

SAMS PHOTOFACT[®] CB RADIO SERIES



CB-39
39
APRIL 1972



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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.)

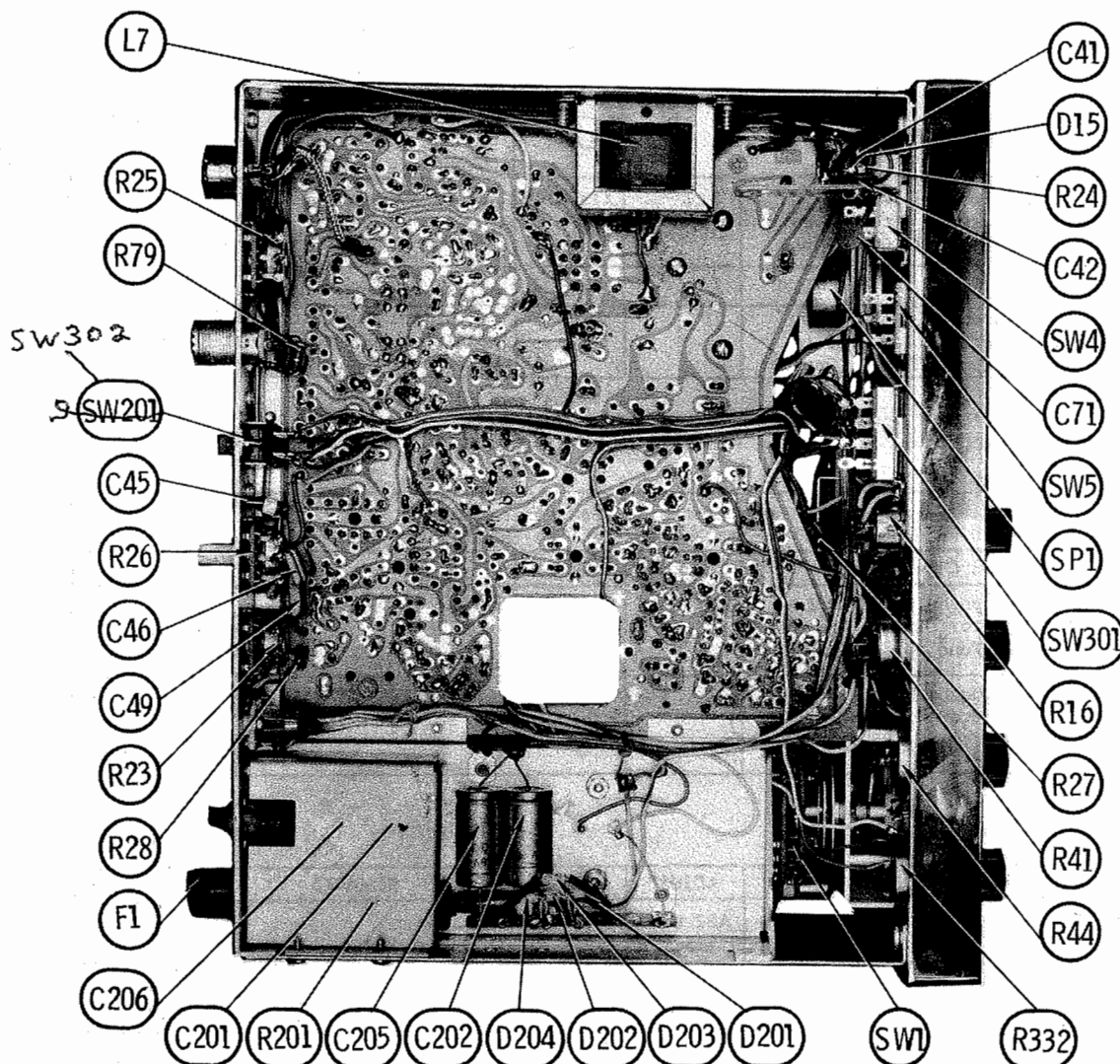
The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

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.



MODEL MESSENGER 124-M (242-0134)



JOHNSON MODEL MESSENGER 124-M

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

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ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:	GC ELECTRONICS:
A1 thru A6, A22, A23	#9296, 9297, 9300
A7 thru A14, A19, A20, A24 thru A28	#8606L, 9440
A16 thru A18	#8868, 9089

RECEIVER

Connect an AC VTVM across speaker voice coil. Turn Volume control fully clockwise. Set Squelch control fully counterclockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to base of Q3 (2nd Rec. Mixer), low side to chassis. Tune to 455KC (Mod).	Any	A1 Thru A6	Adjust for maximum.
		A7, A8, A9	NOTE: IF ALIGNMENT OF FILTER IS REQUIRED, RETURN UNIT TO FACTORY. The adjustments for the crystal filter unit requires precision sweep alignment with exact procedures.
	23	A10	Connect an RF Voltmeter from emitter of Q13 (Synth Mixer) to chassis. Turn A10 clockwise until it is flush with the top of the can. Turn the slug clockwise until the first peak is reached, then turn 1/4 turn counterclockwise.
	11	A11, A12	Adjust for maximum reading on RF Voltmeter. Set channel selector to Channels 1, 6, 11, 16, 20 & 23. The reading should be the same for all channels.
High side through .01mfd to Antenna connector, low side to chassis. Tune to 27.085M (Mod).		A13, A14	Adjust for maximum.
		R48	Adjust to zero "S" meter.
High side through .01mfd to Antenna connector, low side to chassis. Tune to 27.085 (Unmod).	11	R49	Set Signal Generator for 100mv unmodulated output. Adjust R49 for a reading of 5 on "S" meter.

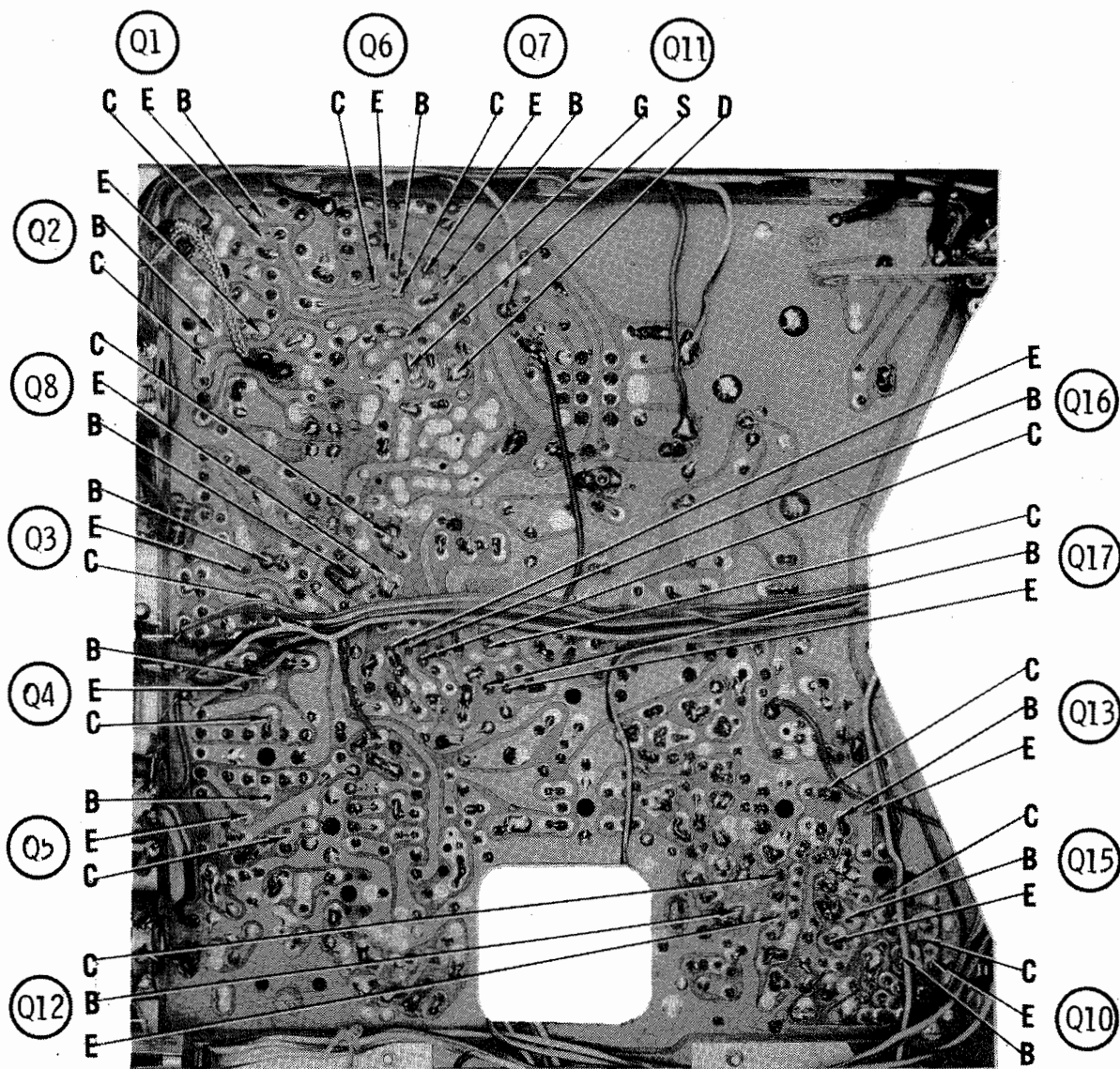
RECEIVER MONITOR

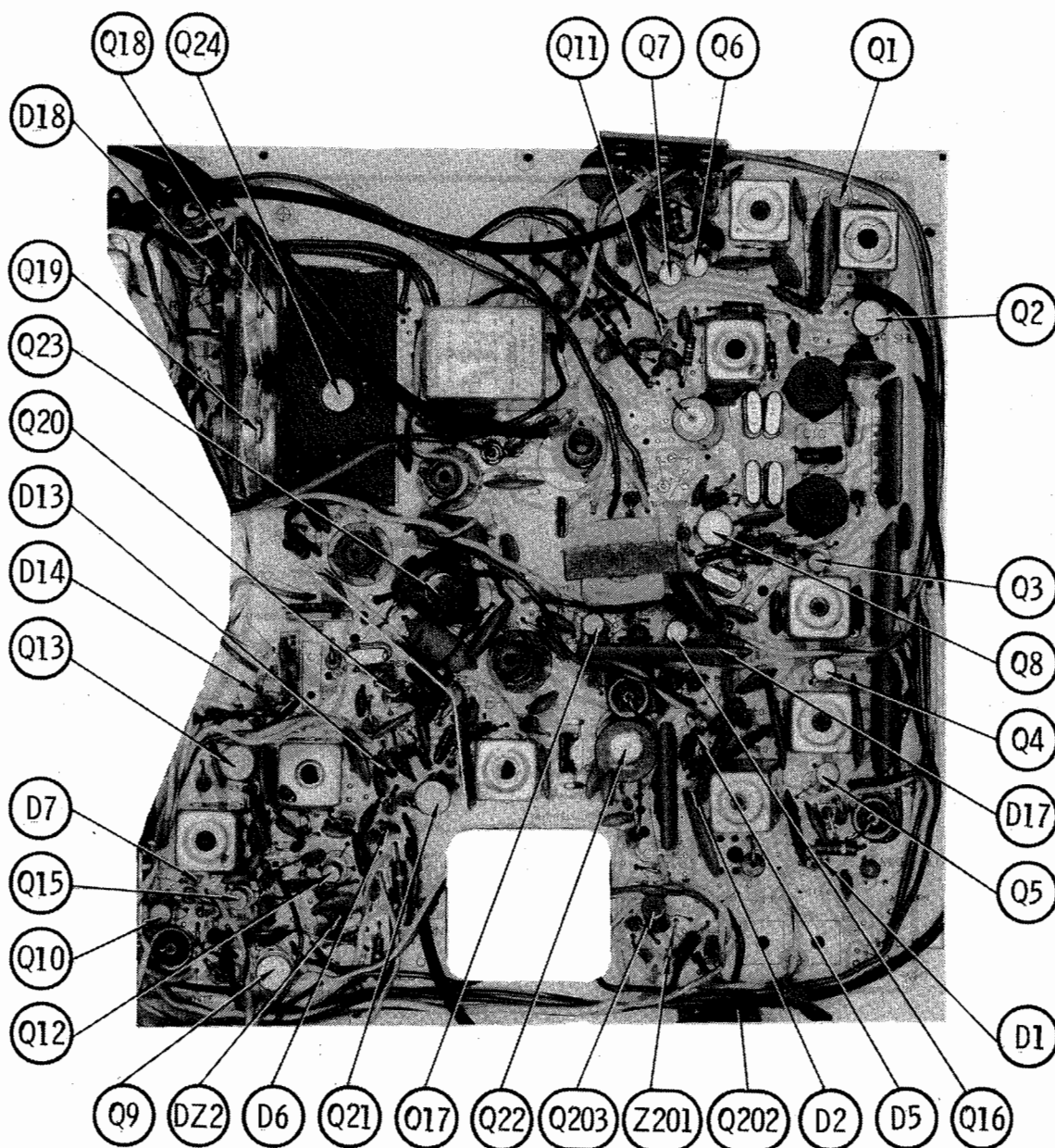
Connect an AC VTVM across speaker voice coil. Set Monitor Switch (S301) to A position and Mode switch to Auto position. Adjust Monitor Squelch (R332) fully counterclockwise.

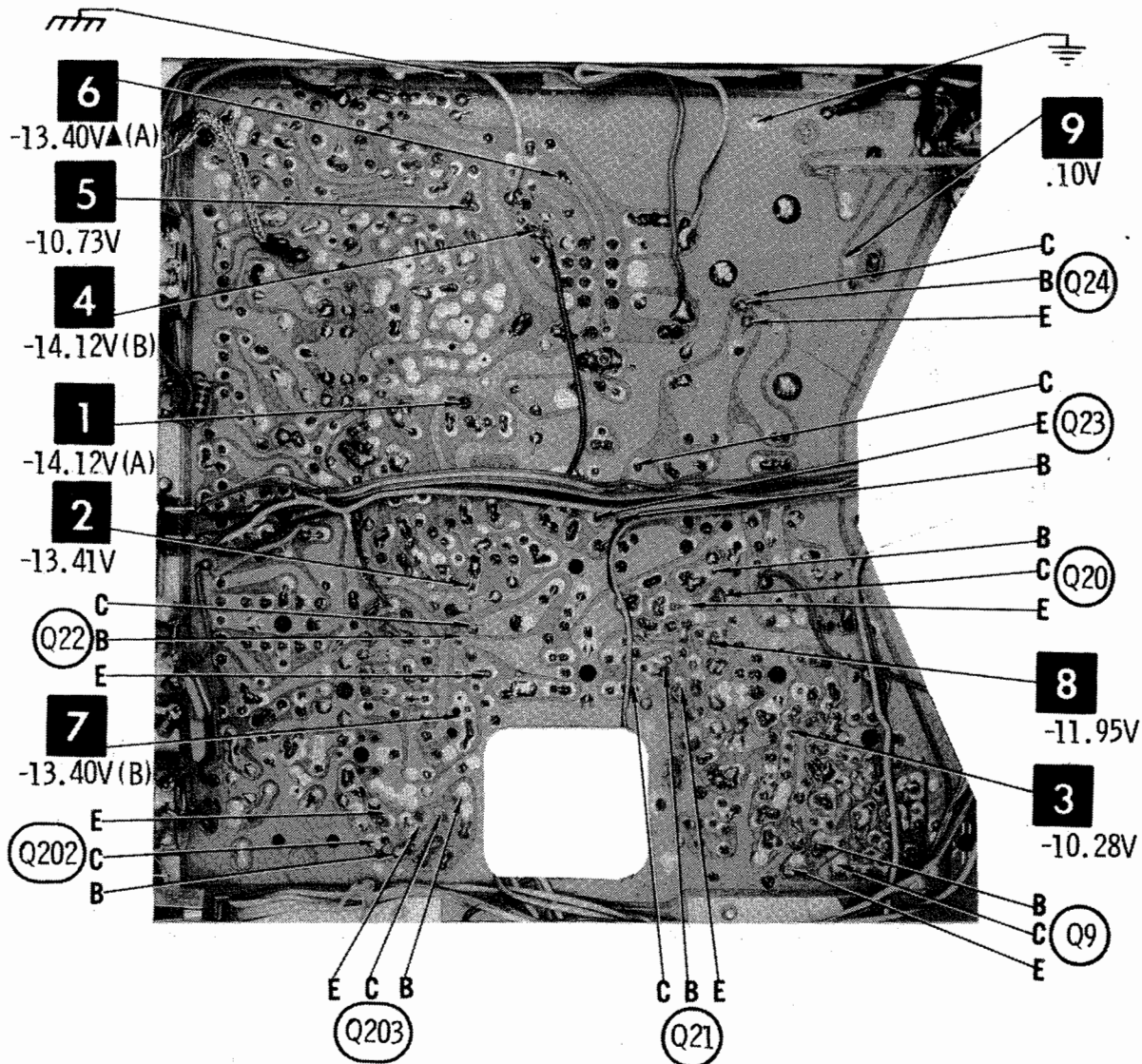
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side through .01mfd to base of Q302 (Monitor Mixer), low side to chassis. Tune to 455KC (Mod).	Any	A15 Thru A18	Adjust for maximum.
High side through .01mfd to Antenna connector, low side to chassis. Tune to 27.085MC (Mod).	11	A19 Thru A21	NOTE: CHECK CRYSTAL (Y11) FREQUENCY AND SET GENERATOR ACCORDINGLY. Adjust for maximum.

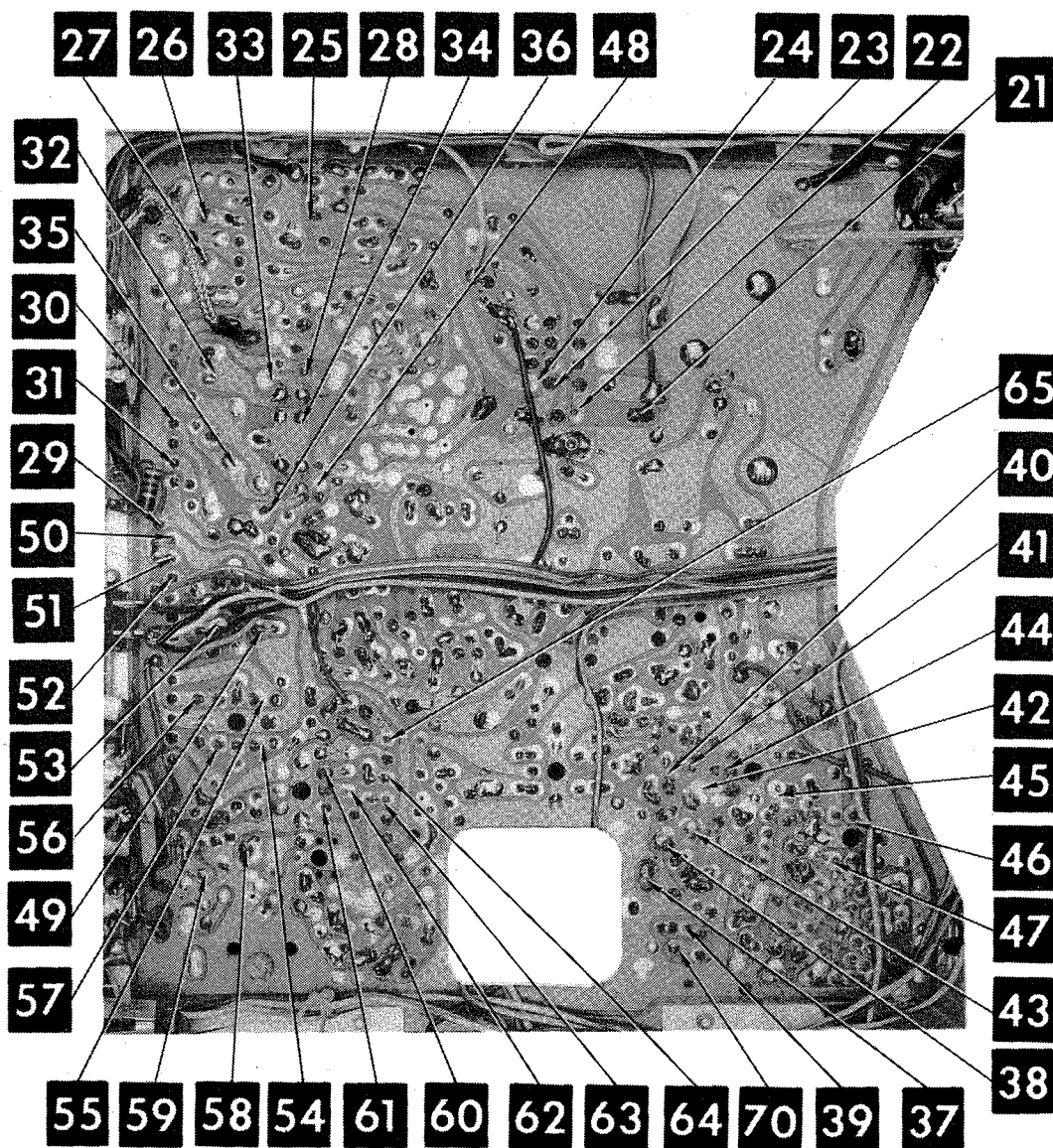
TRANSMITTER

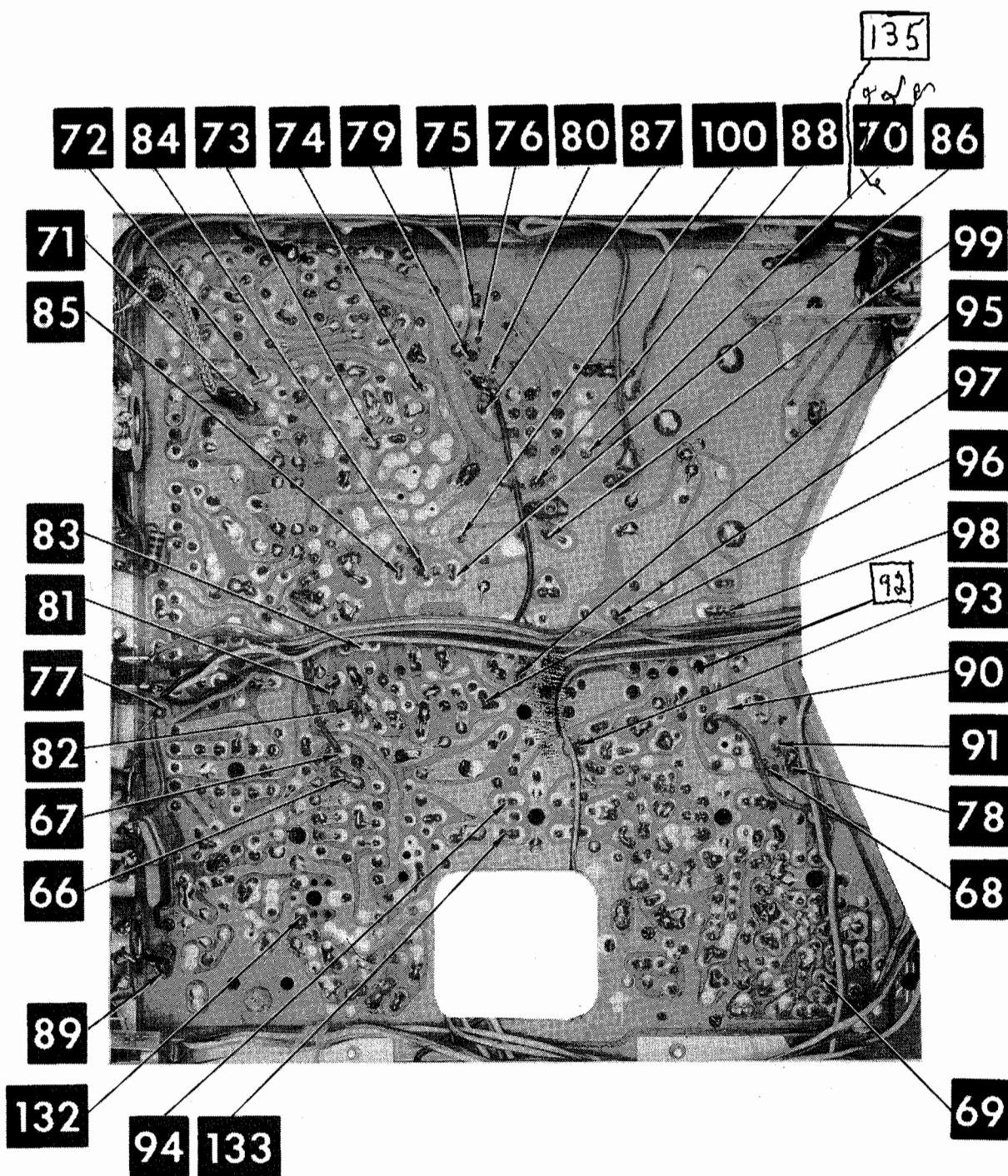
INDICATOR	ADJUST	REMARKS
RF Wattmeter or Field Strength Meter	A22 thru A28	Adjust for maximum.
0-500ma DC Ammeter	A27	Insert meter in collector circuit of Q24 (Final Amp). Readjust A27 for 5 watts input.
	R25	Key Xmtr and adjust R25 for a reading of 4 on PWR scale of meter.
Audio Generator and Modulation Indicator	R23	Apply 2.5mv of Audio at 1000cps to pin 1 of mic jack. Key Xmtr. and adjust mic gain control for 50% modulation. Set meter switch (SW4) to mod position. Adjust for a reading of 50% on Mod. scale of meter.

