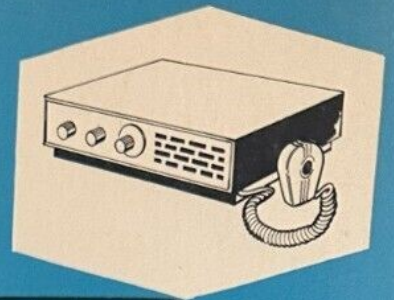


SAMS PHOTOFACT[®] CB RADIO SERIES



CB-21
21
APRIL 1969

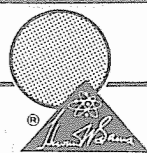


CONTENTS

TRADE NAME AND MODEL	PAGE	TRADE NAME AND MODEL	PAGE	TRADE NAME AND MODEL	PAGE
ALLIED		METROTEK		PEARCE-SIMPSON	
A-2543 (17-9801S).....	5	Bronco (CB-280).....	65	Power Match.....	85
JOHNSON		MIDLAND		REGENCY	
Messenger 320 (242-320).....	15	13-150.....	75	Imperial (CB-253).....	87
LAFAYETTE				SQUIRES-SANDERS	
Dyna-Com 2 (99-3133L).....	35			Admiral.....	101
HB-625 (99-3148WX).....	45				

HOWARD W. SAMS & CO., INC.

Indianapolis, Indiana



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

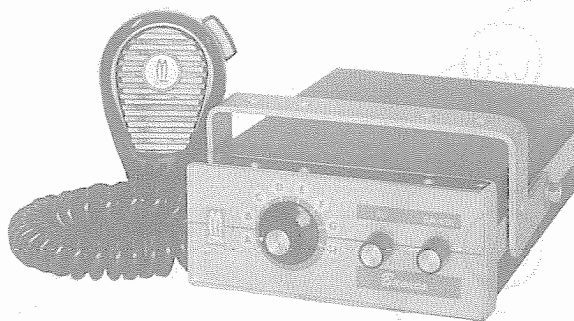
NOTE

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, SUBPARTS C & D.)

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-ohm dummy load or the normally used antenna system.



METROTEK MODEL BRONCO (CB-280)

ALIGNMENT INSTRUCTIONS

SUGGESTED ALIGNMENT TOOLS:

A1 thru A6.	GENERAL CEMENT: 9296,9297,9300	WALSCO: 2510,2546,2547
A7 thru A12,A14.	GENERAL CEMENT: 8606,8606L,8869	WALSCO: 2543,2544,2588
A13.	GENERAL CEMENT: 8868,8987,9089	WALSCO: 2531-X,2541,2587

RECEIVER

Connect an AC VTVM across Speaker Voice Coil Terminals. Turn Volume Control fully clockwise; turn Squelch Control fully clockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Base of Q2 (Rec. Mixer), low side to Chassis. Tune to 455KC (Mod.).	Any	A1 thru A6	Adjust for maximum.
High side thru .01mfd to Antenna Receptacle. Low side to chassis. Tune to 27.085MC (Channel 11) (Mod.).	11	A7,A8, A9	Adjust for maximum.

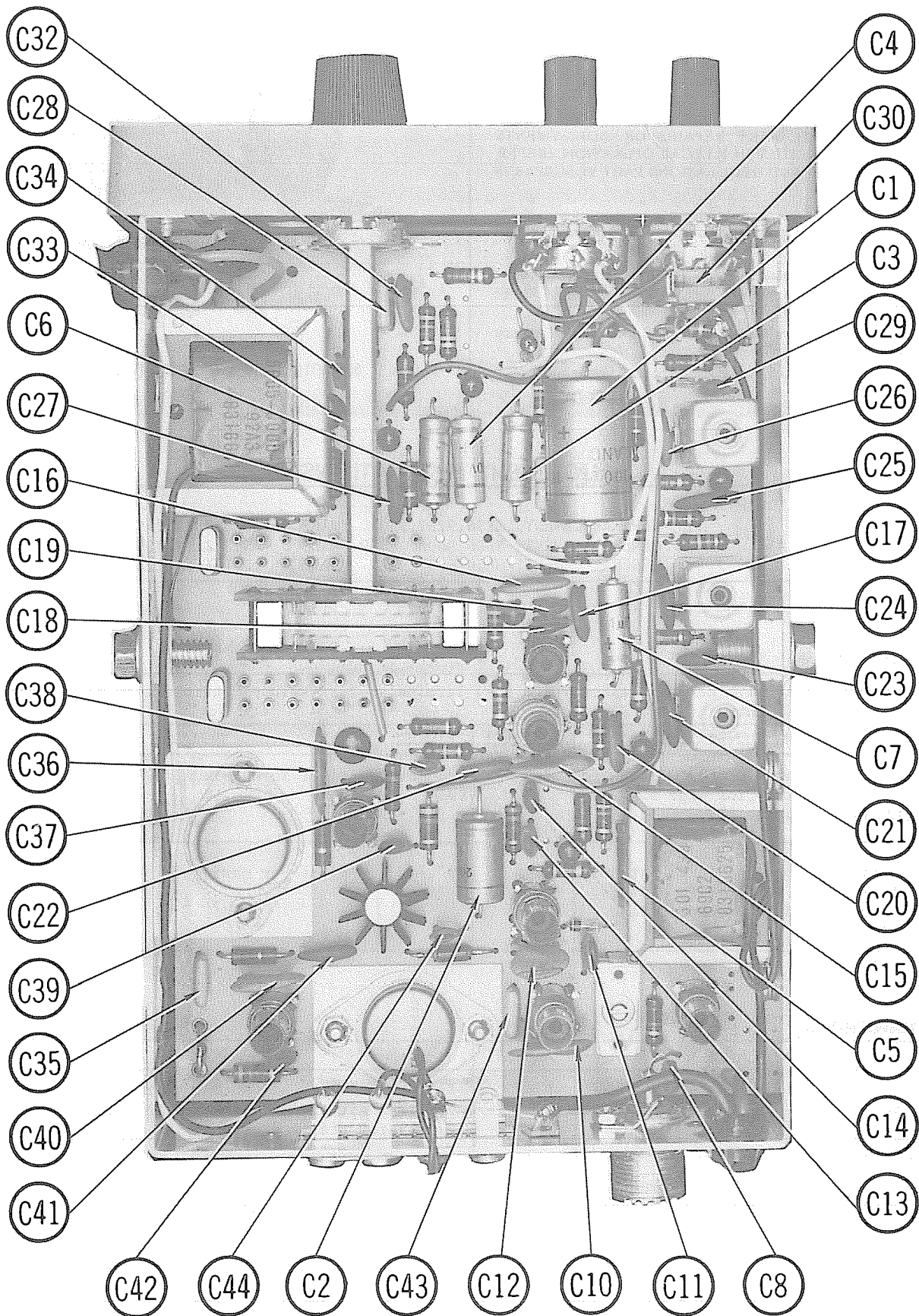
TRANSMITTER

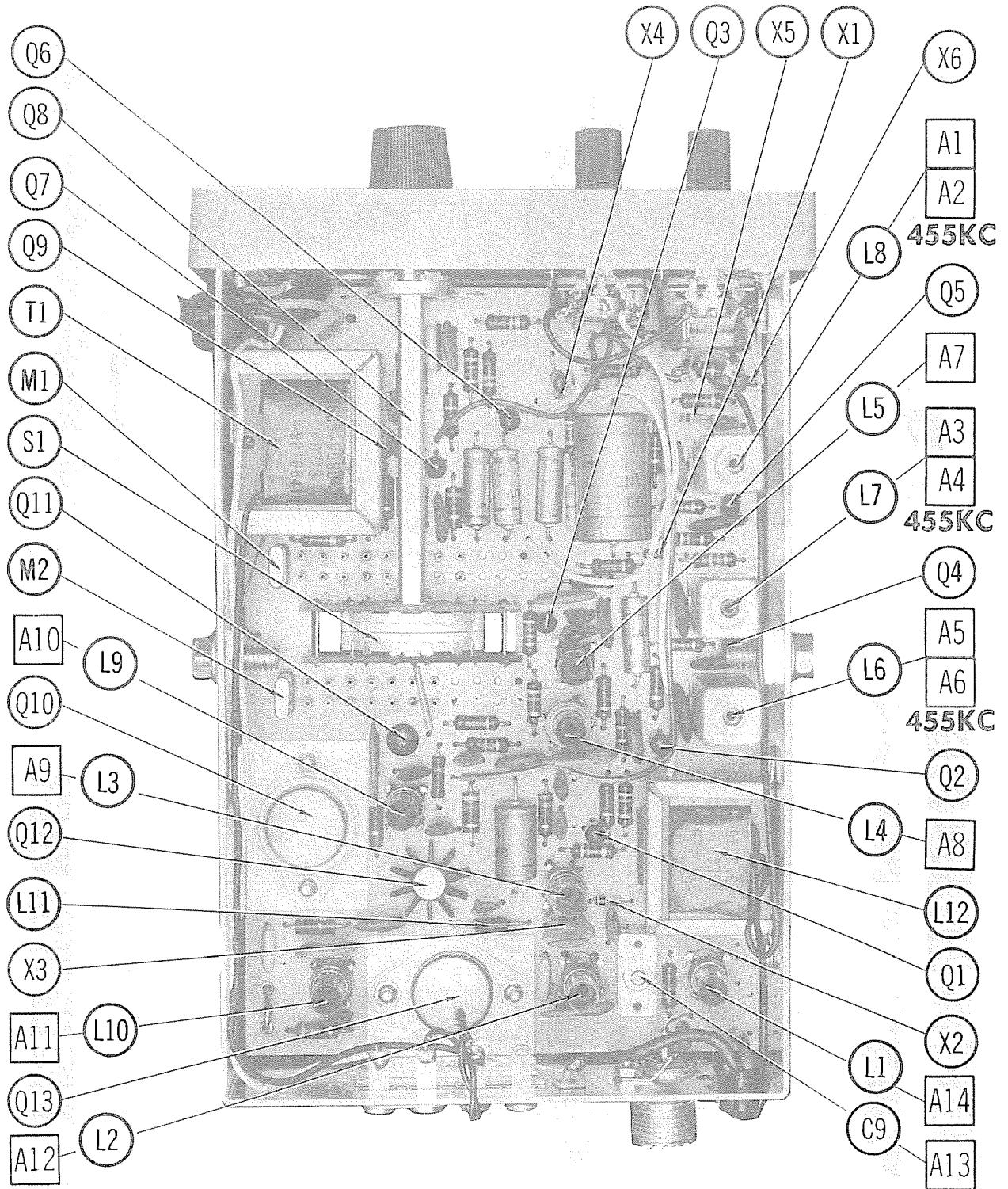
INDICATOR	ADJUST	REMARKS
Accurate Frequency Meter with Scope.	A10	Key Transmitter. Adjust for correct frequency. Key transmitter several times to ensure Oscillator starting properly.
RF Wattmeter or Field Strength MA Meter, and a 0-500ma DC Current Meter.	A11 thru A14	Insert DC Current Meter in Series with collector of Q13 (Final Amp.). Key Transmitter. Adjust for maximum RF Power output and MINIMUM DC current.

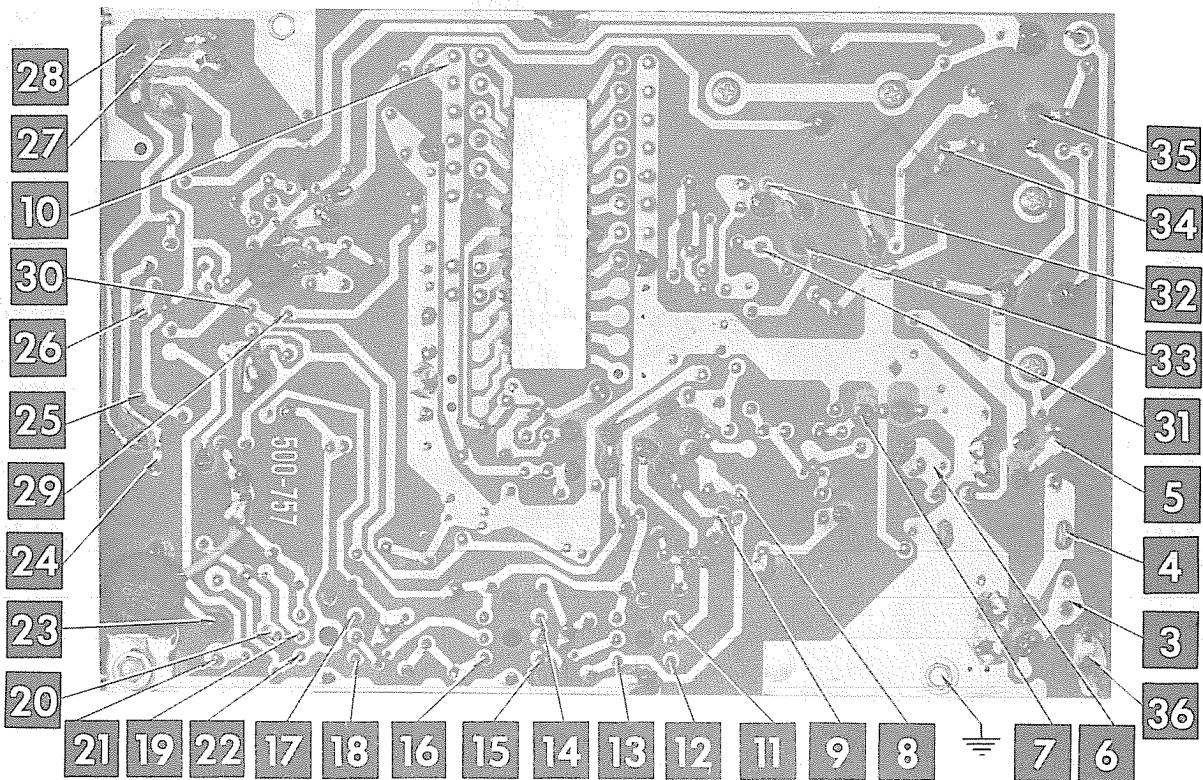
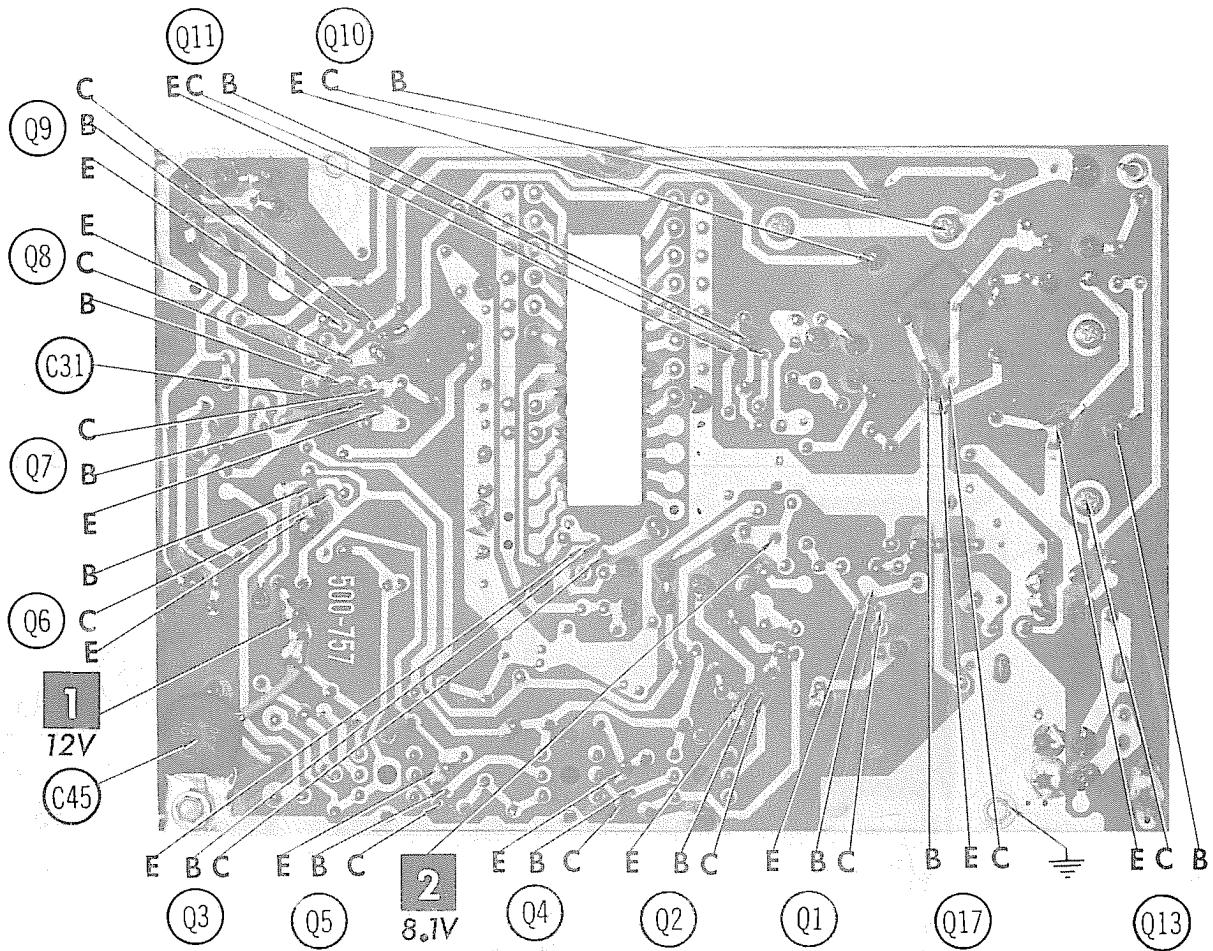
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

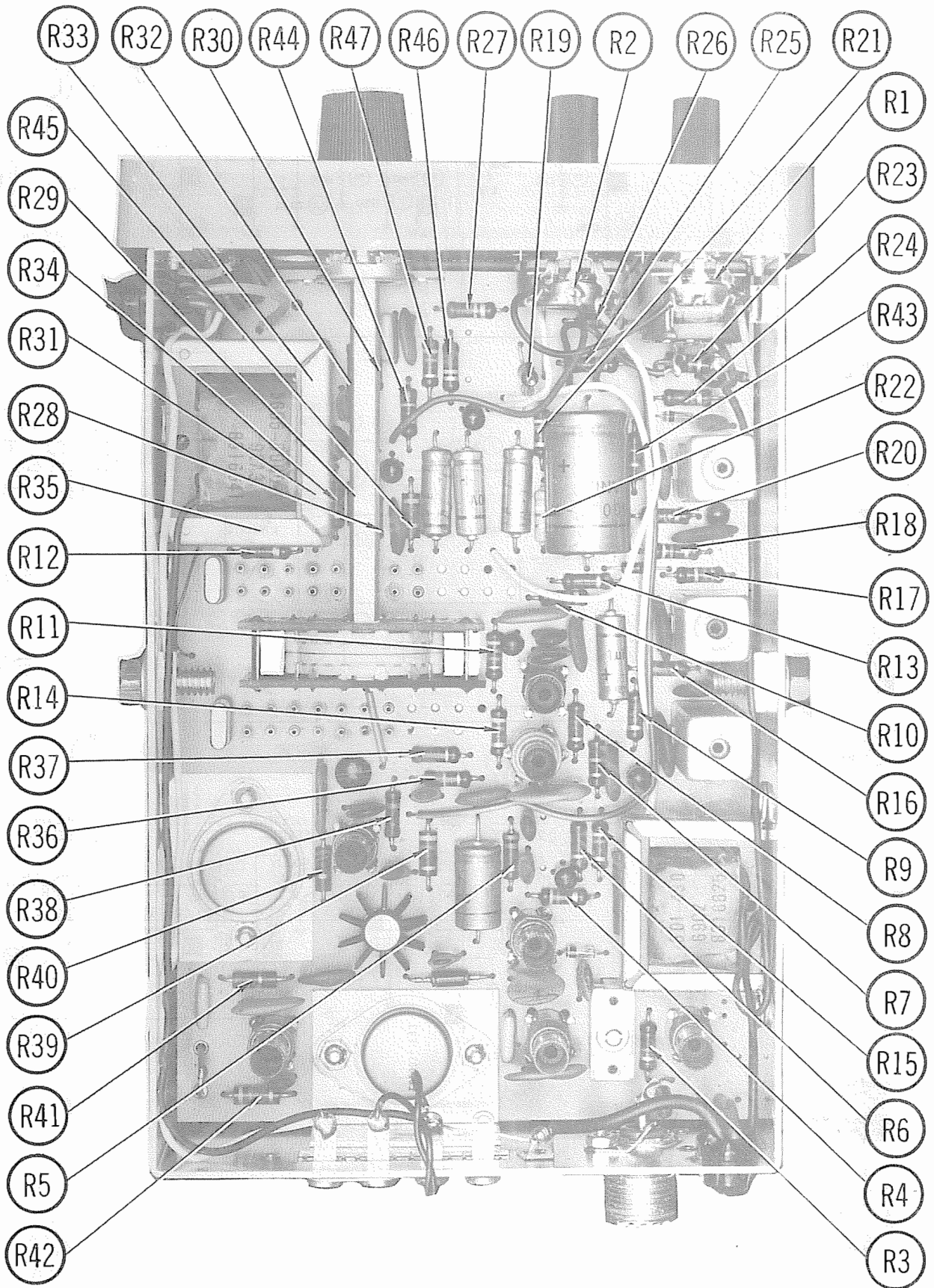
© 1969 Howard W. Sams & Co., Inc. Printed in U. S. of America TY423

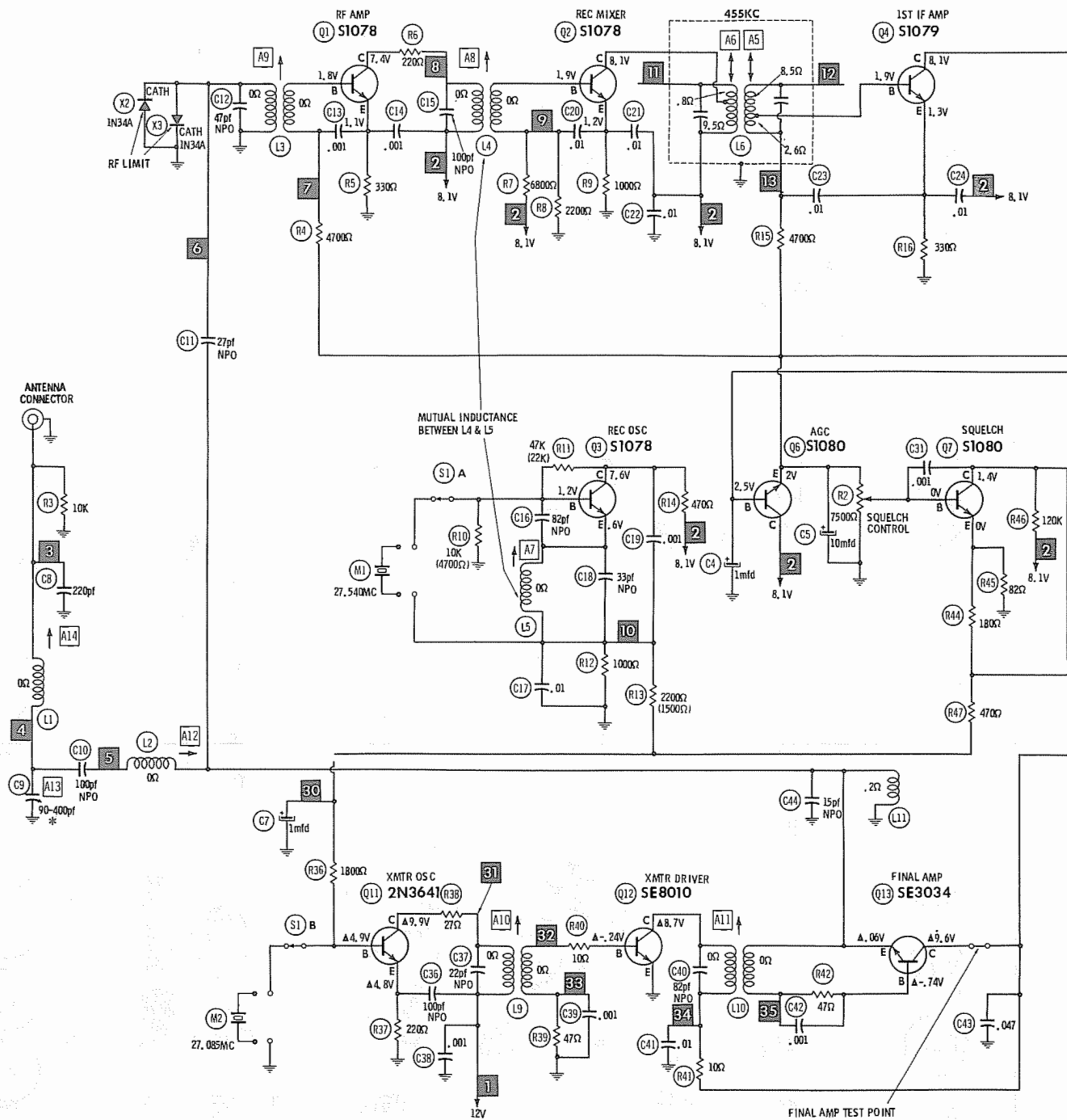
METROTEK MODEL BRONCO











* NOMINAL VALUE, MAY VARY
 † MEASURED IN TRANSMIT POSITION

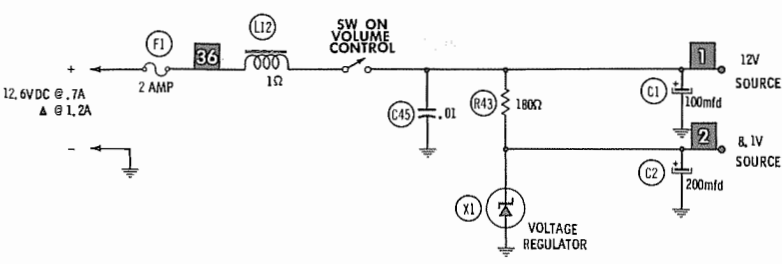
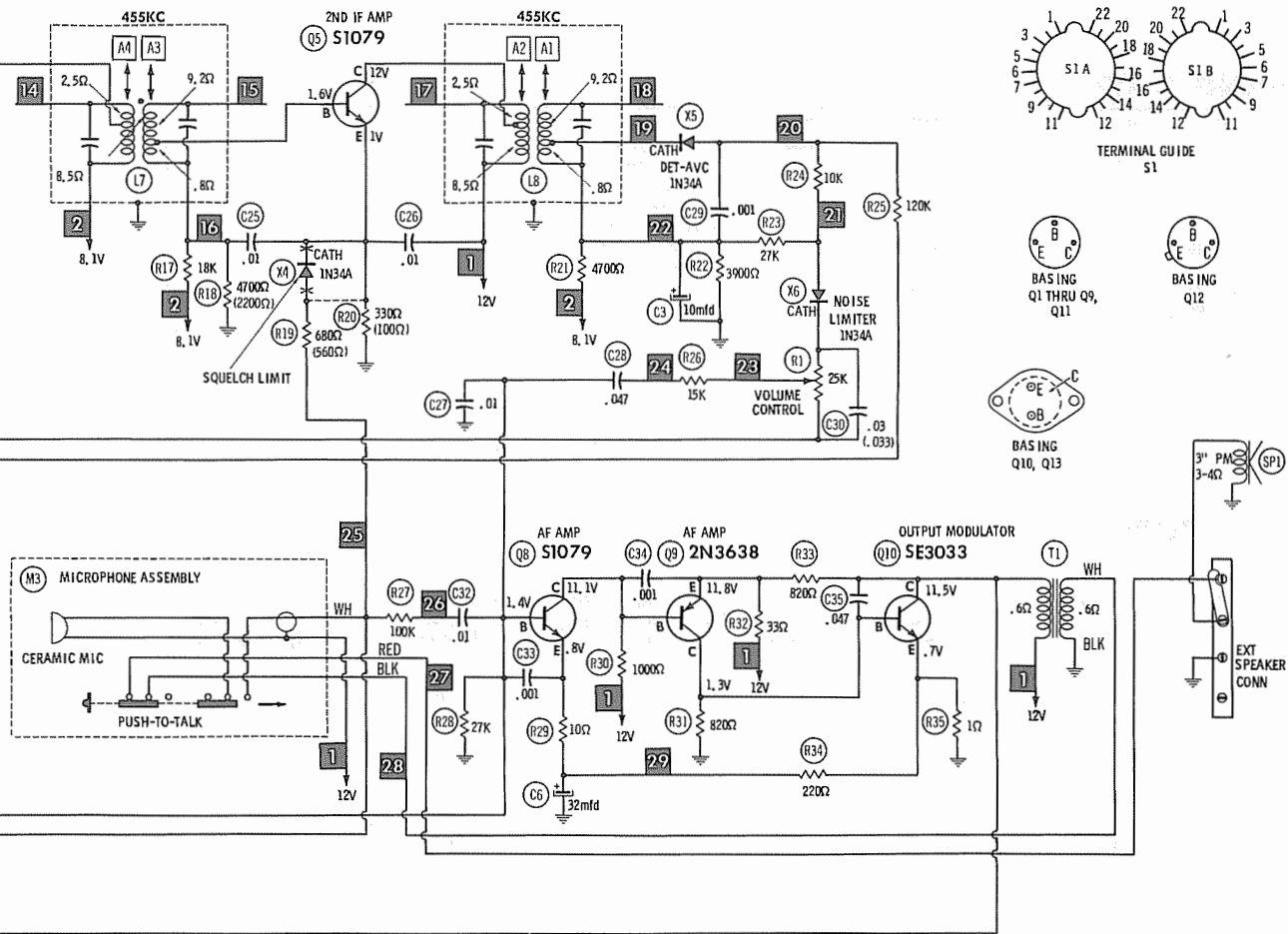
Resistors are 1/2 watt or less and rated
 10% or 20% unless otherwise indicated.

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.
7. Resistance measurements not given because of the wide variation in internal resistance of transistor.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**

© Howard W. Sams & Co., Inc. 1969



METROTEK MODEL BRONCO

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.)

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	S1078	RF Amp		DS-81	GE-20	TR-21	HEP50	SK-3018	ECG 108
Q2	S1078	Rec Mixer		DS-81	GE-20	TR-21	HEP50	SK-3018	ECG 108
Q3	S1078	Rec Oscillator		DS-81	GE-20	TR-21	HEP50	SK-3018	ECG 108
Q4	S1079	1st IF Amp		DS-81	GE-20	TR-21	HEP50	SK-3018	ECG 108
Q5	S1079	2nd IF Amp		DS-81	GE-20	TR-21	HEP50	SK-3018	ECG 108
Q6	S1080	AGC		DS-66	GE-10	TR-21	HEP54	SK-3020	ECG 123
Q7	S1080	Squelch		DS-66	GE-10	TR-21	HEP54	SK-3020	ECG 123
Q8	S1079	AF Amp		DS-66	GE-10	TR-21	HEP54	SK-3020	ECG 123
Q9	2N3638	AF Amp			GE-22	TR-19	HEP716	SK-3025	ECG 129
Q10	SE3033	Output-Modulator			GE-14	TR-26	HEP247	SK-3027	ECG 130
Q11	2N2641	Xmtr Oscillator		DS-81	GE-17	TR-22	HEP50	SK-3018	ECG 108
Q12	SE8010	Xmtr Driver							
Q13	SE3034	Final Amp							

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS		NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X1	1N4738		1ZM8.2			1TA8.2A	8.2Volt Zener
X2	1N34A	1N34AS	1N34A	ECG 109			
X3	1N34A	1N34AS	1N34A	ECG 109			
X4	1N34A	1N34AS	1N34A	ECG 109			
X5	1N34A	1N34AS	1N34A	ECG 109			
X6	1N34A	1N34AS	1N34A	ECG 109			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000 15V		PRS1295	EA30-1000	BR1000-25		TC2510	TL-1166.5
C2	200 10V		CRE431A	EA15-250	NLW200-12	MT1-23	TT10X200	TL-1137
C3	10 25V		CRE607A	EA30-10	NLW10-25	MT1-5	TT25X10	TL-1204
C4	1 40V		CRE750A	EA50-2	NLW1-50	MT1-1	TT50X1	TL-1300
C5	10 25V		CRE607A	EA30-10	NLW10-25	MT1-5	TT25X10	TL-1204
C6	32 10V		CRE413A	EA15-30	NLW35-12	MT1-14	TT12X35	TL-1132
C7	1 40V		CRE750A	EA50-2	NLW1-50	MT1-1	TT50X1	TL-1300

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.
C8	220 10%			CPR-220J	CD15E221J500	DM-15-221	SX322	MS-322
C9	90-400							
C10	100 NPO 10%		NPO-D1 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C11	27 NPO 10%			TCZ-27		CCTO-270	CNO427	10TCC-Q27
C12	47 NPO 10%		NPO-D1 47	DTZ-47	CX601CG470K	CCTO-470	CNO447	10TCC-Q47
C13	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C14	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C15	100 NPO 10%		NPO-D1 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C16	82 NPO 10%			DTZ-82		CCTO-82	CNO482	10TCC-Q82
C17	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C18	33 NPO 10%		NPO-D1 33	DTZ-33	CS601CG330K	CCTO-330	CNO433	10TCC-Q33
C19	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C20	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C21	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C22	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C23	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C24	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C25	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C26	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C27	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C28	.047		DBE6S47	DD-503	DMF4S47	4DP-3-473	PVC4147	4PS-S47
C29	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C30	.03		DBE6S33	DD-303	DMF4S33	4DP-2-333	PVC6133	4PS-S33
C31	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C32	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C33	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C34	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C35	.047		DBE6S47	DD-503	DMF4S47	4DP-3-473	PVC4147	4PS-S47
C36	100 NPO 10%		NPO-D1 100	DTZ-100	CV601CG101K	CCTO-101	CNO310	10TCC-T10
C37	22 NPO 10%		NPO-D1 22	DTZ-22	CY601CG220K	CCTO-220	CNO422	10TCC-Q22
C38	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C39	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C40	82 NPO 10%			DTZ-82		CCTO-82	CNO482	10TCC-Q82
C41	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10
C42	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C43	.047		DBE6S47	DD-503	DMF4S47	4DP-3-473	PVC4147	4PS-S47
C44	15 NPO 10%		NPO-D1 15	DTZ-15	CZ601CG150K	CCTO-150	CNO415	10TCC-Q15
C45	.01		GPD X5S103K	DD-103	BYX601ZU103M	CCD-103	JF110	10TS-S10

METROTEK MODEL BRONCO

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	25K	100-093-14 (4703-0000-023)	F1-25K,SSK102, KR-1	A47-25K,SKSS-3, SWE-12 or (NP-25K-S, UP-C-400,NWE-12)	Q11-120,76-1 or (BU1,CF11,SS1, GC)*	UA253L,SK3500, US41 or (RU253L,SL38, SK3500,US41) or (U29,US26)
R2	Squelch	7500	100-093-15 (4703-0000-024)	F1-7500,SSK102	A47-7500-S,KSS-3 or (NP-7500-S, UP-C-400)	Q11-115 or (BU1,CF9,SS1, DC1)*	RU752L,SL38, SK3500 or (UA14L,SK3500) or (U20)

* "SNAPTROL".

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Antenna Loading	102-059			
L2	Pi Network	102-058			
L3	RF Input	102-193			
L4	RF Interstage	102-191			
L5	Receive Oscillator	102-192			
L6	Input IF	301-420-1			
L7	Interstage 1F	301-420-2			
L8	Output IF	301-420-3			
L9	XMTR Oscillator	102-056			
L10	Buffer	102-057			
L11	RFC (luf)	205-11	19-1000	74F106AP	T805

PARTS LIST AND DESCRIPTION (CONTINUED)

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

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L12	1.2A DC Transmit	1	8.5mh	301-430	C-4095	TC-2	TR-155	TY17XT	

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	12.8	4	301-429					

SPEAKER

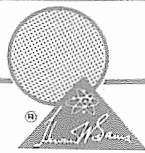
ITEM No.	TYPE			REPLACEMENT DATA			NOTES
				MFGR. PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3"	PM	4 ohms	(1301-0000-006)	3K7	30A05	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3AG, 2A, 250V	155079	301-441-2	AGC 2	HHJ	312002	150145	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
M1	Crystal		Receive 27.540 (Channel 11)
M2	Crystal	301-373-11	XMTR 27.085 (Channel 11)
M3	Microphone Assembly	500-755-2	Ceramic
S1	Switch, Selector		Trollex



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

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, SUBPARTS C & D.)

