



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 TRC-47 (21-147)

ALIGNMENT

Suggested Alignment Tools:	GC ELECTRONICS:
MF2, T1, T12, T13, T14	5000, 8290
ALL Others	9440
ALL Trimmer Capacitors	8290

REALISTIC MODEL TRC-47

SYNTHESIZER

INDICATOR	CHANNEL	ADJUST	FREQUENCY	REMARKS
Frequency Counter	1	C5	23.33MHz	Connect counter to TP1. Set mode switch to AM. Set clarifier to "0" (mid scale).
	5	C7	23.38MHz	
	9	C9	23.43MHz	
	13	C11	23.48MHz	
	17	C13	23.53MHz	
	21	C15	23.58MHz	Connect counter to TP2. Set mode switch to USB.
	1	C17	14.91MHz	
	2	C19	14.92MHz	
	3	C21, C2a	14.93MHz	
	4	C23	14.95MHz	Set mode switch to LSB.
	1	C25	14.907MHz	
	2	C27	14.917MHz	
	3	C29, C2b	14.927MHz	
	4	C31	14.947MHz	

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

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RECEIVER

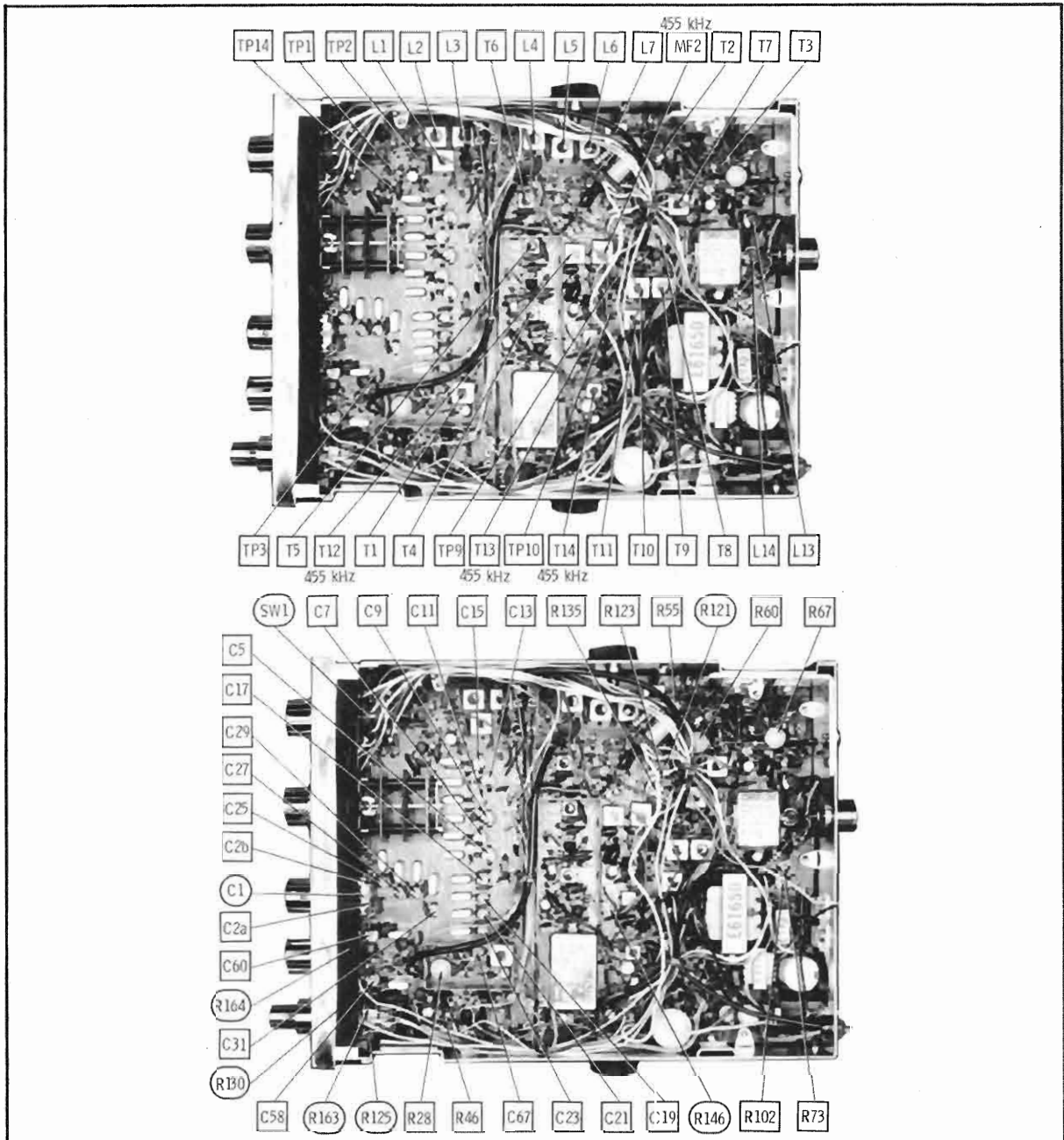
Connect an AC VTVM or AF Wattmeter across speaker voice coil.
Adjustments are made with 14 volt DC input.
Adjust volume control to obtain suitable reading.

SIGNAL GENERATOR	CHANNEL	ADJUST	REMARKS
High side thru a .01uF cap to TP9, low side to TP11. Set to 455kHz, 1000Hz @ 30% Modulation Output: 10uV.	Any	MF-2,T12, T13,T14	Set mode switch to AM. Set squelch control fully counter-clockwise. Adjust for maximum.
High side thru a .01uF cap to TP7, low side to TP11. Set to 11.2735MHz, 1000Hz @ 30% Modulation Output: 10uV.	Any	T4,T5,T6	Set mode switch to LSB. Adjust for maximum.
High side thru a .01uF cap to TP2, low side to TP14. Set to 38MHz, 1000Hz @ 30% Modulation Output: 1uV.	Any	L1,L2,L3	Adjust for maximum.
High side thru a .01uF cap to antenna jack, low side to ground. Set to 27.075MHz, 1000Hz @ 30% Modulation Output: .5uV.	10	T7,T8,T9, T10,T11	Mode switch to AM. Adjust for maximum.
AM SQUELCH RANGE High side thru a .01uF cap to antenna jack, low side to ground. Set to 27.075Hz, 1000Hz @ 30% Modulation Output: 3,000uV.	10	R146	Set squelch control fully clockwise. Adjust so that squelch just breaks.
SSB SQUELCH RANGE Same as AM Squelch Range. Set to 27.075MHz, 1000Hz @ 30% Modulation Output: 3,000uV.	10	R123,R135	Set volume control fully clockwise. Set squelch control fully clockwise. Adjust to cut off noise level.

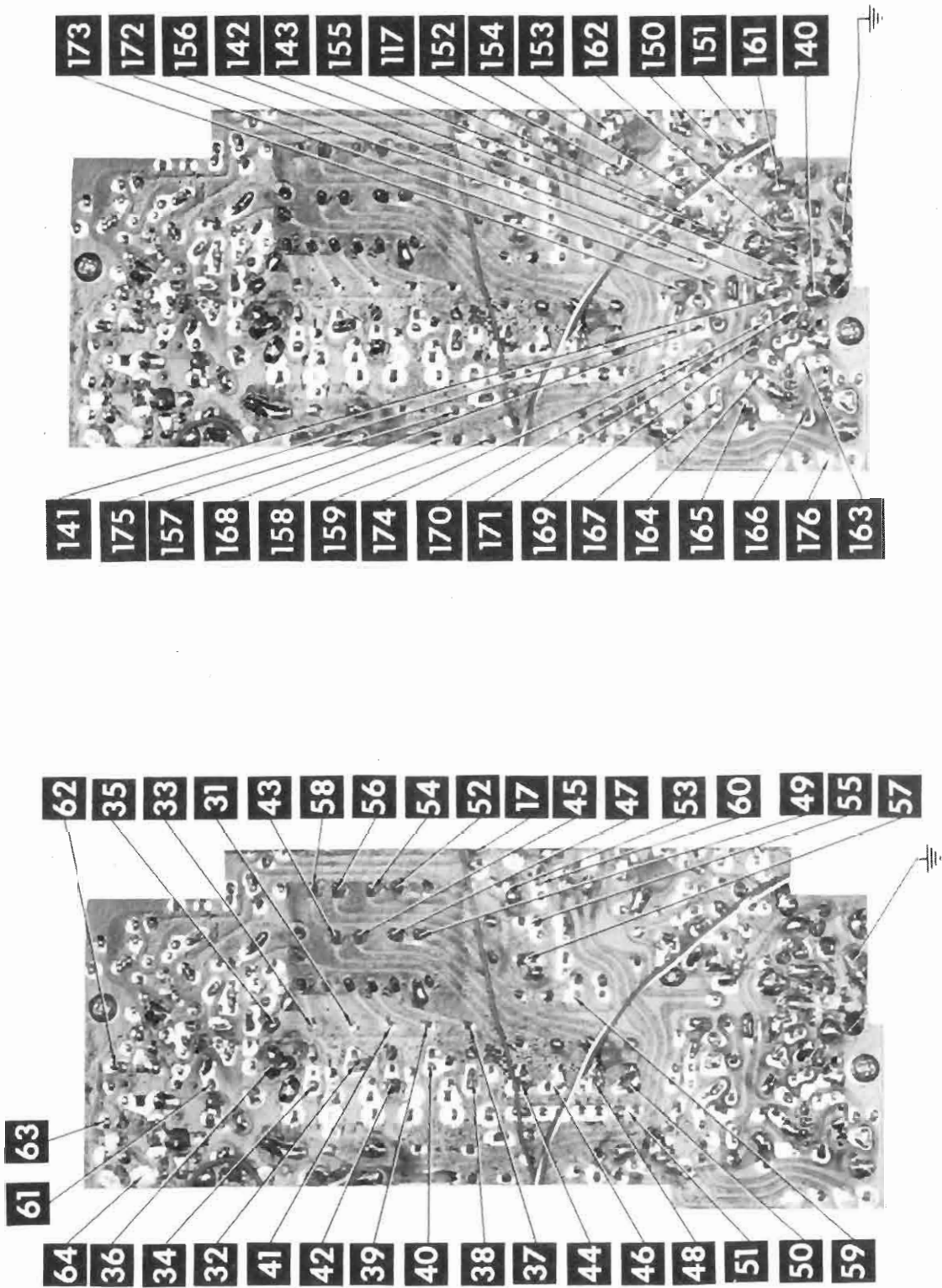
TRANSMITTER (SSB)

Connect an RF Wattmeter or 50 ohm 25 watt dummy load to antenna connector.
Adjustments are made with 14 volt DC input.

INDICATOR	ADJUST	REMARKS
USB CARRIER OSC Frequency Counter	C60	Connect frequency counter to TP3 and ground. Set mode switch to USB. Adjust for frequency of 11.275MHz.
LSB CARRIER OSC Frequency Counter	C58	Connect frequency counter to TP3 and ground. Set mode switch to LSB. Adjust for frequency of 11.272MHz.
CARRIER BALANCE Oscilloscope	R28,T1, C67	Short microphone input to ground. Set mode switch to either USB or LSB. Key transmitter and adjust for MINIMUM indication on scope. Output voltage should be less than .05V p-p.
SSB EXCITER Oscilloscope (Response to 30MHz)	L4,L5,L6, L7,T2,T3, L13,L14	Connect oscilloscope between antenna jack and ground. Set channel selector to Channel 10. Set mode switch to either USB or LSB. Connect audio signal generator to input terminal of microphone connector. Inject a 1kHz 35mV signal. Key transmitter and adjust for maximum.
OUTPUT POWER RF Wattmeter	R55	Mode switch to AM. Key transmitter. Adjust for 4 watts power output.
FINAL INPUT POWER 0 - 1A DC Milliammeter	L13,L14	Connect wattmeter to antenna jack. Remove jumper at TPA, connect meter between L12 and P14. Adjust for 5 watts.