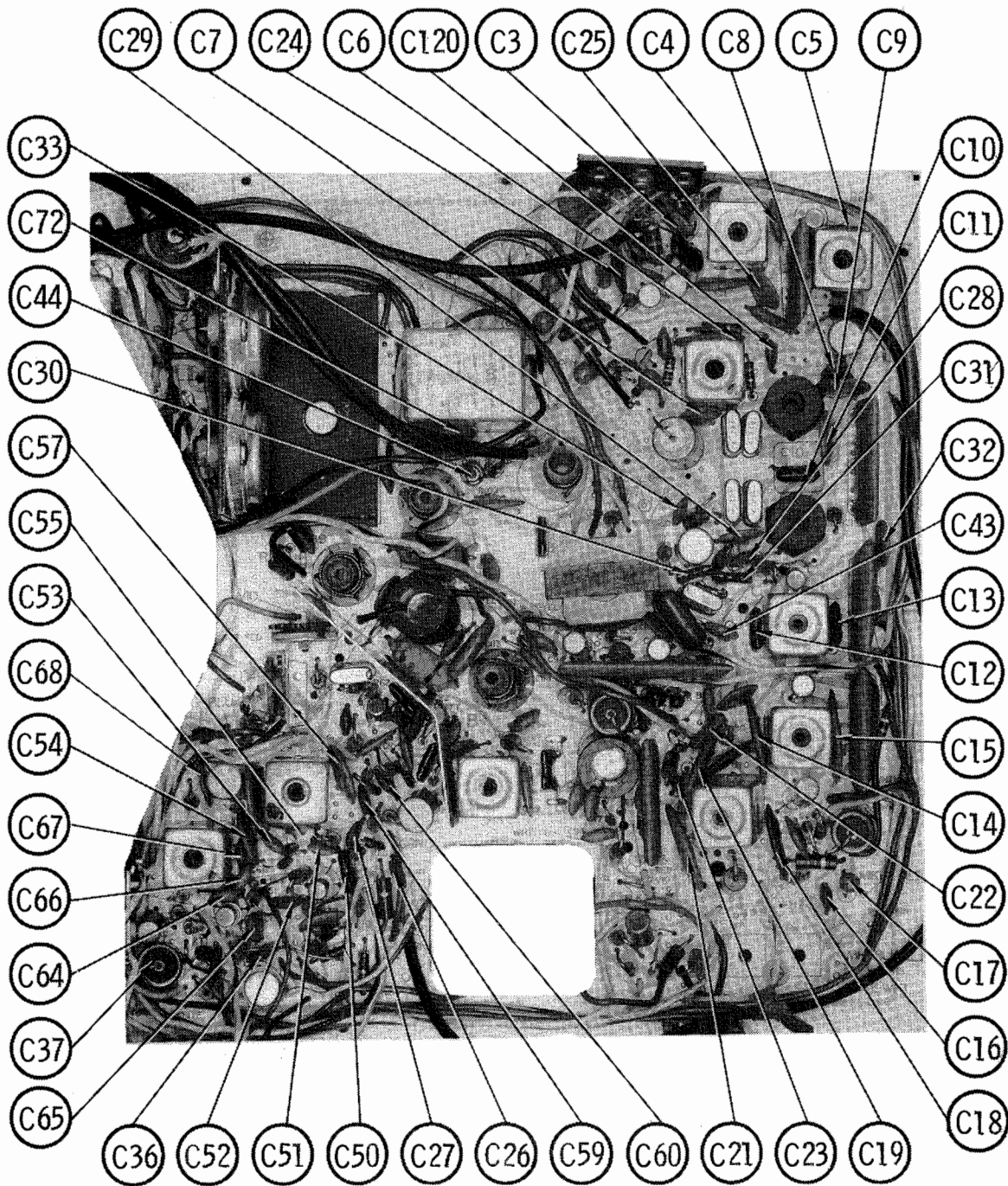


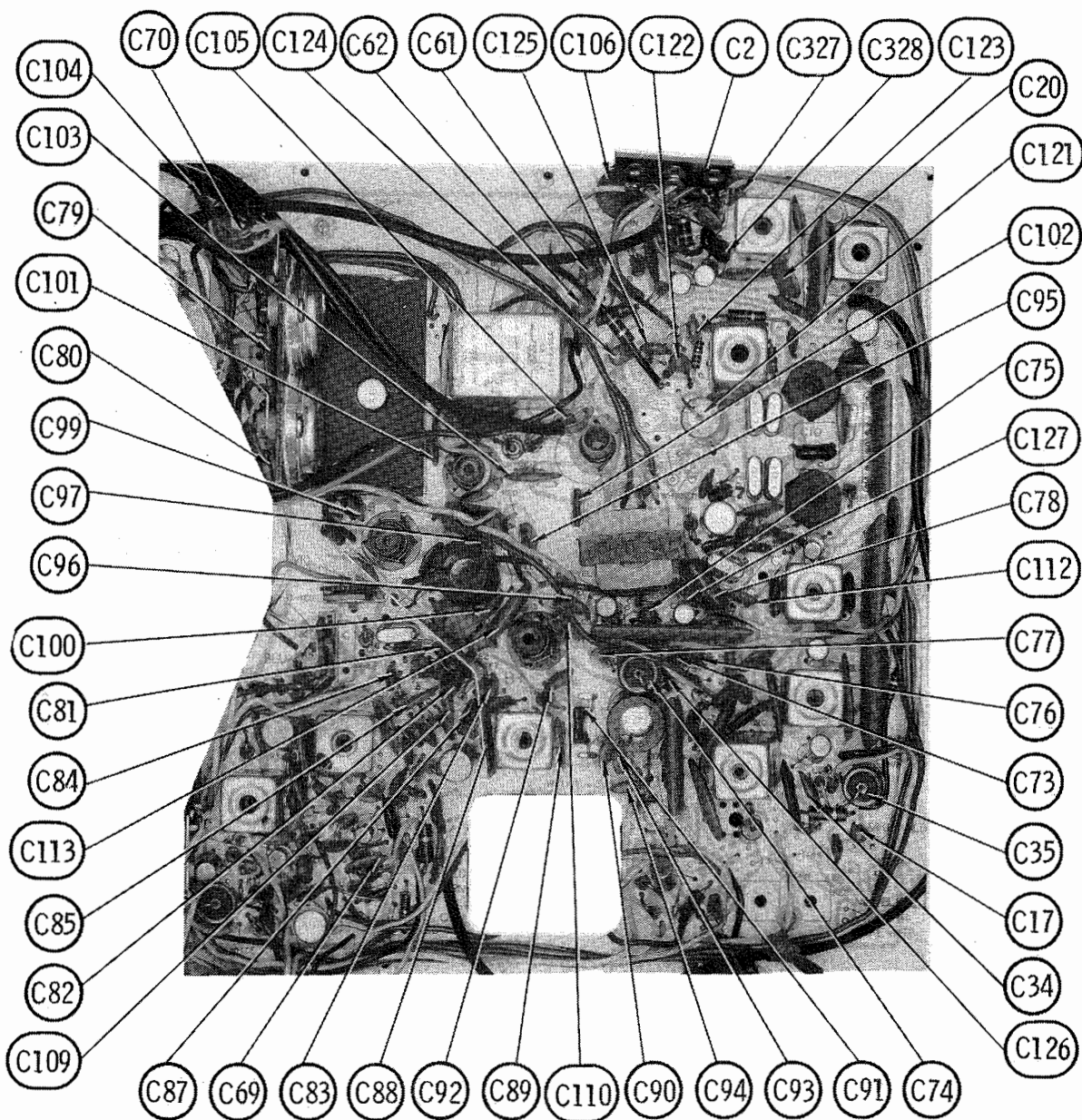


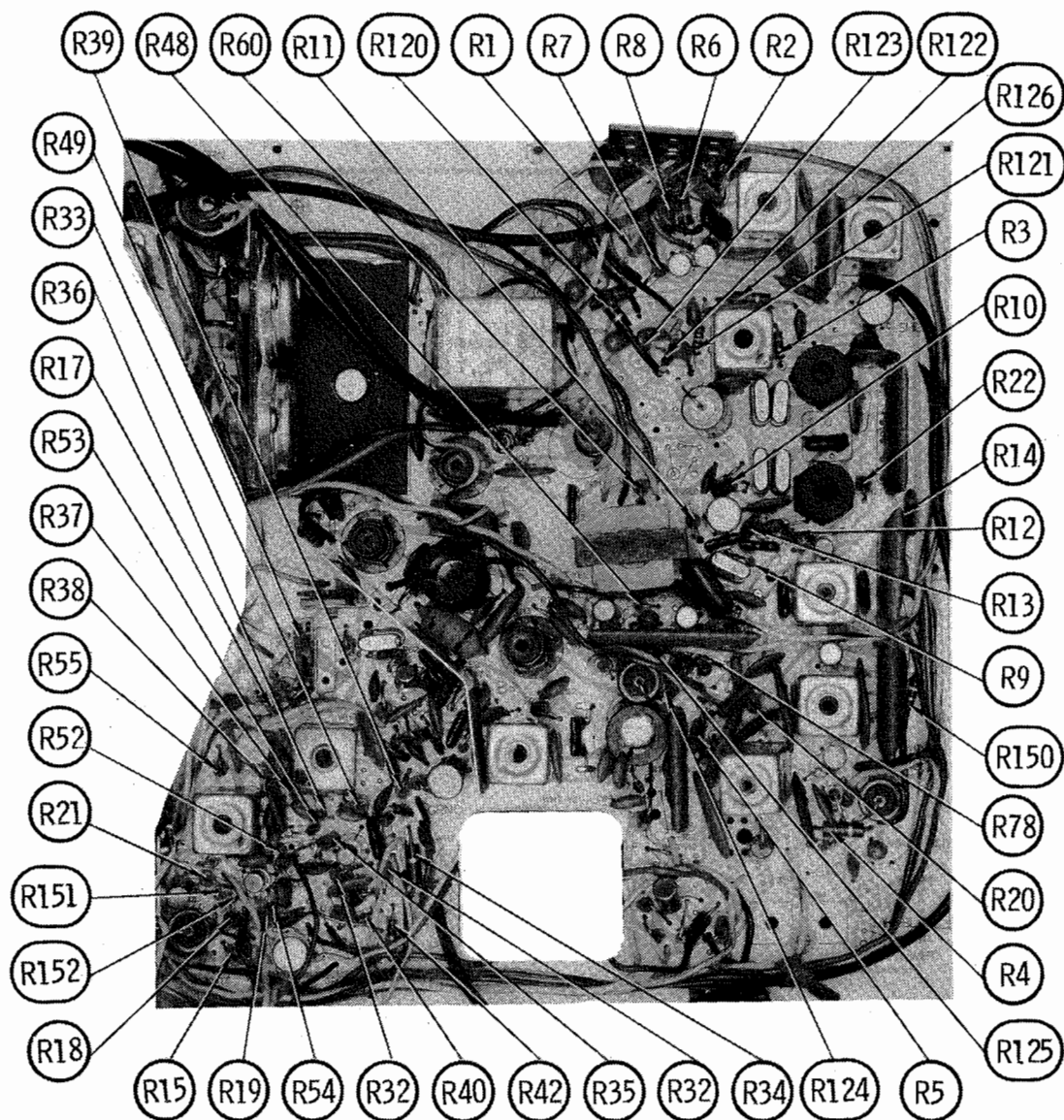


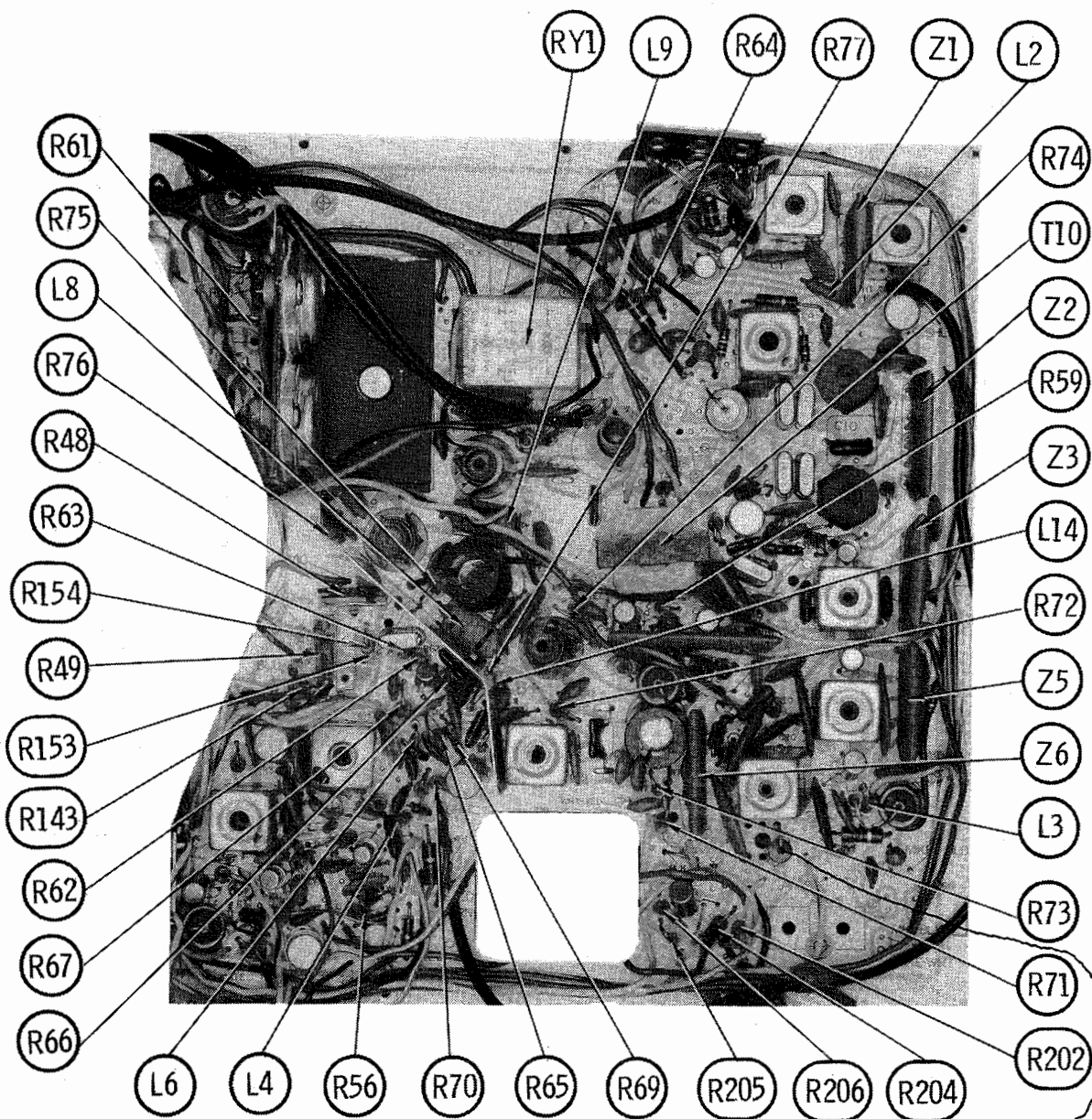


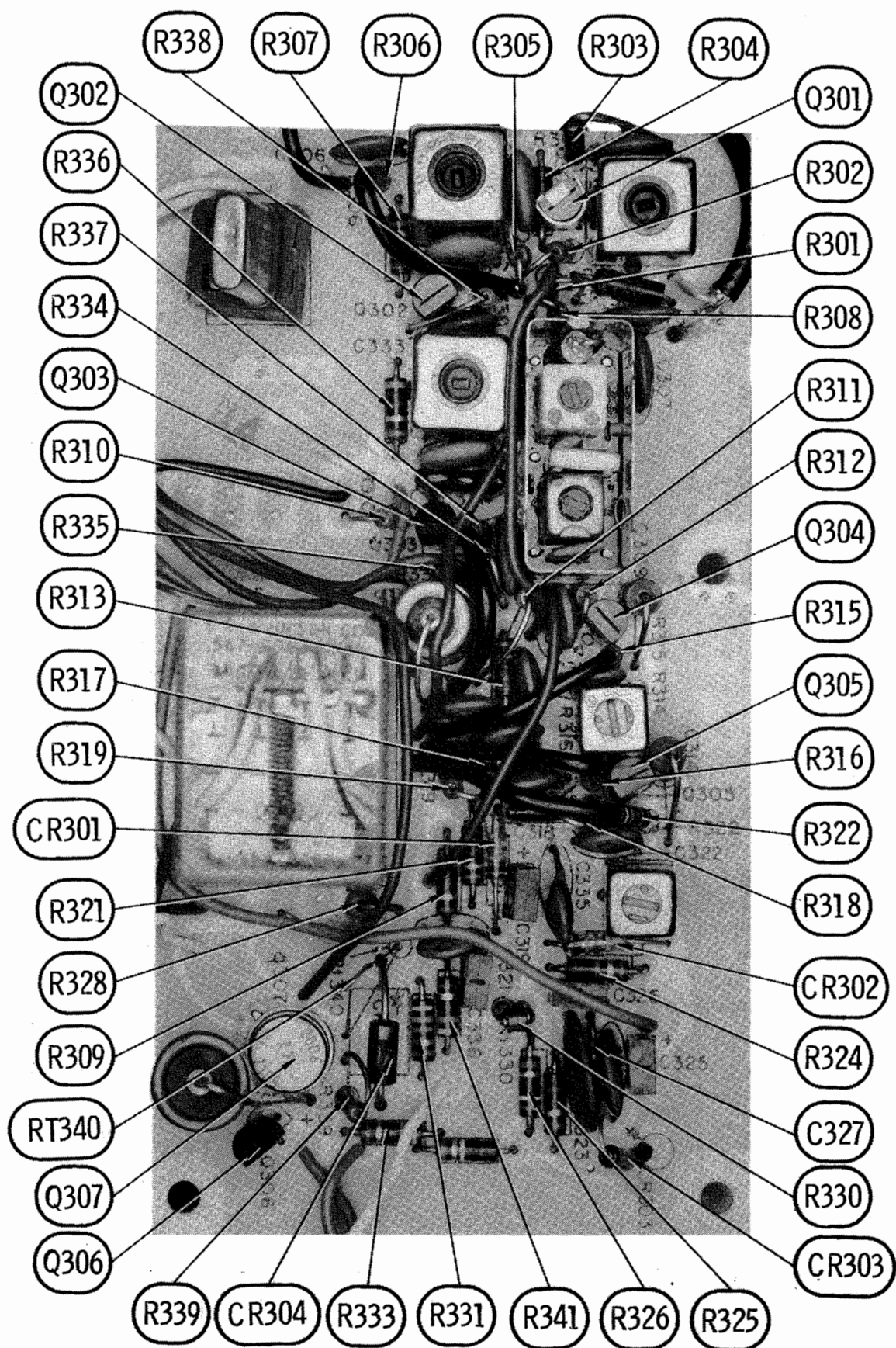


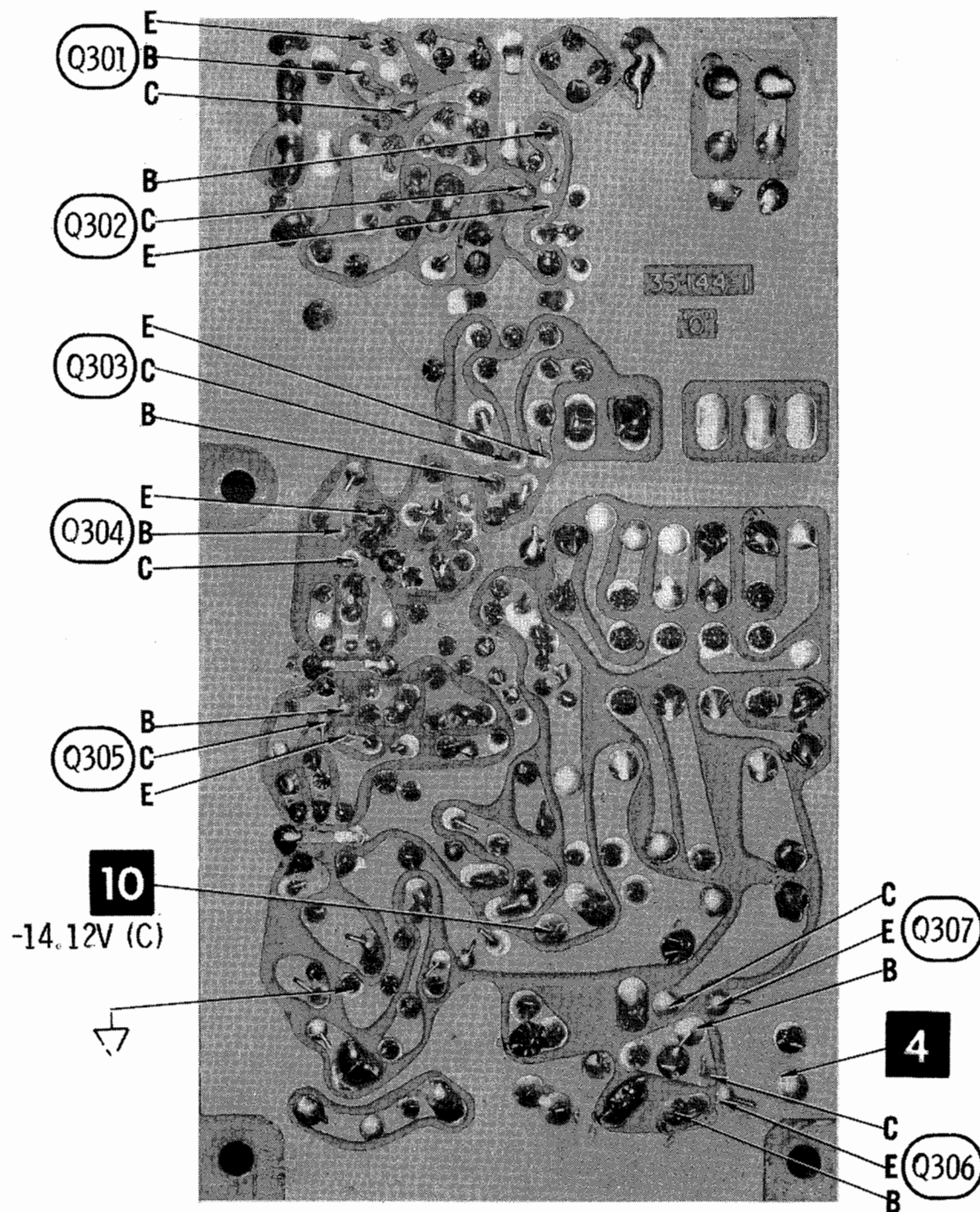


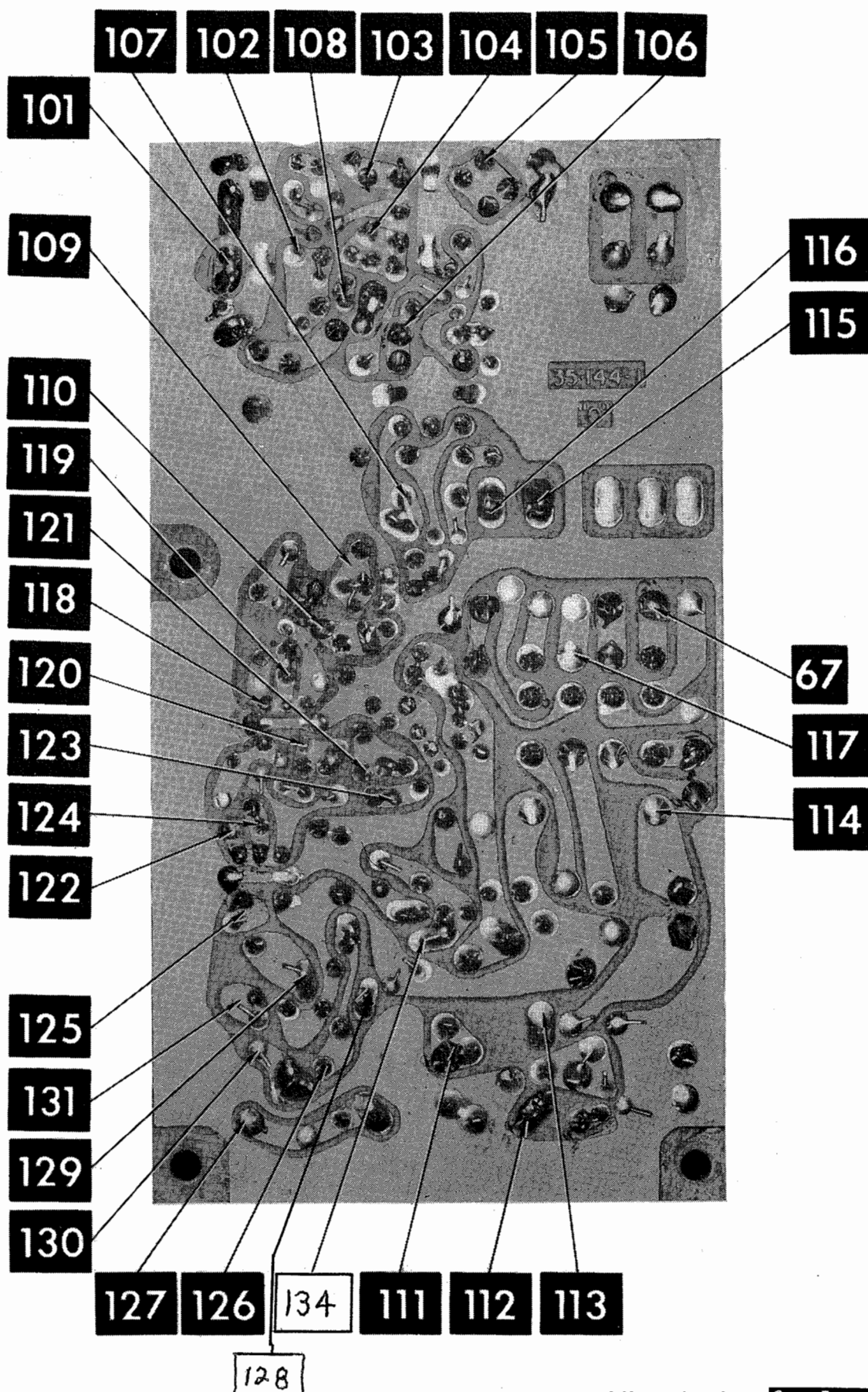


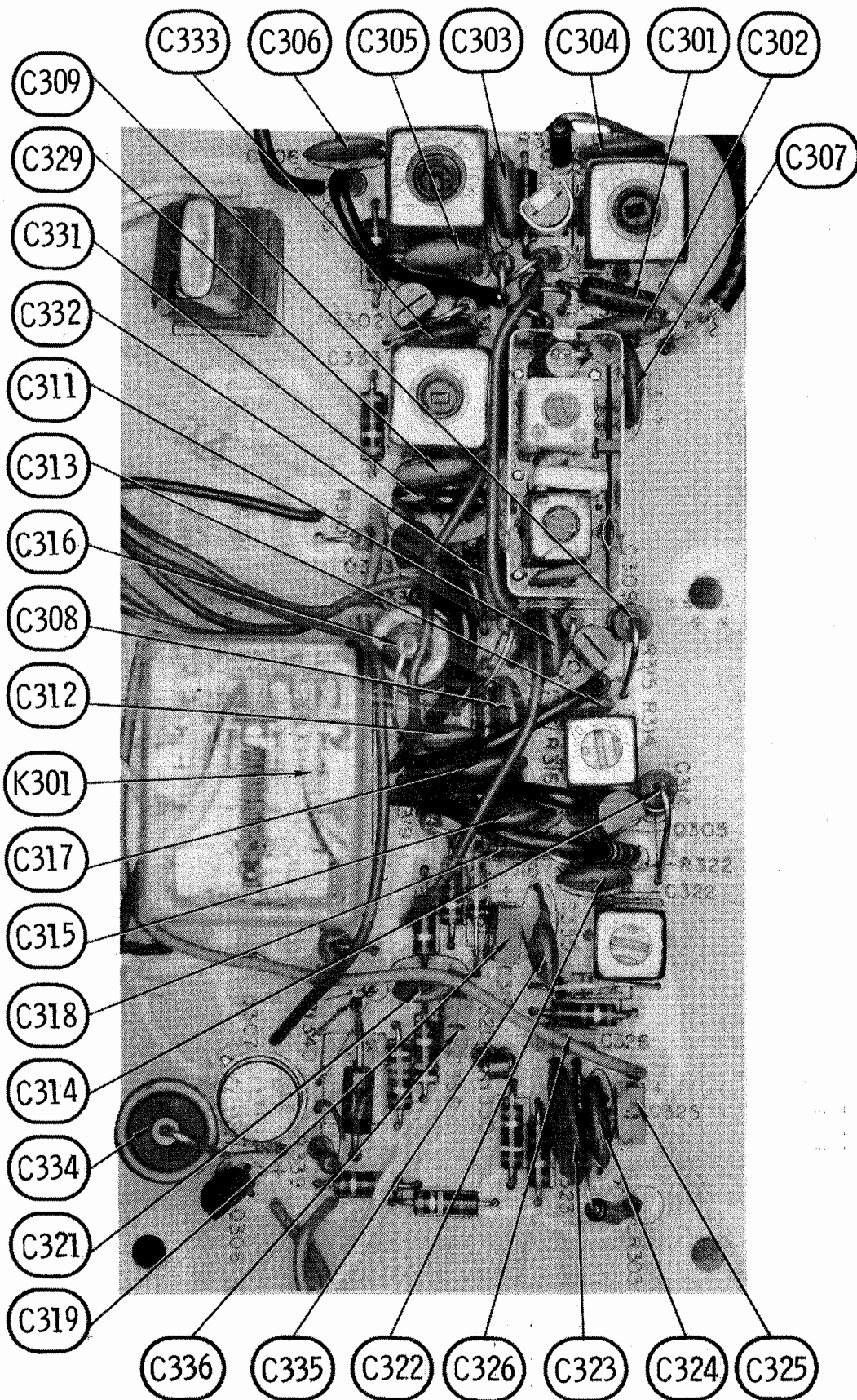












PARTS LIST AND DESCRIPTION

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

TRANSISTORS

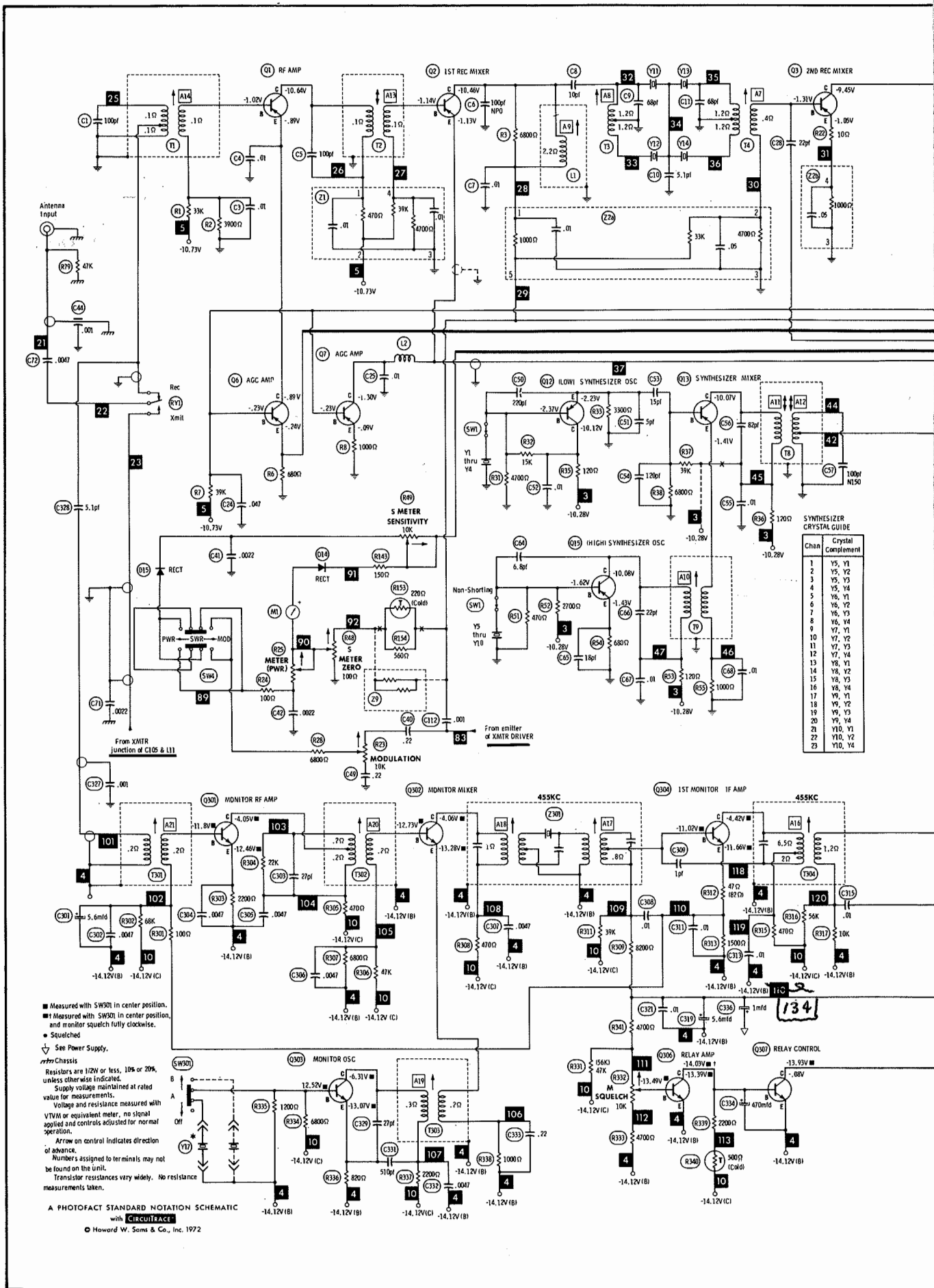
ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	3008	RF Amp	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q2	3008	1st Rec. Mixer	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q3	3008	2nd Rec. Mixer	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q4	3010	1st IF Amp	576-0003-010	GE-1	TR-14	HEP636	SK3008	ECG 126
Q5	3010	2nd IF Amp	576-0003-010	GE-1	TR-14	HEP636	SK3008	ECG 126
Q6	3010	AGC Amp	576-0003-010	GE-1	TR-14	HEP636	SK3008	ECG 126
Q7	3010	AGC Amp	576-0003-010	GE-1	TR-14	HEP636	SK3008	ECG 126
Q8	3008	2nd Rec. Oscillator	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q9	1002	Squelch Amp	576-0001-002	GE-2	TR-14	HEP739	SK3004	ECG 102A
Q10	1003	Squelch	576-0001-003	GE-2	TR-14	HEP636	SK3004	ECG 102A
Q11	2N5458 (6003)	Mic Preamp	(576-0006-003)	GE-FET-1		HEP801	SK3H2	ECG 133
Q12	3008	Synthesizer Osc. (Low)	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q13	3008	Synthesizer Mixer	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q15	3008	Synthesizer Osc. (High)	576-0003-008	GE-9	TR-17	HEP638	SK3006	ECG 160
Q16	1014	AF Amp	576-0001-014					
Q17	1009	Driver	576-0001-009	GE-2	TR-14	HEP638	SK3004	ECG 102A
Q18	2002	Output-Modulator	576-0002-002	GE-3	TR-16	HEP232	SK3009	ECG 121
Q19	2002	Output-Modulator	576-0002-002	GE-3	TR-16	HEP232	SK3009	ECG 121
Q20	3008	Xmtr. Oscillator	576-0003-008	GE-9	IRTR-62	HEP638	SK3006	ECG 160
Q21	3008	Xmtr. Mixer	576-0003-008	GE-9	IRTR-63	HEP638	SK3008	ECG 160
Q22	4004	Xmtr. Buffer	576-0004-004	GE-17	IRTR-64	HEP713	SK3047	ECG 128
Q23	4004	Xmtr. Driver	576-0004-004	GE-17	IRTR-64	HEP713	SK3047	ECG 128
Q24	4005	Final Amp	576-0004-005	GE-18	IRTR-65	HEPS3001	SK3048	ECG 128
Q201	2002	Voltage Regulator	576-0002-002	GE-3	TR-16	HEP232	SK3009	ECG 121
Q202	2004	Regulator Control	576-0002-004	GE-2	TR-14	HEP253	SK3004	
Q203	2004	Error Amp	576-0002-004	GE-2	TR-14	HEP253	SK3004	
Q203	2004	Error Amp	576-0002-004	GE-2	TR-14	HEP253	SK3004	
Q301	3018	Monitor RF Amp	576-0003-018			HEP56	SK3018	ECG 108
Q302	3011	Monitor Mixer	576-0003-011	GE-8		HEP725	SK3010	ECG 108
Q303	3011	Monitor Oscillator	576-0003-011	GE-8		HEP725	SK3010	ECG 108
Q304	3011	1st Monitor IF Amp	576-0003-011	GE-8		HEP725	SK3010	ECG 108
Q305	3011	2nd Monitor IF Amp	576-0003-011	GE-8		HEP725	SK3010	ECG 108
Q306	3011	Relay Amp	576-0003-018	GE-2		HEP725	SK3010	ECG 108
Q307	2006	Relay Control	576-0002-006			HEP253		

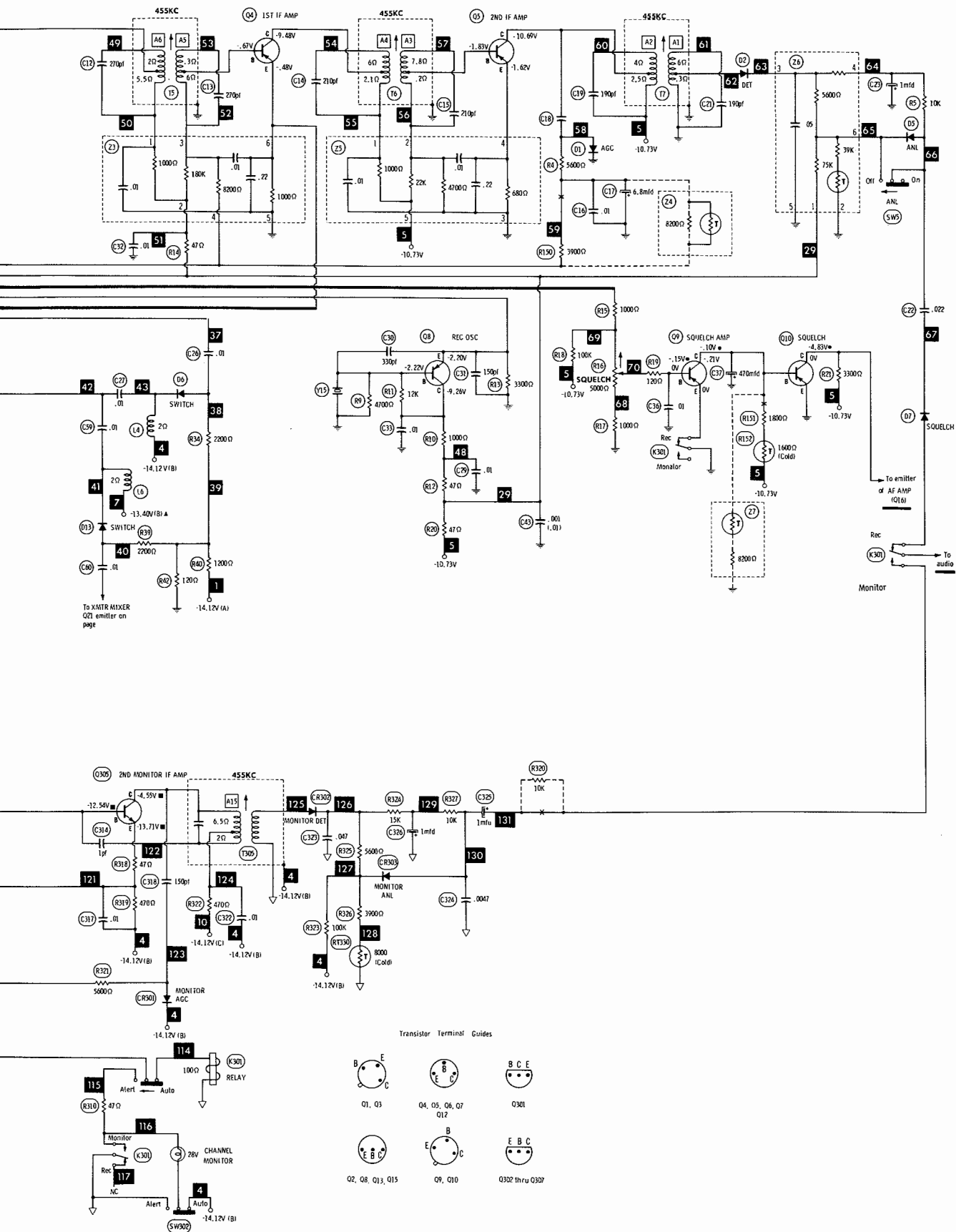
JOHNSON MODEL MESSENGER 124-M

POWER RECTIFIERS & SIGNAL DIODES

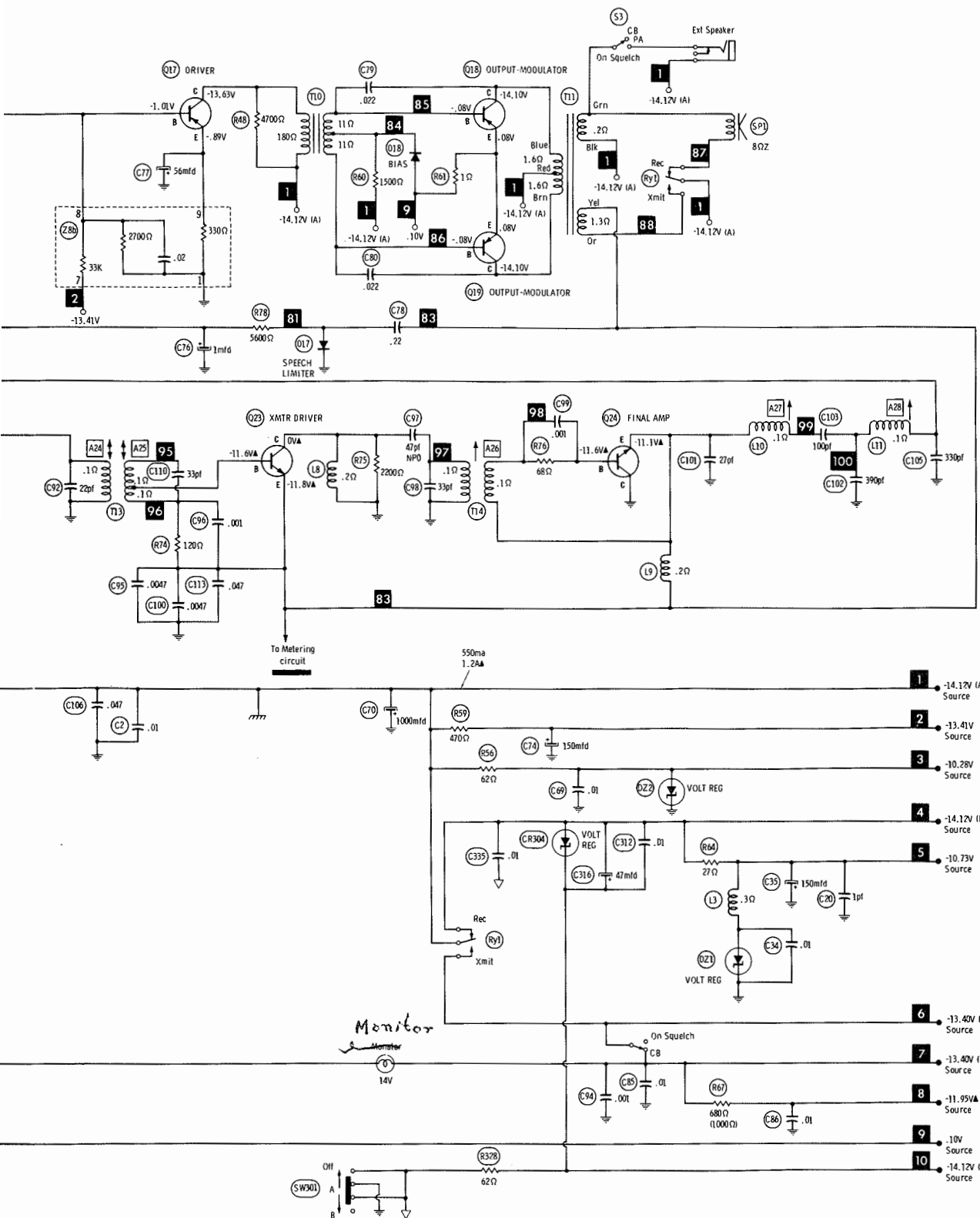
ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
CR301	523-1000-067	1N34AS	1N34A	SK3087	ECG 109	10V, 1W Zener
CR302	523-1000-067	1N34AS	1N34A	SK3087	ECG 109	
CR303	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
CR304	523-2003-100	GEZD-10-4	Z1110	SK3061	ECG 140	
D1	1N67A	1N34AS	1N34A	SK3087	ECG 109	
D2	1N67A	1N34AS	1N34A	SK3087	ECG 109	
D5	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D6	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D7	1N67A	1N34AS	1N34A	SK3087	ECG 109	
D13	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D14	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	10V, 2W Zener 10V, 1W Zener 10V, 1W Zener
D15	1N67	1N34AS	1N34A	SK3087	ECG 109	
D16	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D17	1N881	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D18	1N2323	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D201	523-0013-201	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D202	523-0013-201	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D203	523-0013-201	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D204	523-0013-201	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D21	523-2004-100	GEZD-10-4	Z1110	SK3061	ECG 5125	
D22	523-2003-100	GEZD-10-4	Z1110	SK3061	ECG 140	
DZ201	523-2003-100	GEZD-10-4	Z1110	SK3061	ECG 140	

(CONTINUED ON PAGE 50)









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.
C17	6.8	35V	510-2045-689			TYR13B-F685		TDC685M035EL	150D685X9050R2
C23	1	35V	510-2045-109			TYR13B-F105		TDC105M035EL	150D105X9050A2
C35	150	25V	510-4006-006	CRE650A	EA30-150	WBR150-35	MT1-21.5	MTA150F35	TE-1212
C37	470	4V	510-4001-006	PRS1120	EA6-500	WBR500-16	QT1-30A	TC605B	TE-1107.5
C61	6.8	35V	510-2045-689			TYR13B-F685		TDC685M035EL	150D685X9050R2
C62	6.8	35V	510-2045-689			TYR13B-F685		TDC685M035EL	150D685X9050R2
C70	1000	16V	510-4006-005	PRS1230	EA15-1000	WBR1000-16	QT1-32	TC1501B	TL-1166.5
C73	22	15V	510-2003-220			TYR13B-F685		TDC226M015FL	150D226X9050S2
C74	150	25V	510-4006-006	CRE650A	EA30-150	WBR150-35	MT1-21.5	MTA150F35	TE-1212
C75	6.8	35V	510-2045-689			TYR13B-F685		TDC685M035EL	150D685X9050R2
C76	1	35V	510-2045-109			TYR13B-F105		TDC105M035EL	150D105X9050A2
C77	56	6V	510-2001-560	CRE467A	EA6-50	WBR50-25	MT1-15	MTA50D6	TE-1133
C121	150	25V	510-4006-006	CRE650A	EA30-150	WBR150-35	MT1-21.5	MTA150F35	TE-1212
C122	6.8	35V	510-2045-689			TYR13B-F685		TDC685M035EL	150D685X9050R2
C124	6.8	35V	510-2045-689			TYR13B-F685		TDC685M035EL	150D685X9050R2
C202	470	40V	510-4009-001	PRS1390	EA50-500	WBR500-35	QT1-31	TC50050A	TL-1316
C205	1000	16V	510-4006-005	PRS1230	EA15-1000	WBR1000-16	QT1-32	TC1501B	TL-1166.5
C301	5.6	10V	510-2072-569			TYR13B-C565		MTA50E25	150D565X9050R2
C316	47	25V	510-4006-012	CRE617A	EA30-50	WBR50-25	MT1-16.5		TE-1209
C319	5.6	15V	510-2023-569			TYR13B-D565			150D565X9050R2
C325	1	35V	510-2025-109			TYR13B-F105		TDC105M035EL	150D105X9050A2
C326	1	35V	510-2025-109			TYR13B-F105		TDC105M035EL	150D105X9050A2
C334	470	4V	510-4001-006	PRS1120	EA6-500	WBR500-16	QT1-30A	TC605B	TE-1107.5
C336	1	35V	510-2025-109			TYR13B-F105		TDC105M035EL	150D105X9050A2

CAPACITORS

ITEM No.	RATING		REMARKS	REPLACEMENT DATA					
				AEROVOX PART No.	ARCO/ELMENC0 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	100			TTP-01	CCT0-101	DTZ-100	NPO100	CN0310	10TCC-T10
C2	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C3	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C4	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C5	100	NPO			CCT0-101	DTZ-100	NPO100	CN0310	10TCC-T10
C6	100	NPO			CCT0-101	DTZ-100	NPO100	CN0310	10TCC-T10
C7	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C8	10			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C9	68	N150	#510-3016-680						10TCP-V68
C10	5.1		5%	ADM-15-050	DM-15-050J			SX550	MS-55
C11	68	N150	#510-3016-680						10TCP-V68
C12	270		5%	ADM-15-271	DM-15-271J	CPR-270J		SX327	MS-327
C13	270		5%	ADM-15-271	DM-15-271J	CPR-270J		SX327	MS-327
C14	210			GPD X5F201K	CCD-201	DD-201	GP200	GP32D	10TS-T20
C15	210			GPD X5F201K	CCD-201	DD-201	GP200	GP320	10TS-T20
C16	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C18	150	NPO		CCT	CCT0-151	DTZ-150		CN0315	10TCC-T15
C19	190			GPD X5F181K	CCD-181	DD-181	GP180	GP318	10TS-T18
C20	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C21	190			GPD X5F181K	CCD-181	DD-181	GP180	GP318	10TS-T18
C22	.022	250V		DBE6S22	1DP-1-223		DPMS6S22	PVC1122	22SP22391WD3
C24	.047			TTP-05	CCD-503		MGP05	TA150	TGL-S50
C25	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C26	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C27	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C28	22	NPO			CCT0-200	DTZ-20	NPO20	CN0420	10TCC-Q20
C29	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C30	330			GPD X5F331K	CCD-331	DD-331	GP330	GP333	10TS-T33
C31	150			GPD X5F151K	CCD-151	DD-151	GP150	GP315	10TS-T15
C32	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C33	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C34	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C36	.01			TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C39	.0047			GPD X5R472K	CCD-472	DD-4726	GP4700	JF247	10TS-D47
C40	.22	250V		V1614P22	4DP-5-224		DPMS4P22	PVC4022	4PS-P22
C41	.0022			GPD X5F222K	CCD-222	DD-222	GP2200	GP222	10TS-D22
C42	.0022			GPD X5F222K	CCD-222	DD-222	GP2200	GP222	10TS-D22
C43	.001			GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C44	.001								

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.	ARCO/ELMENC PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C45	.1 250V	#510-3016-820 #510-3016-101	DBE2P1	2DP-3-104		DPMS2P1	PVC201	2PS-P10
C46	.022 250V		DBE6S22	1DP-1-223		DPMS6S22	PVC1122	225P22391WD3
C49	.22 250V		V1614P22	4DP-5-224		DPMS4P22	PVC4022	4PS-P22
C50	220		ADM-15-221	DM-15-221J	CPR-220J		SX322	MS-322
C51	5 NPO					NPO5		10TCC-V50
C52	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C53	15			CCTO-150	DTZ-15	NPO15	CN0415	10TCC-Q15
C54	120 N150			CCTN-121	TCN-120	N120		10TCU-T12
C55	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C56	82 N150							10TCP-Q82
C57	100 N150							10TCP-T10
C59	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C60	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C64	6.8 N750					N6P8	CN7568	10TCU-V68
C65	18			CCTO-180	TCZ-18	NPO18	CN0418	10TCC-Q18
C66	22			CCTO-200	DTZ-20	NPO20	CN0420	10TCC-Q20
C67	22		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C68	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C69	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C71	.0022		GPD X5F202K	CCD-202	DM-202	GP2000	GP220	2SS-D20
C72	.0047		GPD X5R472K	CCD-472	DD-472G	GP4700	JF247	10TS-D47
C78	.22		V1614P22	4DP-5-224		DPMS4P22	PVC4022	4PS-P22
C79	.022		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C80	.022		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C81	330			DM-15-391	CPR-390J	CD15F391J500	SX339	MS-339
C82	82			CCTO-820	DTZ-82	NPO82	CN0482	10TCC-Q82
C83	10			CCTO-100	DTZ-10	NPO10	CN0410	10TCC-Q10
C84	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C85	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C86	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C87	180		GPD X5F181K	CCD-181	DD-181	GP180	GP318	10TS-T18
C88	15			CCTO-150	DTZ-15	NPO15	CN0415	10TCC-Q15
C89	68				DTZ-68		CN0468	10TCC-Q68
C90	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C91	22		ADM-15-220	DM-15-220J	CPR-22J		SX422	MS-422
C92	22		ADM-15-220	DM-15-220J	CPR-22J		SX422	MS-422
C93	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C94	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C95	.0047		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C96	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C97	47 NPO 200V			CCTO-470	DTZ-47	NPO47	CN0447	10TCC-Q47
C98	33 200V			CCTO-330	DTZ-33	NPO33	CN0433	10TCC-Q33
C99	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C100	.0047		GPD X5R472K	CCD-472	DD-472G	GP4700	JF247	10TS-D47
C101	27			CCTO-270	TCZ-27	NPO27	CN0427	10TCC-Q27
C102	390			DM-15-391	CPR-390J	CD15F391J500	SX339	MS-339
C103	100			CCTO-100	DTZ-100	NPO100	CN0310	10TCC-T10
C104	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C105	330			DM-15-391	CPR-390J	CD15F391J500	SX339	MS-339
C106	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C109	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C110	33			CCTO-330	DTZ-33	NPO33	CN0433	10TCC-Q33
C112	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C113	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C120	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C123	100			CCTO-101	DTZ-100	NPO100	CN0310	10TCC-T10
C125	100			CCTO-101	DTZ-100	NPO100	CN0310	10TCC-T10
C126	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C127	.022		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C201	.0047 1.4KV		HVD-154700		DD30-472			30GA-D47
C206	.0047 1.4KV		HVD-154700		DD30-472			30GA-D47
C302	.0047		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C303	27			CCTO-270		NPO27	CN0427	10TCC-Q27
C304	.0047		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C305	.0047		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C306	.0047		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C307	.0047		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C308	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C309	1		GPD COJ1R0D		TCZ-1		CN0510	10TCC-V10
C311	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C312	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C313	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C314	1		GPD COJ1R0D		TCZ-1		CN0510	10TCC-V10
C315	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C317	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C318	150 100V		GPD X5F151K	CCD-151	DD-151	GP150	GP315	10TS-T15
C321	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C322	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C323	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C324	.0047		GPD X5R472K	CCD-472	DD-472G	GP4700	JF247	10TS-D47
C327	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C328	5.1		ADM-15-050	DM-15-050J			SX550	MS-55
C329	27 200V			CCTO-270	TCZ-27	NPO27	CN0427	10TCC-Q27
C331	510			DM-16-471	CPR-470J	CD15F471J500	SX347	MS-347
C332	.0047		GPD X5R472K	CCD-472	DD-472G	GP4700	JF247	10TS-D47
C333	.22							
C335	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10

Johnson Part Number.