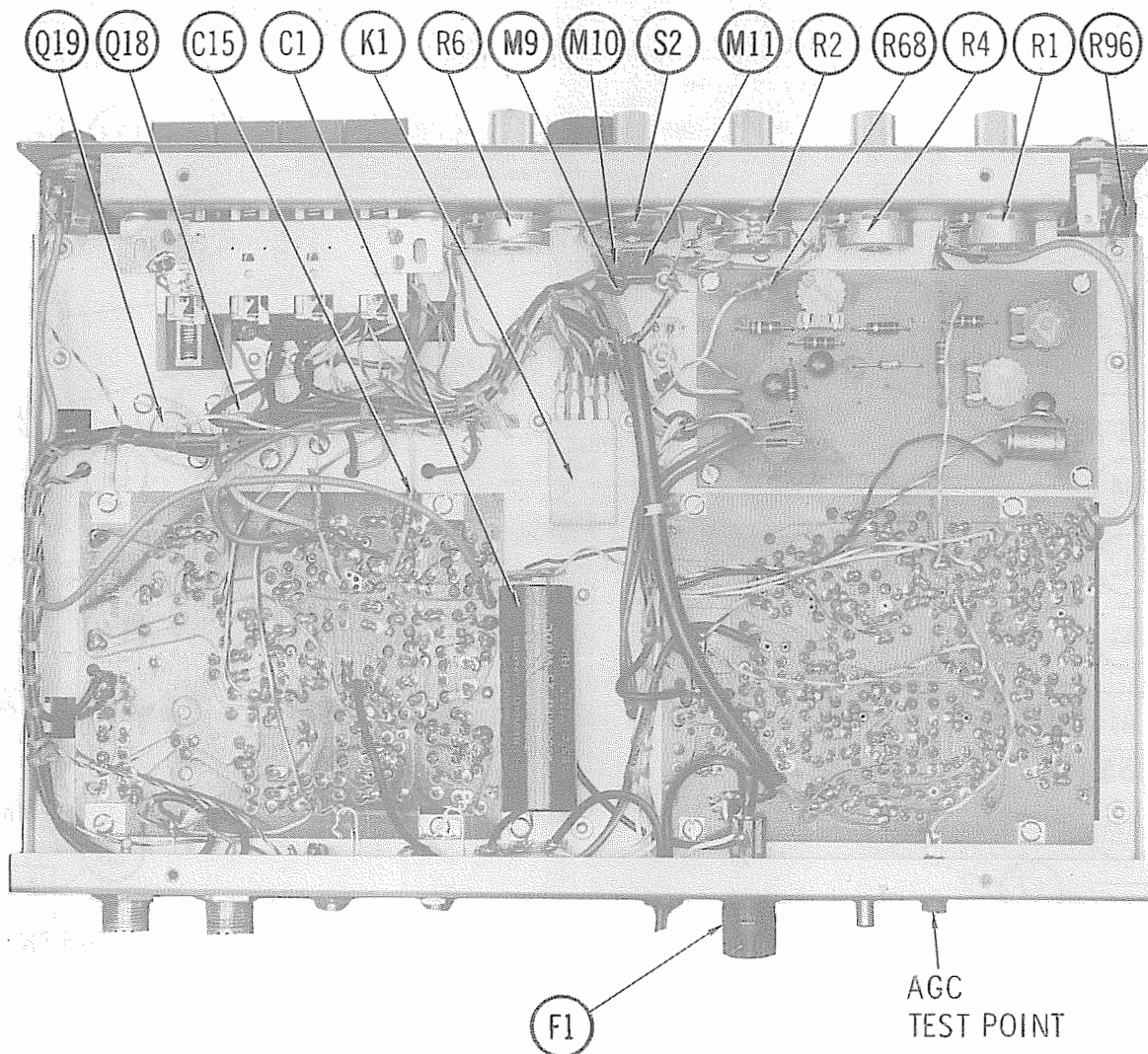
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

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-ohm dummy load or the normally used antenna system.



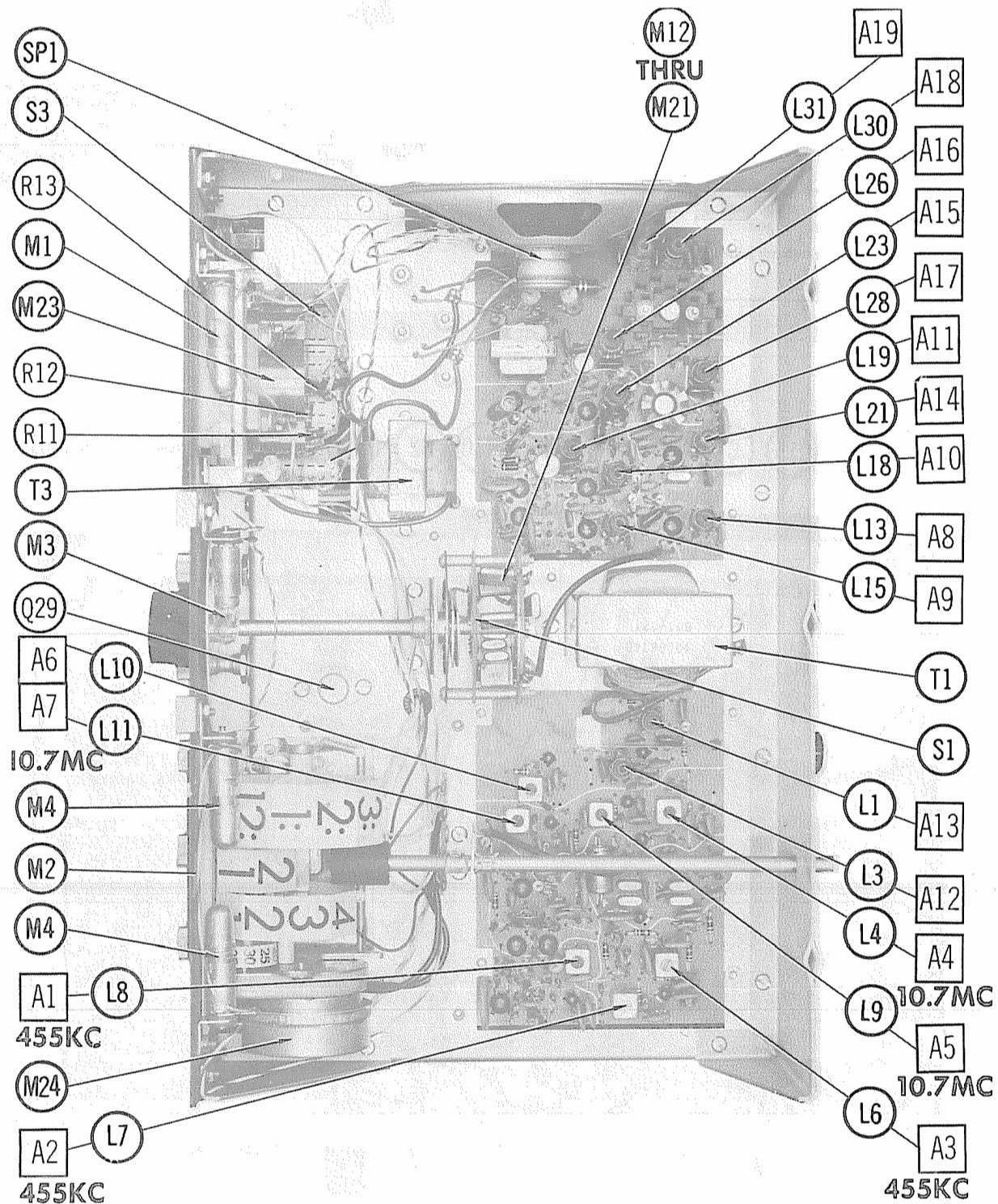
SQUIRES-SANDERS MODEL ADMIRAL



SQUIRES-SANDERS MODEL ADMIRAL

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

© 1969 Howard W. Sams & Co., Inc. Printed in U. S. of America TY402



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A7.....GENERAL CEMENT #8868,8987,9089.....WALSCO #2531-X,2541,2587
 A8 thru A19.....GENERAL CEMENT #8606,8869,9302.....WALSCO #2511,2543,2583

RECEIVER

Connect an AC VTVM across speaker terminals. Set Delta Tune to center position. Adjust Volume Control to midrange, Squelch Control fully counterclockwise, and Silencer Gain fully clockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to base of Q4 (2nd Rec. Mixer), low side to chassis. Tune to 455KC (Mod.).	Any	A1,A2, A3	Adjust for maximum.
High side thru .01mfd to base of Q2 (1st Rec. Mixer), low side to chassis. Tune to 10.7MC (Mod.).	Any	A4	Adjust for maximum.
"	Any	A5,A6, A7	Connect a DC VTVM to point Δ , and adjust for maximum.
High side thru .01mfd to Antenna Connector, low side to chassis. Tune to 27.115MC (Channel 13) (Mod.).	13	A10,A11, A12,A13	Adjust for maximum. (These Adjustments made after alignment of A8 & A9.)

SQUIRES-SANDERS MODEL ADMIRAL

TRANSMITTER

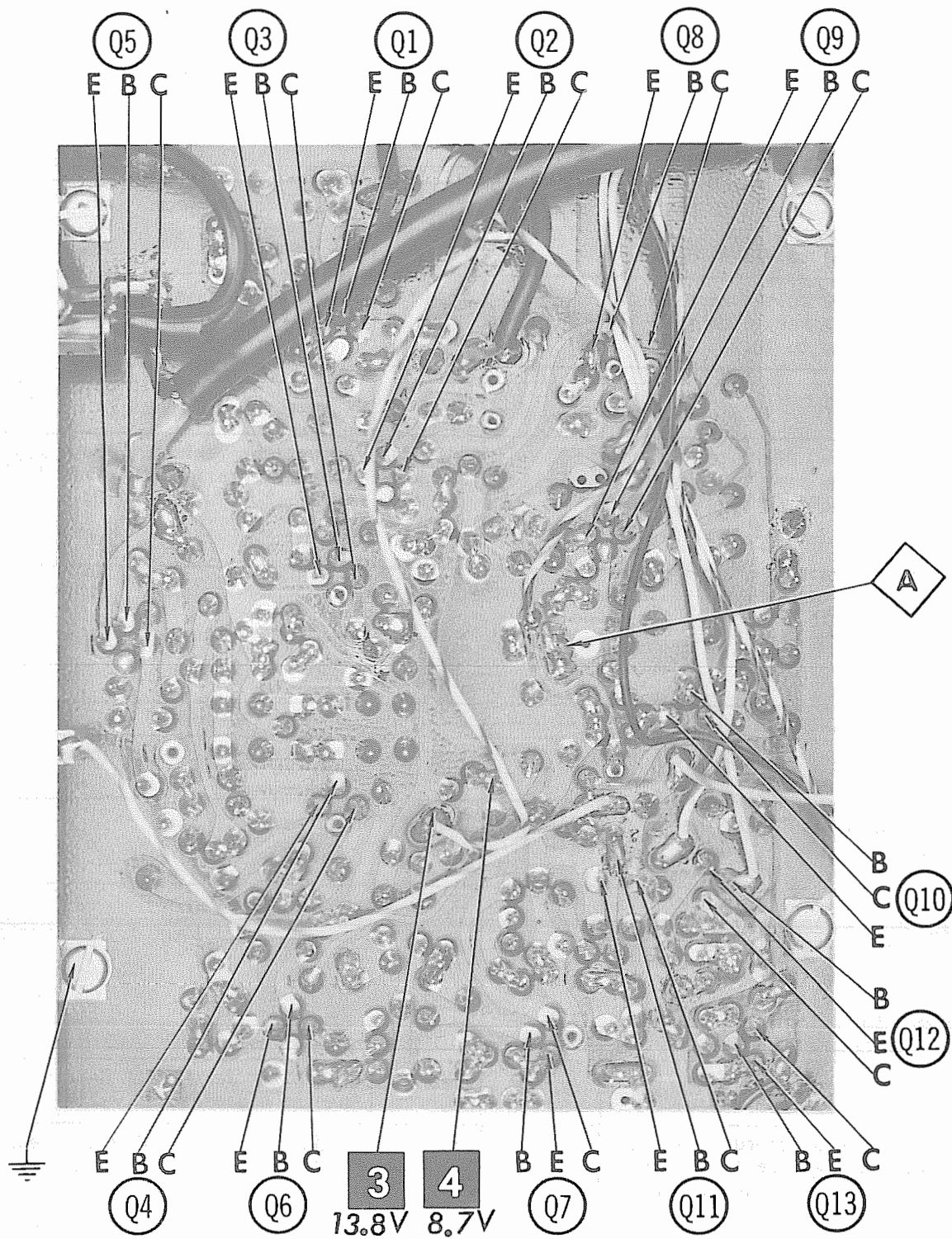
INDICATOR	ADJUST	REMARKS
Frequency Meter	A8, A9	Key Transmitter and adjust for proper frequency on channels 1, 13, and 23.
RF Wattmeter or Field-Strength Meter.	A14,A15, A16,A17, A18,A19	Adjust for maximum.

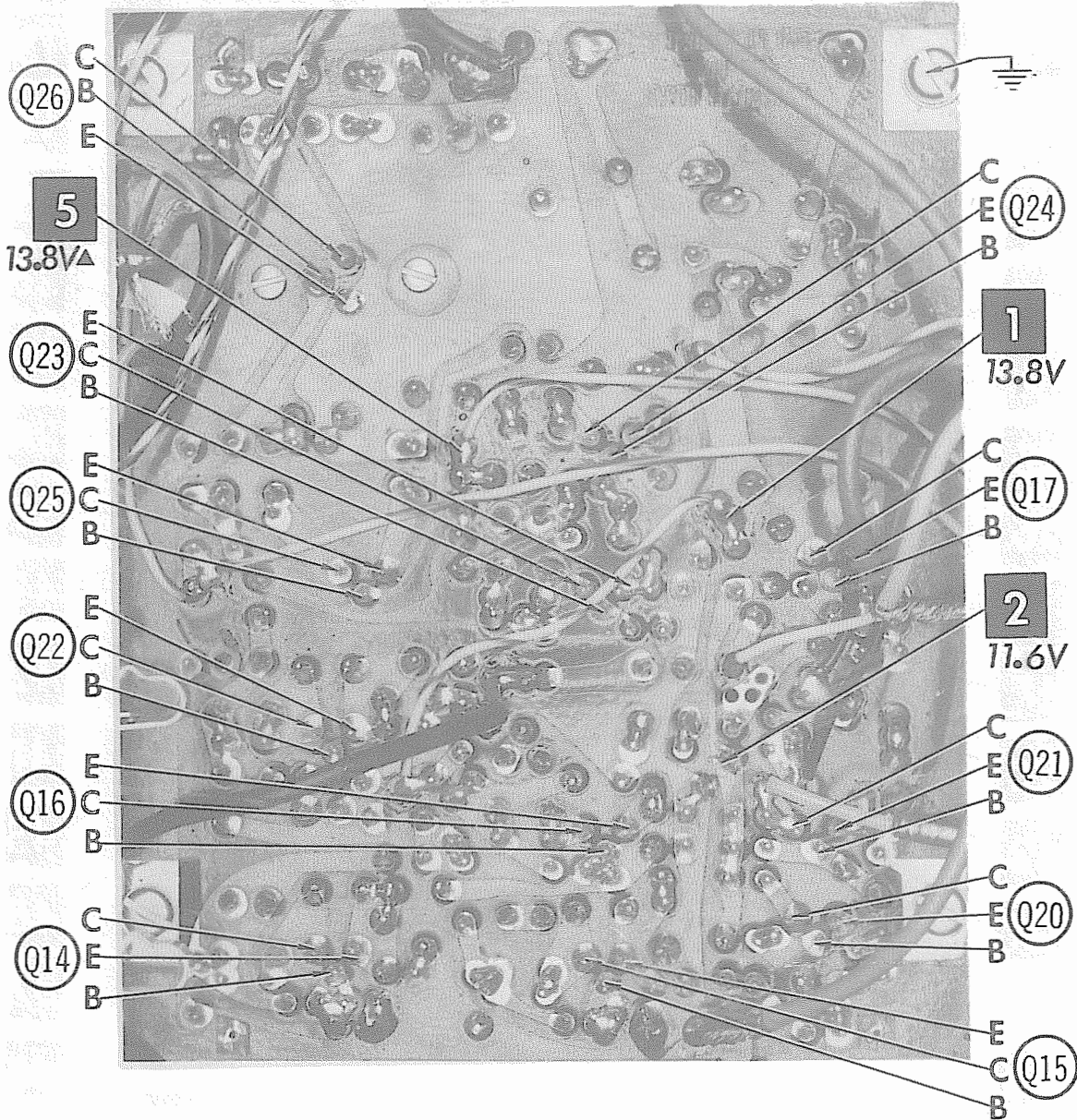
METER CALIBRATION

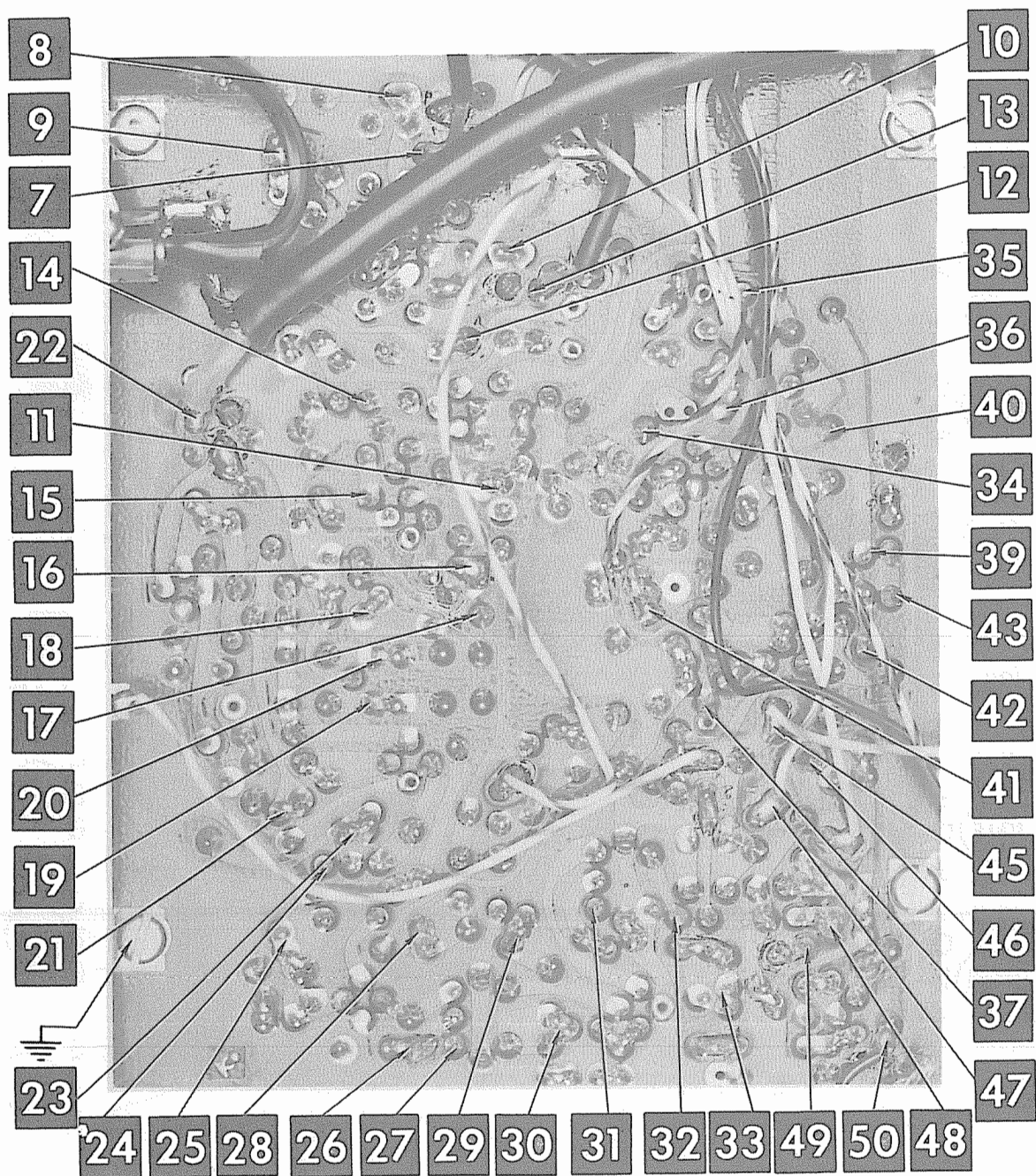
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
	Any	R9	Adjust for Zero Meter Reading with Antenna Disconnected.
High side thru .01mfd to antenna connector, low side to chassis. Tune to 27.085MC (Channel 11) (Mod.).	11	R8	Adjust R8 for "S-9" meter reading with 50 microvolts input. Readjust R9 if necessary.

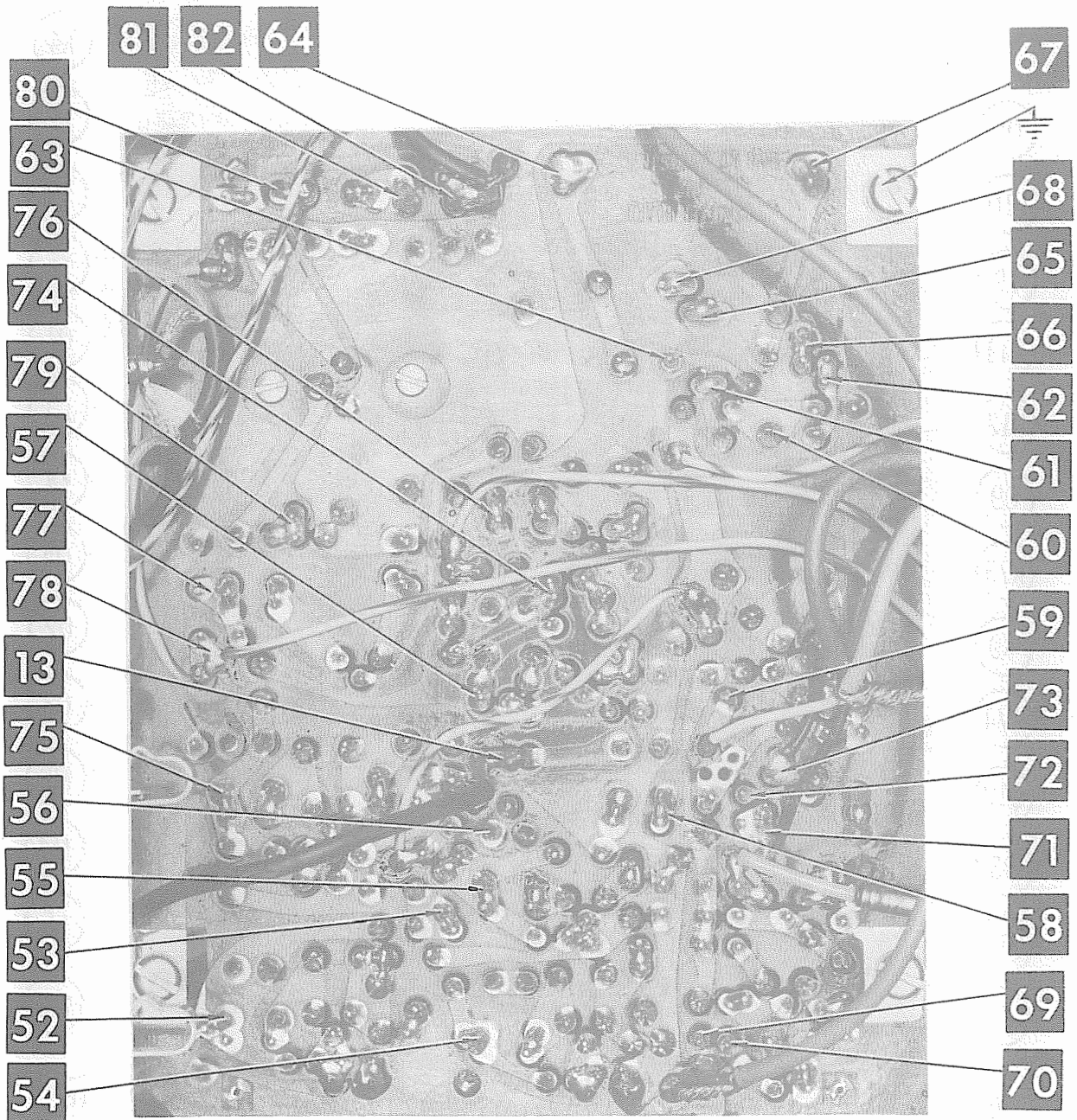
POWER SUPPLY ADJUSTMENT

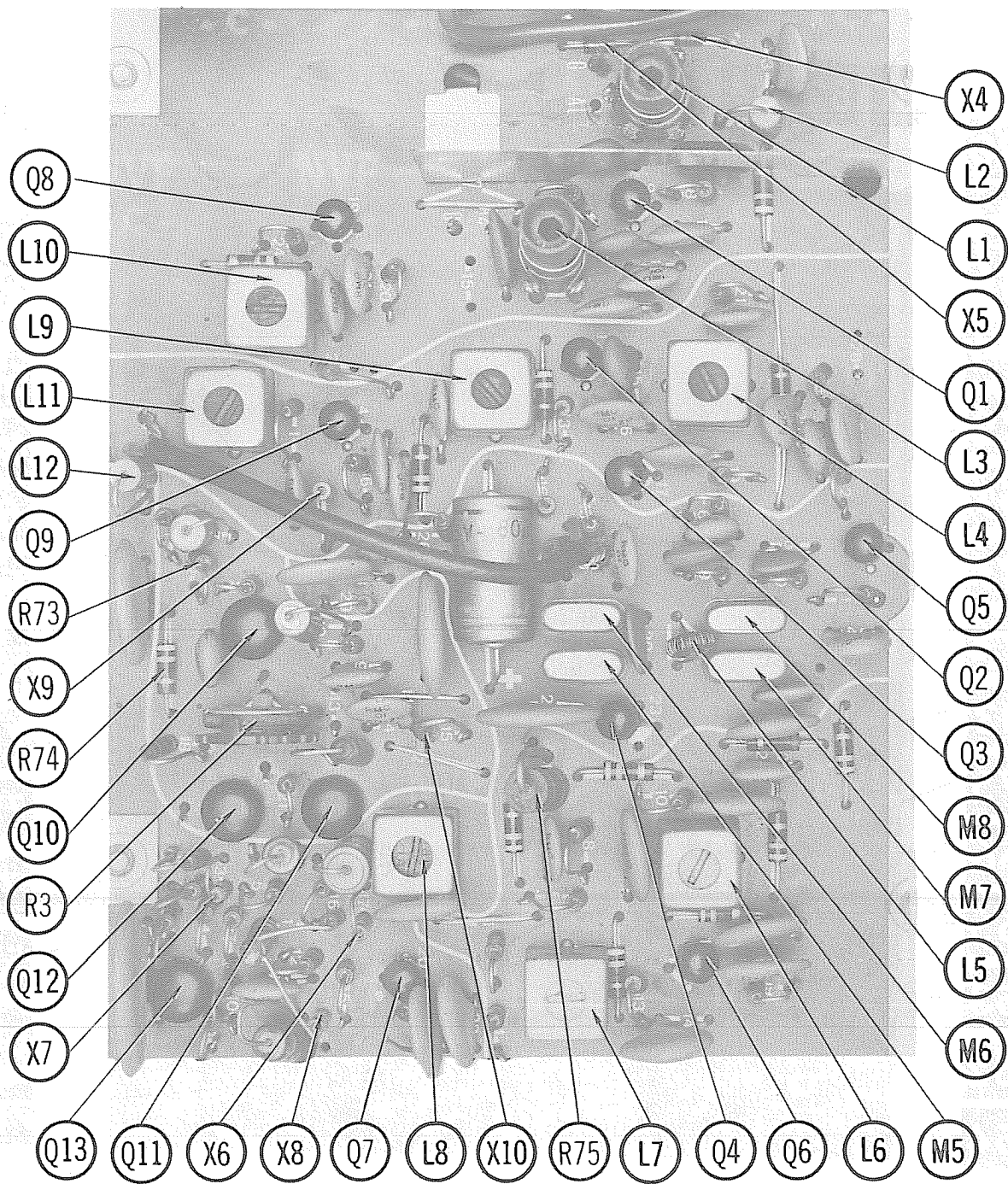
		R7	Adjust for 13.8V DC Output.
--	--	----	-----------------------------

