

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.



COBRA MODEL 132A

MODEL 132A

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

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ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:	GC ELECTRONICS
L2, L5, L6, T14.....	9440
ALL Transformers	5000, 8290
ALL Trimmers.....	8290

SYNTHESIZER

INDICATOR	CHANNEL	ADJUST	FREQUENCY	REMARKS
Frequency Counter	1	C313	6.000MHz	Short TP301 to ground. (TP304) Connect counter to TP303 common to ground. Set Mode Selector to USB or LSB.
	2	C315	6.010MHz	
	3	C317	6.020MHz	
	4	C319	6.040MHz	
	1	C301	15.965MHz	Remove short from TP301. Short TP302 to TP304 (ground). Set Mode Selector to USB or LSB.
	5	C303	16.015MHz	
	9	C305	16.065MHz	
	13	C307	16.115MHz	
	17	C309	16.165MHz	
	21	C311	16.215MHz	
		L301	12.8023MHz	Remove counter from TP303. Connect counter to TP305 and ground. Set Mode Selector to USB. Set Voice Lock maximum clockwise.
		R311	12.7977MHz	Set Mode Selector to LSB. Set Voice Lock maximum counter-clockwise.
		R329	12.8007MHz	Set Mode Selector to USB. Set Voice Lock maximum counter-clockwise.
		R325	12.7993MHz	Set Mode Selector to LSB. Set Voice Lock maximum clockwise.
Oscilloscope (Respond to 40MHz)		T301, T302		Remove counter from TP305 and ground. Connect TP308 and TP304 (ground) Connect scope to TP305 and ground (TP304).
				Adjust for maximum amplitude.
		T303, T304, T305		Remove scope from TP305. Remove short from TP308. Connect scope to TP306 and TP307. Adjust for maximum amplitude.

RECEIVER

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

SIGNAL GENERATOR	GEN FREQ	CHANNEL	ADJUST	REMARKS
High side thru .01uF to TP5, low side to ground. (TP6)	455kHz, 1000Hz @ 30% modulation, output 10uV	Any	T12, T13	Adjust for maximum.
High side thru .01uF to base of Q9, low side to ground.	7.8MHz, 1000Hz @ 30% modulation, output 3uV	Any	T10, T11	Adjust for maximum.
High side thru .01uF to Antenna Jack, low side to ground.	27.085MHz, 1000Hz @ 30% modulation, output 1uV	11	T7, T8, T9	Adjust for maximum.

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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.

RECEIVER ADJUSTMENTS

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

SIGNAL GENERATOR	GEN FREQ	CHANNEL	ADJUST	REMARKS
SQUELCH RANGE High side thru .01uF to Antenna Jack, low side to ground.	27.085Hz 1000Hz @ 30% modulation, output 300uV.	11	R163	Set squelch control fully clockwise. Adjust so that squelch just breaks.
"S" METER High side thru .01uF to Antenna Jack, low side to ground.	27.085Hz 1000Hz @ 30% modulation, output 100uV.	11	R67 (AM) R128 (SSB)	Set Mode Switch to AM & SSB. Adjust for "S" 9 indication on panel "S" meter.

TRANSMITTER

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

SSB

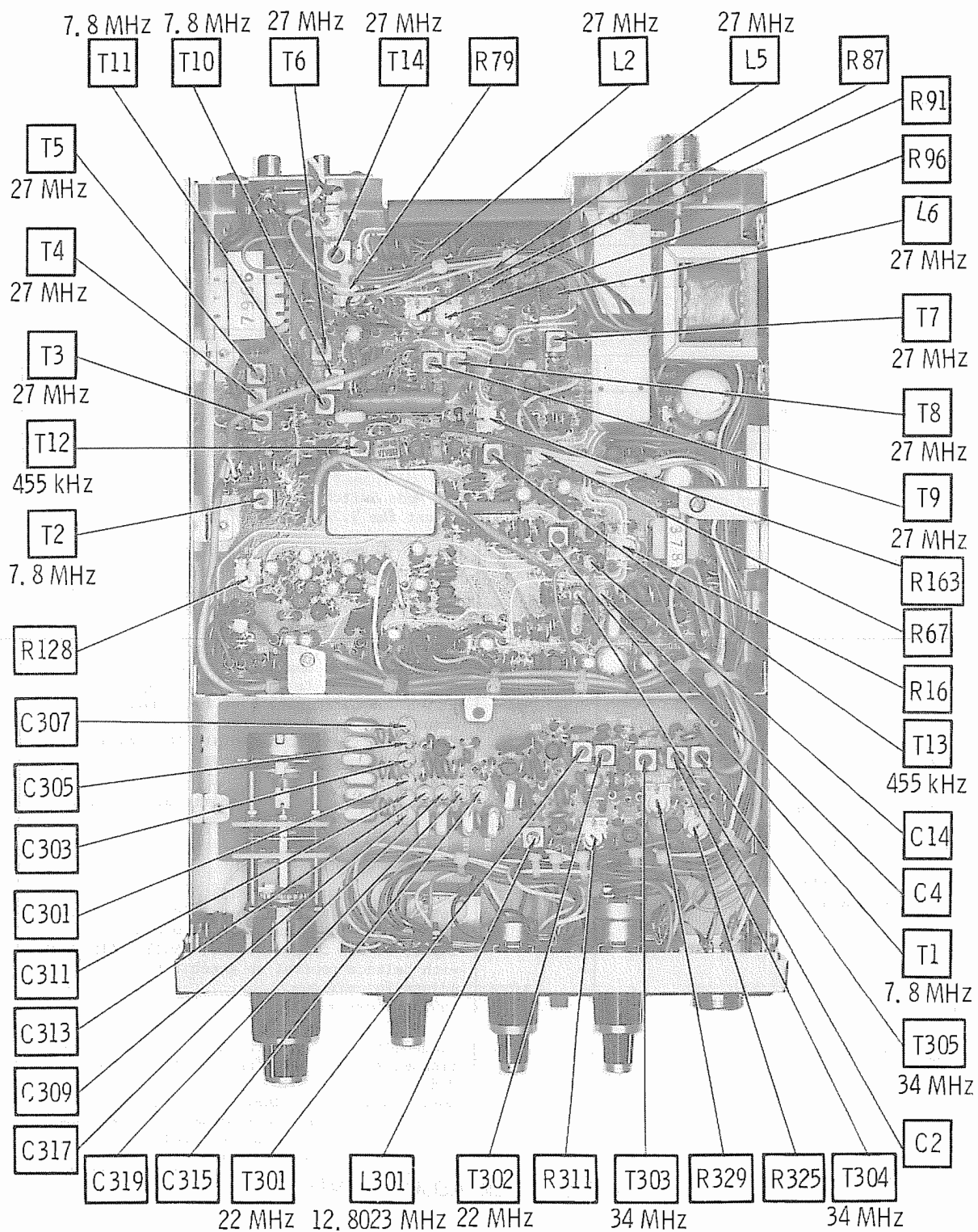
INDICATOR	ADJUST	REMARKS
USB CARRIER OSC. Connect frequency counter from TP1 to ground.	C4	Set Mode Switch to USB. Adjust for 7.8015MHz.
LSB CARRIER OSC. Connect frequency counter from TP1 to ground.	C2	Set Mode Switch to LSB. Adjust for 7.7895MHz.
CARRIER BALANCE Connect oscilloscope from Antenna Jack to ground.	R16, C15	Short mic input. Set Mode Switch to LSB or USB. Key transmitter and adjust for MINIMUM on scope (less than 0.6V p-p).
SSB EXCITER Connect oscilloscope (usable to 30MHz) from TP3 to TP4.	T1, T2, T3, T4, T5, T6	Remove jumper at TP3. Connect Scope between TP3 & TP4. Set Channel Selector to CH 11. Set Mode Switch to USB or LSB. Inject a 1000Hz 3mV audio signal at mic input. Key transmitter and adjust for maximum. After adjusting for maximum, rotate T6 3 turns clockwise. Reconnect jumper.
BIAS Remove jumper at TP10 and connect a 0-25 DC milliammeter between L4 and B+.	R91	Short mic input. Key transmitter. Adjust bias for 7mA. Reconnect jumper.
LINEAR AMPLIFIER Wattmeter	T14, L2, L5, L6	Short TP11 to ground (TP12). Set Mode Selector to USB or LSB. Connect two-tone generator to microphone input, adjust output to 3mV. Null Wattmeter with balance control on generator. Adjust for maximum. Remove short on TP11.
FINAL OUTPUT POWER RF Wattmeter	R87 R79	Connect two-tone generator to mic input. Key transmitter. Adjust for less than 8 watts P.E.P. Note: After SSB transmitter alignment is completed, check AM mode for maximum 5 watts DC input to final. Readjust R79 if necessary.

TRANSMITTER ADJUSTMENTS

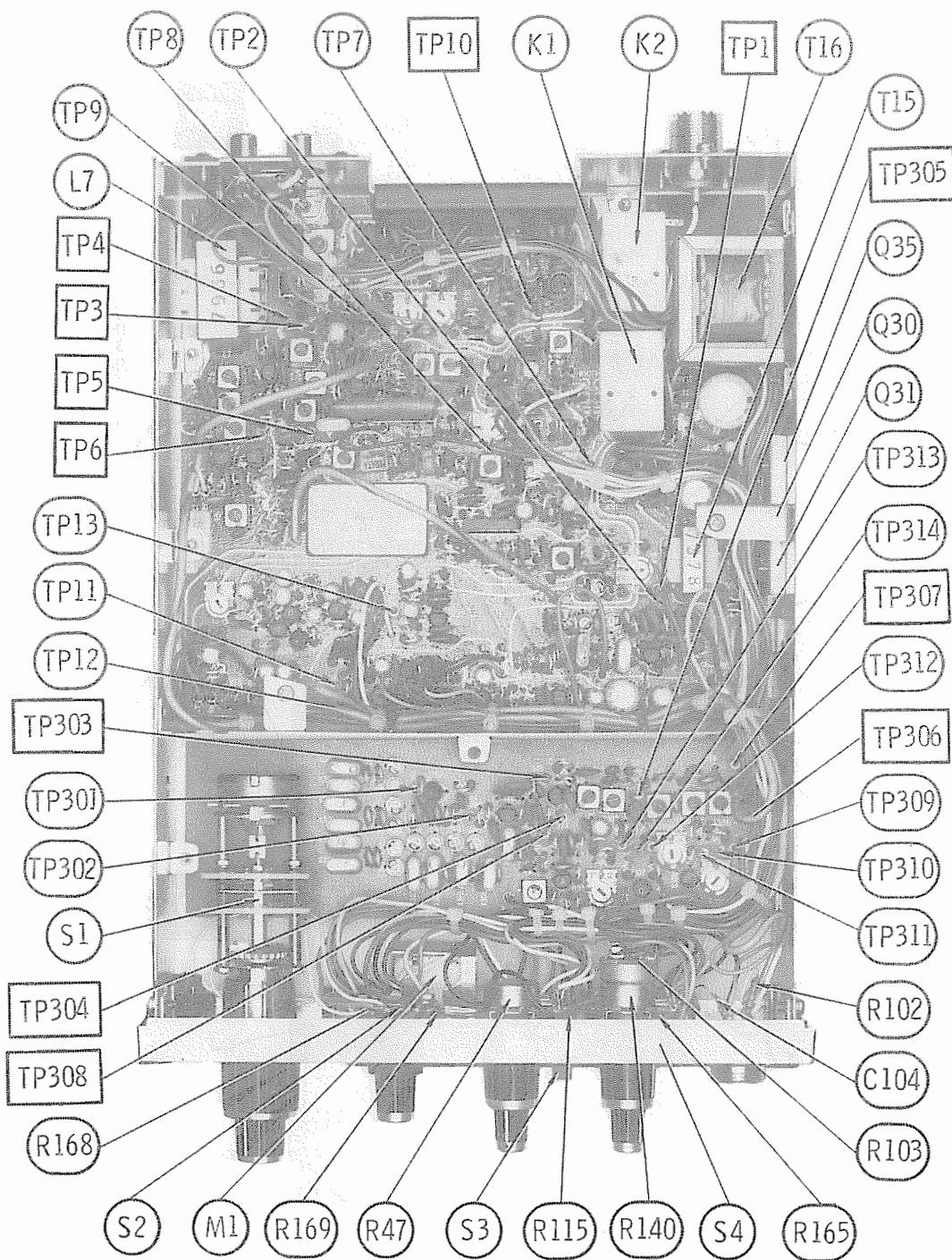
Connect an RF Wattmeter or 50-ohm, 25-watt dummy load to antenna connector.
Adjustments made with 14-volt DC input.

INDICATOR	ADJUST	REMARKS
RF PANEL METER RF Wattmeter	R96	Set Mode Switch to AM. Key transmitter. Adjust so that panel RF meter agrees with RF wattmeter.