JOHNSON MODEL MESSENGER 124-M

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	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R16	Squelch/PA-Switch	5000	562-0001-012	F2-500, SSK014, KR-2		Q13-114, 76-2 or [BU2, CF60, SS1, WF]*	UA53A, SK1000 US42 or [RU53A, SL39, SK1000, US42] or [UA12, US27]
R23	Modulation	10K	562-0007-022	TT-14 or [F1-10K (1), SNK010]	B47-10K-S or [NP-10K-S, NML-A-300, TT-2]	B11-116, TM4 or [BU11, CF9, SS6A]*	TA14L or [RU14L, SL37, SN281] or [UA14L (1), SN281]
R25	"PWR" Meter Adjust	10K	562-0007-022	TT-14 or [F1-10K (1), SNK010]	B47-10K-S or [NP-10K-S, NML-A-300, TT-2]	B11-116, TM4 or [BU11, CF9, SS6A]*	TA14L or [RU14L, SL37, SN281] or [UA14L (1), SN281]
	"PWR" Meter Adjust	10K	562-0007-002 (2)				
R26	Tone	100K	562-0007-021	TT-40 or [F1-100K (1), SNK010]	B47-100K-S or [NP-100K-S, NML-A-300, TT-2]	B11-128, TM4 or [BU11, CF13, SS6A]*	PTA15L or [RU15L, SL37, SN1000] or [UA15L (1), SN1000]
R41	Volume/Switch	20K Tap @ 12K	562-0001-011	F16-25K, SSK014, KR-1		B19-119X, SK1, 76-1 or [BU2, CF103TT (3), SS1, GC]*	RU24T14, SL39, SK1000, US41
R44	Mic Gain	10K	562-0007-026	F2-10K, SSK014	A47-10K-S, KSS-3 or [NP-10K-Z, UP-C-400]	Q13-116 or [BU2, CF61, SS1, DC1]*	UA14A, SK1000 or [RU14A, SL39, SK1000] or U18 MTC12L1
R48	"S" Meter Zero	100	562-0004-101	TSV-100 or T-100		X201R101B	MTC14L1
R49	"S" Meter Sensitivity	10K	562-0004-103	TSV-10K or T-10K		X201R103B	MTC14L1
R332	"M" Squelch	10K	562-0007-023	F1-10K, SSK014	A47-10K-S, KSS-3 or [NP-10K-S, UP-C-400]	Q11-116 or [BU2, CF9, SS1, DC1]	UA14L, SK1000 or [RU14L, SL39, SK1000] or U20
	"M" Squelch	10K	562-0007-026 (2)	F2-10K, SSK014	A47-10K-Z, KSS-3 or [NP-10K-Z, UP-C-400]	Q13-116 or [BU2, CF61, SS1, DC1]*	UA14A, SK1000 or [RU14A, SL39, SK1000] or U18

* "SNAPTROL"

(1) Enlarge mounting hole.

(2) May be used in some versions.

(3) Disregard 5K Tap.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R152	1600 (Cold)	FS1222	
R153	270 (Cold)	FS654	

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R340	500 (Cold)	FR100	569-3002-501
RT330	(8000) 5600 (Cold)		569-3001-001

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	1st Rec. Mixer	542-1002-001		9052	8062
L2	RF Choke (20uh)	542-3002-002	19-6022	6152	TA311
L3	RF Choke (20uh)	542-3002-002	19-6022	6152	TA311
L4	RF Choke (20uh)	542-3002-002	19-6022	6152	TA311
L6	RF Choke (20uh)	542-3002-002	19-6022	6152	TA311
L8	RF Choke (13uh)	542-3003-001			
L9	RF Choke (13uh)	542-3003-001			
L10	Pi Network	542-1005-010			
L11	Pi Output	542-1005-004			
L14	4.3MC Filter (30uh)	542-3002-004		72F335AP	
T1	Antenna Input	592-5016-001			
T2	RF	592-5016-002			
T3	Crystal Filter Input	592-9002-010			
T4	Crystal Filter Output	592-9002-015			
T5	Input IF	592-5016-005			
T6	Interstage IF	592-5016-006			
T7	Output IF	592-5016-007			
T8	Synthesizer Mixer	592-5008-001			
T9	Synthesizer Oscillator	592-5010-001			8069
T12	Xmtr. Mixer	592-5008-002			
T13	Xmtr. Buffer	592-5021-001			
T14	Xmtr. Driver	592-5014-002			
T301	Monitor RF Antenna Match	592-5015-001			
T302	Monitor RF Output	592-5015-002			
T303	Monitor Oscillator	592-5015-004			
T304	Monitor Interstage IF	592-5020-004	16-9035	8515	
T305	Monitor Output IF	592-5020-004	16-9035	8515	
Z301	Input IF (Crystal Filter)	532-2002-001			

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~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L1	1.3A	.4	18mh	542-5007-001				

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T10	2.25	1		592-1007-004				

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
		SEC. 2 1.3DC Resistance					
T11	18.3CT	4	592-1013-004				

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T201	117VAC @ 420ma	23VAC @ 1.4A	592-3001-001				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3-1/2" x 3-1/2", 3.2 ohms	589-1004-004	3A05	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1 F2	6/10A 2A	534-0002-015	534-1002-001	6/10 MDL 2 AGC	HKP HDJ	313.600 312002	342001A 150145

JOHNSON MODEL MESSENGER 124-M

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
K301	Relay	567-0003-013	(Rec.-Monitor)
M1	Meter	544-0014-003	
MIC-1	Microphone	250-0089-001	Hand Mic
MIC-1	Microphone	250-0888-002	Desk Mic
RY-1	Relay	567-0003-013	(Rec.-Xmit)
SW1	Switch, Selector	583-2009-103	
SW4	Switch, Meter	583-3004-105	
SW5	Switch, Noise	583-3004-102	
SW301	Switch, Monitor	583-3004-125	
SW302	Switch, Mode	583-3001-003	(Auto-Alert)
X1	Crystal	519-0006-014	10.180MC
Y2	Crystal	519-0006-013	10.170MC
Y3	Crystal	519-0006-012	10.160MC
Y4	Crystal	519-0006-011	10.140MC
Y5	Crystal	519-0005-011	32.845MC
Y6	Crystal	519-0005-012	32.895MC
Y7	Crystal	519-0005-013	32.945MC
Y8	Crystal	519-0005-014	32.995MC
Y9	Crystal	519-0005-015	32.045MC
Y10	Crystal	519-0005-016	32.095MC
Y11	Crystal	519-0007-001	(4.2947MC + 4.3010MC) (In Unit)
Y12	Crystal	519-0007-001	(4.2947MC + 4.3010MC) (In Unit)
Y13	Crystal	519-0007-001	(4.2947MC + 4.3010MC) (In Unit)
Y14	Crystal	519-0007-001	(4.2947MC + 4.3010MC) (In Unit)
Y15	Crystal	519-0012-001	4.755MC
Y16	Crystal	519-0008-001	4.300MC
Y17	Crystal	519-0011-301	Ch. 1
	Crystal	519-0011-302	Ch. 2
	Crystal	519-0011-303	Ch. 3
	Crystal	519-0011-304	Ch. 4
	Crystal	519-0011-305	Ch. 5
	Crystal	519-0011-306	Ch. 6
	Crystal	519-0011-307	Ch. 7
	Crystal	519-0011-308	Ch. 8
	Crystal	519-0011-309	Ch. 9 (26.610MC Crystal supplied with set)
	Crystal	519-0011-310	Ch. 10
	Crystal	519-0011-311	Ch. 11
	Crystal	519-0011-312	Ch. 12
	Crystal	519-0011-313	Ch. 13
	Crystal	519-0011-314	Ch. 14
	Crystal	519-0011-315	Ch. 15
	Crystal	519-0011-316	Ch. 16
	Crystal	519-0011-317	Ch. 17
	Crystal	519-0011-318	Ch. 18
	Crystal	519-0011-319	Ch. 19
	Crystal	519-0011-320	Ch. 20
	Crystal	519-0011-321	Ch. 21
	Crystal	519-0011-322	Ch. 22
	Crystal	519-0011-323	Ch. 23
Z1	1st Rec. Mixer	544-0002-001	
Z2	2nd Rec. Mixer	544-0002-002	
Z3	1st IF	544-0002-003	
Z5	2nd IF	544-0002-004	
Z6	Noise Limiter	544-0002-015	
Z8	Audio	544-0002-006	

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

ITEM	PART No.	ITEM	PART No.
Cabinet	023-2568-005	Knob, Selector	547-0007-005
Cabinet	023-3107-001	Knob, Squelch	547-0008-006
Knob, Mic Gain	547-0008-006	Knob, Volume	547-0008-006
Knob, "M" Squelch	547-0008-006		

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.)



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.



MODEL 13-880B

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

GC ELECTRONICS

A1, A2, A3, A5, A7 thru A20, A24, A25, A38, A39#8276, 8277, 8290

A4, A6, A21, A22, A23, A26 thru A32#8606L, 9440

A33 thru A37#8868, 9089

RECEIVER (AM)

Connect an AC VTVM across speaker voice coil. Set volume control fully clockwise and Squelch control fully counterclockwise.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
		VR301	Connect a voltmeter from TP1 to ground. Adjust AGC control for .75 volts.
High side thru .01mfd to base of Q7 (2nd Mixer), low side to chassis. Tune to 455KC (Mod.).	Any	A1, A2, A3	Adjust for maximum
High side thru .01mfd to Antenna Connector, low side to chassis. Tune to 27.08MC (Mod.).	11	A6, A26, A27	Adjust for maximum.

RECEIVER (SSB)

Connect an RF voltmeter from point $\diamond$ to chassis.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
		VR702	Connect a voltmeter from TP1 to ground. Adjust SSB AGC (VR702) control for .6 volts.
High side thru .01mfd to base of Q2 (1st Mixer), low side to chassis. Tune to 7.8MC.	Any	A28, A29, A30	Adjust for maximum.

OSCILLATOR ADJUSTMENT

INDICATOR	ADJUST	REMARKS
Frequency Counter	A4, A5	Connect counter to point $\diamond$ and turn A4 counter-clockwise until the oscillator stops, then turn clockwise one turn. Adjust A5 for frequency at 7.3435MC.
Frequency Counter	A7 Thru A12	Connect counter to TF-4 and adjust for correct crystal frequencies.
Frequency Counter	A13 Thru A16	Set Mode switch to LSC position. Connect counter to point $\diamond$ and adjust for correct crystal frequencies.

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

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MIDLAND MODEL 13-880B

ALIGNMENT INSTRUCTIONS (Continued)

OSCILLATOR ADJUSTMENT (CONT)

INDICATOR	ADJUST	REMARKS
Frequency Counter	A17 Thru A20	Set Mode switch to USB position. Connect counter to point  and adjust for correct crystal frequencies.
RF voltmeter	A21,A22, A23	Set channel selector on channel 11. Set mode switch to AM position. Connect RF probe to TP-5 and adjust for maximum.
Frequency Counter	A24	Set Mode switch to USB. Connect counter to Drain of Q12 (Buffer) and adjust for frequency of 7.7985MC.
Frequency Counter	A25	Set Mode switch to LSB. Connect counter to Drain of Q12 (Buffer) and adjust for frequency of 7.8015MC.

TRANSMITTER (AM)

RF wattmeter or Field Strength Meter	A31 Thru A36	Adjust for maximum.
0-500ma DC Ammeter	A36, A37	Remove meter jumper and insert meter. Adjust A37 counterclockwise and A36 clockwise to reduce collector current to 400ma.

AM MODULATION ADJUSTMENT

Monitor Scope	VR601, VR502	Connect the monitor scope to the antenna connector. Connect an audio generator to the microphone input circuit and set to 2500 cps @ 5MV. Adjust AM Mic Adj. (VR601) for 50% modulation. Increase the audio output 16db from 50% modulation. Adjust Mic Level Adj (VR502) for 90% to 100% modulation.
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TRANSMITTER (SSB)

RF Wattmeter and Monitor Scope	A39 VR201	Connect the RF wattmeter and monitor scope to the antenna connector. Set mode switch to USB position and short the microphone input to ground. Adjust for MINIMUM carrier output with no audio.
0-50ma Ammeter	VR501	Remove meter jumper at CH5 and insert meter. Set mode switch to USB position and short the microphone input to ground. Adjust VR501 for a current of 5ma.

SSB ALC ADJUSTMENT

RF Voltmeter	VR504	Connect the RF Voltmeter across the dummy load. Adjust Automatic Level Adj. (VR504) fully clockwise. Set mode switch to USB position. Connect an audio generator to the microphone input and set to 2500 cps. Key the transmitter and increase the audio generator output until the waveform just reaches saturation. Adjust Automatic Level Adj. (VR504) to decrease the RF voltmeter reading by 10%.
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SSB MIC GAIN ADJUSTMENT

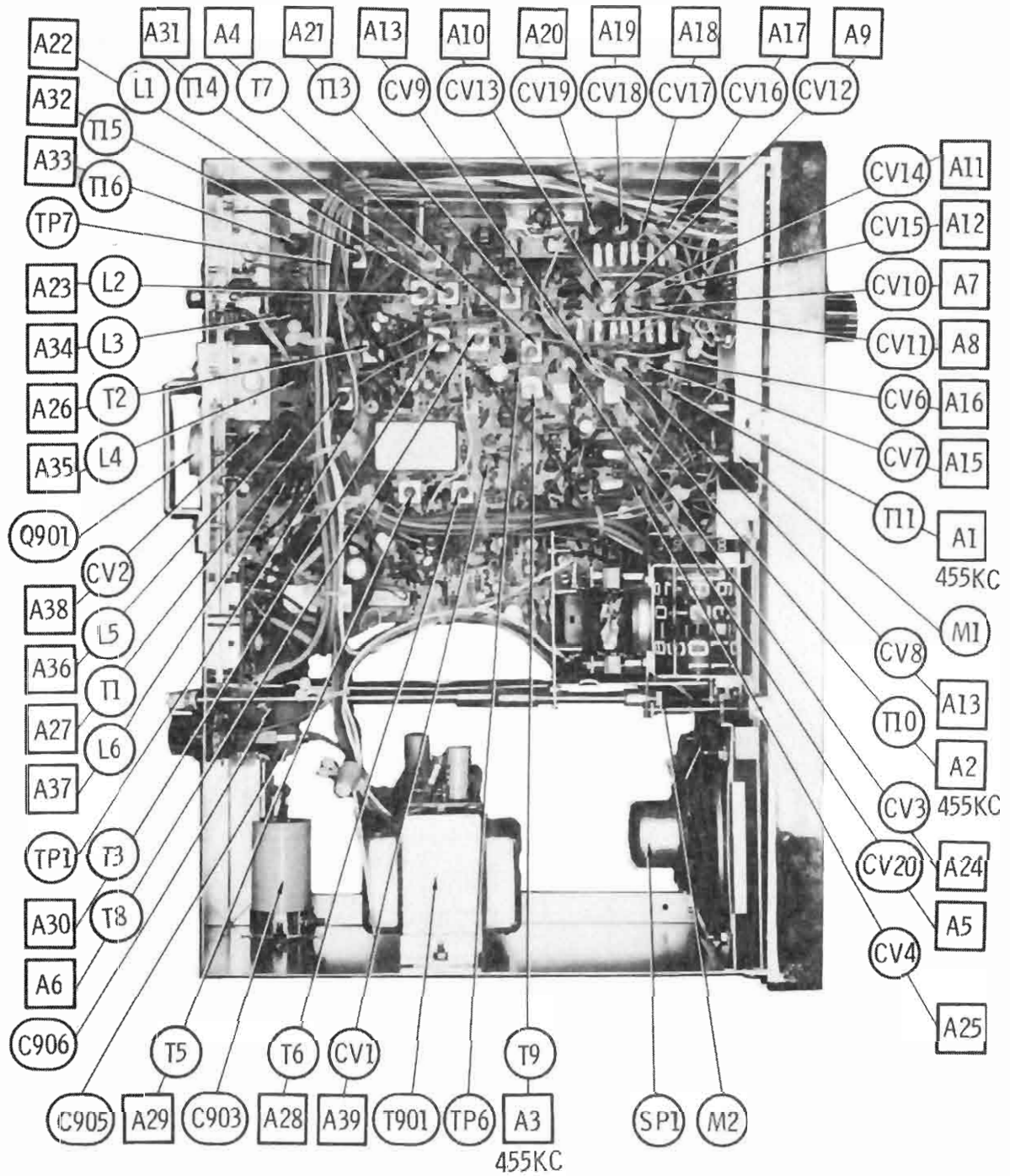
Modulation meter	VR602	Connect modulation meter to Antenna Connector. Key the transmitter and adjust SSB Mic Adj. (VR602) for desired microphone sensitivity.
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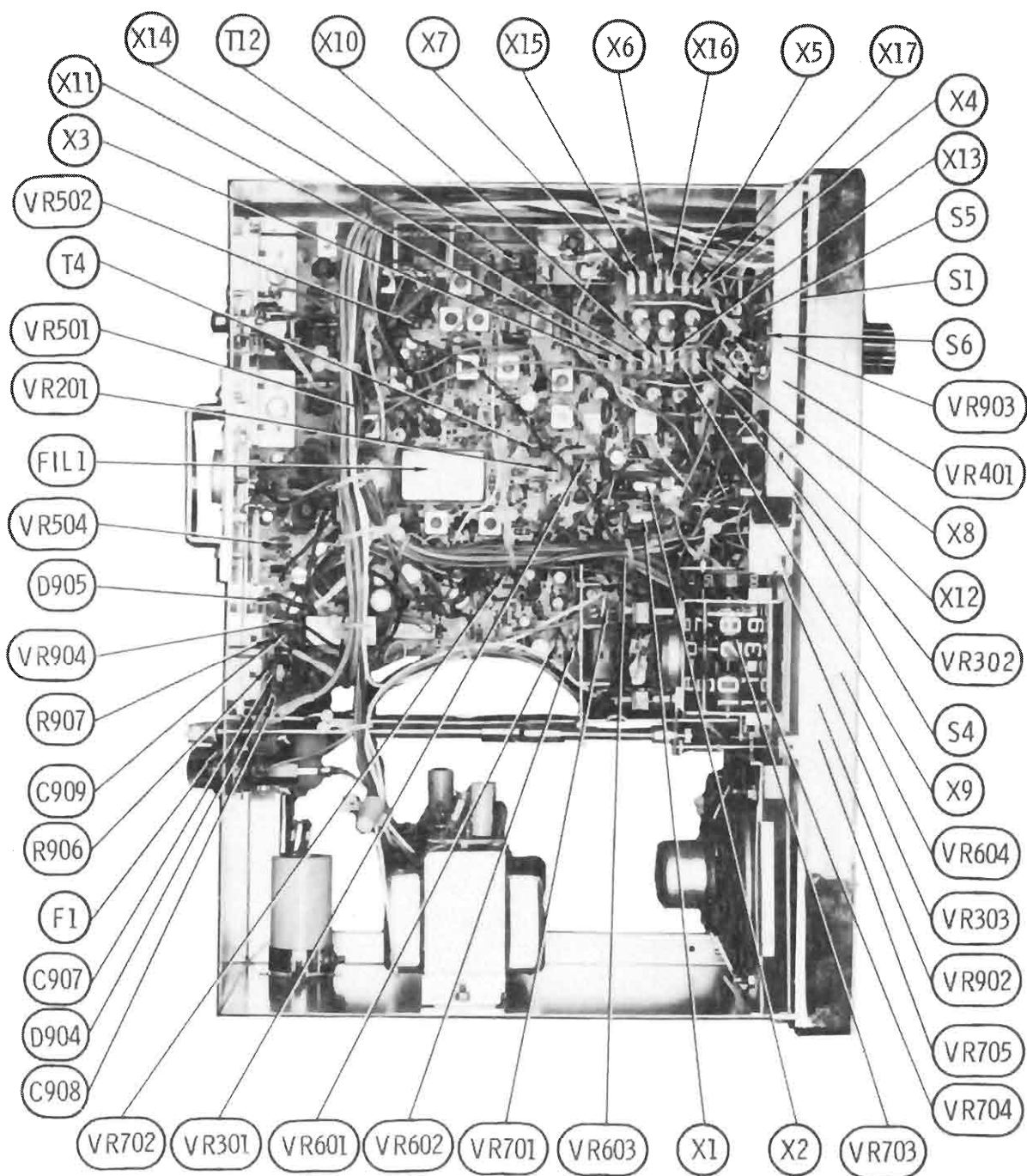
AM SQUELCH ADJUSTMENT

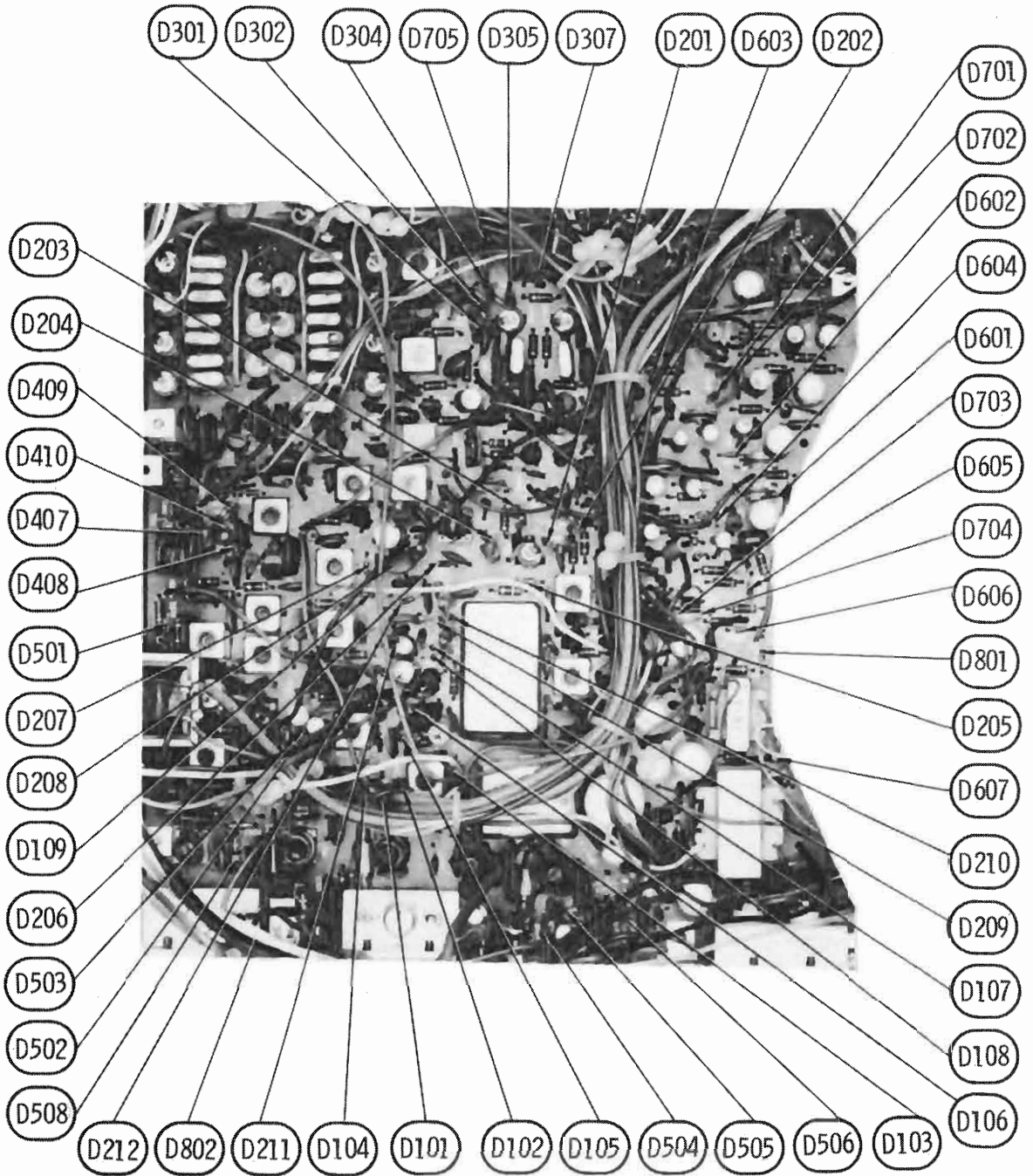
	VR703	Rotate the squelch control to the maximum clockwise position. Connect an RF signal generator to the antenna connector and adjust to 27.085MC (Mod). Set channel selector to channel 11. Adjust AM Squelch Adj. (VR703) so that the squelch breaks between 250 and 350uV.
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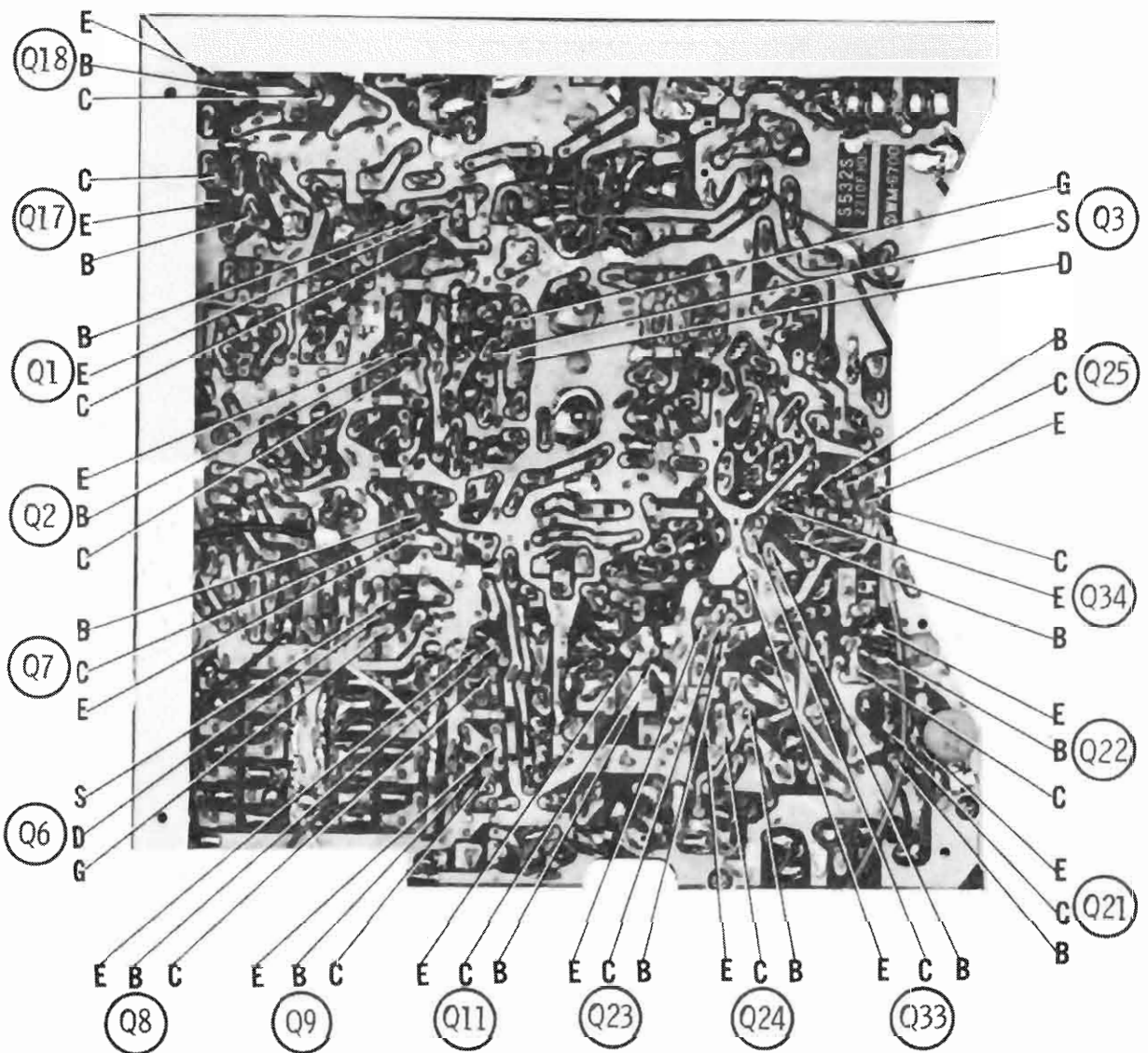
SSB SQUELCH ADJUSTMENT

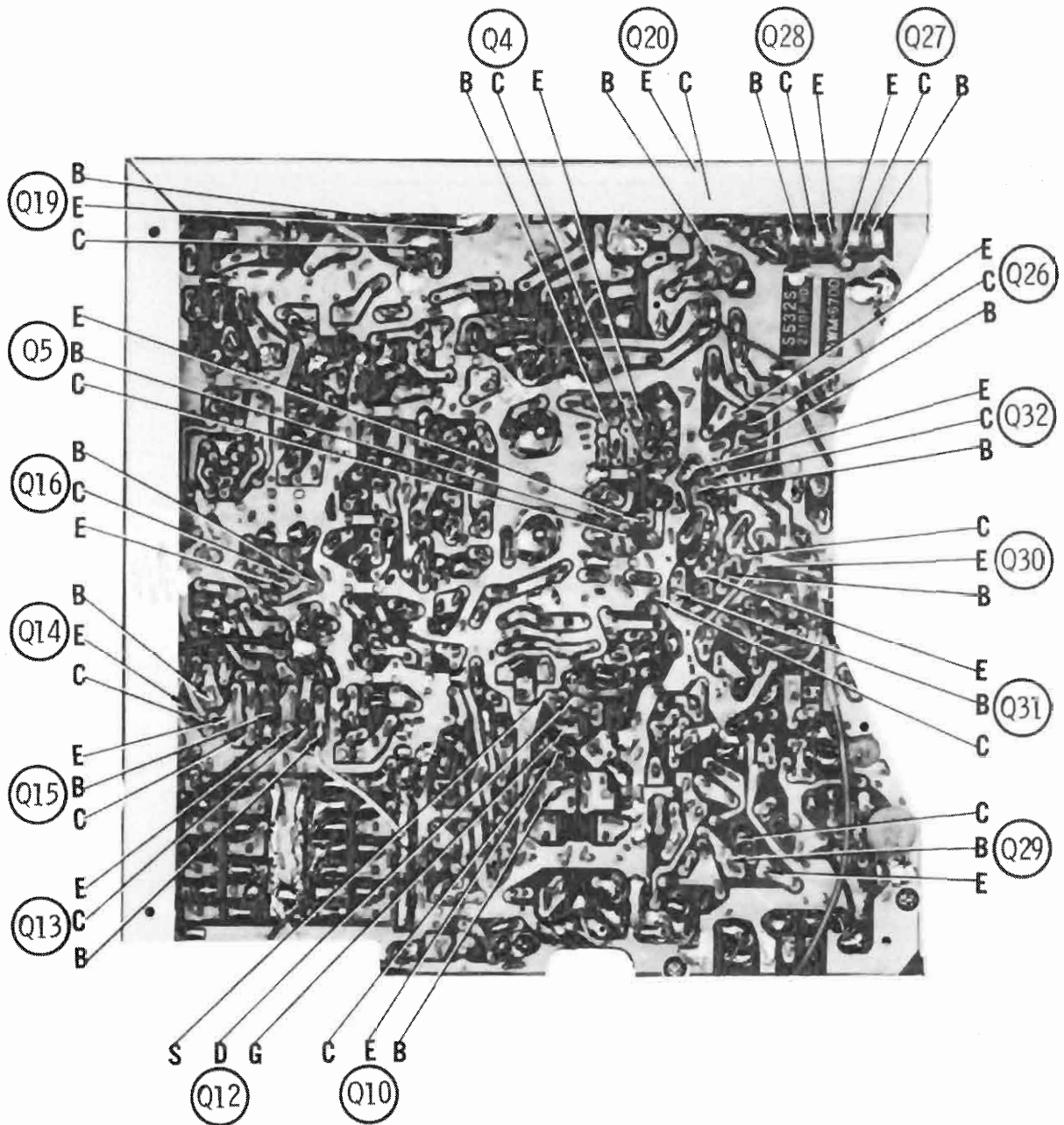
	VR704	Rotate the squelch control to the maximum clockwise position. Set mode switch to USB position. Connect an RF signal generator to the antenna connector and adjust to 27.085MC (Mod). Set channel selector to channel 11. Adjust SSB Squelch Adj. (VR704) so that the squelch breaks between 100 to 150uV.
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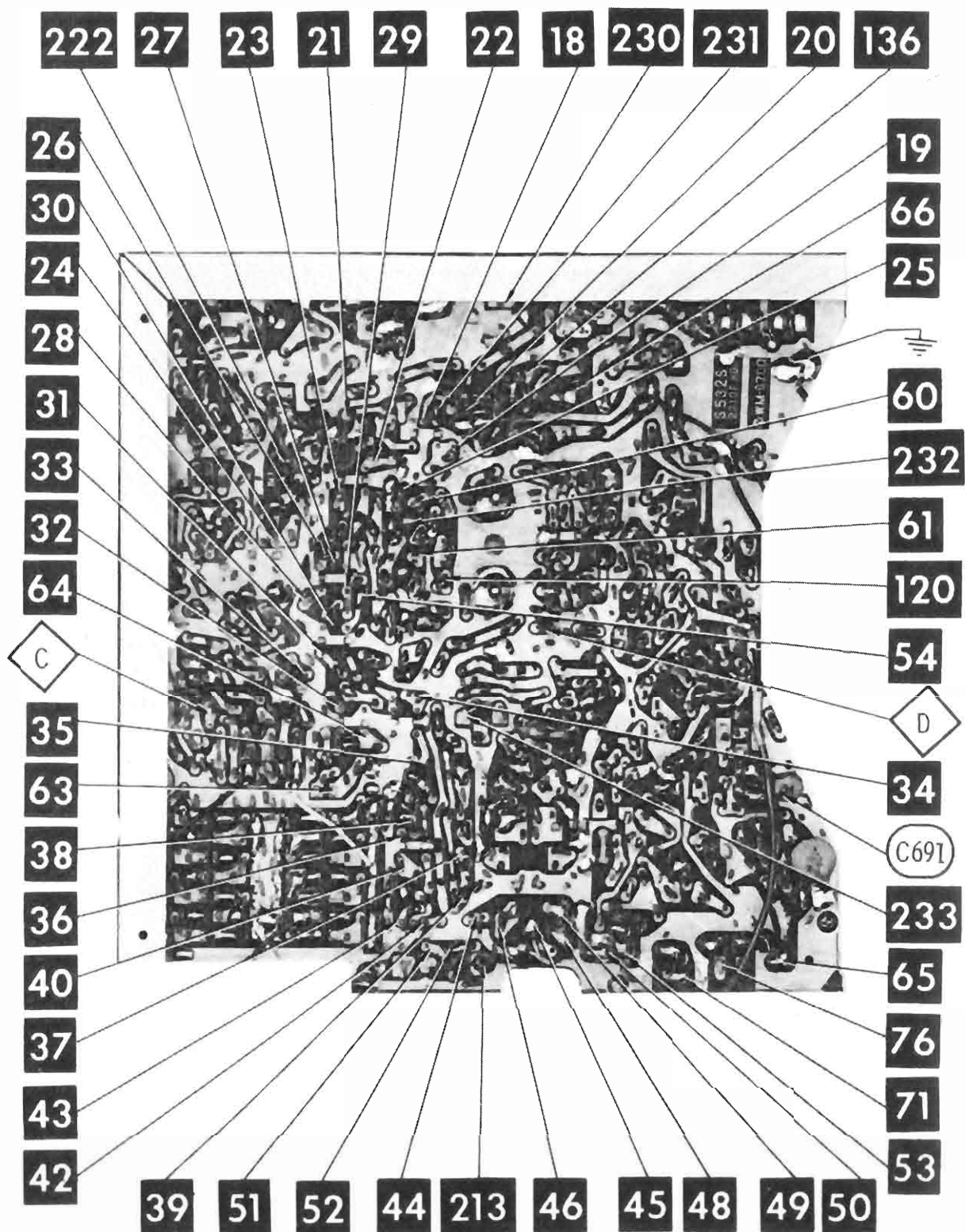