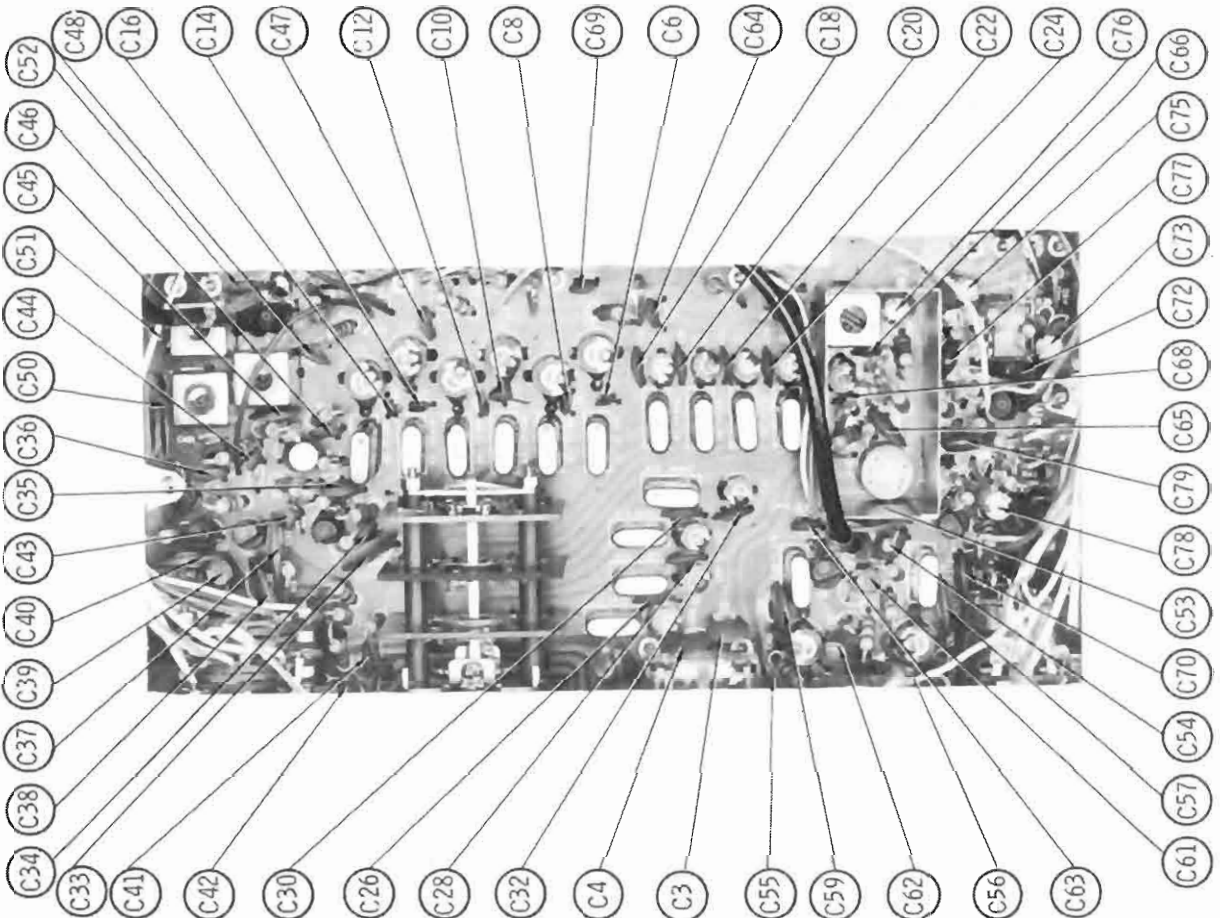
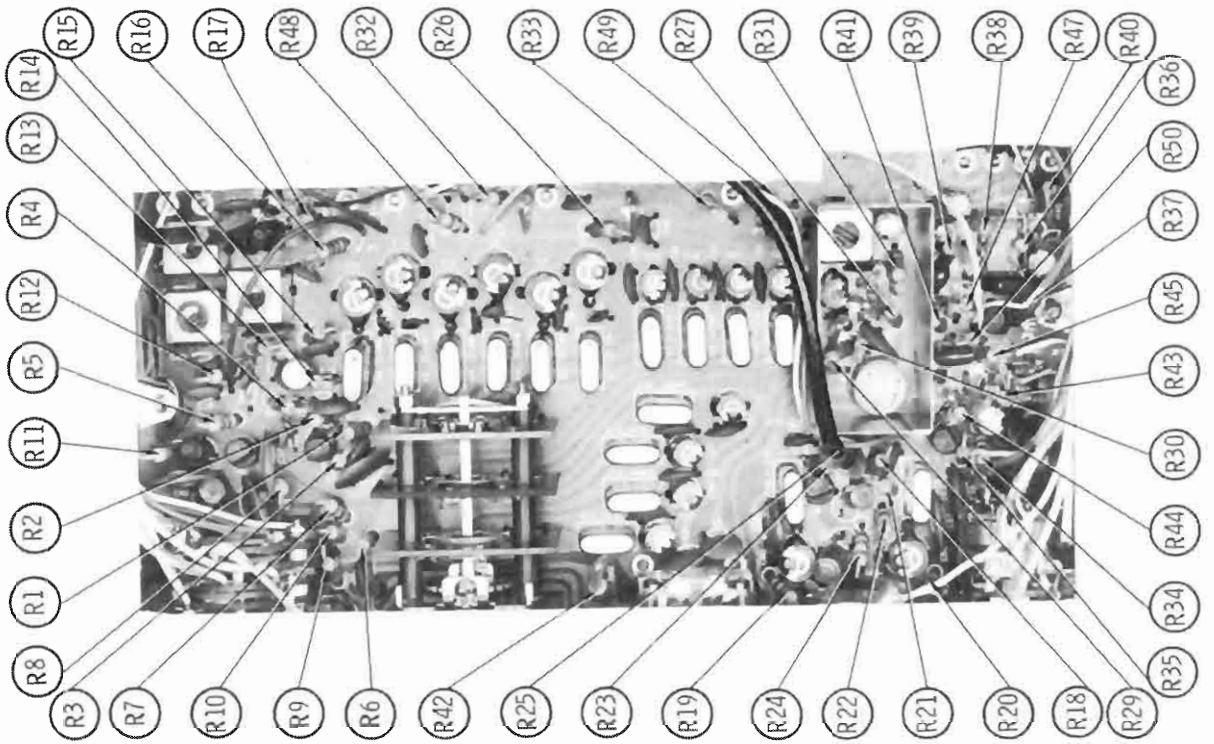


INDICATOR	ADJUST	REMARKS
OSCILLOSCOPE (Response to 30MHz) Frequency Counter	R60, R67	Set to USB. Connect a tone generator 500Hz and 2100Hz to microphone input. Adjust for MINIMUM third intermodulation distortion.
ALC RF Wattmeter Oscilloscope	R102	Connect audio generator to microphone input. Inject a 1000Hz signal. Key transmitter. Adjust for 10 watts.
PANEL MODULATION LAMP Oscilloscope or Modulation Indicator	R73	Connect audio generator to microphone input. Inject audio signal. Key transmitter. Adjust so that panel lamp has 4.18V.
AMC Modulator Meter	R46	Connect audio generator to microphone input. Inject a 2500Hz signal. Key transmitter. Adjust for 100% modulation maximum.

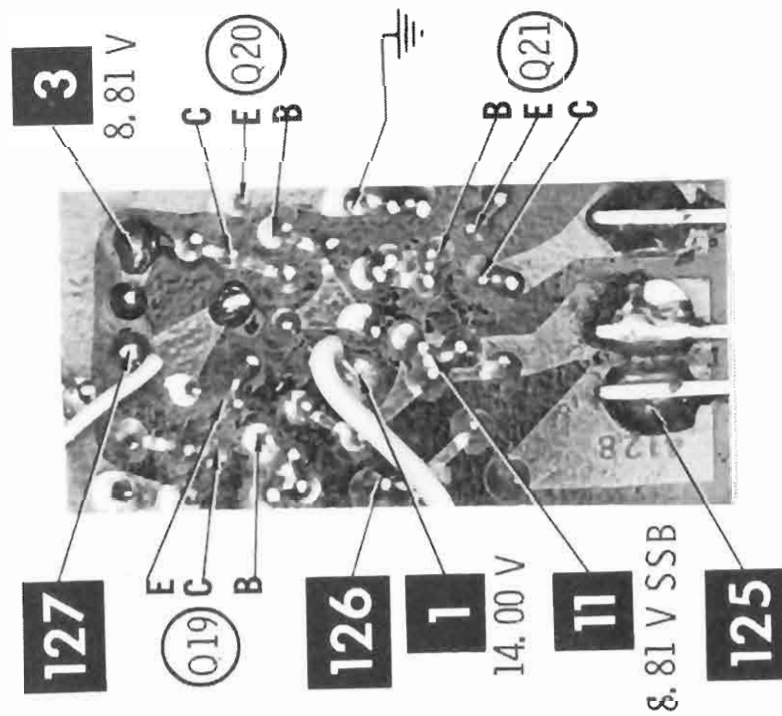
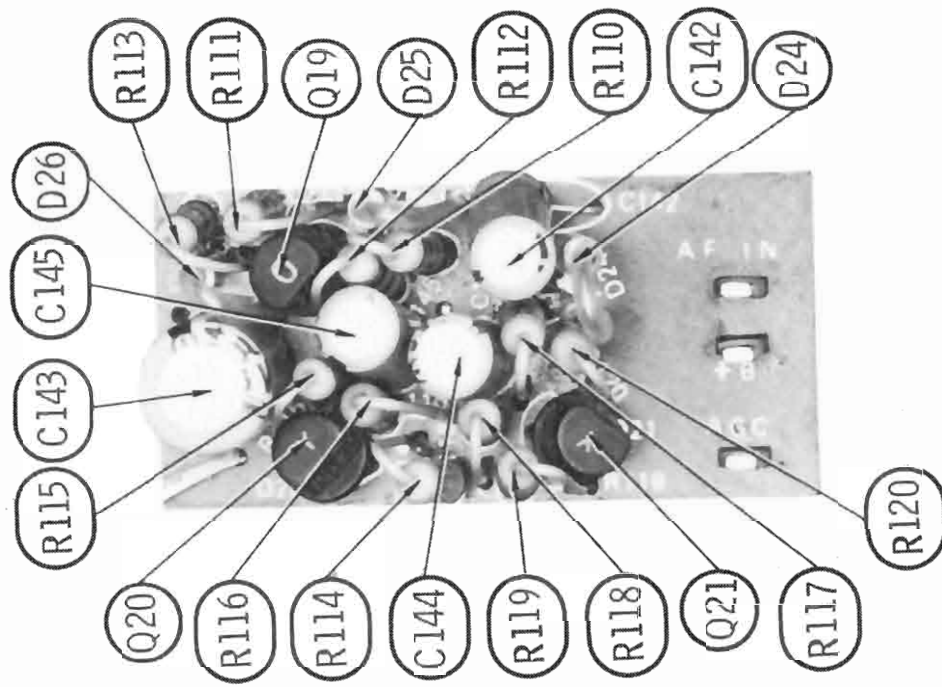