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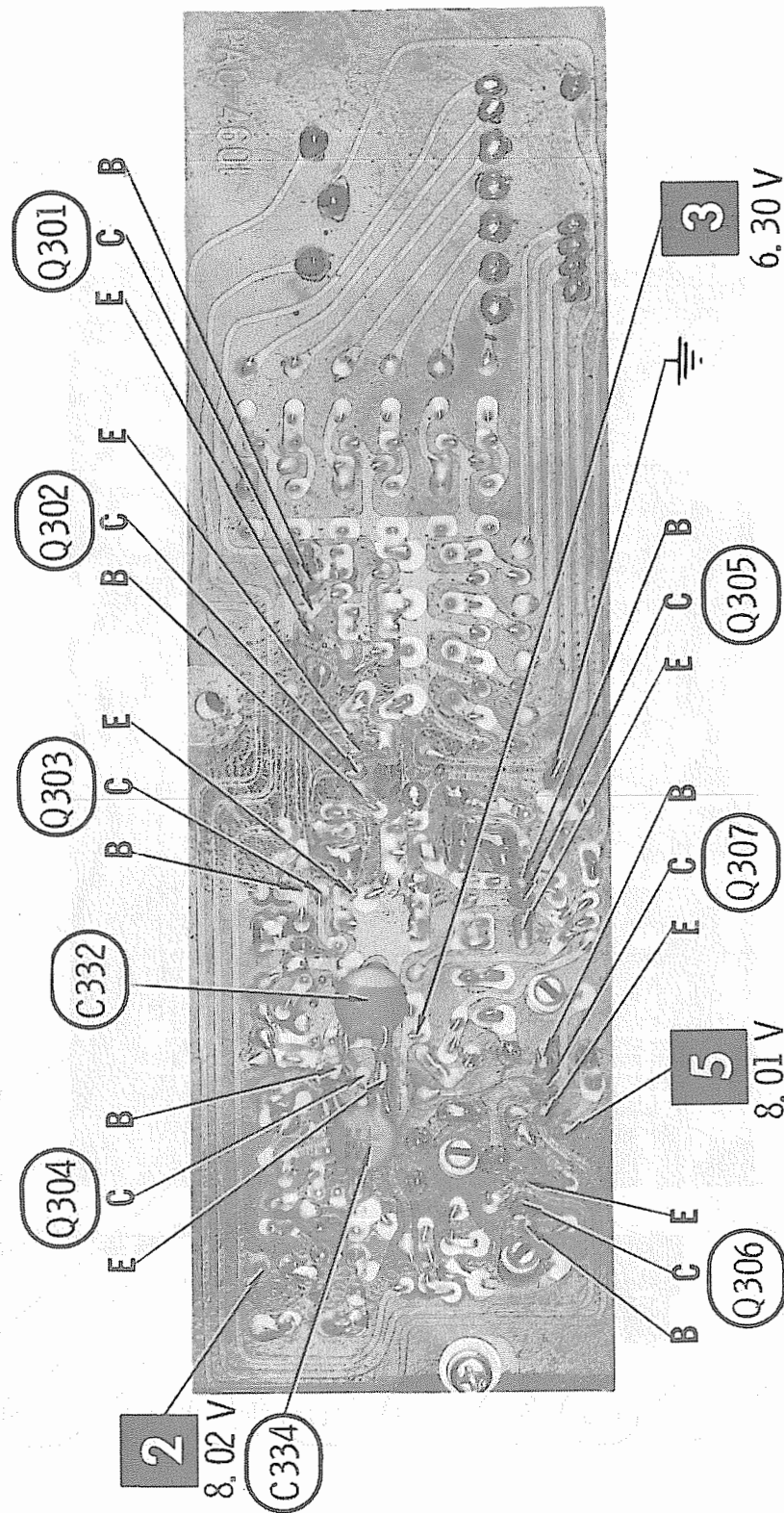


