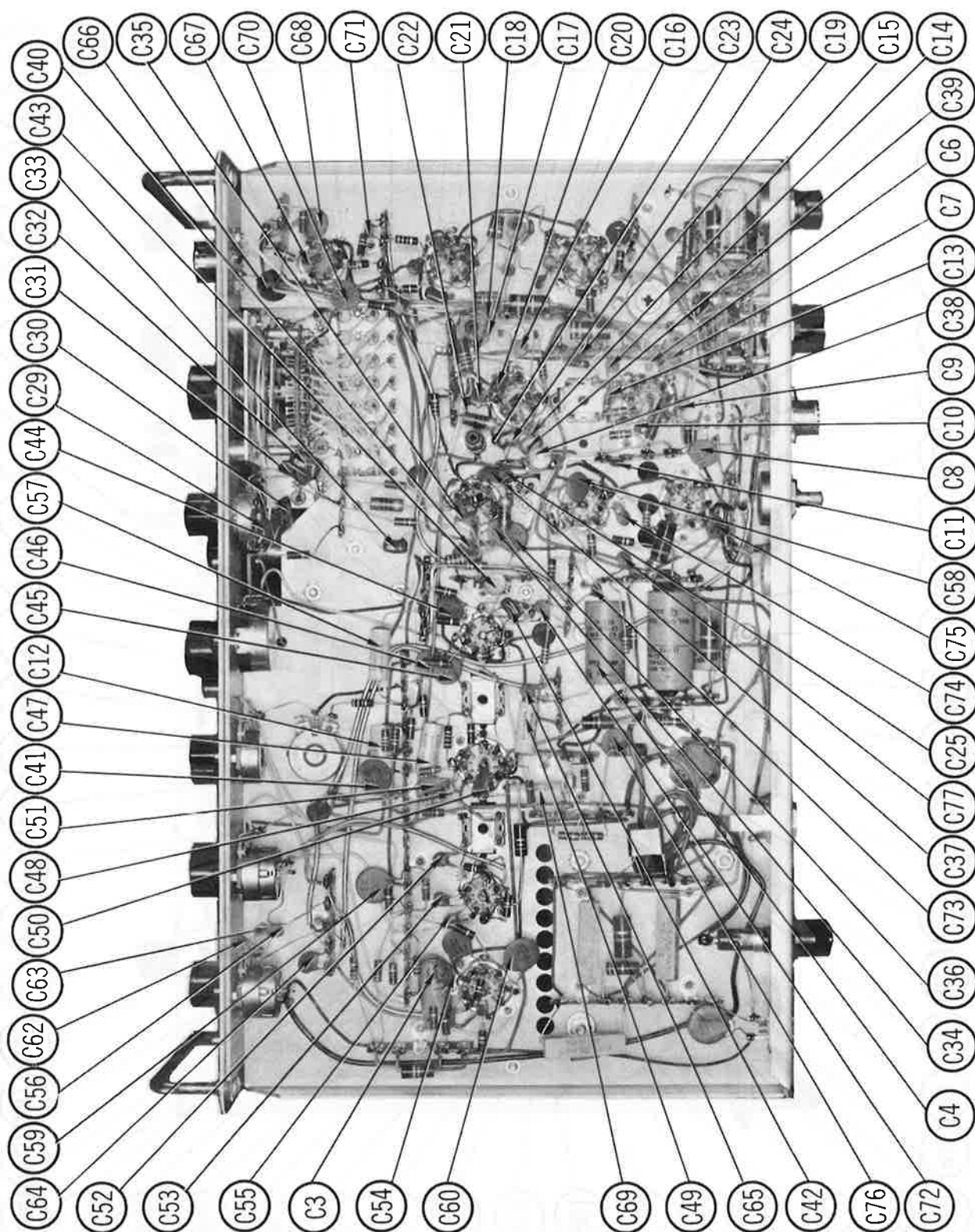
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