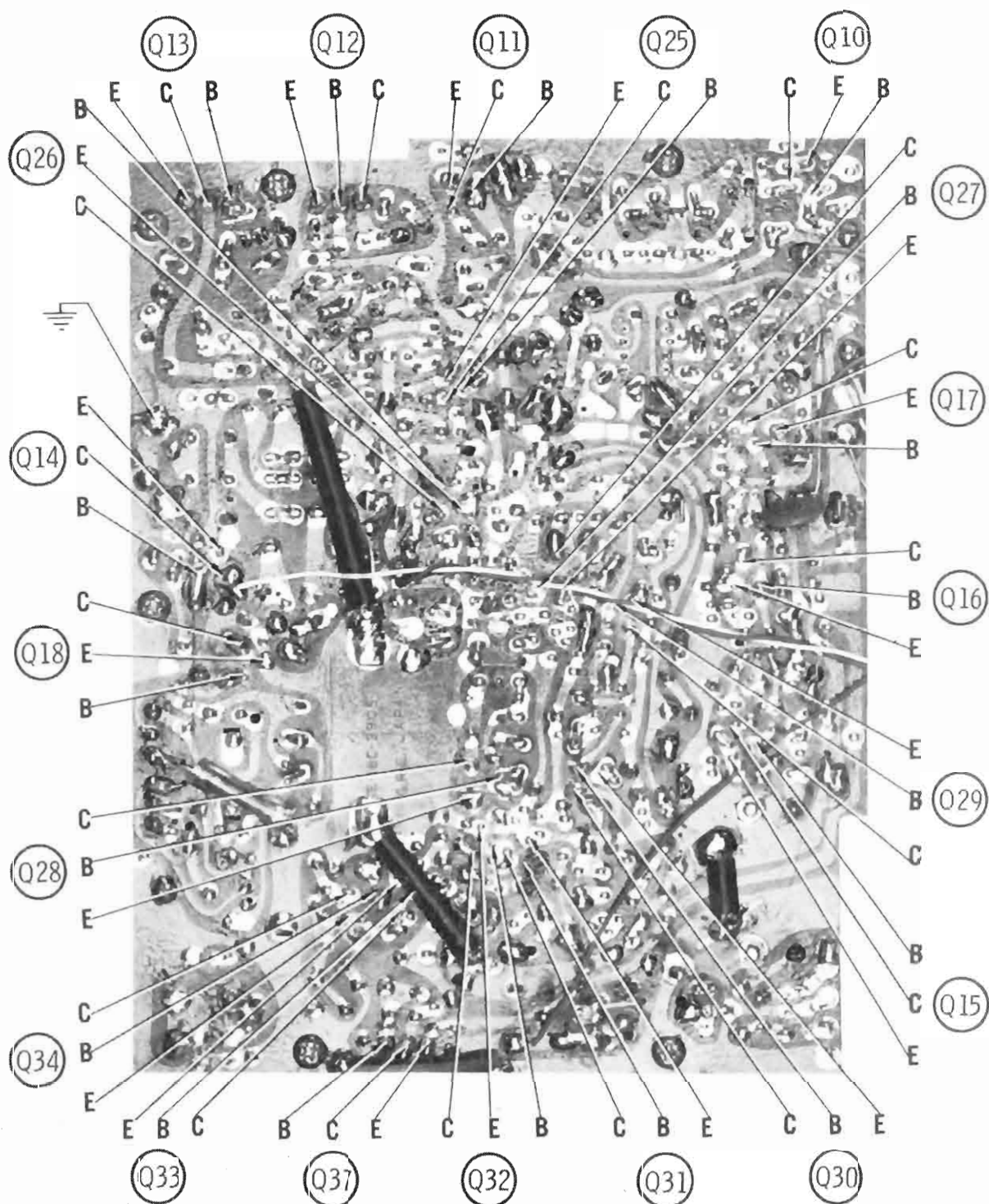
OSCILLATOR & MIC AMP BOARD

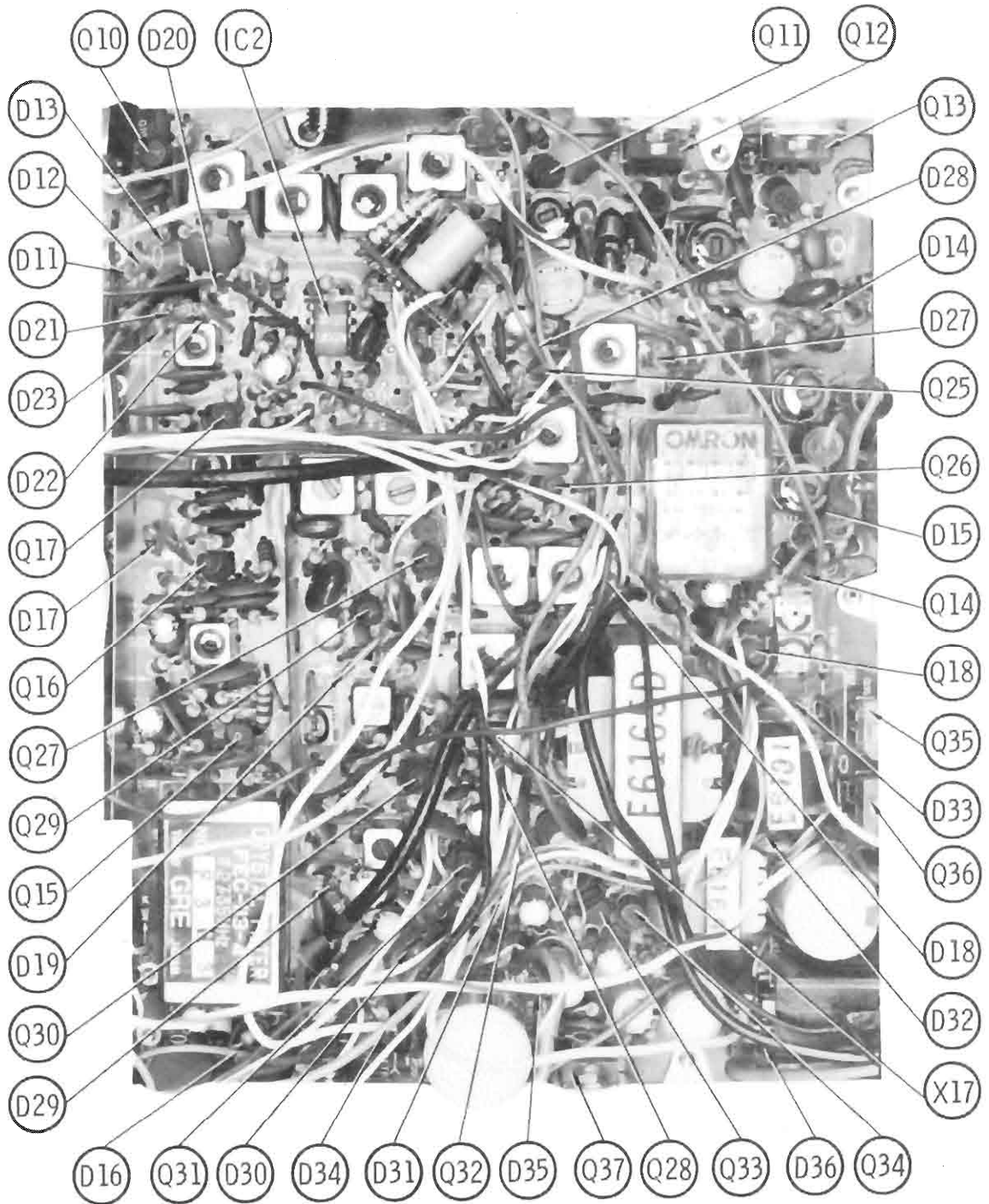
A Howard W. Sams **CIRCUIT** Photo

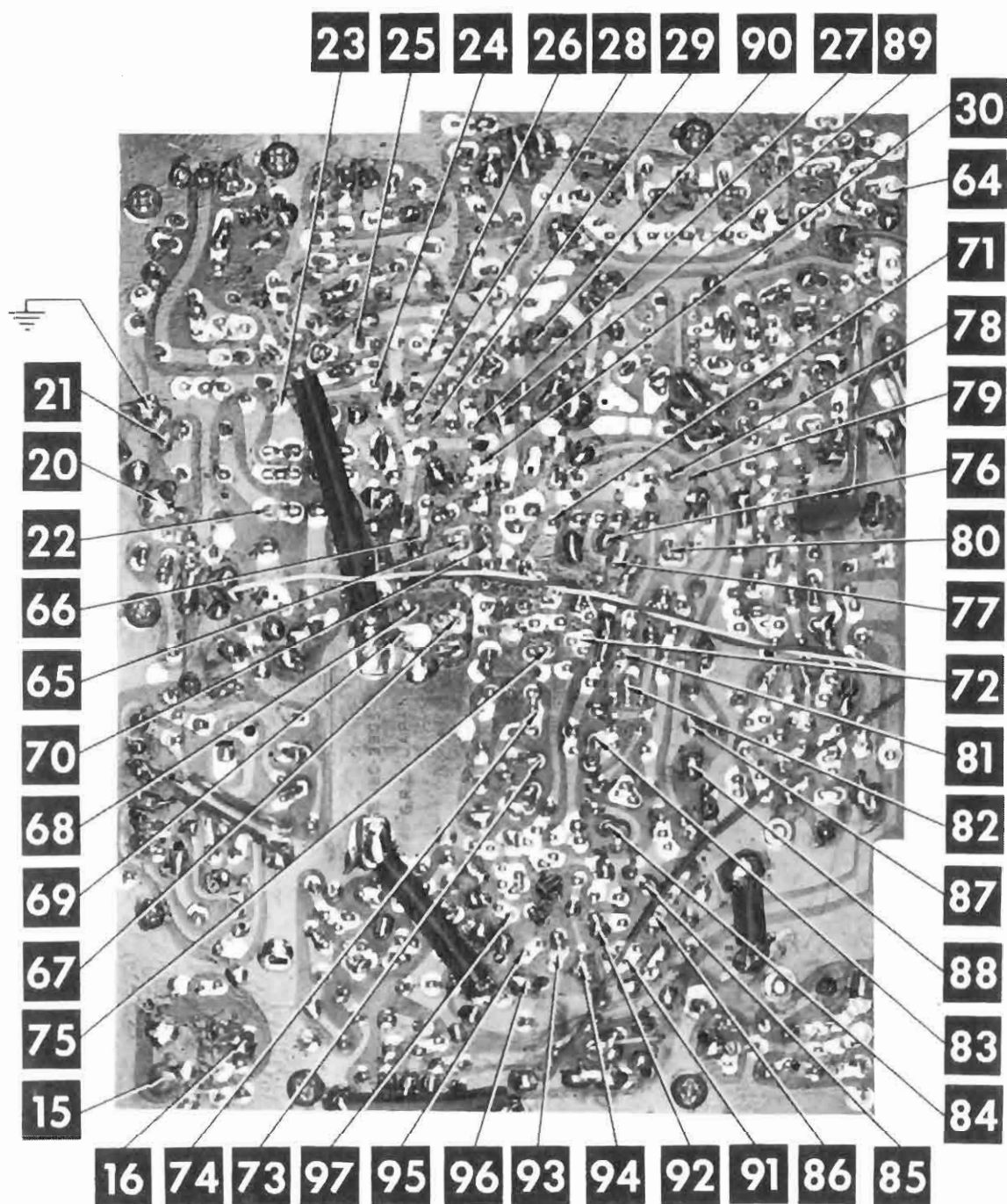


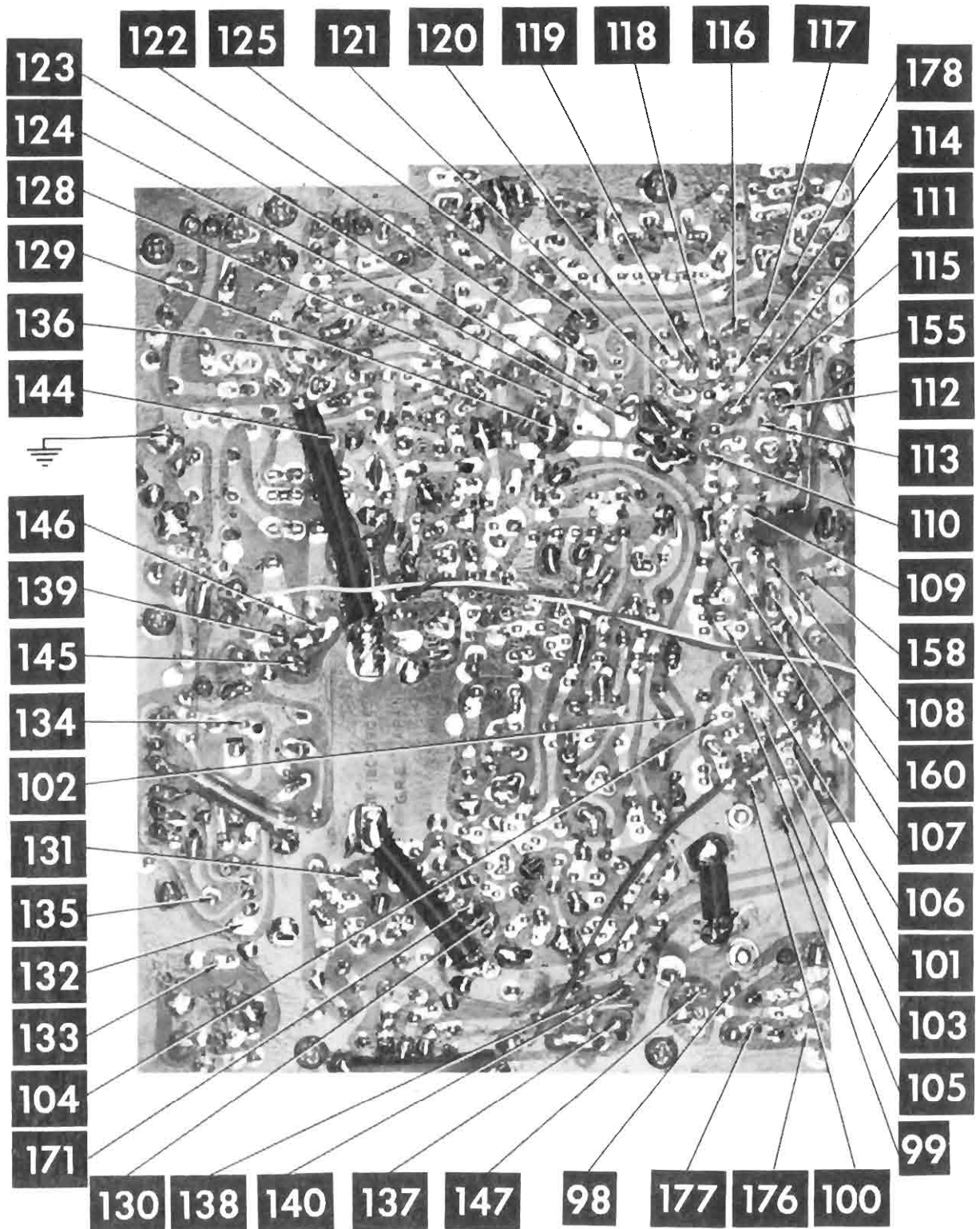
OSCILLATOR & MIC AMP BOARD



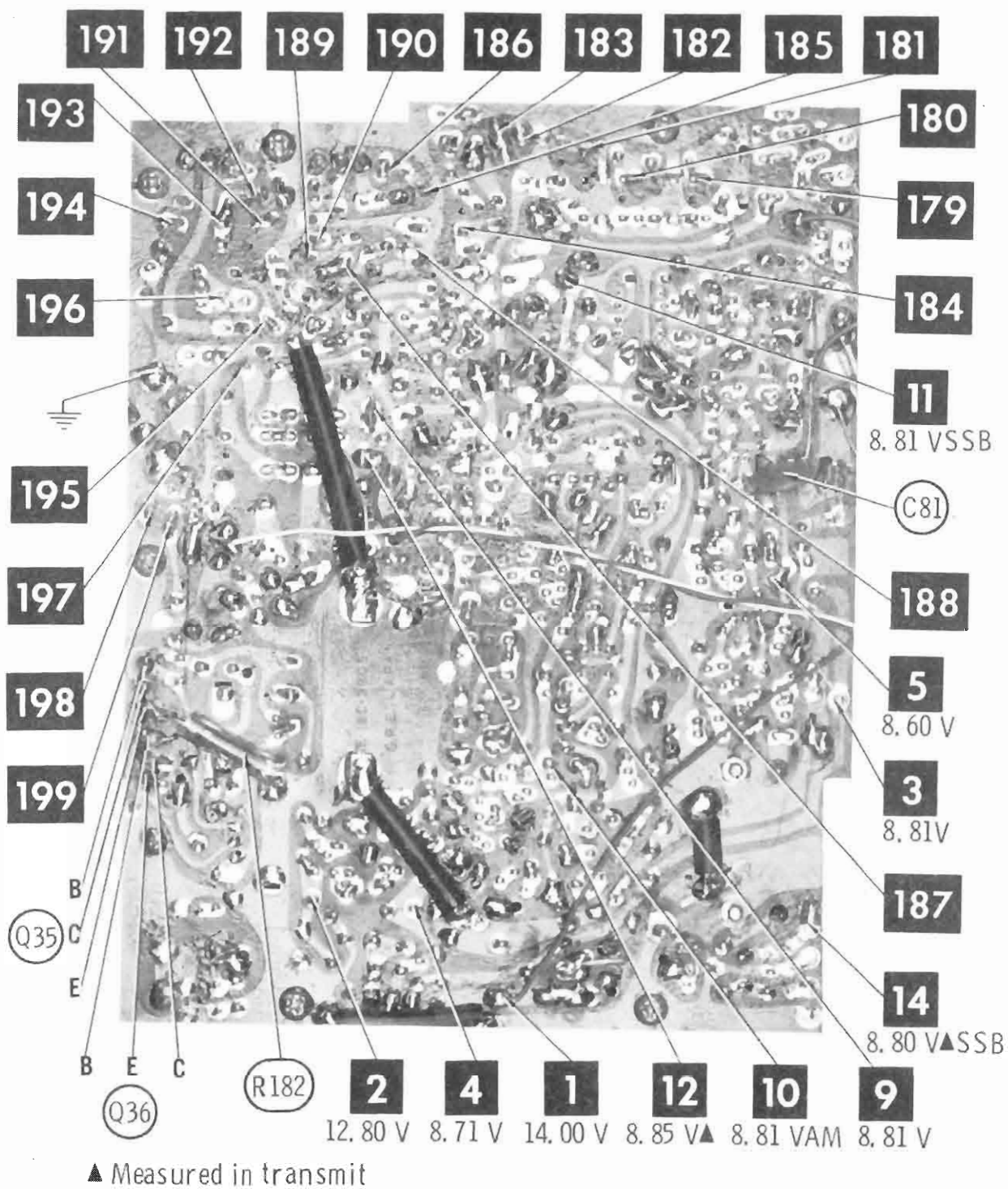


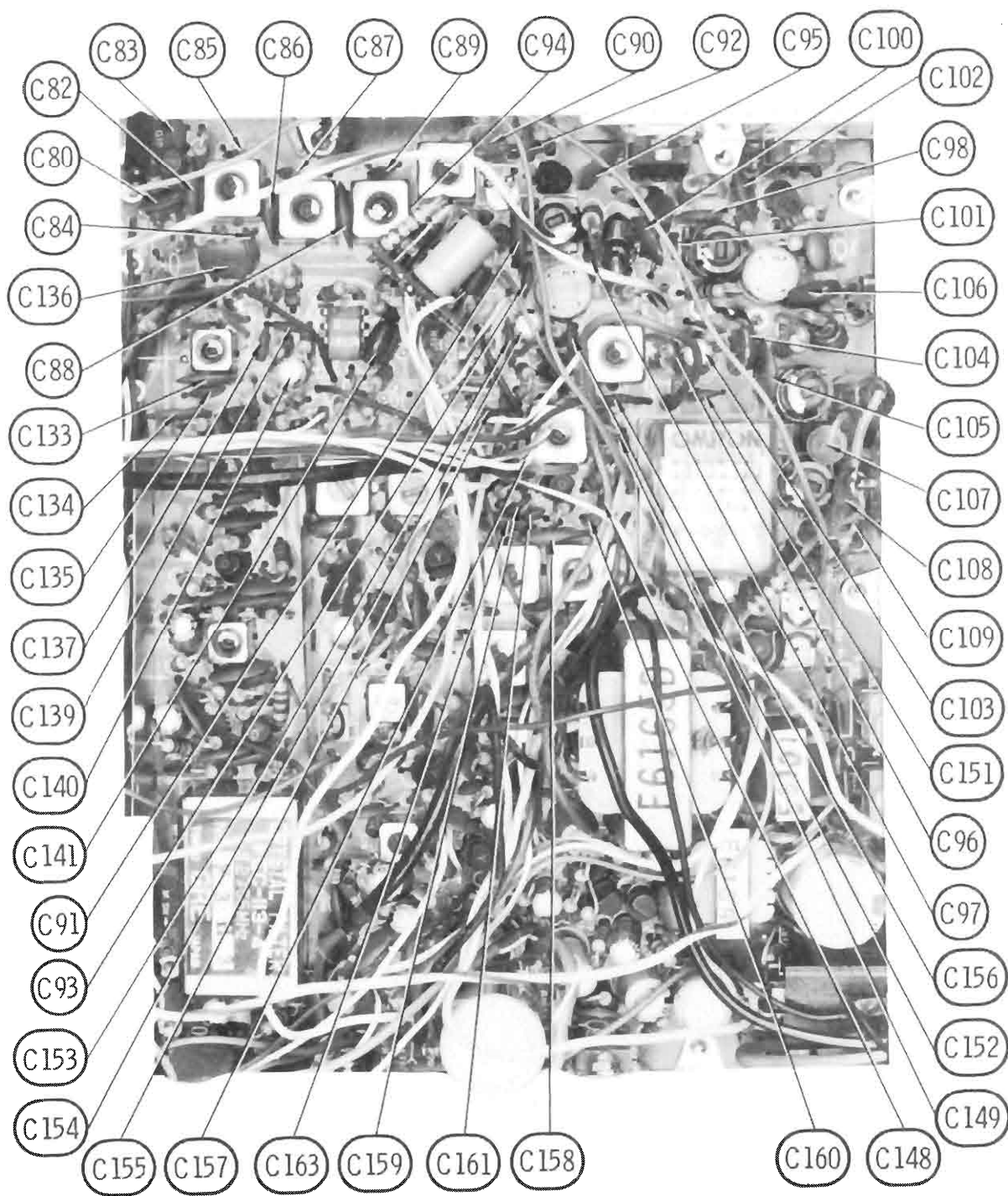


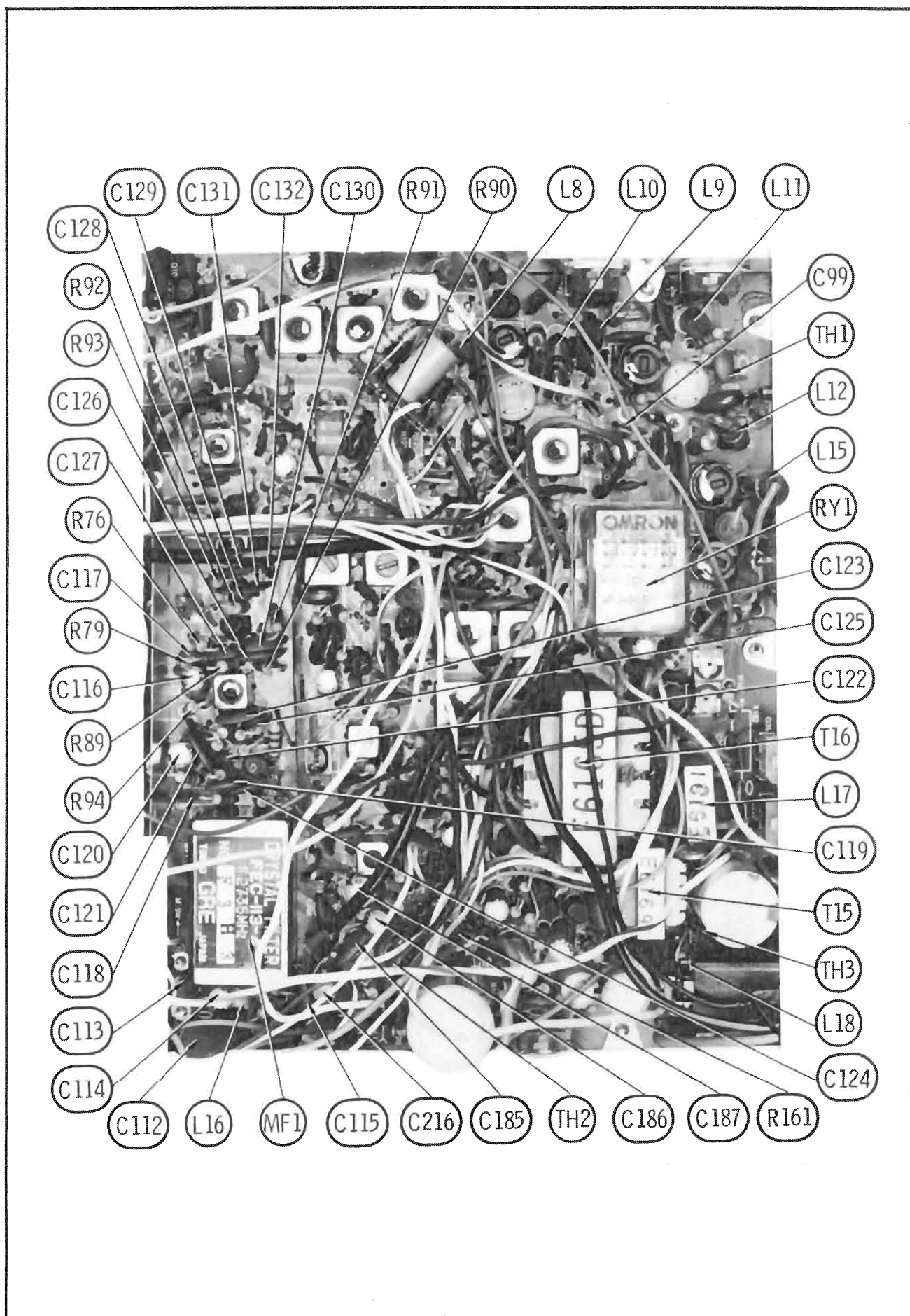


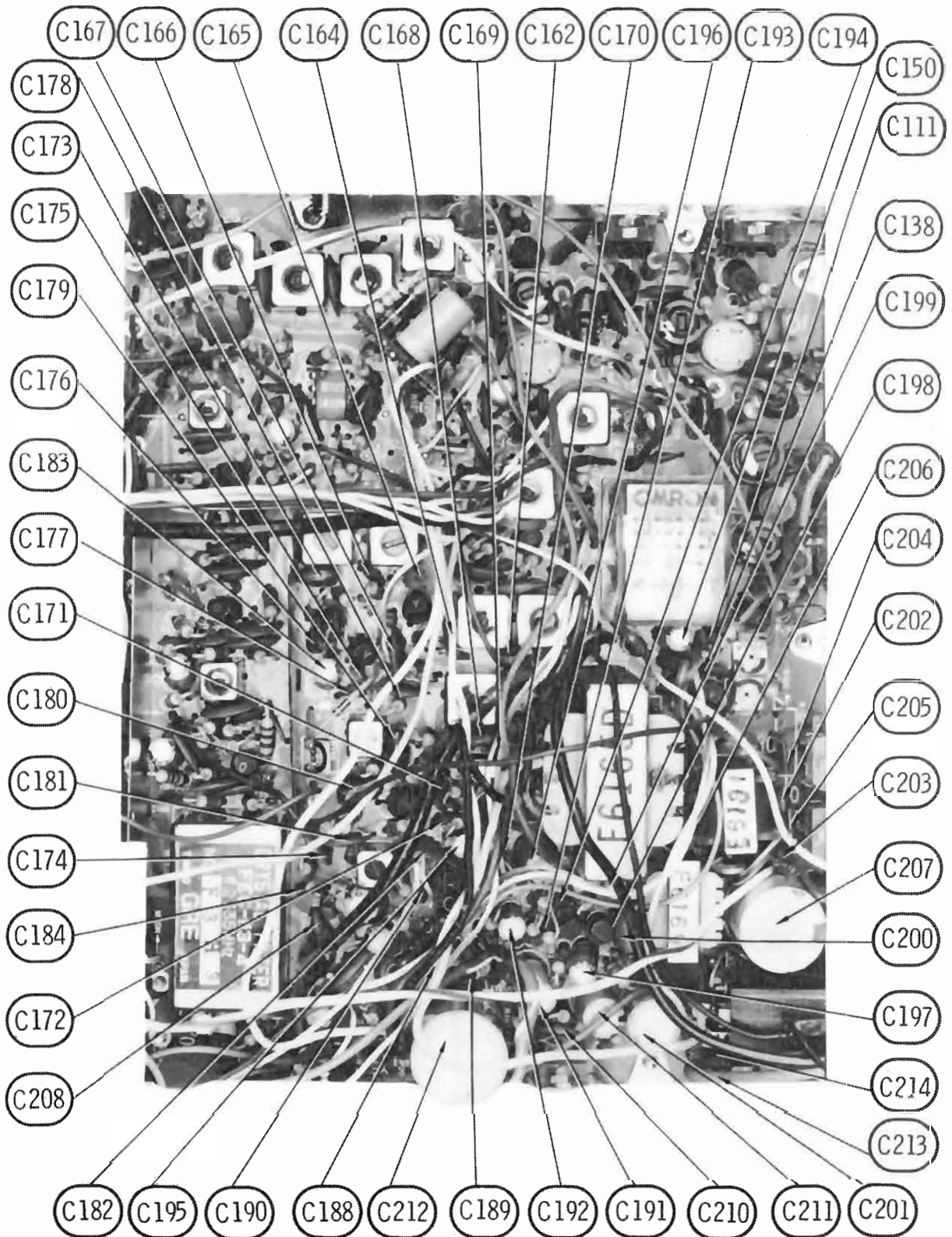


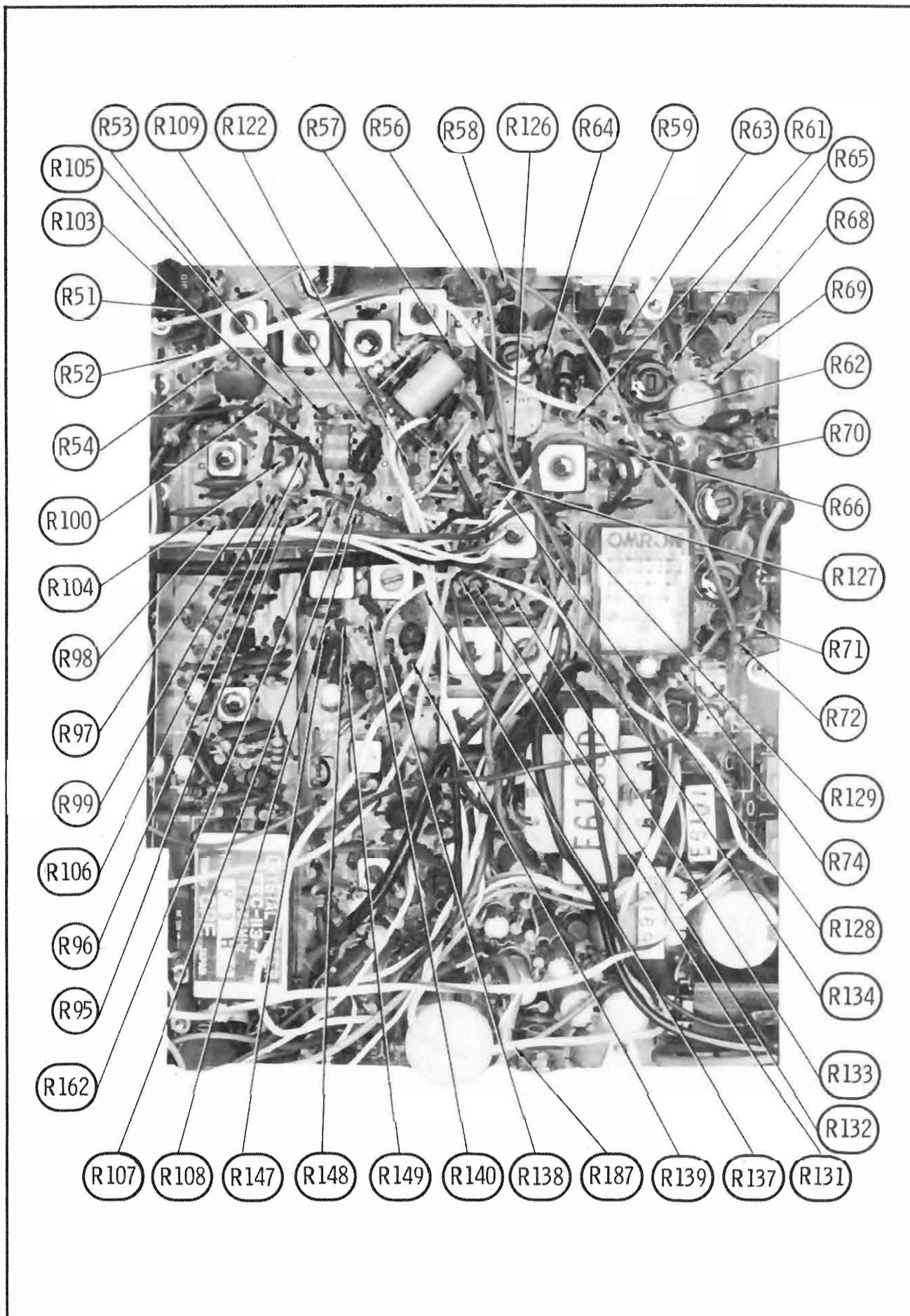
REALISTIC MODEL TRC-47

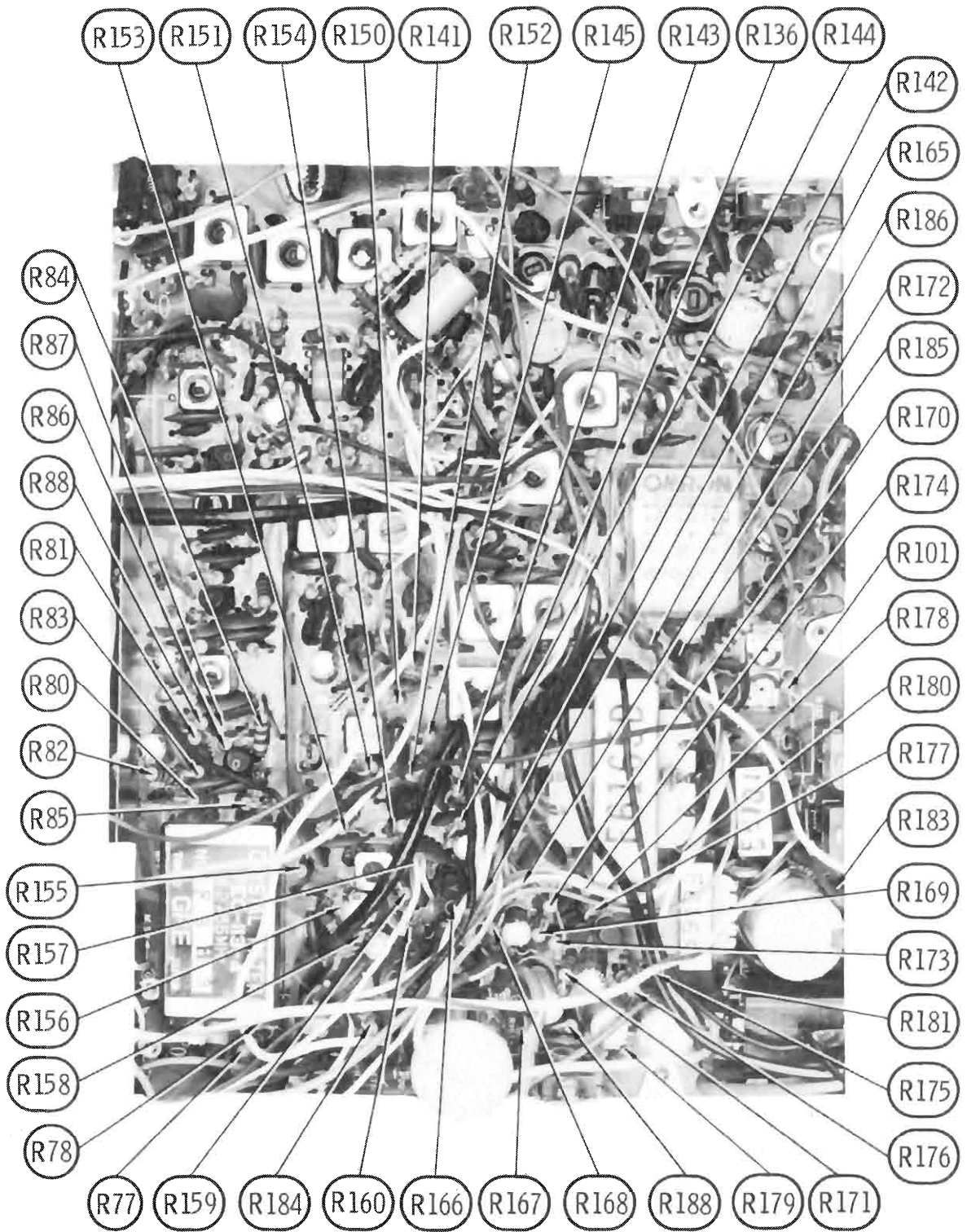


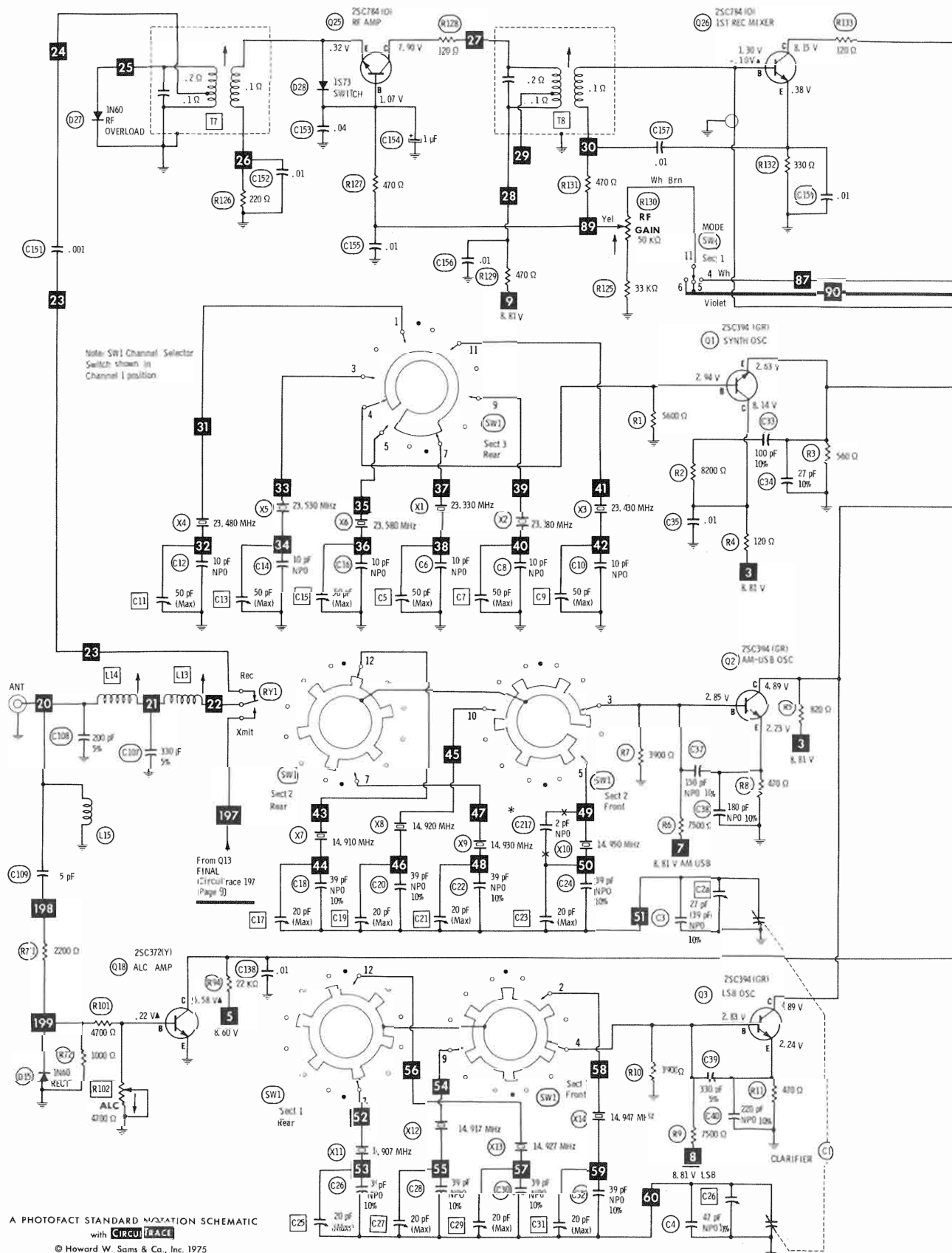




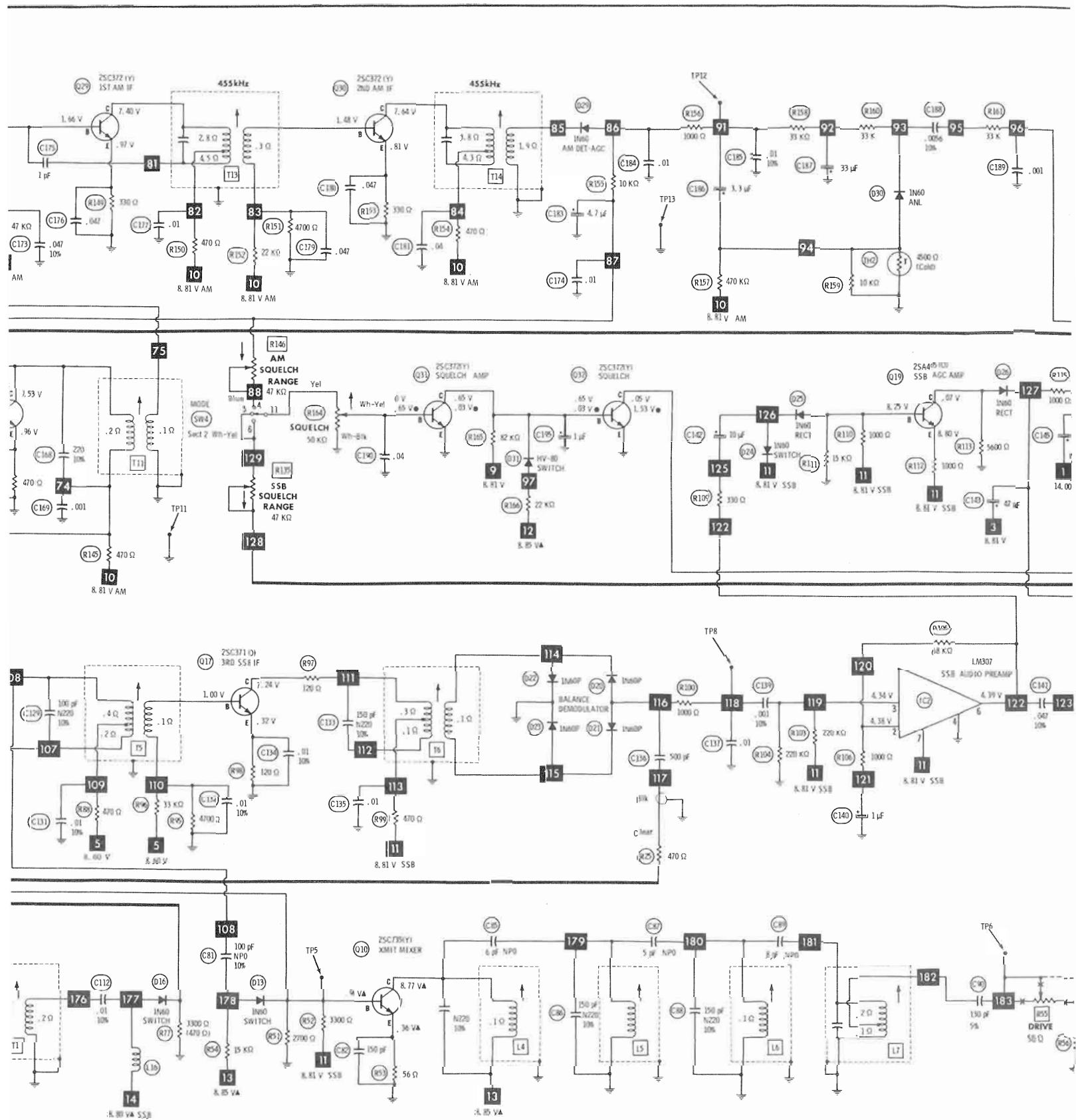


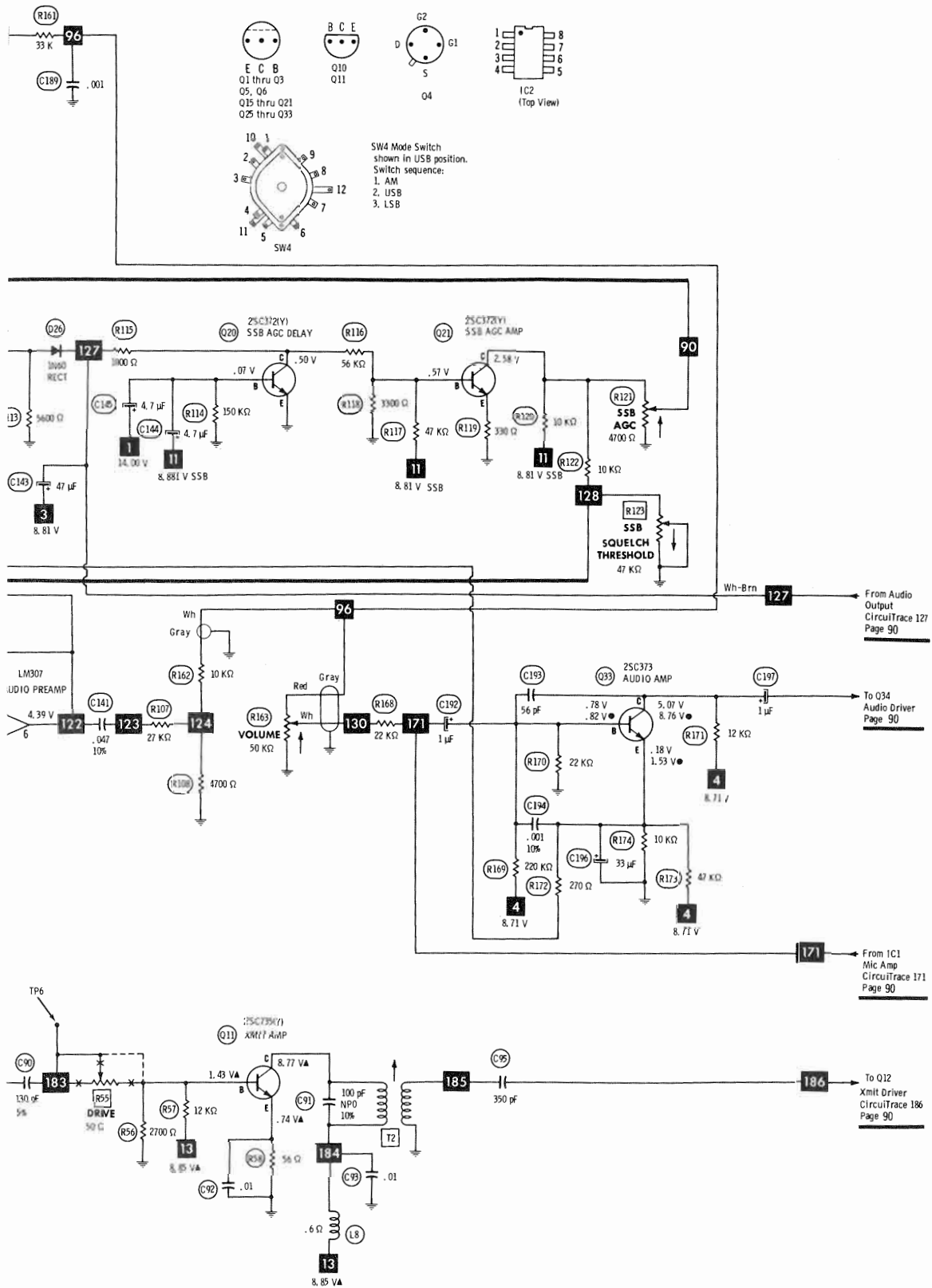


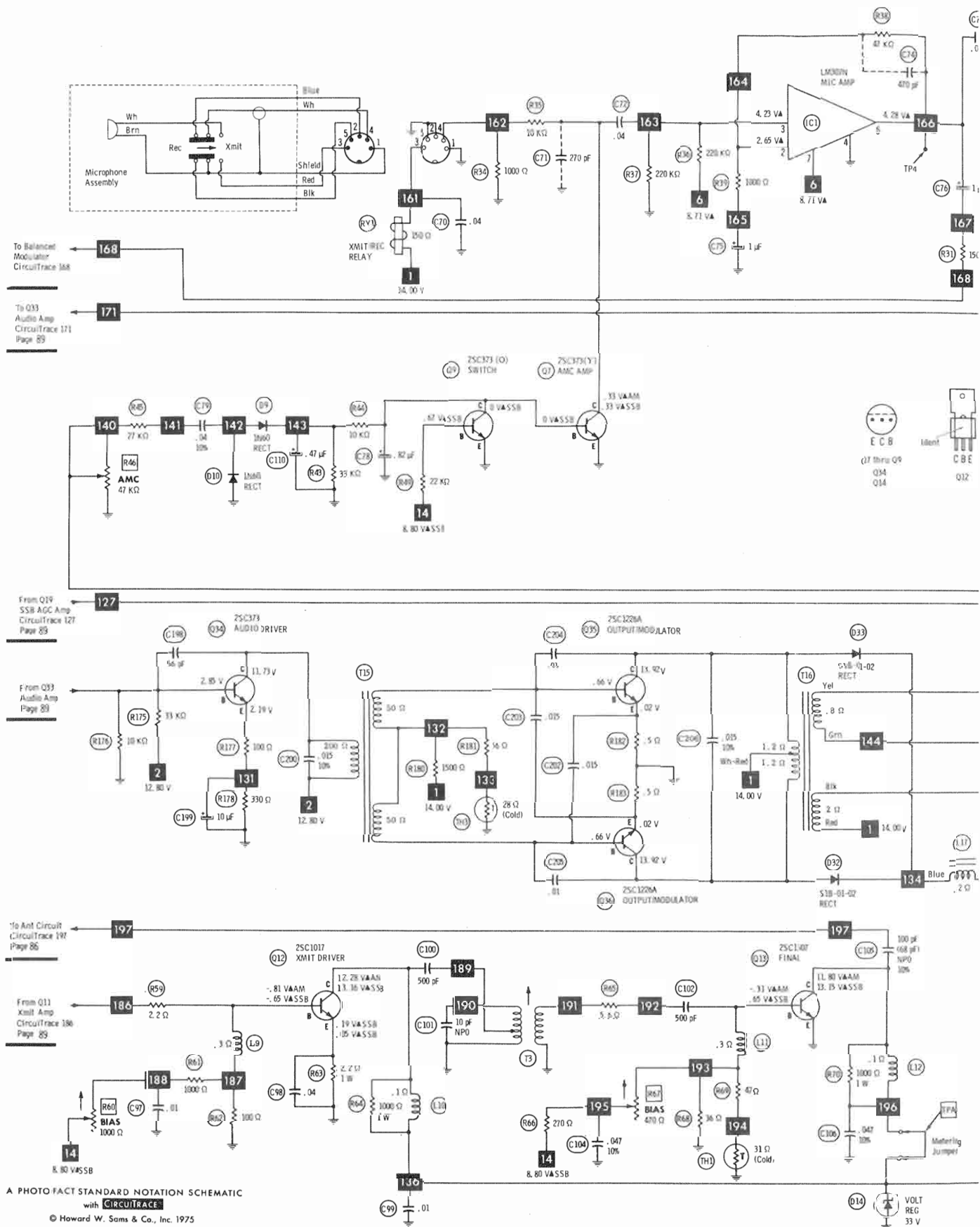


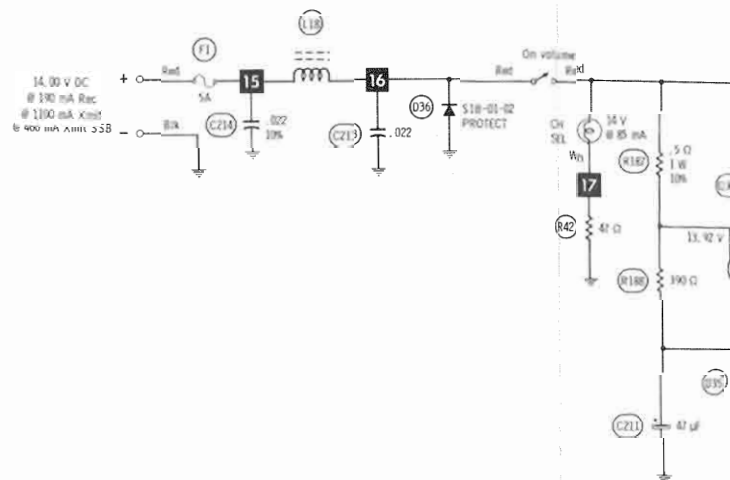


SEE NOTES ON PAGE 92





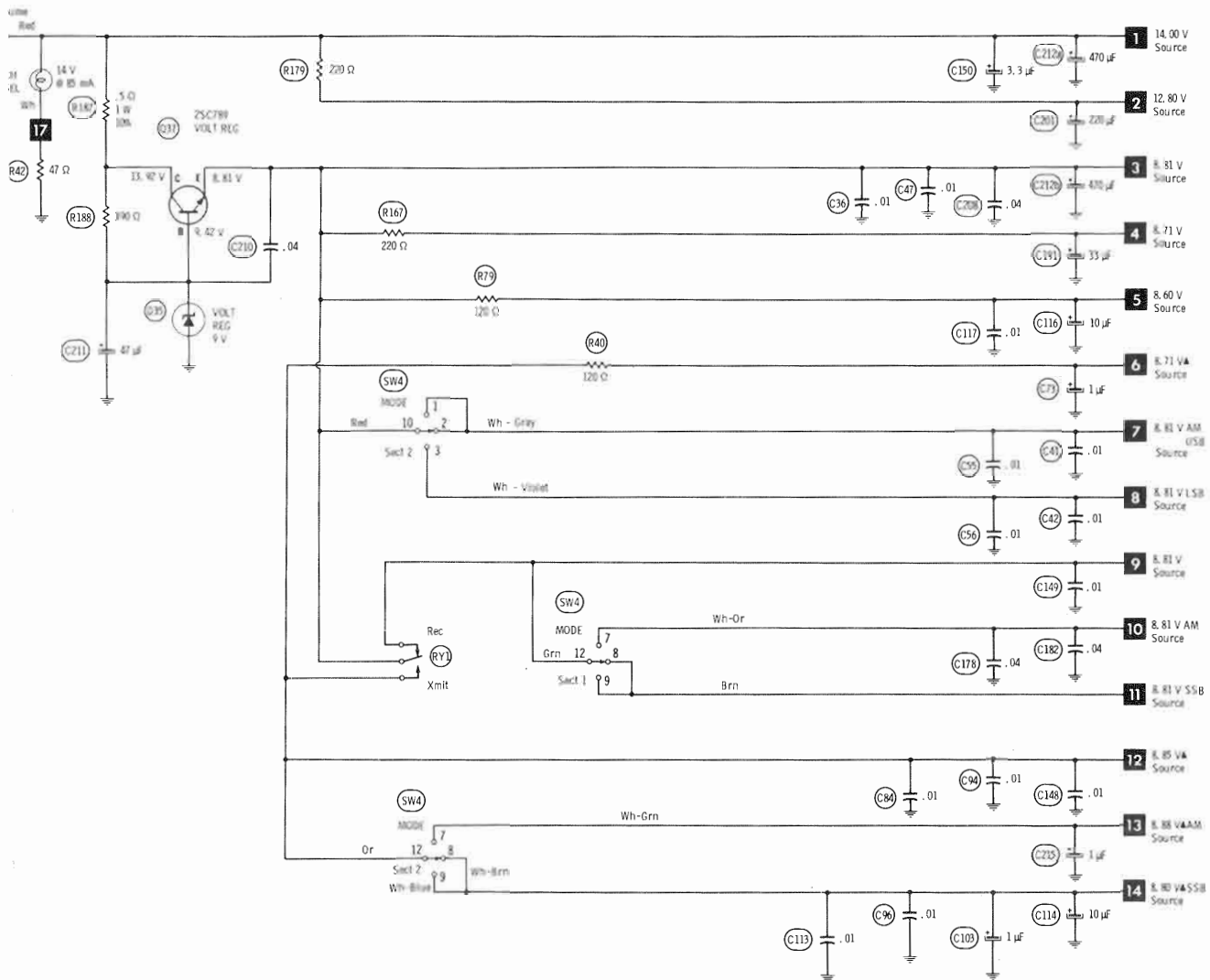




1. AM
2. USB
3. LSI



Chan	Crystal Complement	Chan	Crystal Complement	Chan	Crystal Complement	Chan	Crystal Complement
1	X1, X7, X16	7	X2, X5, X18	11	X4, X7, X16	19	X5, X7, X16
2	X1, X8, X16	8	X2, X5, X18	12	X4, X7, X16	20	X5, X7, X16
3	X1, X8, X16	9	X3, X7, X16	15	X4, X8, X16	21	X5, X7, X16
4	X1, X10, X16	10	X3, X7, X16	16	X4, X10, X16	22	X8, X8, X16
5	X2, X7, X16	11	X3, X8, X16	17	X5, X7, X16		
6	X2, X5, X16	12	X3, X10, X16	18	X5, X8, X16	23	X6, X10, X16



LSB

Chan	Crystal Complement
19	X5, X9, X16
20	X5, X10, X16
21	X6, X7, X16
22	X6, X8, X16
23	X6, X10, X16

Chan	Crystal Complement	Chan	Crystal Complement	Chan	Crystal Complement	Chan	Crystal Complement
1	X1, X11, X15	7	X2, X13, X15	13	X4, X11, X15	19	X5, X13, X15
2	X1, X12, X15	8	X2, X14, X15	14	X4, X12, X15	20	X5, X14, X15
3	X1, X13, X15	9	X3, X11, X15	15	X4, X13, X15	21	X6, X11, X15
4	X1, X14, X15	10	X3, X12, X15	16	X4, X14, X15	22	X6, X12, X15
5	X2, X11, X15	11	X3, X13, X15	17	X5, X11, X15	23	X6, X14, X15
6	X2, X12, X15	12	X3, X14, X15	18	X5, X12, X15		

Denotes chassis.
 — Denotes ground. (Voltage reference unless otherwise indicated)
 — — — Indicates connection used in some versions.
 * Indicates connection not used in some versions.
 * Omitted in some versions.
 * See parts list.
 * Value varies; replace with original value.
 * Measured in transmit position.
 * Measured with unit squelched.
 NC No Connection.
 Measurements taken with switching in position shown unless otherwise indicated.
 Values shown in 1:1 are used in some applications.