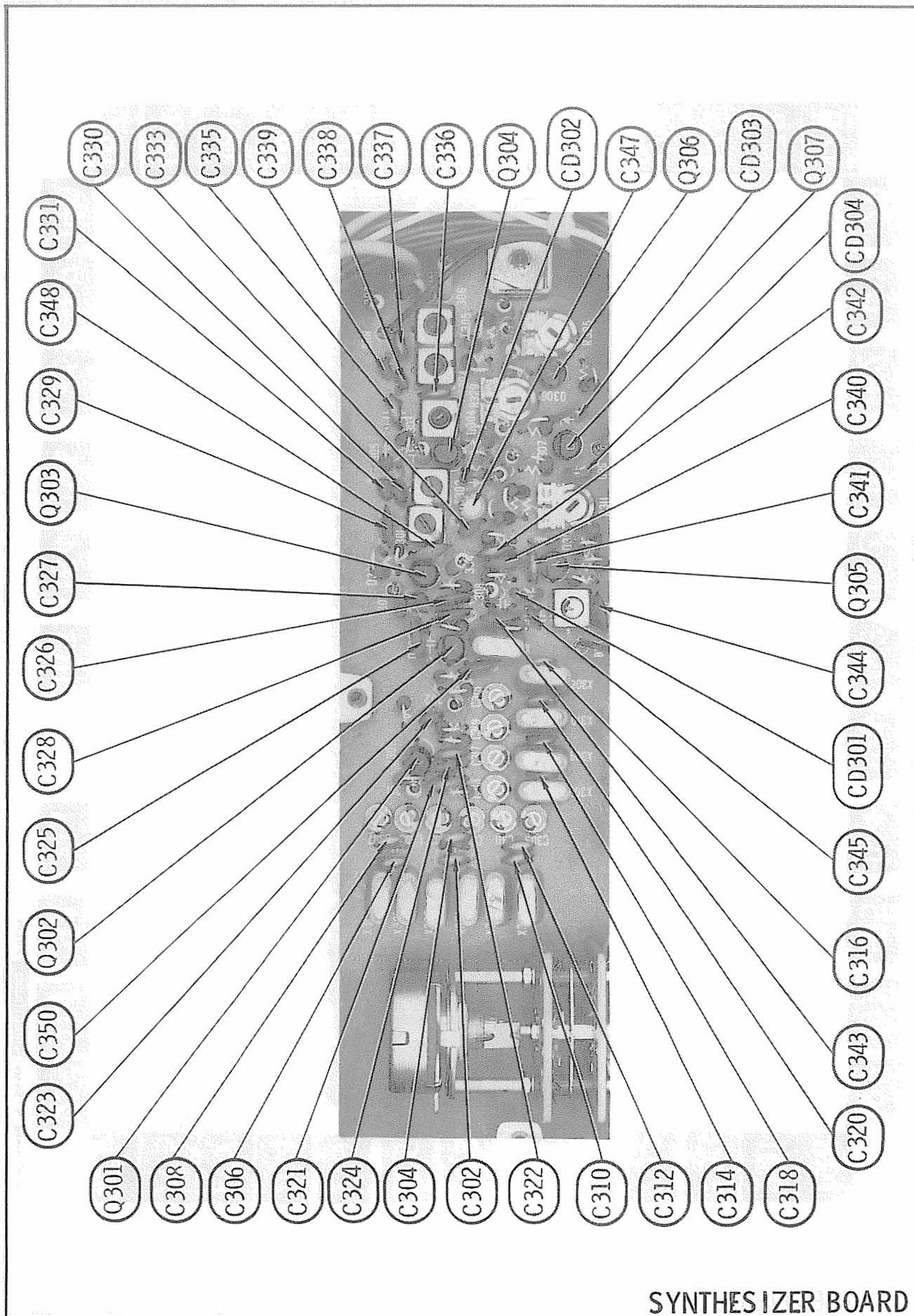
CHASSIS TOP VIEW



CHASSIS TOP VIEW

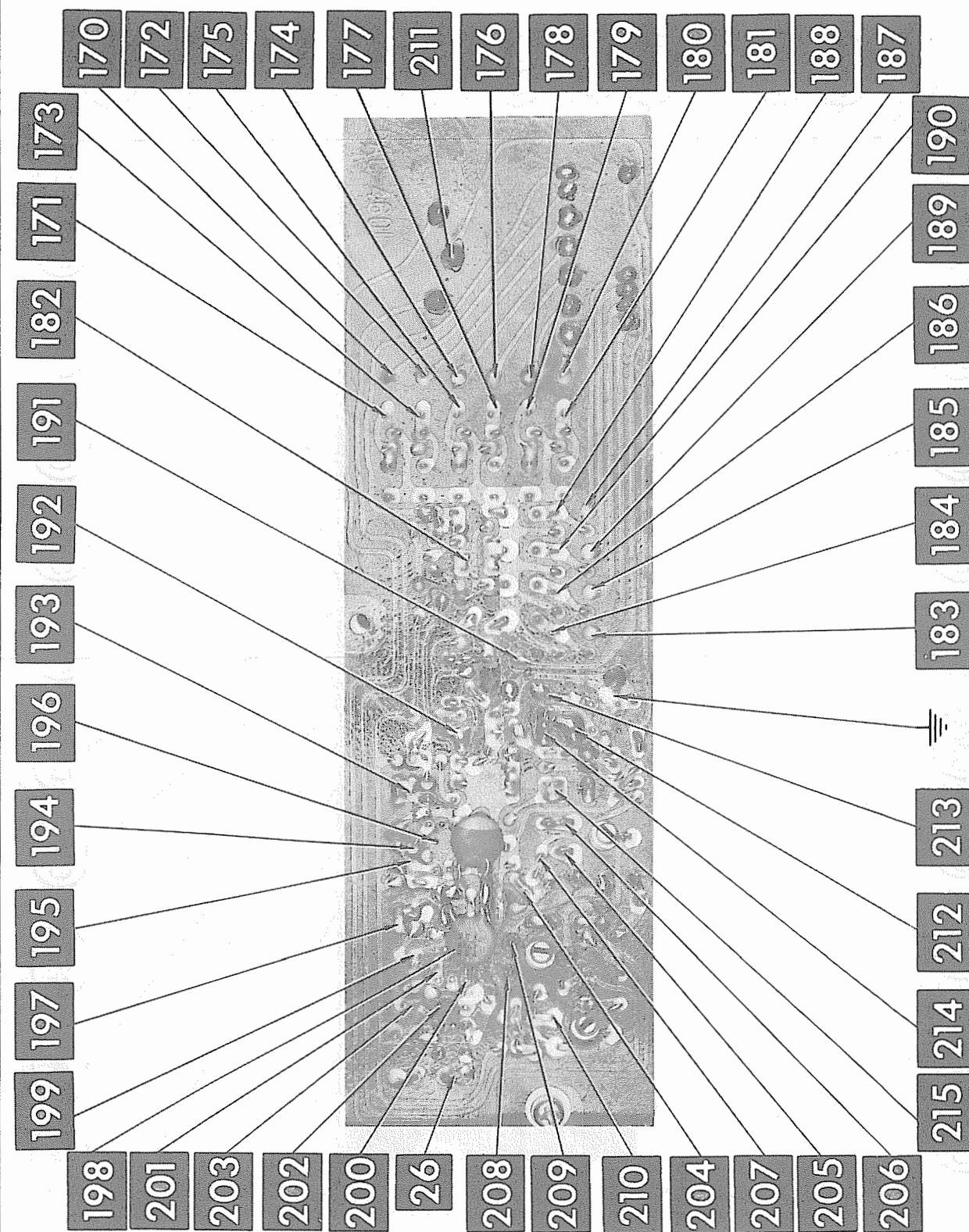
SYNTHESIZER BOARD



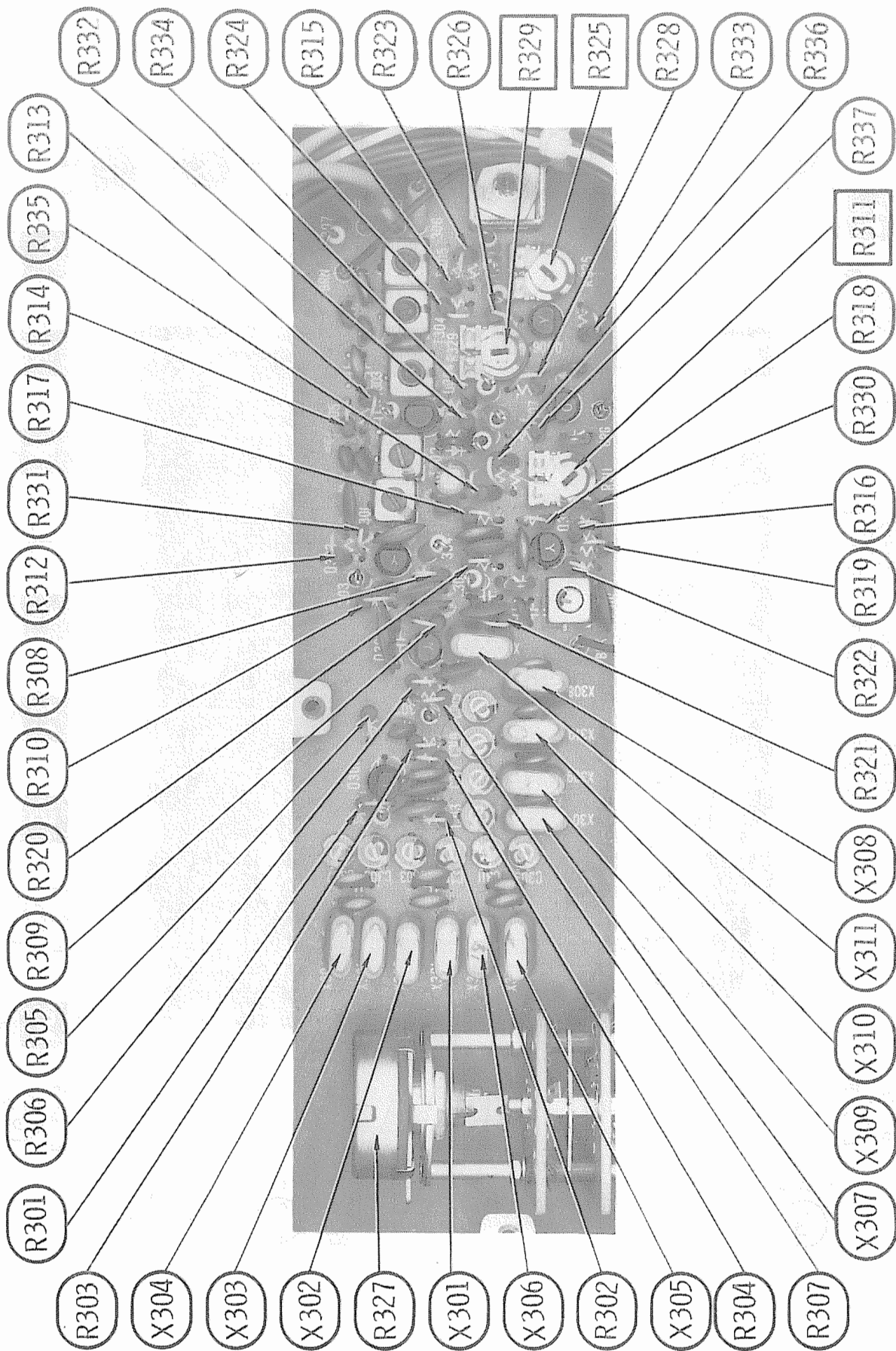


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SYNTHESIZER BOARD



A Howard W. Sams CIRCUITRACE® Photo