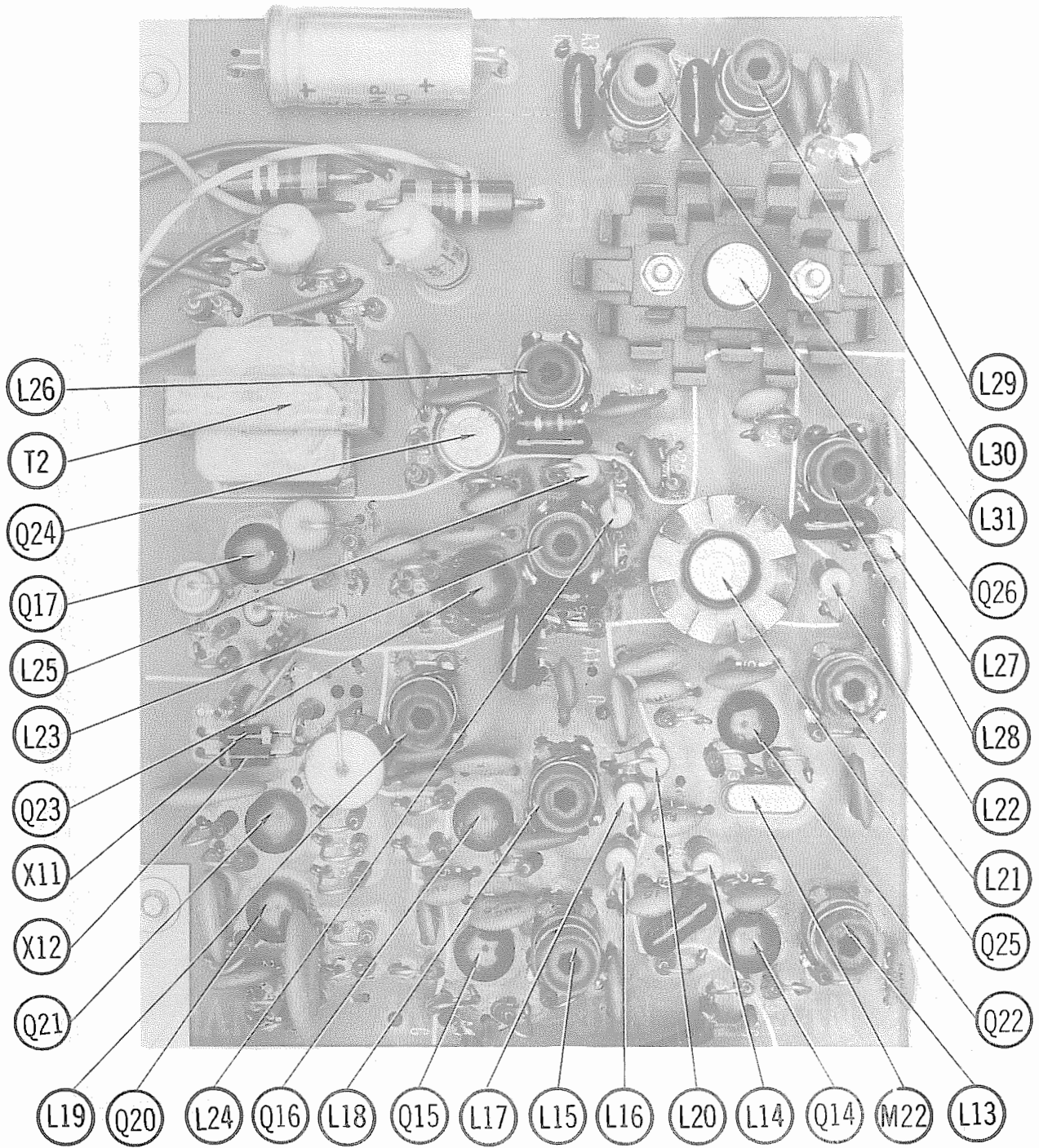


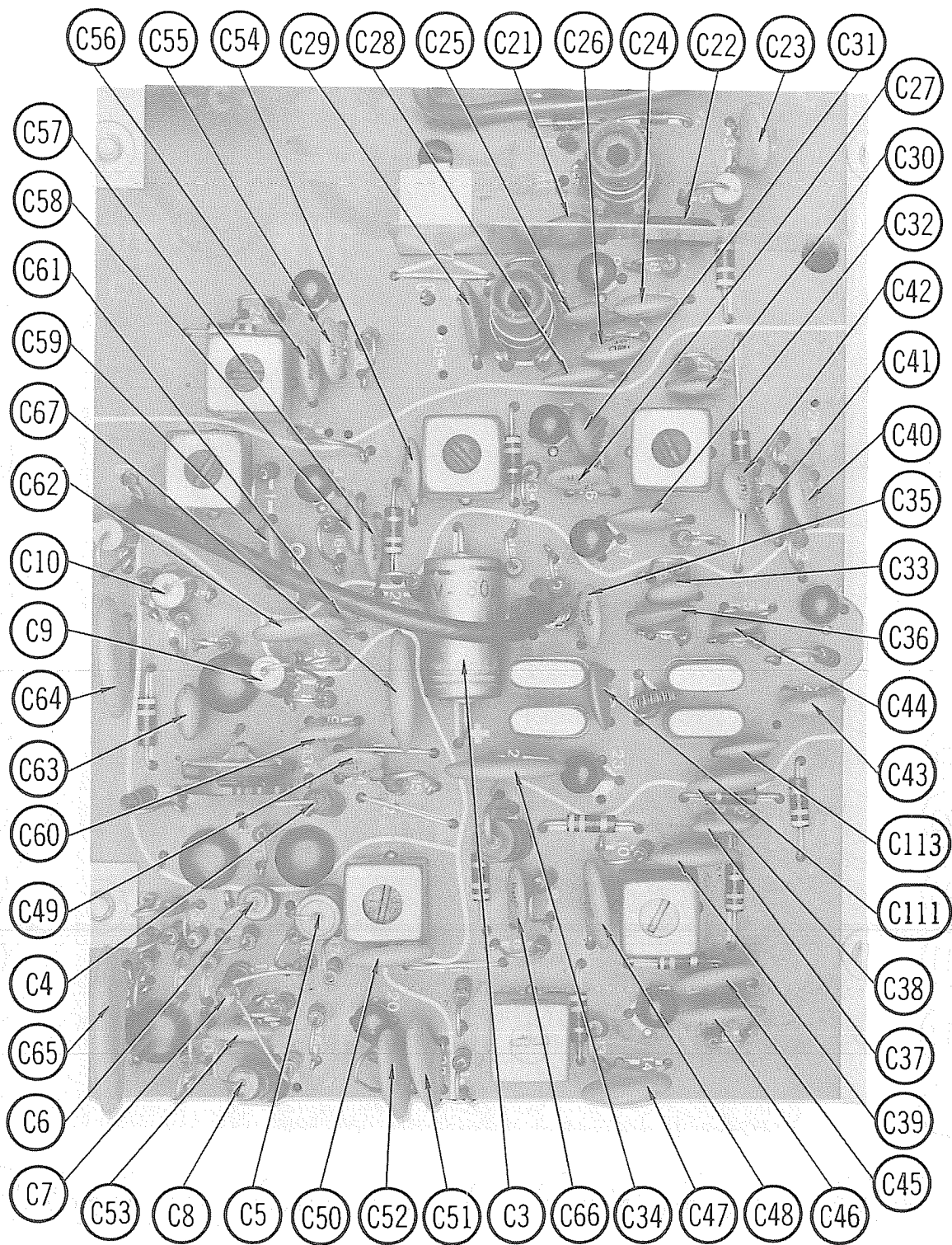


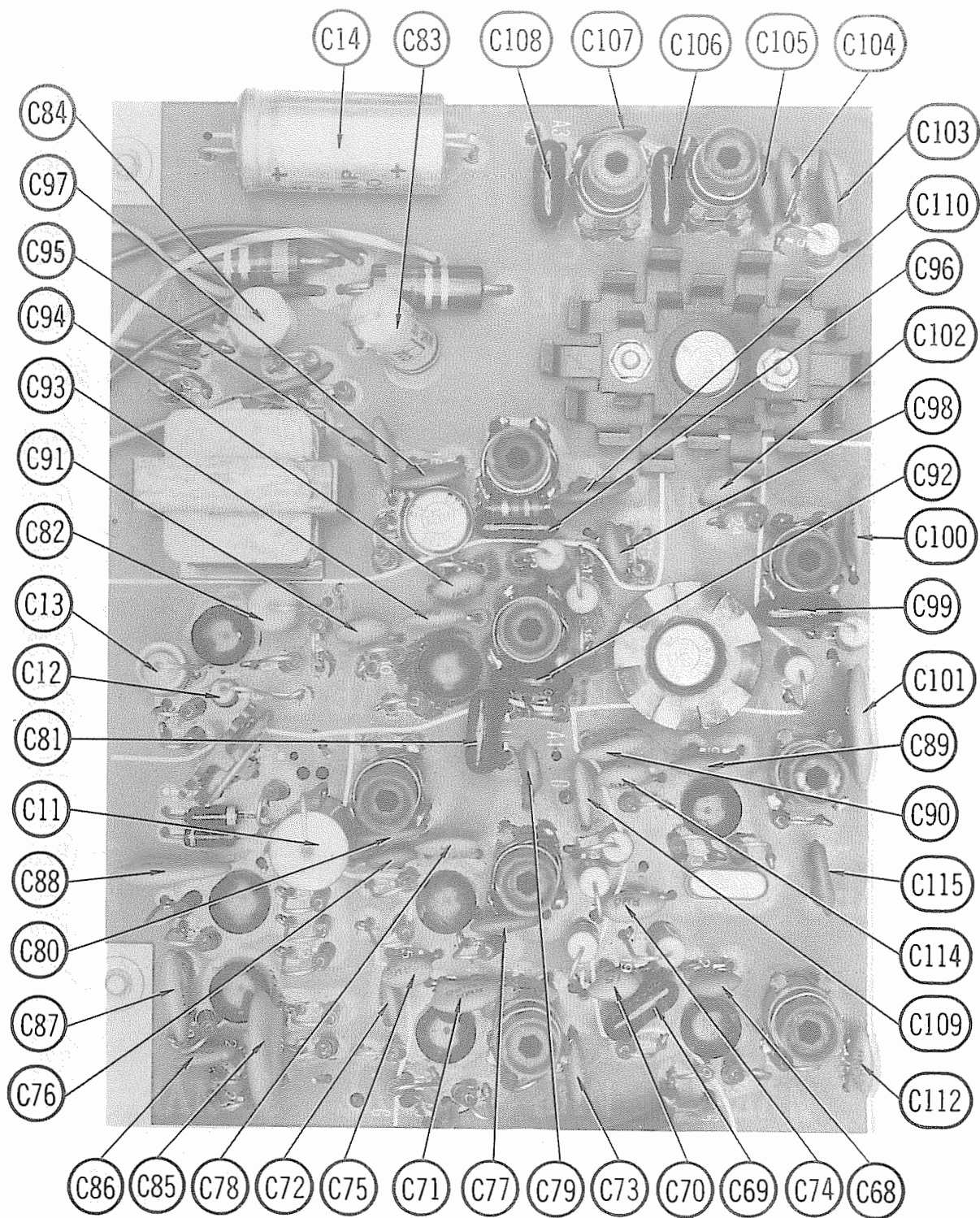


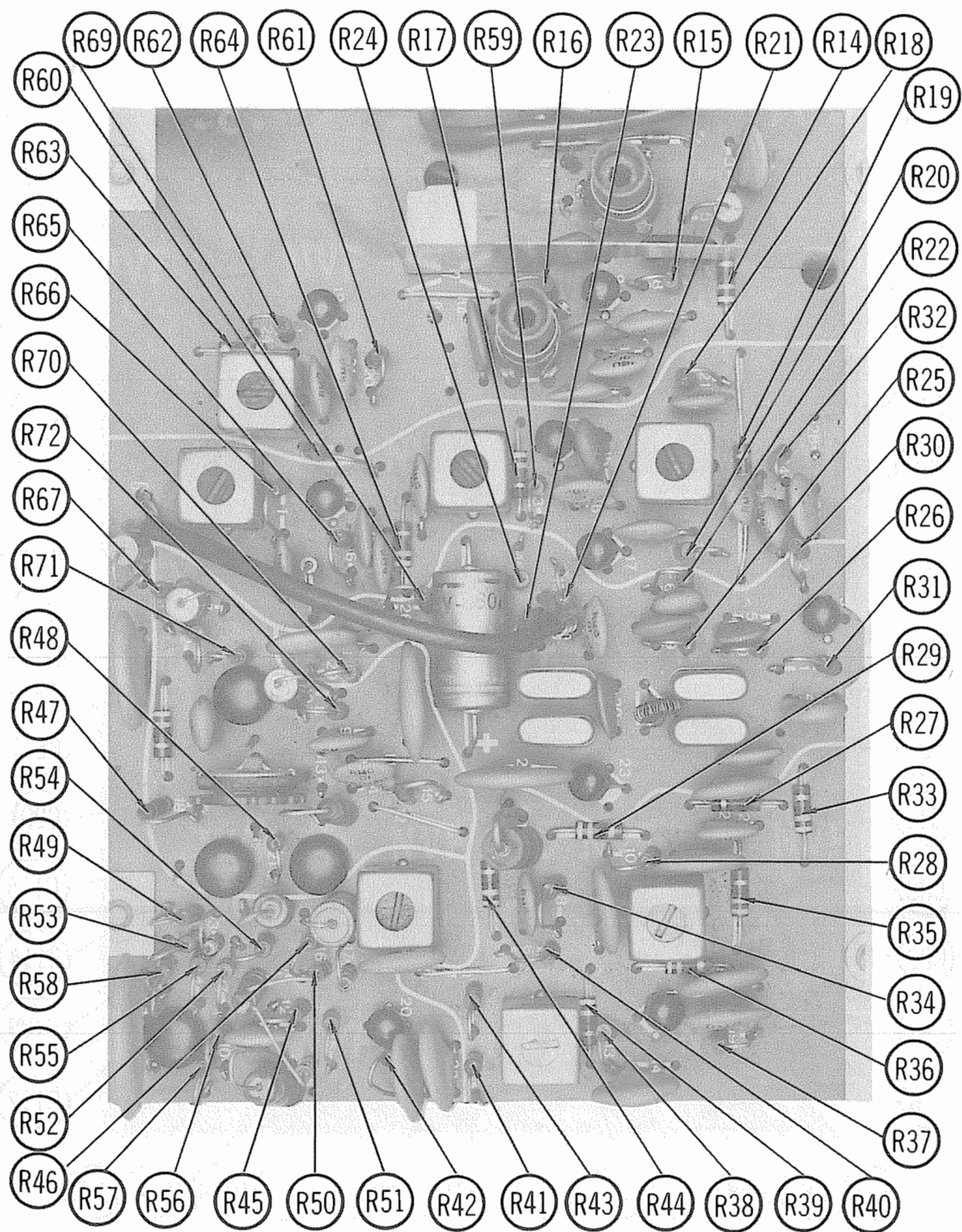


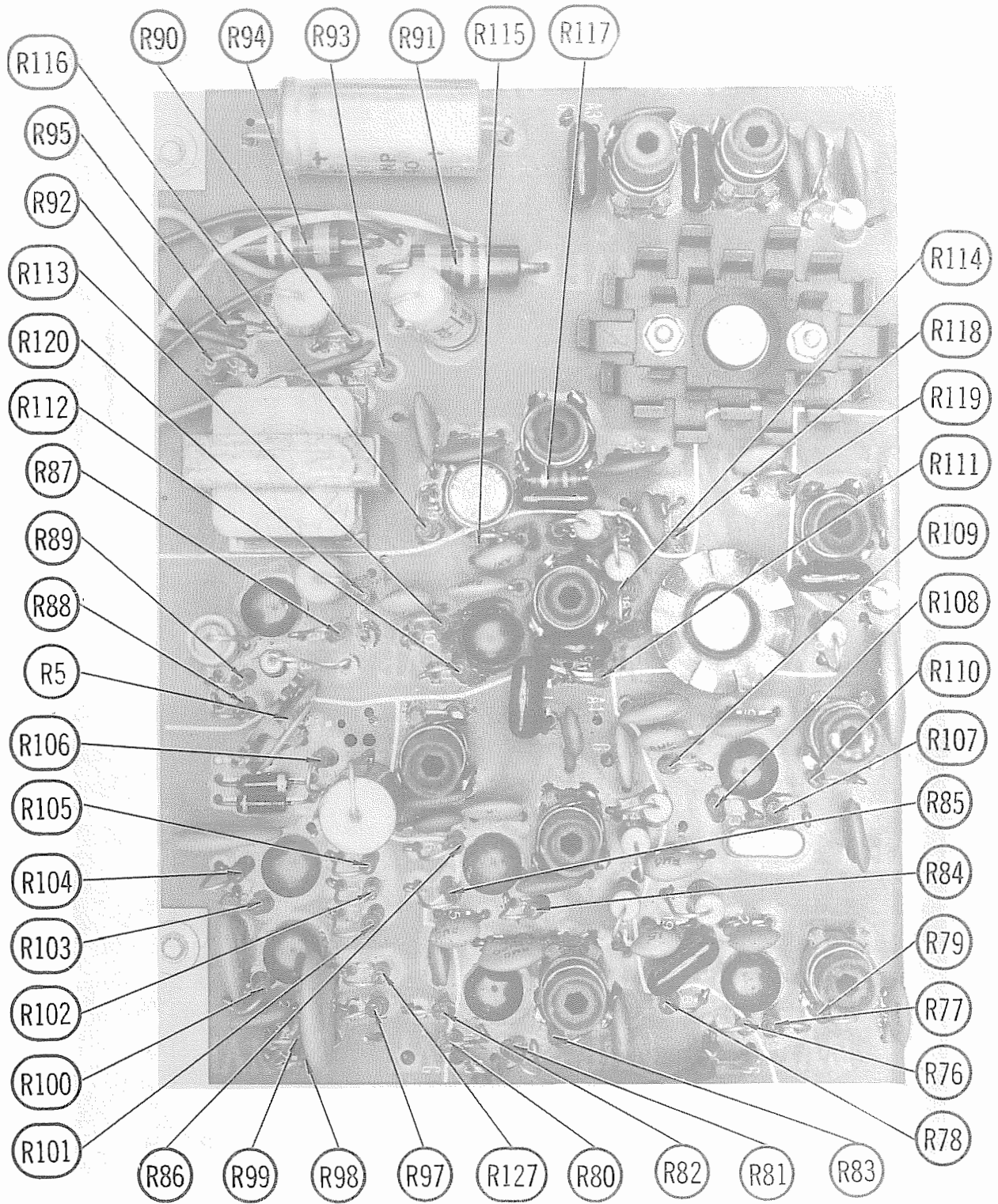


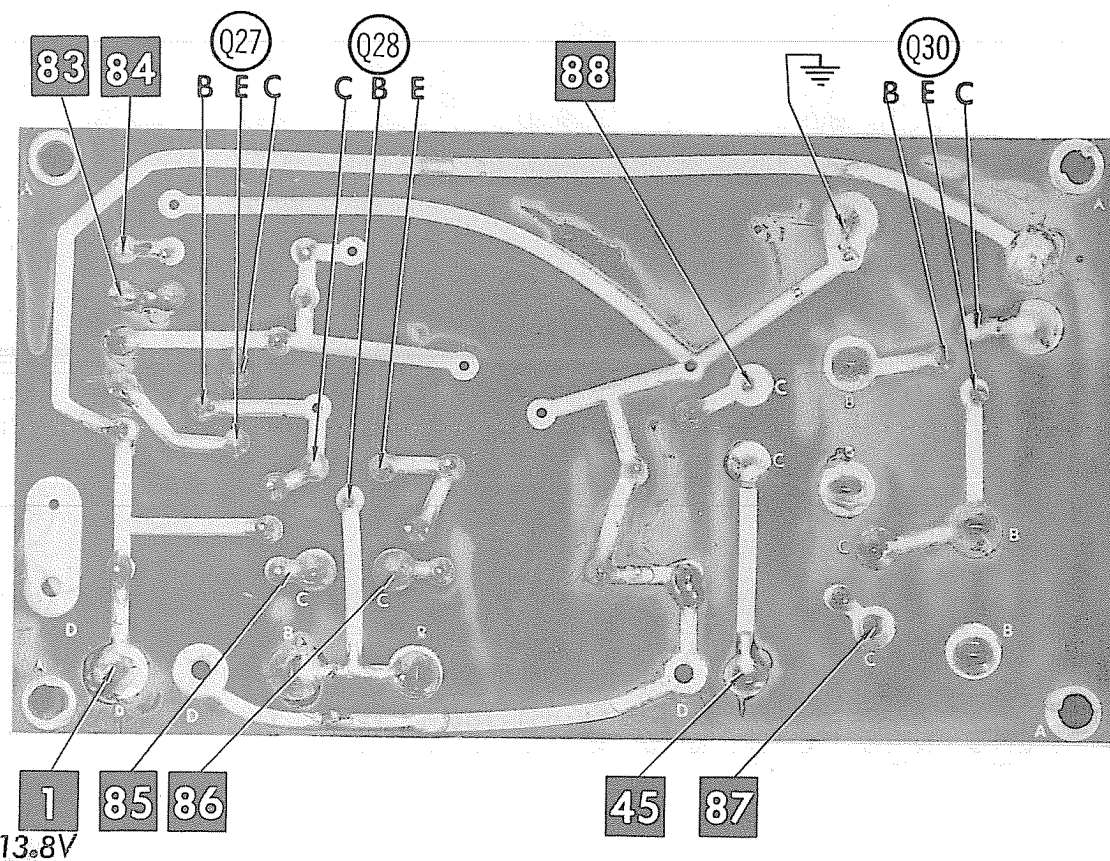
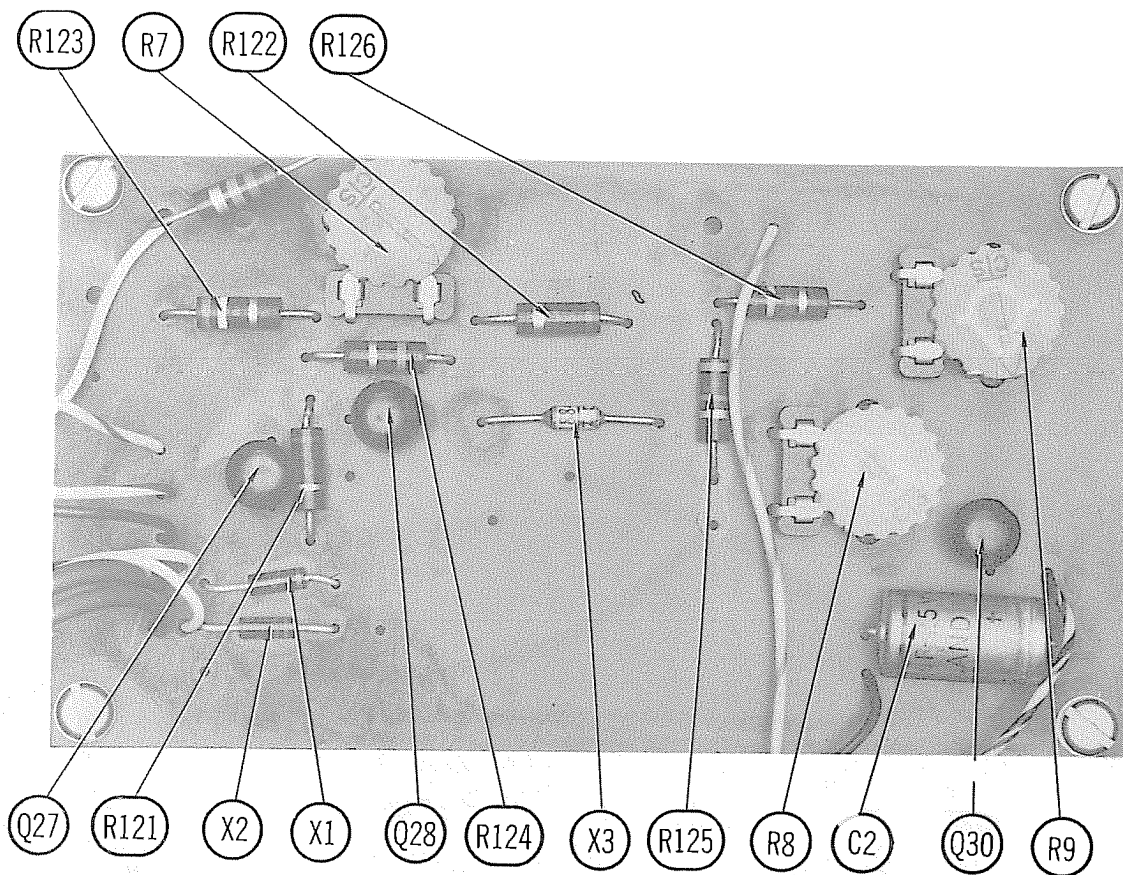


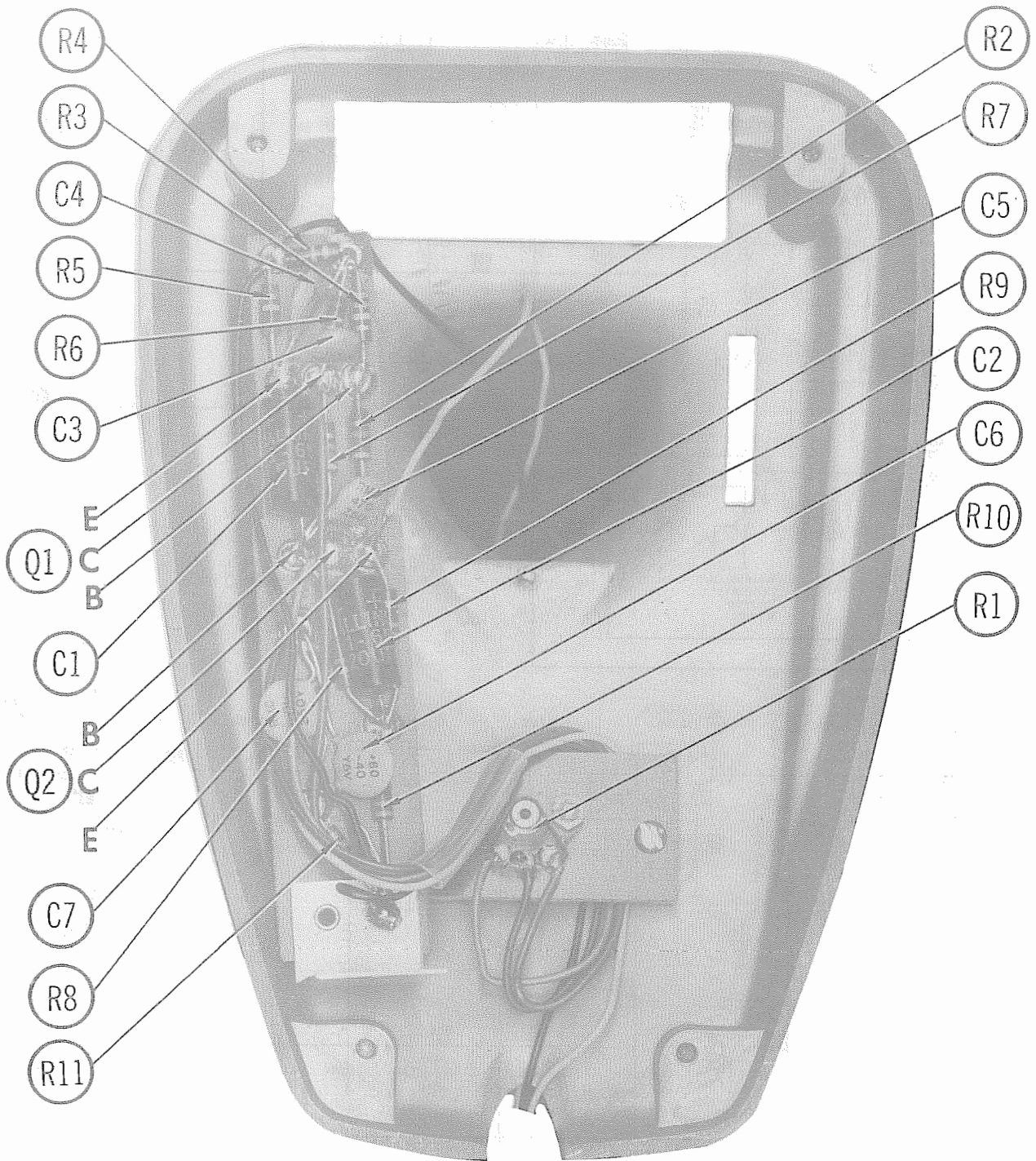


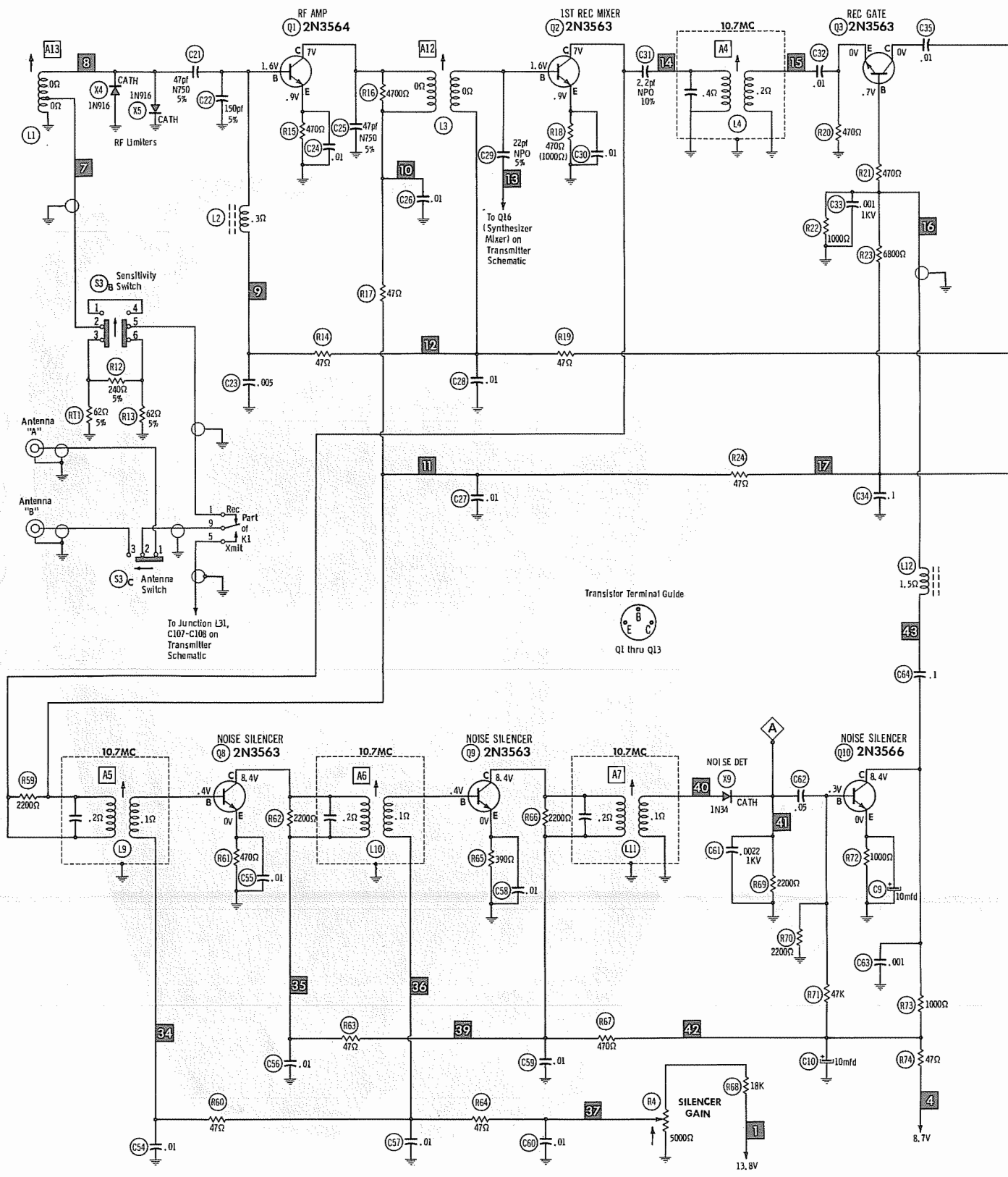






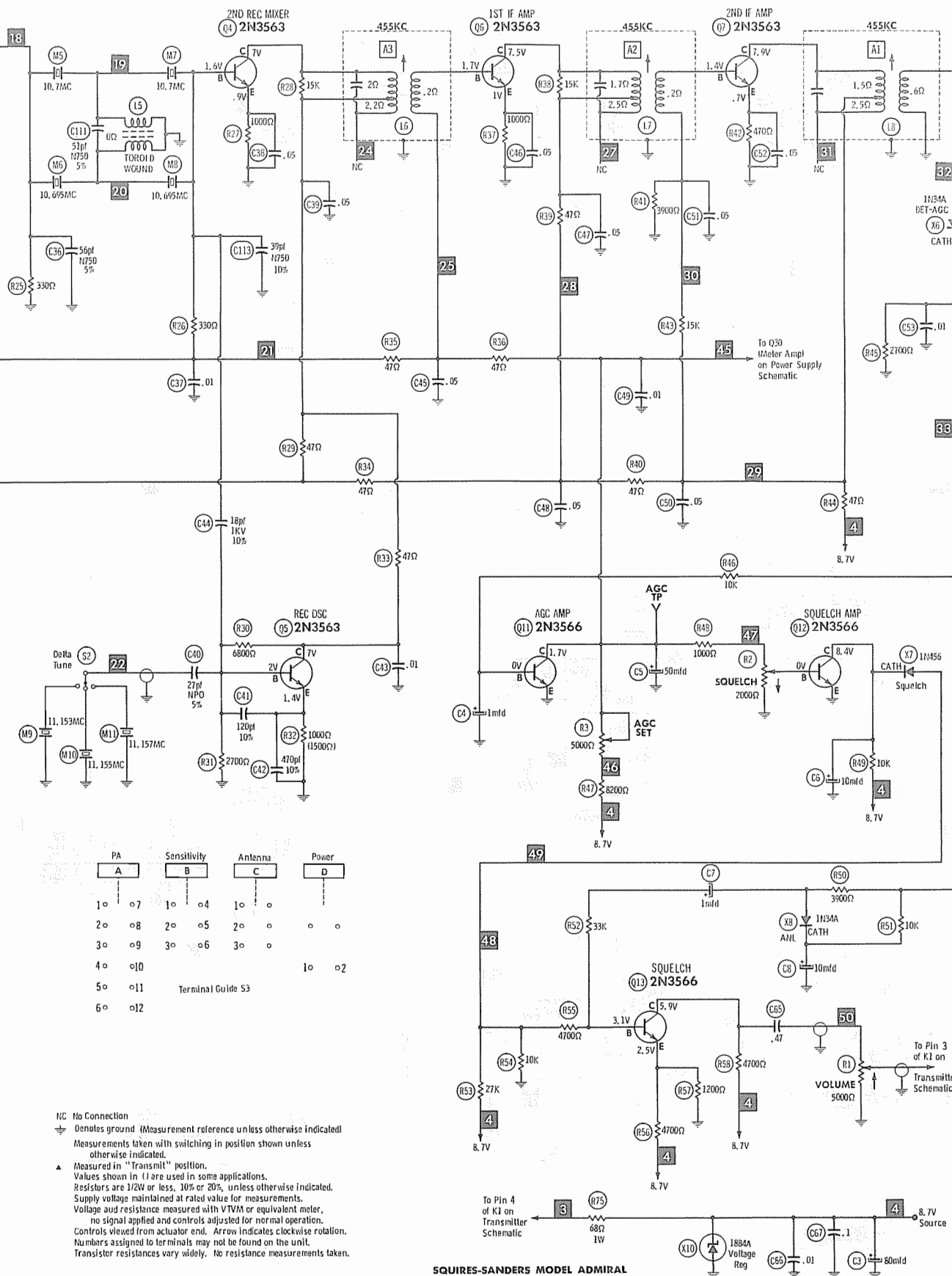






A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
© Howard W. Sams & Co., Inc. 1969

RECEIVER



SQUIRES-SANDERS MODEL ADMIRAL

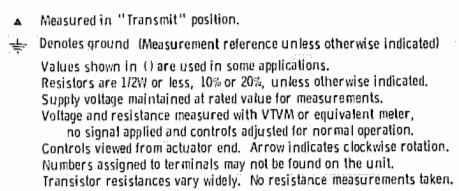
RECEIVER



118



TRANSMITTER



PARTS LIST AND DESCRIPTION

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

CB

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS		NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X1	3001A	GE-504A	5A4-D or 8D4	ECG 116 or ECG 117	SK-3030 or SK-3031	F4 or 40C	Zener
X2	3001A	GE-504A	5A4-D or 8D4	ECG 116	SK-3030 or SK-3031	F4 or 40C	
X3	1884A			ECG 117			
X4	1N916						
X5	1N916						
X6	1N34A	1N34AS	1N34A	ECG 109			Zener
X7	1N456	GE-504A	5A4-D	ECG 117			
X8	1N34A	1N34AS	1N34A	ECG 109			
X9	1N34A	1N34AS	1N34A	ECG 109			
X10	1N884A						
X11	1N456	GE-504	5A4-D	ECG 117			
X12	1N456	GE-504	5A4-D	ECG 117			

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	2000 25V		PRS1296		WBR2000-35		TC2520	
C2	80 25V		CRE620A	EA30-100	NLW75-25	MT1-20	TT25X75	TE-1210
C3	80 25V		CRE620A	EA30-100	NLW75-25	MT1-20	TT25X75	TE-1210
C4	1 40V		PTT87		NLW1-50	MT1-1	MTA1D50	TE-1300
C5	50 6.4V		CRE417A	EA15-50	NLW50-10	MT1-16	TT10X50	TE-1133
C6	10 16V		CRE457A	EA15-10	NLW10-15	MT1-5	MTA10D35	TE-1155
C7	1 40V		PTT87		NLW1-50	MT1-1	MTA1D50	TE-1300
C8	10 16V		CRE457A	EA15-10	NLW10-15	MT1-5	MTA10D35	TE-1155
C9	10 16V		CRE457A	EA15-10	NLW10-15	MT1-5	MTA10D35	TE-1155
C10	10 16V		CRE457A	EA15-10	NLW10-15	MT1-5	MTA10D35	TE-1155
C11	80 25V		CRE620A	EA30-100	NLW75-25	MT1-20	TT25X75	TE-1210
C12	1 40V		PTT87		NLW1-50	MT1-1	MTA1D50	TE-1300
C13	125 4V		CRE326A		NLW125-6	MT1-23	MTA125E6	TE-1102.5
C14	2 50VNP		NP-PRS7400				TCN502	TVAN-1301.1
C15	1 40V		PTT87		NLW1-50	MT1-1	MTA1D50	TE-1300

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.
C21	47 N750 5%			DTN-47			CN7447	10TCU-Q47
C22	150 5%		ADM-15-151	CPR-150J	CD15F151J500	DM-15-151J	SX315	MS-315
C23	.005		TTP-005	CK-502	HOV101ZV502P	CCD-502	TA250	TG-D50
C24	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C25	47 N750 5%			DTN-47			CN7447	10TCU-Q47
C26	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C27	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C28	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C29	22 NPO 5%			DTZ-22			CN0422	10TCC-Q22
C30	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C31	2.2 NPO 10%		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C32	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C33	.001		GPD X5F102K	DD-102	JB5601YP102K	CCD-102	GP210	10TS-O10
C34	.1 25V		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C35	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C36	56 N750 5%			TCN-56			CN7456	10TCU-Q56
C37	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C38	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C39	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C40	27 NPO 5%			TCZ-27			CN0427	10TCC-Q27
C41	120 10%		GPD X5F121K	DD-121	JBZ601YP121K	CCD-121	JF312	10TS-T12
C42	470 10%		GPD X5F471K	DD-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C43	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C44	18 10%			TCZ-18	CY601CG180J	CCT0-180	CN0418	10TCC-Q18

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.
C45	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C46	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C47	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C48	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C49	.01 100V		GPD X5S103K	00-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C50	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C51	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C52	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C53	.01 100V		GPD X5S103K	00-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C54	.01 100V		GPD X5S103K	00-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C55	.01 100V		GPD X5S103K	00-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C56	.01 100V		GPD X5S103K	00-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C57	.01 100V		GPD X5S103K	00-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C58	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C59	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C60	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCO-103	JF110	10TS-S10
C61	.0022		GPD X5F222K	00-222	JBX601YP222K	CCD-222	GP222	10TS-022
C62	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C63	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C64	.1 25V		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C65	.47 12V			UK10-474				HY-330
C66	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C67	.1 25V		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C68	22 NPO 5%			DTZ-22			CN0422	10TCC-Q22
C69	220 10%		ADM-15-221	CPR-220J	C015F221K500	DM-15-221K	SX322	MS-322
C70	15 NPO 5%			DTZ-15	CZ601CG150J		CN0415	10TCC-Q15
C71	33 NPO 5%			DTZ-33			CN0433	10TCC-Q33
C72	400 10%		GPD X5F391K	DD-401		CCD-401	GP340	10TCC-T39
C73	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C74	.01 100V		GPD X5S103K	DD-103	8YX601ZU103P	CCD-103	JF110	10TS-S10
C75	10 NPO 5%		NPO-D1 10	DTZ-10	CZ601CG100J		CN0410	10TCC-Q10
C76	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C77	56 N750 5%			TCN-56			CN7456	10TCU-Q56
C78	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C79	22 NPO 5%			DTZ-22			CN0422	10TCC-Q22
C80	56 N750 5%			TCN-56			CN7456	10TCU-Q56
C81	220 10%		ADM-15-221	CPR-220J	C015F221K500	DM-15-221K	SX322	MS-322
C82	.047 200V 10%		OBE6S47		OMF4S47	4DP-3-473	PVC4147	4PS-547
C83	.1 100V		OBE2P1		OMF1P1	10P-2-104	PVC101	225P10491
C84	.1 100V		OBE2P1		OMF1P1	10P-2-104	PVC101	225P10491
C85	.1 25V		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C86	100 N1500			TCL-100			*	10TCW-T10
C87	.05 25V		TTP-05	CK-503	HOV101ZV503Z	CCO-503	TA150	TGL-S50
C88	.1 25V		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C89	56 N750 5%			TCN-56			CN7456	10TCU-Q56
C90	27 NPO 5%			TCZ-27			CN0427	10TCC-Q27
C91	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C92	180 10%		ADM-15-181	CPR-180J	C015F181K500	DM-15-181K	SX318	MS-318
C93	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C94	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C95	100 N1500			TCL-100			*	10TCW-T10
C96	220 10%		ADM-15-221	CPR-220J	C015F221K500	DM-15-221K	SX322	MS-322
C97	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C98	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C99	240 10%		ADM-15-241	CPR-240J	C015F241K500	DM-15-241K	SX324	MS-324
C100	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C101	.1 25V		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C102	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C103	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C104	47 N750 10%		N750-D1 47	DTN-47	CY601UJ470K	CCTN-47D	CN7447	10TCU-Q47
C105	68 N750 5%			DTN-68			CN7468	10TCU-Q68
C106	220 10%		ADM-15-221	CPR-220J	C015F221K500	DM-15-221K	SX322	MS-322
C107	27 NPO 5%			TCZ-27			CN0427	10TCC-Q27
C108	220 10%		ADM-15-221	CPR-220J	C015F221K500	DM-15-221K	SX322	MS-322
C109	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C110	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C111	51 N750 5%			TCN-51				10TCU-Q50
C112	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C113	39 N750 10%			TCN-39		CCTN-390	CN7439	10TCU-Q39
C114	820		GPD X5F821K	DD-821	J8Y601YP821K	CCD-821	JF382	10TS-T82
C115	.01 100V		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10

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

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	5000	(241-015)	F2-5000,SF102		Q13-114 or (BU1,CF60,SS1,DC1)*	UA53A,SL3500 or (RU53A,SL39,SL3500)or(U12)
R2	Squelch	2000	(241-016)	F1-2500,SF102	A47-2000-S,FS-3 or (NP-2000-S,UP-E-400)	Q11-110 or(BU1,CF84,SS1,DC1)*	UA23L,SL3500 or (RU23L,SL39,SL3500)or(U6)
R3	AGC Set	5000	(240-010)	T-5000		X201R502B	MTC53L1
R4	Silencer Gain	5000	(241-015)	F2-5000,SF102		Q13-114 or(BU1,CF60,SS1,DC1)*	UA53A,SL3500 or (RU53A,SL39,SL3500)or (U12)
R5	Modulation Level	5000	(240-010)	T-5000		X201R502B	MTC53L1
R6	PA Volume	5000	(241-015)	F2-5000,SF102		Q13-114 or(BU1,CF60,SS1,DC1)*	UA53A,SL3500 or (RU53A,SL39,SL3500)or (U12)
R7	Bias Adjust	500	(248-001)	T-500 (1)		U201R501B	MTC52L4
R8	Meter Adjust	25K	(248-003)	T-25K		U201R253B	MTC253L4
R9	Meter Adjust	1000	(248-002)	T-1000 (1)		U201R102B	MTC13L4

* "SNAPTROL"

(1) For horizontal mount, bend the two outside terminals to fit "PC" board. Use jumper wire to connect center terminal to "PC" board.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R91	.82 1W	BWH.82		

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R94	.82 1W	BWH.82		

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Input				
L2	RFC (6.8uh)				
L3	RF Interstage				
L4	IF Interstage	(602-016)		74F686AP	T821
L5	RFC			2070	
L6	Input IF	(602-023)		2066	
L7	Interstage IF	(602-024)		2067	
L8	Output IF	(602-025)		2068	
L9	Silencer Input	(602-016)		2070	
L10	Silencer Interstage	(602-016)		2070	
L11	Silencer Output	(602-017)		2070	
L12	RFC (33uh)				
L13	Local Oscillator		19-6033	74F335A1	
L14	RFC (6.8uh)			74F686AP	T821
L15	Synthesizer Oscillator				
L16	RFC (6.8uh)			74F686AP	T821
L17	RFC (6.8uh)			74F686AP	T821
L18	Synthesizer Mixer				
L19	Synthesizer Output				
L20	RFC (6.8uh)				
L21	Xmtr Oscillator			74F686AP	T821
L22	RFC (12uh)				
L23	Xmtr Mixer			74F125AP	
L24	RFC (6.8uh)				
L25	RFC (6.8uh)			74F686AP	T821
L26	Xmtr Buffer			74F686AP	T821
L27	RFC (6.8uh)				
L28	Xmtr Driver			74F686AP	T821
L29	RFC (1uh)				
L30	Final Amp		19-1000	74F106AP	T855
L31	Antenna Peaking				

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	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC .22A *	36VAC CT .60 *	(601-021)					* Transmit

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	2.5	1		(SS1A206)					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	30	4	(SS1A208)					
		SEC. 2						
		.4 DC Resistance						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		MFGR. PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 4 ohms	(550-006)	P3X5X3	35A05	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	1/2 Amp Slo Blo			MDL 1/2	HCM	313.500	342014	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
K1	Relay		Receive-Transmit
M1	Lamp, Meter		CHICAGO MINIATURE Replacement CM-756
M2	Indicator, "On Air"		14 Volts
M3	Lamp, Dial		CHICAGO MINIATURE Replacement CM-756
M4	Lamp, Clock		CHICAGO MINIATURE Replacement CM-756 (2 used)
M5	Crystal	(255-001)	10.7MC Crystal Filter
M6	Crystal	(255-002)	10.695MC Crystal Filter
M7	Crystal	(255-001)	10.7MC Crystal Filter
M8	Crystal	(255-002)	10.695MC Crystal Filter
M9	Crystal	(251-037)	11.153MC Delta Tune
M10	Crystal	(251-036)	11.155MC Delta Tune
M11	Crystal	(251-038)	11.157MC Delta Tune
M12	Crystal	(251-015)	22.155MC
M13	Crystal	(251-016)	22.205MC
M14	Crystal	(251-017)	22.255MC
M15	Crystal		22.005MC
M16	Crystal		22.005MC
M17	Crystal		22.105MC
M18	Crystal	251-008	15.660MC
M19	Crystal	(251-009)	15.670MC
M20	Crystal	(251-010)	15.680MC
M21	Crystal		15.700MC
M22	Crystal	(255.001)	10.7MC
M23	Meter		"S" Indicator
M24	Clock Motor		
S1	Switch	(272-012)	Channel Selector
S2	Switch		Delta Tune
S3	Switch		PA, Sensitivity, Antenna, Power

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.)