 Resistors are 1/2W or less, 10% or 20%, unless otherwise indicated.
 Supply voltage maintained at rated value for measurements.
 Voltage and resistance measured with VTVM or equivalent meter;
 no signal applied and controls adjusted for normal operation.
 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.
 Resistors are 1/2W or less, 5%, unless otherwise indicated.

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-Use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8524 (Stranded) Available in 12 Colors
	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)
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 In.)

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE / MFR. No. / PART No.	REPLACEMENT DATA						
		GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1S73	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D2	1S73	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D3	1N60P	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D4	1N60P	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D5	1N60P	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D6	1N60P	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D7	1S73	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D8	1S73	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D9	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D10	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D11	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D12	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D13	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D14	RS-35/AW01-33 33 V Zener	GEZD-33	Z-1222	PTC512	HEPZ0426	SK3095	RT250	ECG 147
D15	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D16	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D17	1S73	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D18	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D19	HV80	GE-300	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
D20	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D21	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D22	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D23	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D24	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D25	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D26	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D27	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D28	1S73	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D29	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D30	1N60	1N60	1N60	PTC206	HEP135	SK3088		ECG 109
D31	HV-80	GE-300	D200	PTC214	HEPRO602	SK3100	RT218	ECG 177
D32	51B01-02	GE-504A	8D4 or 5A4D	PTC201 or PTC202	HEPRO052	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117
D33	51B01-02	GE-504A	8D4 or 5A4D	PTC201 or PTC202	HEPRO052	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117
D34	51B01-02	GE-504A	8D4 or 5A4D	PTC201 or PTC202	HEPRO052	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117
D35	RD10EB 9 V Zener	GEZD-9.1	Z-1210	PTC505	HEPZ0412	SK3060	RT240	ECG 139
D36	51B01-02	GE-504A	8D4 or 5A4D	PTC201 or PTC202	HEPRO052	SK3030 or SK3031	RT213 or RT214	ECG 116 or ECG 117
IC1	LM307N							
IC2	LM307N							
Q1	2SC394GR	GE-17	TR-33	PTC139	HEP53	SK3018	RT108	ECG 107
Q2	2SC394GR	GE-17	TR-33	PTC139	HEP53	SK3018	RT108	ECG 107
Q3	2SC394GR	GE-17	TR-33	PTC139	HEP53	SK3018	RT108	ECG 107
Q4	3SK45				HEPF2004	SK3050	RT180	ECG 222
Q5	2SC372(O)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q6	2SC394GR	GE-17	TR-33	PTC139	HEP53	SK3018	RT108	ECG 107
Q7	2SC372Y	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q8	2SC372(O)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q9	2SC372(O)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q10	2SC735Y	GE-63	TR-21	PTC123	HEP53	SK3124	RT102	ECG 123A
Q11	2SC735Y	GE-63	TR-21	PTC123	HEP53	SK3124	RT102	ECG 123A
Q12	2SC1017 (1)				HEPS3020	SK3054		
Q13	2SC1307 (2)							
Q14	2SC734(O)	GE-66	TR-24	PTC110	HEP713	SK3024	RT114	ECG 236
Q15	2SC371(O)	GE-18	TR-33	PTC123	HEP50	SK3018	RT102	ECG 128
Q16	2SC371(O)	GE-20	TR-33	PTC121	HEP50	SK3018	RT102	ECG 123A
Q17	2SC371(O)	GE-20	TR-33	PTC121	HEP50	SK3018	RT102	ECG 123A
Q18	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q19	2SA495(O)	GE-21	TR-30	PTC103	HEP52	SK3114	RT115	ECG 159
Q20	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q21	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q25	2SC784(O)	GE-11	TR-70	PTC132	HEP56	SK3018	RT108	ECG 107
Q26	2SC784(O)	GE-11	TR-70	PTC132	HEP56	SK3018	RT108	ECG 107
Q27	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q28	2SC371(O)	GE-20	TR-33	PTC121	HEP50	SK3018	RT102	ECG 123A