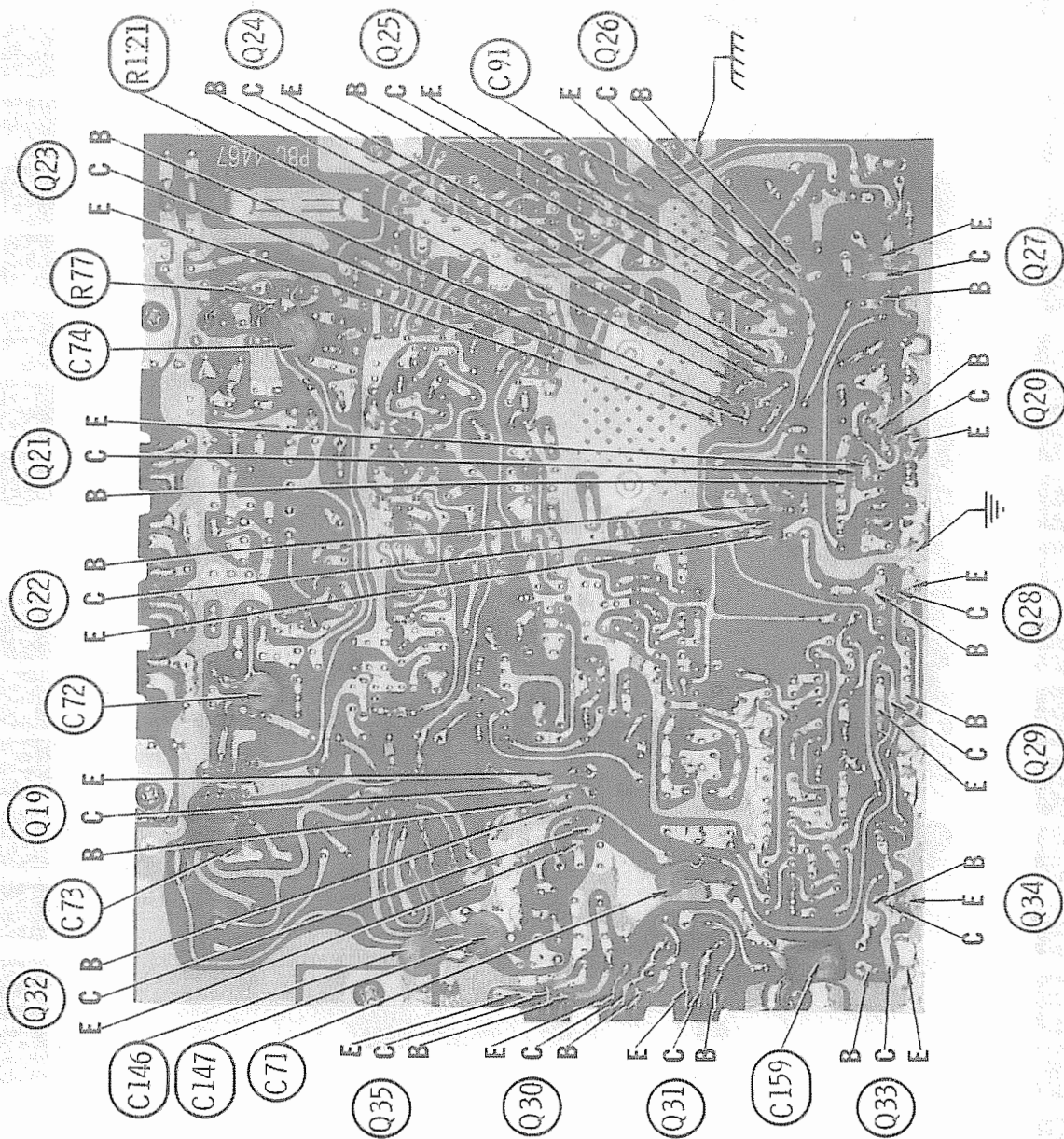


SYNTHESIZER BOARD

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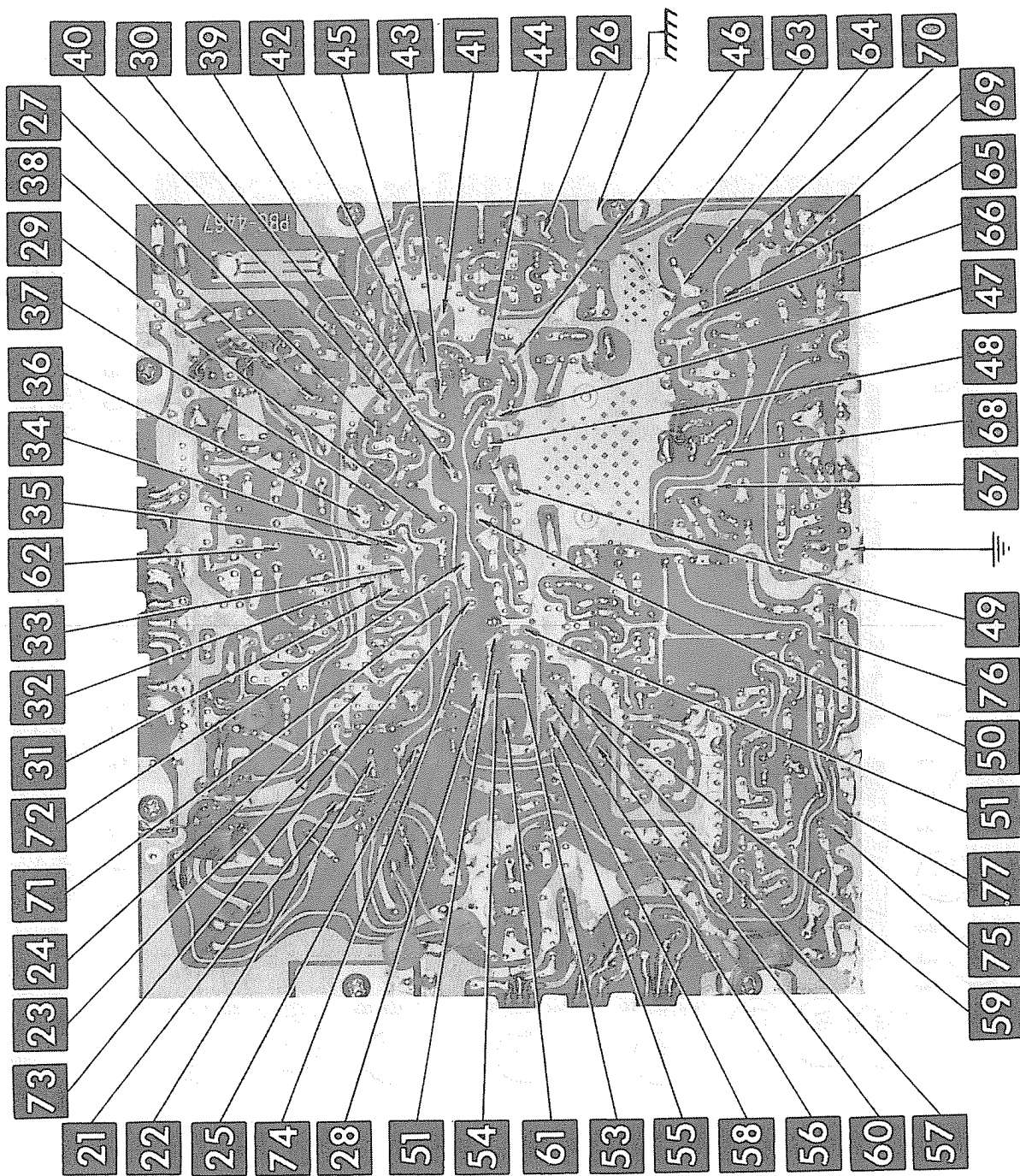


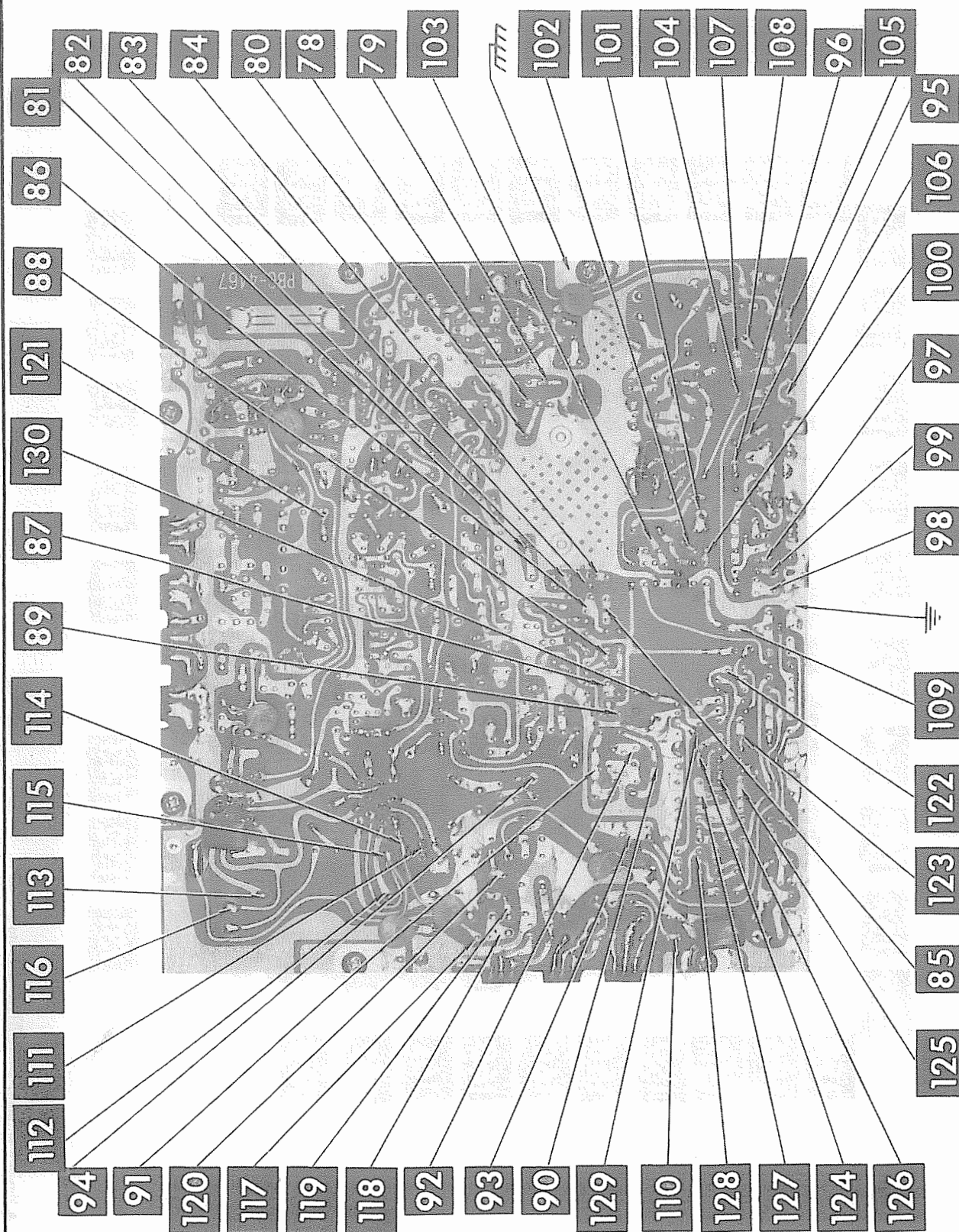
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MAIN BOARD