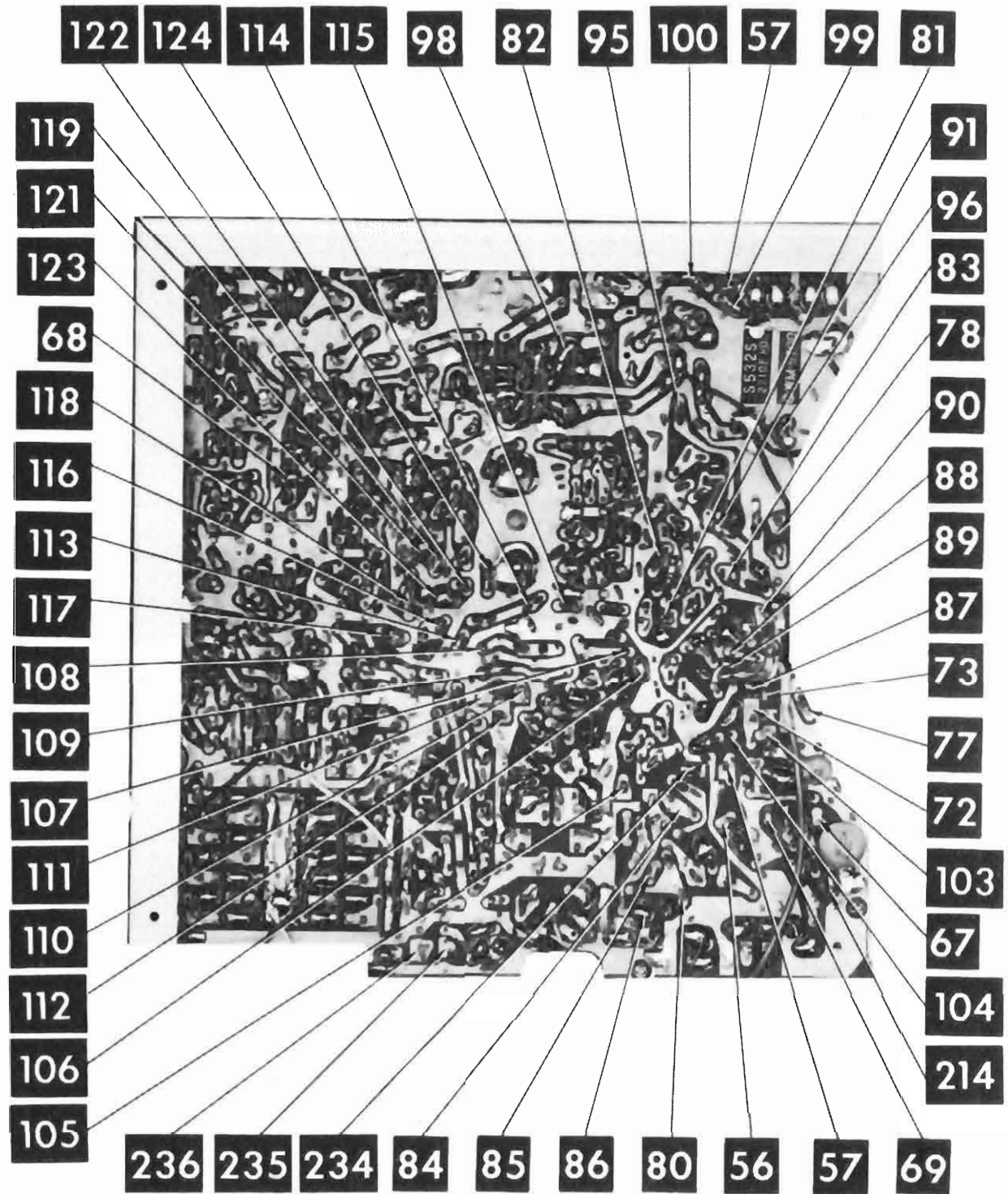


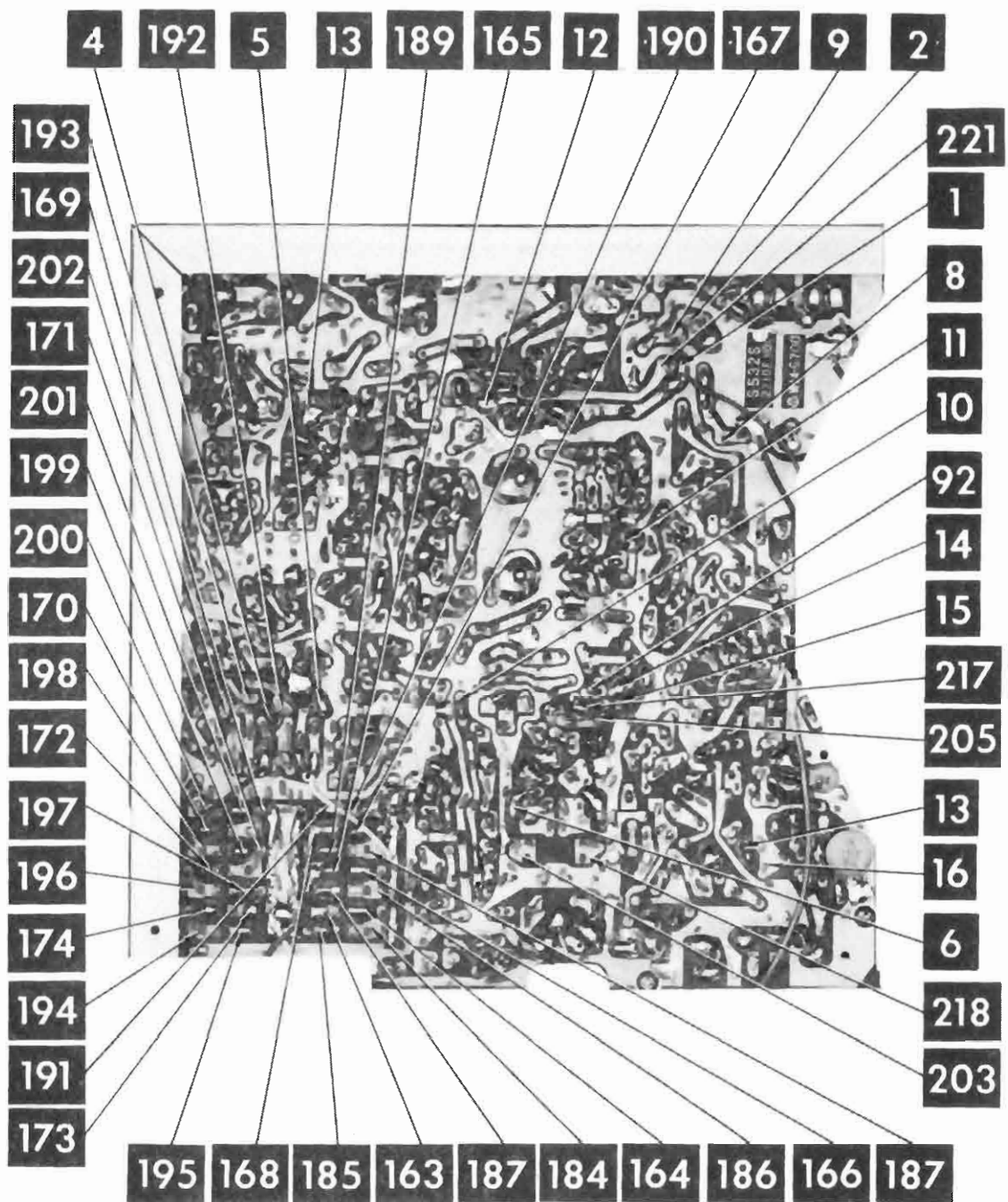


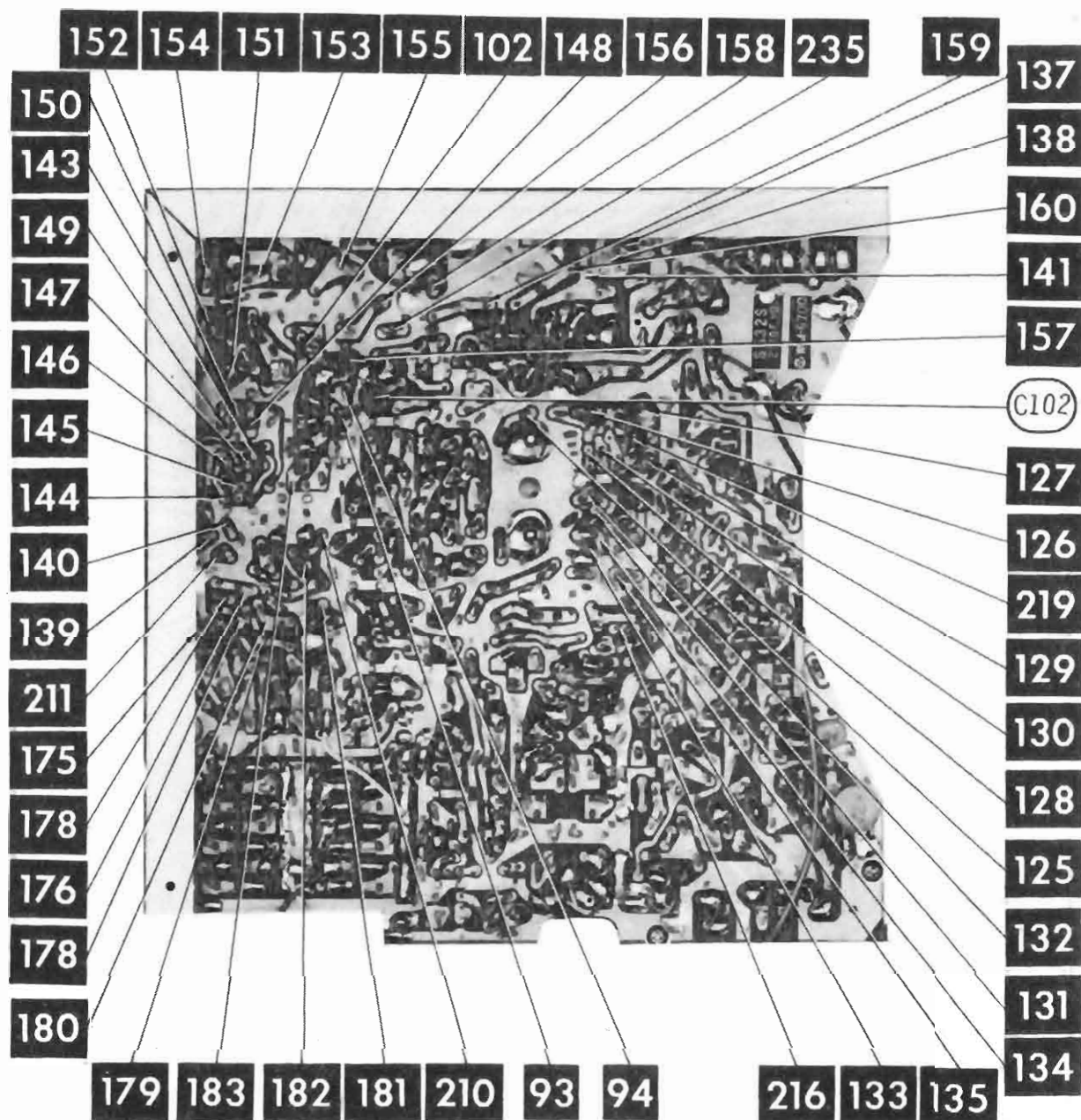


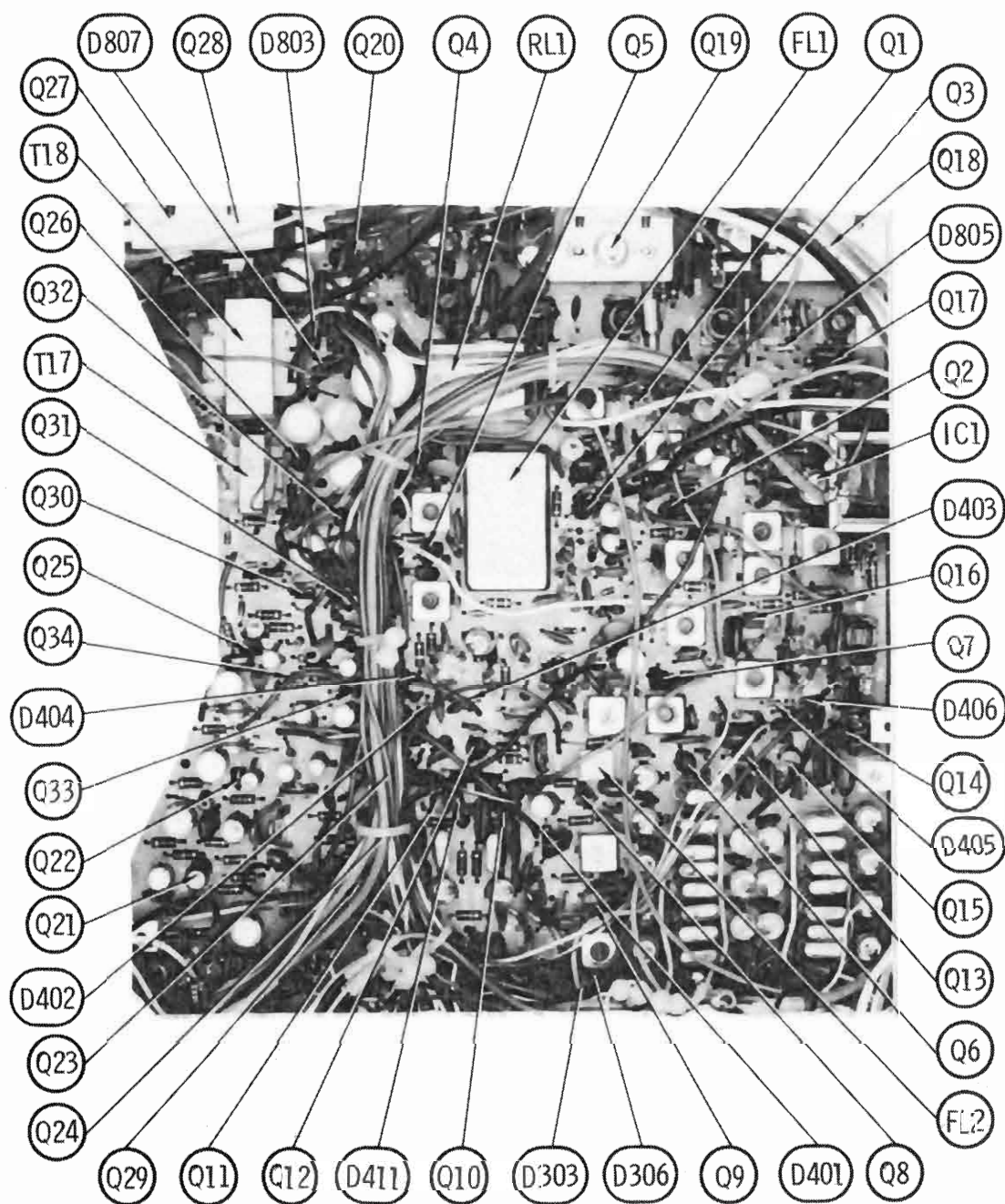


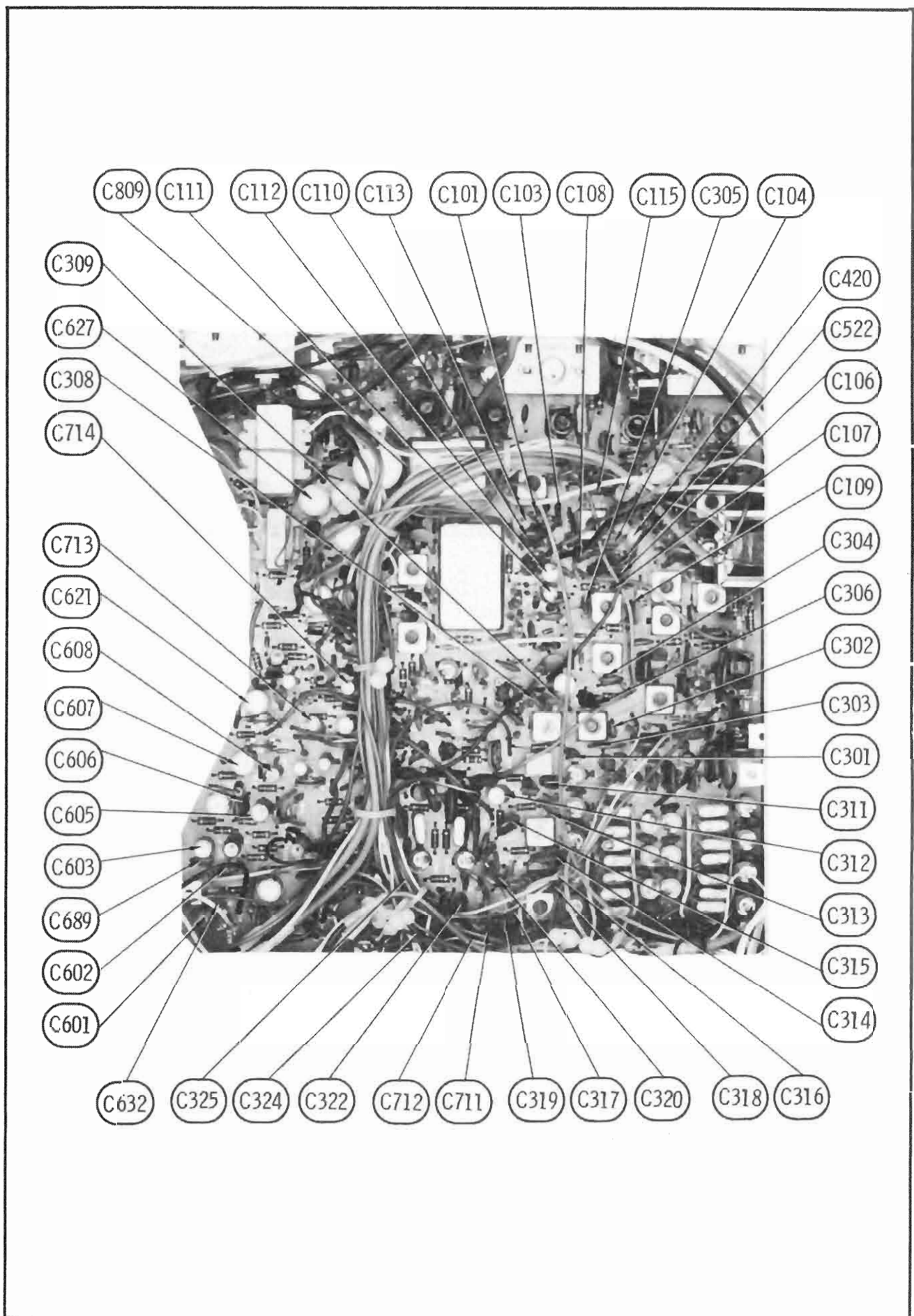


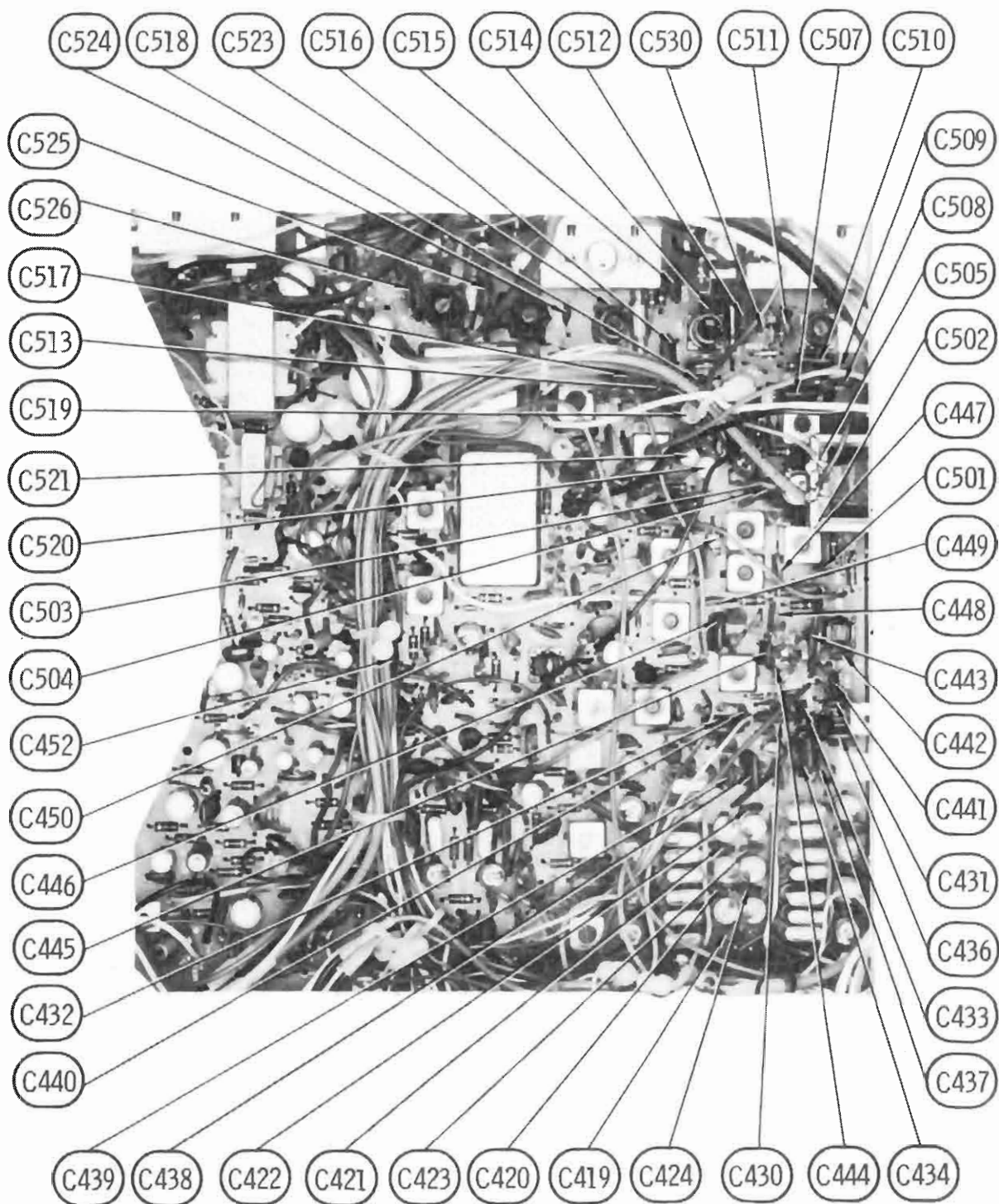


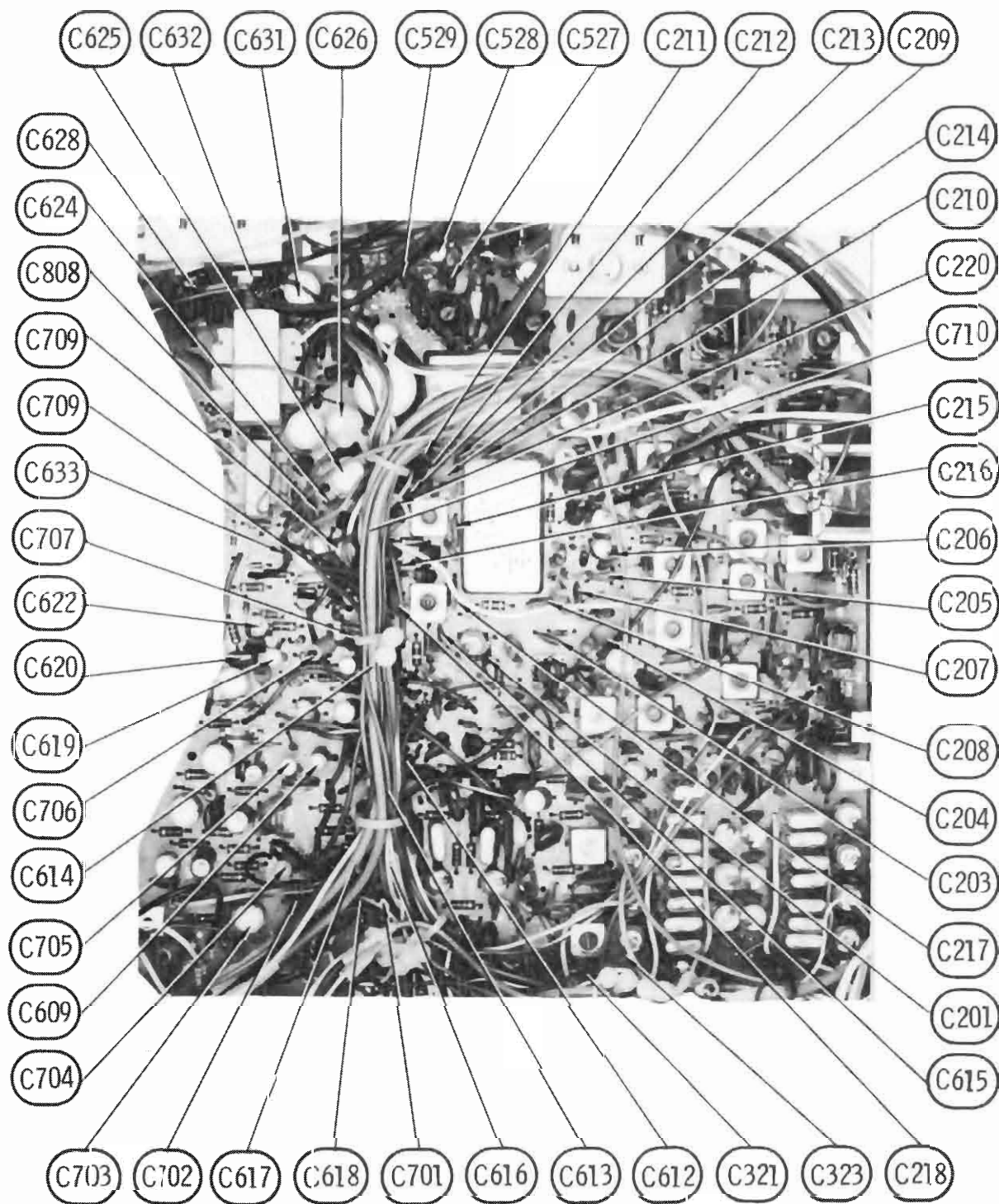


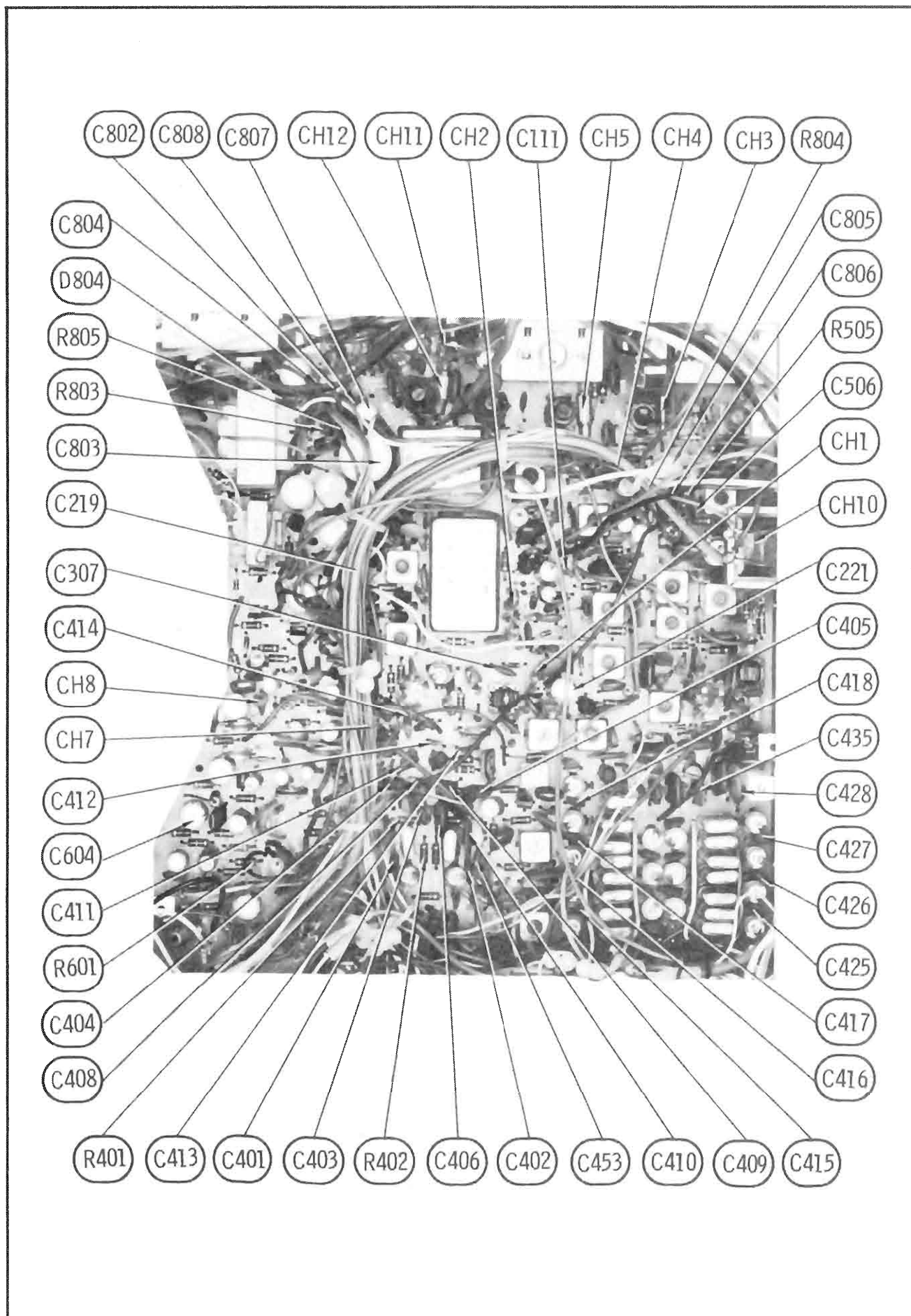


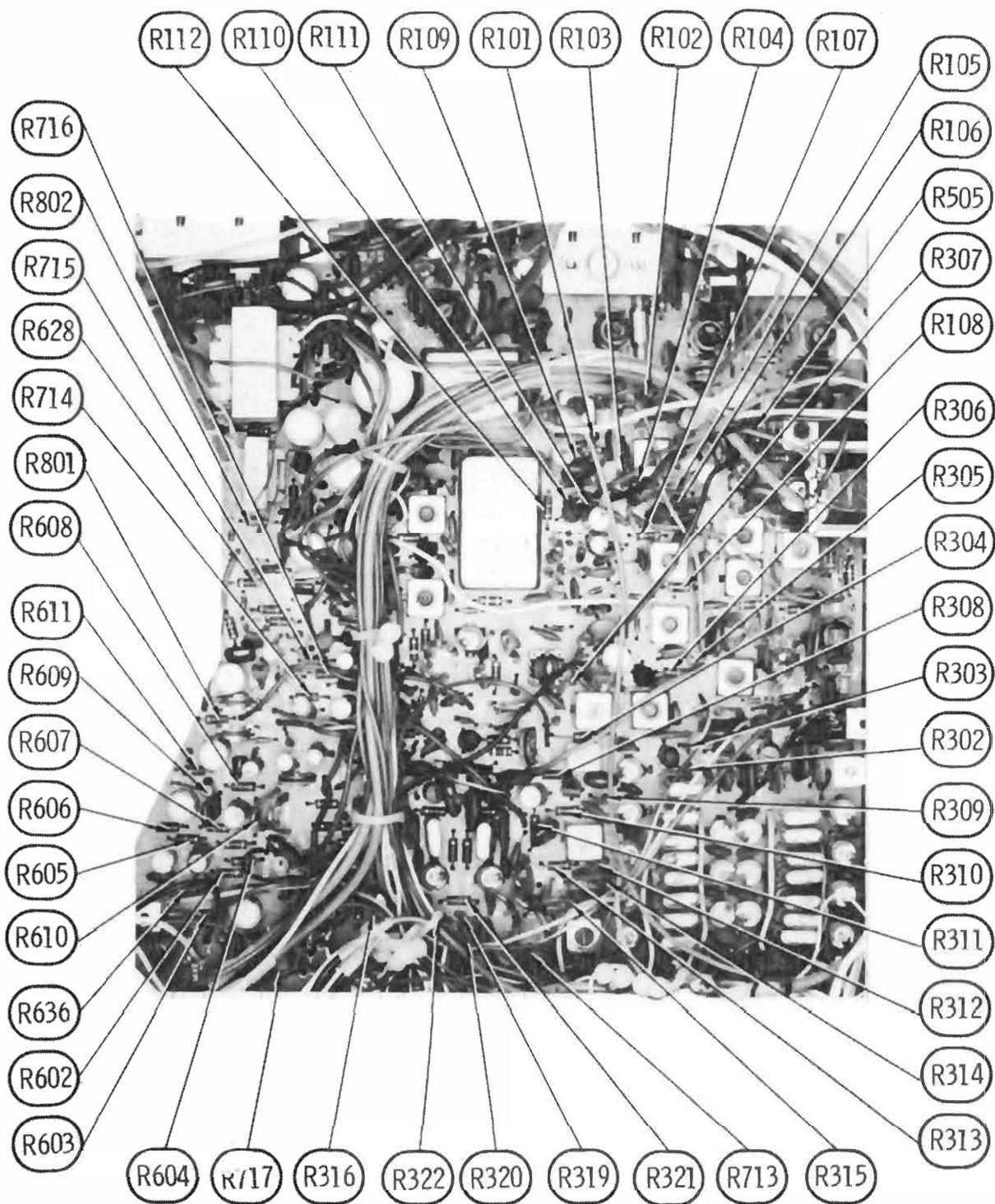




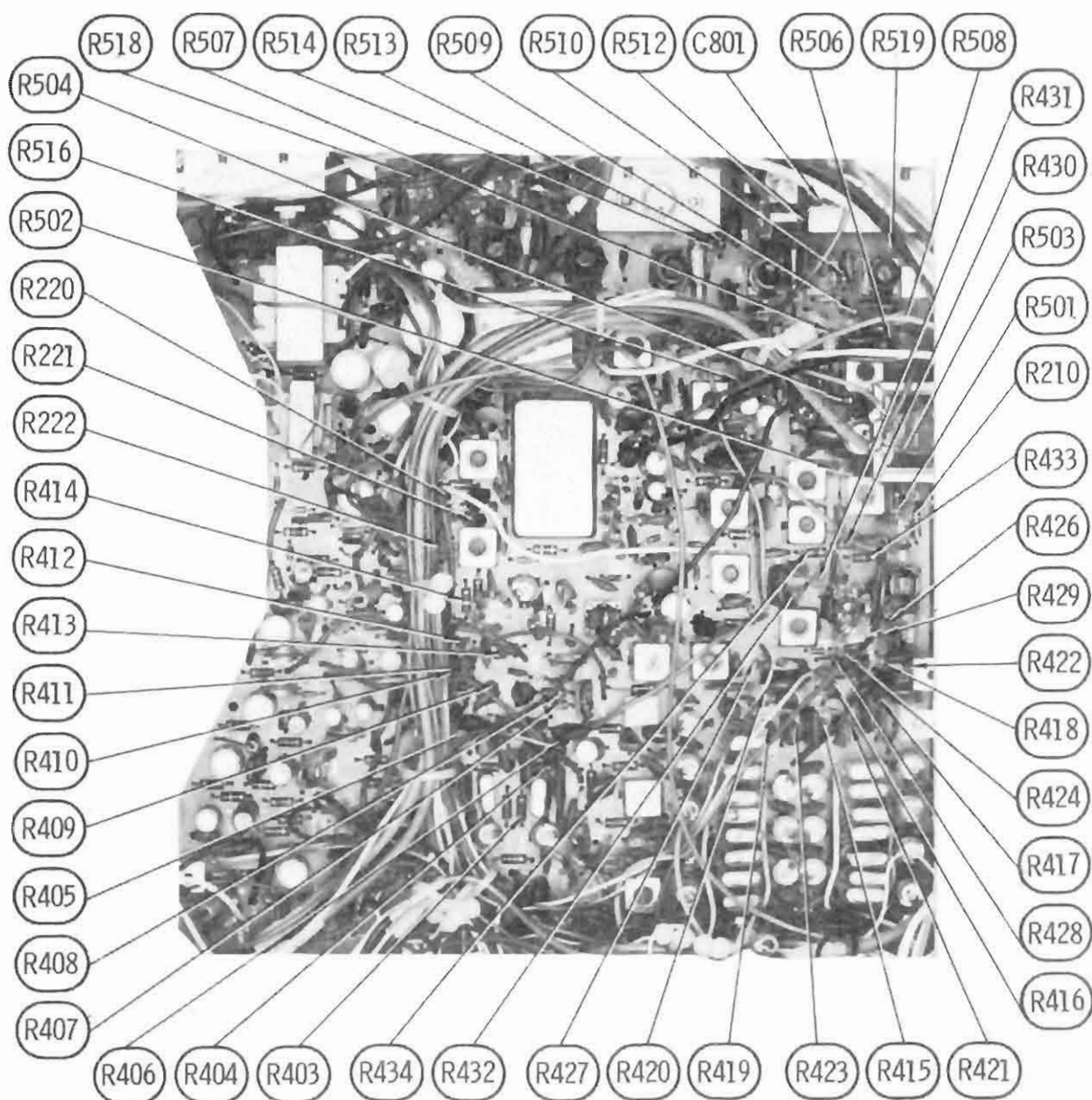


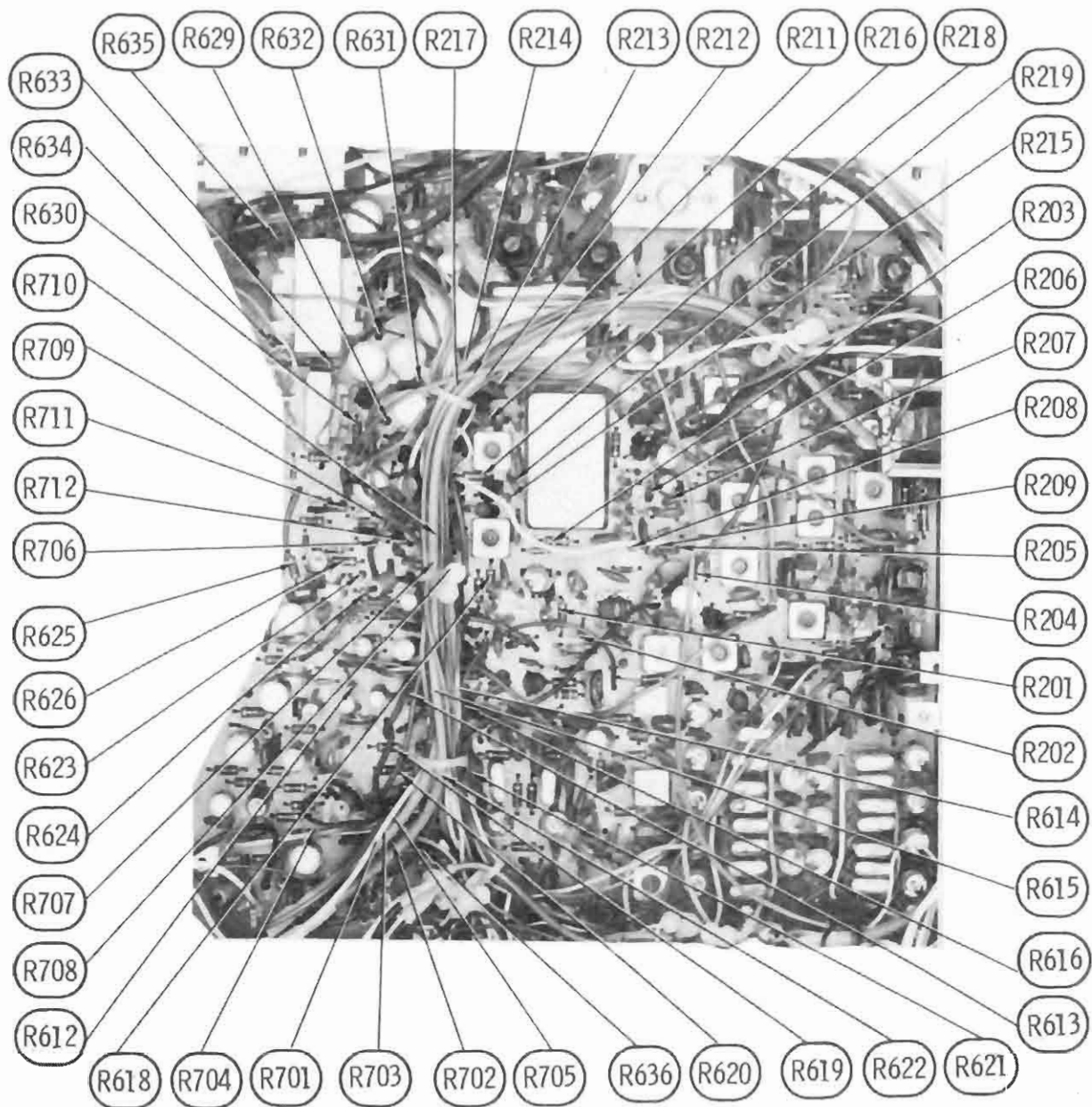


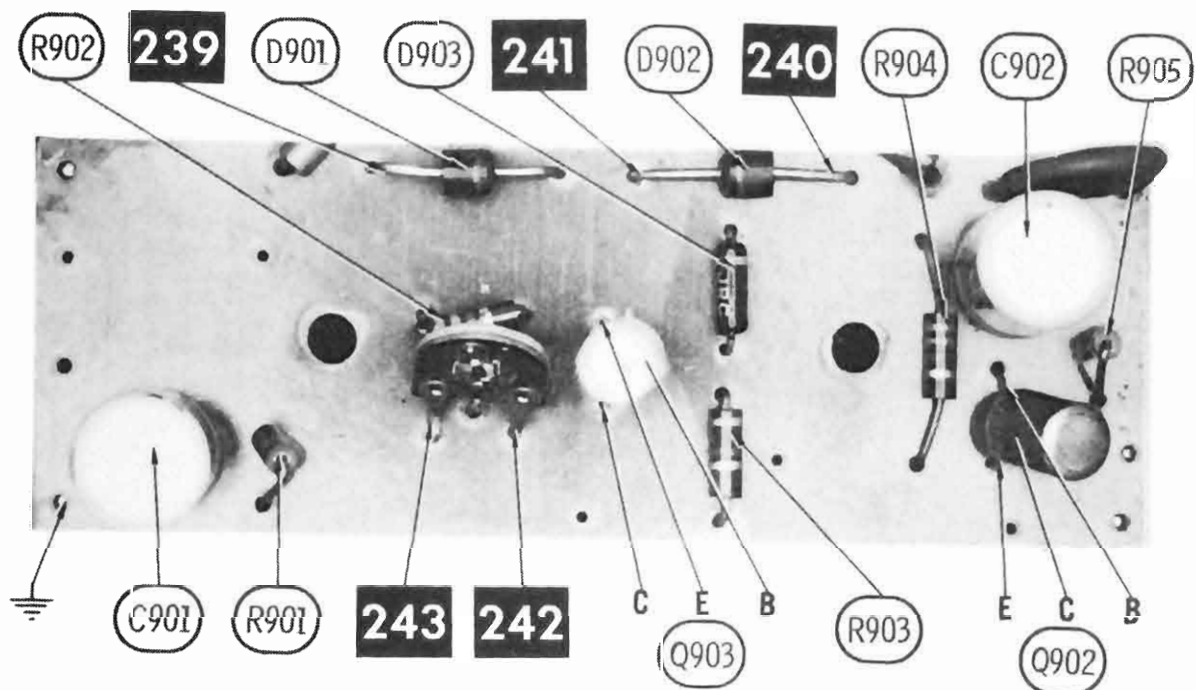
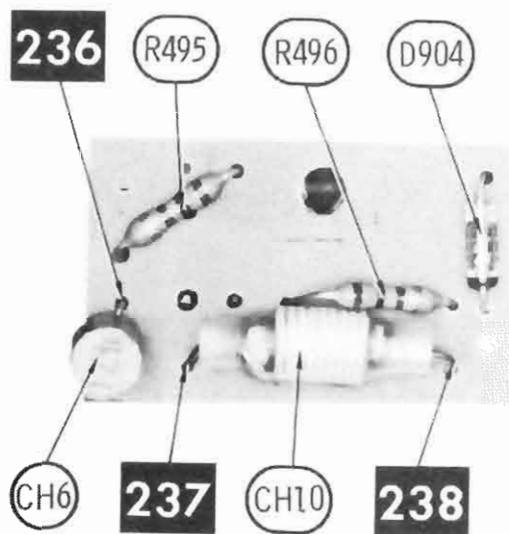