Q29	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q30	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q31	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q32	2SC372(Y)	GE-20	TR-24	PTC139	HEP55	SK3018	RT102	ECG 123A
Q33	2SC373	GE-20	(IR)2SC373	PTC101	HEP55	SK3122	RT107	ECG 123A
Q34	2SC373	GE-20	(IR)2SC373	PTC101	HEP55	SK3122	RT107	ECG 123A
Q35	2SC1226(A) (3)	GE-28	TR-55	PTC110	HEPS3023	SK3054	RT154	ECG 186
Q36	2SC1226(A) (3)	GE-28	TR-55	PTC110	HEPS3023	SK3054	RT154	ECG 186
Q37	2SC789(Y) (4)	GE-66	TR-76	PTC137	HEPS5003	SK3041	RT133	ECG 152
Q38	2SC373 (5)	GE-20	(IR)2SC373	PTC101	HEP55	SK3122	RT107	ECG 123A

- (1) Rating 4 Watts @ 1 Amp
 (2) Rating 25 Watts @ 8 Amp
 (3) Rating 10 Watts @ 3 Amp
 (4) Rating 30 Watts @ 4 Amp
 (5) Used in some versions.

REALISTIC MODEL TRC-47

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C73	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C75	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C76	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C78	.82 50V	CED4WR82				TDC105M050EL	SD50-RB29
C103	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C110	.47					TBC474M050EL	SD50-R479
C114	10 16V		RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C116	10 16V		RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C120	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C140	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C142	10 16V		RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C143	47 16V		RME-E-E-050	EP15-50	PC50-16	MTV50C815	EV-1226
C144	4.7 16V		RME-A-E-005	EP15-5	PC5-50	VTT4R7A50	EV-1319
C145	4.7 16V		RME-A-E-005	EP15-5	PC5-50	VTT4R7A50	EV-1319
C150	3.3 25V		RME-A-H-003	EP30-5	PC5-50	VTT3R3A50	EV-1618
C154	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C183	4.7 16V		RME-A-E-005	EP15-5	PC5-50	VTT4R7A50	EV-1319
C186	3.3 25V		RME-A-H-003	EP30-5	PC5-50	VTT3R3A50	EV-1618
C187	33 16V		ME-3-E-035	EP15-25	PC30-25	MTV30C825	EV-1325
C191	33 16V		ME-3-E-035	EP15-25	PC30-25	MTV30C825	EV-1325
C192	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C195	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C196	33 16V		ME-3-E-035	EP15-25	PC30-25	MTV30C825	EV-1325
C197	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615
C199	10 16V		RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C201	220 16V		RME-J-E-250	EP15-250	PC250-25	MTV250DE15	EV-1245