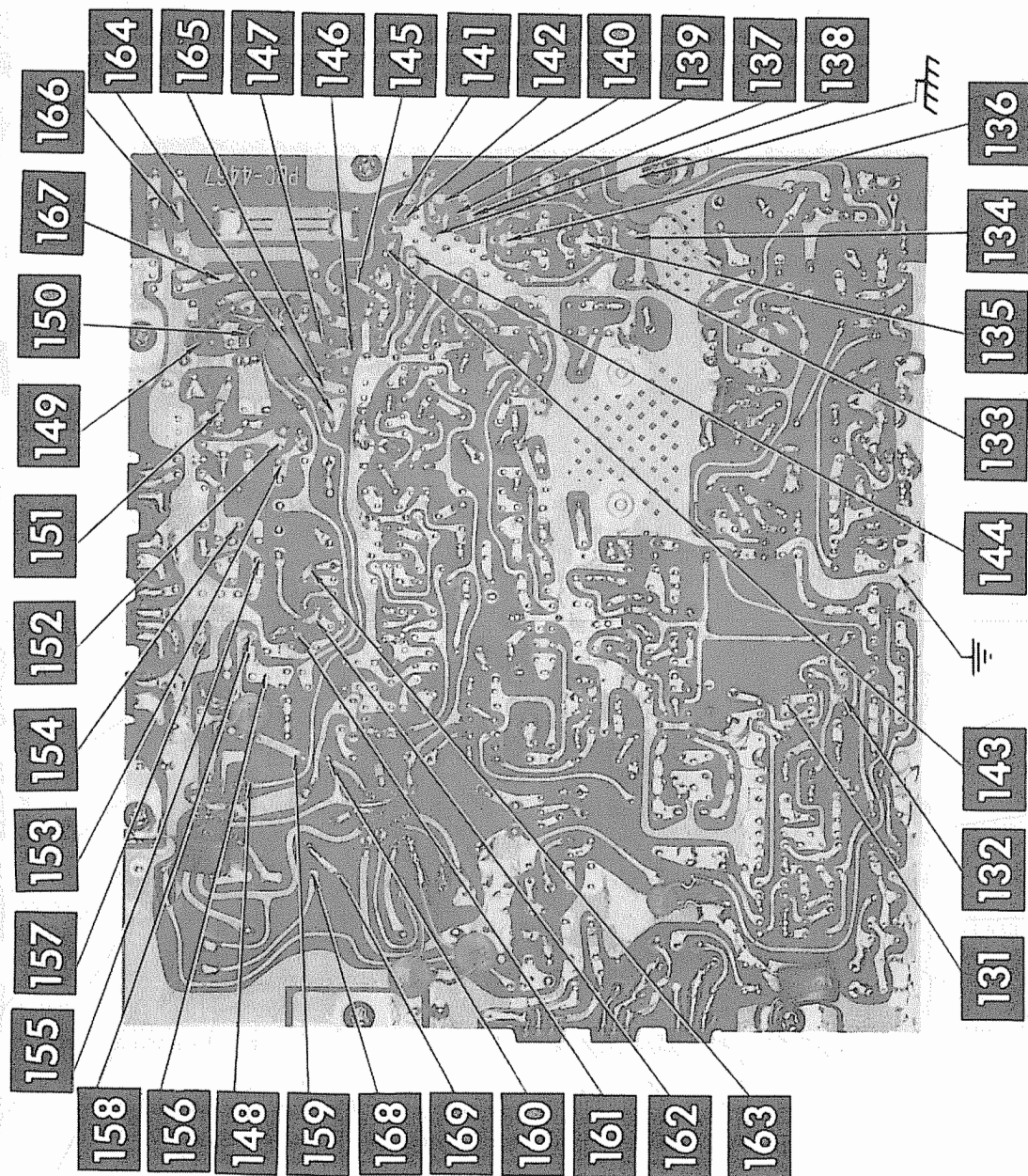
MAIN BOARD

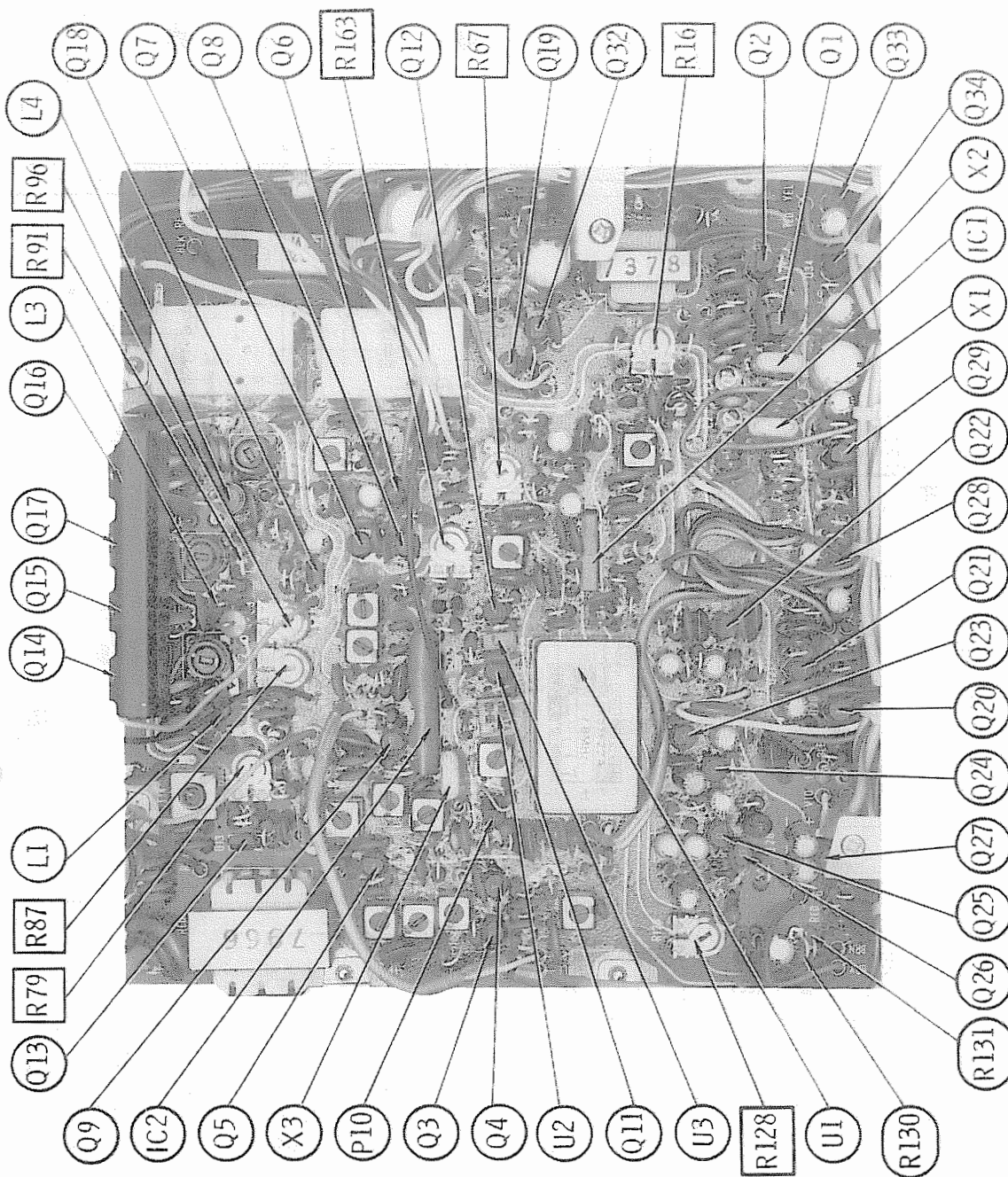




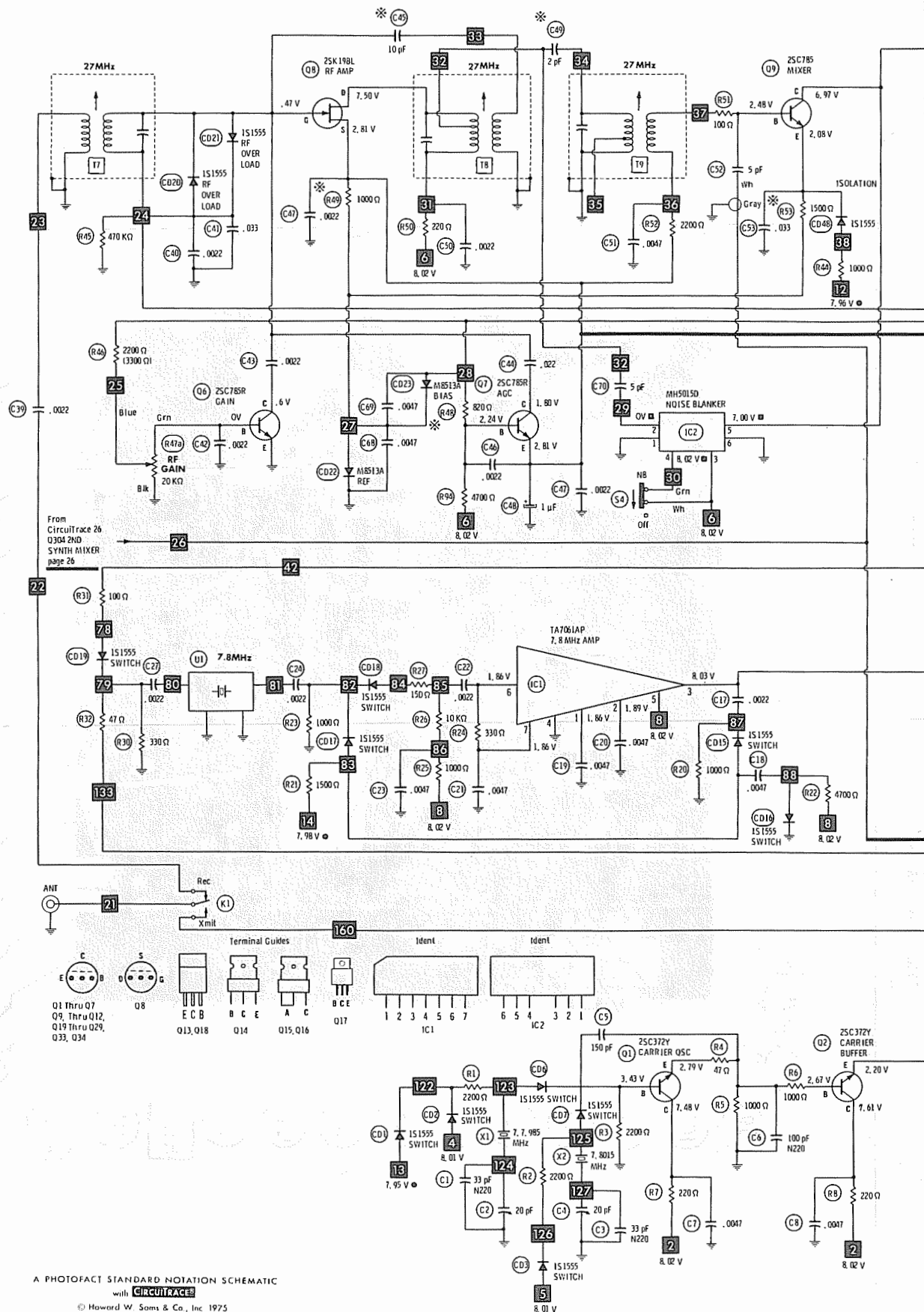
MAIN BOARD

MAIN BOARD

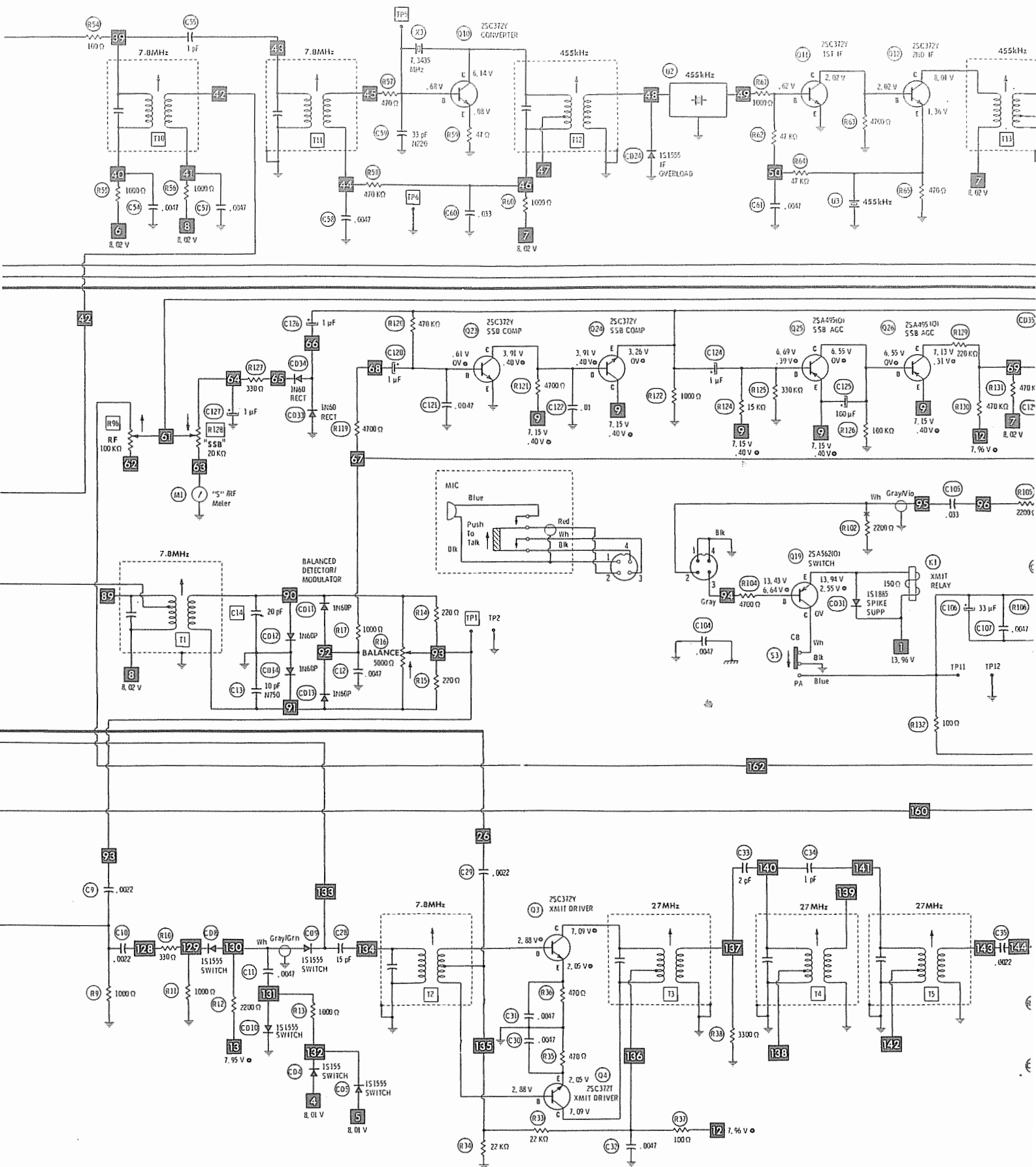


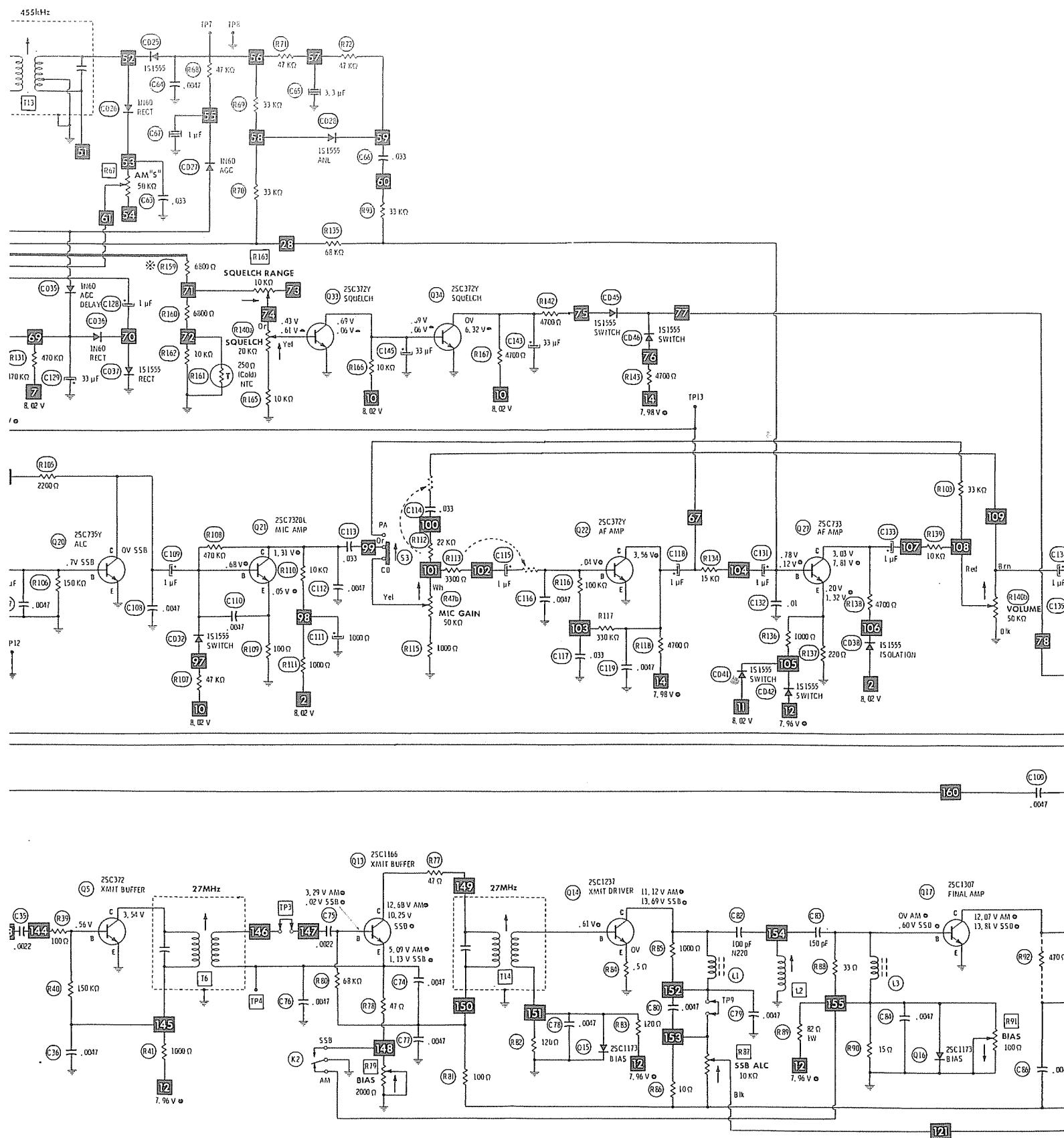


MAIN BOARD

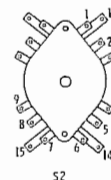
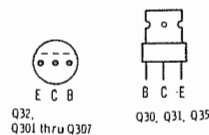


SEE NOTES ON PAGE 24.