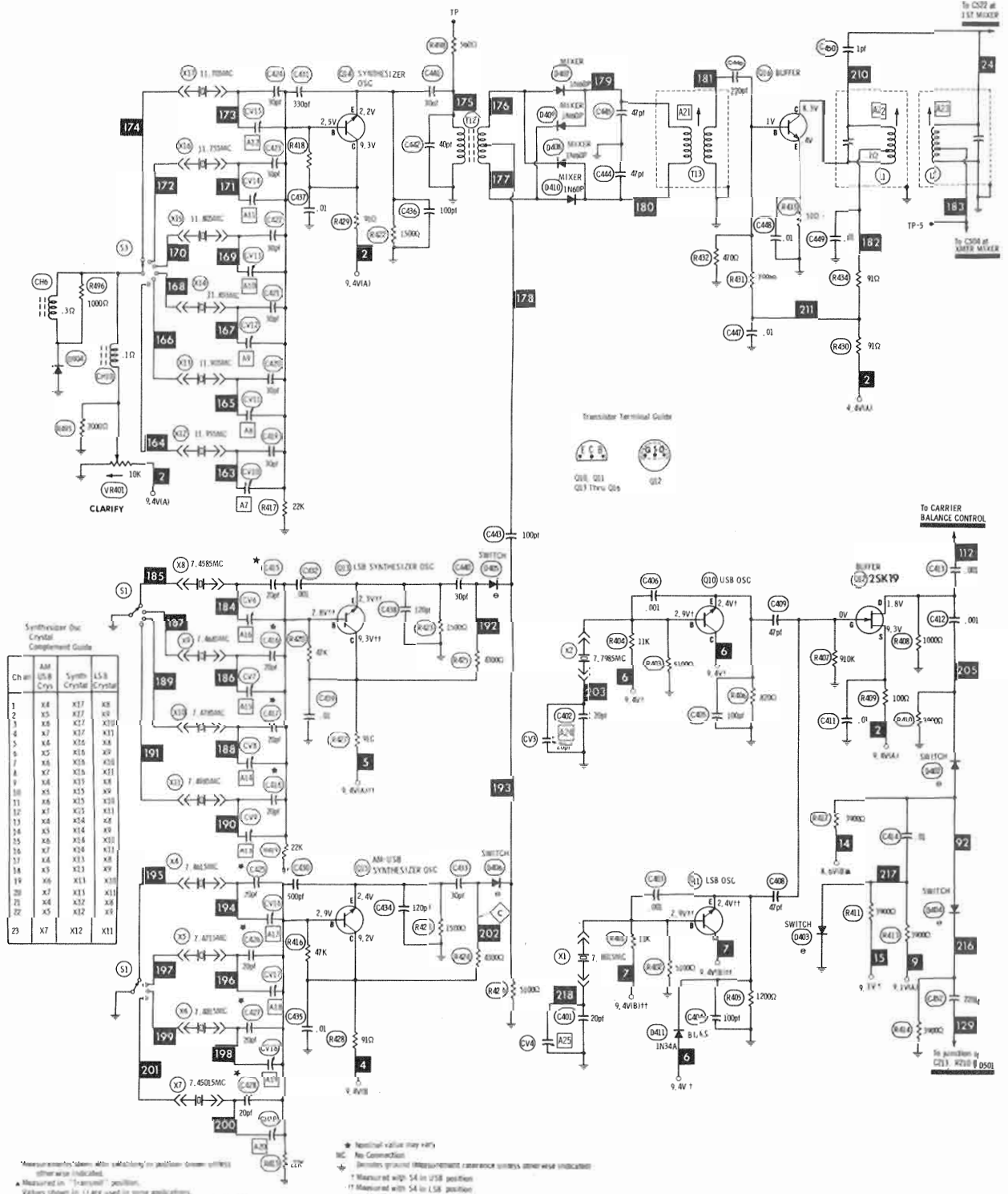


MIDLAND MODEL 13-8808

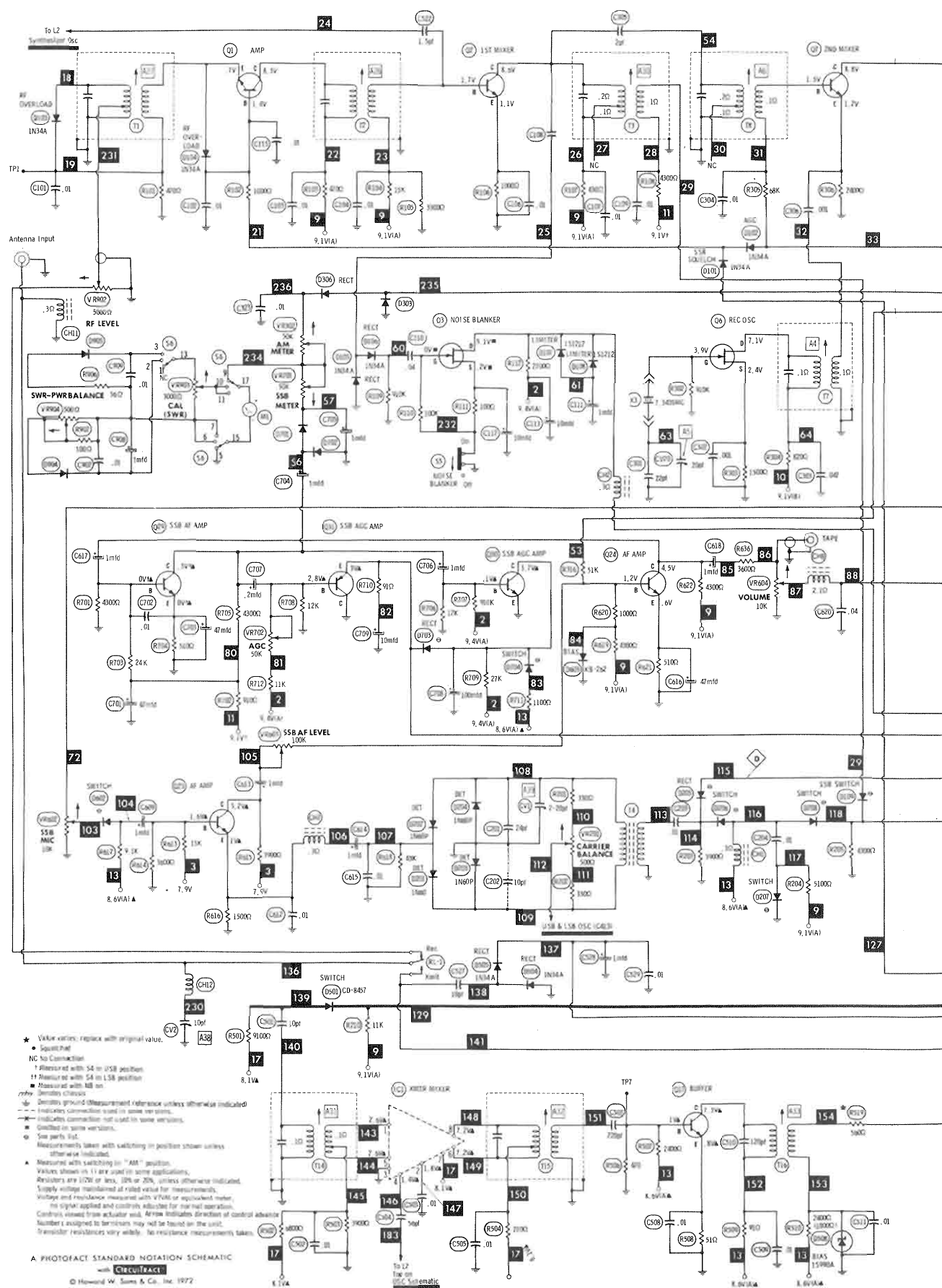


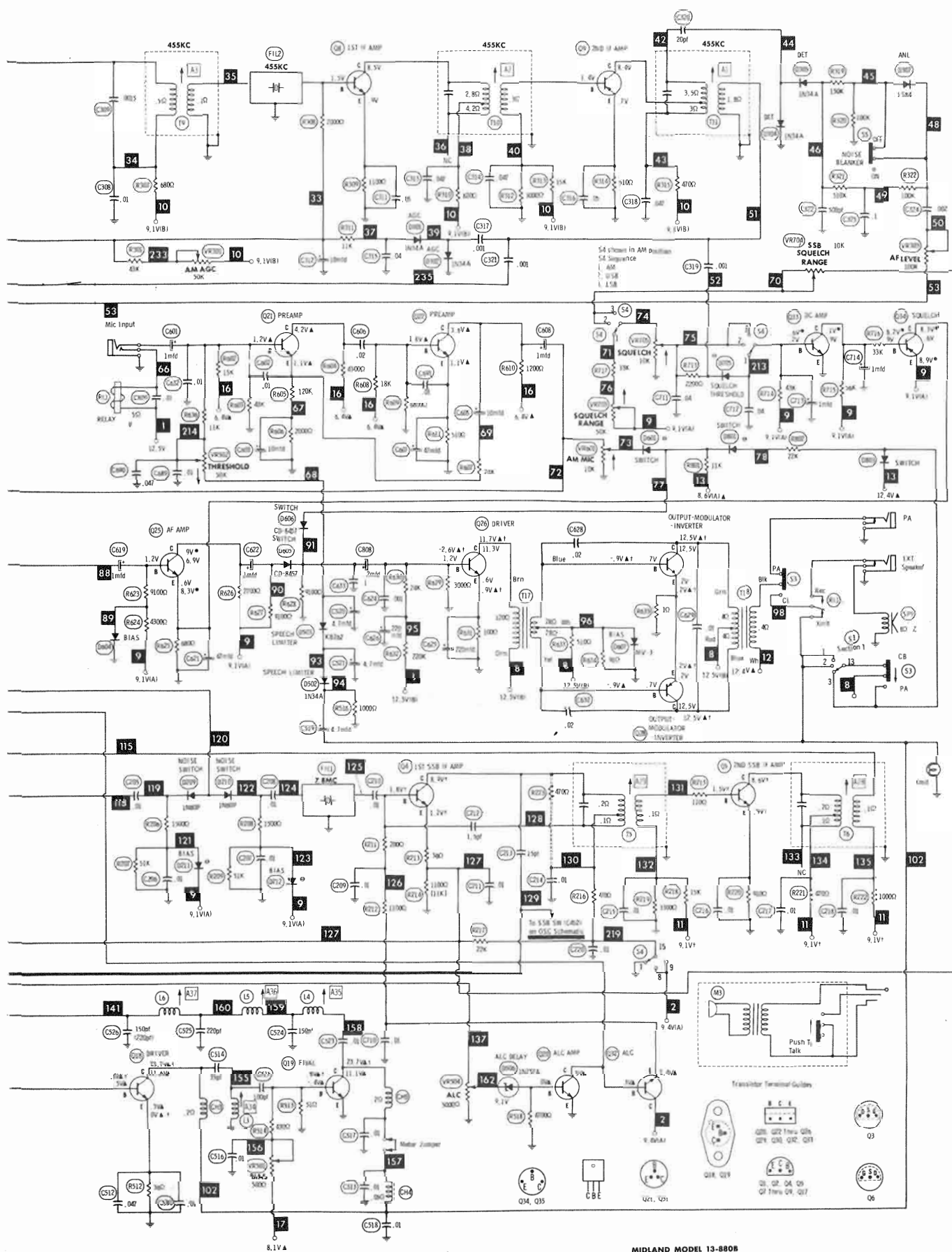






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MIDLAND MODEL 13-880B

PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
Q1	2SC710	RF Amp	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q2	2SC710	1st Mixer	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q3	2SK30	Noise Blanker	09-305021	GEFET-1	TR-FE100	HEP801	SK3116	ECG 132
Q4	2SC710	1st SSB IF Amp	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q5	2SC710	2nd SSB IF Amp	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q6	2SK19GR	Receive Oscillator	09-305014	GEFET-1	TR-FE100	HEP802	SK3116	ECG 132
Q7	2SC710	2nd Mixer	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q8	2SC710	1st IF Amp	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q9	2SC710	2nd IF Amp	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q10	2SC710	USB Oscillator	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q11	2SC710	LSB Oscillator	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q12	2SK19GR	Buffer	09-305014	GEFET-1	TR-FE100	HEP802	SK3116	ECG 132
Q13	2SC710	Lower Sideband Synthesizer Oscillator	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q14	2SC710	Oscillator	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q15	2SC710	AM-Upper Sideband Synthesizer Oscillator	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q16	2SC710	Buffer	09-302012	GE-17	TR-22	HEP56	SK3018	ECG 123A
Q17	2SC773	XMTR. Buffer	09-302078	GE-17	IRTR-63	HEP736	SK3047	ECG 123A
Q18	2SC777	XMTR. Driver	09-302050		IRTR-64	S3002	SK3049	
Q19	2SC778	Final Amp	(09-30205)		IRTR-65	S3002	SK3049	
Q20	2SC458C	ALC Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q21	2SD778	Preamp	09-303013	GE-8	TR-08	HEP641	SK3010	ECG 103A
Q22	2SC458C	Preamp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q23	2SC458C	SSB AF Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q24	2SC458C	AF Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q25	2SC458C	AF Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q26	2SC458C	Driver	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q27	2SC1014	Output-Modulator-Invertor	09-302046	GE-28	IRTR-55	HEPS3020	SK3041	ECG 152
Q28	2SC1014	Output-Modulator-Invertor	09-302046	GE-28	IRTR-55	HEPS3020	SK3041	ECG 152
Q29	2SC458C	SSB AF Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q30	2SC458C	SSB AGC Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q31	2SB778	SSB AGC Amp	09-303013	GE-2	TR-14	HEP633	SK3004	ECG 102A
Q32	2SC458C	ALC	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q33	2SC458C	Squelch Amp	09-302020	GE-10	TR-21	HEP53	SK3020	ECG 108
Q34	XA494	Squelch	09-300037	GE-21	TR-30	HEP53	SK3025	ECG 159

MIDLAND MODEL 13-880B

INTEGRATED CIRCUITS

ITEM No.	FUNCTION	MFGR. PART No.	REMARKS
IC1	XMTR Mixer	09-308007 (TA-7045M)	

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
D101	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D102	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D103	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D104	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D105	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D106	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D107	1S1212	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D108	1S1212	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D109	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D201	1N60P	1N60	1N60	SK3088	ECG 109	
D202	1N60P	1N60	1N60	SK3088	ECG 109	
D203	1N60P	1N60	1N60	SK3088	ECG 109	
D204	1N60P	1N60	1N60	SK3088	ECG 109	
D205	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D206	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D207	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D208	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D209	1N60P	1N60	1N60	SK3088	ECG 109	
D210	1N60P	1N60	1N60	SK3088	ECG 109	
D211	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

POWER RECTIFIERS & SIGNAL DIODES (cont)

ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
D212	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	9.1V Zener .7V Zener
D301	1N34A	1N34AS	1N34A	SK3088	ECG 109	
D302	1N34A	1N34AS	1N34A	SK3088	ECG 109	
D303	1N34A	1N34AS	1N34A	SK3088	ECG 109	
D304	1N34A	1N34AS	1N34A	SK3088	ECG 109	
D305	1N34A	1N34AS	1N34A	SK3088	ECG 109	
D306	1N34A	1N34AS	1N34A	SK3088	ECG 109	
D307	1S84	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D401	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D402	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D403	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D404	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D405	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D406	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D407	1N60P	1N60	1N60	SK3088	ECG 109	
D408	1N60P	1N60	1N60	SK3088	ECG 109	
D409	1N60P	1N60	1N60	SK3088	ECG 109	
D410	1N60P	1N60	1N60	SK3088	ECG 109	
D411	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D501	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D502	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D504	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D505	1N45A	1N34AS	1N34A	SK3087	ECG 109	
D506	1N757A	GEZD-9.1		SK3060	ECG 139	
D508	1S990A					
D601	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D602	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D603	KB-262					
D604	KB-262					
D605	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D606	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D607	MV-3	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D701	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D702	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D703	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D704	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D705	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D801	CD8457	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 116	
D802	10-D1	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 116	
D803	10-D1	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 116	
D804	1N757A	GEZD-9.1		SK3060	ECG 139	
D805	1N757A	GEZD-9.1		SK3060	ECG 139	
D806	1N757A	GEZD-9.1		SK3060	ECG 139	
D807	10-D1	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D901	10-D1	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D902	10-D1	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D903	1S331	GEZD-6.2		SK3058	ECG 137	
D904	1N34A	1N34AS	1N34A	SK3087	ECG 109	
D905	1N34A	1N34AS	1N34A	SK3087	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.
C111	1 16V	77-337105	MCD-10	EP15-10	WBR1-50	MT1-1	MTV1CB50	TE-1148
C112	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV1OCB50	TE-1155
C113	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV1OCB50	TE-1155
C221	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV5OCB15	TE-1160
C312	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV1OCB50	TE-1155

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

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.
C519	4.7 16V	77-337475	MCD-50	EP15-5	WBR5-50	MT1-3	MTV5CB50	TE-1152
C520	4.7 16V	77-33475	MCD-70	EP15-10	WBR10-25	MT1-6	MTV10CB50	TE-1155
C521	4.7 16V	77-33475	MCD-50	EP15-5	WBR5-50	MT1-3	MTV5CB50	TE-1152
C528	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C601	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C603	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV10CB50	TE-1155
C604	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C605	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV10CB50	TE-1155
C607	47 16V	77-337376	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C608	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C609	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C611	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV10CB50	TE-1155
C614	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C616	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C617	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C618	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C621	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C622	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C625	220 16V	77-337227	CRE481A	EA15-250	WBR250-16	MT1-23	MTV200CK15	TE-1164
C626	220 16V	77-337227	CRE481A	EA15-250	WBR250-16	MT1-23	MTV200CK15	TE-1164
C627	220 16V	77-337227	CRE481A	EA15-250	WBR250-16	MT1-23	MTV200CK15	TE-1164
C631	100 16V	77-337107	MCD-180	EP15-100	WBR100-16	MT1-23	MTV100CF15	TE-1162
C701	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C703	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C704	1 16V	77-337105	MCD-10	EP15-2	WBR1-50	MT1-1	MTV1CB50	TE-1148
C705	1 16V	77-337105	MCD-10	EP15-2	WBR1-50	MT1-1	MTV1CB50	TE-1148
C706	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C707	.22 16V							
C708	100 16V	77-337107	MCD-180	EP15-100	WBR100-16	MT1-23	MTV100CF15	TE-1162
C709	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV10CB50	TE-1155
C713	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C714	1 16V	77-337105	MCD-10		WBR1-50	MT1-1	MTV1CB50	TE-1148
C802	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C803	1000 16V	77-337108		EA15-1000	WBR1000-16	QT1-32		TE-1160
C805	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C807	47 16V	77-337476	MCD-130	EP15-50	WBR50-25	MT1-16	MTV50CB15	TE-1160
C811	10 16V	77-337106	MCD-70	EP15-10	WBR10-25	MT1-6	MTV10CB50	TE-1155
C901	100 25V	77-337107	MCD-180	EA30-100	WBR100-25	MT1-20	MTV100DB25	TE-1211
C902	100 25V	77-337107	MCD-180	EA30-100	WBR100-25	MT1-20	MTV100DB25	TE-1211
C903	1000 35V	77-440108	PRST395	EA50-1000	WBR1000-35		TC50100A	TL-1317
C908	1 16V	77-337105	MCD-10	EP15-2	WBR1-50	MT1-1	MTV1CB50	TE-1148

MIDLAND MODEL 13-880B

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C101	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C102	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C103	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C104	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C106	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C107	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C108	3							10TCC-V30
C109	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C110	.04		DBE6S4	60P-3-403		DMPS6S4	PV614	6PS-S40
C111	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C115	.1		TTP-1		CK-104		TA010	TG-P10
C201	24				DTZ-25		CN0425	10TCC-Q25
C202	10				DTZ-10	NP010	CN0410	10TCC-Q10
C203	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C204	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C205	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C206	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C207	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C208	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C209	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C210	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C211	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C212	1.5		GPD C0J1R5D		DTZ-1R5	NP01P5	CN0515	10TCC-V15
C213	15				DTZ-15	NP015	CN0415	10TCC-Q15
C214	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C215	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C216	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C217	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C218	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C219	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C220	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C301	20				DTZ-20	NP020	CN0420	10TCC-Q20
C302	22				DTZ-20	NP020	CN0420	10TCC-Q20
C303	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C304	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10

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.	ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C305	2		GPD C0J2R2K		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C306	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C307	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C308	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C309	.0015			DM-19-102J	CPR-1000J	CD19F102J500	SX210	424ME1001J501
C311	.05		GBE6S5	6DP-3-503	DPM6S5	PV615	6PS-S50	
C313	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C314	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C315	.04				DD-403		GP140	
C316	.05		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C317	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C318	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C319	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C320	20			CCTO-200	DTZ-20	NP020	CN0420	10TCC-Q20
C322	500		GPD X5F501K	CCD-501	DM-501	GP500	GP350	10TS-T50
C323	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C324	.002		GPD X5F202K	CCD-202	DM-202	GP2000	GP220	2SS-D20
C325	.1		DBF4P1	4DP-3-104		DPM54P1	PVC401	4PS-P10
C401	20			CCTO-200	DTZ-20	NP020	CN0420	10TCC-Q20
C402	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C403	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C404	100			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C405	100			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C406	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C407	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C408	47			CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C409	47			CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C410	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C411	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C412	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C413	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C414	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C415	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C416	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C417	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C418	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C419	30 N470			*	DTN-20	N20	CN7420	10TCT-Q30
C420	30 N470			*				10TCT-Q30
C421	30 N470			*				10TCT-Q30
C422	30 N470			*		*		10TCT-Q30
C423	30 N470			*		*		10TCT-Q30
C424	30 N470			*		*		10TCT-Q30
C425	20			CCTO-200	DTN-20	NP020	CN0420	10TCC-Q20
C426	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C427					DTN-20	N20	CN7420	10TCU-Q20
C428	20 N750				DTN-20	N20	CN7420	10TCU-Q20
C429	27			CCTO-300	TCZ-30			10TCC-Q30
C430	500			DM-16-471	CPR-470J	CD15F471J500	SX347	MS-347
C431	330		GPD X5F301K	CCD-301	DM-301	GP300	GP330	10TS-T30
C432	500			DM-16-471	CPR-470J	CD15F471J500	SX347	MS-347
C433	30			CCTO-300	TCZ-30			10TCC-Q30
C434	120			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C435	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C436	100			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C437	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C438	120			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C439	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C440	30			CCTO-300	TCZ-30			10TCC-Q30
C441	30			CCTO-300	TCZ-30			10TCC-Q30
C442	40				TCZ-39		CN0439	10TCC-Q39
C443	100			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C444	47			CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C445	47			CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C446	220		GPD X5F221K	CCD-221	DD-221	GP220	GP322	10TS-T22
C447	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C448	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C449	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C450	1		GPD C0J1ROD		TCZ-1		CN0510	10TCC-V10
C451	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C452	220		GPD X5F221K	CCD-221	DD-221	GP220	GP322	10TS-T22
C453	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C454	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C455	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C501	10			CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C502	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C503	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C504	56			DM-15-1560J	CPR-56J		SX456	MS456
C505	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C506	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C507	220		GPD X5F221K	CCD-221	DD-221	GP220	GP322	10TS-T22
C508	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C509	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C510	120			CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C511	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C512	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50

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.	ARCO/ELMENC0 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C513	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C514	35			CCT0-330	DTZ-33	NP033	CN0433	10TCC-Q33
C515	100			CCT0-101	DTZ-100	NP0100	CN0310	10TCC-T10
C516	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C517	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C518	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C522	1.5		GPD C0J1R5D		DTZ-1R5	NP01P5	CN0515	10TCC-V15
C523	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C524	150		GPD X5F151K	CCD-151	DD-151	GP150	GP315	10TS-T15
C525	220		GPD X5F221K	CCD-221	DD-221	GP220	GP322	10TS-T22
C526	150		GPD X5F151K	CCD-151	DD-151	GP150	GP315	10TS-T15
C527	10			CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C529	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C530	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C602	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C606	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C610	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C612	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C615	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C620	.04				DD-403		GP140	
C624	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C628	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C629	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C632	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C689	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C690	.047		TTP-05	CCD-503	CK-503	MGP05	TA150	TGL-S50
C691	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C702	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C710	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C711	.04				DD-403		GP140	
C712	.04				DD-403		GP140	
C801	.001	#13-130002						
C806	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C808	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C809	.1		TTP-1		CK-104		TA010	TG-P10
C904	.005 150V		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C905	.0022 150V		GPD X5F222K	CCD-222	DD-222	GP2200	GP222	10TS-D22
C906	.0022 150V		GPD X5F222K	CCD-222	DD-222	GP2200	GP222	10TS-D22
C907	.01 150V		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C909	.01 150V		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
CV1	20 (1)	#13-123015						
CV2	20 (1)	#13-123015						
CV3	20 (1)	#13-123015						
CV4	20 (1)	#13-123015						
CV6	20 (1)	#13-123015						
CV7	20 (1)	#13-123015						
CV8	20 (1)	#13-123015						
CV9	20 (1)	#13-123015						
CV10	30 (1)	#13-123027						
CV11	30 (1)	#13-123027						
CV12	30 (1)	#13-123027						
CV13	30 (1)	#13-123027						
CV14	30 (1)	#13-123027						
CV15	30 (1)	#13-123027						
CV16	20 (1)	#13-123015						
CV17	20 (1)	#13-123015						
CV18	20 (1)	#13-123015						
CV19	20 (1)	#13-123015						
CV20	20 (1)	#13-123015						

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

Midland Part Number

(1) Nominal Value

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.
VR201	Carrier Balance	500	13-164041	TSV-500 or T-500		X201R501B	MTC52L1
VR301	AM AGC	50K	13-164038	TSV-50K (1) or T-50K (1)		X201R503B (1)	MTC54L1 (1)
VR302	AM "S" Meter Adjust	50K	13-164038	TSV-50K (1) or T-50K (1)		X201R503B (1)	MTC54L1 (1)
VR303	AF Level Adjust	100K	13-164039	TSV-100K (1) or T-100K (1)		X201R104B (1)	MTC15L1 (1)
VR401	Clarifier	10K		F1-10K (2) SSK014	A47-10K-S (2) KSS-3 or [NP-10K-S (2), UP-C-400]	Q11-116 (2) or [BU1(2), CF9, SS1, DC1]*	RU14L, SL36 (2), SL3250 or [UA14L(2), SK1000] or U20 (2)

MIDLAND MODEL 13-880B

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	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
VR501	Bias	500	13-164062	TSV-500 (1) or T-500 (1)		X201R501B (1)	MTC52L1 (1)
VR502	Threshold	20K		T-20K (1) or TSV-25K (1)		X201R253B (1)	MTC24L1 (1)
VR504	Automatic Level Adjust (ALC)	5000		TSV-5K (1) or T-5000 (1)		X201R502B (1)	MTC53L1 (1)
VR601	AM Mic Adjust	10K	13-164012	TSV-10K or T-10K		X201R103B	MTC14L1
VR602	"SSB" Mic Adjust	10K	13-164012	TSV-10K or T-10K		X201R103B	MTC14L1
VR603	"SSB" AF Level	100K	13-164039	TSV-100K or T-100K		X201R104B	MTC15L1
BR604	Squelch	10K (A)	13-183123				
VR705	Volume/Switch	10K (B)					
VR701	SSB "S" Meter Adjust	50K	13-164038	TSV-50K (1) T-50K (1)		X201R503B (1)	MTC54L1 (1)
VR702	AM "AGC" Adjust	50K	13-164038	TSV-50K (1) T-50K (1)		X201R503B (1)	MTC54L1 (1)
VR703	AM Squelch Adjust	100K	13-164039	TSV-100K (1) T-100K (1)		X201R104B (1)	MTC15L1 (1)
VR704	Squelch Range	10K	13-164012	TSV-10K (1) T-10K (1)		X201R103B (1)	MTC14L1 (1)
VR901	Voltage Adjust	200	13-164049	T-200 or TSV-250		X201R251B	MTC22L1
VR902	RF Gain	5000	13-183118	F1-5000 (2) SSK014	A47-3000-S (2) KSS-3 or [NP-3000-S (2) UP-C-400]	Q11-112 (2) or [BU1 (2), CF59, SS1, DC1]*	UA33L (2), SK1000 or UB (2) or [RU53L, SL36 (2), SL3250]
VR903	"SWR" Calibrate	3000					
VR904	SWP-PWR Balance	500		TSV-500 (1) T-500 (1)		X201R501B (1)	MTC52L1 (1)

(1) Enlarge mounting hole.

(2) Cut off one of the end terminals and bend to fit "PC" board.

* SNAPTRON.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
F635	1 1W	WS1	77-304109

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
CH1	RF Choke (22uh)	13-178060	16-6022	4626	TA311
CH2	RF Choke (22uh)	13-178060	16-6022	4626	TA311
CH3	RF Choke (3uh)	13-178082		74F336AP	T816
CH4	RF Choke (.65uh)	13-178083	19-2006	4590	T803
CH5	RF Choke (3uh)	13-178082		74F336AP	T816
CH6	RF Choke (15uh)	13-178061	19-2018	4624	T862
CH7	RF Choke (22uh)	13-178060	16-6022	4626	TA311
CH8	RF Choke (150uh)	13-178084	19-2026	74F154AP	T868
CH11	RF Choke (22uh)	13-178060	16-6022	4626	TA311
CH12	RF Choke (.85uh)	13-178074	19-2008	4594	TA812
L1	Synth. Buffer (Pri.)	13-090176			
L2	Synth. Buffer (Sec.)	13-090177			
L3	Xmtr. Driver	13-176182			
L4	Final	13-176183			
L5	Pi Network	13-176184			
L6	Pi Network	13-176185			
T1	Rec. Antenna Matching	13-176272			
T2	RF	13-176273			
T3	SSB Output IF	13-093167			
T4	Balanced Mod. Output	13-094002			
T5	SSB Input IF	13-093167			
T6	SSB Interstage IF	13-093167			
T7	Rec. Osc.	13-170154			
T8	1st Mixer Output	13-093167			
T9	Input IF	13-090173			
T10	Interstage IF	13-090174	16-9026	2066	
T11	Output IF	13-090175	16-9028	8518	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)(cont)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
T12	Synthesizer Mixer Input	13-094003			
T13	Synthesizer Mixer Output	13-093168			
T14	Xmtr. Mixer Input	13-093169			
T15	Xmtr. Mixer Output	13-093170			

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
CH10	.95A (Max)	.3	2.5mh	(K-11)				

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD Part No.	
T17	3	1 CT		19-096104				

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC.	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T18	11.5CT	8	13-096105				

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T901	117VAC @ 310ma	36VAC @ 950ma	13-096105				

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3 1/2" PM 8 ohms	13-060050	3A0528	

MIDLAND MODEL 13-880B

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.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1	1.5 Amp	13-204003	13-159045	1 1/2 AGC	HKP	31201.5	342001A
F2	1 Amp (Pigtail)	13-204001		GJV1		318001	

MISCELLANEOUS

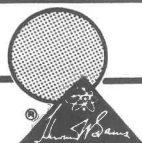
ITEM No.	PART NAME	PART No.	NOTES
FIL 1	Filter, Crystal	13-179011	7.8MC
FIL 2	Filter, Ceramic	13-179016	455K
M1	Meter	13-200020	"RF-S-SWR"
M2	Clock, Digital	13-079001	
M3	Microphone	13-038034	
RL1	Relay	13-105006	(XMIT-REC)
S1	Switch, Power	13-183090	
S2	Switch, Selector	13-180056	
S3	Switch, PA-CB	13-183089	
S4	Switch, Mode	13-180043	
S5	Switch, Noise Blanker	13-183091	
S6	Switch, Meter	13-183091	
X1	Crystal	13-128165	7.8015MC
X2	Crystal	13-128166	7.7985MC
X3	Crystal	13-128167	7.3435MC
X4	Crystal	13-128168	7.4615MC
X5	Crystal	13-128169	7.4714MC
X6	Crystal	13-128170	7.4815MC
X7	Crystal	13-128171	7.5015MC
X8	Crystal	13-128172	7.4585MC
X9	Crystal	13-128173	7.4635MC
X10	Crystal	13-128174	7.4785MC
X11	Crystal	13-128175	7.4985MC
X12	Crystal	13-128176	11.705MC
X13	Crystal	13-128177	11.755MC
X14	Crystal	13-128178	11.805MC
X15	Crystal	13-128179	11.855MC
X16	Crystal	13-128180	11.905MC
X17	Crystal	13-128181	11.955MC

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

ITEM	PART No.	ITEM	PART No.
Cabinet	13-010128	Knob, RF Gain	13-113001
Cabinet, Front	13-010108	Knob, Selector	13-1150038
Knob, Control	13-113003	Knob, Squelch	13-115029
		Knob, Volume	13-110102

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8524 (Stranded) Available in 12 Colors
	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)
Ignition Noise Suppression	Use BELDEN No. 8496 3-Conductor, 1 Shielded, for Press-to-Talk (Vinyl)
Bonding Strap	Use BELDEN No. 7300-Series Spark-Plug Sets
	8661 (3/8 In.)



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.



MODEL BB-123

ROBYN MODEL BB-123

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1, A2, A3, A5, A6, A16	GC ELECTRONICS
A4, A7 thru A15	#8868, 9089
	#8606L, 9440

RECEIVER

Connect AC VTVM across speaker voice coil. Set Volume control fully clockwise and Squelch control fully clockwise.

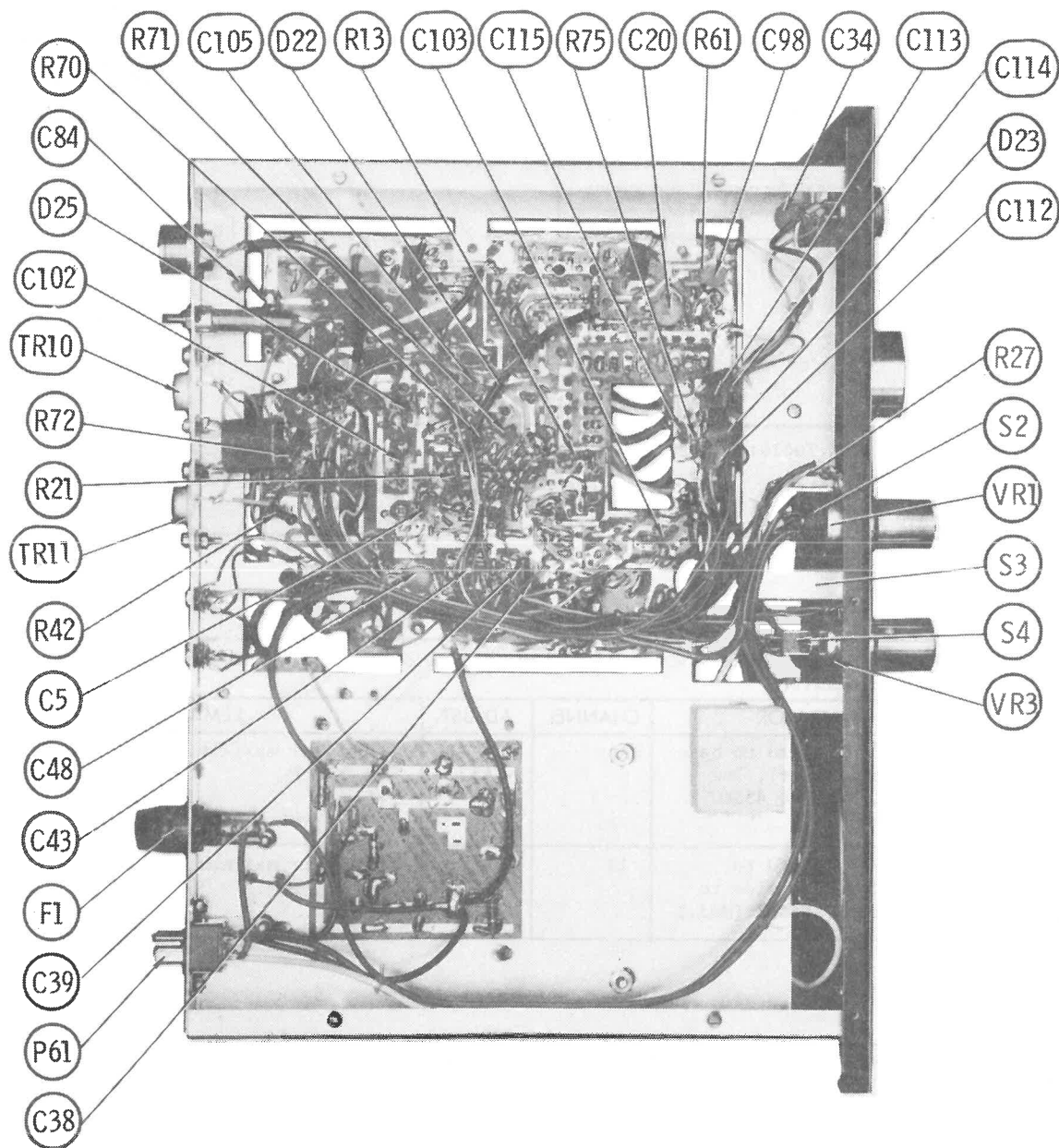
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side through .01mfd to base of TR14 (2nd Rec. Mixer), low side to ground. Tune to 455KC (Mod.).	Any	A1, A2, A3	Adjust for maximum.
High side through .01mfd to Antenna connector, low side to ground. Tune to 27.085MC (Mod.).	11	A4 thru A9	Adjust for maximum.