PARTS LIST AND DESCRIPTION (CONTINUED)

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

POWER MIC

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2N3707	Mic Preamp		DS-66	GE-20	TR-21	HEP55	SK-3020	ECG 123
Q2	2N3710	Mic Preamp		DS-66	GE-20	TR-21	HEP55	SK-3020	ECG 123

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	5 25V		CRE604A	EA30-5	NLW5-50	MT1-3	MTA5050	TE-1202
C2	20 6V		PTT25	EA6-15	NLW20-6	MT1-10	MTA20030	TL-1090

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.
C3	470		GPD X5F471K	D0-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C4	.01 250V		TTP-01	CK-103	HOY101ZV103M		TA110	TH-S10
C5	470		GPD X5F471K	D0-471	JBZ601YP471K	CCD-471	GP347	10TS-T47
C6	.01 250V		TTP-01	CK-103	HOY101ZV103M		TA110	TH-S10
C7	.01 250V		TTP-01	CK-103	HOY101ZV103M		TA110	TH-S10

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	5000	(B25257A)	B16-114			

BATTERIES

ITEM No.	VOLTAGE	MFGR. PART No.	REPLACEMENT DATA		NOTES
			EVEREADY	MALLORY	
M1	9V		216 or 222 or E146X	M1604 or TR146X or MN1604	



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

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, SUBPARTS C & D.)

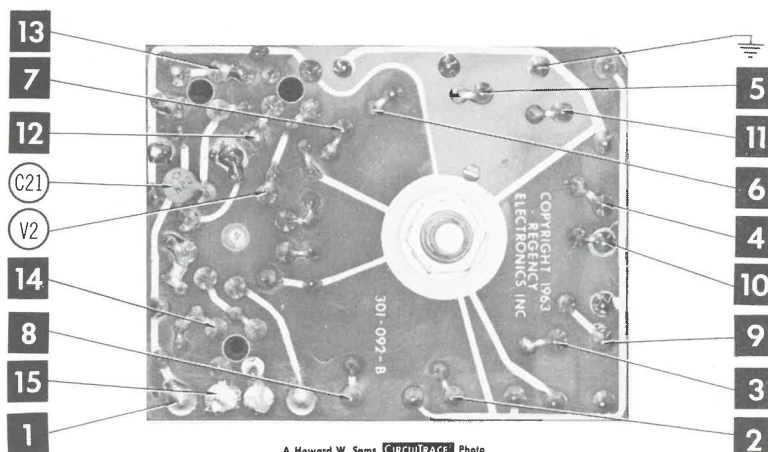
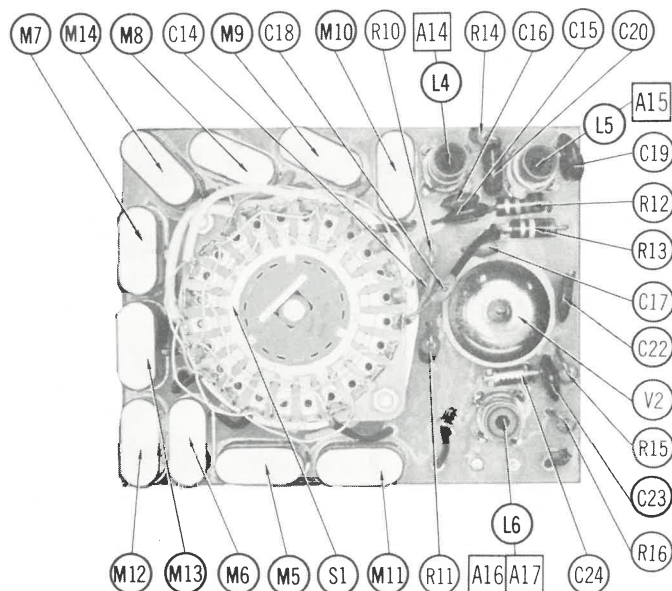
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

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-ohm dummy load or the normally used antenna system.



REGENCY MODEL IMPERIAL (CB-253)

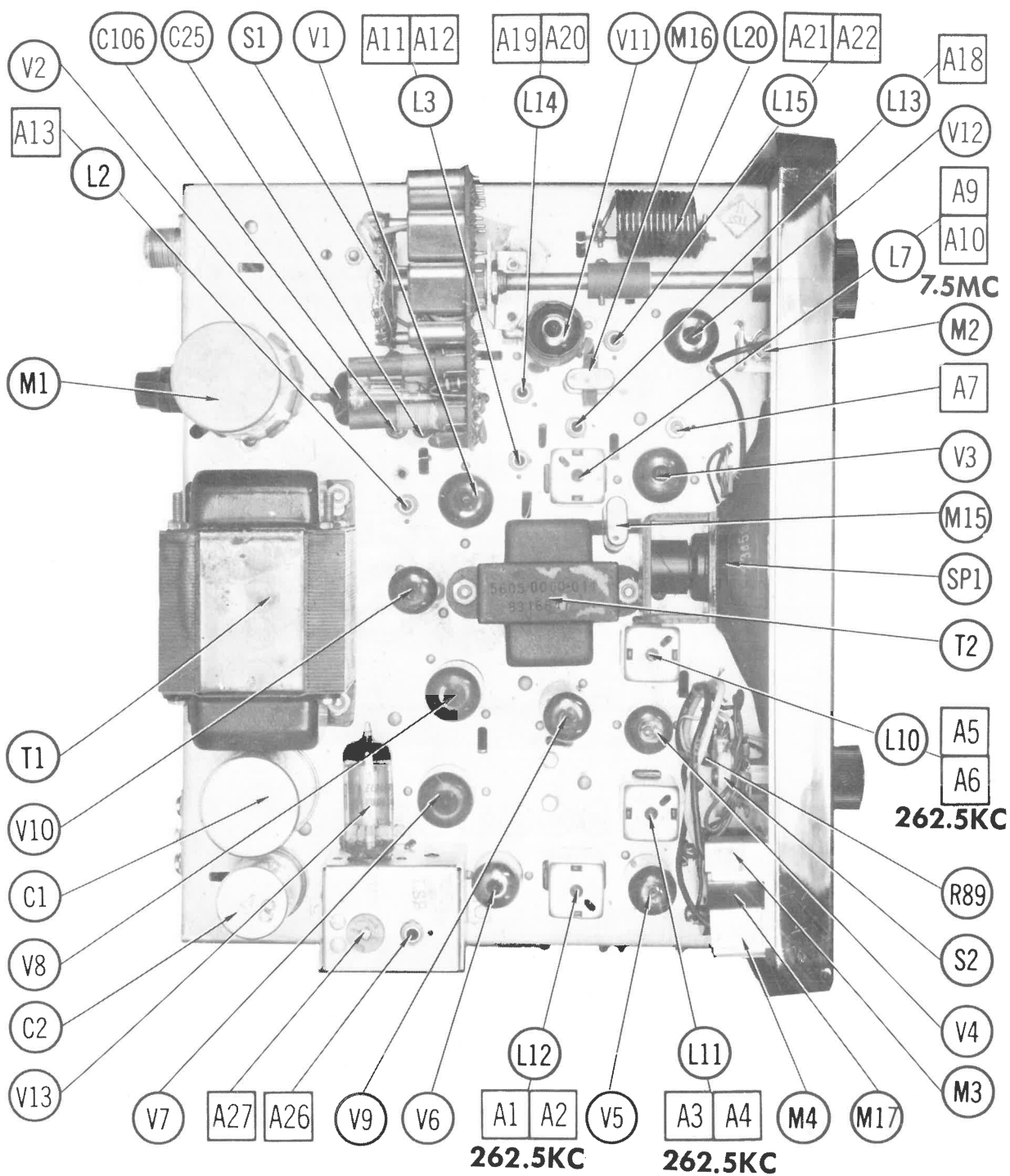


A Howard W. Sams CIRCUITRACE Photo

REGENCY MODEL IMPERIAL

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

© 1969 Howard W. Sams & Co., Inc. Printed in U. S. of America TY448



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A10.....GENERAL CEMENT #5097,8727.....WALSCO #2522
 A11 thru A22, A26.....GENERAL CEMENT #8606,8606L,8869.....WALSCO #2543,2544,2588
 A24, A25, A27.....GENERAL CEMENT #8606, 8606L.....WALSCO #2520, 2522

RECEIVER

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

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
	S V C	Max. Max. Max.
		Front Panel Meter Reading 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.

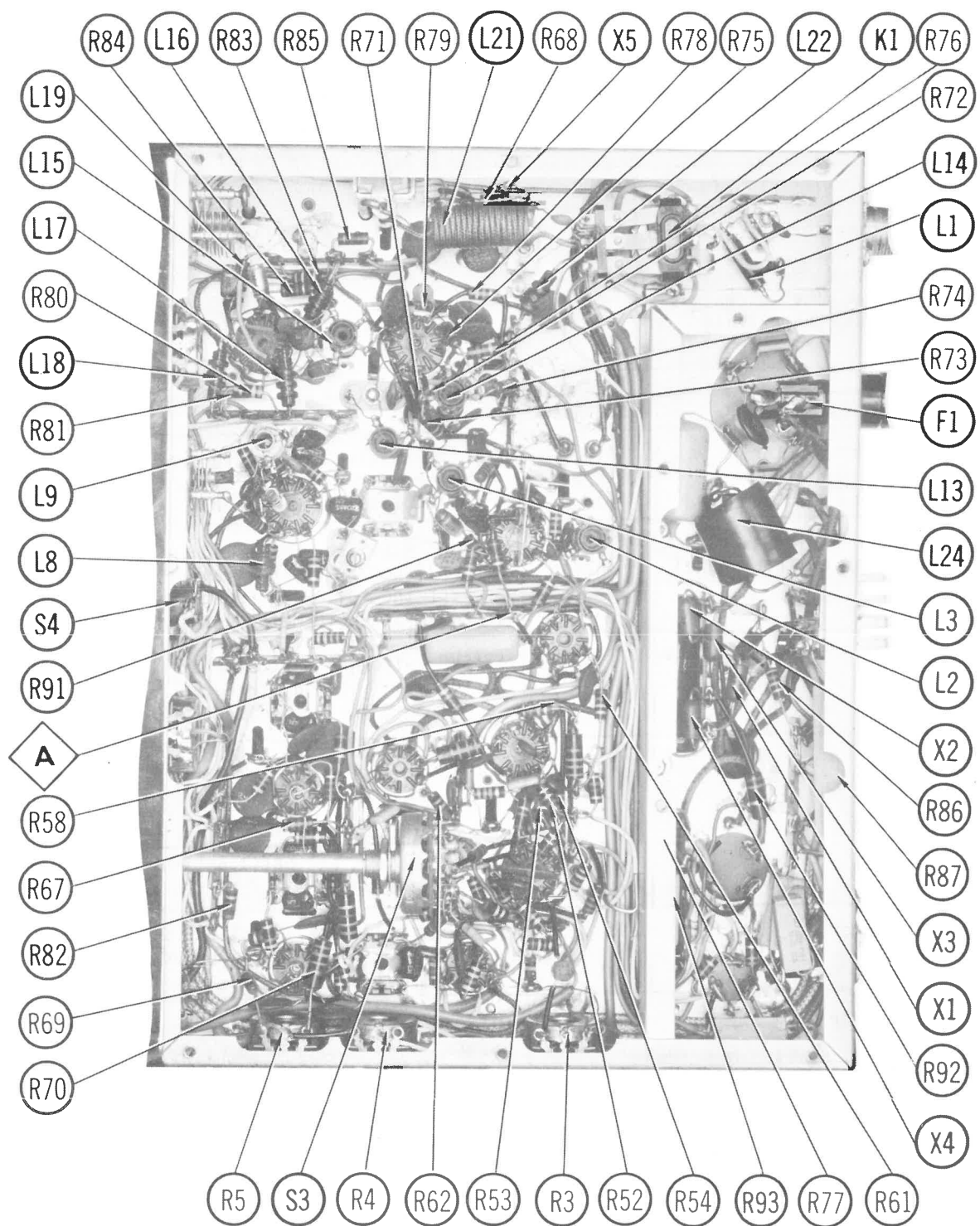
PRODUCT DETECTOR ALIGNMENT

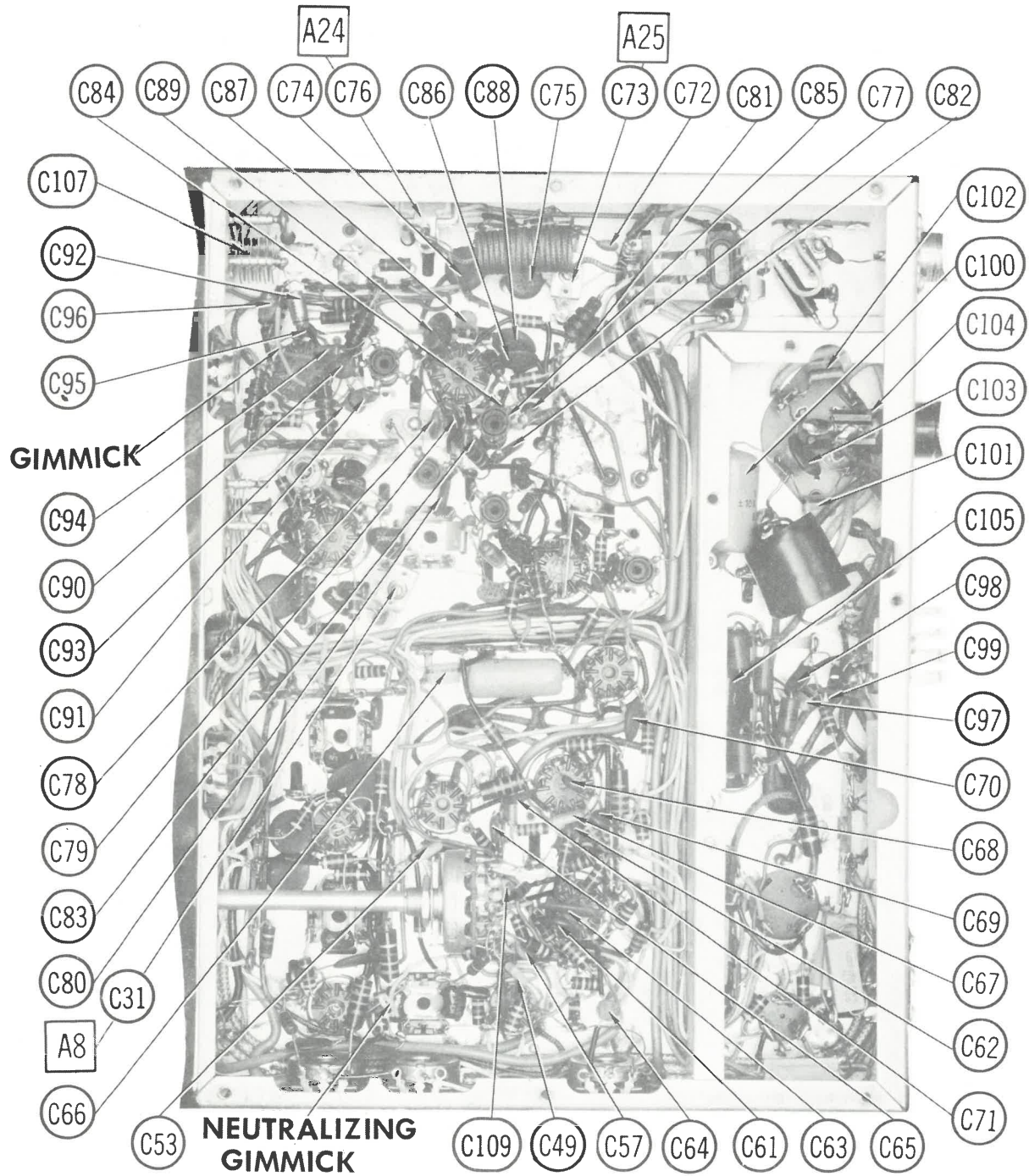
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to antenna connector, low side to chassis. Tune to 27.085MC (Channel 11), (Unmodulated).	11	A26	Set Mode Selector to LSB, R/VF0 to 10 o'clock. Adjust for zero (0) beat in set speaker.
"	11	A27	Set Mode Selector to USB, R/RV0 to 2 o'clock. Adjust for zero (0) beat in set speaker.
High side thru .01 to Pin 1 (V5) 2nd IF Amp. Low side to chassis. Tune to 262.5KC (400 cycles Mod.)	Any	R6	Adjust for MINIMUM Audio.

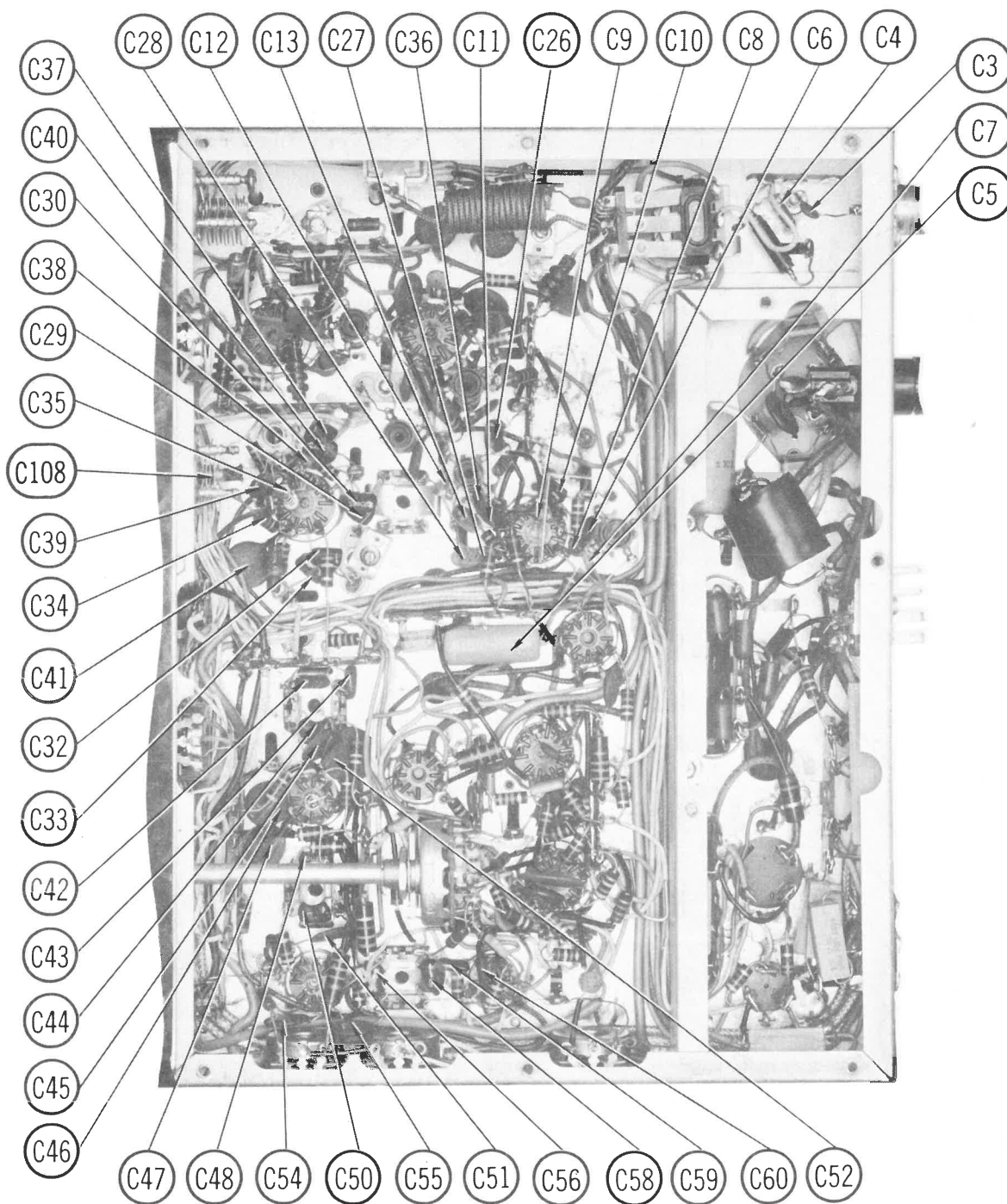
RF Voltmeter across dummy load

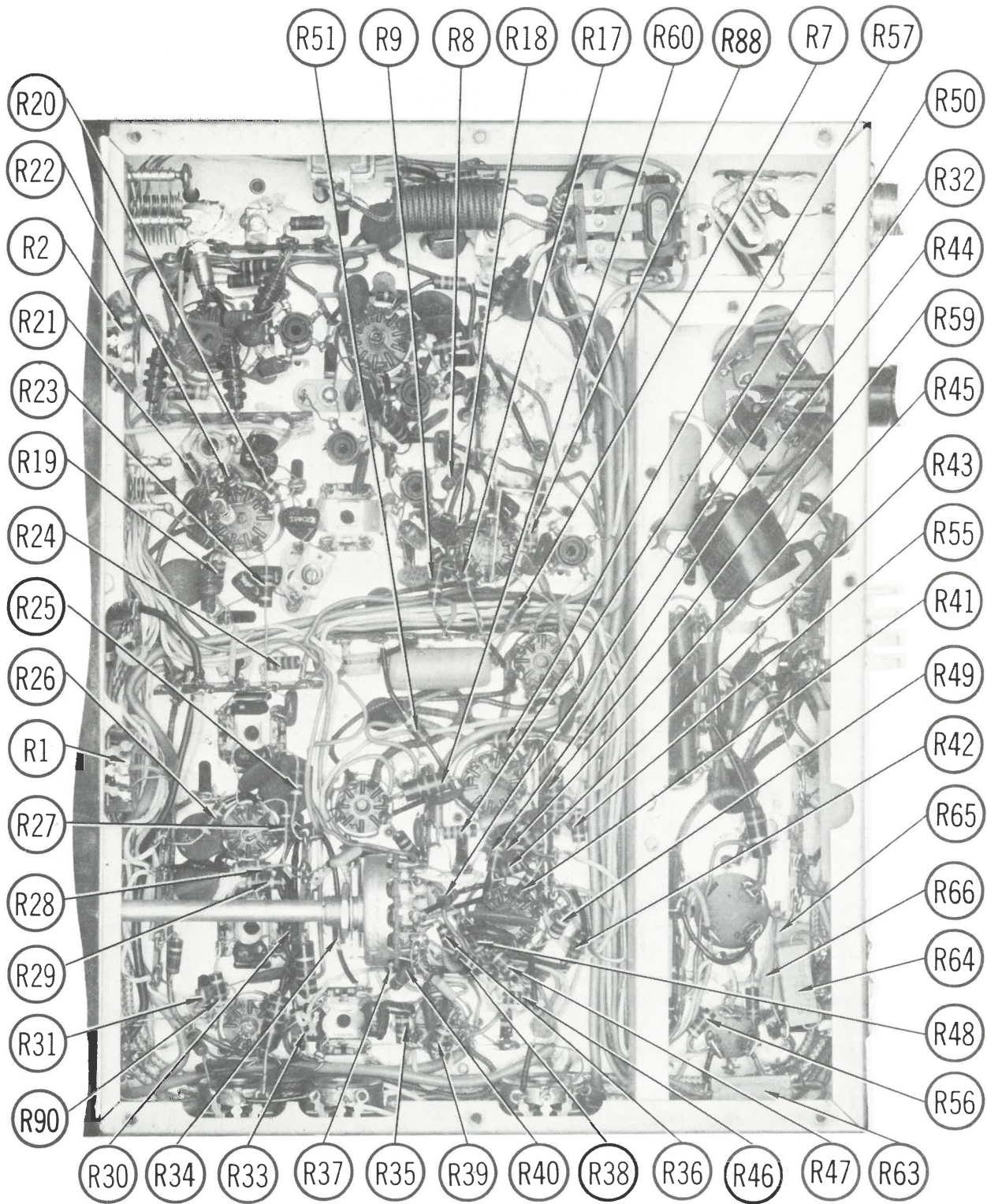
A25 Key transmitter and adjust so internal RF voltmeter and wattmeter across dummy

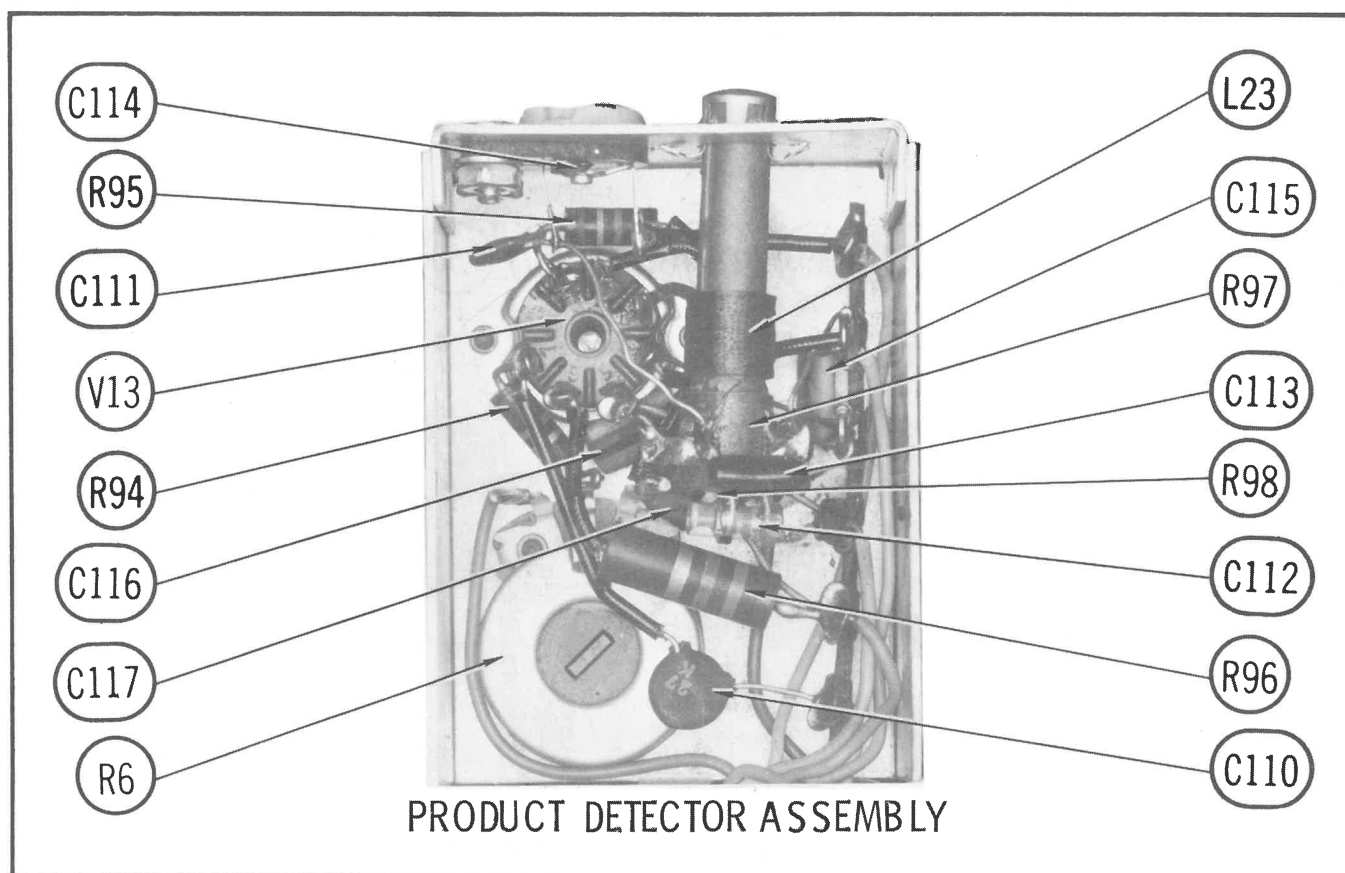
REGENCY MODEL IMPERIAL











RESISTANCE MEASUREMENTS

ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V1	6ES8	30K †	470K	100Ω	FIL	FIL	34K	2.2meg	1000Ω	
V2	6AN8	23K †	100K	2200Ω	FIL	FIL	2300Ω†	40K †	100K	1800Ω
V3	6BC8	350K †	1.6Ω	2200Ω	FIL	FIL	15K †	22K	0Ω	
V4	6BJ6	1.2meg	220Ω	FIL	FIL	6000Ω†	40K †	0Ω		
V5	6BJ6	1.2meg	120Ω	FIL	FIL	6000Ω †	40K †	0Ω		
V6	12AL5	6800Ω	470K	FIL	FIL	2meg	0Ω	300K		
V7	6AN8	500K	950K	2500Ω*	FIL	FIL	480K†	1.5meg†	4meg	4700Ω
V8	6AN8	36K †	500K	34K	FIL	FIL	280K †	18K	1.4meg	3400Ω
V9	6AQ5	270K	300Ω	FIL	FIL	260Ω †	1400Ω†	270K		
V10	6AQ5	270K	300Ω	FIL	FIL	260Ω †	1400Ω †	270K		
V11	6AN8	16K †	100K	2700Ω▲	FIL	FIL	2400Ω†	21K †	22K	270Ω ▲
V12	12BH7A	10K †	2400Ω#	640Ω#	FIL	FIL	550Ω#	22K †	10K †	NC
V13	12BE6	18K	400Ω	FIL	FIL	54K †	36K †	10K		
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9

* VARIES WITH SETTING OF R2

† MEASURED FROM JUNCTION OF X3 & X4

MEASURED FROM PIN 4 OF K1

▲ MEASURED FROM PIN 5 OF K1

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 -1st Rec Mixer		6ES8			V7	Squelch Amp.-Speech Amp		6AN8		
V2	Synthesizer Oscillator - Converter		6AN8			V8	AF Amp-Phase Inverter		6AN8		
V3	2nd Rec Mixer-Rec Oscillator		6BC8			V9	Output -Modulator		6AQ5		
V4	1st IF Amp		6BJ6			V10	Output - Modulator		6AQ5		
V5	2nd IF Amp		6BJ6			V11	2nd Xmtr Osc - Buffer		6AN8		
V6	Det - Noise Limiter		12AL5			V12	Final Amp		12BH7A		
						V13	Product Detector		12BE6		

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS		NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	SARKES TARZIAN PART No.	
X1	(ED3006)	GE-504A	10D6 or 10DB6A(1)	ECG 116 or ECG 117	SK3016 or SK3017	F-6 or S-5959-2(1)	(1)Single Unit Replacement for X1 thru X4.
X2	(ED3006)	GE-504A	10D6 or 10DB6A(1)	ECG 116 or ECG 117	SK3016 or SK3017	F-6 or S-5959-2(1)	
X3	(ED3006)	GE-504A	10D6 or 10DB6A(1)	ECG 116 or ECG 117	SK3016 or SK3017	F-6 or S-5959-2(1)	
X4	(ED3006)	GE-504A	10D6 or 10DB6A(1)	ECG 116 or ECG 117	SK3016 or SK3017	F-6 or S-5959-2(1)	
X5	1N34A	1N34AS	1N34A	ECG 109			

ELECTROLYTIC CAPACITORS

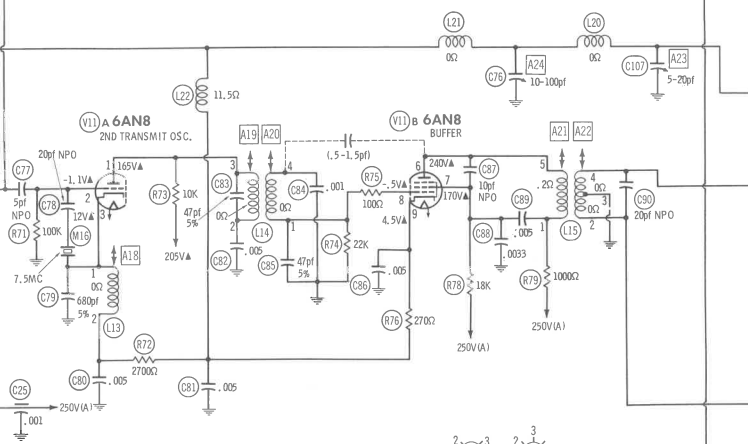
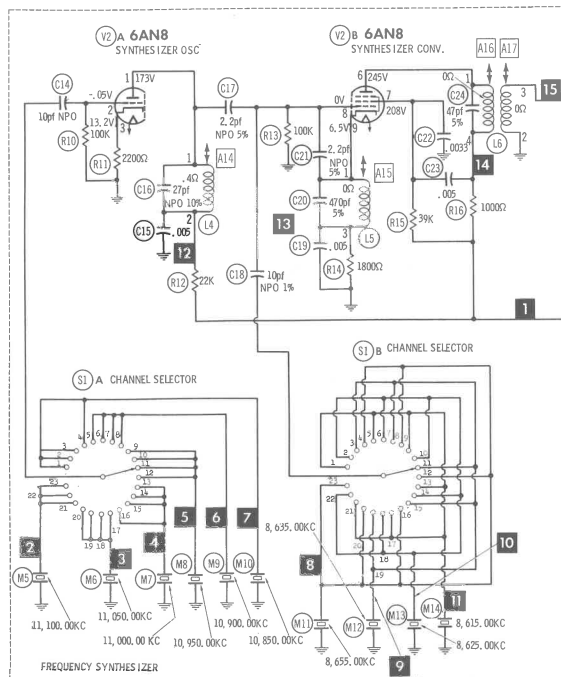
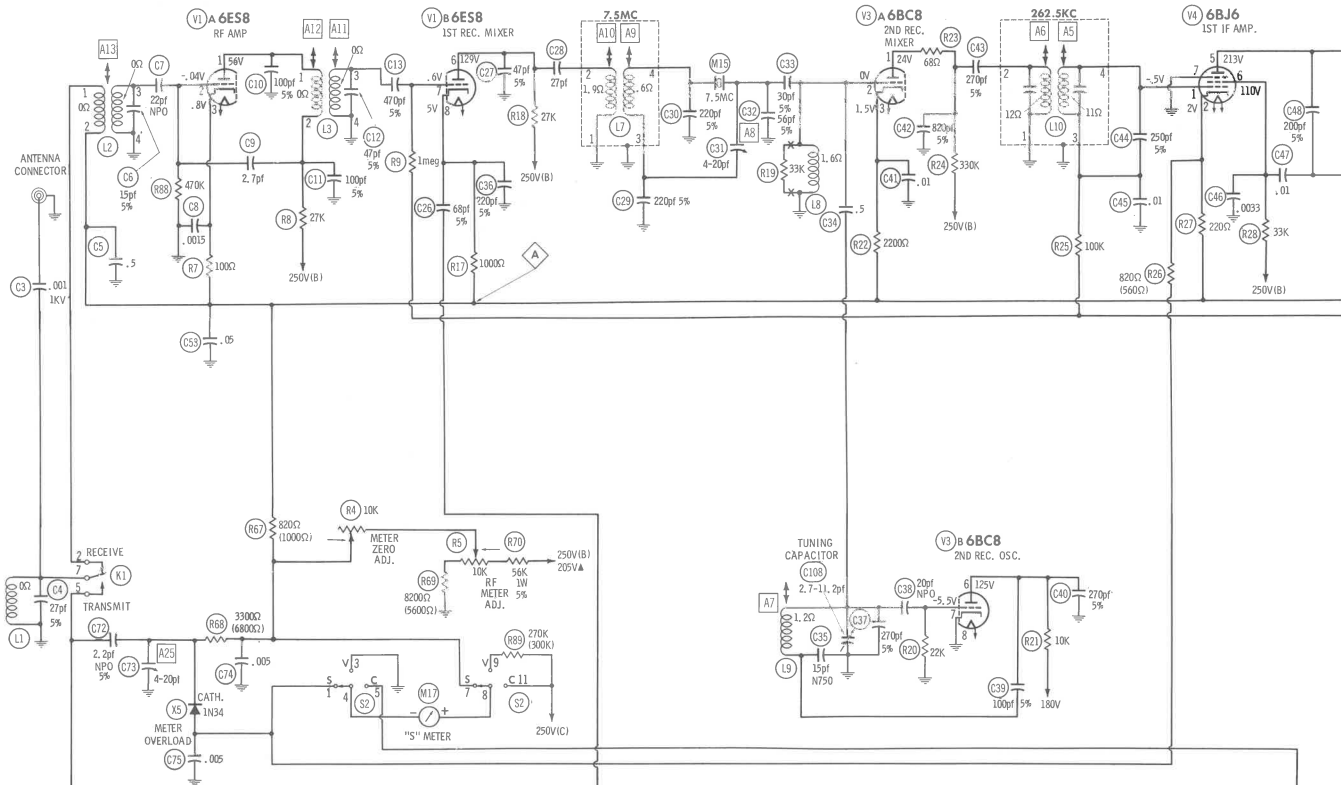
ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1A	40 450V		AFH3-43		CC0410	XC3-15	FP376.8	TVL-3785
B	40 450V							
C	10 450V							
C2A	30 350V		AFH3-169		CC0830	XC3-28.1	FP331A	TVL-3620
B	20 25V							
C	30 300V							