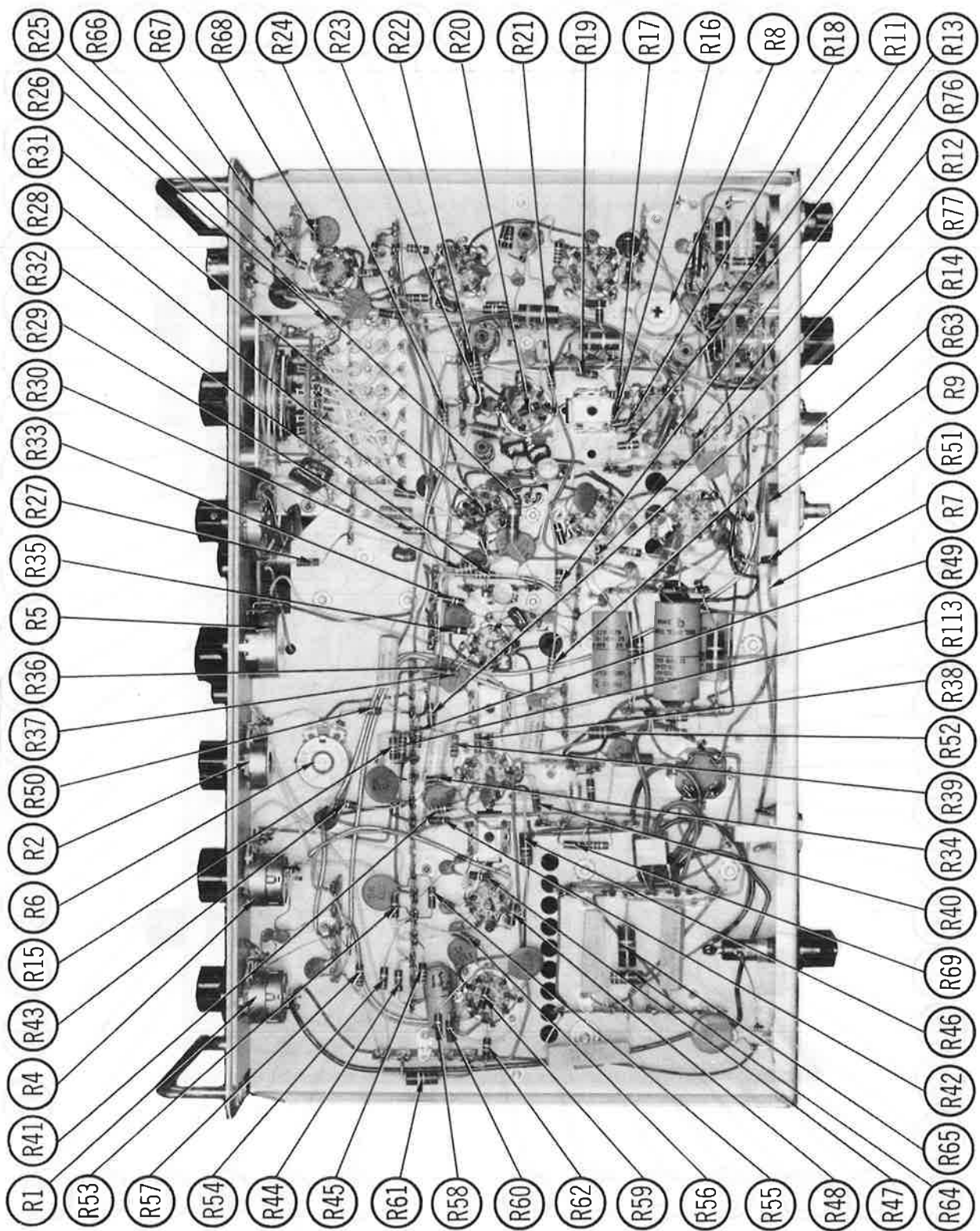
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

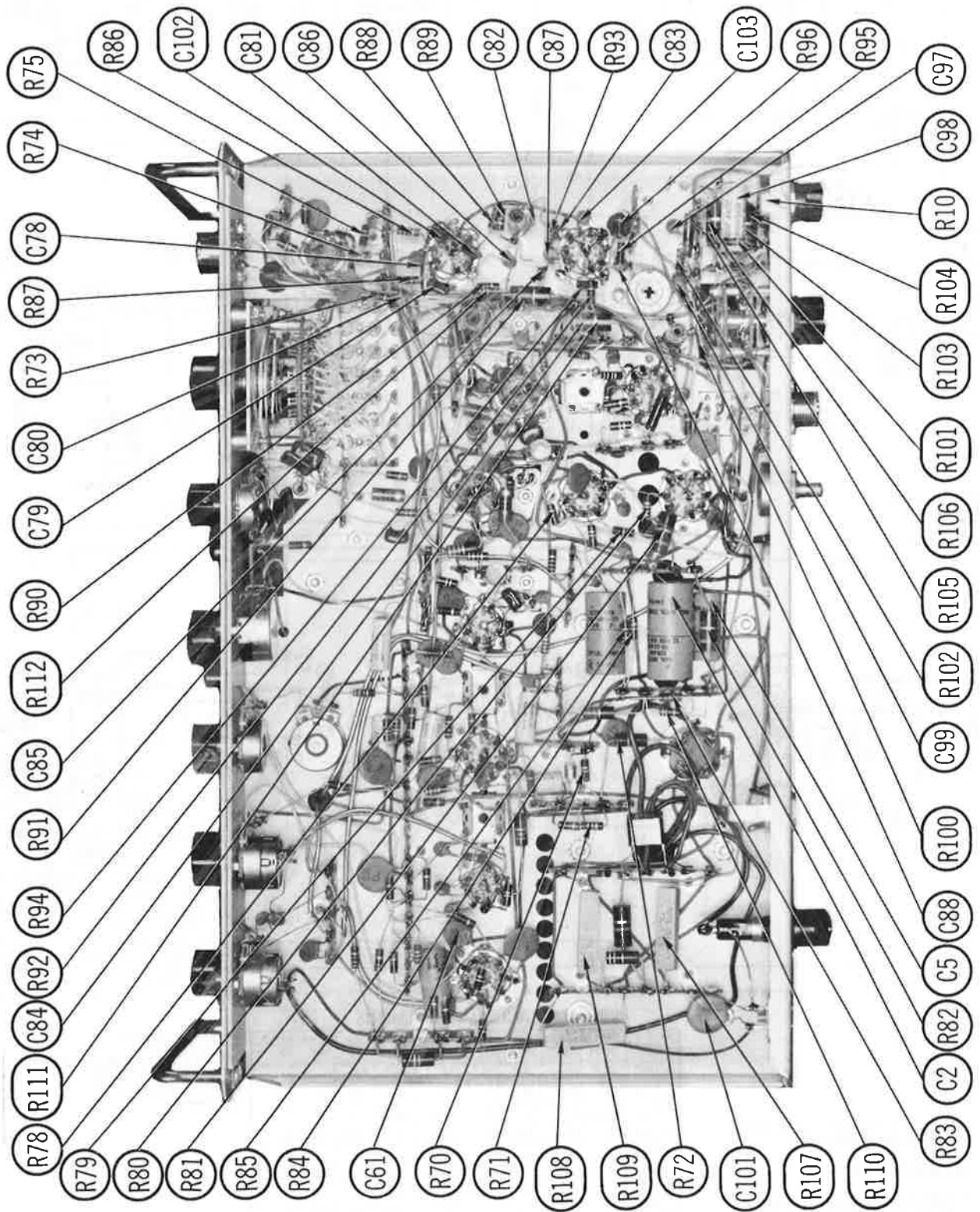
Connect either 50 Ω dummy load or the normally used antenna system.