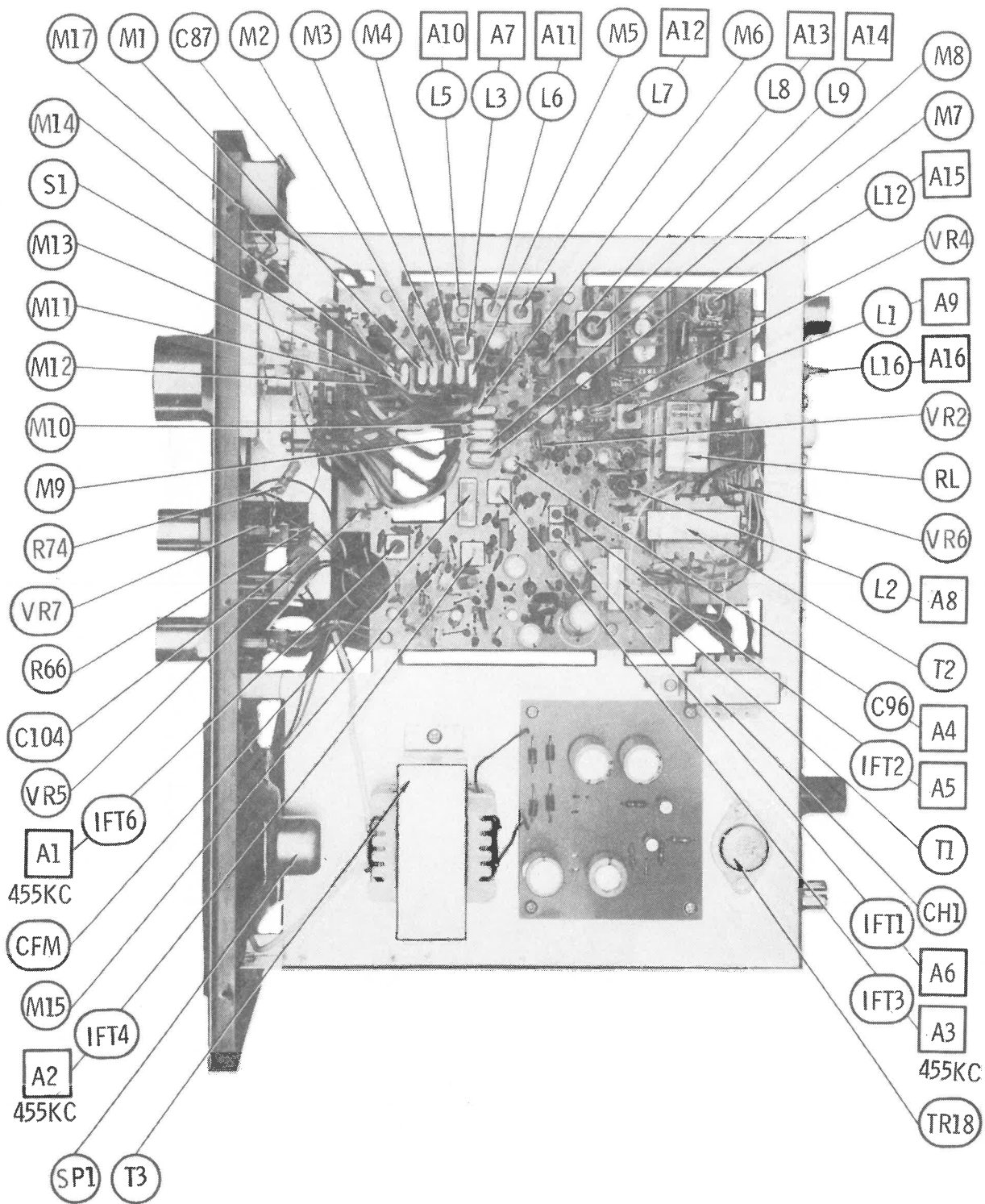
TRANSMITTER

INDICATOR	ADJUST	REMARKS
RF Wattmeter or Field Strength Meter.	A10 thru A15	Adjust for maximum.
0-500ma Ammeter	A15	Disconnect meter mumper and insert meter. Readjust A15 for 5 watts Input to TR-17 (Final Amp)
Television (Ch. 2)	A16	Adjust for minimum interference.

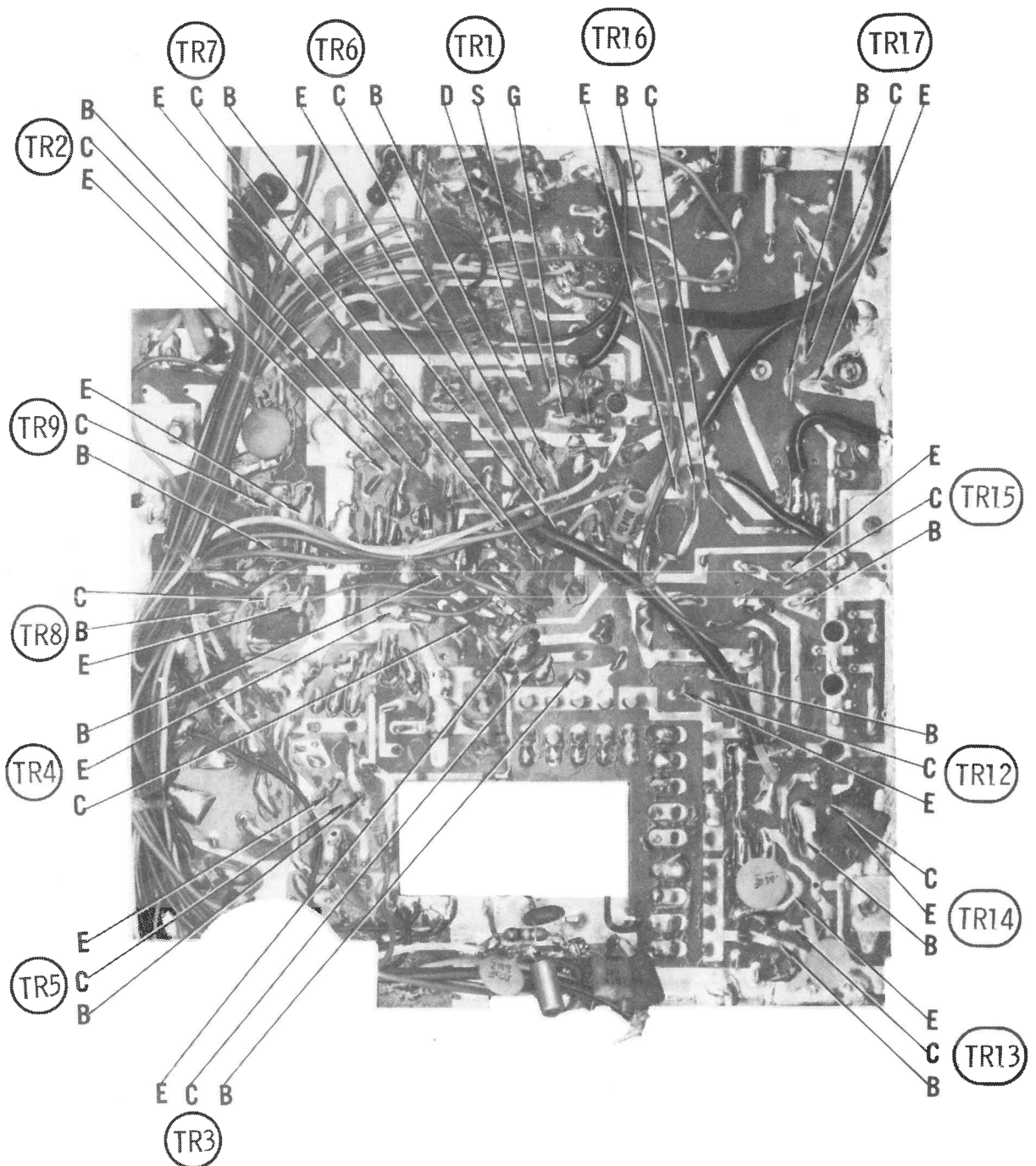
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

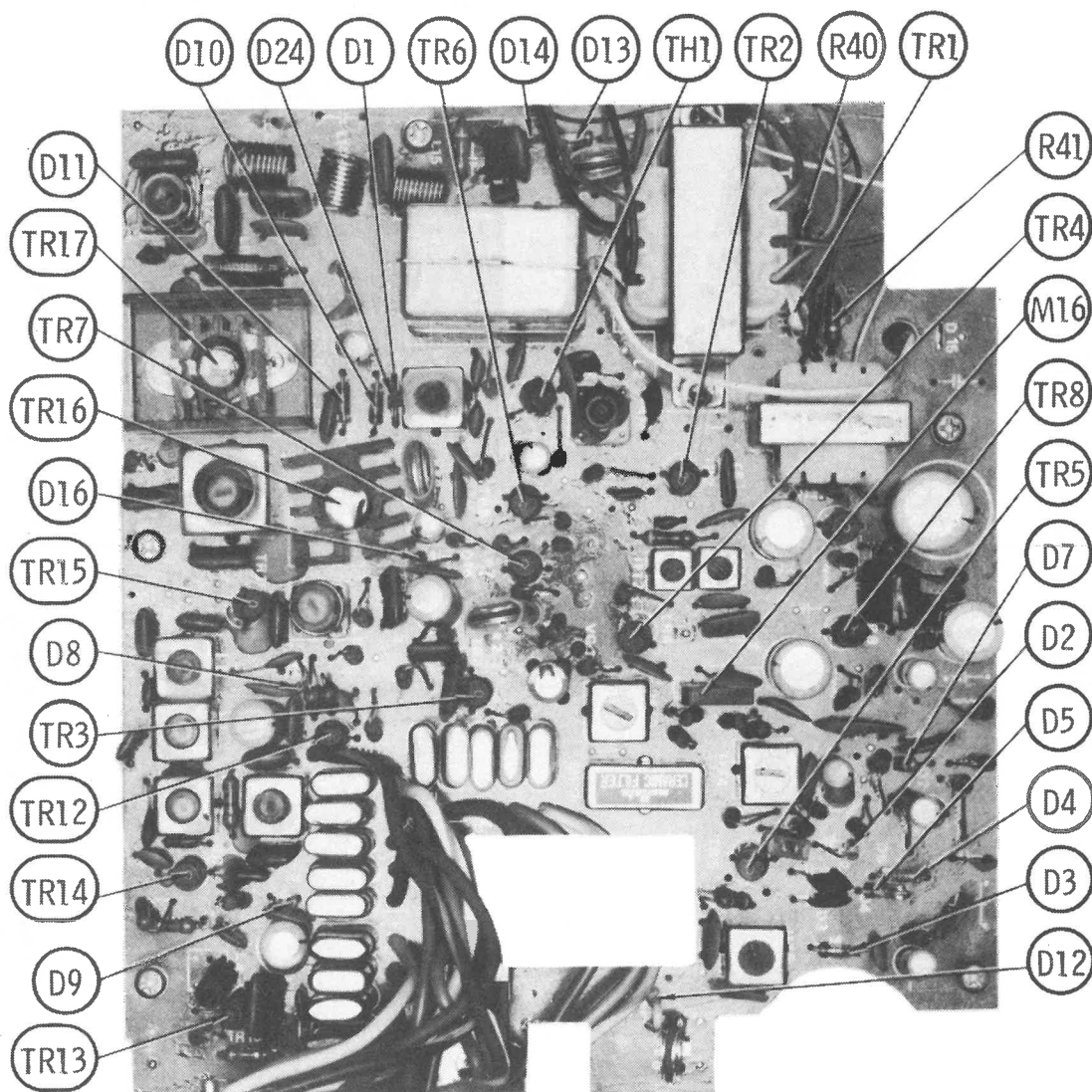
© 1972 Howard W. Sams & Co., Inc. Printed in U. S. of America 2CY045

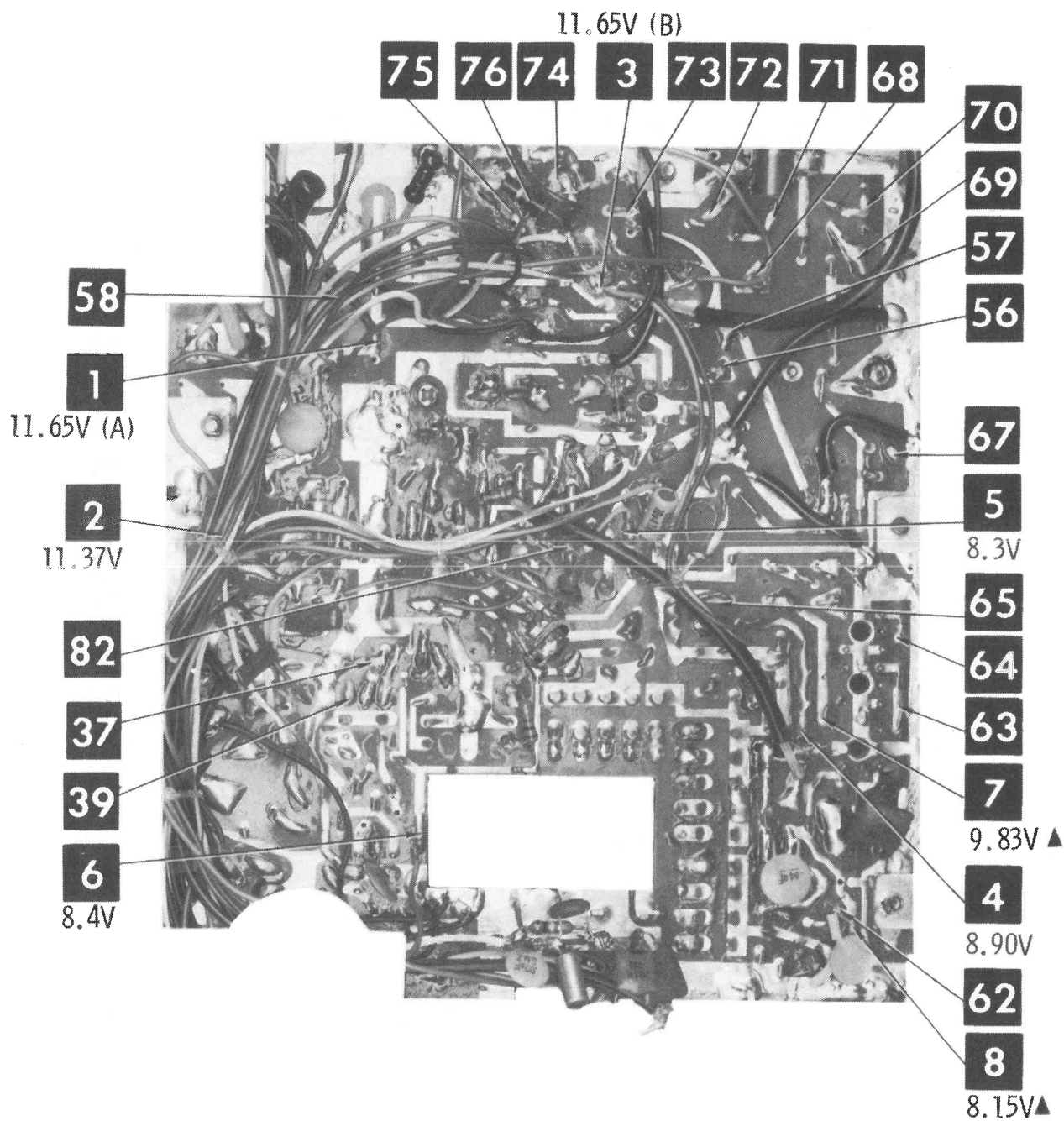


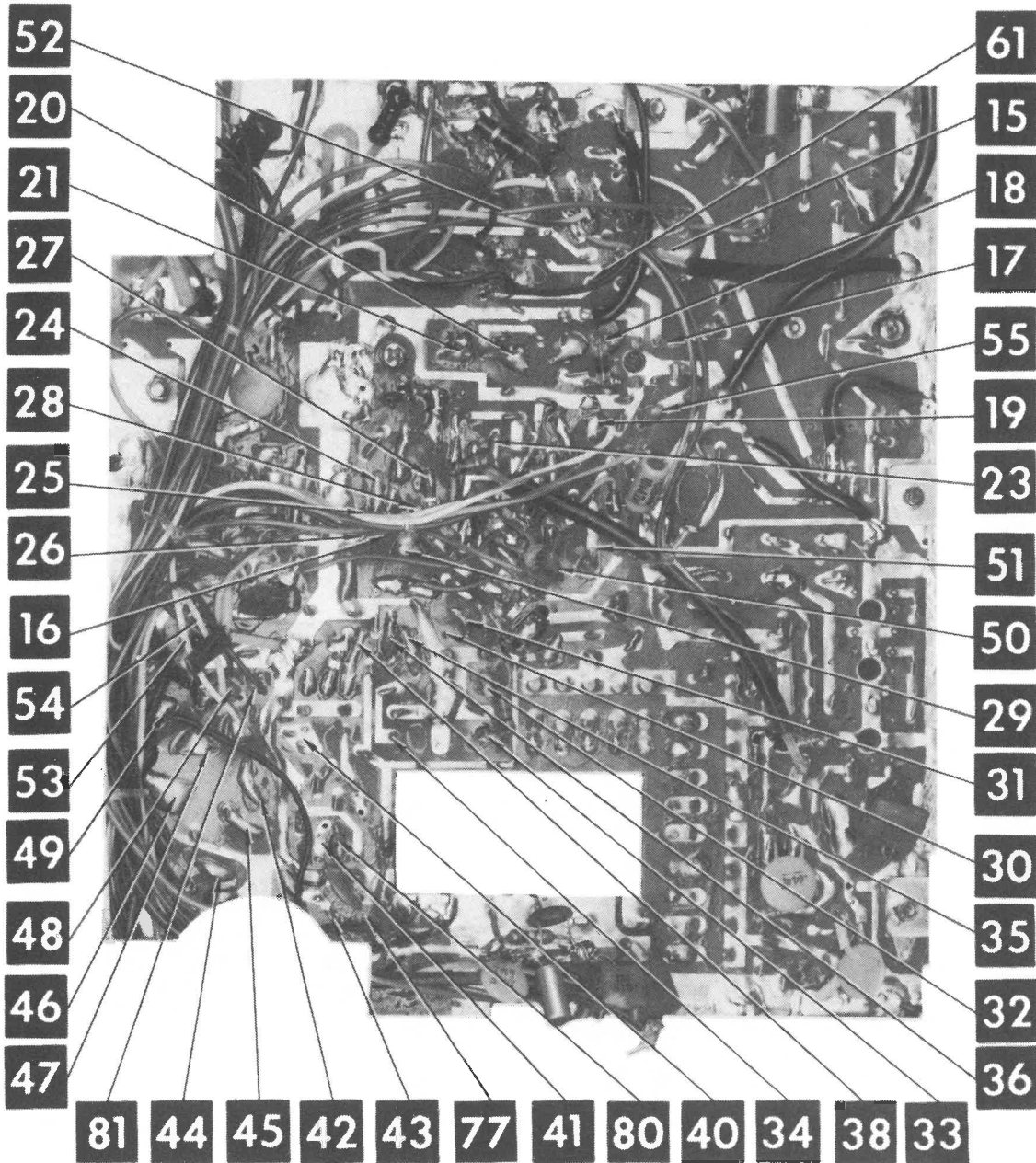


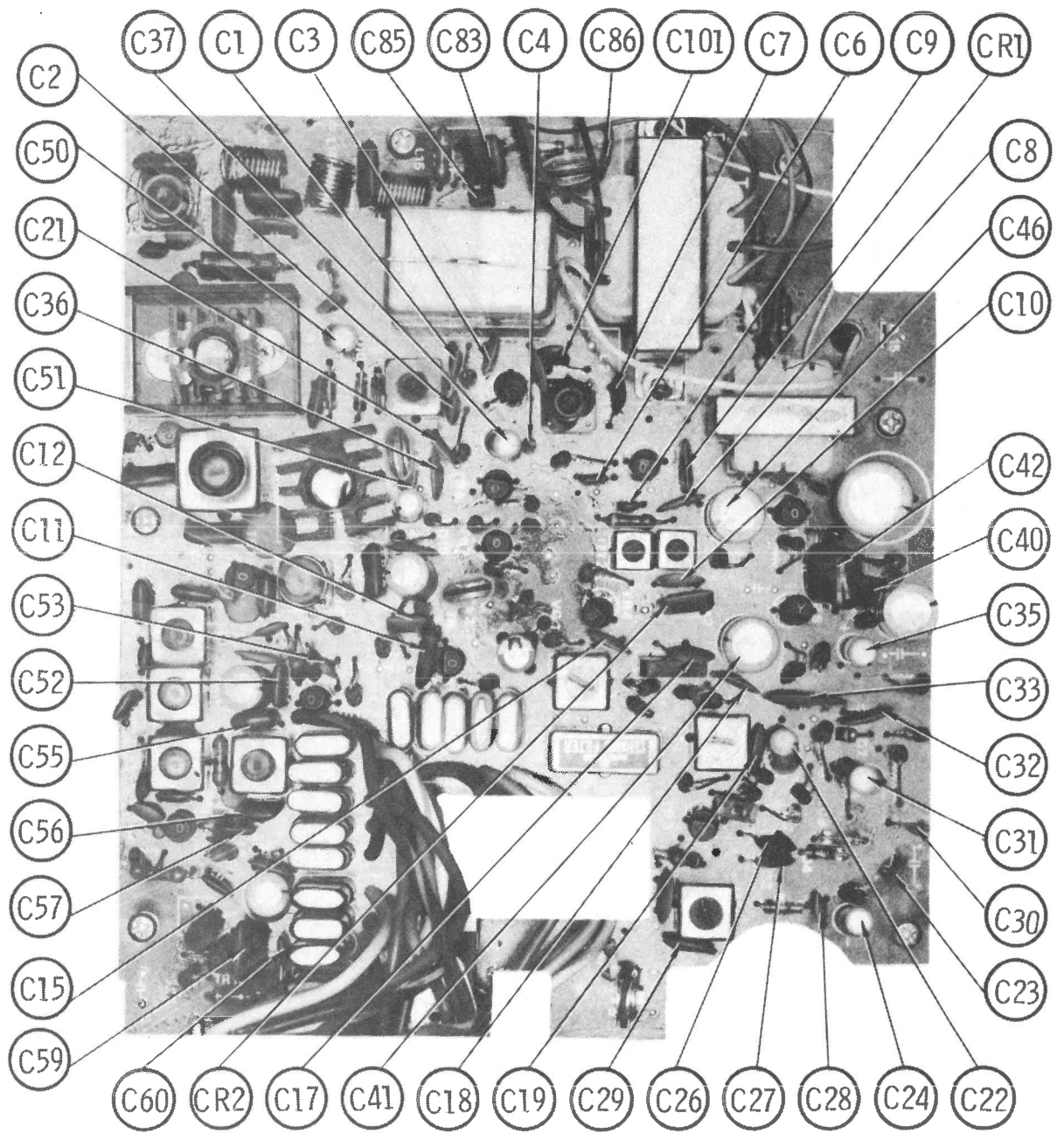
ROBYN MODEL BB-123

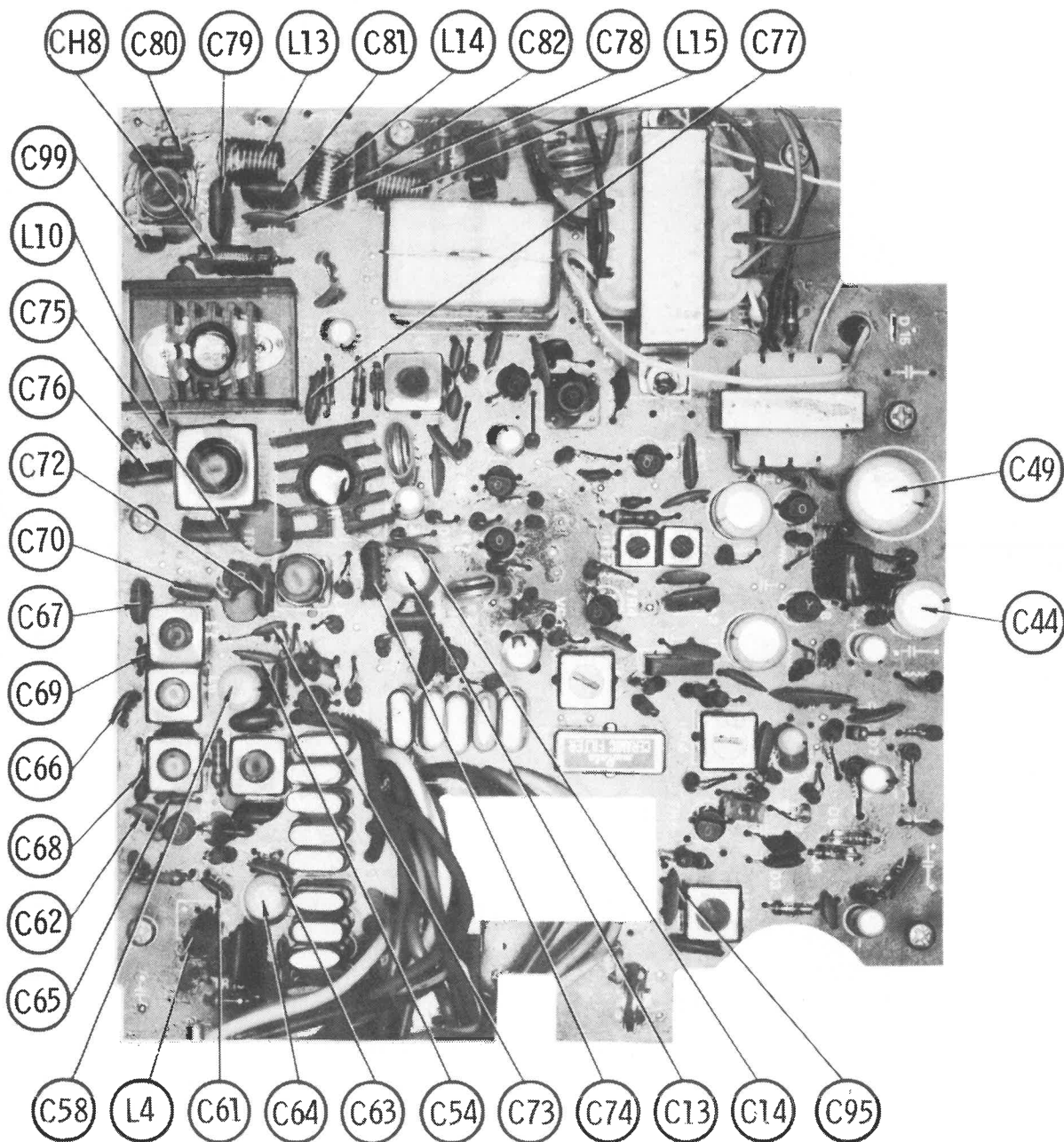


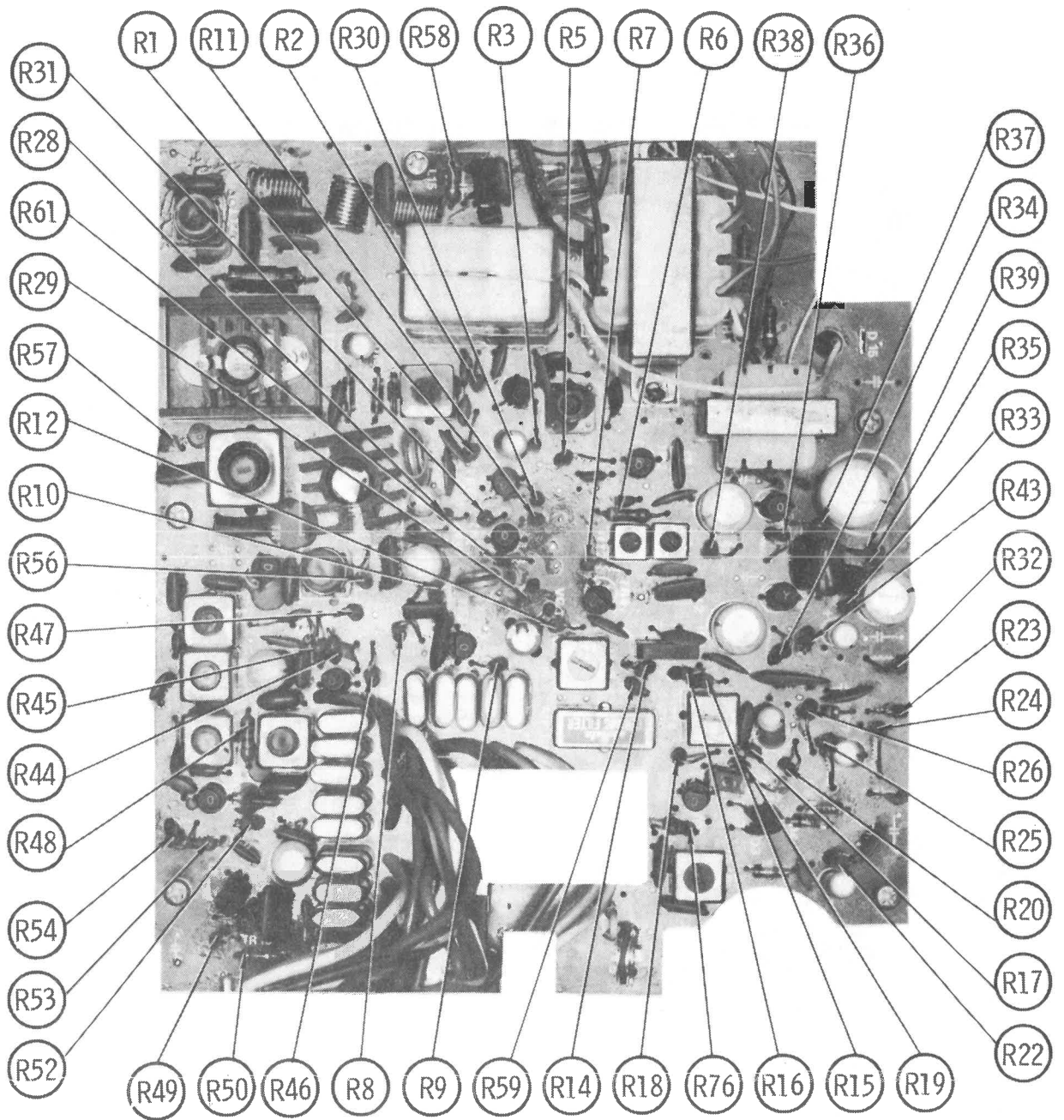


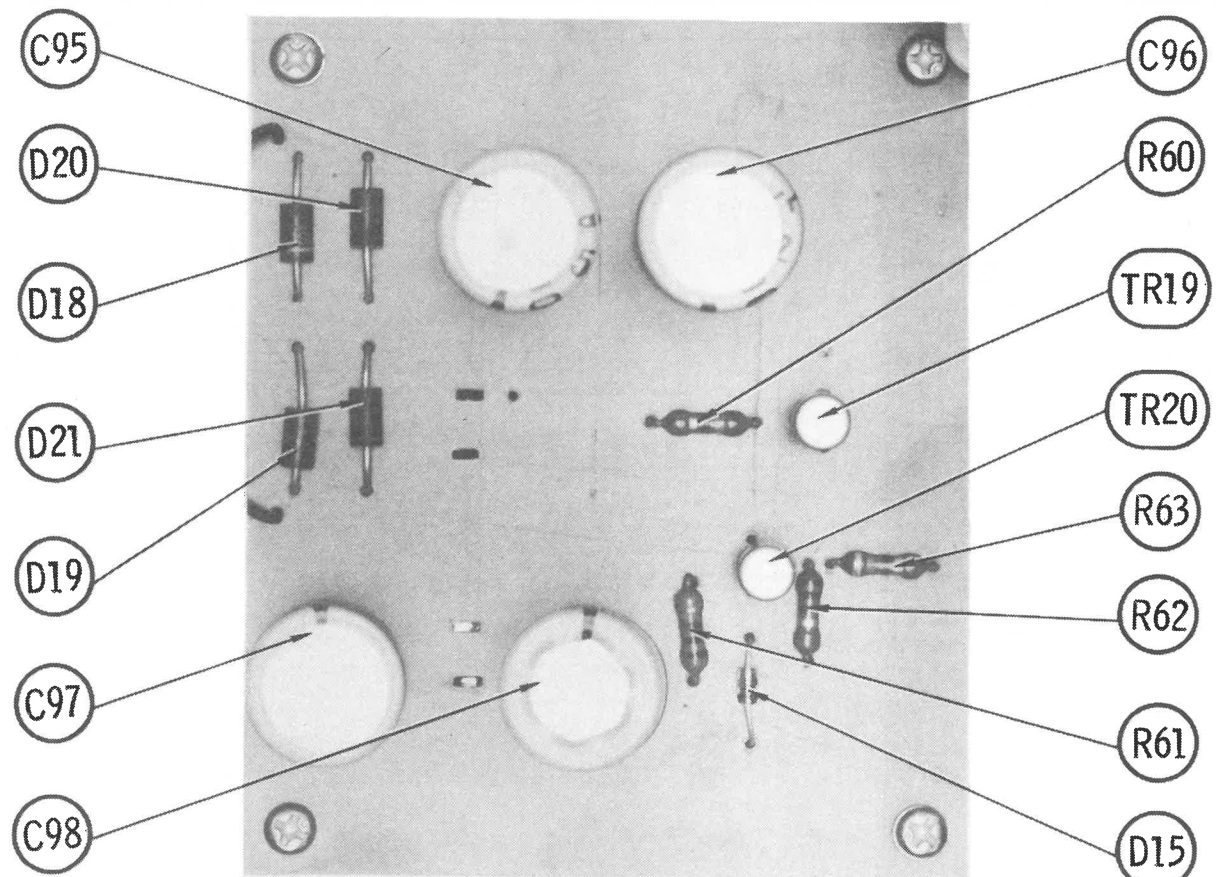
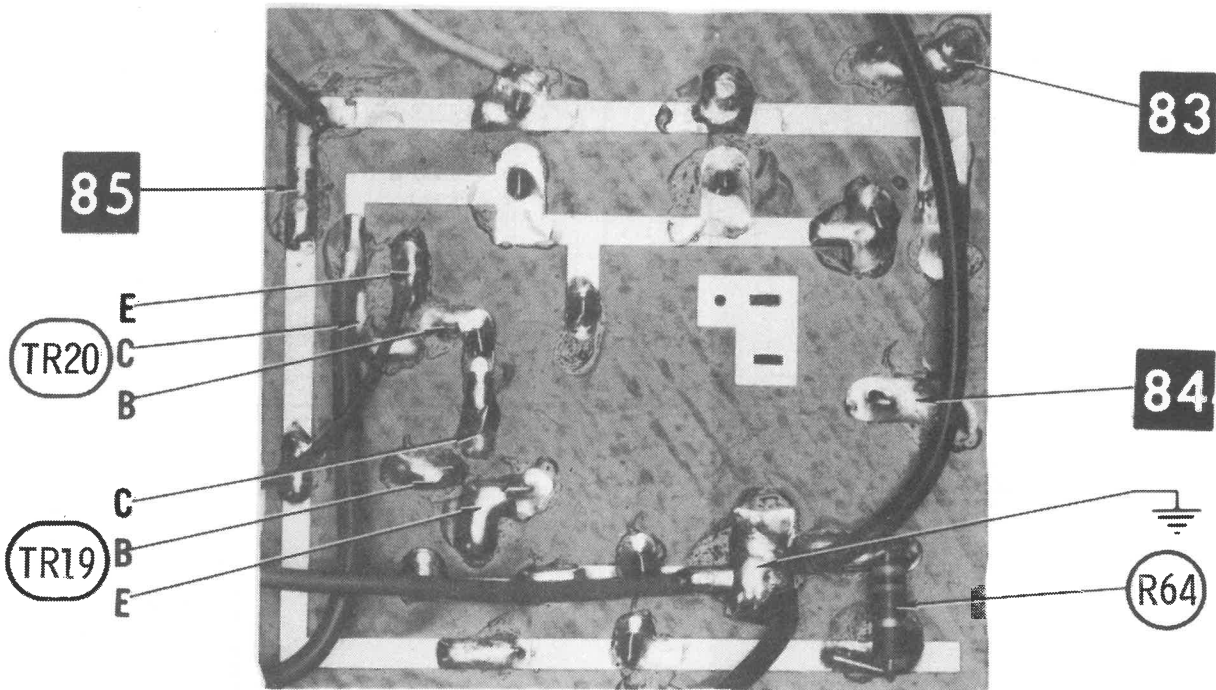


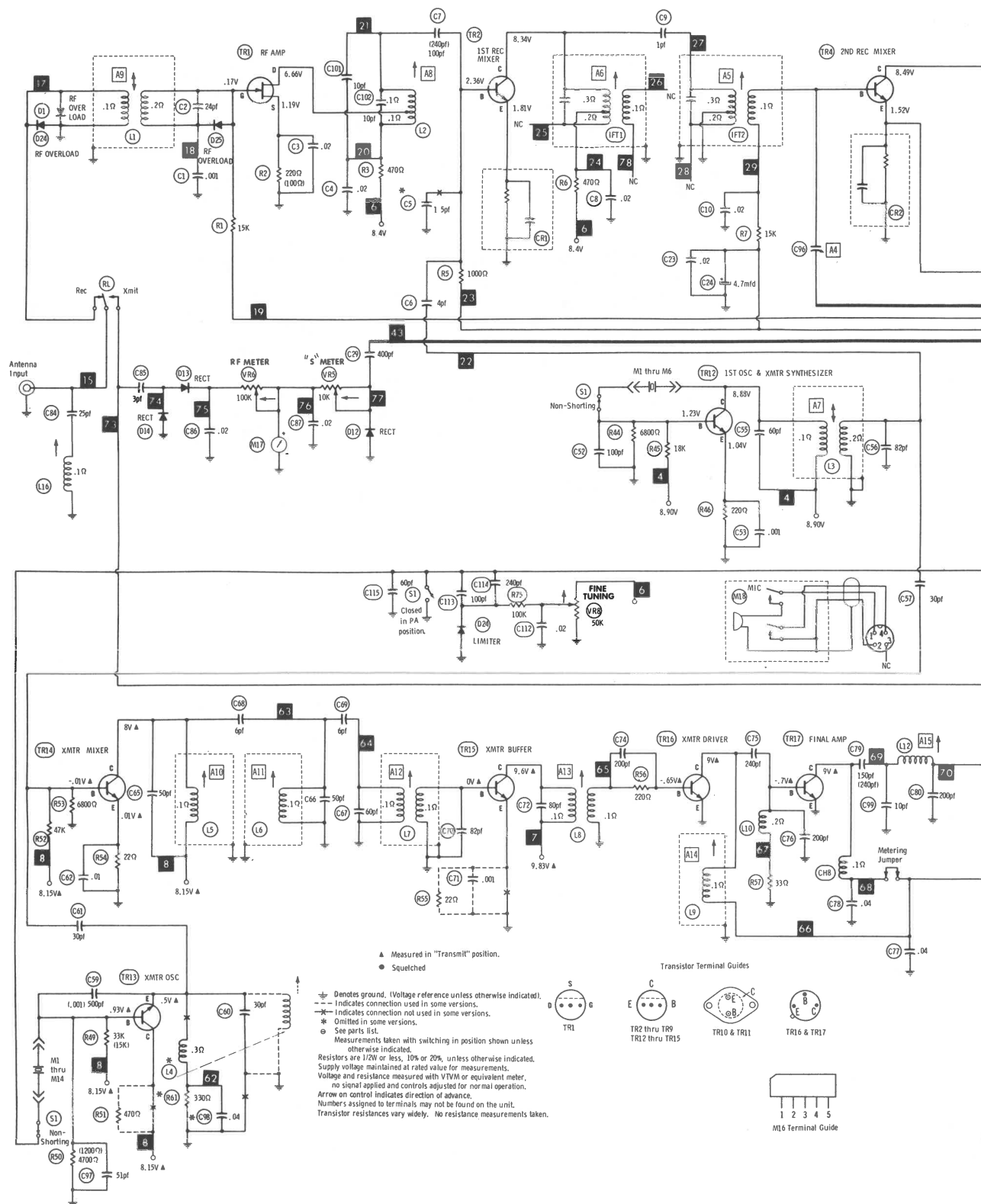




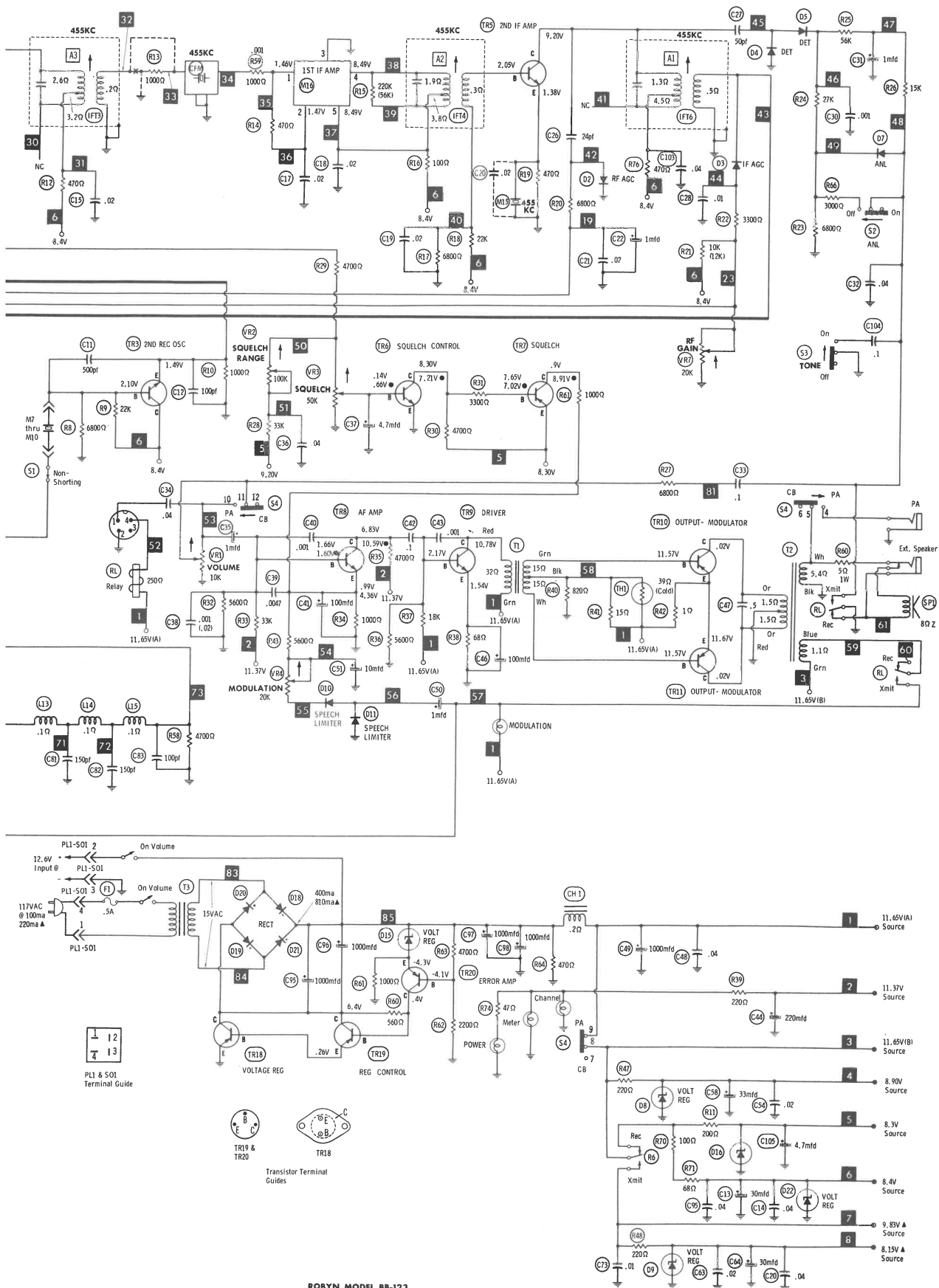








A PHOTOFAC STANDARD NOTATION SCHEMATIC
with **CIRCUITRASE**
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PARTS LIST AND DESCRIPTION