C207	470 16V		RME-L-E-500	EP15-500	PC500-16	MTV500DN15	EV-1250
	470 35V		RME-O-H-500	EP50-500	WBRS00-35	MTA500G50	EV-1450
C211	47 16V		RME-E-E-050	EP15-50	PC50-16	MTV50C815	EV-1226
C212A	470 16V				BB0045A	PFP200.65	
	470 16V						
C215	4.7 16V		RME-A-E-005	EP15-5	PC5-50	VTT4R7A50	EV-1319
C216	1 50V	CED4W1H010	RME-A-J-001	EP50-1	PC1-50	MTV1C850	EV-1615

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	0-260	PVC-2062B-061					
C2A	0-260	PVC-2062B-061					
C2B							
C3	27 NPO 10%		CCT0-270		NP027	CN0427	10TCC-Q27
C4	47 NPO 10%		CCT0-470	DTZ-47	NP047	CN0447	10TCC-Q47
C5	50 (Max.)	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C6	10 NPO	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C7	50 (Max.)	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C8	10 NPO	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C9	50 (Max.)	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C10	10 NPO	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C11	50 (Max.)	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C12	10 NPO	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C13	50 (Max.)	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C14	10 NPO	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C15	50 (Max.)	ECV1ZW-50P32	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C16	10 NPO	ECV1ZW-20P50	CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C17	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C18	39 NPO 10%	ECV1ZW-20P50				CN0439	10TCC-Q39
C19	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C20	39 NPO	ECV1ZW-20P50				CN0439	10TCC-Q39
C21	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C22	39 NPO	ECV1ZW-20P50				CN0439	10TCC-Q39
C23	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C24	39 NPO	ECV1ZW-20P50				CN0439	10TCC-Q39
C25	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C26	39 NPO	ECV1ZW-20P50				CN0439	10TCC-Q39
C27	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C28	39 NPO	ECV1ZW-20P50				CN0439	10TCC-Q39
C29	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C30	39 NPO	ECV1ZW-20P50				CN0439	10TCC-Q39
C31	20 (Max.)	ECV1ZW-20P50				CN0439	10TCC-Q39
C32	39 NPO					CN0439	10TCC-Q39
C33	100 10%		CCT0-101	DTZ-100	NP0100	CN0310	10TCC-T10
C34	27 10%		CCT0-270		NP027	CN0427	10TCC-Q27
C35	.01		CCT0-103	DD-103	6P10000	JF110	10T5-S10