INDICATOR	ADJUST	REMARKS
DC VTVM	A14	Connect DC VTVM to Pin 9 (Grid) of V12 (Final Amp.). Set "S2" (Meter Switch) to PWR. INT. LOAD. Set Channel Selector to Channel 12. Key Transmitter. Adjust for approximately -35Volts.
RF Wattmeter or Field Strength Meter and Titan Power Meter.	A15, A16	Key Transmitter. Adjust for maximum output, 3.5 Watts or greater.
DC VTVM and modulation indicator lamp on front panel.		Connect DC VTVM to Pin 2 (Suppressor Grid) of V8, (Mic. Preamp.). Observe 30 to 40 volts Meter fluctuation on loud passages, indicating compression circuitry is operating properly.
Accurate RF Wattmeter or Field Strength Meter.	R8	Set "S2" (Meter Switch) to PWR. ANT. Key Transmitter. Adjust R8 (Pwr. Cal.) Control so that Panel Meter reads the same as the external wattmeter. Then switch "S2" (Meter Switch) to PWR. INT. LOAD. This reading should be the same as above within $\pm 5\%$ of 3.5 to 4 watts.
Front Panel Meter	R9	Set S2 (Meter Switch) to SWR Cal. Tune to clear channel. Key Transmitter. Adjust R9 so that meter needle is on line marked SWR Cal. on front meter scale, then set S2 (Meter Switch) to SWR and read the SWR on the middle of the meter. Release Transmitter Key. Return S2 (Meter Switch) to "S" Meter for normal operation. A reading of 1.5 to 1 is optimum efficiency.