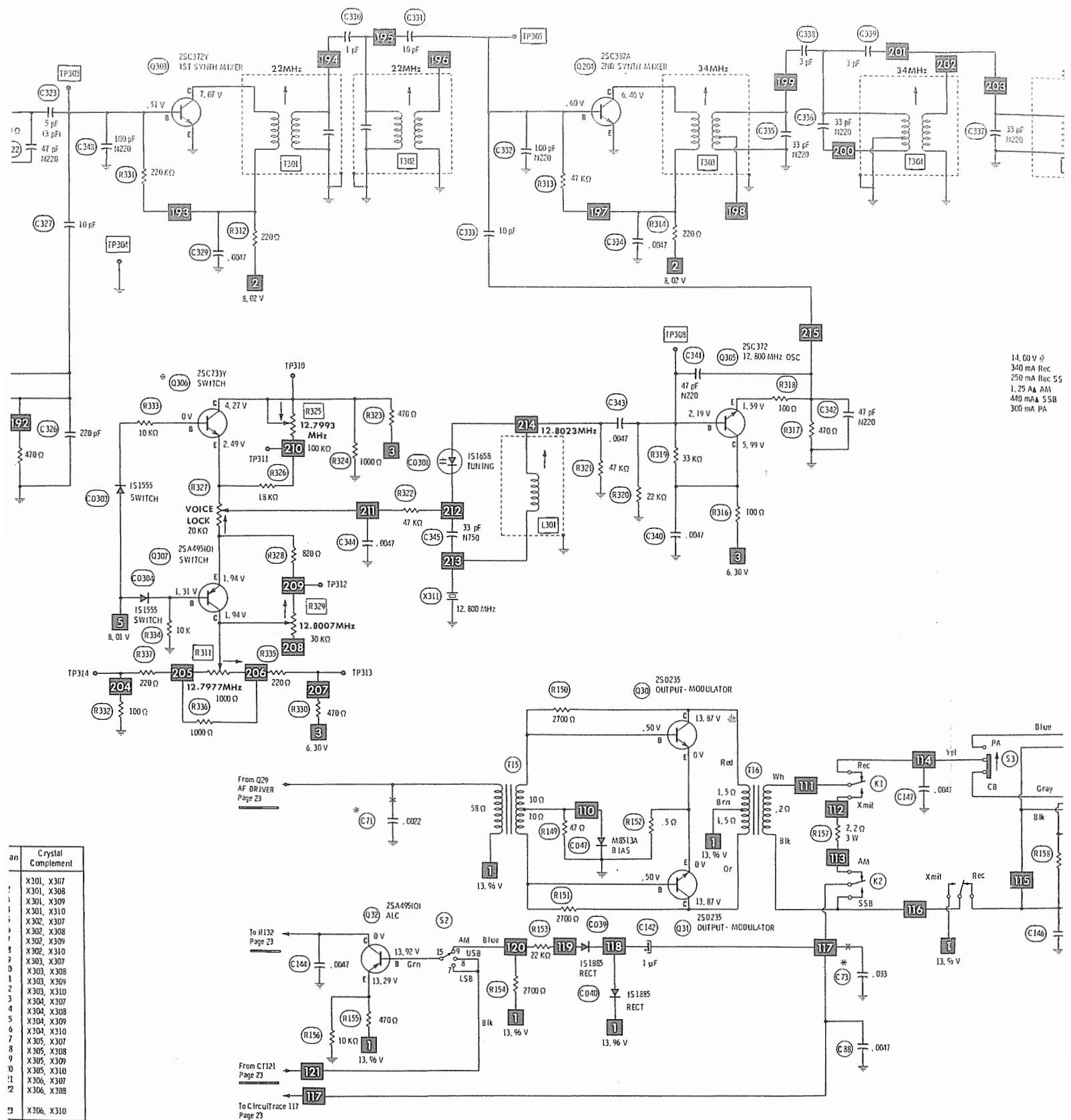


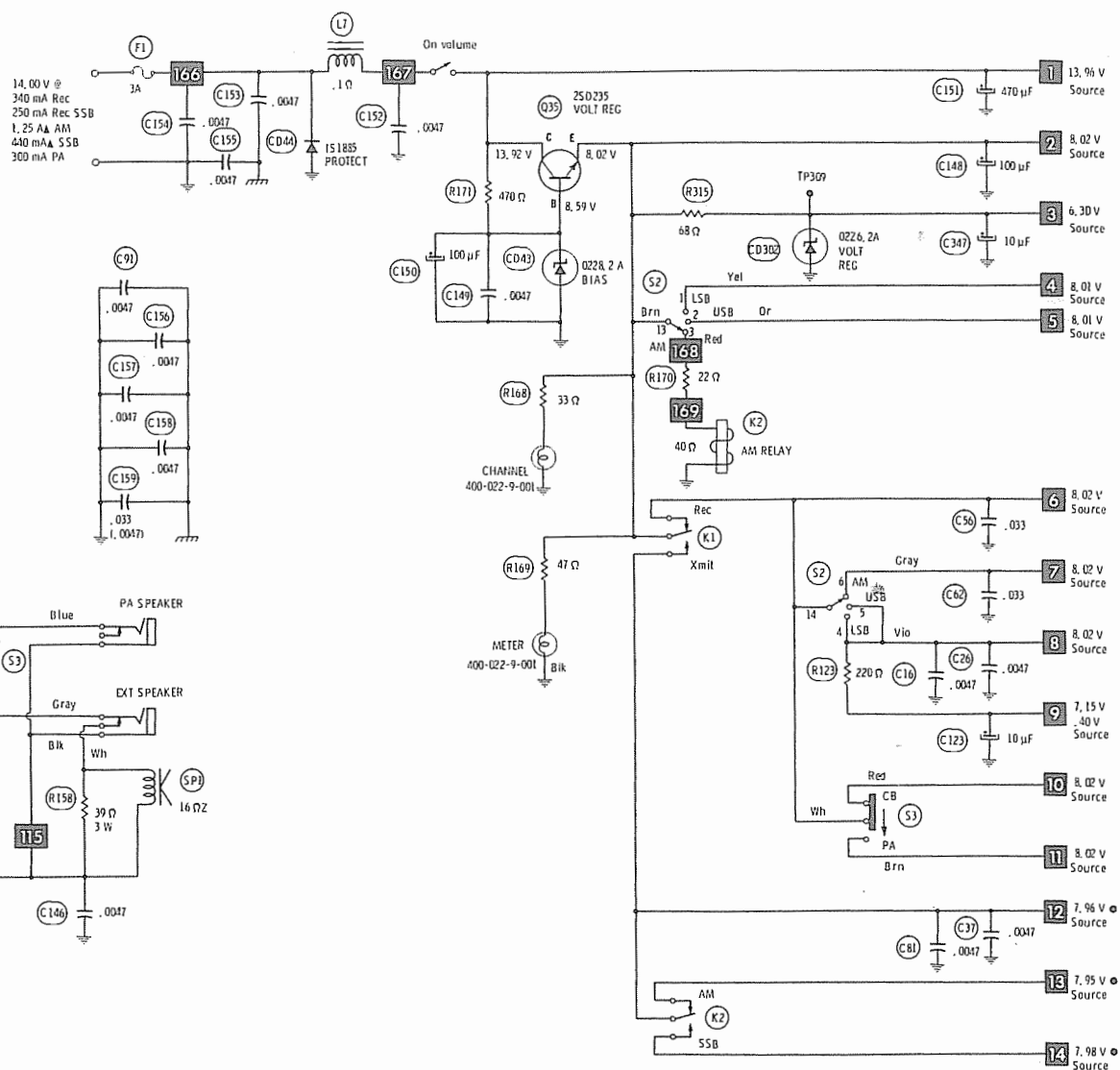


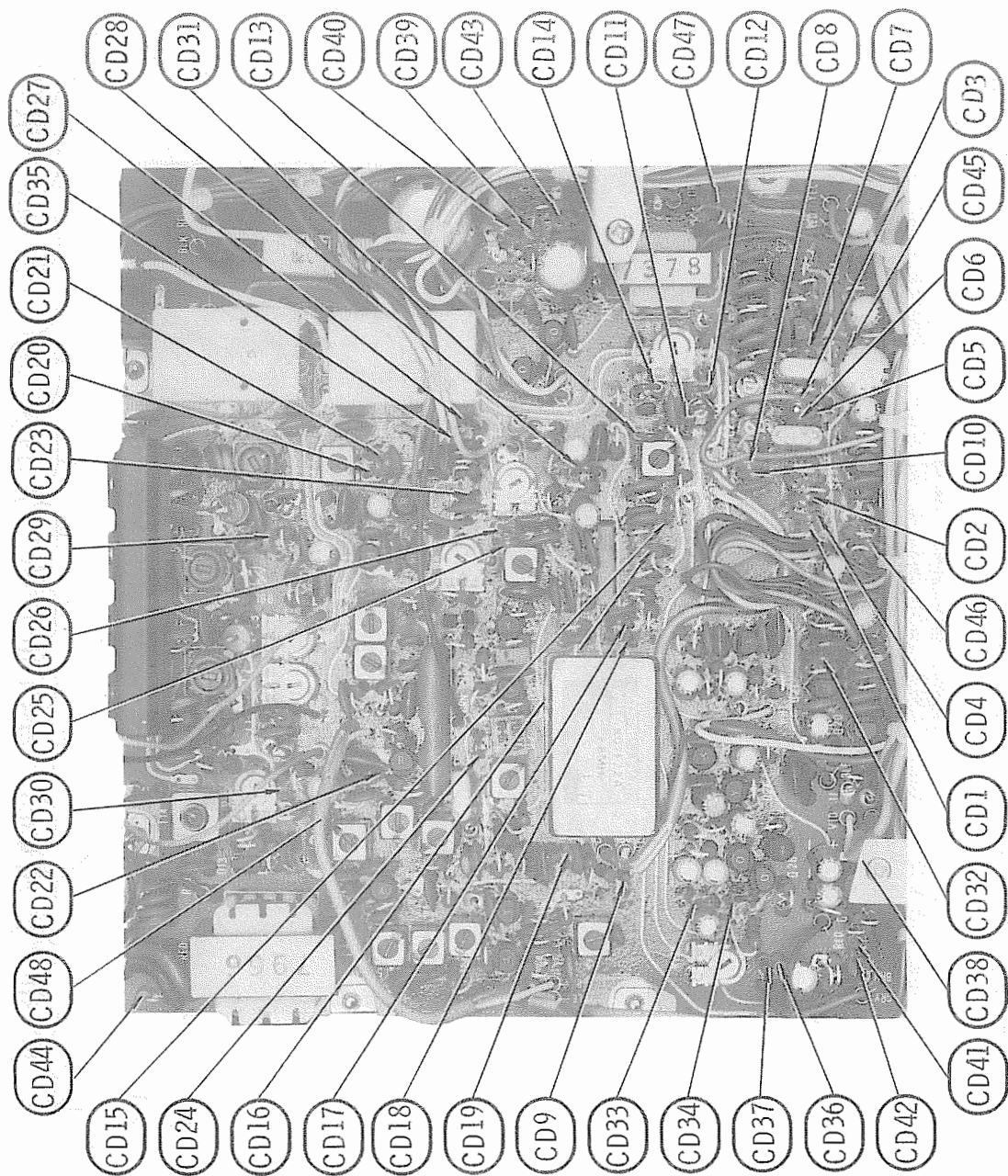


- ♦ 100% modulation.
- Noise blanker.
- Squelch control fully clockwise.
- Transmits.
- ⚡ Indicates chassis.
- Indicates ground. (Voltage reference unless otherwise noted).
- Indicates connection used in some versions.
- Indicates connection not used in some versions.
- * Omitted in some versions.
- ⊕ See parts list.
- ⊗ Value varies; replace with original value.
- RF-If coil resistance less than one ohm not given.
- Measurements taken with switching as shown unless otherwise noted.
- Values shown in () used in some versions.
- Resistors are 1/2 W. or less. ∞ unless otherwise noted.
- Supply voltage maintained at rated value for measurements.
- Voltage measured with VTVM, no signal applied, controls adjusted for normal operation.
- Arrow on control indicates direction of advance.
- Numbers assigned to terminals may not be found on unit.

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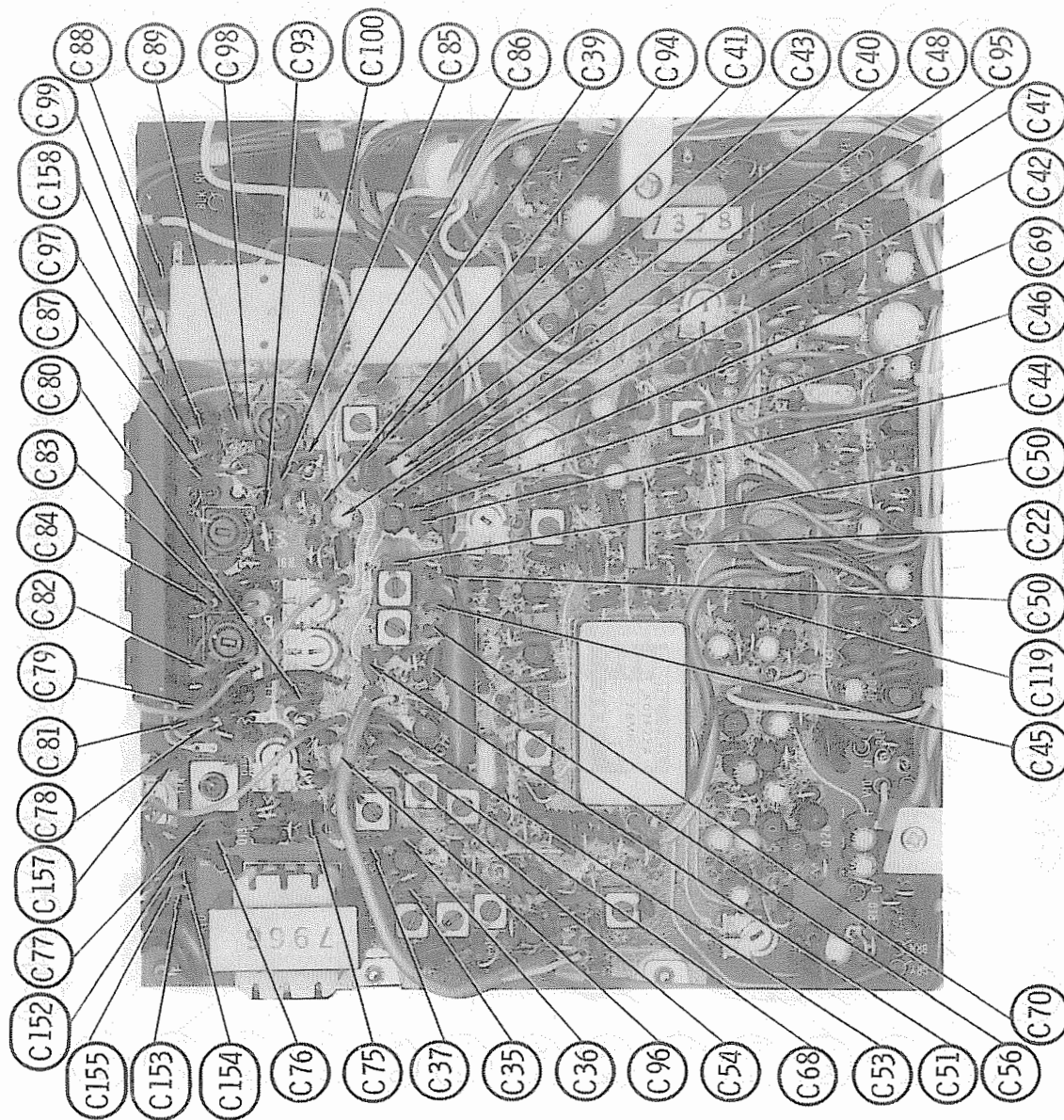