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C36	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C37	150 NPO 10%		CCD-151	DD-151	GP150	GP315	10TS-T15
C38	180 NPO 10%		CCD-181	DD-181	GP180	GP318	10TS-T18
C39	330 5%		DM-19-331J	CPR-330J	CD15FD331J03	SX333	424ME3300J501
C40	220 NPO		CCD-221	DD-221	GP220	GP322	10TS-T22
C41	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C42	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C43	10 NPO		CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C44	10 NPO		CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C45	100 N220 10%		*	*	*	*	10TCR-T10
C46	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C47	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C48	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C49	2 NPO			DTZ-2R2	NP02P2	CN0522	10TCC-V22
C50	2 NPO			DTZ-2R2	NP02P2	CN0522	10TCC-V22
C51	100 N220 10%		*	*	*	*	10TCR-T10
C52	33 NPO 10%		CCTO-330	DTZ-33	NP033	CN0433	10TCC-Q33
C53	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C54	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C55	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C56	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C57	100 NPO 10%		CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C58	50 (Max.)						
C59	100 NPO 10%		CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C60	50 (Max.)						
C61	330 5%		DM-19-331J	CPR-330J	CD15FD331J03	SX333	424ME3300J501
C62	470 5%		DM-19-471J	CPR-470J	CD15FD471J03	SX347	424ME4700J501
C63	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10
C64	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10
C65	.0047 10%		CCD-472	DD-472G	GP4700	JF247	10TS-D47
C66	20 NPO 10%		CCTO-200	DTZ-20	NP020	CN0420	10TCC-Q20
C67	20 (Max.)						
C68	10 NPO 10%		CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C69	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10
C70	.04			DD-403		GP140	
C71	270		CCD-270	DD-271	GP270	GP327	10TS-T27
C72	.04			DD-403		GP140	
C74	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C77	.02		CCD-203	DD-203		GP120	10TS-S20
C79	.04 10%			DD-403		GP140	
C80	68 NPO 10%			DTZ-68		CN0468	10TCC-Q68
C81	100 NPO 10%		CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C82	150 N220 10%		*			*	10TCR-T15
C83	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C84	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C85	6 NPO						10TCC-V56
C86	150 N220 10%		*			*	10TCR-T15
C87	5 NPO				NP05		10TCC-V50
C88	150 N220 10%		*			*	10TCR-T15
C89	8 NPO				NP08P2		10TCC-V82
C90	130 5%		DM-15-131J	CPR-130J		SX313	MS-313
C91	100 NPO 10%		CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C92	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C93	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C94	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C95	350		CCD-103	DD-103	GP10000	JF110	10TS-S10
C96	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C97	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C98	.04			DD-403		GP140	
C99	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C100	500		CCD-501	DD-501	GP500	GP350	10TS-T50
C101	10 NPO		CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C102	500		CCD-501	DD-501	GP500	GP350	10TS-T50
C104	.047 10%		10P-2-473		DPMS6S47	EWFA1A47	225P47391WD3
C105	100 NPO 10%		CCTO-101	DTZ-100	NP0100	CN0310	10TCC-T10
C106	.047 10%		10P-2-473		DPMS6S47	EWFA1A47	225P47391WD3
C107	330 5%		DM-19-331J	CPR-330J	CD15FD331J03	SX333	424ME3300J501
C108	200 5%		DM-19-201J	CPR-200J	CD15FD201J03	SX320	424ME2000J501
C109	5				NP05		10TCC-V50
C111	.04			DD-403		GP140	
C112	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C113	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C115	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C117	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C118	20 NPO 10%		CCTO-200	DTZ-20	NP020	CN0420	10TCC-Q20
C119	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C121	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C122	1				CN0510		10TCC-V10
C123	150 N220 10%		*			*	10TCR-T15
C124	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C125	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C126	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C127	47 NPO 10%		CCTO-470	DTZ-47	NP047	CN0447	10TCC-Q47
C128	3						10TCC-V30
C129	100 N220 10%		*			*	10TCR-T10
C130	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C131	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C132	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C133	150 N220 10%		*			*	10TCR-T15
C134	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C135	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C136	500		CCD-501	DD-501	GP500	GP350	10TS-T50
C137	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C138	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C139	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10

REALISTIC MODEL TRC-47

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO/ELMENDO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C141	.047 10%		TDP-2-473		DPMS6S47	EWFA1A147	225P47391WD3
C148	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C149	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C151	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C152	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C153	.04			DD-403		GP140	
C155	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C156	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C157	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C158	220 N220 10%		*			*	10TCR-T22
C159	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C160	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C161	5				NPO5		10TCC-V50
C162	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C163	150 N220 10%		*			*	
C164	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C165	470 5%		DM-19-471J	CPR-470J	CD15FD471J03	SX347	424ME4700J501
C166	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C167	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C168	220 N220 10%		*			*	10TCR-T22
C168	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C170	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10
C171	68 NPO 10%			DTZ-68		CN0468	10TCC-Q68
C172	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10
C173	.047 10%		TDP-2-473		DPMS6S47	EWFA1A147	225P47391WD3
C174	.04			DD-403		GP140	
C175	1				CN0510		10TCC-V10
C176	.047		TDP-2-473		DPMS6S47	EWFA1A147	225P47391WD3
C177	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C178	.04			DD-403		GP140	
C179	.047		TDP-2-473		DPMS6S47	EWFA1A147	225P47391WD3
C180	.047		TDP-2-473		DPMS6S47	EWFA1A147	225P47391WD3
C181	.04			DD-403		GP140	
C182	.04			DD-403		GP140	
C184	.01		CCD-103	DD-103	GP10000	JF110	10TS-S10
C185	.01 10%		CCD-103	DD-103	GP10000	JF110	10TS-S10
C188	.0056 10%		CCD-502	DD-502	GP5000	JF250	10TS-D50
C189	.001		CCD-102	DD-102	GP1000	GP210	10TS-D10
C190	.04			DD-403		GP140	
C193	56		CCD-560	DD-560		GP456	10TS-Q56
C194	.001 10%		CCD-102	DD-102	GP1000	GP210	10TS-D10
C198	56		CCD-560	DD-560		GP456	10TS-Q56
C200	.015 10%		TDP-1-153	DD-153	DPMS6S15	EWFA1A115	225P15391WD3
C202	.015		TDP-1-153	DD-153	DPMS6S15	EWFA1A115	225P15391WD3
C203	.015		TDP-1-153	DD-153	DPMS6S15	EWFA1A115	225P15391WD3
C204	.01		TDP-1-103	DD-103	DPMS6S1	EWFA1A110	225P10391WD3
C205	.01		TDP-1-103	DD-103	DPMS6S1	EWFA1A110	225P10391WD3
C206	.015 10%		TDP-1-153	DD-153	DPMS6S15	EWFA1A115	225P15391WD3
C208	.04			DD-403		GP140	
C210	.04			DD-403		GP140	
C213	.022		TDP-1-223		DPMS6S22	EWFA1A122	225P22391WD3
C214	.022 10%		TDP-1-223		DPMS6S22	EWFA1A122	225P22391WD3
C217	2 NPO			DTZ-2R2	NPO2P2	CN0522	10TCC-V22
C218	39 NPO 10%					CN0439	10TCC-Q39

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

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R28	Carrier Balance	100	P-351	TSV-100 (4) or [T-100 (4)]		X201R101B (4)	MTC12L1 (4)
R46	AMC	47K	P-354	TSV-50K (20) or [T-50K (20)]	C-503 (20)	X201R503B (20)	MTC54L1 (20)
R55	Drive	50	P-355	TSV-100 (20) or [T-100 (20)]		X201R101B (20)	MTC12L1 (20)
R60	Bias	1000	P-349	TSV-1K (4) or [T-1000 (4)]	C-102 (4)	X201R102B (4)	MTC13L1 (4)
R67	Bias	470	P-1350	TSV-500 (4) or [T-500 (4)]	C-501 (4)	X201R501B (4)	MTC12L1 (4)
R75	Modulation Sensitivity	1000	P-1352	TSV-1K (20) or [T-1000 (20)]	C-102 (20)	X201R102B (20)	MTC13L1 (20)
R102	ALC	4700	P-1353	TSV-5K (20) or [T-5000 (20)]	C-502 (20)	X201R502B (20)	MTC53L1 (20)
R121	"SSB" AGC	4700	P-1353	TSV-5K (20) or [T-5000 (20)]	C-502 (20)	X201R502B (20)	MTC53L1 (20)
R123	"SSB" Squelch Threshold	47K	P-1354	TSV-50K (20) or [T-50K (20)]	C-503 (20)	X201R503B (20)	MTC54L1 (20)
R130	RF Gain	50K	P-1356				
R135	Volume/Switch	43K	P-354	TSV-50K (20) or [T-50K (20)]	C-503 (20)	X201R503B (20)	MTC54L1 (20)
R146	"SSB" Squelch Range	47K	P-1354	TSV-50K (20) or [T-50K (20)]	C-503 (20)	X201R503B (20)	MTC54L1 (20)
R164	Squelch	50K	P-1357				

(4) Modify terminals to fit PC board.

(20) Cut off one of the end terminals and use jumper wires to "PC" board.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.			WORKMAN PART No.	MFGR. PART No.
TH1	31 Cold NTC		M-30	TH3	28 Cold NTC		M-60
TH2	45K Cold NTC		M-10K				

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Syn Mixer		TKXN23568E17		
L2	Syn Mixer		TKXN23568E17		
L3	Syn Mixer		TKXN23568E17		
L4	Xmit. Mixer	CA-2922	TKXN23571Z		
L5	Xmit. Mixer	CA-2922	TKXN23571Z		
L6	Xmit. Mixer	CA-2922	TKXN23571Z		
L7	Xmit. Mixer	CA-2923	TKXC23572X		
L8	RF Choke (10uH)		10LNC-029	72F105AP	
L9	RF Choke (10uH)		LF1-100K	72F105AP	
L10	RF Choke (2uH)	CA-2645	4LNC-054	74F226AP	
L11	RF Choke (10uH)		LF1-100K	72F105AP	
L12	RF Choke (2uH)	CA-2645	4LNC-054	74F226AP	
L13	Ant	CA-2648	8SNF-064		
L14	P1 Network	CA-2485	10PNP-028	4594	
L15	Peaking (.82uH)	CA-2238	4LNC-027		
L16	RF Choke (47uH)		EL0610-470K		
L18	Line Choke	CB-2170	6LNC053		
MF2	Mechanical Filter(455kHz)		MFH-71T		
T1	Balance Modulator				
T2	Final Tank	CA-2933	8SND-065		
T3	Xmit. Driver	CA-2934	8SND-061		
T4	SSB Input IF	CA-2930	113CN3898N		
T5	SSB Interstage IF	CA-2931	113CN3897N		
T6	SSB Output IF	CA-2930	113CN3898N		
T7	Rec. Antenna	CA-2924	TKXC28503H		
T8	RF Amp	CA-2925	TKXC23504H		
T9	Rec. Mixer	CA-2926	TKXN23564X		
T10	Rec. Mixer	CA-2927	TKXN23565X		
T11	Regulator Oscillator	CA-2928	TKXN23566X		
T12	Input IF (455 kHz)	CA-2932	YXE10857		
T13	Interstage IF (455 kHz)	CA-6293	LPC4201A		
T14	Output IF (455 kHz)	CA-6294	LMC4202A		

CHOKE (Audio Output)

ITEM No.	INDUCTANCE	REPLACEMENT DATA				NOTES
		MFGR. PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
L17	2.0mH	E6191 (1)				(1) Number on unit.

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.	
T15	2	1	1	TN00155 E6169A (1)				(1) Number on unit.

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.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
T16	32	8	T00099 E61650 (1)				(1) Number on unit.

SPEAKER

ITEM No.	TYPE		REPLACEMENT DATA		NOTES
			MFGR. PART No.	QUAM PART No.	
SP1	3-1/2" PM	8 Ohms	S-4458		

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 Quick-Acting	H-3470	W-1599	MTH5	HDJ	312005	150145	FG5-2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
MF1	Crystal Filter	CA-2937	11.2735MHz
MF2	Mechanical Filter		455kHz
R41	Relay	R-8053	12V DC (150 Ohms)
SW1	Switch	S-1116	Channel Selector
SW4	Switch	S-1115	Mode Selector
X1	Crystal		23.330MHz
X2	Crystal		23.380MHz
X3	Crystal		23.430MHz
X4	Crystal		23.480MHz
X5	Crystal		23.530MHz
X6	Crystal		23.580MHz
X7	Crystal		14.910MHz
X8	Crystal		14.920MHz
X9	Crystal		14.930MHz
X10	Crystal		14.950MHz
X11	Crystal		14.907MHz
X12	Crystal		14.917MHz
X13	Crystal		14.927MHz
X14	Crystal		14.947MHz
X15	Crystal		11.272MHz
X16	Crystal		11.275MHz
X17	Crystal		11.730MHz
	Printed Circuit Board	X-4575	Oscillator & Mic AMP Board (GE-18C-3895)
	Printed Circuit Board		Main Board (GE-18C-3905)
	Printed Circuit Board		AGC Board (4128)

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

ITEM	PART No.	ITEM	PART No.
Cabinet Top	Z-1483	Knob, Crystal	K-1411
Cabinet Bottom	Z-1484	Knob, Mode	K-1412
Bottom, Shield Plate	Z-1490	Knob, Volume A & B	K-1410
Knob, Channel	K-1408	Channel Dial Plate	H-3472