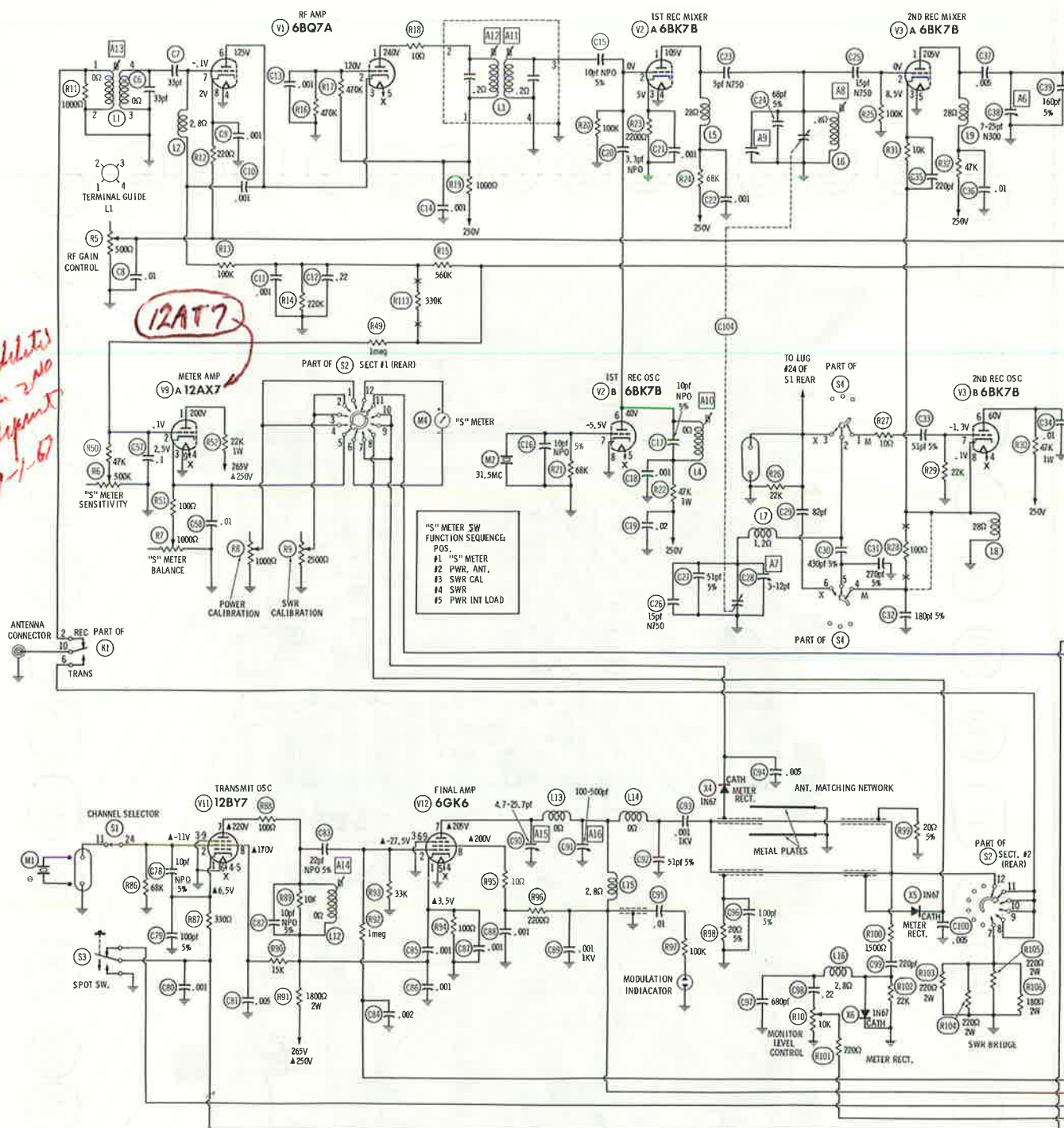








TRAM MODEL TITAN



RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6BQ7A	2400Ω	260K	1M	FIL	FIL	1M	250K	230Ω	0Ω
V2	6BK7	69K	100K	2200Ω	FIL	FIL	48K	68K	0Ω	0Ω
V3	6BK7	48K	22K	28Ω	FIL	FIL	48K	100K	10K	0Ω
V4	6BA6	2.2meg	0Ω	FIL	FIL	3400Ω	69K	110Ω	0Ω	0Ω
V5	6EQ7	0Ω	540K	230Ω	FIL	FIL	48K	3400Ω	1.1meg	0Ω
V6	6AL5	0Ω	110K	FIL	FIL	1.6meg	0Ω	120K	0Ω	0Ω
V7	12AX7	105K	1.4meg	50K	FIL	FIL	1.1meg	1.6meg	8500Ω	0Ω
V8	6AU6	1.2meg	1.8meg	FIL	FIL	335K	1meg	1A	0Ω	0Ω
V9	12AT7	22K	150K	650Ω	FIL	FIL	100K	690K	2200Ω	0Ω
V10	6BK6	180Ω	470K	0Ω	FIL	FIL	NC	590Ω	800Ω	0Ω
V11	12BY7	330Ω	68K	0Ω	FIL	FIL	FIL	2700Ω	18K	0Ω
V12	6GK6	100Ω	32K	0Ω	FIL	FIL	0Ω	2300Ω	4500Ω	0Ω