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		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10	
C4	27 5%			CPR-275	CD15E270J500	DM-15-270J	SX427	MS-427	
C5	.47 200V 10%		DBE2P47		WMF2P47	2DP-5-474	PVC2047	2PS-P47	
C6	15 5%		ADM-15-150		CD10C150J500	DM-15-150J	SX415	MS-415	
C7	22 NPO 10%		NPO-DI 22	DTZ-22	CY601CG220K	CCT0-220	CN0422	10TCC-Q22	
C8	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15	
C9	2.7 10%								
C10	100 5%		ADM-15-101	CPR-100J	CD15F101J500	DM-15-101J	SX310	MS-31	
C11	100 5%		ADM-15-101	CPR-100J	CD15F101J500	DM-15-101J	SX310	MS-31	
C12	47 5%			CPR-47J	CD15E470J500	DM-15-470J	SX447	MS-447	
C13	470 5%			CPR-470J	CD15F471J500	DM-15-471J	SX347	MS-347	
C14	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10	
C15	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50	
C16	27 NPO 10%			TCZ-27		CCT0-270	CN0427	10TCC-Q27	
C17	2.2 NPO 10%		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22	
C18	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10	
C19	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50	
C20	470 5%		ADM-15-471	CPR-470J	CD15F471J500	DM-15-471J	SX347	MS-347	
C21	2.2 NPO 10%		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22	
C22	.0033		GPD X5R332K	DD-332	JBV601YP332K	CCD-332	JF233	10TS-D33	
C23	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50	
C24	47 5%		ADM-15-470	CPR-47J	CD15E470J500	DM-15-470J	SX447	MS-447	
C25	.001		EF-6-1000	MFT-1000		CCF-102		BH-340	
C26	68 5%		ADM-15-680	CPR-68J	CD15E680J500	DM-15-680J	SX468	MS-468	

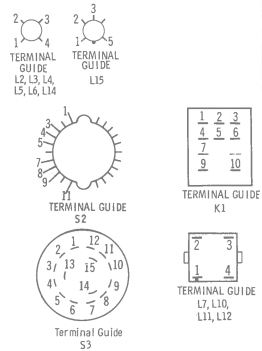
(CONTINUED ON PAGE 98)

REGENCY MODEL IMPERIAL



--- Indicates connection used in some versions.
 X Indicates connection not used in some versions.
 ⬇ Denotes ground. (Measurement reference unless otherwise indicated)
 ▲ Measured in "Transmit" position.
 Measurements taken with switching in position shown unless otherwise indicated.
 Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter, no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers viewed from terminals may not be found on the unit.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
 with **CIRCUITRACE**
 © Howard W. Sams & Co., Inc. 1969





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.
C27	47 5%			CPR-47J	CD15E470J500	DM-15-470J	SX447	MS-447
C28	27 NPO 10%			TCZ-27		CCTO-270	CN0427	10TCC-Q27
C29	220 5%		ADM-15-221	CPR-220J	CD15F221J500	DM-15-221J	SX322	MS-322
C30	220 5%		ADM-15-221	CPR-220J	CD15F221J500	DM-15-221J	SX322	MS-322
C31	4-20					402		
C32	56 5%		ADM-15-560	CPR-56J	CD15E560J500	DM-15-560J	SX456	MS-456
C33	30 5%		ADM-15-300	CPR-30J	CD15E300J500	DM-15-300J	SX430	MS-43
C34	.5 10%							
C35	10 N750			DTN-10	CZ601UJ100J	CCTN-100	CN7410	10TCU-Q10
C36	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C37	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-15-271J	SX327	MS-327
C38	20 NPO 10%		NPO-DI 20	DTZ-20		CCTO-200	CN0420	10TCC-Q20
C39	100 5%		ADM-15-101	CPR-100J	CD15F101J500	DM-15-101J	SX310	MS-31
C40	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-15-271J	SX327	MS-327
C41	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C42	820 5%		ADM-19-821	CPR-820J	CD19F821J500	DM-19-821J	SX382	MS-382
C43	270 5%		ADM-15-271	CPR-270J	CD15F271J500	DM-15-271J	SX327	MS-327
C44	250 5%		ADM-15-251	CPR-250J	CD15F251J500	DM-15-251J	SX325	MS-325
C45	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C46	.0033		GPD X5R332K	DD-332	JBV601YP332K	CCD-332	JF233	10TS-D33
C47	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C48	200 5%		ADM-15-201	CPR-200J	CD15F201J500	DM-15-201J	SX320	MS-32
C49	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C50	250 5%		ADM-15-251	CPR-250J	CD15F251J500	DM-15-251J	SX325	MS-325
C51	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C52	.05		GPD Z5V503P	DD-503		CCD-503	GP150	5GA-S50
C53	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C54	.0033		GPD X5R332K	DD-332	JBV601YP332K	CCD-332	JF233	10TS-D33
C55	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C56	200 5%		ADM-15-201	CPR-200J	CD15F201J500	DM-15-201J	SX320	MS-32
C57	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C58	250 5%		ADM-15-251	CPR-250J	CD15F251J500	DM-15-251J	SX325	MS-325
C59	100 5%		ADM-15-101	CPR-100J	CD15F101J500	DM-15-101J	SX310	MS-31
C60	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C61	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C62	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C63	.2 20V			UK20-204			MAG25022	
C64	470		GPD X5F471K	DD-471	JBT601YP471K	CCD-471	GP347	10TS-T47
C65	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C66	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C67	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C68	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C69	270		GPD X5F271K	DD-271		CCD-271	GP327	5GA-T27
C70	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C71	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C72	2.2 NPO		NPO-DI 2.2	DTZ-2R2	CZ601CJ2R2D		CN0522	10TCC-V22
C73	4-20					402		
C74	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C75	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C76	10-100	#101-732						
C77	5 200V NPO		NPO-DI 5.0	DTZ-20	CZ601CH5R0D			10TCC-V50
C78	20 NPO 10%		NPO-DI 20	CPR-680J		CCTO-200	CN0420	10TCC-Q20
C79	680 5%		ADM-19-681	DD-502	CD19F681J500	DM-19-681J	SX368	MS-368
C80	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C81	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C82	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C83	47 5%			CPR-47J	CD15E470J500	DM-15-471J	SX447	MS-447
C84	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C85	47 5%			CPR-47J	CD15E470J500	DM-15-470J	SX447	MS-447
C86	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C87	10 NPO 10%		NPO-DI 10	DTZ-10	CZ601CG100J	CCTO-100	CN0410	10TCC-Q10
C88	.0033		GPD X5R332K	DD-332	JBV601YP332K	CCD-332	JF233	10TS-D33
C89	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C90	20 NPO 10%		NPO-DI 20	DTZ-20		CCTO-200	CN0420	10TCC-Q20
C91	390 5%			CPR-390J	CD15F391J500	DM-15-391J	SX339	MS-339
C92	390 5%			CPR-390J	CD15F391J500	DM-15-391J	SX339	MS-339
C93	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C94	390 5%			CPR-390J	CD15F391J500	DM-15-391J	SX339	MS-339
C95	.0015		GPD X5F152K	DD-152		CCD-152	GP215	10TS-D15
C96	470 5%			CPR-470J	CD15F471J500	DM-15-471J	SX347	MS-347
C97	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C98	.001 1KV		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C99	.001 1KV		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C100	1 200V 10%		V161-1.0		MDY2P1		PVC21	2TM-M1
C101	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C102	.05		DBE6S5		DPMS6S5	6DP-3-503	PVC615	6PS-S50
C103	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C104	.01		GPD X5S103K	DD-103	BYX601ZU103P	CCD-103	JF110	10TS-S10
C105	.056 1600V 10%				PKM16S56	16DP-5-503	PVC1615	16PS-S50
C106	.001		EF-6-1000	MFT-1000		CCF-102		BH-340
C107	5-20	#301-095-2						

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.
C108 C109 C110 C111 C112 C113 C114 C115 C116 C117	2.7-6.2 .05 27 NPO 10% 27 NPO 10% 39 N750 250 5% 5-25 NPO .05 .05 .0033	#301-095-1	DBE6S5 ADM-15-251 DBE6S5 DBE6S5 GPD X5R332K	TCZ-27 TCZ-27 TCN-39 CPR-250J DD-332	DPMS6S5 CD15F251J500 DPMS6S5 DPMS6S5 JBV601YP332K	6DP-3-503 CCTO-270 CCTO-270 CCTN-390 DM-15-251J 6DP-3-503 6DP-3-503 CCD-332	PVC615 CN0427 CN0427 CN7439 SX325 PVC615 PVC615 JF233	6PS-S50 10TCC-Q27 10TCC-Q27 10TCU-Q39 MS-325 6PS-S50 6PS-S50 10TS-D33

Regency Part Number.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume	500K	101-734-2 (4703-0000-026)	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,SL39, SK1000),or(U48)
R2	Squelch	5000	101-734-1 (4703-0000-027)	F1-5000,SNK014, BA006,CA005	A47-5000-S, KSS-3 or (NP-5000-S, UP-E-400)	QCB1(1),B11-114, TM5 or (BU2,CF8, SS1, DC1)*	UA53L,SK1000 or (RU53L,SL39, SK1000) or (U14)
R3	Microphone Level	1meg	301-094-1 (4703-0000-028)	F2-1meg,SNK010, AK-38	B47-1meg-Z or (NP-1meg-Z, NML-A-300,TT-2)	B13-137,TM4 or (BU11,CF26,SS6)*	RU16A,SL37, SN281
R4	Meter Zero Adjust	10K	301-094-2 (4703-0000-029)	F1-10K,SNK010, AK-38 or(TT-14)	B47-10K-S or (NP-10K-S, NML-A-300,TT-2)	B11-116,TM4 or (BU11,CF9,SS6)*	RU14L,SL37, SN281
R5	Meter Adjust	10K	301-094-2 (4703-0000-029)	F1-10K,SNK010, AK-38 or(TT-14)	B47-10K-S or (NP-10K-S, NML-A-300,TT-2)	B11-116,TM4 or (BU11,CF9,SS6)*	RU14L, SL37, SN281
R6	Intermodulation Balance	500	301-094-3 (4703-0000-032)	TT-4 or F1-500, SNK010,AK-38	B47-500-S or (NP-500-S, NML-A-300,TT-2)	B11-103,TM4 or (BU11,CF4,SS6)*	TA52L or (RU52L, SL37, SN281) or (UA52L,SL37, SN281)

* "SNAPTROL"

(1) Use QCB1 Bushing instead of Tab Mount Plate in TM5 Kit.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R63	300 5W	PW5-300	5W-SQ-300	
R64	12 5W	PW5-12	5W-SQ-12.5	
R65	2 5W	PW5-2	5W-SQ-2	
R66	12 5W	PW5-12	5W-SQ-12.5	

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R77	5000 10W	PW10-5000	10W-SQ-5000	
R87	22 10W	PW10-22	10W-SQ-22.5	
R93	1300 5W	PW5-1300	5W-SQ-1250	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	TVI Trap (1.3uh)	300-303-2	19-1001	74F156AP	T856
L2	Antenna Input	101-760			
L3	RF Amp	301-106			
L4	Synthesizer Osc	101-757			
L5	Synthesizer Conv.Cathode	101-756		26A106RPC	
L6	Synthesizer Conv. Plate	301-109			
L7	1st Receiver Mixer	(119-66-28)			
L8	RFC (14uh)	101-802-1		72F155AP	
L9	2nd Receiver Oscillator	102-278		4204	
L10	Input IF	(119-66-43)	16-6752	14-H1	T604
L11	Interstage IF	(119-66-43)	16-6752	14-H1	T604
L12	Output IF	(119-66-43)	16-6754	14-H2	T605
L13	Xmtr Oscillator Cathode	101-755		4201-A	
L14	Xmtr Oscillator Coupling	301-107			
L15	Buffer Plate	301-108			
L16	RFC (220uh)	101-379-1	19-3250	72F224AP	T852
L17	RFC (220uh)	101-379-1	19-3250	72F224AP	T852
L18	RFC (220uh)	101-379-1	19-3250	72F224AP	T852
L19	RFC (220uh)	101-379-1	19-3250	72F224AP	T852
L20	P1 Network	101-753			
L21	P1 Network	101-754			
L22	RFC (220uh)	101-379-1	19-3250	72F224AP	T852
L23	Product Detector	102-259			
L24	Hash Filter (80uh)	101-771		5248	

REGENCY MODEL IMPERIAL

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	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .77A * 12.6V DC @ 6A *	240VAC @ .12A DC	500-533-1					* Transmit
	SEC. 2	SEC. 3						
	12.6V AC @ 3.1A							

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	11000 CT	4	500-552 (5605-0000-011)					
		SEC. 2						
		540 DC Resistance						

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		MFGR. PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 4 ohms	301-102	P3X5X3	35A05	

FUSE DEVICES

ITEM No.		DESCRIPTION	REPLACEMENT DATA						
			PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
			DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3AG 1.5A 250V			AGC 1 1/2	HKP	312001.5	342012		
F2	3AG 10A 32V		101-766-1 & 101-766-2	AGC 10	HHJ	311010	150145		

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
K1	Relay	301-097-2	Receive - Transmit
M1	Vibrator		Mallory G1501
M2	Dial Lamp		CHICAGO MINIATURE Replacement CM-53
M3	Meter Lamp		CHICAGO MINIATURE Replacement CM-53
M4	Xmit Lamp		CHICAGO MINIATURE Replacement CM-53
M5	Crystal	301-087-11	11,100KC Channels 21, 22, 23
M6	Crystal	301-087-10	11,050KC Channels 17, 18, 19, 20
M7	Crystal	301-087-9	11,000KC Channels 13, 14, 15, 16
M8	Crystal	301-087-8	10,950KC Channels 9, 10, 11, 12
M9	Crystal	301-087-7	10,900KC Channels 5, 6, 7, 8
M10	Crystal	301-087-6	10,850KC Channels 1, 2, 3, 4
M11	Crystal	301-087-5	8.655KC Channels 4, 8, 12, 16, 20, 23
M12	Crystal	301-087-4	8.635KC Channels 3, 7, 11, 15, 19
M13	Crystal	301-087-3	8.625KC Channels 2, 6, 10, 14, 18, 22
M14	Crystal	301-087-2	8.615KC Channels 1, 5, 9, 13, 17, 21
M15	Crystal	301-088-1	7,500KC (Red Dot)
M16	Crystal	301-087-1	7,500KC
M17	Meter	301-150-1	0-1ma
M18	Microphone Assembly		Ceramic
S1	Switch	301-090	Channel Selector
S2	Switch	301-098	Meter Selector
S3	Switch	102-260	Mode Selector
S4	Switch		On-Off
	Power Cord, DC	101-768	
	Power Cord, AC	101-767	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Knob, Selector	27000-7S	Escutcheon, Selector	102-085-2
Knob, Squelch/Volume/Meter Switch	102-269-2	Escutcheon, Meter	102-084-2
Knob, USB/LSB/Anl/AM,R/VFO,Final	102-269-1	Dial Assembly, Selector	301-105-5
		Front Panel	600-209-2



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

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, SUBPARTS C & D.)

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

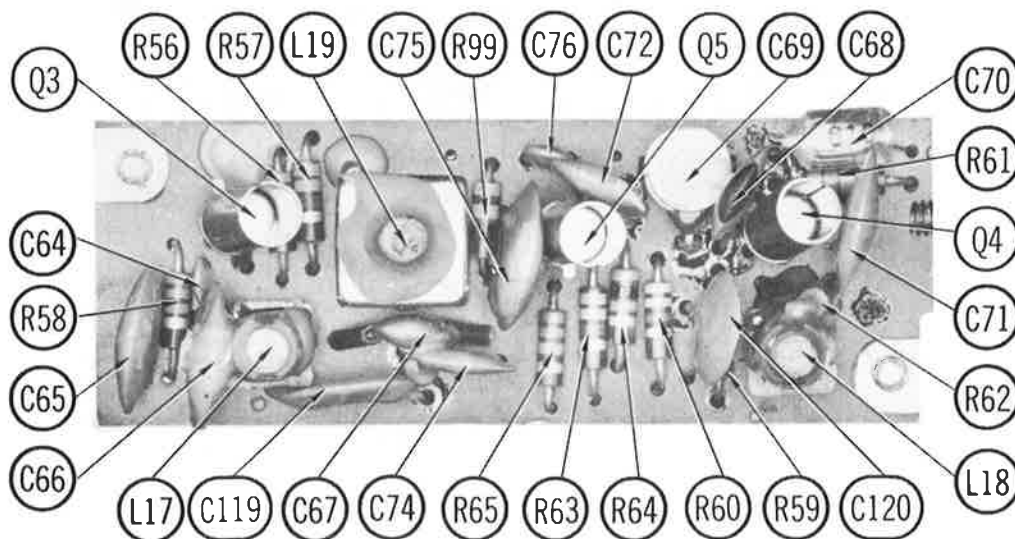
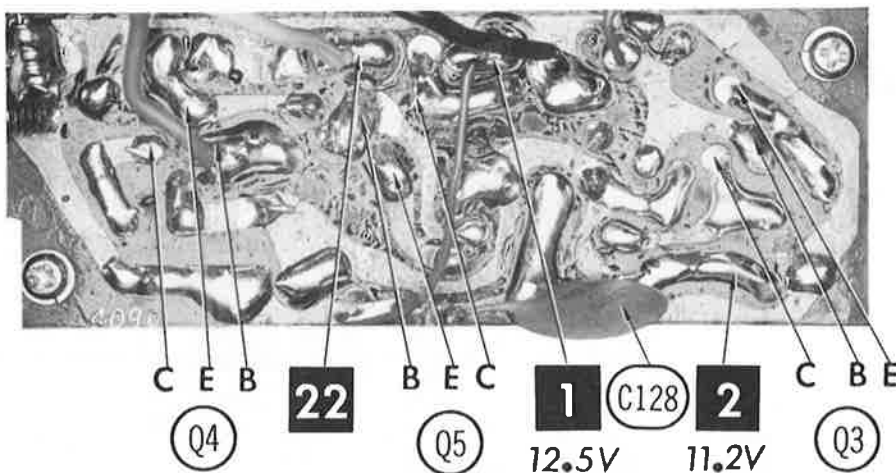
Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

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



LAFAYETTE MODEL HB-625 (99-3148WX)

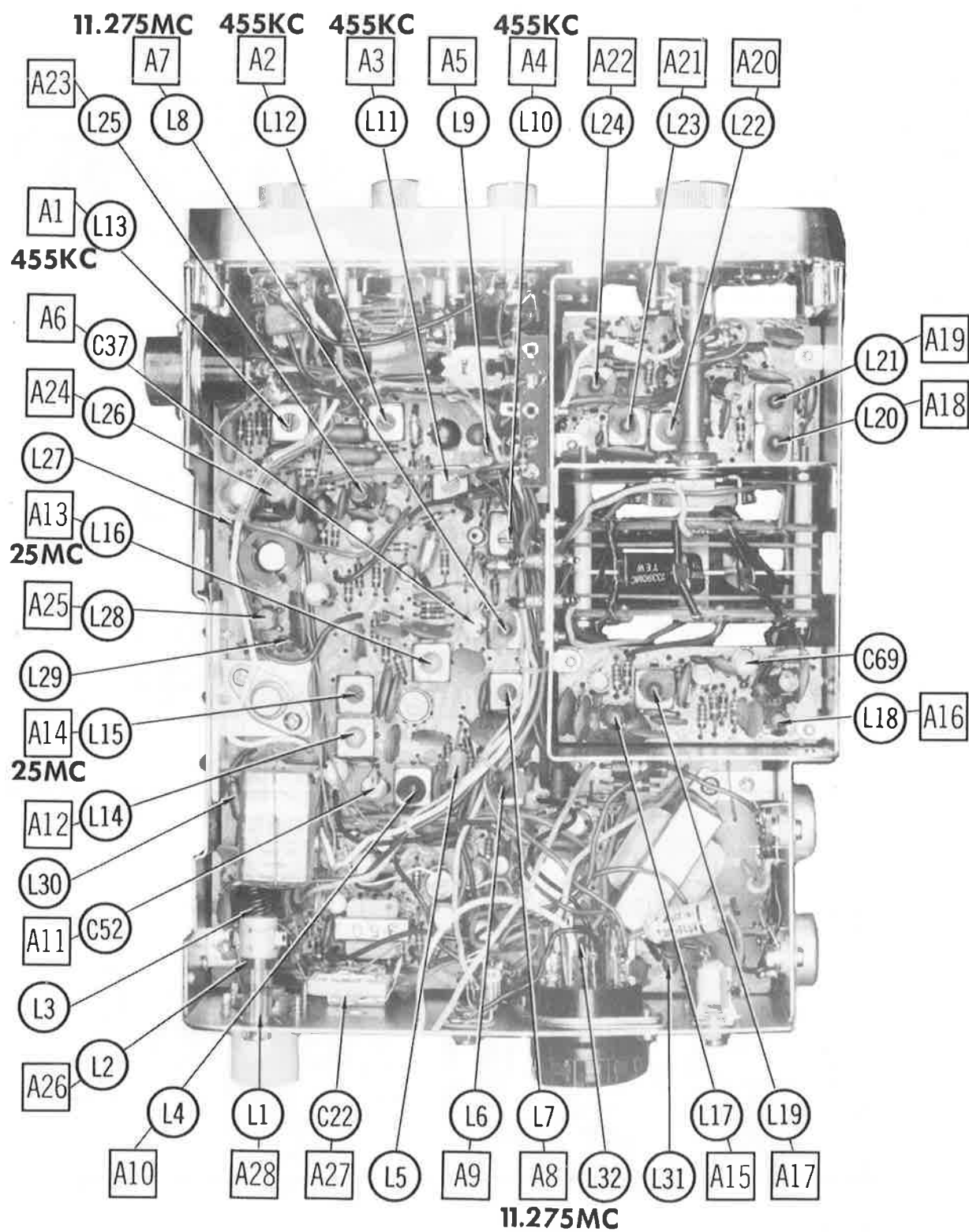
A Howard W. Sams CIRCUITRACE Photo



LAFAYETTE MODEL HB-625

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

© 1969 Howard W. Sams & Co., Inc. Printed in U. S. of America TY445



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A7,A9,A10,A12,A13,A15 thru A26.....GENERAL CEMENT #9440.....WALSCO #2501
 A1 thru A4,A6,A8,A11,A14,A27.....GENERAL CEMENT #5009,8728A,8987.WALSCO #2531X,2536
 A28GENERAL CEMENT #8606,8606L,8869.WALSCO #2543,2544,2588

RECEIVER

Connect an AC VTVM across speaker terminals. Turn Volume Control to Mid-Range, Squelch Control fully counterclockwise, Silencer Switch to Off position, Delta Switch to Center position.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to $\diamond$ (Cathode, X2, 2nd Rec Mixer), low side to Chassis. Tune to 455KC (Mod).	Any	A1,A2, A3,A4	Adjust for maximum.
High side thru .01mfd to Base of Q2 (1st Rec. Mixer), low side to Chassis. Tune to 11.275MC (Mod.).	Any	A5,A6, A7,A8	Adjust for maximum. Turn $\boxed{A5}$ 1/8 turn clockwise from peak.
High side thru .01mfd to antenna connector, low side to chassis. Tune to 27.115MC (Channel 13) (Mod.).	13	A9,A10	Adjust for maximum. (Alignment of Synthesizer Oscillators should be checked in conjunction with this step).
	Any	R4	Connect a DC VTVM from $\diamond$ to ground. Adjust R3 (Gain Adjust) to approximately 3.6V.

LAFAYETTE MODEL HB-625

NOISE SILENCER ALIGNMENT

Turn Noise Silencer Switch to On position.			
High side thru .01mfd to antenna Connector, low side to Chassis. Tune to 26.965MC (Channel 1) (Unmodulated).	1	A11,A12	Connect a DC VTVM from $\diamond$ to ground. Adjust for MINIMUM Negative DC reading.
High side thru .01mfd to antenna connector, low side to chassis. Tune to 25MC (Unmodulated).	1	A13,A14	Connect a DC VTVM from $\diamond$ to ground. Adjust for maximum Negative DC reading.

METER CALIBRATION

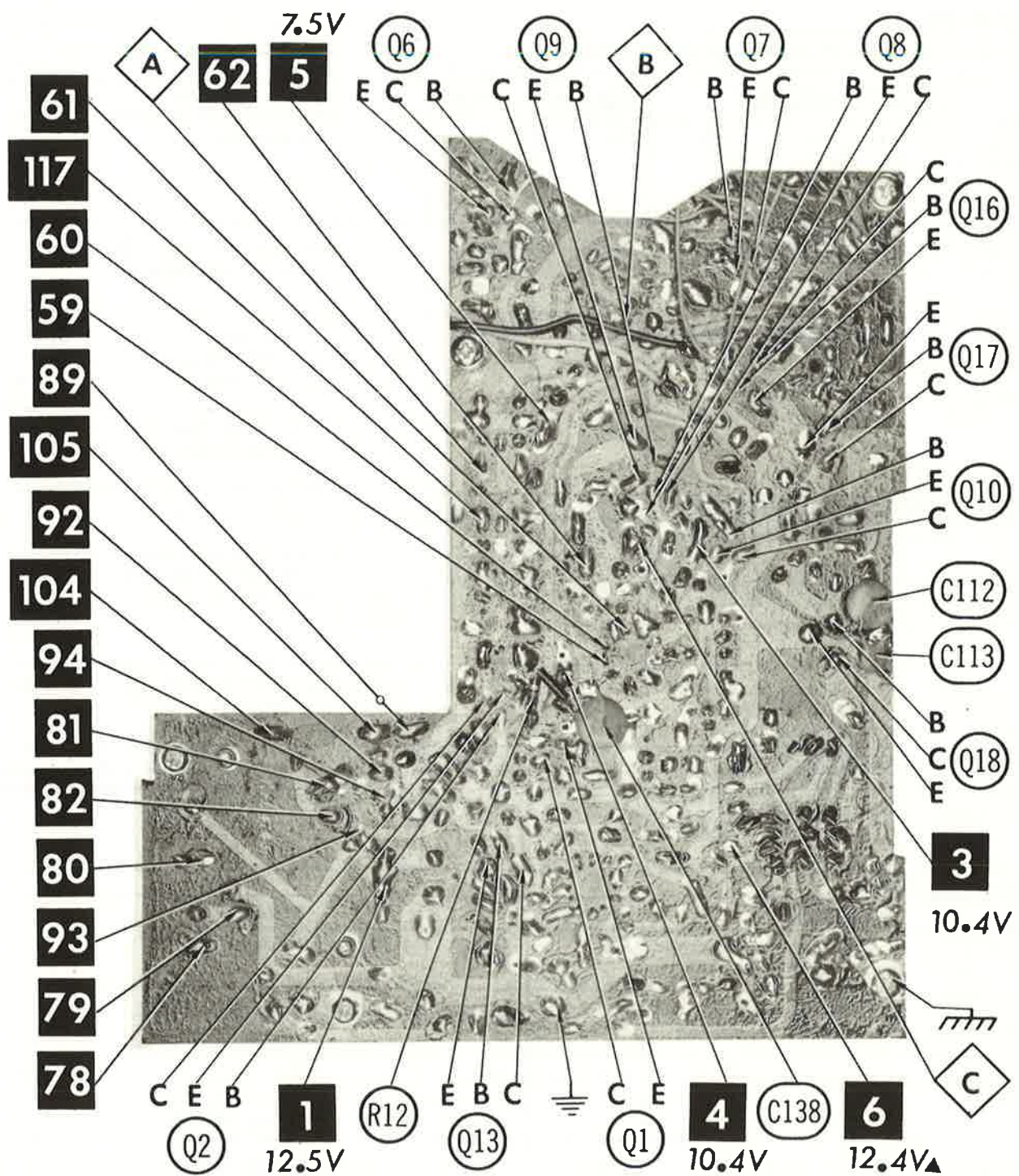
High side thru .01mfd to antenna connector, low side to chassis. Tune to 27.115MC (Mod.). Adjust for 100 microvolt output.	13	R5	Adjust for S-9 Reading on Meter (M15).
--	----	----	--

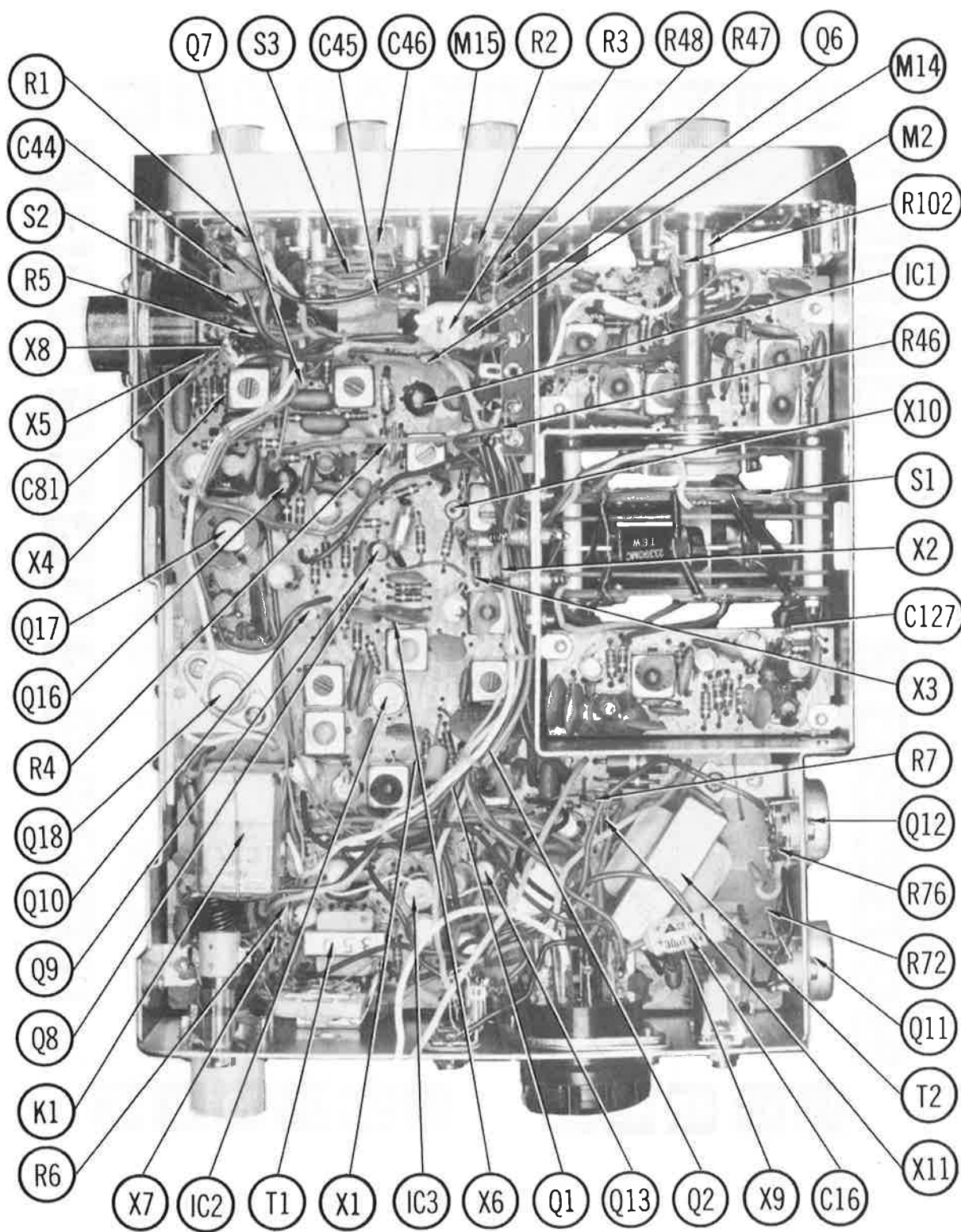
TRANSMITTER

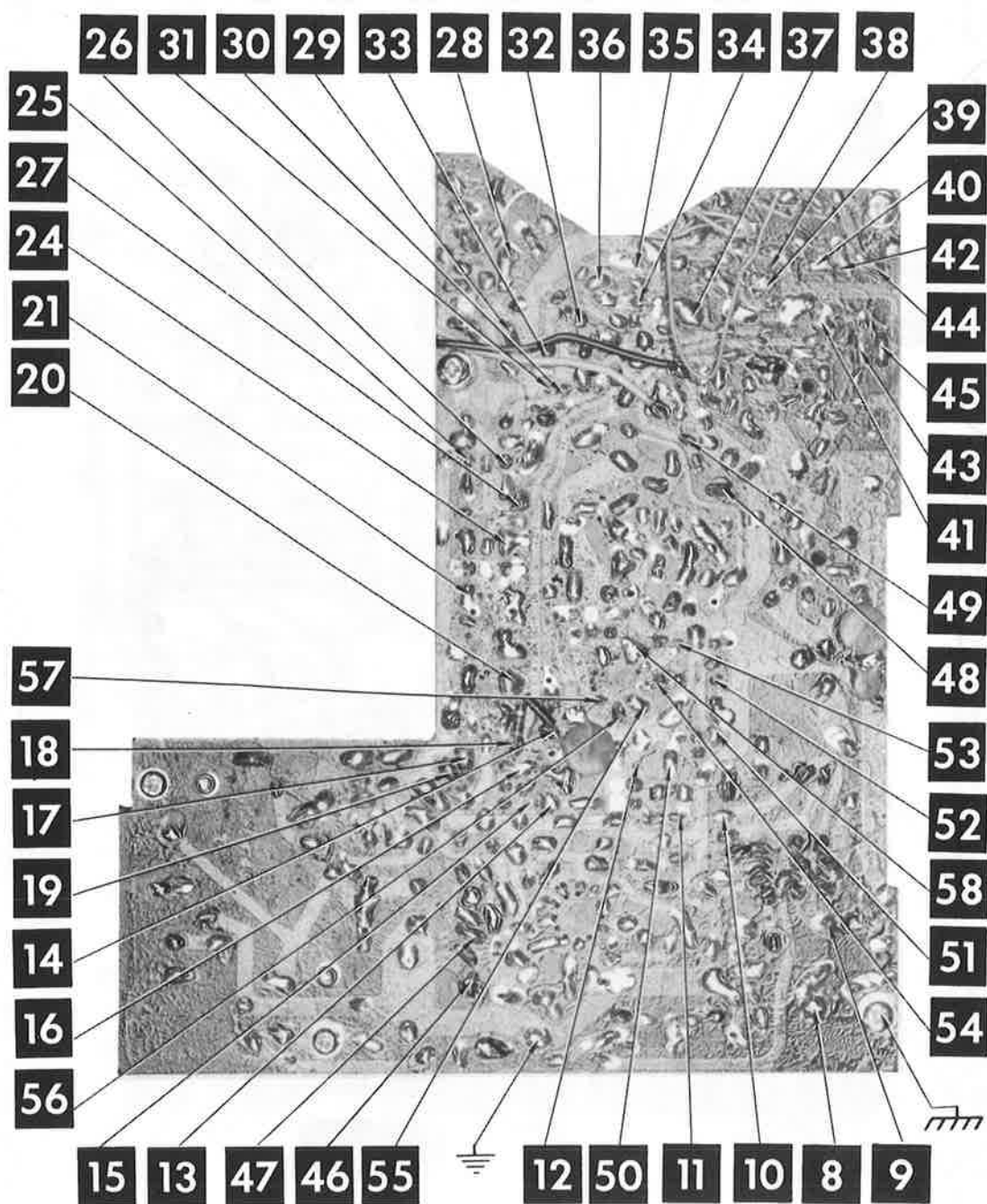
INDICATOR	ADJUST	REMARKS
Connect a DC VTVM from Emitter of Q3 (Local Osc.) to ground.	A15	Adjust for Reading of approximately 2V.
Connect a DC VTVM from Emitter of Q4 (Synthesizer Osc.) to ground.	A16	Adjust for reading of approximately 1.9V.
RF Wattmeter or Field Strength Meter.	A17 thru A27	Adjust for equal power output on all channels and proper frequency. L3 may be adjusted by compressing or expanding the turns.
Nearby TV Tuned to Channel 2.	A28	Adjust for MINIMUM Interference.
RF Wattmeter	R6	Adjust for same reading on front panel meter as on External RF Wattmeter.