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

TRANSISTORS

ITEM No.	TYPE No.	FUNCTION	REPLACEMENT DATA					
			MFGR. PART No.	GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MOTOROLA PART No.	RCA PART No.	SYLVANIA PART No.
TR1	2SK19(GC)	RF Amp		GE-FET-1	TR-FE-100	HEP802	SK3116	ECG 132
TR2	2SC394(Y)	1st Rec. Mixer		GE-17	TR-22	HEP53	SK3018	ECG 107
TR3	2SC371(O)	2nd Rec. Osc.		GE-17	IRTR-51	HEP50	SK3018	ECG 123A
TR4	2SC371(O)	2nd Rec. Mixer		GE-17	IRTR-51	HEP50	SK3018	ECG 123A
TR5	2SC371(O)	2nd IF Amp		GE-17	IRTR-51	HEP50	SK3018	ECG 123A
TR6	2SC372(O)	Squelch Amp		GE-17	IRTR-51	HEP50	SK3018	ECG 123A
TR7	2SA562	Squelch		GE-21	TR-19	HEP51	SK3025	ECG 159
TR8	2SC1000(Y)	AF Amp		GE-18	TR-24	HEP738	SK3020	ECG 123A
TR9	2SC735(O)	Driver		GE-10	TR-21	HEP53	SK3024	ECG 123
TR10	2SB463(R)	Output-Modulator		GE-53		HEP643	SK3052	ECG 131
TR11	2SB463(R)	Output-Modulator		GE-53		HEP643	SK3052	ECG 131
TR12	2SC371(O)	1st Rec. Osc.- Xmtr. Synth. Osc.		GE-17	IRTR-51	HEP50	SK3018	ECG 123A
TR13	2SC371(O)	Xmtr. Osc.		GE-17	IRTR-62	HEP50	SK3046	ECG 123A
TR14	2SC394(Y)	Xmtr. Mixer		GE-17	IRTR-62	HEP53	SK3046	ECG 107
TR15	2SC735(O)	Xmtr. Buffer		GE-10	IRTR-63	HEP53	SK3047	ECG 123A
TR16	2SC781	Xmtr. Driver		GE-20	IRTR-64	HEPS3001	SK3047	ECG 128
TR17	2SC799	Final Amp		GE-28	IRTR-65	HEPS3002	SK3048	
TR18	2SB426	Voltage Reg.		GE-16	TR-01	HEP232	SK3009	ECG 121
TR19	2SB415	Reg. Control		GE-53		HEP238	SK3004	ECG 158
TR20	2SB56	Error Amp		GE-2	TR-14	HEP632	SK3004	ECG 102A

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFGR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
D1	1S1588	GE-300		SK3100	ECG 177	
D2	1N60	1N60	1N60	SK3088	ECG 109	
D3	1N60	1N60	1N60	SK3088	ECG 109	
D4	1N60	1N60	1N60	SK3088	ECG 109	
D5	1N60	1N60	1N60	SK3088	ECG 109	
D7	MC5321	GE-300		SK3100	ECG 177	
D8	1S334	GEZD-9.1		SK3060	ECG 139	9.1V Zener
D9	1S334	GEZD-9.1		SK3060	ECG 139	9.1V Zener
D10	1N60	1N60	1N60	SK3088	ECG 109	
D11	1N60	1N60	1N60	SK3088	ECG 109	
D12	1N60	1N60	1N60	SK3088	ECG 109	
D13	1N60	1N60	1N60	SK3088	ECG 109	
D14	1N60	1N60	1N60	SK3088	ECG 109	
D15	1S334	GEZD-9.1		SK3060	ECG 139	9.1V Zener
D16	1S334	GEZD-9.1		SK3060	ECG 139	9.1V Zener
D18	1S1885	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D19	1S1885	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D20	1S1885	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D21	1S1885	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116 or ECG 117	
D22	1S334	GEZD-9.1		SK3060	ECG 139	9.1V Zener
D24	1S1588	GE-300		SK3100	ECG 177	
D25	1N60	1N60	1N60	SK3088	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.
C13	33 16V		MCD-110	EP15-25	WBR35-50	MT1-13.5	MTV30CB25	TE-1158
C22	1 10V		MCD-10	EP50-2	WBR1-50	MT1-1	MTV1CB50	TE-1300
C24	4.7 10V		MCD-50	EP15-5	WBR5-50	MT1-3	MTV5CB50	TE-1127
C31	1 10V		MCD-10	EP50-2	WBR1-50	MT1-1	MTV1CB50	TE-1300
C35	1 10V		MCD-10	EP50-2	WBR1-50	MT1-1	MTV1CB50	TE-1300

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS(cont)

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.
C37	4.7 10V		MCD-50	EP15-5	WBR5-50	MT1-3	MTV5CB50	TE-1127
C41	100 10V		MCD-180	EP15-100	WBR100-16	MT1-19	MTV100CB10	TE-1135
C44	220 16V		CRE481A	EA15-250	WBR250-16	MT1-23	MTV200DE15	TE-1164
C46	100 10V		MCD-180	EP15-100	WBR100-16	MT1-19	MTV100CB10	TE-1135
C49	1000 16V		PRS1230	EA15-1000	WBR1000-16	QT1-32	TC1501B	TL-1166.5
C50	4.7 10V		MCD-50	EP15-5	WBR5-50	MT1-3	MTV5CB50	TE-1127
C51	10 10V		MCD-70	EP15-10	WBR10-25	MT1-5	MTV10CB50	TE-1128
C58	33 16V		MCD-110	EP15-25	WBR35-50	MT1-13.5	MTV30CB25	TE-1158
C64	33 16V		MCD-110	EP15-25	WBR35-50	MT1-13.5	MTV30CB25	TE-1158
C95	1000 25V		PRS1295	EA30-1000	WBR1000-25		MTA1000G25	TL-1218
C96	1000 25V		PRS1295	EA30-1000	WBR1000-25		MTA1000G25	TL-1218
C97	1000 16V		PRS1230	EA15-1000	WBR1000-16	QT1-32	TC1501B	TL-1166.5
C98	1000 16V		PRS1230	EA15-1000	WBR1000-16	QT1-32	TC1501B	TL-1166.5
C105	4.7 10V		MCD-30	EP6-2	WBR2-50	MT1-1	MTV2CB50	TE-1081

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	ARCO/ELMENC0 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	25				DTZ-25		CN0425	10TCC-Q25
C2	25				DTZ-25		CN0425	10TCC-Q25
C3	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C4	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C5	15		ADM-15-150	DM-15-150J			SX415	MS-415
C6	4		ADM-15-050	DM-15-050J			SX050	MS-55
C7	30		ADM-15-300	DM-15-300J	CPR-30J		SX430	MS-43
C8	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C9	1		GPD C0J1R0D		TCZ-1		CN0510	10TCC-V10
C10	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C11	500			DM-16-471	CPR-470J	CD15F471J500	SX347	MS-347
C12	100		ADM-15-101	DM-15-101J	CPR-100J		SX310	MS-31
C14	.04				DD-403		GP140	
C15	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C17	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C18	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C19	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C21	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C23	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C25	2		GPD C0J2R2K		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C26	24		ADM-15-240	DM-15-240J	CPR-24J		SX424	MS-424
C27	50		ADM-15-500	DM-15-500J	CPR-47J		SX447	MS-45
C28	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C29	400		GPD X5F391K	CCD-391	DD-391	GP390	GP339	10TS-T39
C30	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C32	.04				DD-403		GP140	
C33	.01		TTP-1		CK-104		TA010	TG-P10
C34	.04				DD-403		GP140	
C36	.04				DD-403		GP140	
C38	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C39	.0047		DBE6D47	6DP-1-472		DMS6D47	PVC6247	6PS-D47
C40	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C42	.1		TTP-1		CK-104		TA010	TG-P10
C43	300			DM-15-300J	CPR-30J		SX430	MS-43
C47	.5							
C48	.04							
C52	100		ADM-15-101	DM-15-101J	CPR-100J		SX310	MS-31
C53	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C54	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C55	60		ADM-15-620	DM-15-620J	CPR-62J		SX462	MS-462
C56	82		ADM-15-820	DM-15-820J	CPR-82J		SX482	MS-482
C57	30		ADM-15-300	DM-15-300J	CPR-30J		SX430	MS-43
C59	500			DM-16-471	CPR-470J	CD15F471J500	SX347	MS-347
C60	30		ADM-15-300	DM-15-300J	CPR-30J		SX430	MS-43
C61	30		ADM-15-300	DM-15-300J	CPR-30J		SX430	MS-43
C62	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C63	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C65	50		ADM-15-500	DM-15-500J	CPR-47J		SX447	MS-45
C66	50		ADM-15-500	DM-15-500J	CPR-47J		SX447	MS-45
C67	50		ADM-15-500	DM-15-500J	CPR-47J		SX447	MS-45
C68	6		ADM-15-050	DM-15-150J			SX550	MS-55
C69	6		ADM-15-050	DM-15-150J			SX550	MS-55
C70	82		ADM-15-820	DM-15-820J	CPR-82J		SX482	MS-482
C72	82		ADM-15-820	DM-15-820J	CPR-82J		SX482	MS-482

ROBYN MODEL BB-123

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.	ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C73	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C74	200		ADM-15-201	DM-15-201J	CPR-200J		SX320	MS-32
C75	240		ADM-15-241	DM-15-241J	CPR-240J		SX324	MS-324
C76	200		ADM-15-201	DM-15-201J	CPR-200J		SX320	MS-32
C77	.04		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C78	.04		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C79	150		ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C80	200		ADM-15-201	DM-15-201J	CPR-200J		SX320	MS-32
C81	150		ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C82	150		ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C83	100		ADM-15-101	DM-15-101J	CPR-100J		SX310	MS-31
C84	30			CCD-300	TCZ-30			10TCC-Q30
C85	3							10TCC-V30
C86	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C87	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C95	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C97	51		ADM-15-510	DM-15-510J				MS-451
C98	.04				DD-403		GP140	
C99	10		ADM-15-100	DM-15-100J			SX410	MS-41
C100	.04				DD-403		GP140	
C101	10			CCD-100	DTZ-10	NP010	CN0410	10TCC-Q10
C102	10			CCD-100	DTZ-10	NP010	CN0410	10TCC-Q10
C103	.04				DD-403		GP140	
C104	.1		TTP-1		CK-104		TA010	TG-P10
C112	.02		TTP-02	CCD-203	CK-203	MGP02	TA120	TG-S20
C113	100		ADM-15-101	DM-15-101J	CPR-100J		SX310	MS-31
C114	240		ADM-15-241	DM-15-241J	CPR-241J		SX324	MS-324
C115	60		ADM-15-620	DM-15-620	CPR-62J		SX462	MS-462

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.
VR1	Volume/Switch	10K		F2-10K(1), SRS014,KR-2	A47-10K-Z(1), RS-2,SWE-20 or [NP-10K-Z(1), UP-A-400, NWE-20]	Q13-116(1),76-2 or [BU1(1),CF61, SS6A,Wf]*	UA14A(1),SF1000, US42 or [RU14A(1),SL38, SF1000,US42] or [U18(1),US26]
VR2	Squelch Range	100K		TSV-100K(2), or T-100K(2)		X201R104B (2)	MTC15L1 (2)
VR3	Squelch	50K		F1-50K(1), SSK012	A47-50K-S(1), FS-3 or [NP-50K-S(1), UP-B-400]	Q11-123 (1) or [BU1(1), CF12, SS6A]*	RU54L, SL38 (1), SF1000 or [UA54L (1),SF1000] or U35 (1)
VR4	Modulation	20K		T-20K (2) or TSV-25K (2)		X201R253B (2)	MTC24L1 (2)
VR5	"S" Meter Adjust	10K		TSV-10K (2) or T-10K (2)		X201R103B (2)	MTC14L1 (2)
VR6	"RF" Meter Adjust	100K		TSV-100K (2) or T-100K (2)		X201R104B (2)	MTC15L1 (2)
VR7	RF Gain	20K		F3-25K (1), SRS014	A47-25K-V (1), FS-3	B17-119,SK1(1)or [BU1(1),CF89, SS6A]*	UA253R(1),SF1000 or U28 (1)
VR8	Fine Tuning	50K		F1-50K (1), SRS014	A47-50K-S (1), FS-3 or [NP-50K-S(1), UP-B-400]	Q11-123 (1) or [BU1(1),CF12, SS6A]*	RU54L, SL38(1), SF1000 or [UA54L (1),SF1000] or U35 (1)

* "SNAPTROL" (1) Enlarge mounting hole.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R60	5 1W		

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
TH1	39 (Cold)		

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.
CH8	RF Choke		19-1000	74F106AP	
CH13	Hash Choke			5218	
IFT1	1st Rec. Mixer				T855
IFT2	Input IF				TA815
IFT3	Interstage IF		16-9026	2066	
IFT4	Interstage IF		16-9027	2067	
IFT6	Output IF		16-9028	2068	
L1	Rec. Antenna Matching	(TKXN 21134)			
L2	RF				
L3	1st Rec. Osc-Xmtr.- Synthesizer Osc.	(HL-3H)			
L4	RF Choke		19-1000	74F106AP	T855
L5	Xmtr. Input (Pri)	(12C)			
L6	Xmtr. Input (Sec)	(12C)			
L7	Xmtr. Mixer Output				
L8	Xmtr. Buffer				
L9	Xmtr. Driver				
L10	RF Choke	(010)	19-1000	74F126AP	T807
L12	Pi Network				
L16	TVI Trap				
L13	Pi Network (10 turns)				
L14	Pi Network (10 turns)				
L15	Pi Network (10 turns)				

ROBYN MODEL BB-123

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA				NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (@ CURRENT 1000~)	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
CH1	790ma	.2	.7mh					

TRANSFORMER (Driver)

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

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	51	12					
		SEC. 2					
		1.5 DC Resistance					

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.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T3	117VAC @ 220ma (Max)	15VAC @ 810ma (Max)					

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	4" PM, 8 ohms		4A1Z8	

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	.5A			1/2 AGC	HKP	312.500	342001A	

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CFM	Crystal Filter		455KC
M1	Crystal		37.600MC
M2	Crystal		37.650MC
M3	Crystal		37.700MC
M4	Crystal		37.750MC
M5	Crystal		37.800MC
M6	Crystal		37.850MC
M7	Crystal		10.180MC
M8	Crystal		10.170MC
M9	Crystal		10.160MC
M10	Crystal		10.140MC
M11	Crystal		10.635MC
M12	Crystal		10.625MC
M13	Crystal		10.615MC
M14	Crystal		10.595MC
M15	Crystal		455KC
M16	Module	(TA7060P)	1st IF Amp
M17	Meter		RF & "S"
M18	Mic		
RY1	Relay		
SW1	Switch, Selector		
SW2	Switch, ANL		

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.)



PHOTOFACT®

For Supplier Address See PHOTOFACT Index



MODELS MARK II SERIES B (Receiver)
SSB-15 (Transmitter)

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

A1 thru A9, A11, A12, A17, A18, A21, A22
A10, A13, A14, A15, A16, A19, A20

GC ELECTRONICS:
#8868, 9089
#8606L, 9440

RECEIVER ALIGNMENT

Turn Volume control to any position and squelch fully counter clockwise. Turn RF gain control fully clockwise. Push ANL and AGC to on. Set Main tuning to Channel 12 and Fine tuning for about 90° mesh. Set Mode switch to AM and Tuning switch to manual. Connect VTVM from point Δ to ground.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 7 (cathode) of V4B (2nd mixer), low side to chassis. Tune to 455KC (Mod)	Any	A1 Thru A10	Adjust for maximum
High side thru .01mfd to antenna receptacle, low side to chassis. Tune to 27.255MC (Mod)	23	A13,A14, A16,A17, A18	Adjust for maximum
High side thru .01mfd to antenna receptacle, low side to chassis. Tune to 27.255MC (Mod)	1	A13,A14	Readjust for maximum.

26.965MC

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BROWNING MODELS MARK II SERIES B, SSB-15

ALIGNMENT INSTRUCTIONS (Continued)

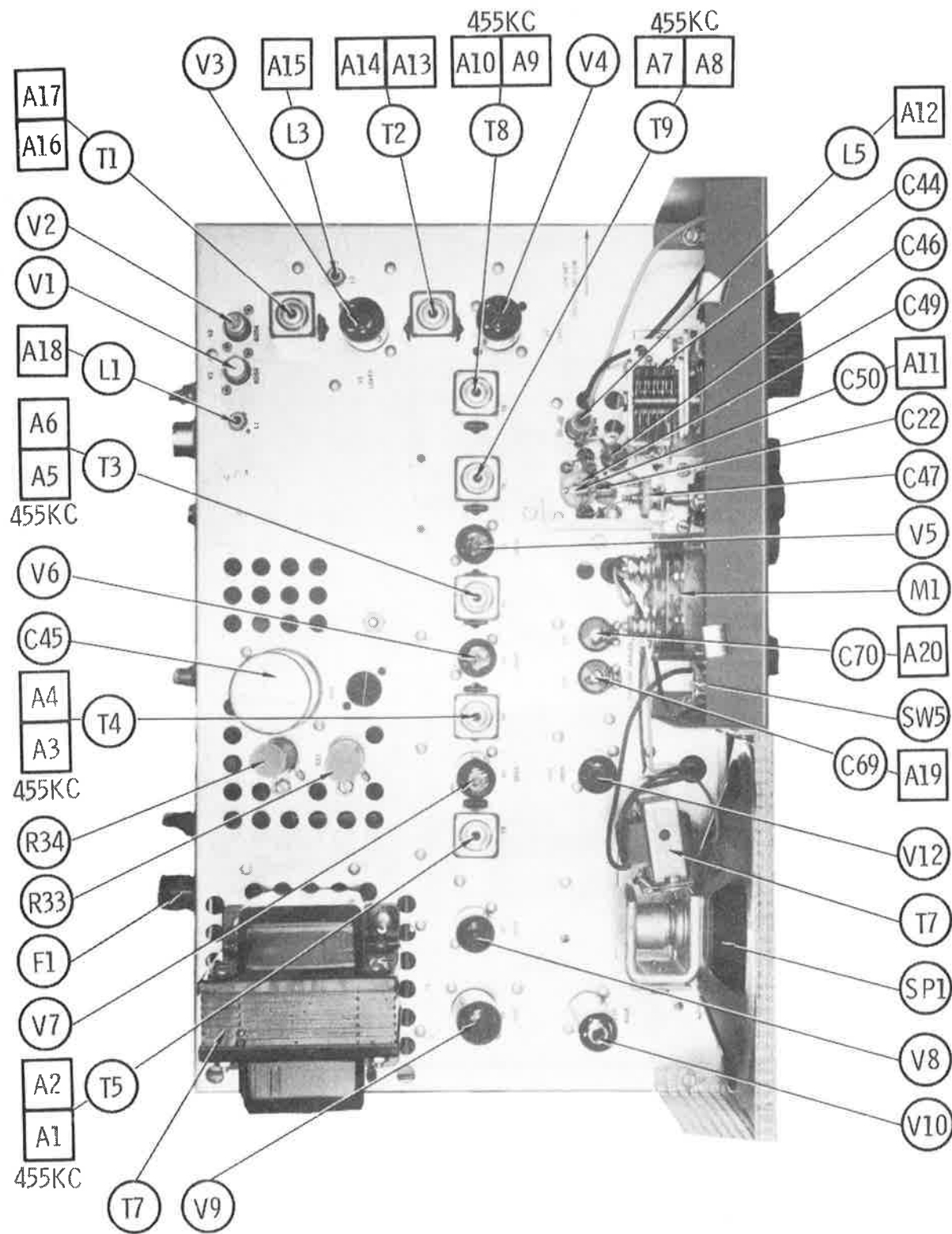
RECEIVER ALIGNMENT

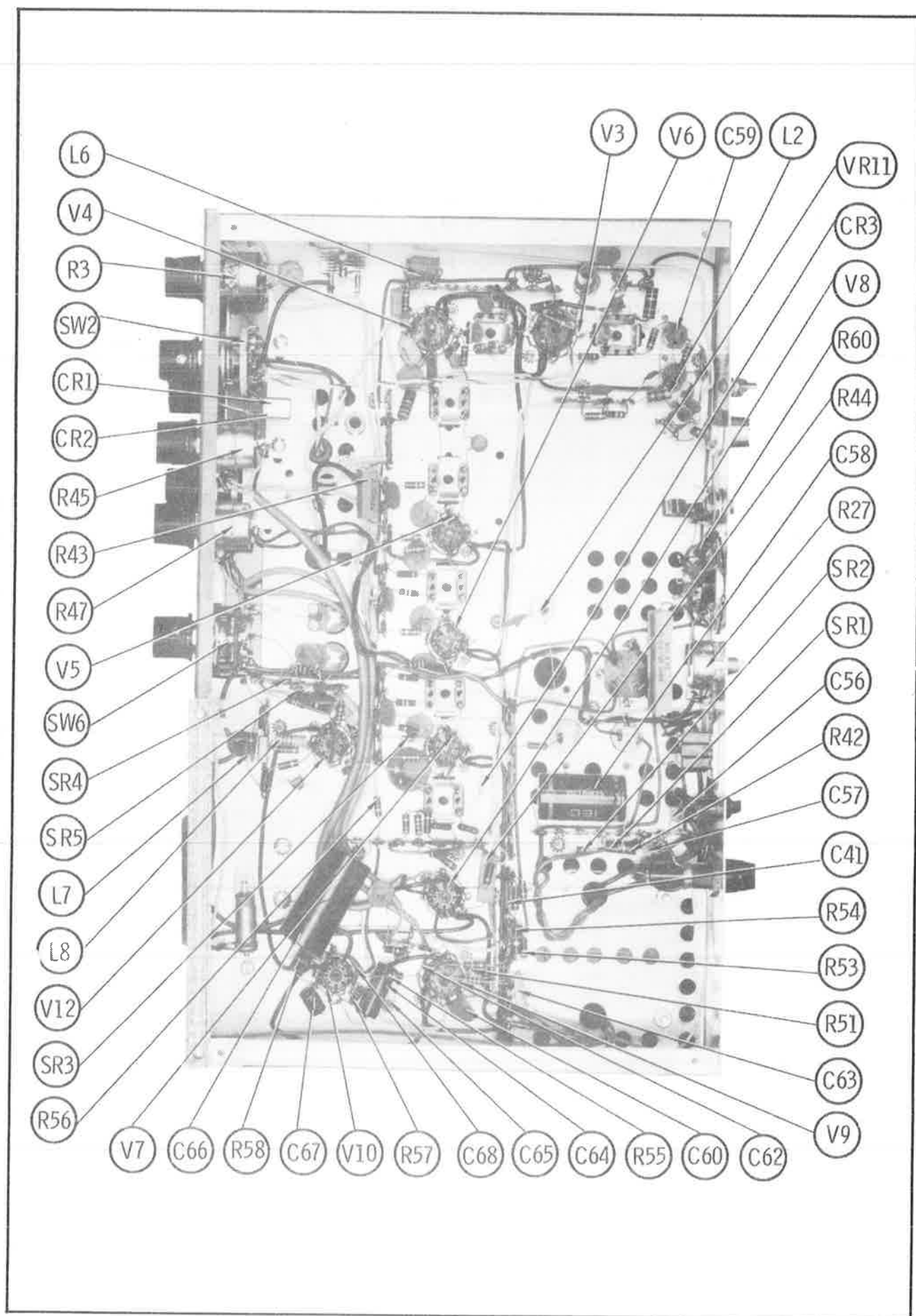
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to antenna receptacle, low side to chassis. Tune to 27.255MC (Unmod)	23	A16,A17	Readjust for maximum. Repeat A11, A12, A13, A14 as needed for approximate equal receiver gain at both ends of band.
		A11,A12	Adjust for Dial calibration. Adjust A9 for the low frequency channels and A10 for the high frequency channels.
		A15	Connect VTVM from pin 2 (grid) at V3A (1st Rec Oscillator) to ground. Set tuning switch to BB. Turn A13 clockwise until VTVM reads zero. Then turn A13 counterclockwise for maximum meter reading and go 1/4 turn beyond the peak for stability.

SINGLE SIDEBAND ALIGNMENT

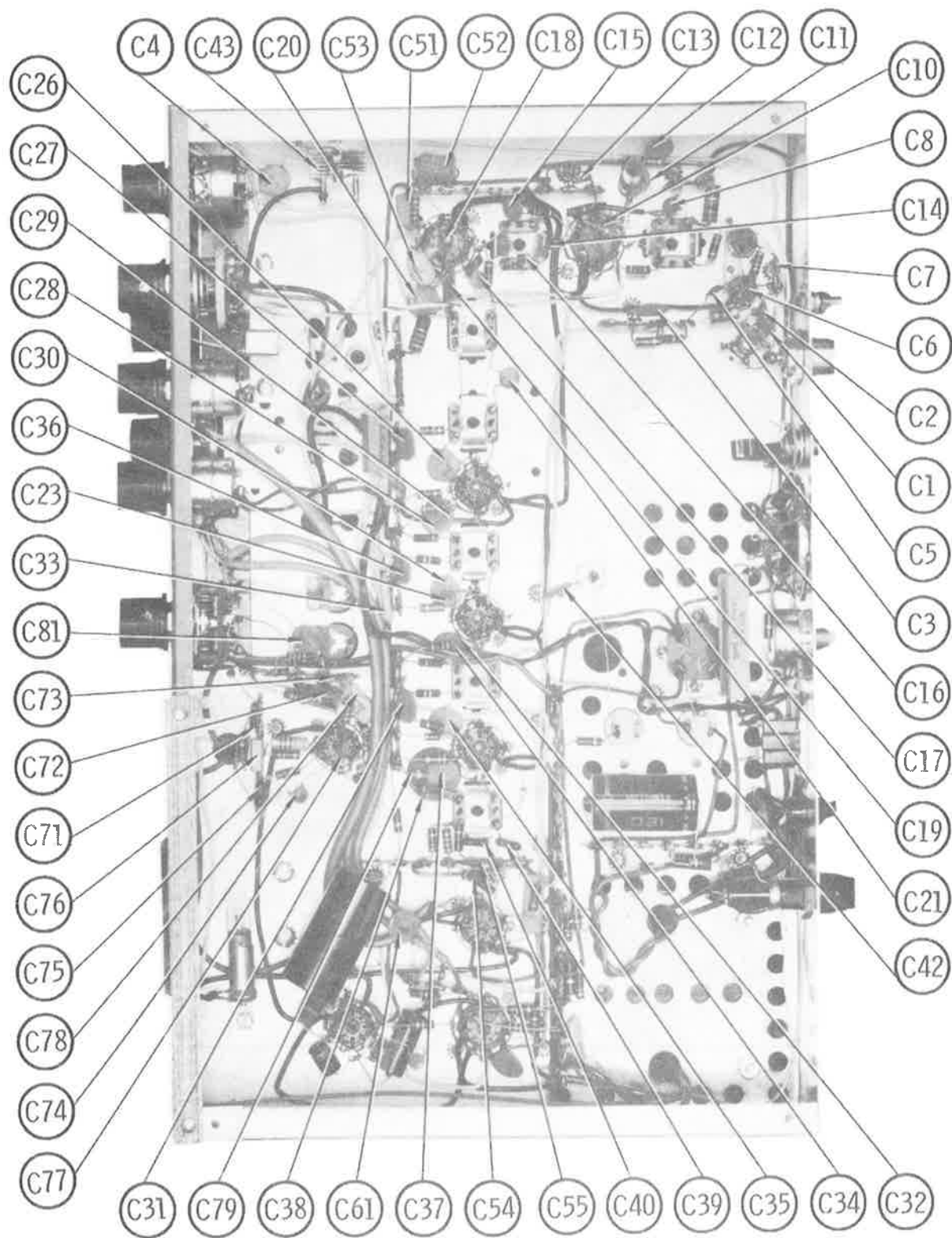
SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru .01mfd to pin 7 (cathode) of V4B (2nd mixer), low side to chassis. Tune to 460KC (Unmod)	Any	A19	Set Mode switch to LSB and adjust for a zero beat from the speaker.
High side thru .01mfd to pin 7 (cathode) of V4B (2nd Mixer), low side to chassis. Tune to 450KC (Unmod)	Any	A20	Set Mode switch to USB and adjust for a zero beat from the speaker.

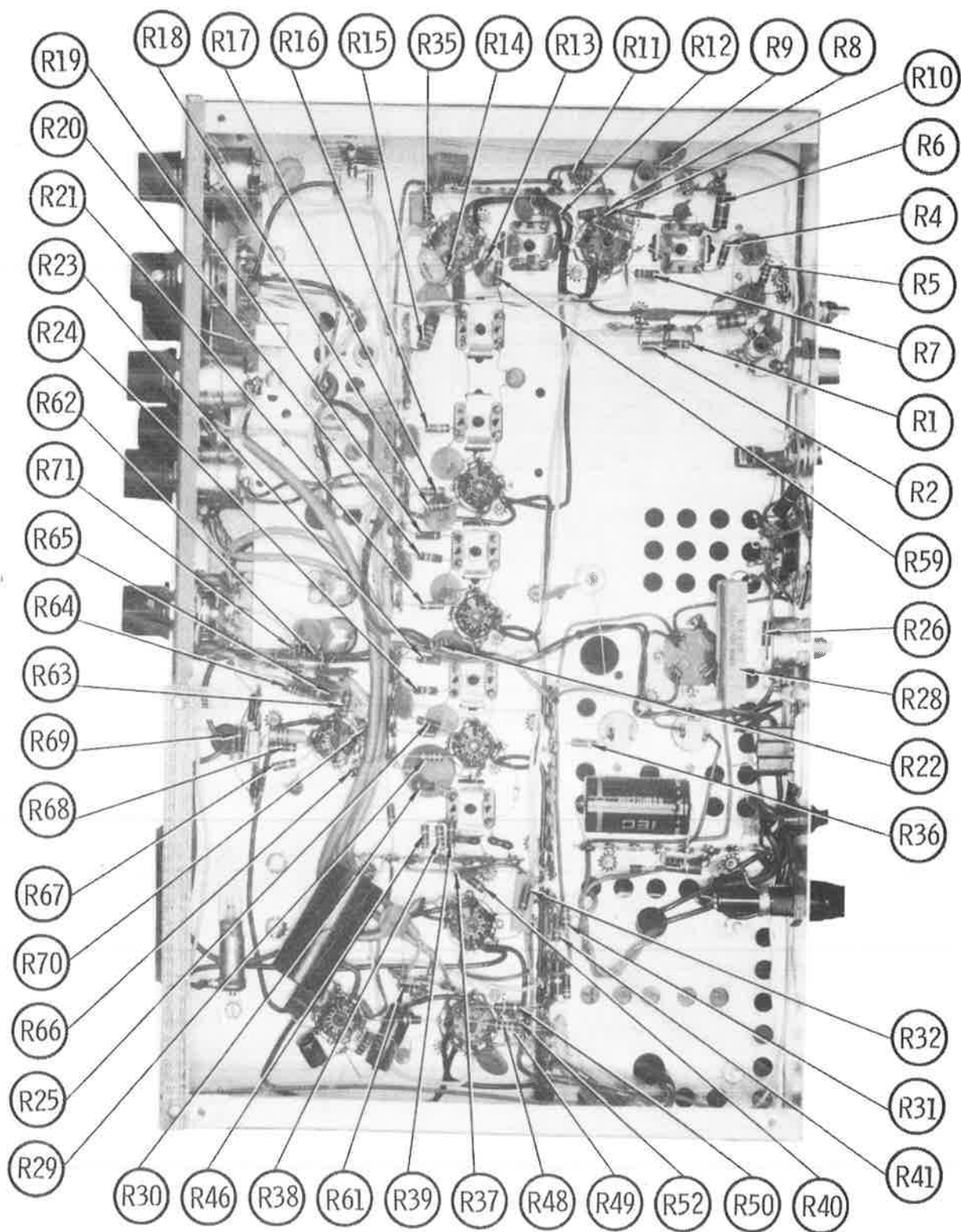
FOR TRANSMITTER & SSB ALIGNMENT SEE PAGE 12





BROWNING MODELS MARK II SERIES B, SSB-15





TRANSMITTER

RESISTANCE MEASUREMENTS

ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9
V1	950Ω (1)	200K	3300Ω	Fil	Fil	9.5K (1)	2.4meg	3.3K	Fil
V2	12K	0Ω	Fil	Fil	180K (1)	220K (1)	68Ω		
V3	510Ω	470Ω	Fil	Fil	200K (1)	250K (1)	0Ω		
V4	150Ω	22Ω		Fil	Fil	Fil	200K (1)	150K (1)	0Ω
V5	10Ω	300Ω (2)	0Ω	Fil	Fil	270Ω	0Ω	200K	NC
V6	430K (1)	2.1meg	0Ω	Fil	Fil	480Ω (1)	80K	4000Ω	Fil
V7	20K (1)	250Ω	250K (1)	Fil	Fil	180K Ω	680Ω	0Ω	100K
V8	9500Ω (1)	NC	NC	NC	NC	NC	0Ω		

(1) Measured from output of SR5.

(2) Measured from outputs of SR1 & SR4.

RECEIVER

RESISTANCE MEASUREMENTS

ITEM	PIN 1	PIN 2	PIN 3	PIN 4	PIN 5	PIN 6	PIN 7	PIN 8	PIN 9	PIN 10	PIN 11	PIN 12
V1	NC	1nf	NC	120K 2.3meg(3)	NC	NC	NC	1200Ω	NC	Fil	NC	Fil
V2	NC	8K (1)	NC	1nf	NC	NC	NC	1nf	NC	Fil	NC	Fil
V3	50K (1)	47K	0Ω	Fil	Fil	14K (1)	470K	0Ω	Fil			
V4	12K	68K	9Ω	Fil	Fil	50K	200K	1800Ω	Fil			
V5	470K 2.6meg(3)	0Ω	Fil	Fil	3500Ω(1)	55K (1)	1900Ω					
V6	100K 2.3meg(3)	0Ω	Fil	Fil	3500Ω(1)	55K (1)	1900Ω					
V7	100K 2.3meg(3)	0Ω	Fil	Fil	3500Ω(1)	55K (1)	750Ω					
V8	200K 2meg (4)	1meg 3.3meg(3)	Fil	Fil	3500Ω	NC	220K					
V9	400K (1)	3.4meg	6000Ω	Fil	Fil	150K (1)	2meg	20K	Fil			
V10	470K	270Ω	Fil	Fil	700Ω (1)	3400Ω(1)	470K					
V12	22K	170Ω	Fil	Fil	300K (1)	19K(1)(2)	100K					

(1) Measured from output of SR1.

(2) Measured with mode switch in USB or LSB position.

(3) Measured with AGC on.

(4) Measured with ANL on.

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.