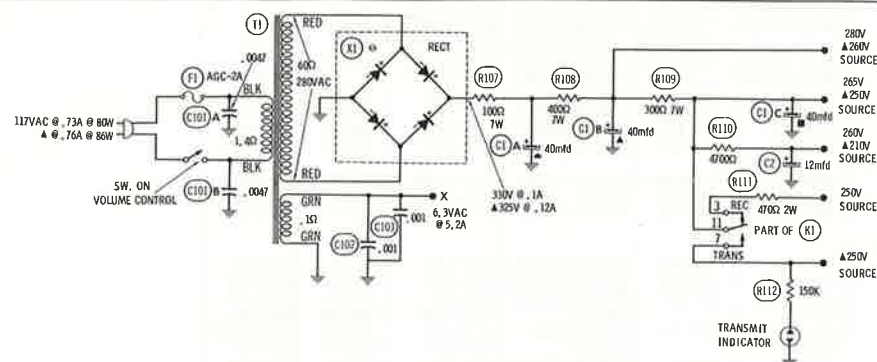
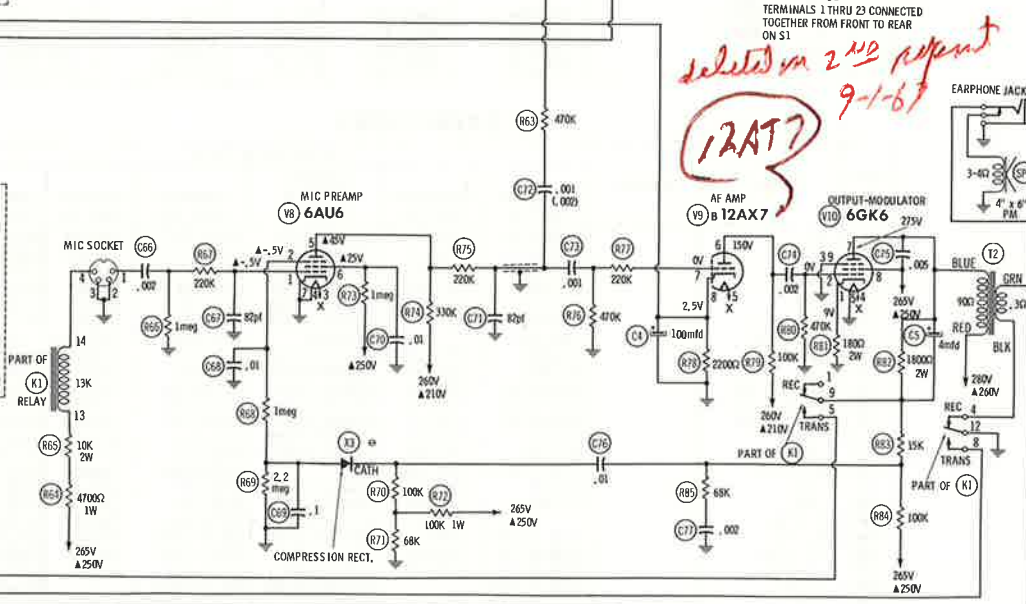
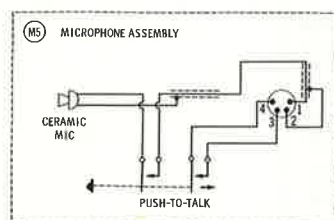
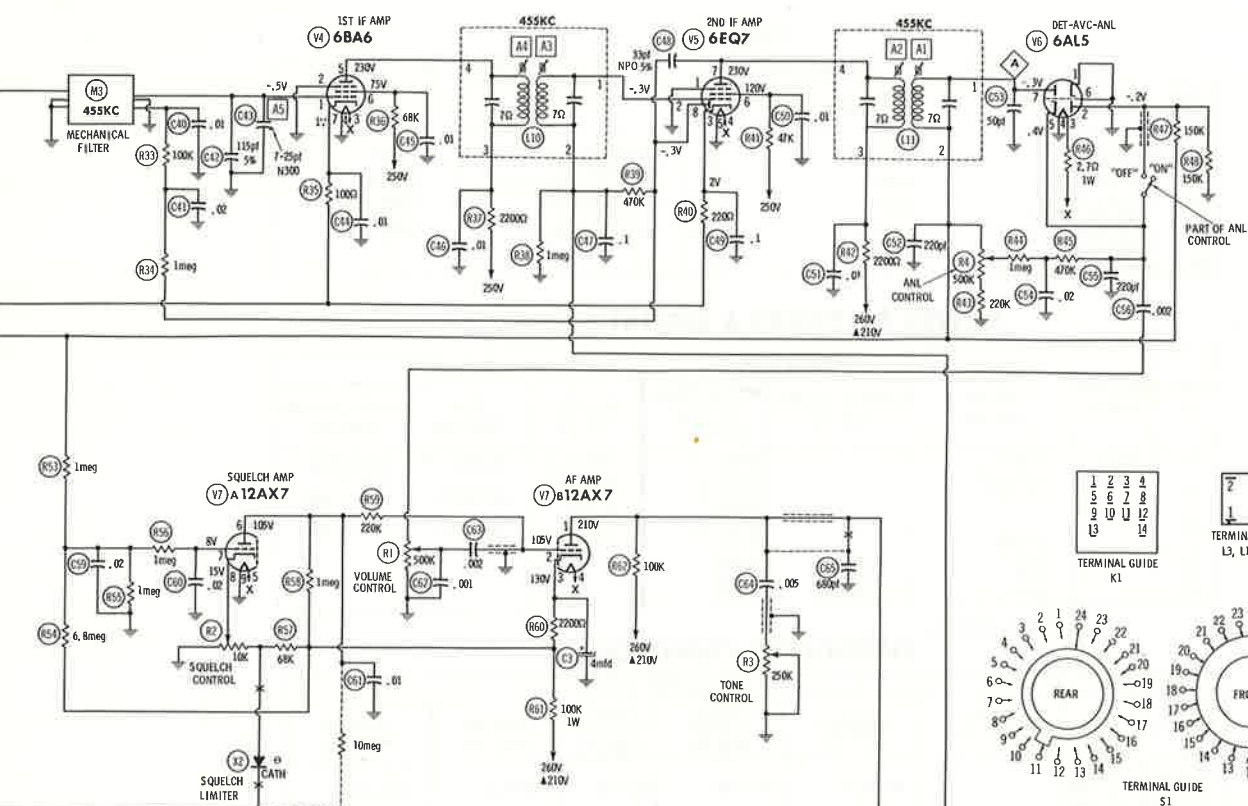
† MEASURED FROM OUTPUT OF X1
 INF INFINITE RESISTANCE
 * MEASURED WITH LIMITER SWITCH IN "OFF" POSITION
 ‡ THIS READING WILL VARY DEPENDING UPON CONDITION
 OF THE ELECTROLYTIC IN THE CIRCUIT.
 ▲ MEASURED IN "TRANSMIT" POSITION.
 NC NO CONNECTION