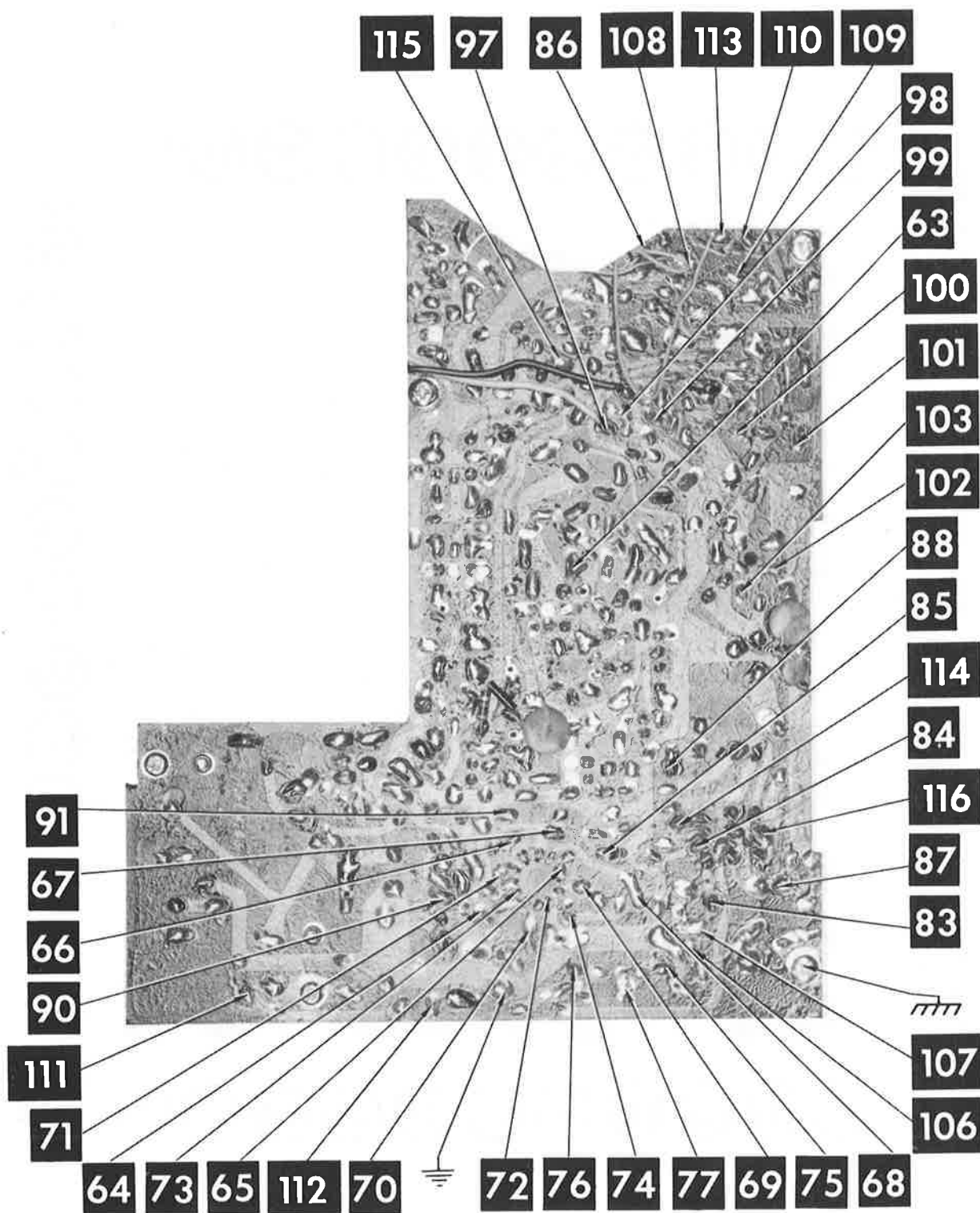
MODULATION ADJUSTMENT

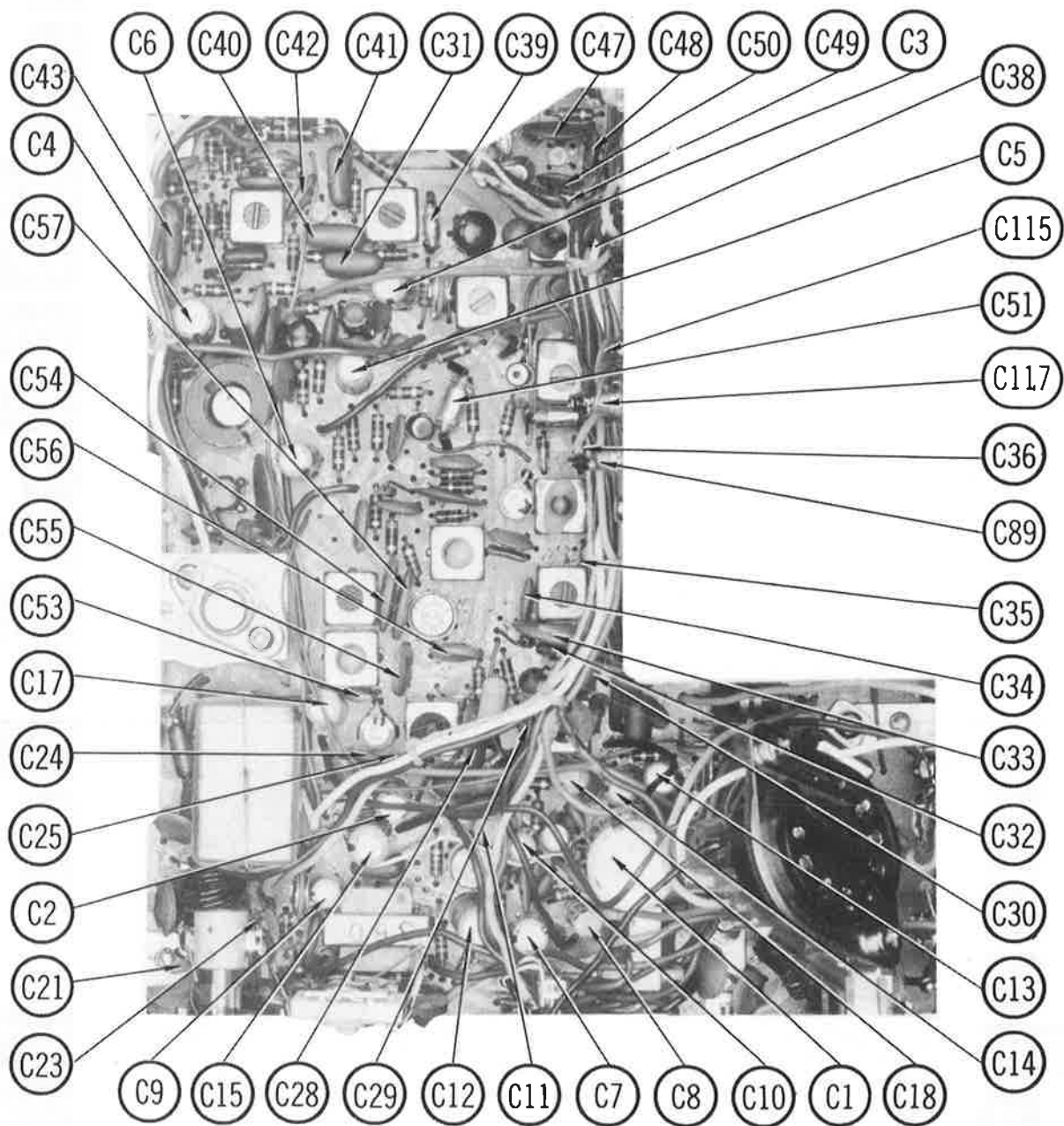
Modulation Monitor	R7	Connect Audio Generator to Pin #3 of Microphone Jack. Generator Frequency to 1000 cycles. Output Level to 10 Millivolts. Adjust R7 (Range Boost Adjust) for 80% Modulation on Monitor.
--------------------	----	--

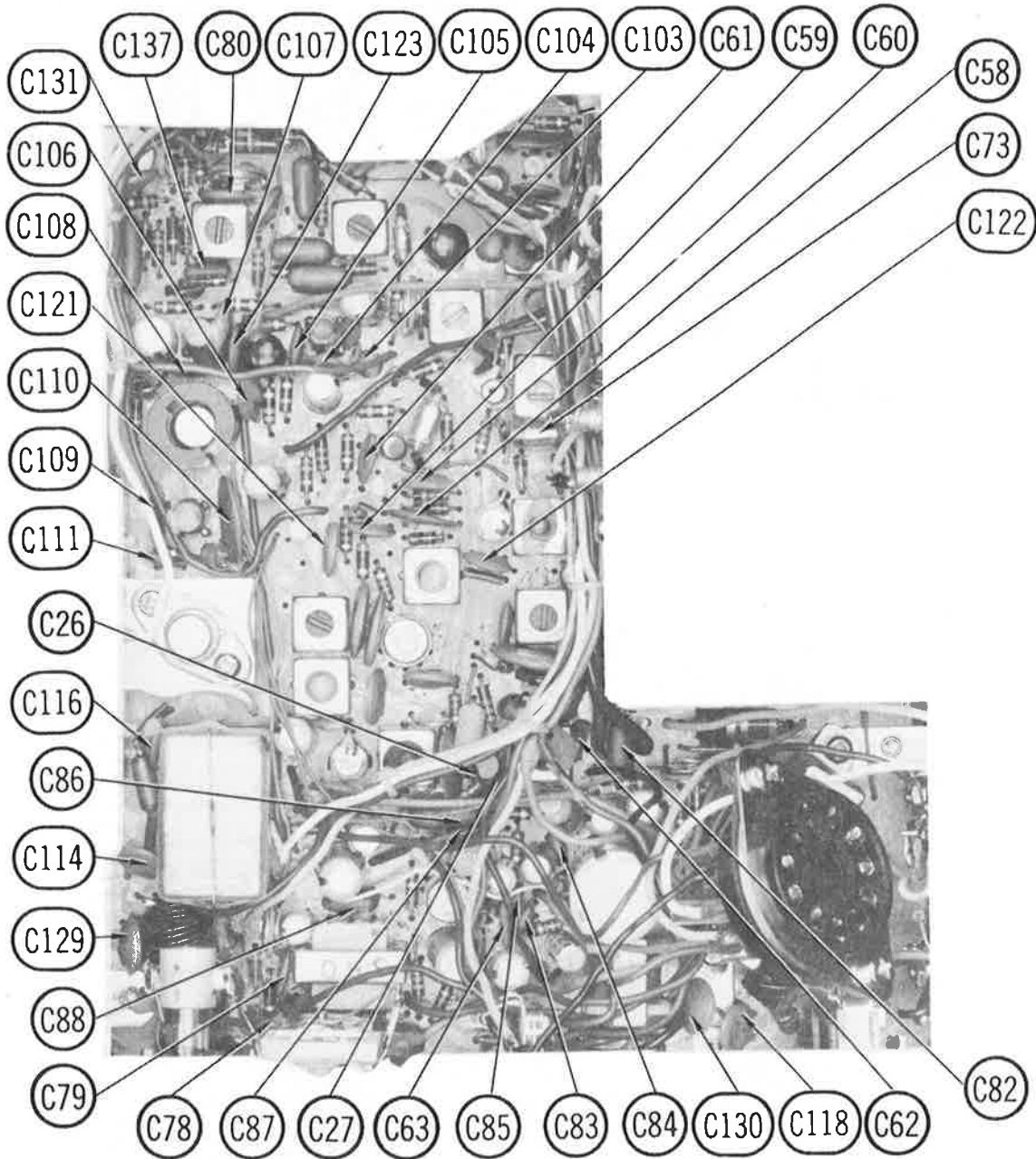


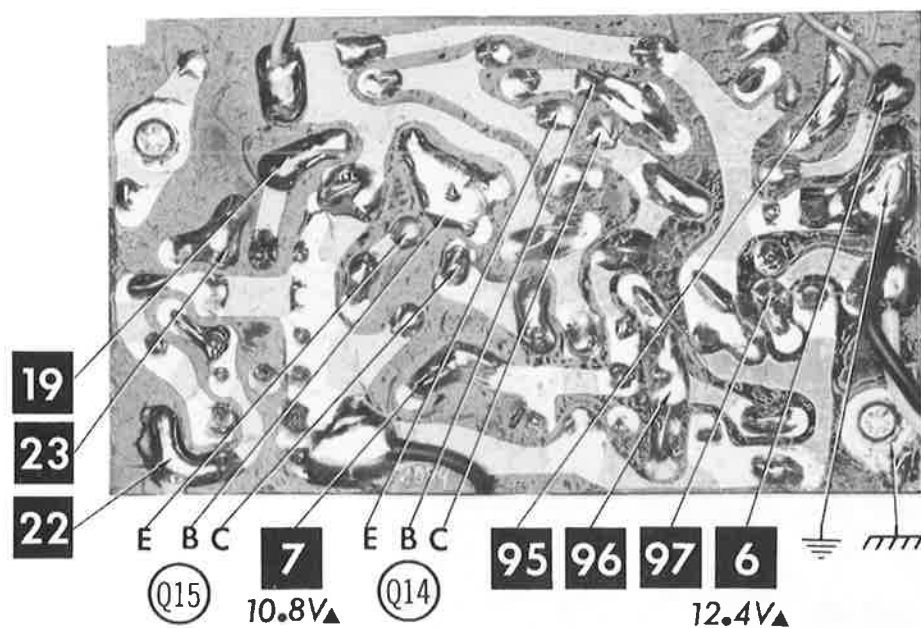




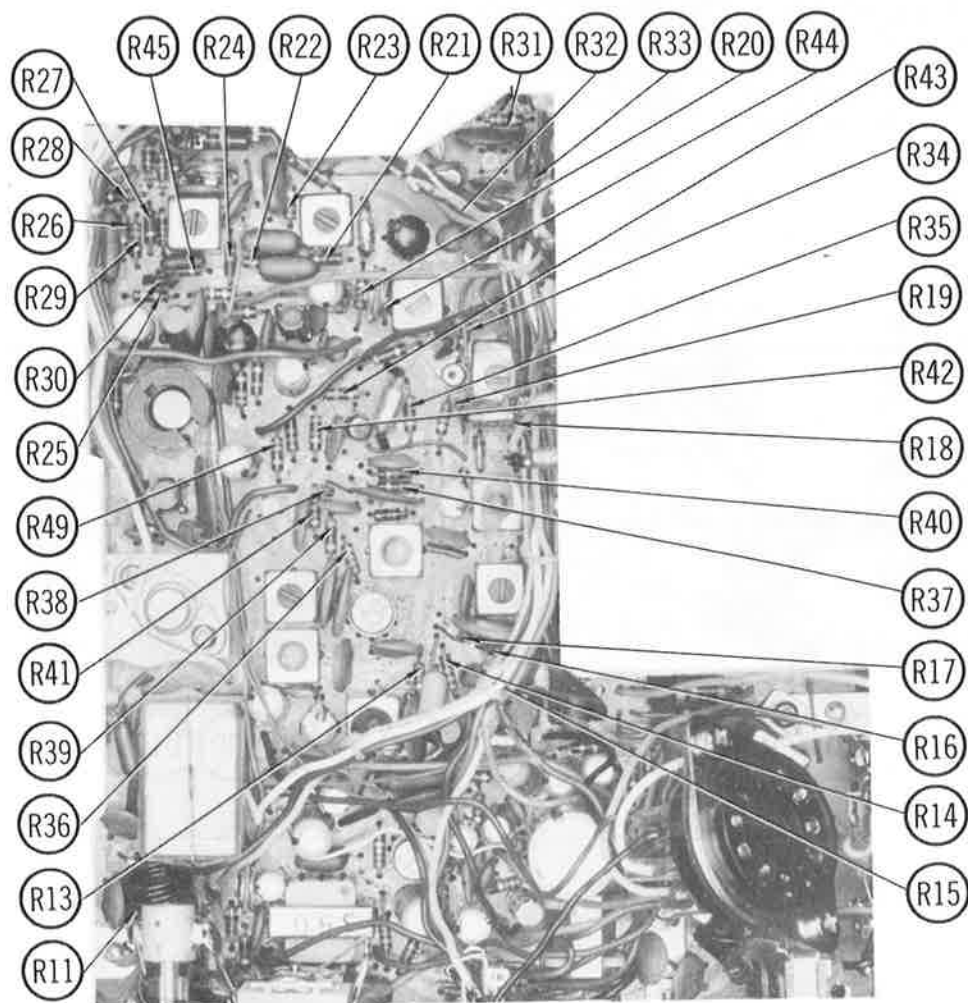


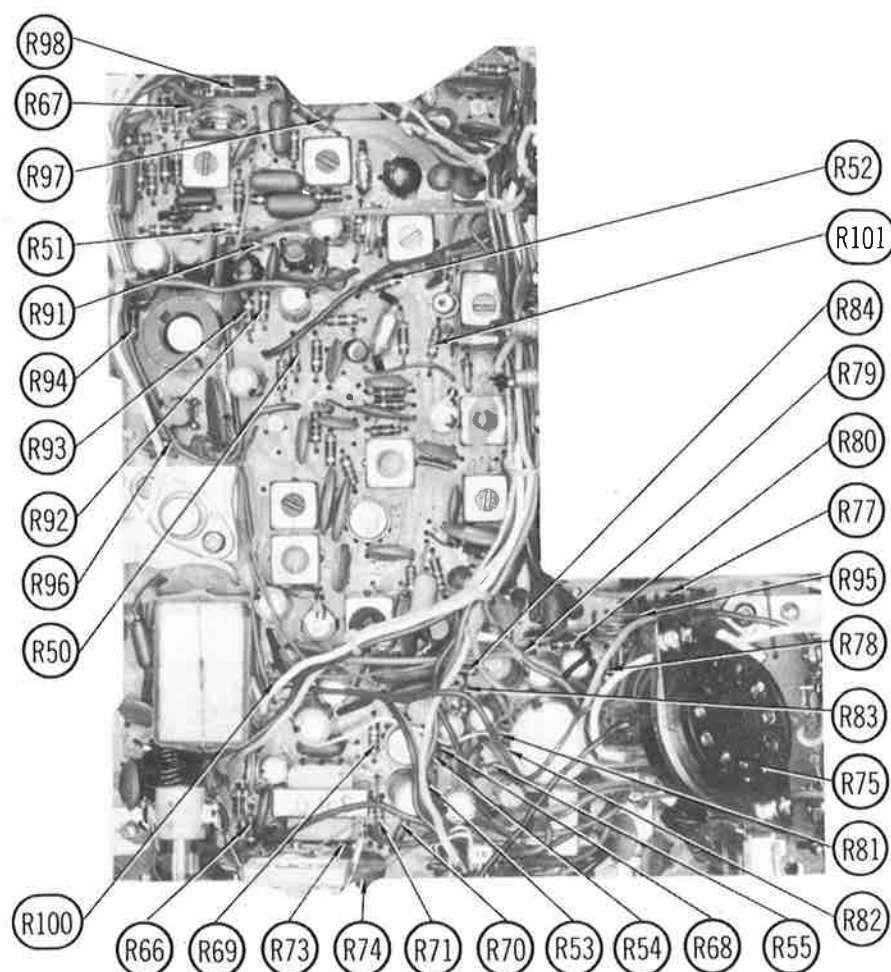
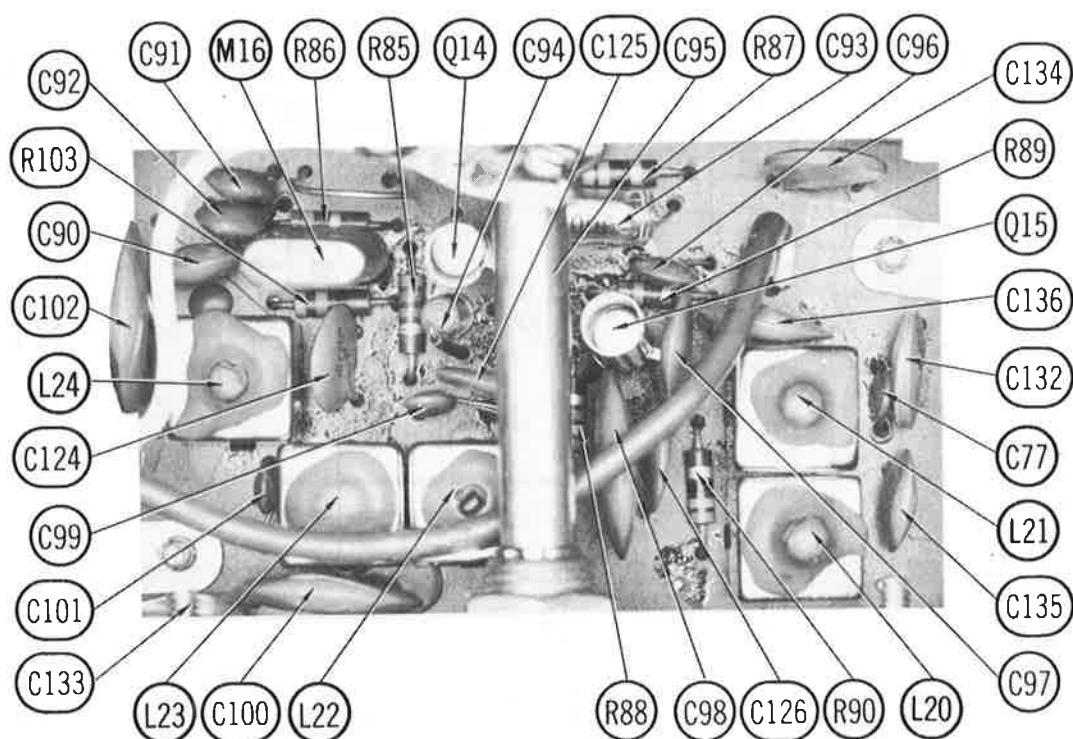


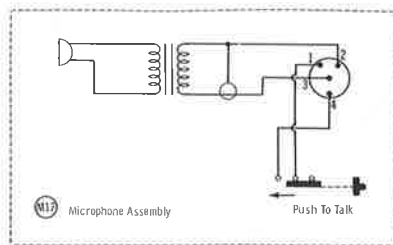
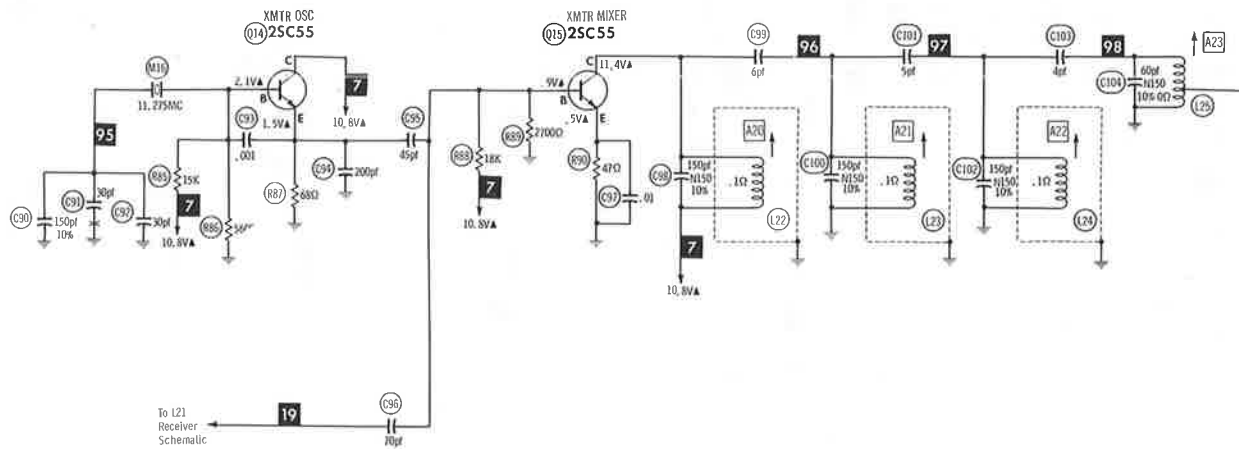




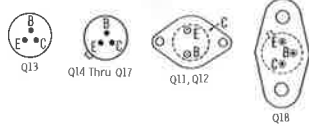
▲TRANSMIT



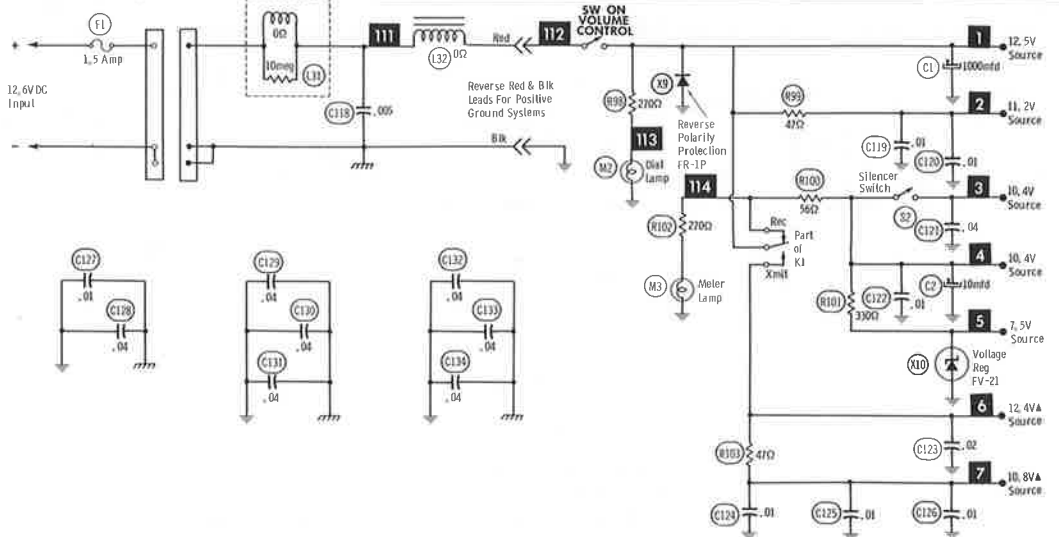




Transistor Terminal Guides

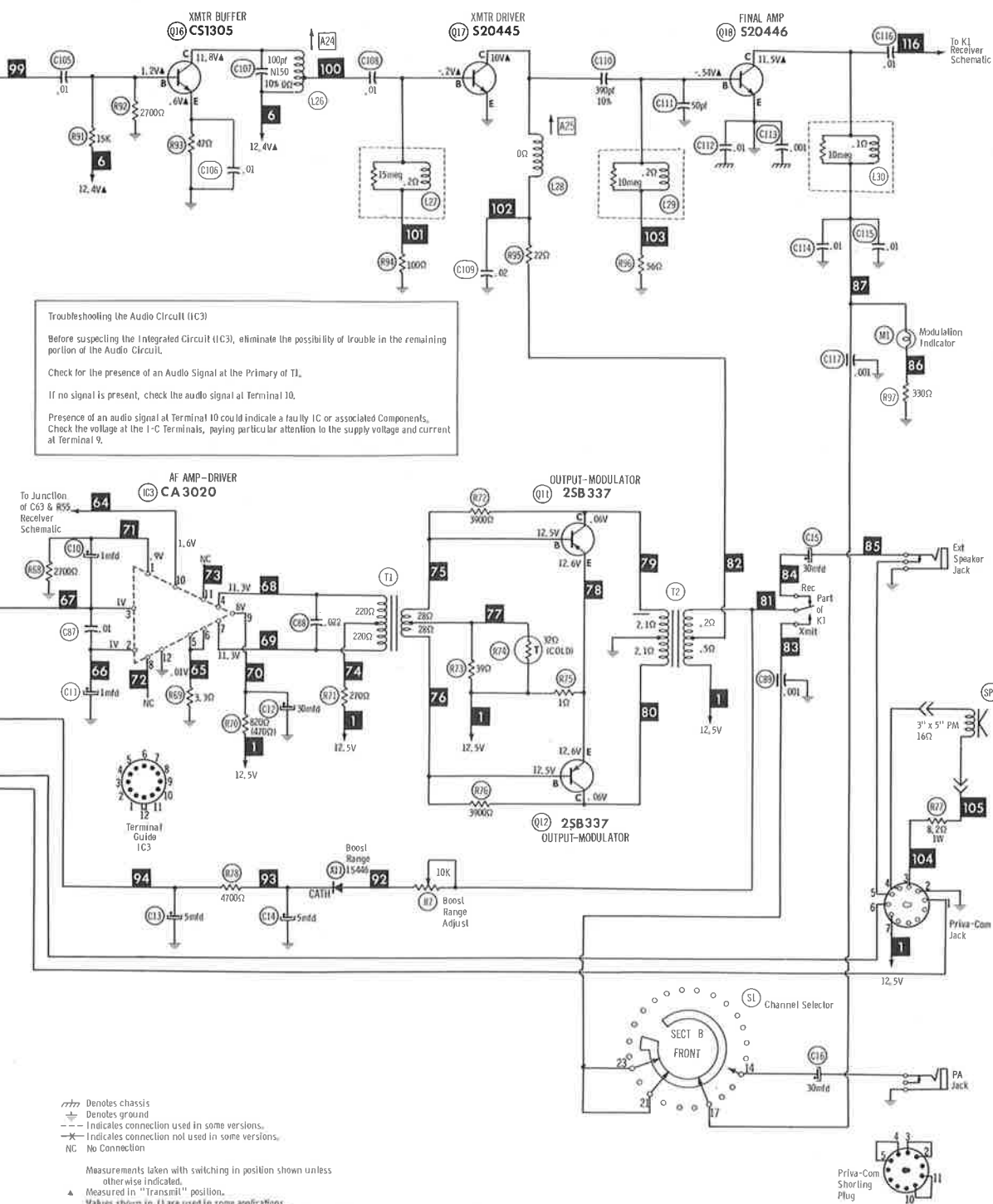


Receive: 19A @ 12.6V DC
Transmit: 77A @ 12.6V DC



A PHOTOFACT STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**
© Howard W. Sams & Co., Inc. 1969

TRANSMITTER



LAFAYETTE MODEL HB-625

TRANSMITTER

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.)

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SC839	RF Amp		DS-81	GE-17	TR-22	HEP728	SK3018	ECG 108
Q2	2SC206	1st Rec Mixer		DS-81	GE-17	TR-22	HEP53	SK3018	ECG 108
Q3	2SC55	Local Oscillator		DS-81	GE-17	TR-22	HEP50	SK3018	ECG 108
Q4	2SC55	Synthesizer Osc		DS-81	GE-17	TR-22	HEP50	SK3018	ECG 108
Q5	2SC55	Synthesizer Mixer		DS-81	GE-17	TR-22	HEP50	SK3018	ECG 108
Q6	2SC183	Rec Oscillator		DS-74	GE-20	TR-21	HEP50	SK3018	ECG 108
Q7	2SC183	IF Amp		DS-74	GE-20	TR-21	HEP50	SK3018	ECG 108
Q8	2SC183	Noise Amp		DS-74	GE-20	TR-21	HEP50	SK3018	ECG 108
Q9	2SC183	Noise Amp		DS-74	GE-20	TR-21	HEP50	SK3018	ECG 108
Q10	2SC183	Squelch		DS-74	GE-20	TR-21	HEP50	SK3018	ECG 108
Q11	2SB337	Output-Modulator		DS-520	GE-3	TR-01	HEP232	SK3009	ECG 121
Q12	2SB337	Output-Modulator		DS-520	GE-3	TR-01	HEP232	SK3009	ECG 121
Q13	2SB60	Mic Preamp			GE-2	TR-05	HEP254	SK3004	ECG 102
Q14	2SC55	Xmtr Oscillator		DS-81	GE-17	TR-22	HEP50	SK3018	ECG 108
Q15	2SC55	Xmtr Mixer		DS-81	GE-17	TR-22	HEP50	SK3018	ECG 108
Q16	CS1305	Xmtr Buffer		DS-81	GE-17	TR-22	HEP50	SK3018	ECG 108
Q17	S20445	Xmtr Driver							
Q18	S20446	Final Amp							

INTEGRATED CIRCUITS

ITEM No.	FUNCTION	MFGR. PART No.	REMARKS
IC1	IF Amp	ICF-1	
IC2	RF Noise Amp		RCA #CA3011
IC3	AF Amp - Driver		RCA #CA3020

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	FV-23		1N67A	ECG 109		
X2	1S447		1N67A	ECG 109		
X3	1S447		1N67A	ECG 109		
X4	1S446	1N34AS	1N67A	ECG 109		
X5	1S446	1N34AS	1N67A	ECG 109		
X6	1S454	1N34AS	1N67A	ECG 109		
X7	1S446	1N34AS	1N67A	ECG 109		
X8	1S446	1N34AS	1N67A	ECG 109		
X9	FR-1P	GE-504A	8D4	ECG 116		
X10	FV-21		1ZM7.5T10			Zener 7.5V

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000 15V		PRS1230	EA15-1000	WBR1000-16		TC1501A	TL-1166.5
C2	10 15V		BCD25010	EP15-10	NLW10-15	MT1-5	MTV10CB50	TE-1155
C3	30 6V		BCD15025	EP6-25	NLW30-6	MT1-13	MTV30CB25	TE-1132.1
C4	30 10V		BCD15025	EP15-25	NLW30-15	MT1-14	MTV30CB25	TE-1132.1
C5	10 10V		BCD25010	EP15-10	NLW10-15	MT1-5	MTV10CB50	TE-1128
C6	10 15V		BCD25010	EP15-10	NLW10-15	MT1-5	MTV10CB50	TE-1155
C7	3 50V		BCD50003	EP50-2	NLW3-50	MT1-3	MTV3CB50	TE-1302
C8	1 25V		BCD50001		NLW1-50	MT1-1	MTV1CB50	TE-1200
C9	1 25V		BCD50001		NLW1-50	MT1-1	MTV1CB50	TE-1200
C10	1 25V		BCD50001		NLW1-50	MT1-1	MTV1CB50	TE-1200
C11	1 25V		BCD50001		NLW1-50	MT1-1	MTV1CB50	TE-1200
C12	30 15V		BCD15025	EP15-25	NLW30-15	MT1-14	MTV30CB25	TE-1158
C13	5 25V		BCD25005	EP30-5	NLW5-50	MT1-3	MTV5CB50	TE-1202
C14	5 25V		BCD25005	EP30-5	NLW5-50	MT1-3	MTV5CB50	TE-1202
C15	30 15V		BCD15025	EP15-25	NLW30-15	MT1-14	MTV30CB25	TE-1158
C16	30 15V		PTT70	EA15-25	NLW30-15	MT1-16	MTA30D15	TE-1158
C17	3 50V		BCD50003	EP50-2	NLW3-50	MT1-3	MTV3CB50	TE-1302
C18	10 15V		BCD25010	EP15-10	NLW10-15	MT1-5	MTV10CB50	TE-1155

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.
C21	25		NPO-DI 25	DTZ-25			CN0425	10TCC-Q25
C22								
C23	390 50V 10%		GPD X5F391K	D6-391	HOY101ZV103P	CCS-391	GP339	10TS-T39
C24	.01		TTP-01	CK-103	CV601CG101K	CCD-103	TA110	TG-S10
C25	100 10%		NPO-DI 100	DTZ-100	CD15F201K500	CCT0-101	CN0310	10TCC-T10
C26	200			CPR-200J	CD15F201K500	DM-15-201K	SX320	MS-32
C27	5 N750			DTN-5	CZ601UJ5R0D	CCTN-050	CN7550	10TCU-V50
C28	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C29	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C30	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C31	.047		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391
C32	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C33	220 N150 10%					*	*	10TCR-T22
C34	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C35	3		NPO-DI 3.0					10TCC-V30
C36	15		NPO-DI 15	DTZ-15	CZ601CG150J	CCT0-150	CN0415	10TCC-Q15
C37								
C38	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C39	220			CPR-220J	CD15F221K500	DM-15-221K	SX322	MS-322
C40	.047		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391
C41	.047		V1612S47		DMF1S47	1DP-2-473	PVC1147	225P47391
C42	.04			DD-403			GP140	225P56391
C43	.056		DBE6S56		WMF1S56	1DP-2-563	PVC1156	225P22391
C44	.022		V1612S22		DMF1S22	1DP-1-223	PVC1122	10TCC-Q20
C45	20		NPO-DI 20	DTZ-20		CCT0-200	CN0420	10TCC-Q20
C46	50		NPO-DI 50	DTZ-50	CX601CG470K	CCT0-510	CN0450	10TCC-Q50
C47	250		GPD X5F221K	DD-251		CCS-251	GP325	10TS-T25
C48	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C49	200			CPR-200J	CD15F201K500	DM-15-201K	SX320	MS-32
C50	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C51	.001			CPR-1000J	CD19F102J500	DM-19-102J	SX210	MS-21
C52								
C53	100 10%		NPO-DI 100	DTZ-100	CV601CG101K	CCT0-101	CN0310	10TCC-T10
C54	.1		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C55	.04			DD-403			GP140	
C56	.04			DD-403			GP140	
C57	.1		TTP-1	CK-104	HOV101ZV104Z		TA010	TG-P10
C58	330 5%		GPD X5F331K	DD-331	JBZ601YP331K	CCD-331	GP333	10TS-T33
C59	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C60	.04			DD-403			GP140	
C61	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C62	30			TCZ-30		CCT0-300		10TCC-Q30
C63	.0047 50V		GPD X5R472K	DD-472G	BYX601ZU472M	CCD-472	GP247	5HK-D47
C64	1		NPO-DI 1.0	TCZ-1			CN0510	10TCC-V10
C65	200 10%		GPD X5F201K	DD-201	JBZ601YP221K	CCD-201	GP320	10TS-T20
C66	100 N150 10%					*	*	10TCP-T10
C67	15 N150 10%					*	*	10TCP-Q15
C68	30 NPO 10%					CCT0-300		10TCC-Q30
V69				TCZ-30				
C70	620			CPR-620J	CD19F621K500	DM-15-621K	SX362	MS-362
C71	70 N150 10%					*	*	10TCP-Q68
C72	60 N150 10%					*	*	