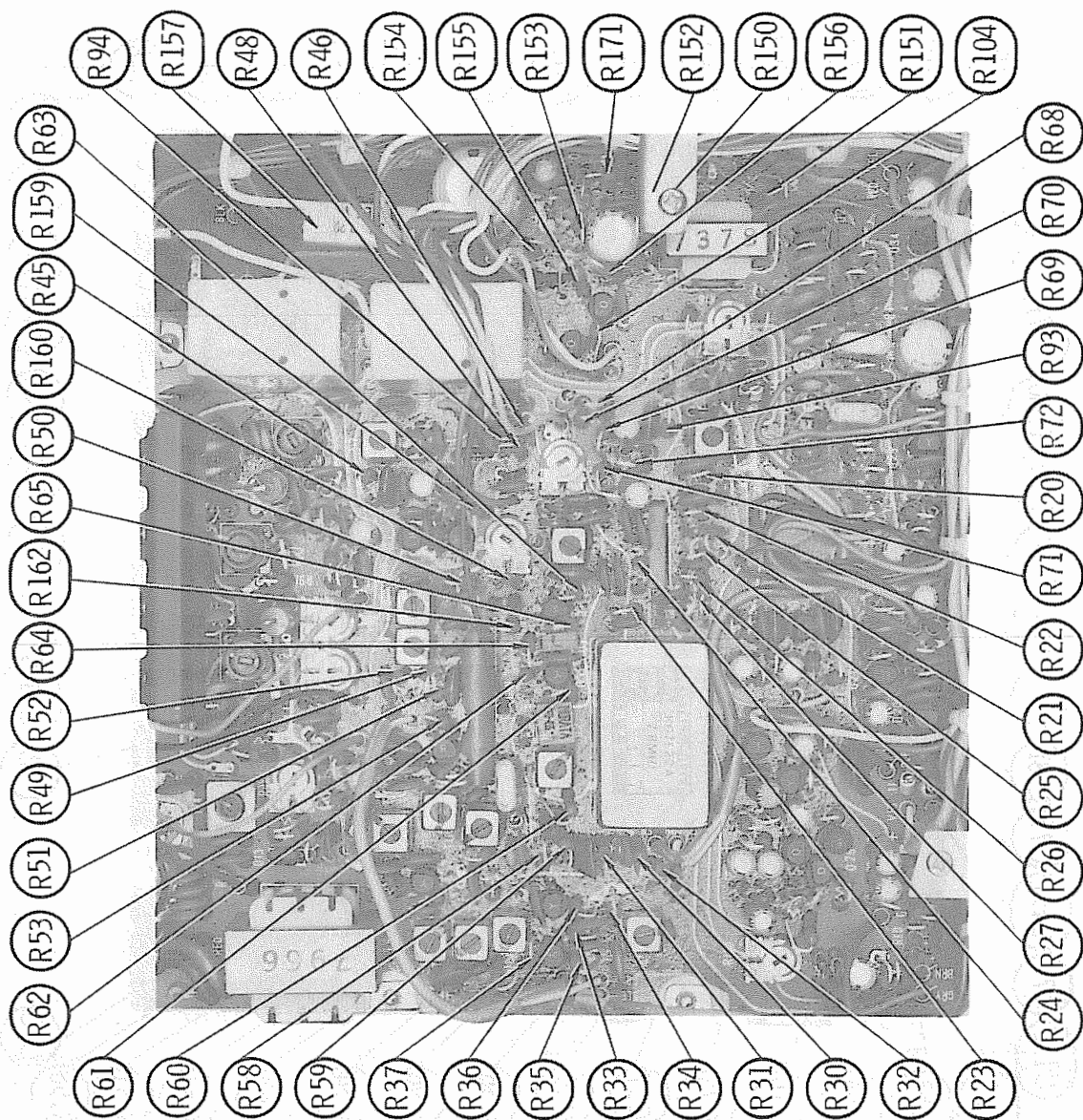
MAIN BOARD

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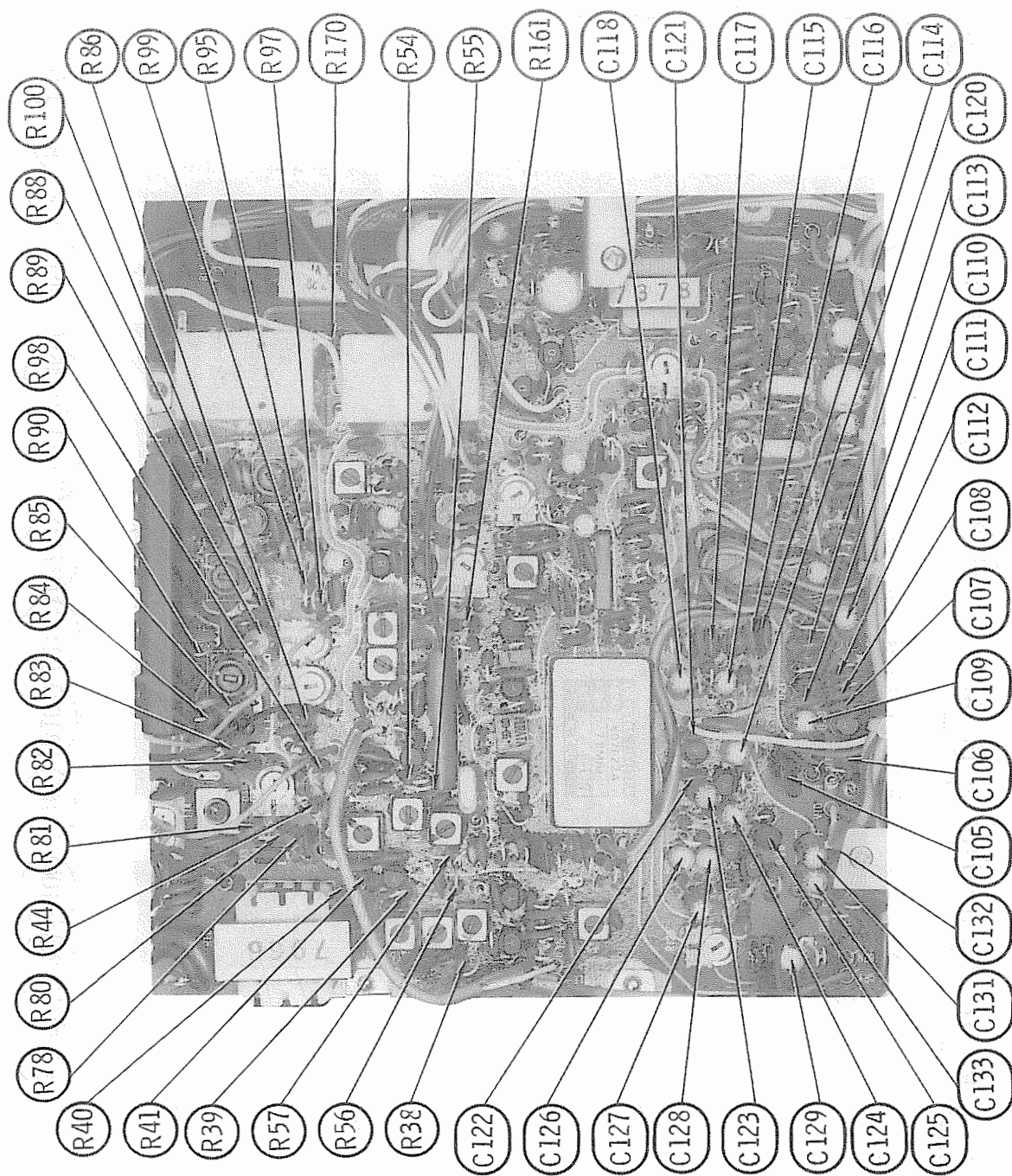


MAIN BOARD

COBRA MODEL 132A



MAIN BOARD



COBRA MODEL 132A

MAIN BOARD

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest-loss (RG-8/U Type) 8237 Low-loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3-Conductor (1 shielded for Press-to-Talk) Neoprene 8491 4-Conductor (2 shielded, 2 unshielded) Neoprene
Ignition Noise Suppression	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap	Use BELDEN No. 8661 (3/8 inch)

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
CD1	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD2	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD3	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD4	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD5	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD6	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD7	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD8	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD9	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD10	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD11	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD12	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD13	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD14	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD15	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD16	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD17	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD18	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD19	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD20	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD21	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD22	M8513A	151-034-9-001	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
CD23	M8513A	151-034-9-001	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
CD24	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD25	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD26	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD27	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD28	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD29	1S1553	151-042-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD30	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD31	1S1885	151-030-9-005	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
CD32	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD33	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD34	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD35	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD36	1N60	150-001-9-005	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
CD37	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177

COBRA MODEL 132A

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SEMICONDUCTORS (Select replacement transistor for best results)(cont)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
CD38	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
C039	1S1885	151-030-9-005	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
CD40	1S1885	151-030-9-005	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
CD41	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
C042	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
C043	02Z8.2A	152-042-8.2V Zener 9-001	GEZD-8.2	Z1208	ZB8.2	HEPZ0411	RE 112	SK3136	RT-257	ECG5072
CD44	1S1885	151-030-9-005	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
C045	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
C046	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
C047	M8513A	151-034-9-001	GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
C048	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
C0301	1S1658	151-030-9-004	GE-90	D201		HEPR2503		SK3126	RT-262	
CD302	02Z6.2A	152-047-6.2V Zener 9-001	GEZD-6.8	Z1206	ZB6.8	HEPZ0409	RE 110	SK3058	RT-238	ECG5071
C0303	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CD304	1S1555	151-030-9-001	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
IC1	TA7061AP	307-020-9-001								ECG1100
IC2	MH-5-015-D	307-020-9-002								
Q1	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
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Q2	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q3	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q4	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q5	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	175-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q6	2SC785R	176-037-9-001	GE-20	TR-71	PTC132	HEPS0014	RE 9	SK3018	RT-108A	ECG107
	2SC785(1)	176-037-9-001	GE-20	TR-71	PTC132	HEPS0016	RE 9	SK3018	RT-108A	ECG107
Q7	2SC785R	176-037-9-001	GE-20	TR-71	PTC132	HEPS0014	RE 9	SK3018	RT-108A	ECG107
	2SC785(1)	176-037-9-001	GE-20	TR-71	PTC132	HEPS0016	RE 9	SK3018	RT-108A	ECG107
Q8	2SK198L	182-009-9-001	GE-FET-2	FE-100	PTC152	HEPF0021	RE 45	SK3116	RT-175	ECG132
	2SK19(1)	176-037-9-001	GE-FET-2	FE-100	PTC152	HEPF0021	RE 45	SK3116	RT-175	ECG132
Q9	2SC785	176-037-9-001	GE-20	TR-71	PTC132	HEPS0016	RE 9	SK3018	RT-108A	ECG107
Q10	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q11	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q12	2SC372Y	176-042-9-003	GE-20	TR-24	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
	2SC372(1)	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q13	2SC1166	176-037-9-002	GE-18	TR-63	PTC143	HEPS5026	RE 23	SK3024	RT-110	ECG154
Q14	2SC1237	172-029-9-001	GE-28	TR-55	PTC110			SK3054	RT-186	ECG235
Q15	2SC1173	172-026-9-001(3)	GE-66	TR-55	PTC110	HEPS0019	RE 21	SK3054	RT-197	ECG152
Q16	2SC1173	172-026-9-001(3)	GE-66	TR-55	PTC110	HEPS0019	RE 21	SK3054	RT-197	ECG152
Q17	2SC1307	176-024-9-003 (4)			PTC186				RT-197	ECG236
	2SC1377(1)				PTC186					
Q18	2SC1166	176-037-9-002	GE-18	TR-63	PTC143	HEPS5026	RE 23	SK3024	RT-190	ECG236
									RT-110	ECG154
Q19	2SA562-0	177-006-9-002	GE-21	TR-54	PTC103	HEPS0019	RE 26	SK3114	RT-106	ECG159
	2SA562(1)		GE-21	TR-30	PTC103	HEPS0012	RE 26	SK3114	RT-106	ECG159

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SEMICONDUCTORS (Select replacement transistor for best results)(cont)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
Q20	2SC735Y 2SC735(1)	176-047-9-001 176-031-9-001	GE-63 GE-20	TR-21 TR-21	PTC123 PTC136	HEPS0014 HEPS0014	RE 13 RE 13	SK3124 SK3122	RT-172 RT-172	ECG123A ECG123A
Q21	2SC732BL 2SC732(1)	176-031-9-002	GE-20 GE-20	TR-21 TR-21	PTC139 PTC139	HEPS0024 HEPS0024	RE 13 RE 13	SK3020 SK3020	RT-172 RT-172	ECG123A ECG123A
Q22	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q23	2SC372Y 2SC372	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q24	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q25	2SA495-0 2SA495(1)	177-006-9-001	GE-21 GE-21	TR-30 (1R)2SA495	PTC103 PTC103	HEPS0013 HEPS0013	RE 26 RE 26	SK3114 SK3114	RT-106 RT-106	ECG159 ECG159
Q26	2SA495-0 2SA495(1)	177-006-9-001	GE-21 GE-21	TR-30 (1R)2SA495	PTC103 PTC103	HEPS0013 HEPS0013	RE 26 RE 26	SK3114 SK3114	RT-106 RT-106	ECG159 ECG159
Q27	2SC733Y 2SC733(1)	176-042-9-004	GE-20	TR-33	PTC139	HEPS0025	RE 13	SK3020	RT-172	ECG123A
Q28	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q29	2SC735Y 2SC735(1)	176-031-9-001	GE-63 GE-20	TR-21 TR-21	PTC123 PTC136	HEPS0014 HEPS0014	RE 13 RE 13	SK3124 SK3122	RT-172 RT-172	ECG123A ECG123A
Q30	2SD235	172-010-9-001(2)	GE-66	TR-92	PTC110	HEPS5000	RE 21	SK3054	RT-197	ECG152
Q31	2SD235	172-010-9-001(2)	GE-66	TR-92	PTC110	HEPS5000	RE 21	SK3054	RT-197	ECG152
Q32	2SA495-0 2SA495(1)	177-006-9-001	GE-21 GE-21	TR-30 (1R)2SA495	PTC103 PTC103	HEPS0013 HEPS0013	RE 26 RE 26	SK3114 SK3114	RT-106 RT-106	ECG159 ECG159
Q33	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q34	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q35	2SD235	172-010-9-001(2)	GE-66	TR-92	PTC110	HEPS5000	RE 21	SK3054	RT-197	ECG152
Q301	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q302	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q303	2SC372Y 2SC372(1)	176-042-9-003 176-029-9-001	GE-20 GE-20	TR-24 (1R)2SC372	PTC139 PTC139	HEPS0015 HEPS0015	RE 13 RE 13	SK3018 SK3018	RT-105 RT-105	ECG123A ECG123A
Q304	2SC387A	176-044-9-002	GE-11	TR-83	PTC133	HEPS0020	RE 10	SK3019	RT-108A	ECG108
Q305	2SC372	176-029-9-001	GE-20	(1R)2SC372	PTC139	HEPS0015	RE 13	SK3018	RT-105	ECG123A
Q306	2SC733Y 2SC732(1)	176-042-9-004 176-029-9-001	GE-20 GE-20	TR-21 (1R)2SC372	PTC139 PTC139	HEPS0025 HEPS0015	RE 13 RE 13	SK3122 SK3018	RT-172 RT-105	ECG123A ECG123A
Q307	2SA495-0 2SA495(1)	177-006-9-001	GE-21 GE-21	TR-30 (1R)2SA495	PTC103 PTC103	HEPS0013 HEPS0013	RE 26 RE 26	SK3114 SK3114	RT-106 RT-106	ECG159 ECG159

(1) Alt.

(2) Rating 1.5 watt @ 3 amp.

(3) Rating 10 watt @ 3 amp.

(4) Rating 25 watt @ 8 amp.