TRANSMITTER ALIGNMENT

Suggested Alignment Tools:

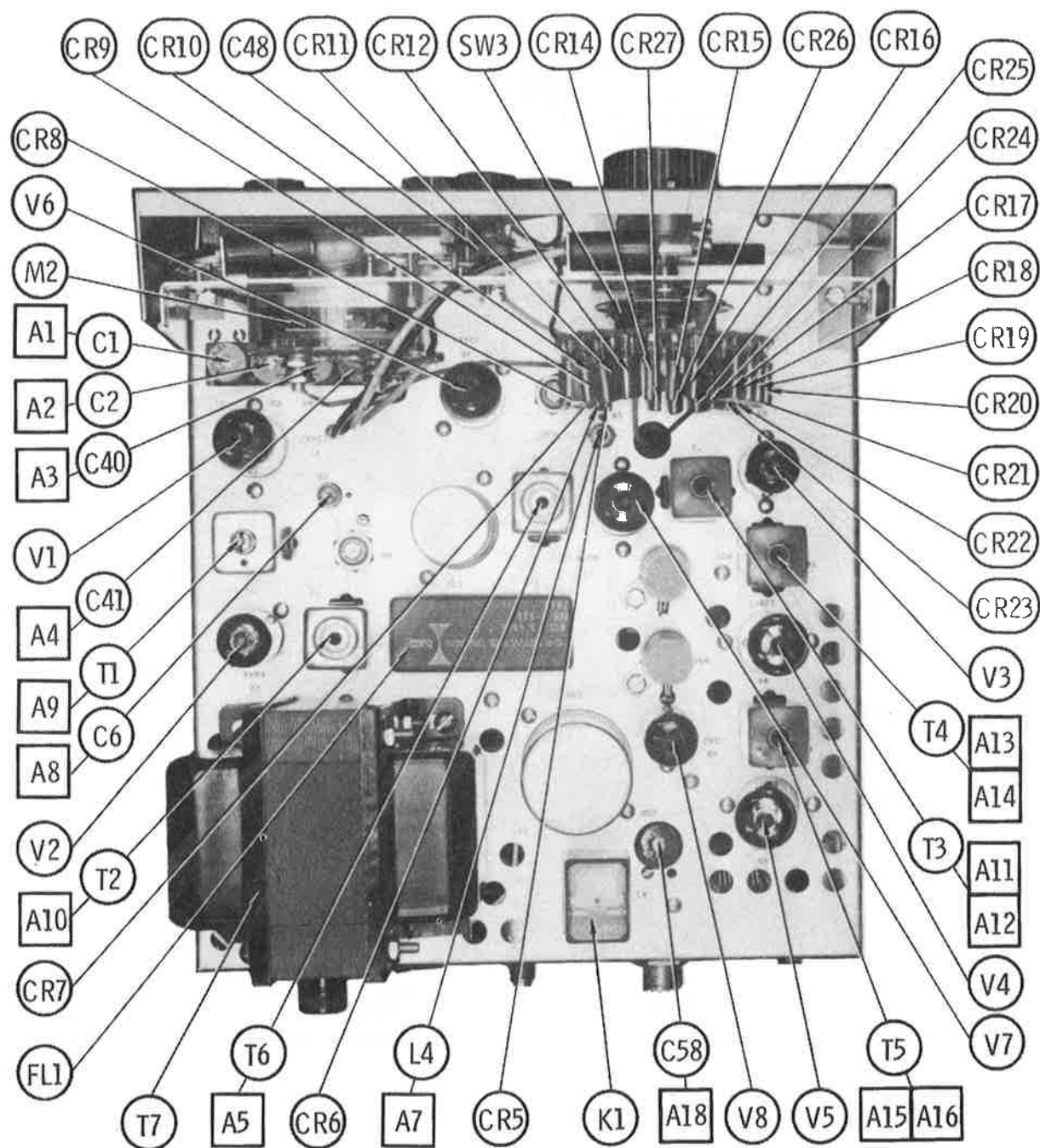
A5, A7 , A9 thru A16	GC ELECTRONICS:
A8, A17, A18	#8606L, 9440
	#8276, 8277, 8290

SSB ALIGNMENT

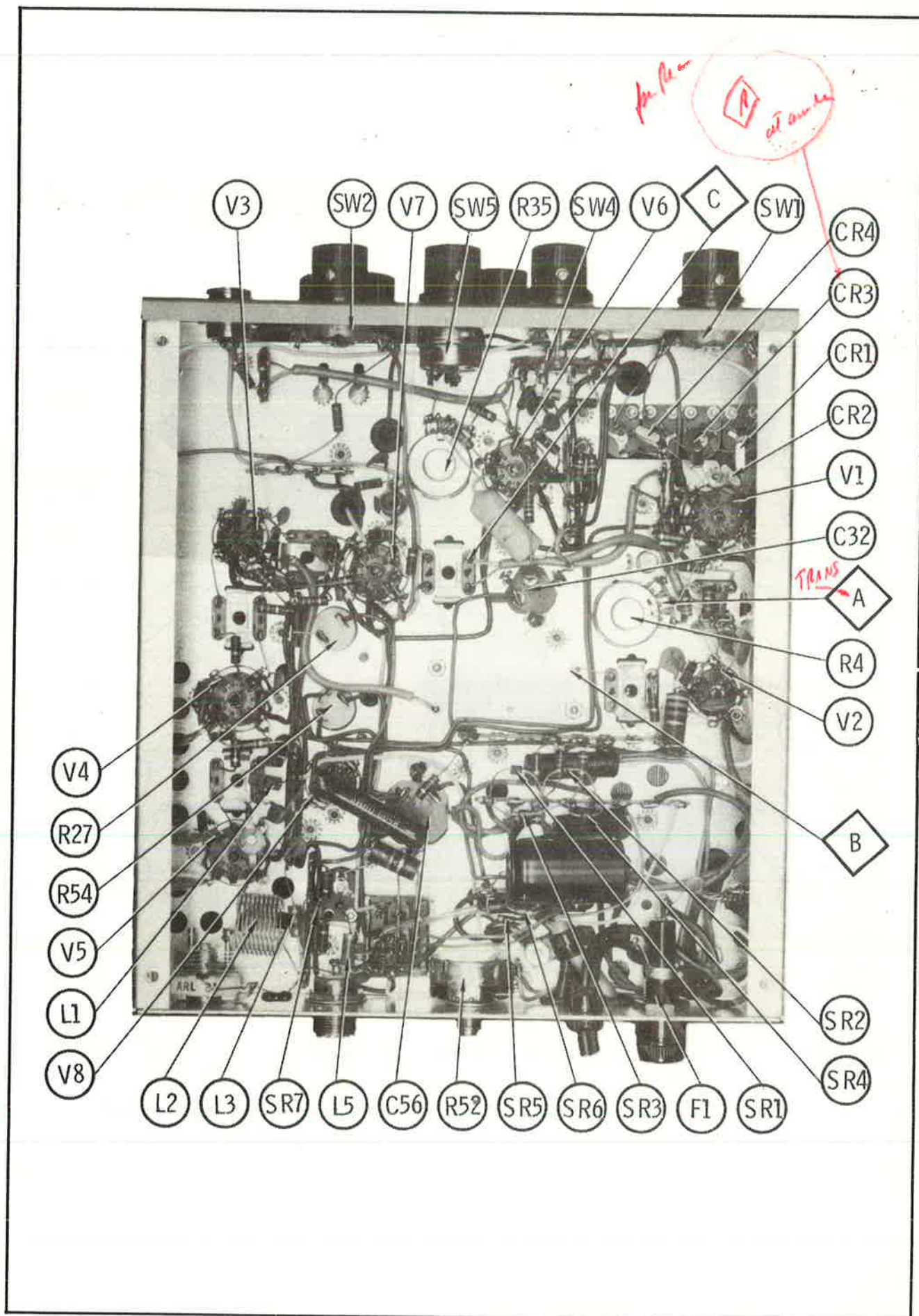
INDICATOR	ADJUST	REMARKS
Frequency Counter	A1, A2	Connect frequency counter to alignment point $\diamond A$. Adjust to center frequency of crystal.
RF Probe and VTVM	A18	Connect high side of RF probe to test point $\diamond B$, low side to ground. Adjust Carrier Balance (R4) near center position of control and adjust A18 for zero carrier.
"	A9, A10	Connect high side of RF probe to test point $\diamond B$, low side to ground. <i>Adjust for maximum.</i>

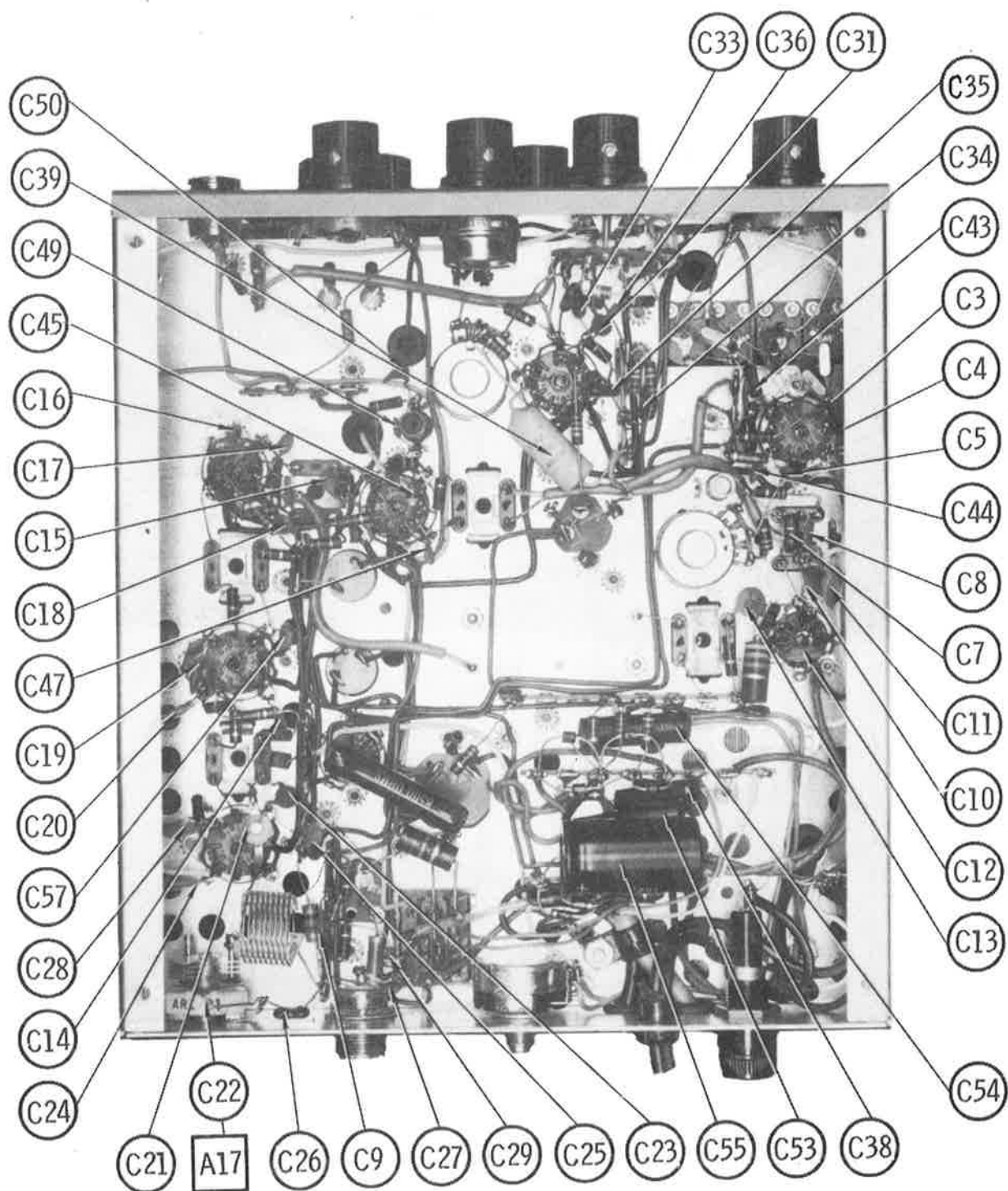
TRANSMITTER ALIGNMENT

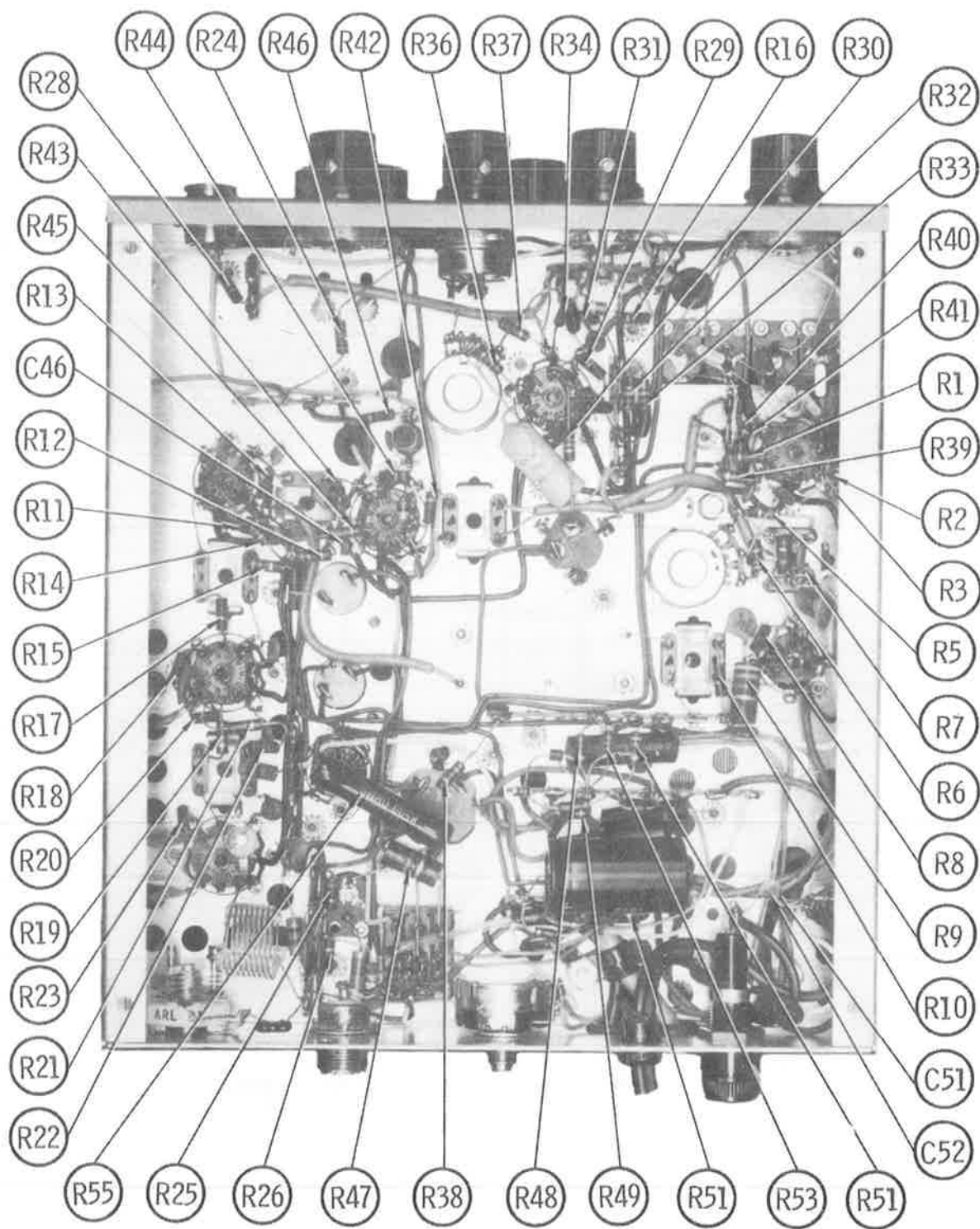
INDICATOR	ADJUST	REMARKS
Frequency Counter	A3, A4	Connect counter to point $\diamond A^C$ and adjust to center frequency of crystal.
"	A7	Connect counter to pin 1 of V7 (High Xmtr Osc). Tune A7 clockwise until oscillator stops, then counterclockwise 1/4 turn.
Field Strength or RF Wattmeter	A5, A11 thru A16	Adjust for maximum.
	A17	Set SW2 in plate position. Adjust A17 for minimum plate current. With SW2 in plate position and SW4 in Xmit position, depress microphone switch and adjust R52 until meter reads in the brown area (15) on scale.
Television (Ch. 2)	A18 <i>A30</i>	Adjust for minimum interference.



BROWNING MODELS MARK II SERIES B, SSB-15







RECEIVER

PARTS LIST AND DESCRIPTION

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

TUBES

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V1	1st RF Amp		6DS4			V7	3rd IF Amp		6BA6		
V2	2nd RF Amp		6DS4			V8	AGC-ANL		6AL5		
V3	1st Mixer-1st Rec Oscillator		12AT7			V9	AF Amp-Squelch		12AX7		
V4	2nd Mixer-2nd Rec Oscillator		12AT7			V10	Output		6AQ5		
V5	1st IF Amp		6BA6			V12	Product Det		6BE6		
V6	2nd IF Amp		6BA6								

POWER RECTIFIERS & SIGNAL DIODES

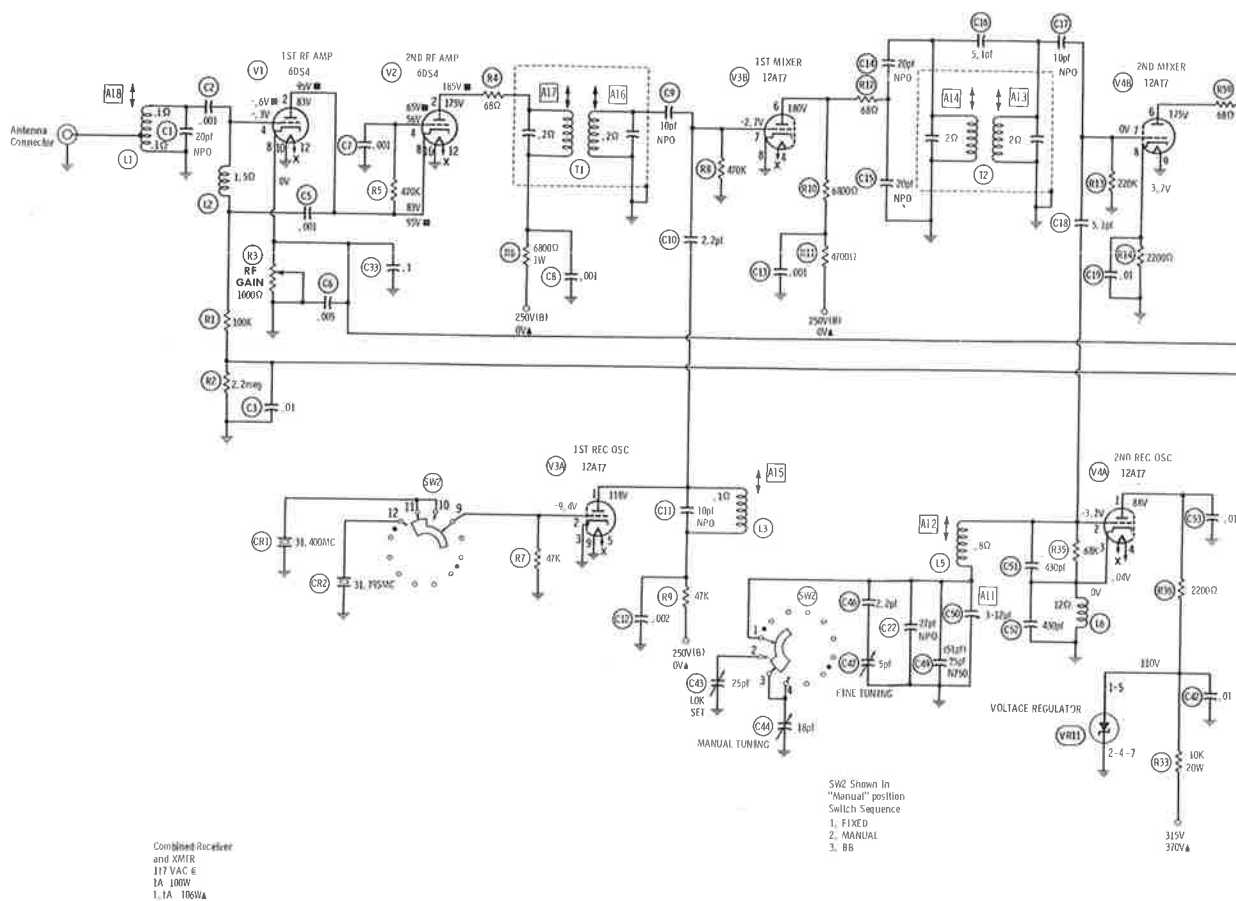
ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
CR3	1N67	1N60	1N60	SK3087	ECG 109	
SR1		GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 118	
SR2		GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 118	
SR3		GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 118	
SR4		GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 118	
SR5		GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 117 or ECG 118	
VR11	1N1375		Z1134	SK3099	ECG 151	

ELECTROLYTIC CAPACITORS

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.	
C45A	40	450V		AFH3-44		CC0350A	XC3-40	FP3771A	TVL3787	
B	40	450V								
C	40	450V								
C58	40	250V		PRS1580	EA50-5	WBR40-250	QT1-14	TC58A	TVA-1511	
C64	4	150V		PRS1400		WBR5-150	MT1-4	TC40A	TVA-1402	
C66	20	450V		PRS1735		WBR20-500	QT1-10	TC75A	TVA-1709	
C67	5	50V		PRS1310		WBR5-150	MT1-3	MTA5050	TL-1303	

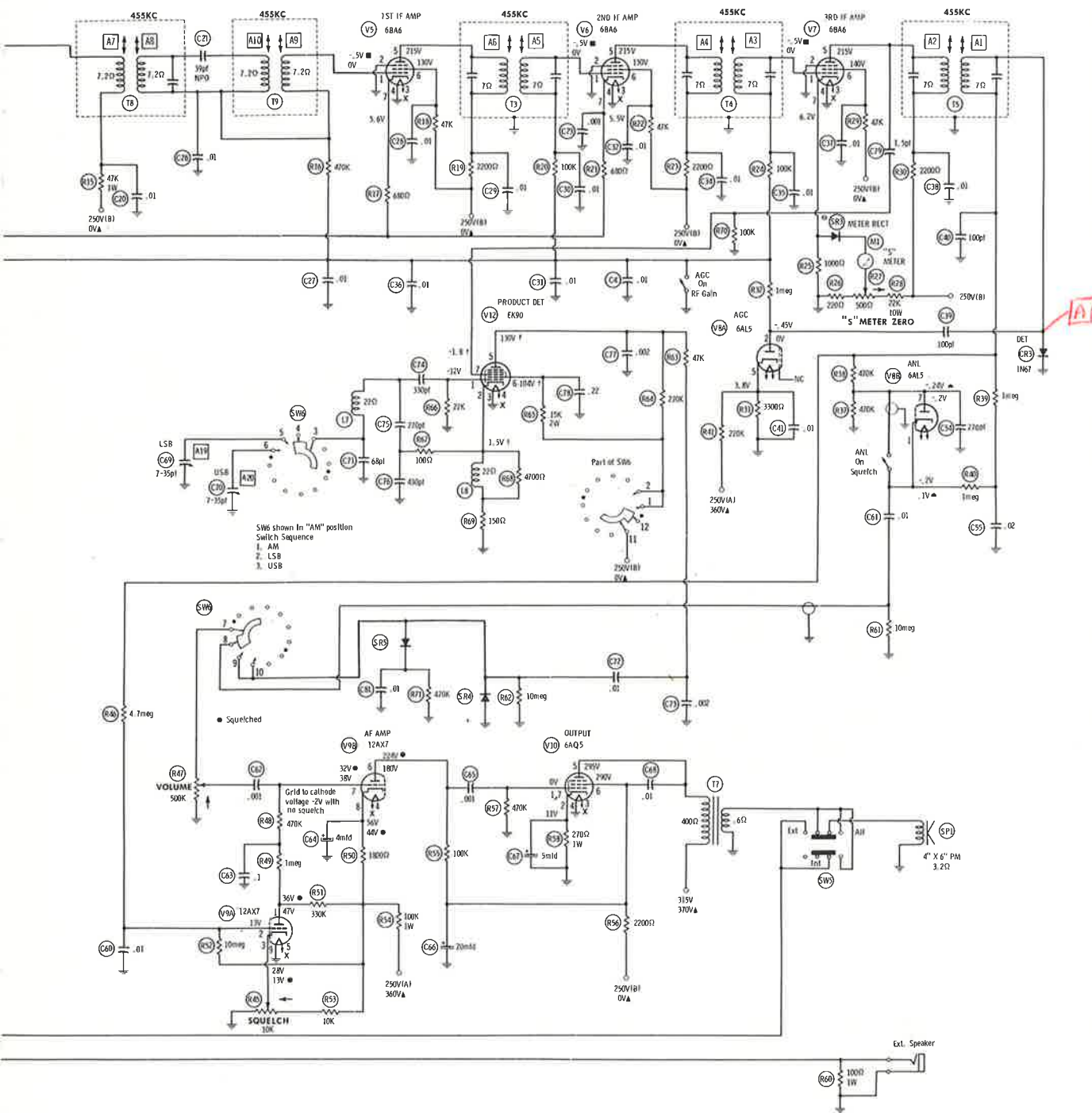
(CONTINUED ON PAGE 22)

BROWNING MODELS MARK II SERIES B, SSB-15

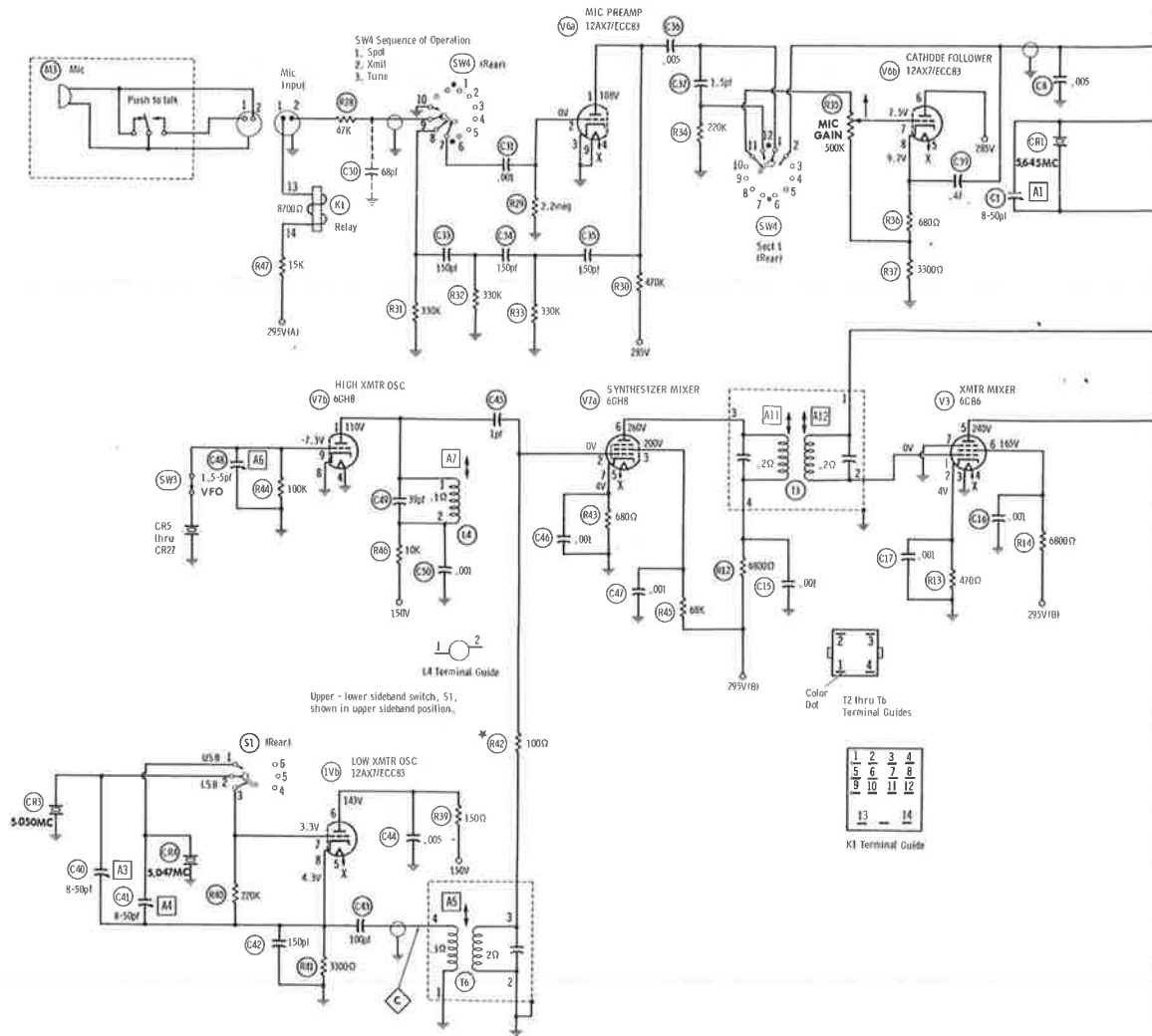


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BROWNING MODELS MARK II SERIES B



All measure measurements taken in Transmit, with microphone keyed unless otherwise indicated.
11 Measure in "Receive" position.

- ★ Nominal value, may vary.
 - ⊥ Denotes ground. (Voltage reference unless otherwise indicated).
 - Indicates connection used in some versions.
 - *- Indicates connection not used in some versions.
 - * Omitted in some versions.
- 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.
Arrow on control indicates direction of advance.
Numbers assigned to terminals may not be found on the unit.
Transistor resistances vary widely. No resistance measurements taken.

A PHOTOFAC STANDARD NOTATION SCHEMATIC
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PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	ARCO/ELMENC PART No.	CENTRALAB PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	20			CCT0-200	DTZ-20	NP020	CN0420	10TCC-Q20
C2	.001			CCD-102	DD-102	GP1000	GP210	10TS-D10
C3	.01		GPD X5F102K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C4	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C5	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C6	.005		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C7	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C8	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C9	10			CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C10	2.2		GPD C0J2R2K		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C11	10			CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C12	.002		GPD X5F202K	CCD-202	DM-202	GP2000	GP220	2SS-D20
C13	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C14	20			CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C15	20			CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C16	5.1					NP05		10TCC-V50
C17	10	NPO		CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C18	5.1					NP05		10TCC-V50
C19	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C20	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C21	39	NPO			TCZ-39		CN0439	10TCC-Q39
C22	27	NPO			TCZ-27	NP027	CN0427	10TCC-Q27
C23	.001			CCT0-270	DD-102	GP1000	GP210	10TS-D10
C26	.01		GPD X5F102K	CCD-102	DD-103	GP10000	JF110	10TS-S10
C27	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C28	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C29	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C30	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C31	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C32	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C33	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C34	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C35	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C36	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C37	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C38	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C39	100		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C40	100			DM-15-101J	CPR-100J		SX310	MS-31
C41	.01			DM-15-101J			SX310	MS-31
C42	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C43	25		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C44	18				DTZ-25		CN0425	10TCC-Q25
C46	2.2			CCT0-180	TCZ-18	NP018	CN0418	10TCC-Q18
C47	5		GPD C0J2R2K		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C49	25					NP05		10TCC-V50
C50	3-12	N750	GPD U2J250K					10TU-Q25
C51	430			DM-16-431J	822FZ			
C52	430			DM-16-431J	CPR430J		SX343	MS-343
C53	.01			CCD-103	CPR430J		SX343	MS-343
C54	270		TTP-01	CCD-270	CK-103	MGP01	TA110	TG-S10
C55	.02		GPD X5F271K	CCD-203	DD-271	GP270	GP327	10TS-T27
C56	.001		TTP-02	CCD-102	CK-203	MGP02	TA120	TG-S20
C57	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C59	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C60	.01		TTP-01	CCD-103	CK-103	GP1000	SM210	2SS-D10
C61	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C62	.001		GPD X5F102K	CCD-102	DM-102	GP1000	TA110	TG-S10
C63	.1		TTP-1		CK-104		SM210	2SS-D10
C65	.001		GPD X5F102K	CCD-102	DM-102	GP1000	TA010	TG-P10
C68	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	2SS-D10
C69	7-35				827D			TG-S10
C70	7-35				827D			
C71	68				DTZ-68		CN0468	10TCC-Q68
C72	.01		TTP-01	CCD-103	CK-103	MGP01	TA110	TG-S10
C73	.002		GPD X5F202K	CCD-202	DM-202	GP2000	GP220	2SS-D20
C74	330		GPD X5F331K	CCD-331	DD-331	GP330	GP333	10TS-T33
C75	270		GPD X5F271K	CCD-270	DD-271	GP270	GP327	10TS-T27
C76	430			DM-16-431J	CPR430J		SX343	MS-343
C77	.002		GPD X5F202K	CCD-202	DM-202	GP2000	GP220	2SS-D20
C78	.22		V1614P22	4DP-5-224		DPMS4P22	PVC4022	4PS-P22
C79	1.5		GPD C0J1R5D		DTZ-1R5	NP01P5	CN0515	10TCC-V15
C81	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10

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.
R3	RF Gain/AGC Switch	1000	68R-RF	F1-500, SPU304, KR-8FR	NP-1000-S, UPP-A-400, NWG-18	B11-108, SK7 or [BU1, CF6, SS10, K]*	P13L, 3014, FFPP-1, SL250
R27	"S" Meter Adjust	500	68R-P-2	F1-500, SRS012	A47-500-S, RN-3 or [NP-500-S, NML-A-300]	Q11-103 or [BU1, CF4, SS6A]*	UA52L, SK750 or [RU52L, SL38, SK750] or U2
R45	Squelch/ANL Switch	10K	A-325	F1-10K, SPU304, KR-8FR	NP-10K-S, UPP-A-400, NWG-18	B11-116, SK7 or [BU2, CF9, SS10, K]*	RUP14L, SL35, SL250 or [P14L, 3038, FPP-1, SL250]
R47	Volume/Switch	500K	68R-VC	F2-500K, SRS014, KR-1	A47-500K-Z, RS-2, SWE-12 or [NP-500K-Z, UP-A-400, NWG-12]	Q13-133, 76-1 or [BU2, CF25, SS5, GC]*	UA55A, SL2500, US41 or [RU55A, SL39, SL2500, US41 or [U48, US26]

* "SNAPTROL"

BROWNING MODELS MARK II SERIES B, SSB-15

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R28	22K 10W	10W-SQ-22.5	
R33	10K 20W	20W-SQ-10K	

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R34A	1000 16W	20W-SQ-1K	
B	250 4W	5W-SQ-250	

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	Antenna Matching	(A138)	19-2032	72F 185AP 4201-A 4652	T873 T876 T876
L2	RF Choke (18uh)				
L3	1st Rec Oscillator				
L5	2nd Rec Oscillator				
L6	RF Choke (1mh)				
L7	Product Det. Oscillator (2.2mh)	(A-139) (A141) (1655-2) (1655-2) (1655-2) (1655-2) (1655-2) (1655-2)	16-6764 16-6764 16-6764 16-6764 16-6764 16-6764 16-6764	12-C30 12-C30 12-C31 12-C30 & 12-C31 12-C30 & 12-C31	T607 T607 T608 T607 & T608 T607 & T608
L8	RF Choke (2.2mh)				
T1	RF Output				
T2	Input-Output IF				
T3	Input IF				
T4	Interstage IF				
T5	Output IF				
T8	Interstage IF				
T9	Interstage IF				

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.	
T7	6500	4		A-2931	A-3850	22S86	S-63X	

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.	
T6	117VAC @ 1A	150VAC @ .11A						
	SEC. 2	SEC. 3						
	6.3VAC @3.6A							

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		PART No.	QUAM PART No.	
SP1	4" X 6" PM 4 ohms	(A146)	46A07	

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	2A 3AG			AGC2	HKP	312.002	342.001	FGC 2-2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CR1 CR2 M1 SW2 SW5 SW6	Crystal Crystal "S" Meter Switch, Function Switch, Speaker Switch, AM-LSB-USB		31.400MC 31.795MC

TRANSMITTER

PARTS LIST AND DESCRIPTION

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

TUBES

AMPEREX			GENERAL ELECTRIC			RCA			SYLVANIA		
ITEM No.	USE		TYPE			ITEM No.	USE		TYPE		
V1	SMC Carrier Osc -		12AX7			V5	Final Amp		7558		
	Low Xmtr Osc					V6	Mic Preamp-Cathode Follower		12AX7		
V2	SSB Amp		6BA6			V7	High Xmtr Osc -		6GH8		
V3	Xmtr Mixer		6CB6				Synthesizer Mixer				
V4	Xmtr Driver		12BY7			V8	Voltage Regulator		0A2		

POWER RECTIFIERS & SIGNAL DIODES

ITEM No.	MFR. PART OR TYPE No.	REPLACEMENT DATA				NOTES
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	RCA PART No.	SYLVANIA PART No.	
SR1	10D1	GE-504A	10D1	SK3017A	ECG 116	
SR2	10D1	GE-504A		SK3017A	ECG 116	
SR3	10D1	GE-504A	10D1	SK3017A	ECG 116	
SR4	10D1	GE-504A	10D1	SK3017A	ECG 116	
SR5	B2G5	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116	
SR6	B2G5	GE-504A	8D4 or 5A4D	SK3030 or SK3031	ECG 116	
SR7	1N67	1N34AS	1N34A	SK3087	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.
C32	10	450V		AFH2-47		BB310A	XC2-5	FP231A
	10	450V						
C38	2	150V		CRE951A	EA50-50	WBR2-450	MT1-2	TT150X2
C53	45	50V		CRE767A		WBR60-50	MT1-17	MTA50E50
	25	50V						
C54	45	50V		CRE767A	EA50-50	WBR60-50	MT1-17	MTA50E50
	25	50V						
C55	40	250V		PRS1580		WBR40-250	QT1-16	
C56a	40	450V		AFH3-44		CC0350A	XC3-40	FP337.1A
b	40	450V						
c	40	450V						

BROWNING MODELS MARK II SERIES B, SSB-15

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA					
			AEROVOX PART No.	ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	8-50	#A-527						
C2	8-50	#A-527						
C3	.005		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C4	150		ADM-15-151	DM-15-151J	CPR-150S		SX315	MS-315
C5	470		GPD X5F471K	CCD-471	DD-471	GP470	GP347	10TS-T47
C6	1-8	#A-528						
C7	8		GPD C0H8R2K			NP08P2		10TCC-V82
C8	.005		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C9	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C10	27			CCD-270	TCZ-27	NP027	CN0427	10TCC-Q27
C11	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C12	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C13	.005		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C14	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C15	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C16	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C17	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C18	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C19	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C20	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C21	2-8pf	#A-539						
C22	25	#AR6-21						
C23	220		ADM-15-221	DM-15-221J	CPR-220S		SX322	MS-322
C24	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C25	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C26	160		ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C27	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C28	.01		GPD X5S103K	CCD-103	DD-103	GP10000	JF110	10TS-S10
C29	5.1					NP05		10TCC-V50
C31	.001		GPD X5F102K	CCD-102	DM-102	GP1000	SM210	2SS-D10
C33	150	500V	ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C34	150	500V	ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C35	150	500V	ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C36	.005		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C37	1.5		GPD C0J1R5D		DTZ-1R5	NP01P5	CN0515	10TCC-V15
C39	.47	400V	V1616P47	6DP-6-474		WMF6P47	PVC6047	
C40	8-50	#A-527						
C41	8-50							
C42	150	500V	ADM-15-151	DM-15-151J	CPR-150J		SX315	MS-315
C43	100	500V	ADM-15-101	DM-15-101J	CPR-100J		SX310	MS-31
C44	.005		GPD X5R502K	CCD-502	DD-502	GP5000	JF250	10TS-D50
C45	1		GPD C0J1R0D		TCZ-1		CN0510	10TCC-V10
C46	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C47	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C48	1.5-5							
C49	39				TCZ-39		CN0439	10TCC-Q39
C50	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C51	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C52	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10
C57	.001		GPD X5F102K	CCD-102	DD-102	GP1000	GP210	10TS-D10

Browning Part Number.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R4	Carrier Balance	150	A-537R-2	F1-200, SRS008	NP-200-S, UP-C-400	Q11-201 or [BU1, CF2, SS1, DC1]*	RU22L, SL38, SK750 or [P22L, 3014, SF3000]
R35	Mic Gain	500K	A-536	F2-500K, SRS008	A47-500K-Z, FKS-1/2 or [NP-500K-Z, UP-C-400]	Q13-133 or [BU1, CF25, SS2, DC1]*	UA55A, SK750 or [RU55A, SL38, SK750] or U48
R52	Bias	25K	A537R1 (A-7-1)	WN-253 or WW-253	A43-25K, FKS-1/2	WPS25000	VW-25K

* "SNAPTROL"

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.
R27 R54a	15K, 30W (WW) 250, 4W (WW)	WR250	A553 (69R-R1)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.
R54b R55	1000, 16W (WW) 8500, 12W	WR1000 WR8500	(69R-R1) (1754)

COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA			
		PART No.	MEISSNER PART No.	MILLER PART No.	WORKMAN PART No.
L1	RF Choke (18uh)	A-140	19-2004	74F185AP	T300
L2	Pi Network			74F185AP 4201-A 4686	T300
L3	RF Choke (18uh)				
L4	High Synth. Osc				
L5	TV1 (.33uh)				
T1	Balanced Modulator				
T2	SSB IF				TA811
T3	Xmtr Mixer Input				
T4	Xmtr Mixer Output				
T5	Xmtr Driver				
T6	Low Synth. Osc				

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA				NOTES
	PRI.	SEC. 1	MFR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
		SEC. 2					
T7	117VAC @ 620ma	160VAC @ 110ma	A-547				
	SEC. 2	SEC. 3					
	32VAC @ 10ma	6.3VAC @ 3.1A					

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	2A			AGC 2	HKP	312.002	342.001		

BROWNING MODELS MARK II SERIES B, SSB-15

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CR1	Crystal		5.645MC
CR2	Crystal		5.648MC
CR3	Crystal		5.050MC
CR4	Crystal		5.047MC
CR5	Crystal (Ch. 1)		16.270MC
CR6	Crystal (Ch. 2)		16.280MC
CR7	Crystal (Ch. 3)		16.290MC
CR8	Crystal (Ch. 4)		16.310MC
CR9	Crystal (Ch. 5)		16.320MC
CR10	Crystal (Ch. 6)		16.330MC
CR11	Crystal (Ch. 7)		16.340MC
CR12	Crystal (Ch. 8)		16.360MC
CR13	Crystal (Ch. 9)		16.370MC
CR14	Crystal (Ch. 10)		16.380MC
CR15	Crystal (Ch. 11)		16.390MC
CR16	Crystal (Ch. 12)		16.410MC
CR17	Crystal (Ch. 13)		16.420MC
CR18	Crystal (Ch. 14)		16.430MC
CR19	Crystal (Ch. 15)		16.440MC
CR20	Crystal (Ch. 16)		16.460MC
CR21	Crystal (Ch. 17)		16.470MC
CR22	Crystal (Ch. 18)		16.480MC
CR23	Crystal (Ch. 19)		16.490MC
CR24	Crystal (Ch. 20)		16.510MC
CR25	Crystal (Ch. 21)		16.520MC
CR26	Crystal (Ch. 22)		16.530MC
CR27	Crystal (Ch. 23)		16.560MC)
FL1	Crystal Filter		5MC
K1	Relay	A-526 (W77CSX.5)	
M1	Meter		RF & Plate
M2	Microphone		
SW1	Switch, Sideband	A-540	
SW2	Switch, Meter	A-540	
SW3	Switch, Selector	A-525	
SW4	Switch, Function	A-524	
SW5	Switch, On-Off		

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Bottom	69TBP	Knob, Power Switch	20600
Cabinet, Front	A-543	Knob, RF & Plate Switch	20600
Tuning Dial	A-498	Knob, Selector Switch	21000
Knob, Function Switch	20600	Knob, Sideband Switch	20600

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.)