LAFAYETTE MODEL HB-625

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.
C73	.001		TTP-01	CPR-1000J	CD19F102J500	DM-19-102J	SX210	MS-21
C74	.01			CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C75	100 N150 10%					*	*	10TCP-T10
C76	3	NPO-DI 3.0						10TCC-V30
C77	3	NPO-DI 3.0						10TCC-V30
C78	2	NPO-DI 2.2						10TCC-V22
C79	.005		TTP-005	DTZ-2R2	CZ601CJ2R2D		CN0522	TG-D50
C80	.04			CK-502	HOY101ZV502P	CCD-502	TA250	
C81	.01		TTP-01	DD-403			GP140	
C82	.047			CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C83	.001	V1612S47			DMF1S47	1DP-2-473	PVC1147	225P47391
C84	.001	GPD X5F102K		DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C85	.001	GPD X5F102K		DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C86	.056	GPD X5F102K		DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C87	.01 50V	DBE6S5			DPMS6S5	6DP-3-503	PVC615	6PS-S50
C88	.022	TTP-01		CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C89	.001	V1612S22			DMF1S22	1DP-1-223	PVC1122	225P22391
C90	150 10%		GPD X5F151K	MFT-1000		CCF-102		BH-340
C91	30			DD-151		CCD-151	GP315	10TS-T15
C92	30			TCZ-30		CCTO-300		10TCC-Q30
C93	.001			TCZ-30		CCTO-300		10TCC-Q30
C94	200			CPR-1000J	CD19F102J500	DM-19-102J	SX210	MS-21
C95	45		GPD X5F470K	CPR-200J	CD15F201K500	DM-15-201K	SX320	MS-32
C96	70		GPD X5F680K	D6-470	JBZ601YP470K	CCTO-470	CN0447	10TS-Q47
C97	.01		TTP-01	D6-680	JBZ601YP680K	CCTO-680	CN0468	10TS-Q68
C98	150 N150 10%			CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C99	6					*	*	10TCP-T15
C100	150 N150 10%					*	*	10TCC-V50
C101	5	NPO-DI 5.0			CZ601CH5R0D			10TCP-T15
C102	150 N150 10%					*	*	10TCC-V39
C103	4					*	*	
C104	60 N150 10%					*	*	
C105	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C106	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C107	100 N150 10%					*	*	10TCP-T10
C108	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C109	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C110	390 50V 10%	GPD X5F391K		D6-391		CCS-391	GP339	10TS-T39
C111	50	NPO-DI 50		DTZ-50	CX601CG470K	CCTO-510	CN0450	10TCC-Q50
C112	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C113	.001	GPD X5F102K		DM-102	JBS601YP102K	CCD-102	SM210	2SS-D10
C114	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C115	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C116	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C117	.001			MFT-1000		CCF-102		BH-340
C118	.005		TTP-005	CK-502	HOY101ZV502P	CCD-502	TA250	TG-D50
C119	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C120	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C121	.04			DD-403			GP140	
C122	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C123	.02		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20
C124	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C125	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C126	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C127	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C128	.04			DD-403			GP140	
C129	.04			DD-403			GP140	
C130	.04			DD-403			GP140	
C131	.04			DD-403			GP140	
C132	.04			DD-403			GP140	
C133	.04			DD-403			GP140	
C134	.04			DD-403			GP140	
C135	50 N220 10%					*	*	10TCR-Q50
C136	100 N150 10%					*	*	10TCP-T10
C137	.01	V1612S1		CPR-1000J	WMF1S1	1DP-1-103	PVC211	225P10391
C138	.02	TTP-02		CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20

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

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESIST- ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	10K					
R2	Squelch	50K					
R3	Squelch Range	10K		T-10K		X201R103B	MTC14L1
R4	Gain Adjust	10K		T-10K		X201R103B	MTC14L1
R5	"S" Meter Adjust	10K		T-10K		X201R103B	MTC14L1
R6	"RF" Meter Adjust	10K		T-10K		X201R103B	MTC14L1
R7	Boost Range Adjust	10K		T-10K		X201R103B	MTC14L1

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R30	150 (Cold)		FT150	

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFR. PART No.
R74	32 (Cold)		FT35	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	TVI Trap				
L2	Antenna Peaking				
L3	RFC (4 Turns)				
L4	Antenna Input	(256/089)			
L5	RFC (2.2uh)				
L6	RF Amp	(256/073)		74F226AP(1)	T812 (1)
L7	1st Rec Mixer	(256/182)			
L8	IF Interstage	(256/371)			
L9	Rec Oscillator	(256/203)			
L10	Input IF & Filter	(257/037)			
L11	Interstage IF	(256/092)		8517	
L12	Interstage IF	(256/343)			
L13	Output IF	(256/022)		8518	
L14	Noise Pulse Takeoff	(256/074)			
L15	Noise Pulse Input	(256/055)			
L16	Noise Pulse Output	(256/375)			
L17	Local Oscillator				
L18	Synthesizer Oscillator				
L19	Harmonic Trap	(256/177)			
L20	Harmonic Trap	(256/177)			
L21	Synthesizer Mixer	(256/179)			
L22	Harmonic Trap	(256/177)			
L23	Harmonic Trap	(256/177)			
L24	Harmonic Trap	(256/177)			
L25	Xmtr Mixer				
L26	Xmtr Buffer				
L27	RFC (2.2uh)			74F226AP(2)	T812(2)
L28	Xmtr Driver				
L29	RFC (1.8uh)			74F186AP(3)	T811(3)
L30	RFC (2uh)			74F226AP(3)	T812(3)
L31	RFC (1.1uh)		19-1000(3)	4602 (3)	T855(3)

(1) Shunt with 330K Resistor. (2) Shunt with 15meg Resistor. (3) Shunt with 10meg Resistor.

LAFAYETTE MODEL HB-625

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L32	.77A *	0	.35mh						* Transmit

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T1	2.5	1							

PARTS LIST AND DESCRIPTION (CONTINUED)

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

TRANSFORMER (Audio Output)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
	PRI.	SEC.	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	2	1	(TVBVTY4021)					

SPEAKER

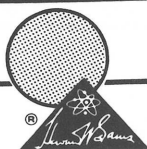
ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	3" x 5" PM 16 ohms	(12D51S)		35A05Z16	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	1 1/2 Amp			AGC 1 1/2	HDJ	31201.5	150145	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
K1	Relay		Receive - Transmit
M1	Modulation Lamp		CHICAGO MINIATURE Replacement CM-2114
M2	Dial Lamp		CHICAGO MINIATURE Replacement CM-2114
M3	Meter Lamp		CHICAGO MINIATURE Replacement CM-2114
M4	Crystal		23.340MC
M5	Crystal		23.390MC
M6	Crystal		23.440MC
M7	Crystal		23.490MC
M8	Crystal		23.540MC
M9	Crystal		23.290MC
M10	Crystal		14.970MC
M11	Crystal		14.960MC
M12	Crystal		14.950MC
M13	Crystal		14.990MC
M14	Crystal		11.730MC
M15	Meter		"S" & RF Power Indicator
M16	Crystal		11.275MC
M17	Microphone Assembly		
S1	Switch		Channel Selector
S2	Switch		Silencer
S3	Switch		Delta Tune
	DC Converter	99-2084	Model HB-505 (6 Volt)
	AC Converter		Model HB-502 (117 Volt)



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

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, SUBPARTS C & D.)

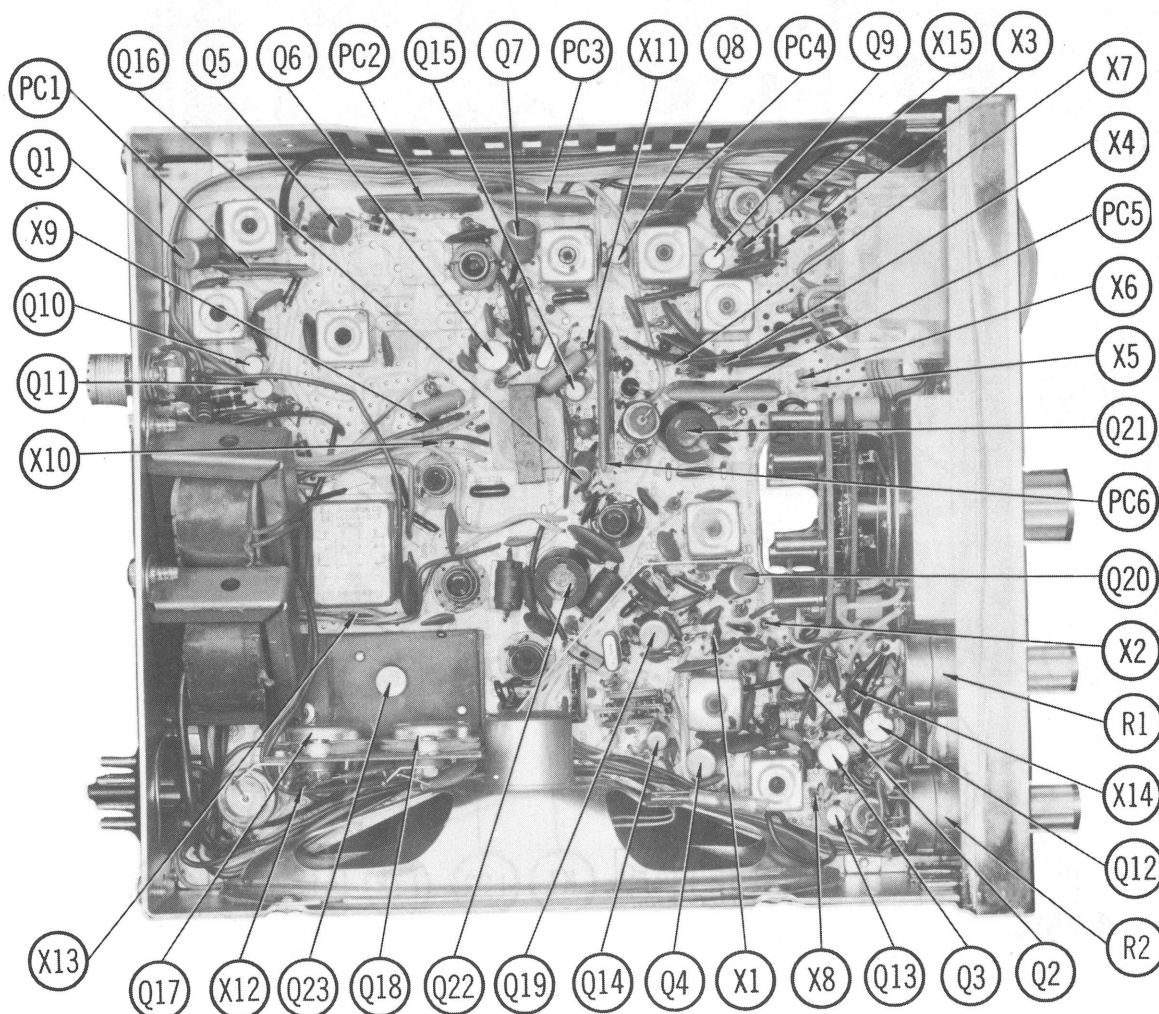
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

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-ohm dummy load or the normally used antenna system.



JOHNSON MODEL 320 (242-320)

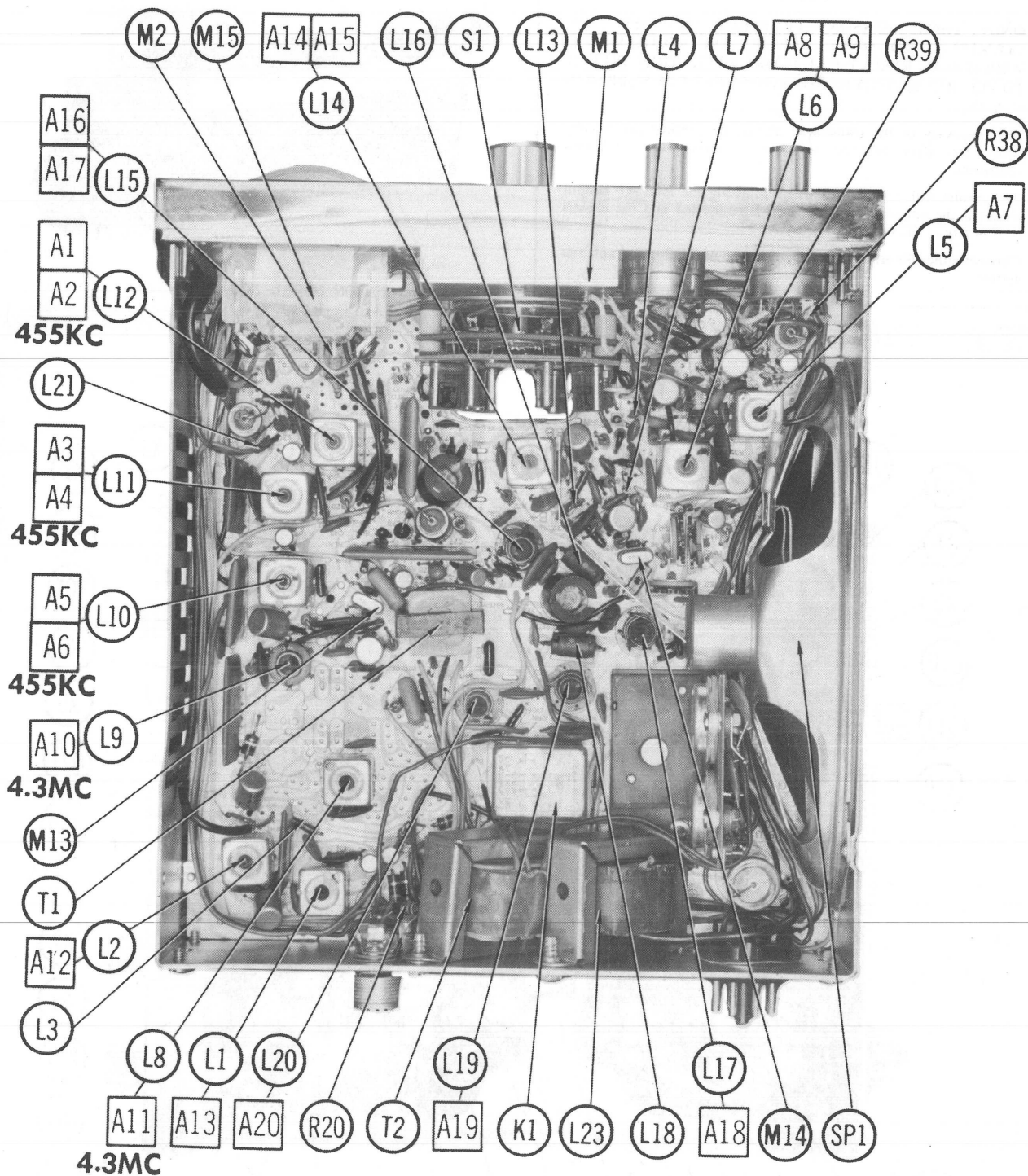


JOHNSON MODEL MESSENGER 320

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

© 1969 Howard W. Sams & Co., Inc. Printed in U. S. of America

TY474



ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A9, A11 thru A15....GENERAL CEMENT #9300,9302,9296...WALSCO #2511,2543,2583
 A10, A16 thru A20.....GENERAL CEMENT #8606,8869,9302...WALSCO #2544,2543,2588

RECEIVER

Connect an AC VTVM across speaker Voice Coil. Set Volume Control to midrange. Set Squelch Control fully counterclockwise. (Not PA Position).

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to Base of Q7 (2nd Rec Mixer), low side to ground. Tune to 455KC (Mod.).	Any	A1 thru A6	Adjust for maximum.
	23	A7	Connect RF probe of AC VTVM from L6 Secondary Center Tap to Ground. Adjust 1/4 turn beyond oscillator starting point.
	11	A8,A9	Connect RF Probe of AC VTVM from L6 Secondary Center Tap to Ground. Adjust for maximum (approximately 50mv MINIMUM). Recheck all Channels <u>from</u> approximately same output. Compromise adjustments if necessary.
High side thru .01mfd to base of Q5 (1st Rec Mixer). Low side to ground. Tune to 4.3MC (Mod.).	Any	A10,A11	Adjust for maximum.
High side thru .01 to Antenna Connector, low side to Chassis. Tune to 27.085MC (Mod.).	11	A12,A13	Adjust for maximum.

Completed 5-6-70

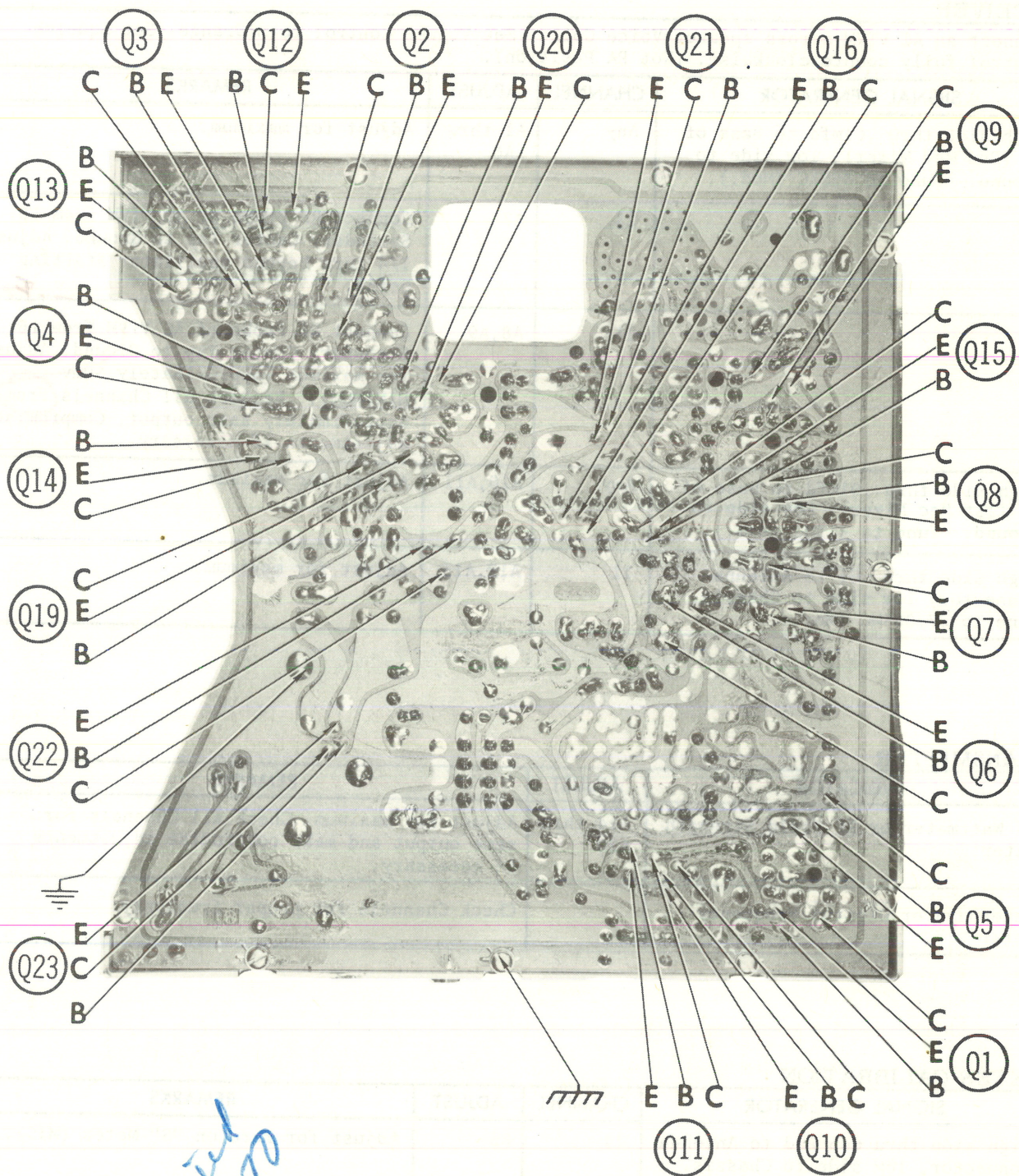
JOHNSON MODEL MESSENGER 320

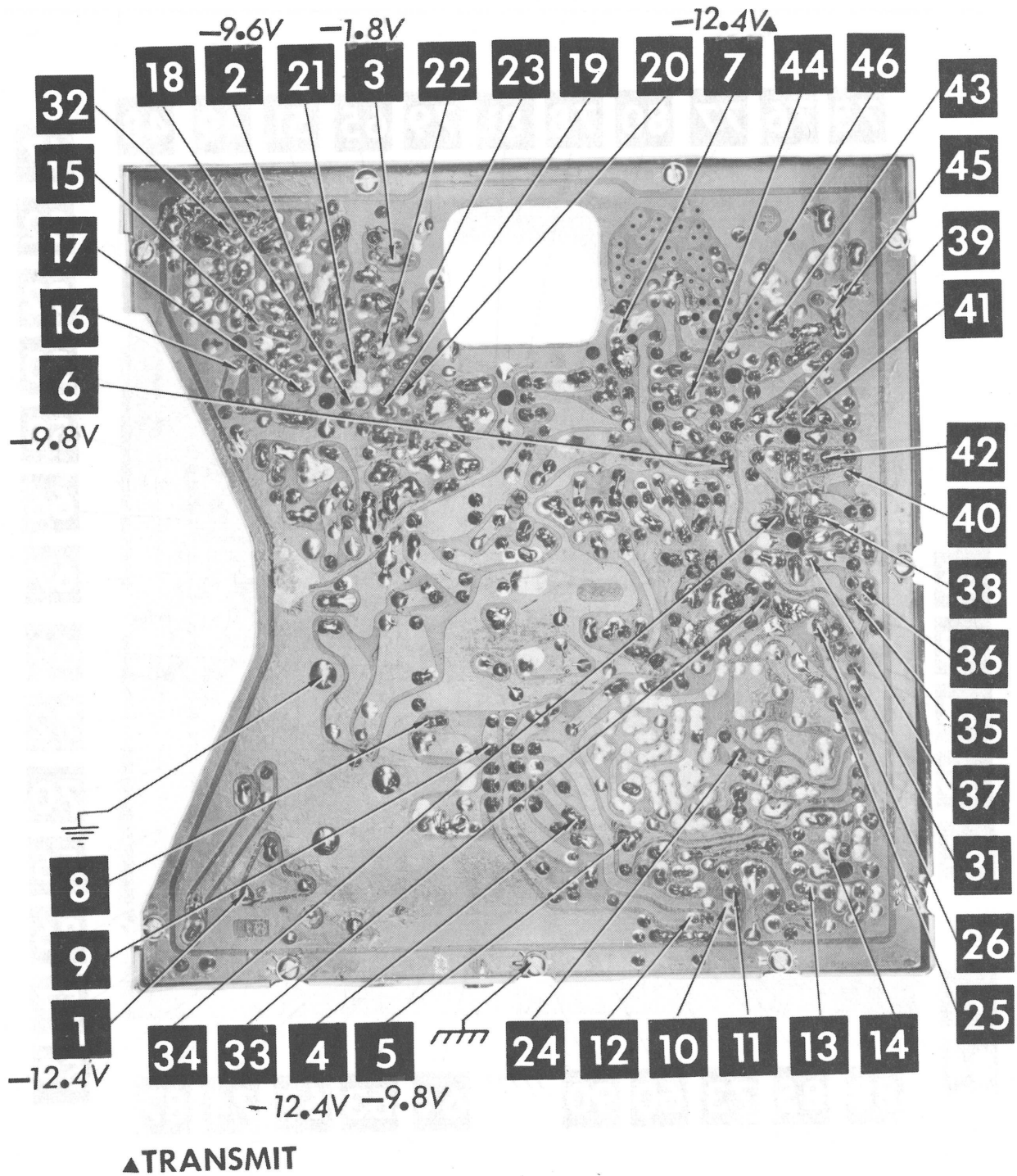
TRANSMITTER

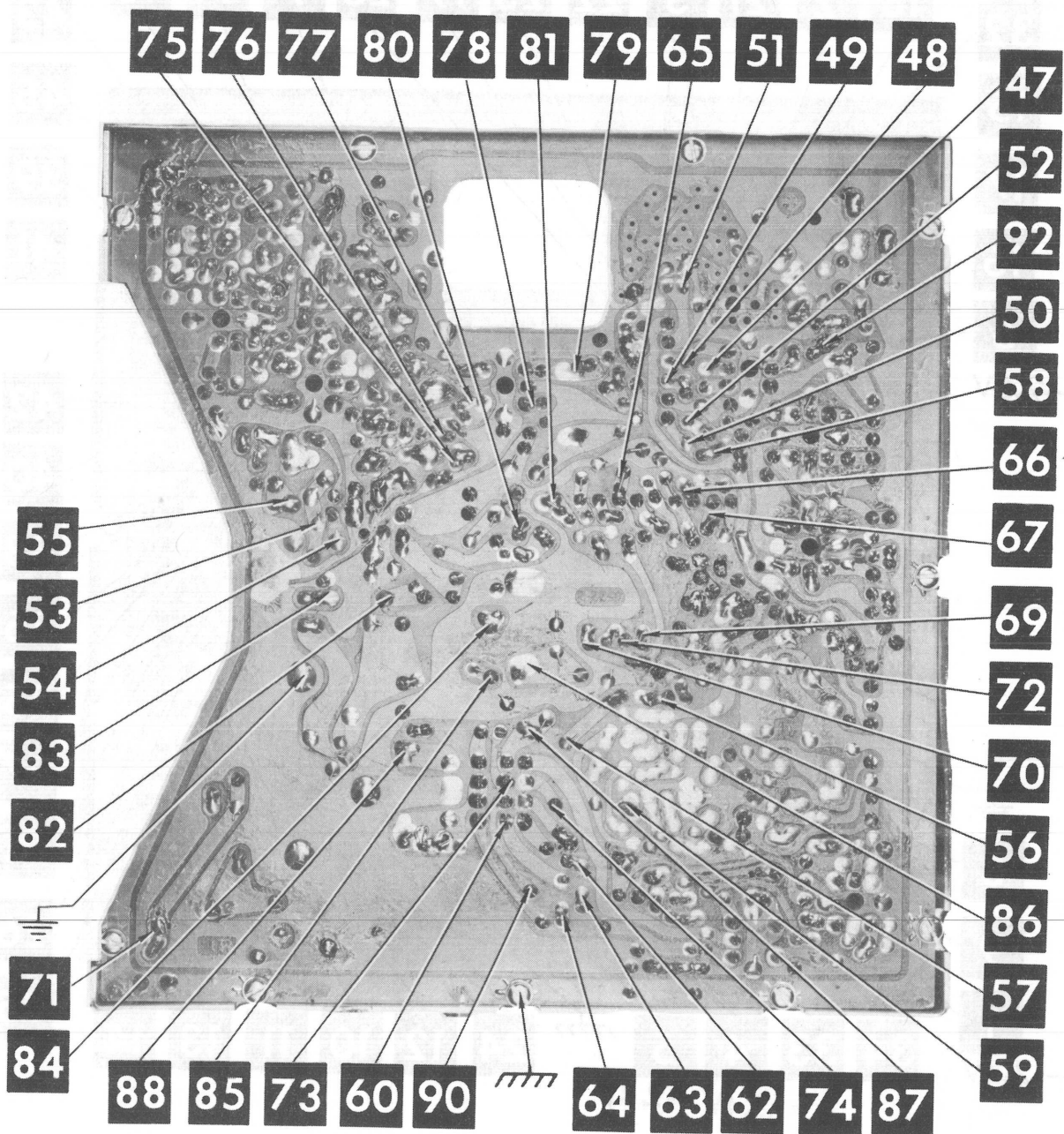
INDICATOR	ADJUST	REMARKS
RF Wattmeter or RF Field Strength Meter	A14 thru A20	Adjust for maximum. Check all Channels for same output and make compromise adjustments if necessary.
Heterodyn or Digital Frequency Meter		Check Channels for proper frequency.

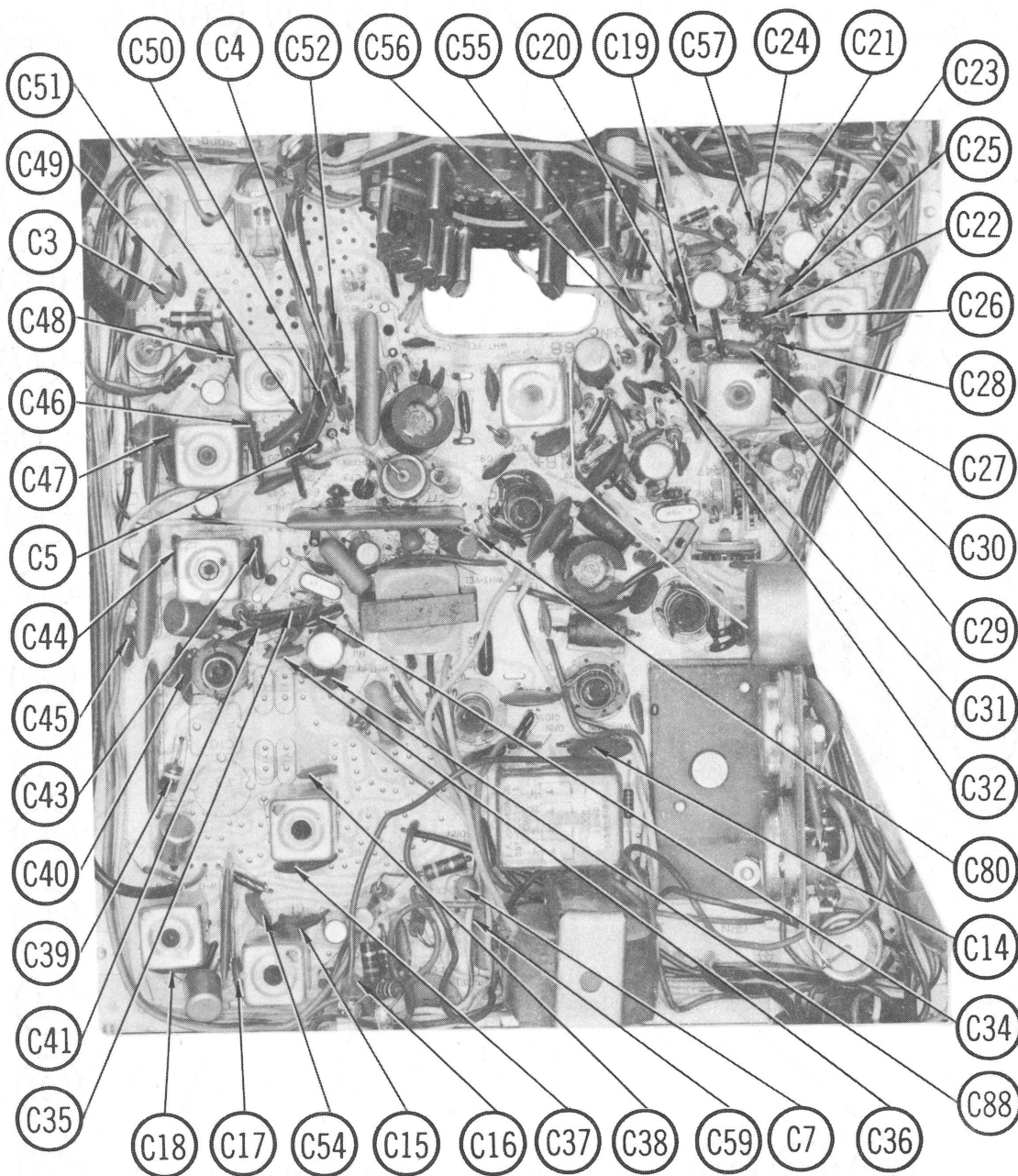
METER CALIBRATION

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru 6db Pad to Antenna Connector, low side to Chassis. Adjust for 1 micro volt. Tune to 27.085MC (Unmod.).	11	R5	Adjust for Zero on "S" Meter (M15).
Adjust for 100 microvolts input.	11	R4	Adjust for "S9" Reading on "S" Meter (M15).
	11	R3	After Transmitter Alignment Adjust for Midscale Reading on Meter (M15).