VOLTAGES TAKEN WITH RF GAIN CONTROL SET FULLY CLOCKWISE
 ▲ MEASUREMENTS TAKEN IN TRANSMIT POSITION

Resistors are 1/2 watt or less and rated
 10% or 20% unless otherwise indicated.

- See parts list
- Voltage measurements taken with vacuum tube voltmeter.
- All controls set for normal operation, no signal applied.
- Measured values are from socket pin or terminal to common ground.
- All terminals viewed from bottom unless otherwise designated.
- Numbers assigned to terminals may not be found on the unit.
- Supply voltage maintained at rated value for voltage readings.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
 © Howard W. Sams & Co., Inc. 1967



TRAM MODEL TITAN

PARTS LIST AND DESCRIPTION

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

TUBES

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE	ITEM No.	USE	TYPE
V1	RF Amp.	6BQ7A	V7	Squelch Amp. -AF Amp.	12AX7	V8	Mic. Preamp.	6AU6	V9	Meter Amp. -AF Amp.	12AT7
V2	1st Rec. Osc. -	6BK7	V10	Output-Modulator	6GK6	V11	Transmit Osc.	12BY7	V12	Transmit Final Amp.	6GK6
V3	2nd Rec. Osc. -	6BK7									
V4	2nd Rec. Mixer	6BA6									
V5	1st IF Amp.	6EQ7									
V6	2nd IF Amp.	6AL5									
	Det. -ANL-AVC										

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	.12ADC	A-0205 (SBR-260) (SI-600)		10DB6 or SD600 ①	FW600 or 1N547 ①	SK-3017 ①	S5959-2 or F-6 ①
X2				SD600 or 5A6-D	1N547 or 1N2071	SK-3017A	F-6 or 60C
X3				SD600 or 5A6-D	1N547 or 1N2071	SK-3017A	F-6 or 60C
X4			1N34AS	1N67A			
X5			1N34AS	1N67A			
X6			1N67	1N67A			

① Four Required.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA					
	CAP.	VOLT.	TRAM PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	.40	450						
B	.40	450						
C	.40	450		AFH3-44	CCO355	XC3-40	FP377.A	TVL-3787
C2	.12	450		PRS1725	BR12-450	QT1-8	TC73	TVA-1706
C3	.4	150		PRS1400	BBR4-150	QT1-3	TT150X4	TVA-1402
C4	100	25		PRS1270	NLW100-25	QT1-23	TC2501	TVA-1207
C5	.4	150		PRS1400	BBR4-150	QT1-3	TT150X4	TVA-1402

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCOR PART No.	MALLORY PART No.	SPRAGUE PART No.
C6	33		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C7	33		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C8	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C9	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C10	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C11	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C12	.22 200V		DBE4P22	DD-102	DMF4P22	4DP-5-224	PVC4022	4PS-P22
C13	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C14	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C15	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C16	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C17	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C18	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C19	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	TG-S20
C20	3.3 NPO		NPO-DI 3.0	DTZ-3R3	JBS601YP102K	CCTO-3R3	CNO533	10TCC-V30
C21	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C22	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C23	5 N750			DTN-5	CZ601UJ5R0D	CCTN-050	CN7550	10TCU-V50
C24	68 5%		ADM-15-680	CPR-68J	CD15E680J500	DM-15-680J	SX468	MS-468
C25	15 N750		N750-DI 15	DTN-15	CZ601UJ150J	CCTN-150	CN7415	10TCU-Q15
C26	15 N750		N750-DI 15	DTN-15	CZ601UJ150J	CCTN-150	CN7415	10TCU-Q15
C27	51 5%		ADM-15-510		CD10E510J500	DM-15-510J	DM-15-510J	MS-451
C28	3-12	#A-0085		822-FZ	CD15E820J500	DM-15-820J	ST553-Z	MS-482
C29	82 5%		ADM-15-820	CPR-82J	CD15F431J500	DM-15-431J	SX482	MS-343
C30	430 5%		ADM-15-431	CPR-430J	CD15F271J500	DM-15-271J	SX343	MS-327
C31	270 5%			CPR-270J	CD10E181J500	DM-15-181J	SX327	MS-318
C32	180 5%		ADM-15-181	CPR-180J	CD10E510J500	DM-15-510J	SX318	MS-451
C33	51 5%		ADM-15-510		CD10E510J500	DM-15-510J	DM-15-510J	MS-451
C34	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C35	.220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C36	.005		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C37	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C38	7-25 N300	#A-0185-1						
C39	160 5%		ADM-15-161	CPR-160J	CD10E161J500	DM-15-161J	SX316	MS-316
C40	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C41	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C42	115 5%							
C43	7-25 N300	#A-0185-1						
C44	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C45	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C46	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C47	.1 200V		DBE2P1	DMF2P1	2DP-3-104	PVC201	2PS-P10	
C48	33 NPO 5%		NPO-DI 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C49	.1 200V		DBE2P1	DMF2P1	2DP-3-104	PVC201	2PS-P10	
C50	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C51	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C52	220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22
C53	50		DI-50	DD-500	JBZ601YP500K	CCD-500	GP450	10TS-Q50
C54	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C55	220		DI-220	DD-221	JBZ601YP221K	CCD-221	GP322	10TS-T22

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.
C56	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C57	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C58	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C59	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C60	.02		BPD-02	DD-203	BYT601ZU203Z	CCD-203	GP120	10TS-S20
C61	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C62	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C63	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C64	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C65	.880		DI-680	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68
C66	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C67	.82			DTZ-82		CCTO-820	CNO482	10TCC-Q82
C68	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C69	.1 200V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C70	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C71	.82			DTZ-82		CCTO-820	CNO482	10TCC-Q82
C72	.001	(.002) †	DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C73	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C74	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C75	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C76	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C77	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C78	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C79	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101J	SK310	MS-310
C80	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C81	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C82	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CNO410	10TCC-Q10
C83	22 NPO 5%		NPO-DI 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C84	.002		DI-2200	DD-222	JBX601YP222K	CCD-222	GP222	10TS-D22
C85	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C86	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C87	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C88	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C89	.001 1000V		1464-HV-1000		5RP10D1JF	VDM-20-102J		MS-21
C90	4.7-25.7	#A-0102						
C91	100-500	#A-0088						
C92	51 5%		ADM-15-510		CD10E510J500	DM-15-510J		MS-451
C93	.001 1000V		1464-HV-1000		5RP10D1JF	VDM-20-102J		MS-21
C94	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C95	.01		DI-10000	DD-103	BYX601ZU103M	CCD-103	GP110	10TS-S10
C96	100 5%		ADM-15-101	CPR-100J	CD10E101J500	DM-15-101J	SK310	MS-310
C97	.880		DI-680	DD-681	JBY601YP681K	CCD-681	GP368	10TS-T68
C98	.22 200V		DBE4P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C99	.220		DI-220	DD-221	JBZ601YP221J	CCD-221	GP322	10TS-T22
C100	.005		DI-5000	DD-502	JBT601YP502K	CCD-502	GP250	10TS-D50
C101A	.0047		BPD2-2X.0047	DD2-502	BYX601ZU472M	CCD-472	B2X250	5HK-2D47
B	.0047				BYX601ZU472M	CCD-472		
C102	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C103	.001		DI-1000	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C104		#A-0028-1						

Tram Part Number

† Alternate Value

CONTROLS

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

ITEM No.	USE	RESIST- ANCE	REPLACEMENT DATA				
			TRAM PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Sw.	500K	A-0093-1 (LF4422)	F2-500K, SRS010, KR-4	A47-500K-Z, RS-2, SWE-13, or (NP-500K-Z, UP-A-400, NWE-13)	B13-133, SK3, 76-1 or (BU2, CF25, SS3, GC)*	UA55A, SK750, US41 or (RU55A, SL38, SK750, US41) or (U48, US26)
R2	Squelch	10K	A-0133-5 (RA-3633)	F1-10K, SRS010	A47-10K-SRS-2 or (NP-10K-S, UP-A-400)	B11-116, SK3 or (BU1, CF9, SS3, DC1)*	UA14L, SK750 or (RU14L, SL38, SK750) or (U20)
R3	Tone	250K	A-0133-2 (BA811-4122)	F2-250K, SRS010	A47-250K-Z, RS-2 or (NP-250K-Z, UP-A-400)	B13-130, SK3 or (BU2, CF23, SS3, DC1)*	UA254A, SK750 or (RU254A, SL38, SK750) or (U44)
R4	Limiters & ANL Sw.	500K	A-0093-2 (LH5378)	F1-500K, SRS010, KR-1	A47-500K-S, RS-2, SWE-12, or (NP-500K-S, UP-A-400, NWE-12)	B11-133, SK3, 76-1 or (BU2, CF16, SS3, GC)*	UA55L, SK750, US41 or (RU55L, SL38, SK750, US41) or (U50, US26)
R5	RF Gain	500Ω	A-0184 (CM34698)	WN-501 or (WW-501)	A43-500, RS-2 or (NPW-500, UP-A-400)	WPS500, SK5 or (AW500) or (BU1, WF20, SS3)*	MR500B or (VW500)
R6	"S" Meter Sensitivity	500K	A-0133-3 (MW9045)	F1-500K, SRS004	A47-500K-S, FKS-1/4 or (NP-500K-S, UP-S-010)	B11-133, SK-2 or (BU2, CF16, SS2, DC1)*	UA55L, SK750 or (RU55L, SL38, SK750) or (SU50)
R7	"S" Meter Balance	1000Ω	A-0092-1 (BE23374)	V-1000	U39-1000	112-1000 or (117R102A)	MR1000F
R8	Power Calibration	1000Ω	A-0092-1 (BE23374)	V-1000	U39-1000	112-1000 or (111R102A)	MR1000F
R9	SWR Calibration	2500Ω	A-0133-4 (RA3251)	F1-2500, SRS010	A47-2500-S, RS-2 or (NP-2500-S, UP-A-400)	B11-111, SK3 or (BU1, CF59, SS2, DC1)*	UA33L, SK750 or (RU252L, SL38, SK750) or (U8)
R10	Monitor Level	10K	A-0133-5 (RA3633)	F1-10K, SRS010	A47-10K-SRS-2 or (NP-10K-S, UP-A-400)	B11-116, SK3 or (BU1, CF9, SS3, DC1)*	UA14L, SK750 or (RU14L, SL38, SK750) or (U20)