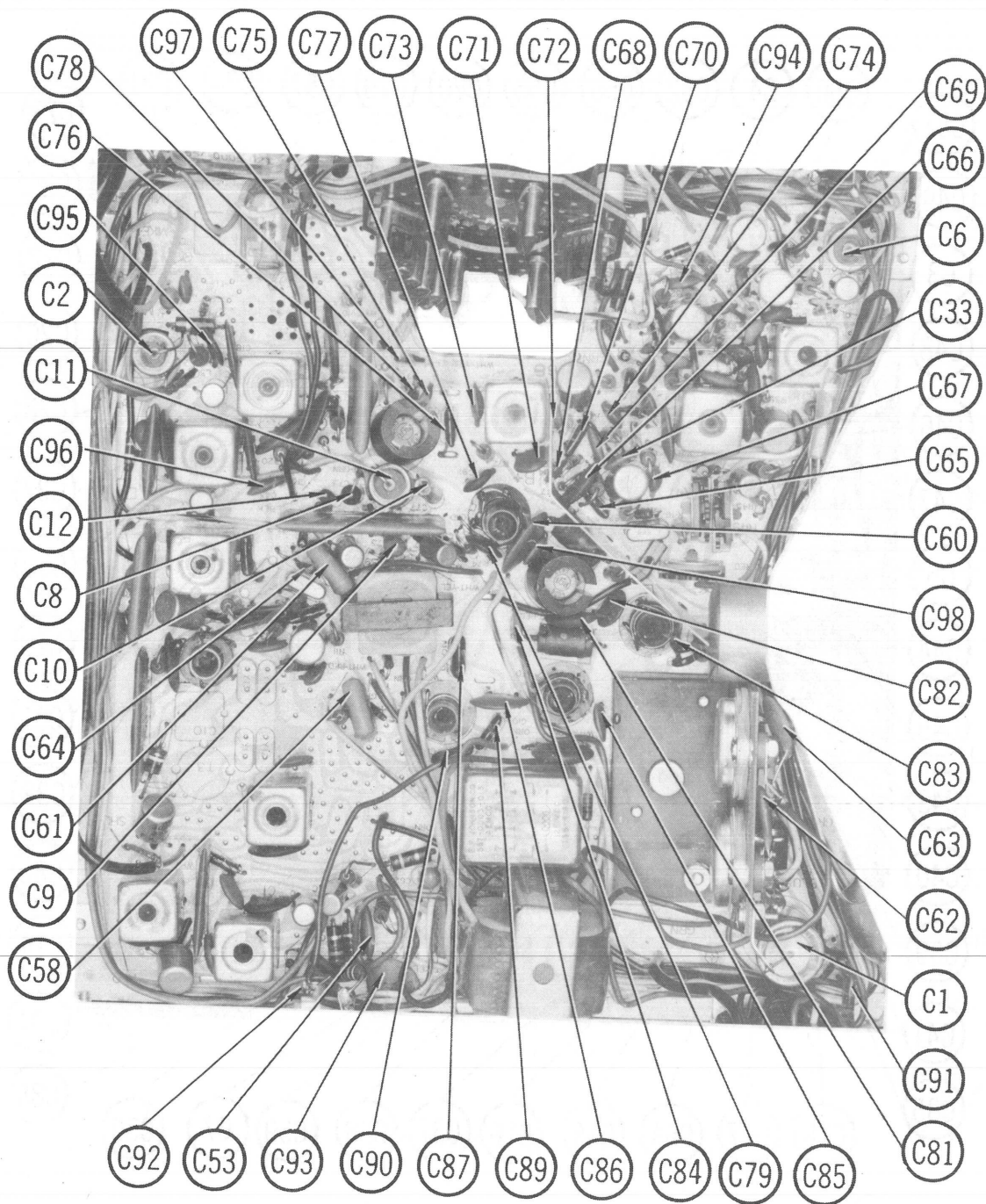


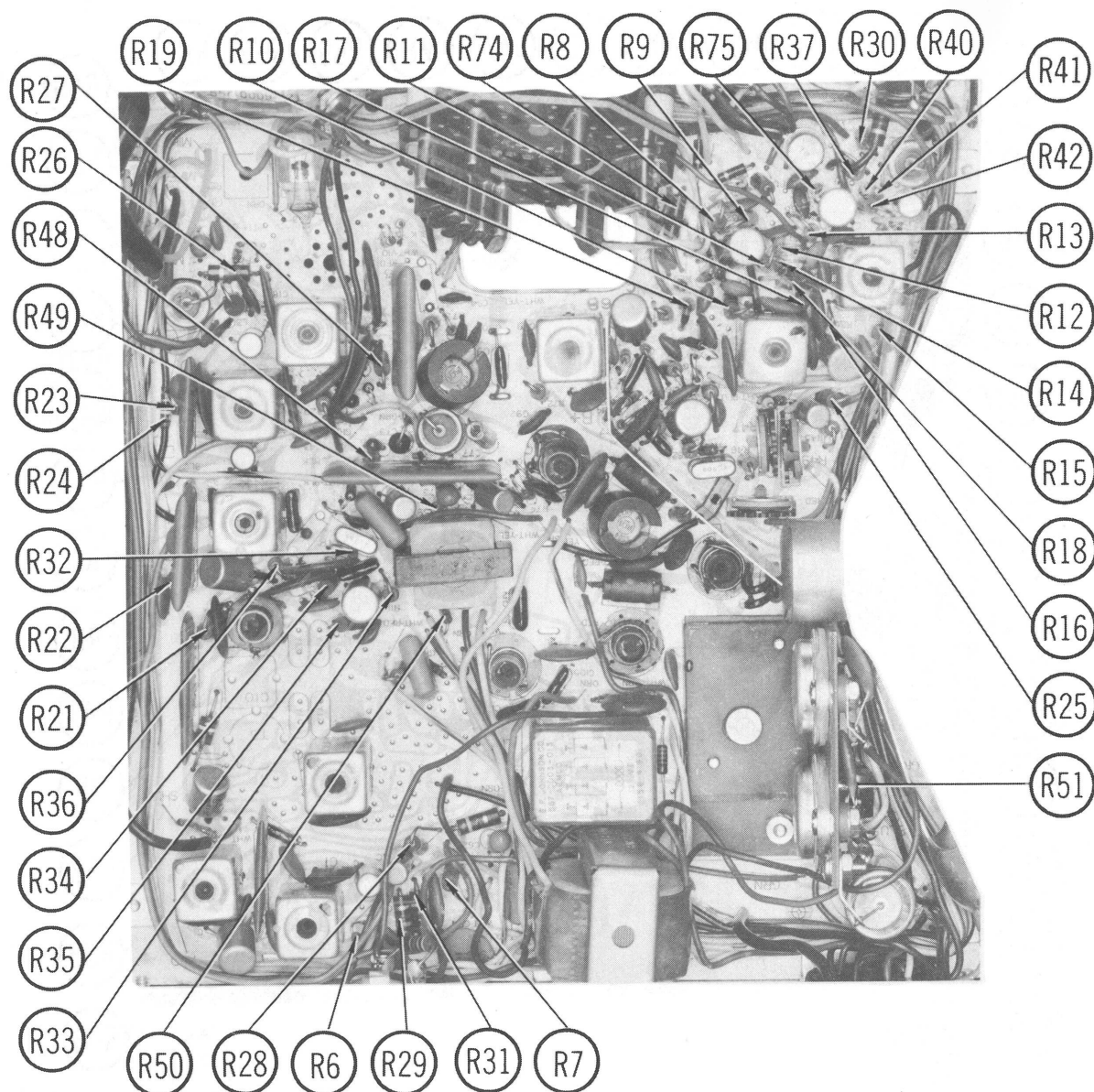


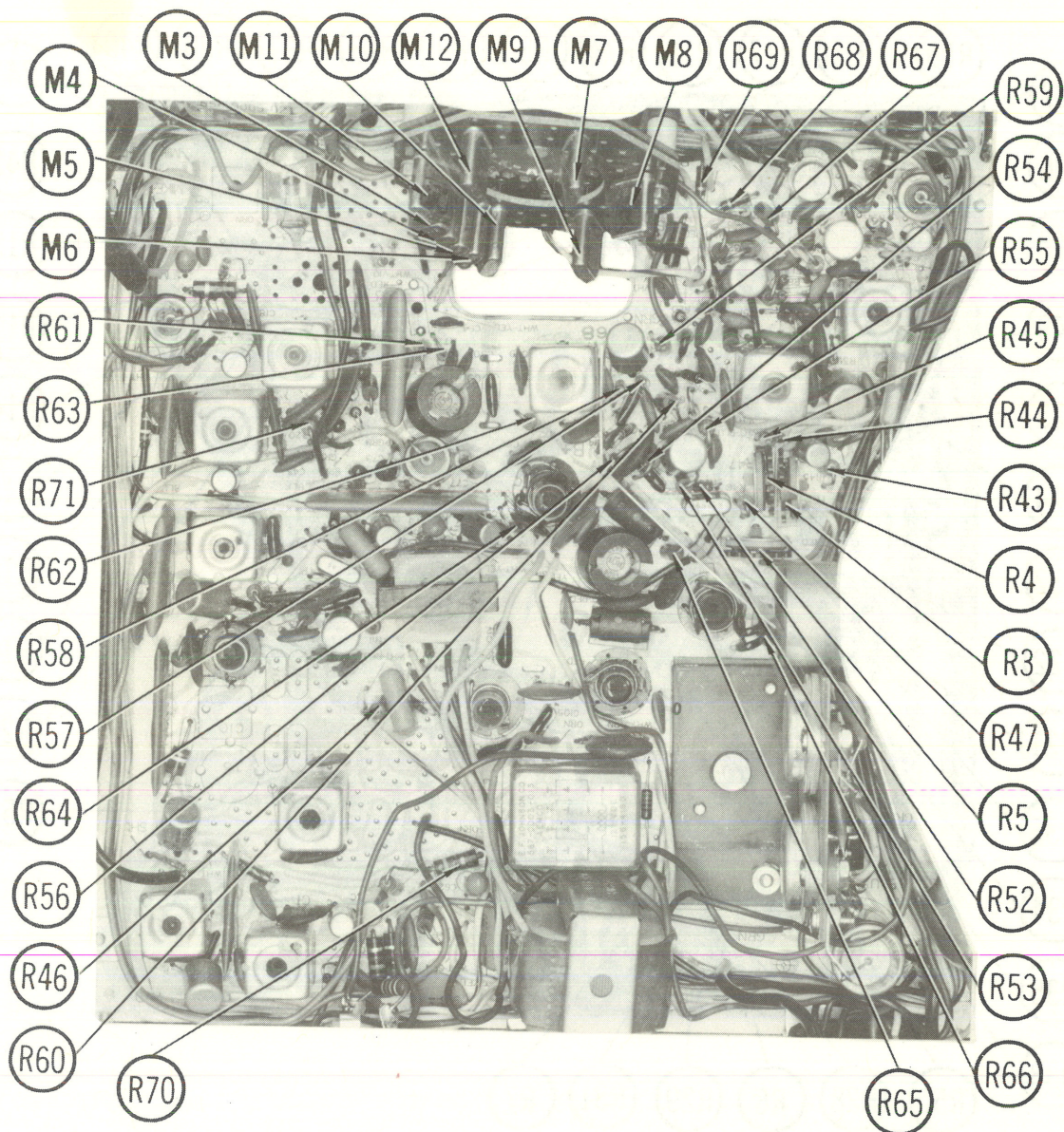


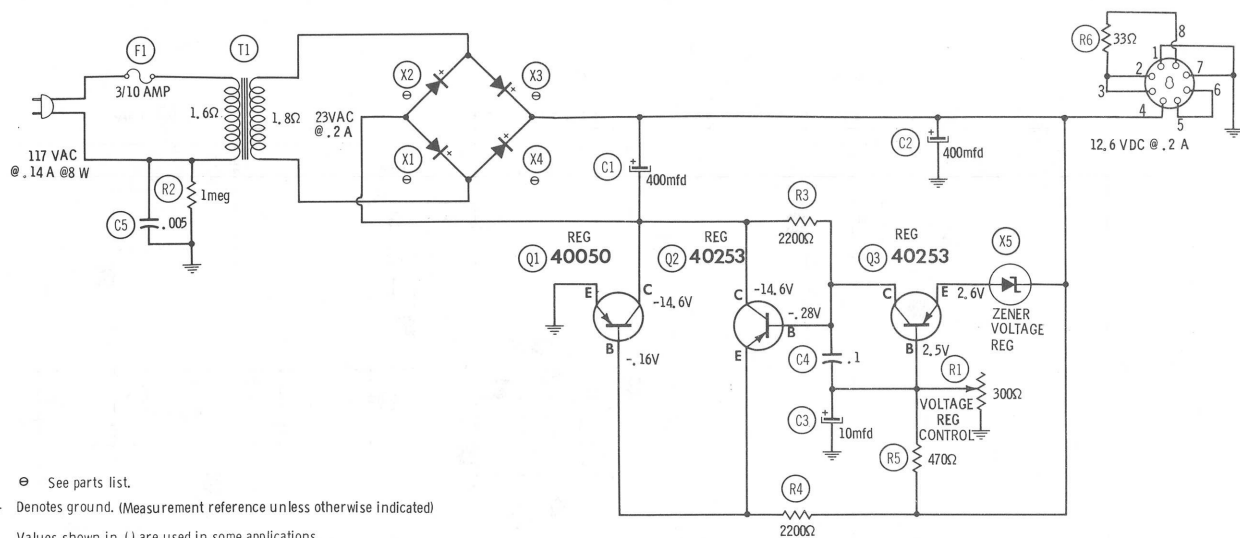


JOHNSON MODEL MESSENGER 320

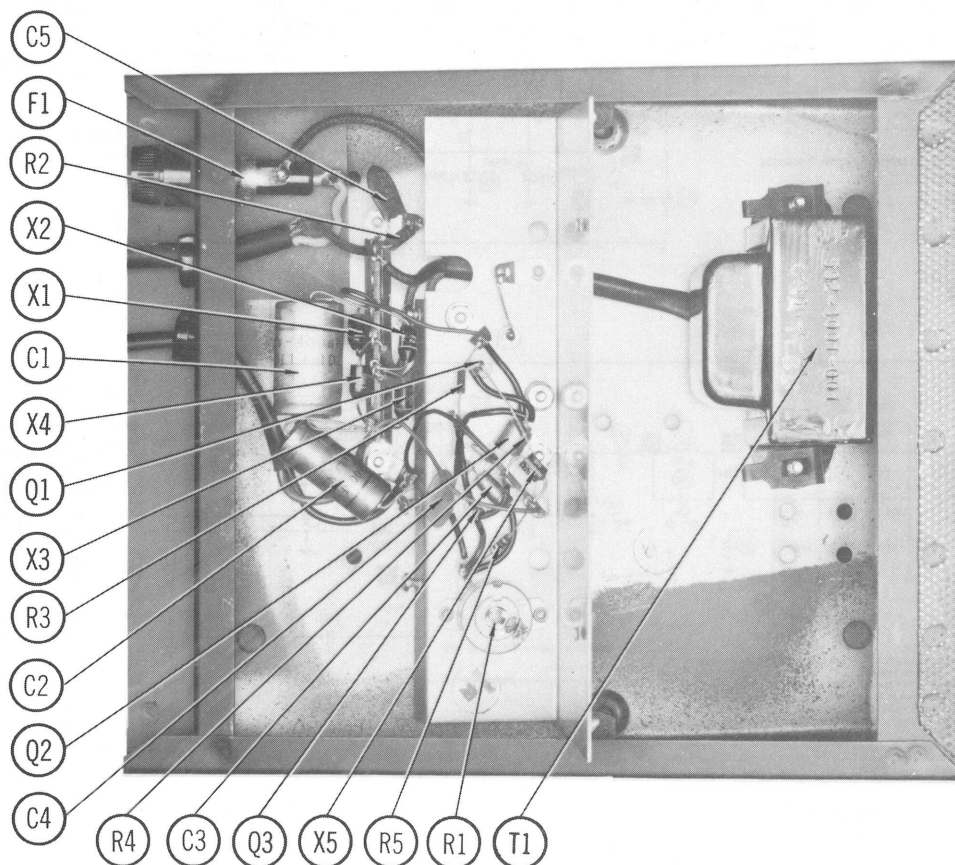


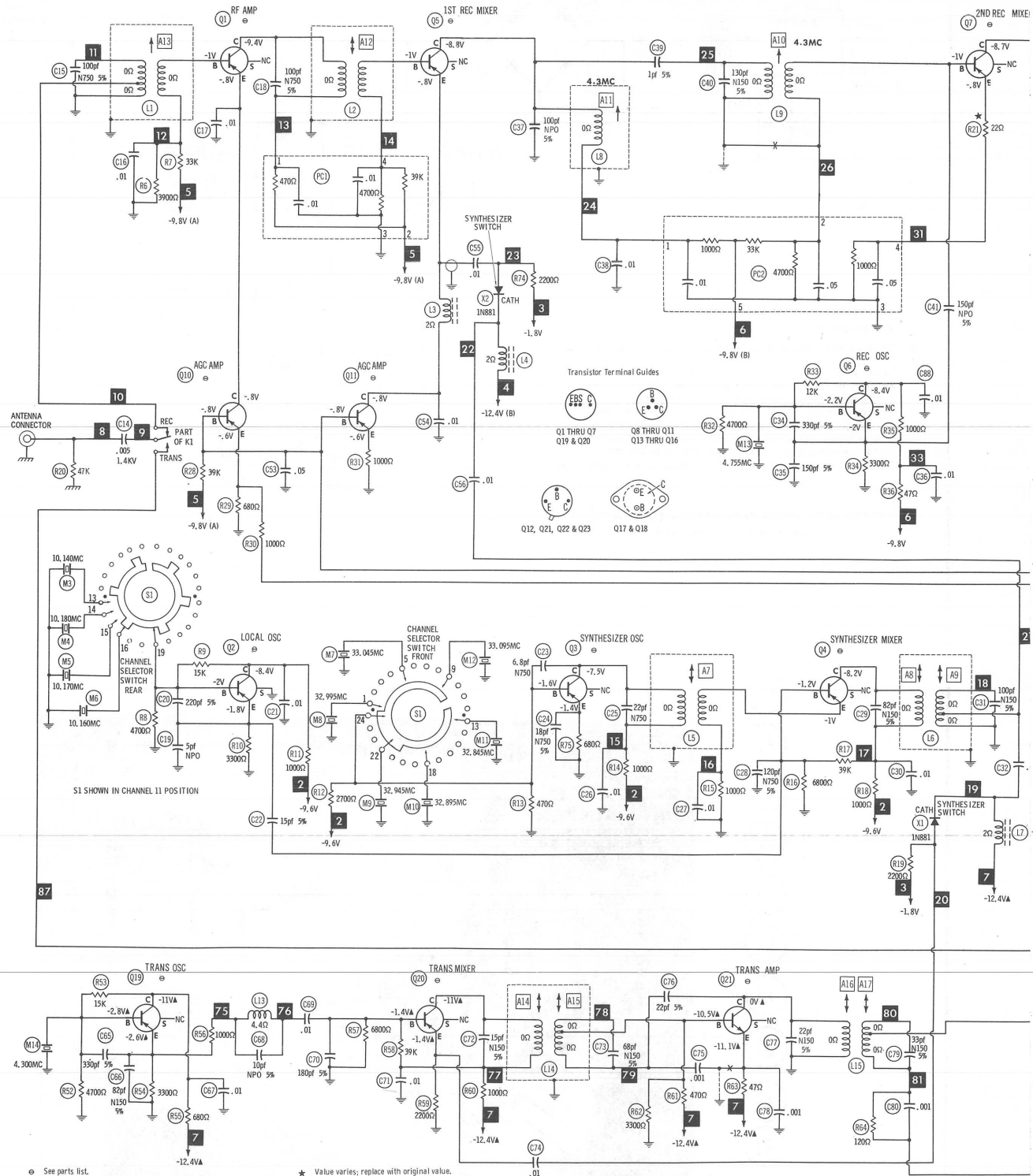






A PHOTOFACT STANDARD NOTATION SCHEMATIC
© Howard W. Sams & Co., Inc. 1969

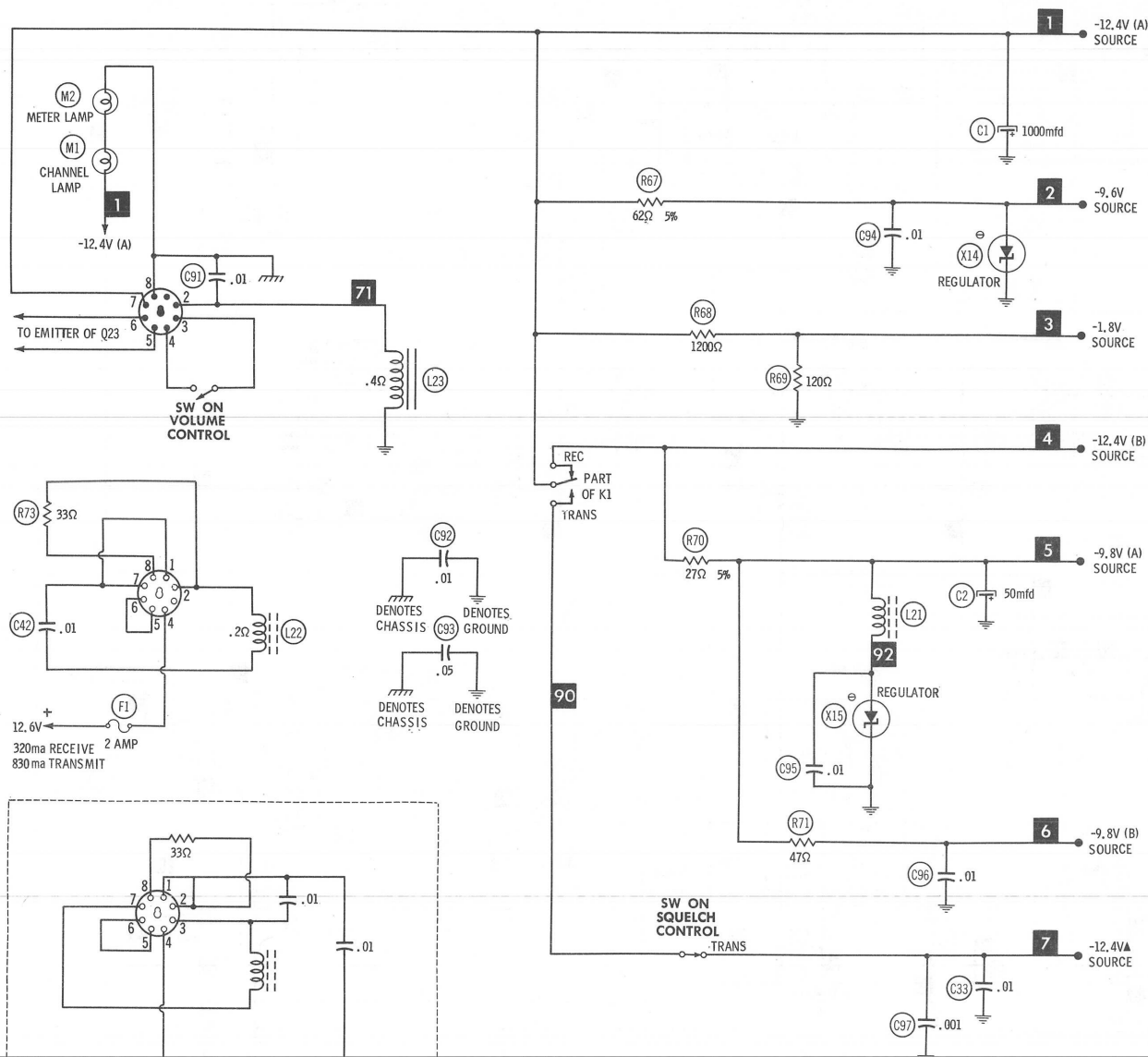




- * See parts list.
 Measurements taken with switching in position shown unless otherwise indicated.
 ▲ Measured in "Transmit" position.
 Values shown in () are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter, no signal applied and controls adjusted for normal operation.
 Controls viewed from actuator end. Arrow indicates clockwise rotation.
 Numbers assigned to terminals may not be found on the unit.
 Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRACE**

© Howard W. Sams & Co., Inc. 1969



A PHOTOFAC STANDARD NOTATION SCHEMATIC

with **CIRCUITRACE**

© Howard W. Sams & Co., Inc. 1969

JOHNSON MODEL MESSENGER 320

PARTS LIST AND DESCRIPTION

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

C B

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.)

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1		RF Amp	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q2		Local Oscillator	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q3		Synthesizer Osc.	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q4		Synthesizer Mixer	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q5		1st Rec Mixer	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q6		Rec Oscillator	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q7		2nd Rec Mixer	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q8		1st IF Amp	576-0003-010	DS-25	GE-1	TR-11	HEP252	SK3008	ECG 126
Q9		2nd IF Amp	576-0003-010	DS-25	GE-1	TR-11	HEP252	SK3008	ECG 126
Q10		AGC Amp	576-0003-010	DS-25	GE-1	TR-11	HEP252	SK3008	ECG 126
Q11		AGC Amp	576-0003-010	DS-25	GE-1	TR-11	HEP252	SK3008	ECG 126
Q12		Squelch Amp	576-0001-002	DS-26	GE-2	TR-14	HEP254	SK3004	ECG 102
Q13		Squelch Amp	576-0001-003	DS-26	GE-2	TR-14	HEP254	SK3004	ECG 102
Q14		Meter Amp	576-0001-003	DS-26	GE-2	TR-14	HEP254	SK3004	ECG 102
Q15		AF Amp	576-0001-003	DS-26	GE-2	TR-14	HEP254	SK3004	ECG 102
Q16		Driver	576-0001-009	DS-26	GE-2	TR-14	HEP254	SK3004	ECG 102
Q17		Output-Modulator	576-0002-002	DS-520	GE-3	TR-01	HEP230	SK3009	ECG 104
Q18		Output-Modulator	576-0002-002	DS-520	GE-3	TR-01	HEP230	SK3009	ECG 104
Q19		Xmtr Oscillator	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q20		Xmtr Mixer	576-0003-008	DS-41	GE-9A	TR-17	HEP3	SK3006	ECG 126
Q21		Xmtr Amp	576-0004-004				HEP53		
Q22		Xmtr Driver	576-0004-004				HEP53		
Q23		Final Amp	576-0004-005						

JOHNSON MODEL MESSENGER 320

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.	RCA PART No.	
X1	1N881 (523-1000-881)	504A	8D4	ECG 116		
X2	1N881 (523-1000-881)	504A	8D4	ECG 116		
X3	1N67A (523-1000-067)	1N34A	1N67A	ECG 109		
X4	1N67A (523-1000-067)	1N34A	1N67A	ECG 109		
X5	1N67A (523-1000-067)	1N34A	1N67A	ECG 109		
X6	1N67A (523-1000-067)	1N34A	1N67A	ECG 109		
X7	1N881 (523-1000-881)	504A	8D4	ECG 116		
X8	1N67A (523-1000-067)	1N34A	1N67A	ECG 109		
X9	FD111	1N34AS	1N34A	ECG 109		
X10	FD111 (523-0006-002)	1N34AS	1N34A	ECG 109		
X11	1N881 (523-0006-002)	504A	8D4	ECG 116		
X12	1N2326 (523-1000-326)					
X13	1N881	504A	8D4	ECG 116		
X14	523-2003-100		1ZM10			10V Zener 5%, 1W
X15	523-2004-100		1Z10			10V Zener 5%, 1W

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	1000 16V	510-4006-005	PTT85	EA30-50	BR1000-15	MT1-17	TC2510	TL-1166.5
C2	50 25V	510-4008-006			NLW50-25		TT25X50	TL-1209
C3	5.6 35V	510-2045-569			TYR13BF565K		TAS565K035POC	150D565X
C4	1 35V	510-2045-109	PTT17	EA6-500	TYR13BF010K	MT1-26	TAS105K050POA	9035B2
C5	1 35V	510-2045-109			TYR13BF010K		TAS105K050POA	196D105X
C6	500 2.5V	510-4001-006			BR500-6		TT3X500	0035DB
C7	5.6 35V	510-2045-569			TYR13BF565K		TAS565K035POC	196D105X
C8	22 15V	510-2003-220			TYR13BF220K		TAS226K015POC	0035DB
C9	5.6 35V	510-2045-569	PTT85	EA15-25	TYR13BF565K	MT1-17	TAS565K035POC	TL-1068
C10	56 6V	510-2045-560			TYR13BB560K		TAS566K006POC	150D565X
C11	50 25V	510-4008-006			NLW50-25		TT25X50	9035B2
C12	1 35V	510-2045-109			TYR13BF010K		TAS105K050POA	150D226X

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.
C14	.005 1.4KV	#510-3016-820	DD16-502	DTN-100	HVV162ZU472P	3CCD-502	2HV247	30GA-D50
C15	100 N750 5%		N750-DI 100	CK-103	CX601UJ101K	CCTN-101	CN7310	10TCU-T10
C16	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C17	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C18	100 N750 5%		N750-DI 100	DTN-100	CX601UJ101K	CCTN-101	CN7310	10TCU-T10
C19	5 NPO		NPO-DI 5.0	DTZ-4R7	CZ601CH5R0D	CCTO-050	CN0547	10TCC-V50
C20	220 5%		ADM-15-221	CPR-220J	CD15F221J500	DM-15-220J	SX322	MS-322
C21	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C22	15 5%		TTP-01	DTZ-15	CZ601CG150J	CCTO-150	CN0415	10TCC-Q15
C23	6.8 N750				CZ601UJ6R8P		CN7568	10TCU-V68
C24	18 N750 5%	#510-3016-101	N750-DI 22	TCN-18	CZ601UJ180J	CCTN-220	CN7418	10TCU-Q18
C25	22 N750		TTP-01	DTN-22	CZ601UJ220K	CCD-103	CN7422	10TCU-Q22
C26	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C27	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C28	120 N750 5%			TCN-120		CCTN-121	CN7312	10TCU-T12
C29	82 N150 5%		TTP-01	CK-103	HOY101ZV103P	*	*	10TCP-Q82
C30	.01					CCD-103	TA110	TG-S10
C31	100 N150 5%		TTP-01	CK-103	HOY101ZV103P	*	*	10TCP-T10
C32	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C33	.01	#510-3016-131	TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C34	330 5%		ADM-15-331	CPR-330J	CD15F331J500	DM-15-331J	SX333	MS-333
C35	150 5%		ADM-15-151	CPR-150J	CD15F151J500	DM-15-151J	SX315	MS-315
C36	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C37	100 NPO 5%		NPO-DI 100	DTZ-100	CJ601CG101K	CCTO-101	CN0310	10TCC-T10
C38	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C39	1pF 5%		NPO-DI 1.0	TCZ-1			CN0510	10TCC-V10
C40	130 N150 5%							
C41	150 NPO 5%							
C42	.01 50V		TTP-01	DTZ-150	HOY101ZV103P	CCD-103	CN0315	10TCC-T15
C43	330 5%	#510-3015-211	ADM-15-331	CK-103	CD15F331J500	DM-15-331J	TA110	TG-S10
C44	330 5%		ADM-15-331	CPR-330J	CD15F331J500	DM-15-331J	SX333	MS-333
C45	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	MS-333
C46	210 N080 5%							TG-S10
C47	210 N080 5%							
C48	150 10%		GPD X5F151K	DD-151		CCD-151	GP315	10TS-T15
C49	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C50	210 N080 5%							
C51	.1 16V		DBE2P1		DMF2P1	2DP-3-104	PVC201	2PS-P10
C52	210 N080 5%							
C53	.05 16V	#510-3015-211	TTP-05	CK-503	HOV101ZV503Z	CCD-503	TA150	TGL-S50
C54	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C55	.01 15V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C56	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C57	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C58	.22 250V		DBE6P22		DMF4P22	4DP-5-224	PVC4022	4PS-P22
C59	.22 250V		V161-22		DMF2P22	2DP-4-224	PVC2022	2PS-P22
C60	.05 50V		GPD Z5V503P	CK-503	HOV101ZV503Z	CCD-503	TA150	TG-S50
C61	.22 250V		DBE6P22	*	DMF4P22	4DP-5-224	PVC4022	4PS-P22
C62	.02 50V		TTP-02	CK-203	HOR101ZV203P	CCD-203	TA120	TG-S20

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.
C63	.02 50V		TTP-02	CK-203	H0R101ZV203P	CCD-203	TA120	TG-S20
C64	.001 50V		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C65	330 5%		ADM-15-331	CPR-331J	CD15F331J500	DM-15-331J	SX333	MS-333
C66	82 N150 5%					*	*	10TCP-Q82
C67	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C68	10 NPO 5%		NPO-DI 10	DTZ-10	CZ601CG100J	CCT0-100	CN0410	10TCC-Q10
C69	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C70	180 5%		ADM-15-181	CPR-181J	CD10E181J500	DM-15-181J	SX318	MS-318
C71	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C72	15 N150 5%	#510-3016-15				*	*	10TCP-Q15
C73	68 N150 5%	#510-3016-680				*	*	10TCP-Q68
C74	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C75	.001 50V		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C76	22 5%		ADM-15-220	CPR-22J	CD15E220J500	DM-15-220J	SX422	MS-422
C77	22 N150 5%	#510-3016-220						10TCP-Q22
C78	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C79	33 N150 5%	#510-3016-330				*	*	10TCP-Q33
C80	.001		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C81	47 NPO 5%		NPO-DI 47	DTZ-47	CX601CG470K	CCT0-470	CN0447	10TCC-Q47
C82	33 NPO 5%		NPO-DI 33	DTZ-33	CS601CG330K	CCT0-330	CN0433	10TCC-Q33
C83	.001 50V		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C84	.005 50V		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	JF250	10TS-D50
C85	27 NPO 5%			TCZ-27		CCT0-270	CN0427	10TCC-Q27
C86	82 N150 5%	#510-3016-820				*	*	10TCP-Q82
C87	390 5%		ADM-15-391	CPR-390J	CD10E391J500	DM-15-391J	SX339	MS-339
C88	.01		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C89	330 5%		ADM-15-331	CPR-330J	CD15F331J500	DM-15-331J	SX333	MS-333
C90	47 5%		NPO-DI 47	DTZ-47	CX601CG470K	CCT0-470	CN0447	10TCC-Q47
C91	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C92	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C93	.05 16V		TTP-05	CK-503	HOY101ZV503Z	CCD-503	TA150	TGL-S50
C94	.01 16V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C95	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C96	.01 50V		TTP-01	CK-103	HOY101ZV103P	CCD-103	TA110	TG-S10
C97	.001 50V		GPD X5F102K	DD-102	JBS601YP102K	CCD-102	GP210	10TS-D10
C98	.005		GPD X5R502K	DD-502	JBT601YP502K	CCD-502	TA250	10TS-D50

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

Johnson Part Number.

JOHNSON MODEL MESSENGER 320

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Power Switch	10K	562-0001-005	F2-10K, SRS200(1) BA006, CA005, KR-1	A47-10K-Z, RS-2 (1), SWE-12 or (NP-10K-Z, UP-A-400 (1), NWE-12)	QCB1(2), B13-116, SK1(1), 76-1 or (BU2, CF61, SS1(1), GC)*	UA14, SL2500(1), US41 or (RU14A, SL39, SL2500(1), US41) or (U18, US26)
R2	Squelch & PA-Transmit Switch	5000	562-0001-004	F5-5000, SRS200 (1), BA006, CA005, KR-3	NP-5000-V, UP-A-400(1), NWE-21	QCB1(2), B17-114, SK1(1), 76-4 or (BU2, CF34, SS1(1), VF)*	RU53R, SL39, SL2500(1), US43
R3	Meter Amp Adjust	10K	562-0004-103	T-10K		X201R103B	MTC14L1
R4	"S" Meter Adjust	2000	562-0004-202	TH-2500		X201R252B	MTC23L1
R5	"S" Meter Adjust	100	562-0004-101	T-100		X201R101B	MTC12L1

* "SNAPTROL"

(1) File Flat.

(2) Use QCB1 instead of bushing in SK1 kit.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R23	2000 (Cold) Includes R24			023-2042-003
R40	2000 (Cold) Includes R41			

ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	MFGR. PART No.
R45	2000 (Cold) Includes R44			023-2042-004

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Input	592-5016-001			
L2	RF Interstage	592-5016-002			
L3	RFC (20uh)	542-3002-002	19-6022	74F225AI	TA311
L4	RFC (20uh)	542-3002-002	19-6022	74F225AI	TA311
L5	Synthesizer Osc.	592-5010-001			
L6	Synthesizer Mixer	592-5008-001			
L7	RFC (20uh)	542-3002-002	19-6022	74F225AI	TA311
L8	1st Rec Mixer	542-1002-001			
L9	Interstage IF	592-9008-001			
L10	Input IF	592-5016-005			
L11	Interstage IF	592-5016-006			
L12	Output IF	592-5016-007			
L13	2nd Harmonic Filter(30uh)	542-3002-004	19-6033	72F335AP	T972
L14	Xmtr Mixer	592-5008-002			
L15	Xmtr Amp	592-5021-001			
L16	RFC (13uh)	542-3003-001		9310-38	
L17	Xmtr Driver	592-5014-002		9310-38	
L18	RFC (13uh)	542-3003-001			
L19	Pi Network	542-1005-010			
L20	Pi Output	542-1005-004			
L21	RFC (20uh)	542-3002-002	19-6022	74F225AI	TA311
L22	RFC (13uh)	542-3003-001		9310-38	

deleted
4-6-10
4624

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L23	830ma	.4	18mh	542-5007-001					

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	SEC. 2	PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	2.25	1		592-1007-004					

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	22	4	592-1013-002					
		SEC. 2						
		1.2DC Resistance						

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA			NOTES
		PART No.	JENSEN PART No.	QUAM PART No.	
SP1	2" x 6" PM 4 ohms	589-1002-002	P2X6X3	26A07	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	AGC 2 Amp	534-0003-024	534-1004-005	AGC 2	HHJ	312002	155020	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
K1	Relay	567-0003-012	Receive-Transmit
	Socket	515-9002-003	Relay
M1	Lamp, Channel	549-3001-007	Clear
M2	Lamp, Meter	549-3001-007	Clear
M3	Crystal	519-0006-011	10.140MC Channel 4,8,12,16,20,23
M4	Crystal	519-0006-014	10.180MC Channel 1,5,9,13,17,21
M5	Crystal	519-0006-013	10.170MC Channel 2,6,10,14,18,22
M6	Crystal	519-0006-012	10.160MC Channel 3,7,11,15,19
M7	Crystal	519-0005-015	33.045MC Channel 17,18,19,20
M8	Crystal	519.0005-014	32.995MC Channel 13,14,15,16
M9	Crystal	519.0005-013	32.945MC Channel 9,10,11,12
M10	Crystal	519-0005-012	32.895MC Channel 5,6,7,8
M11	Crystal	519-0005-011	32.845MC Channel 1,2,3,4
M12	Crystal	519-0005-016	33.095MC Channel 21,22,23
M13	Crystal	519-0012-001	4.755MC
M14	Crystal	519-0008-001	4.300MC
M15	Meter	554-0009-021	Signal & Power
M16	Microphone Assembly	589-0006-004	Ceramic
PC1	Receive 1st Mixer	544-0002-001	
PC2	Receive 2nd Mixer	544-0002-002	
PC3	1st IF	544-0002-003	
PC4	2nd IF	544-0002-004	
PC5	Noise Limiter	544-0002-005	
PC6	Audio	544-0002-006	
S1	Switch,Selector	583-2009-102	

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.	ITEM	PART No.
Cabinet	023-2211-002	Knob	013-1086-006
Knob	013-1052-016	Front Panel	015-0757-002

JOHNSON MODEL MESSENGER 320

PARTS LIST AND DESCRIPTION

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

POWER SUPPLY

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA						
			MFGR. PART No.	DELCO PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	40050	Regulator	576-0002-002	DS-520(1)	GE-3(1)	TR-01(1)	HEP230	SK3009 (1)	ECG 104 (1)
Q2	40253	Regulator	576-0002-004	DS-26	GE-2	TR-05	HEP253	SK3004	ECG 102
Q3	40253	Regulator	576-0002-004	DS-26	GE-2	TR-05	HEP253	SK3004	ECG 102

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

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT RECTIFIERS & DIODES			REPLACEMENT RECTIFIERS	NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	SYLVANIA PART No.		
X1	523-0001-002	GE-504A	8D4 or 18DB2A (2)	ECG 116 or ECG 116	SK3030 or SK3031	(1) Zener Diode (10V-1Watt) (2) A single unit replacement for all four bridge circuit rectifiers.
X2	523-0001-002	GE-504A	8D4 or 18DB2A (2)	ECG 116 or ECG 117	SK3030 or SK3031	
X3	523-0001-002	GE-504A	8D4 or 18DB2A (2)	ECG 116 or ECG 117	SK3030 or SK3031	
X4	523-0001-002	GE-504A	8D4 or 18DB2A (2)	ECG 116 or ECG 117	SK3030 or SK3031	
X5	523-2001-100(1)		1ZM10T10	ECG 140	SK3031	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA						
		PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	400 40V	510-4009-001	PRS1390	EA50-500	BR500-50	QT1-31	TC50050A	TL-1315
C2	400 16V	510-4006-001	PRS1290	EA30-500	BR500-25	QT1-31	TC2505B	TL-1165.5
C3	10 16V	510-4006-002	CRE607A	EA30-10	NLW10-25	MT1-5	TT25X10	TL-1155

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENDO PART No.	MALLORY PART No.	SPRAGUE PART No.
C4	.1 16V		TTP-1	UK16-104	HOV101ZV104Z		TA010	TG-P10
C5	.005 1400V			C1-502	ACV142ZU502P	3CCD-502	UAC250	125M-D50

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Regulator Adjust	330 2W	22-1972-9	V-300	U39-300	112-300 or 117R251A	MR250F

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA					NOTES
	PRI.	SEC. 1	MFGR. PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	117VAC @ .14A	23VAC @ .2A DC	592-3001-001					

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	MDL3/10A 250A	534-0002-011		MDL3/10	HKP	313.300	342012	

NOTE: Fuse may be located under cover on some units.