* "SNAPTROL"

TRAM MODEL TITAN

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	TRAM PART No.			IRC PART No.	WORKMAN PART No.	TRAM PART No.
R107	100Ω 7W	PW10-100	10W-SQ-100		R109	300Ω 7W	PW10-300	10W-SQ-300	
R108	400Ω 7W	PW10-400	10W-SQ-400						

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA				
		TRAM PART No.	MEISSNER Part No.	MERIT PART No.	MILLER PART No.	WORKMAN PART No.
L1	Ant. Input	A-0030				
L2	RF Choke (15uh)	A-0095-4			72F155AP	T944
L3	27MC Interstage	A-0191				
L4	1st Rec. Osc.	A-0029	19-6816		4202	
L5	RF Choke (2, 2mh)	A-0095-5			4204	
L6	2nd Mixer Input	A-0052				
L7	Rec. Osc.	A-0109				
L8	RF Choke (2, 2mh)	A-0095-5				
L9	RF Choke (2, 2mh)	A-0095-5				
L10	2nd IF	A-0144-1	16-6786	BC-352	12-C30	T607
L11	3rd IF	A-0144-1	16-6787	BC-353	12-C31	T608
L12	Trans. Osc. Plate	A-0029	19-6816		4202	
L13	Pi Network (11 turns)	A-0127				
L14	Filter (14 turns)	A-0126				
L15	RF Choke (15uh)	A-0095-4			72F155AP	T944
L16	RF Choke (15uh)	A-0095-4			72F155AP	T944

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	TRAM PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .76A	280VAC @ .12A DC	6.3VAC @ 5.2A	A-0002					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	TRAM PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	4800Ω	4Ω	A-0039	A-2905 ①	A-3825	22S89	S-56Z	① Drill New Mtg. Holes.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		TRAM PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4" x 6" PM 3-4Ω		P4X6X3	46A1Z3, 2	

FUSE DEVICES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
F1	AGC 2	250V 2A			312002	342001	AGC 2	HKP

MISCELLANEOUS

ITEM No.	PART NAME	TRAM PART No.	NOTES
K1	Relay	A-0135	4 PDT
M1	Transmit Crystal	A-0194	Order by Part Number, Plus Channel
M2	1st Rec. Osc. Crystal	A-0187	31.5MHz, .003%, third overtone
M3	Receive Crystal	A-0187	Order by Part Number, Plus Channel
M4	Mechanical Filter	A-0186	
M5	"S" Meter		
S1	Microphone Ass'y.	A-0188	23-Position Wafer
S2	Switch Selector	A-0171	5-Position Wafer
S3	Switch, Meter	A-0192	Push Button Type
S4	Switch, Spot	A-0190	2-Position Wafer

WIRING DATA

General-use Hook-up Wire Use BELDEN No. 8530 (Solid) Available in 12 Colors
 8524 (Stranded) Available in 12 Colors
 Shielded Antenna Lead Use BELDEN No. 8214 Lowest Loss (RG-8/U Type)
 8237 Low Loss (RG-8/U)
 8240 (Solid) Miniature (RG-58/U)
 8259 (Stranded) Miniature (RG-58A/U)
 Coiled Microphone Cable Use BELDEN No. 8497 3 Conductor - 1 Shielded for Press-to-Talk (Neoprene)
 8498 3 Conductor - 1 Shielded for Press-to-Talk (Vinyl)
 Ignition Noise Suppression Use BELDEN No. 7300-Series Spark-Plug Sets
 Bonding Strap Use BELDEN No. 8661 (3/8 in.)