COBRA MODEL 132A

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFGR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C48	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C65	3.3 6.3V NP	034-005-9-001					
C67	1 6.3V NP	034-005-9-002		EN50-105	WNP1-50	TCN501A	TVAN-1200
C95	1 50V	022-076-9-001	ME-3-D-035	EP15-25	PC30-25	VTT33A10	EV-1125
C96	33 16V	022-076-9-005	ME-3-E-035	EP15-25	PC30-25	MTV30CB25	EV-1325
C106	33 3V	029-005-9-001				TDC336M10FL	S06-339
C109	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C111	10 16V	022-076-9-003	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C115	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C118	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C120	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C123	10 16V	022-076-9-003	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C124	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C125	100 3V	027-007-9-001				TOC107M10G1	SD4-1009
C126	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C127	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C128	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C129	33 16V	022-076-9-005	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222
C131	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C133	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C134	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C136	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C142	1 50V	022-076-9-001	RME-A-J-001	EP50-1	PC1-50	MTV1CB50	EV-1615
C143	33 16V	022-076-9-005	ME-3-E-035	EP15-25	PC30-25	MTV30CB25	EV-1325
C145	33 16V	022-076-9-005	ME-3-E-035	EP15-25	PC30-25	MTV30CB25	EV-1325
C148	100 16V	022-091-9-001	RME-E-E-100	EP15-100	PC100-16	MTV100CD15	EV-1230
C150	100 16V	022-091-9-001	RME-E-E-100	EP15-100	PC100-16	MTV100CD15	EV-1230
C151	470 25V	022-076-9-007	RME-N-G-500	EP30-500	WBR500-25	MTA500G25	EV-1350
C347	10 16V	022-076-9-003	RME-B-E-010	EP15-10	PC10-25	VTT10A25	EV-1222

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	33 N220	020-097-9-001	*			*	10TCR-Q33
C2	20						
C3	33 N220	020-097-9-001	*			*	10TCR-Q33
C4	20						
C5	150		CCT0-151	DTZ-150		CN0315	10TCC-T15
C6	100 N220	020-088-9-003	*			*	10TCR-T10
C7	.0047		CC0-472				10TS-D47
C8	.0047		CCD-472				10TS-D47
C9	.0022		CCD-222			GP222	10TS-D22
C10	.0022		CCD-222			GP222	10TS-D22
C11	.0047		CCD-472				10TS-D47
C12	.0047		CCD-472				10TS-D47
C13	10 N750			DTN-10	N10	CN7410	10TCU-Q10
C14	20	028-026-9-001					
C16	.0047		CCD-472				10TS-D47
C17	.0022		CCD-222			GP222	10TS-D22
C18	.0047		CCD-472				10TS-D47
C19	.0047		CCD-472				10TS-D47
C20	.0047		CCD-472				10TS-D47
C21	.0047		CCD-472				10TS-D47
C22	.0022		CCD-222			GP222	10TS-D22
C23	.0047		CCD-472				10TS-D47
C24	.0022		CCD-222			GP222	10TS-D22
C25	.0022		CCD-222				10TS-D22
C26	.0047		CCD-472				10TS-D47
C27	.0022		CCD-222			GP222	10TS-D22
C28	15		CCT0-150	OTZ-15	NP015	CN0415	10TCC-Q15
C29	.0022	020-088-9-007					
C30	.0047		CCD-472				10TS-D47
C31	.0047		CCD-472				10TS-D47
C32	.0047		CCD-472				10TS-D47
C33	2		CCT0-2R2	OTZ-2R2	NP02P2	CN0522	10TCC-V22
C34	1					CN0510	10TCC-V10
C35	.0022		CCD-222			GP222	10TS-D22
C36	.0047		CCD-472				10TS-D47
C37	.0047		CCD-472				10TS-D47
C39	.0022		CCD-222			GP222	10TS-D22

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 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C40	.0022	020-097-9-001	CCD-222	CPJ-103	DPMS4S1	GP222	10TS-D22
C41	.033		1MDF-1-103			EWFA1A110	1PB-S10
C42	.0022		CCD-222			GP222	10TS-D22
C43	.0022		CCD-222	DTZ-10	NP010	GP222	10TS-D22
C44	.0022		CCD-222			GP222	10TS-D22
C45	10					CN0410	10TCC-Q10
C46	.0022		CCD-222	DTZ-3R3	NP03P3	GP222	10TS-D22
C47	.0022		CCD-222			GP222	10TS-D22
C49	2		CCTO-3R3			CN0533	10TCC-V33
C50	.0022		CCD-222			GP222	10TS-D22
C51	.0047		CCD-472				10TS-D47
C52	5		CCTO-050				10TCC-V50
C53	.033		6DP-3-333		DPMS6S33	EWFA6133	6PS-S33
C54	.0047		CCO-472				10TS-D47
C55	1					CN0510	10TCC-V10
C56	.033		6DP-3-333		DPMS6S33	EWFA6133	6PS-S33
C57	.0047		CCD-472				10TS-D47
C58	.0047		CCO-472				10TS-D47
C59	33 N220		*	CPJ-103 CPJ-103	DPMS4S1 DPMS4S1	*	10TCR-Q33
C60	.033		6DP-3-333			EWFA6133	6PS-S33
C61	.0047		CCD-472				10TS-D47
C62	.033		1MDF-1-103		DPMS6S33	EWFA1A110	1PB-S10
C63	.033		1MDF-1-103			EWFA1A110	1PB-S10
C64	.0047		CCD-472				10TS-D47
C66	.033		6DP-3-333			EWFA6133	6PS-S33
C68	.0047		CCD-472				10TS-D47
C69	.0047		CCD-472				10TS-D47
C70	5		CCTO-050	DTZ-120			10TCC-V50
C71	.0022		CCD-222			GP222	10TS-D22
C72	120		CCTO-121			CN0312	10TCC-T12
C74	.0047	020-088-9-003	CCD-472	DTZ-150			10TS-D47
C75	.0022		CCD-222			GP222	10TS-D22
C76	.0047		CCD-472				10TS-D47
C77	.0047		CCD-472	DTZ-150			10TS-D47
C78	.0047		CCD-472				10TS-D47
C79	.0047		CCD-472				10TS-D47
C80	.0047		CCD-472	DTZ-120 DTZ-120			10TS-D47
C81	.0047		CCD-472				10TS-D47
C82	100 N220		*			*	10TCR-T10
C83	150		CCTO-151	DTZ-150		CN0315	10TCC-T15
C84	.0047		CCD-472				10TS-D47
C85	.0047		CCD-472				10TS-D47
C86	.0047		CCD-472	DTZ-150			10TS-D47
C87	150		CCTO-151			CN0315	10TCC-T15
C88	.0047		CCD-472				10TS-D47
C89	120		CCTO-121	DTZ-120 DTZ-120		CN0312	10TCC-T12
C90	120		CCTO-121			CN0312	10TCC-T12
C91	.0047		CCD-472				10TS-D47
C93	10		CCTO-100	DTZ-10	NP010	CN0410	10TCC-Q10
C94	.0047		CCD-472				10TS-D47
C97	100 N220		*			*	10TCR-T10
C98	56 N220		*			*	10TCR-Q56
C99	100 N220		*			*	10TCR-T10
C100	.0047		CCD-472				10TS-D47
C104	.0047	020-088-9-003	CCD-472		DPMS6S33	EWFA6133	6PS-S33
C105	.033		6DP-3-333				10TS-D47
C107	.0047		CCO-472				10TS-D47
C108	.0047		CCD-472	CPJ-103	DPMS4S1	EWFA1A110	1PB-S10
C110	.0047		CCD-472				10TS-D47
C112	.0047		CCD-472				10TS-D47
C113	.033		6DP-3-333	CPJ-103 CPJ-103	DPMS4S1 DPMS4S1	EWFA1A110	1PB-S10
C114	.033		6DP-3-333			EWFA1A110	1PB-S10
C116	.0047		CCD-472				10TS-D47
C117	.033		1MDF-1-103	DD-471	GP470	GP347	10TS-T47
C119	.0047		CCD-472				10TS-D47
C121	.0047		CCD-472				10TS-D47
C122	.01		1MDF-1-103				10TS-D47
C132	.01		1MDF-1-103				10TS-D47
C135	.0047		CCO-472				10TS-D47
C137	470		CCD-471				10TS-D47
C138	.0047		CCD-472				10TS-D47
C144	.0047		CCD-472				10TS-D47
C146	.0047		CCD-472				10TS-D47
C147	.0047		CCD-472				10TS-D47
C149	.0047		CCD-472				10TS-D47
C152	.0047		CCD-472				10TS-D47
C153	.0047		CCD-472				10TS-D47
C154	.0047		CCD-472				10TS-D47
C155	.0047		CCD-472				10TS-D47
C156	.0047		CCD-472				10TS-D47
C157	.0047		CCD-472				10TS-D47
C158	.0047		CCD-472				10TS-D47
C159	.0047		CCD-472				10TS-D47
C301	20	028-026-9-001					
C302	33 N220	020-097-9-001					

COBRA MODEL 132A

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 PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C303	20	028-026-9-001					
C304	33 N220	020-097-9-001					
C305	20	028-026-9-001					
C306	33 N220	020-097-9-001					
C307	20	028-026-9-001					
C308	33 N220	020-097-9-001					
C309	20	028-026-9-001					
C310	33 N220	020-097-9-001					
C311	20	028-026-9-001					
C312	33 N220	020-097-9-001					
C313	20	028-026-9-001					
C314	33 N220	020-097-9-001					
C315	20	028-026-9-001					
C316	33 N220	020-097-9-001					
C317	20	028-026-9-001					
C318	33 N220	020-097-9-001					
C319	20	028-026-9-001					
C320	33 N220	020-097-9-001					
C321	68 N220	020-088-9-001					
C322	47 N220	020-088-9-002					
C323	5						
C324	.0047		CCTO-050				10TCC-V50
C325	330		CCO-472				10TS-047
C326	220						
C327	10						
C328	.0047		CCO-472				10TS-D47
C329	.0047		CCD-472				10TS-D47
C330	1					CN0510	10TCC-V10
C331	10						
C332	100 N220	020-088-9-003					
C333	10		CCTO-100				
C334	.0047		CCD-472	0TZ-10	NP010	CN0410	10TCC-Q10
C335	33 N220	020-097-9-001					10 S-D47
C336	33 N220	020-097-9-001					
C337	33 N220	020-097-9-001					
C338	3		CCTO-3R3	0TZ-3R3	NP03P3	CN0533	10TCC-V33
C339	3		CCTO-3R3	0TZ-3R3	NP03P3	CN0533	10TCC-V33
C340	.0047		CCD-472				10TS-047
C341	47 N220						
C342	47 N220						
C343	.0047		CCD-472				10TS-047
C344	.0047		CCD-472				10TS-047
C345	33 N470		CCTN-330	0TN-33	N33	CN7433	10TCU-Q33
C350	.0047		CCD-472				10TS-047

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
R16	Balance	5000	0082069005				
R47a	RF Gain	20K	0082069011				
b	Mic Gain	50K					
R67	AM "S"	50K	0082069006				
R79	Bias	2000	0082069007				
R87	SSB ALC	10K	0082069008				
R91	Bias	100	0082069004				
R96	RF	100K	0082069001				
R128	SSB "S"	20K	0082069009				
R140a	Squelch	20K	0081769004				
b	Volume/Switch	50K					
R163	Squelch Range	10K	0082069008				
R311	12.7977MHz	1000	0082069010				
R325	12.7993MHz	100K	0082069001				
R327	Voice Lock	20K		F1-25K, SNK010 (19)	A47-25K-S, RN-3 (19) or [NP-20K-S, NML-A-300 (19)]	RU253L, SL36 SL1500 (19) or [UA24L, SN1000 (19)]	BU1, CF62, SS6A (19)
R329	12.8007MHz	30K	0082069002				

(19) Drill hole for pin.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
R157	2.2 3W WW		004-145-9-001	R161	250 Cold NTC		004-099-9-002
R158	39 3W WW		006-005-5-160				

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke	042-009-9-001			
L2	Xmit. Driver (27MHz)	041-054-9-001			
L3	RF Choke	042-009-9-001			
L4	RF Choke	042-009-9-003			
L5	Xmit. Final (27MHz)	041-054-9-002			
L6	Pi Filter (27MHz)	041-054-9-001			
L7	Line Choke	042-010-9-001	1785		
L301	RF Tuning (12.8023MHz)	041-054-9-004	L-1871		
T1	Balanced Mod. (7.8MHz)	066-015-9-001	1786		
T2	Xmit. Mix. Input (7.8MHz)	066-015-9-002			
T3	Xmit Mix. Output (27MHz)	066-015-9-003			
T4	Harmonic Filter	066-013-9-002	1785		
T5	Xmit. Buffer Input (27MHz)	066-013-9-002	1785		
T6	Xmit. Buffer Output (27MHz)	066-013-9-009	L-1505		
T7	Antenna (27MHz)	066-015-9-004	1790A		
T8	RF Amp (27MHz)	066-015-9-005	1789A		
T9	Mixer Input (27MHz)	066-013-9-002	1641A		
T10	IF Input (7.8MHz)	066-015-9-006	1788		
T11	IF Output (7.8MHz)	066-015-9-006	1788		
T12	IF Input (455MHz)	060-014-9-006	1788		
T13	IF Output (455MHz)	060-014-9-004	0753		
T14	Buffer Output (27MHz)	066-015-9-007	1791		
T301	Synth. Mixer (22MHz)	066-015-9-009	L-1840		
T302	Interstage IF (22MHz)	066-015-9-010	L-1841		
T303	Interstage (34MHz)	066-015-9-011			
T304	Interstage (34MHz)	066-015-9-011			
T305	Synth. Output (34MHz)	066-015-9-013			

COBRA MODEL 132A

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L7	1250mA	.1	1mH	042-010-9-001 7966 (1)			(1) Number on unit.

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T15	2	1		068-005-9-001 7378 (1)			(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T16	64	16	061-024-9-001 8932 (1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3" X 6" PM 16 ohms	580-012-9-001		

PARTS LIST AND DESCRIPTION (CONTINUED)

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

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	3A Fast Acting	191-251-3-003	742-027-9-001	MDL3	HDJ	312003	145150	FG2-3

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL	ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X1	7.7985	132-008-9-013	AHC32W7.7985	AM,USB	X305	16.165	132-008-9-006	AHA20W16.165	17,18,19,20
X2	7.8015	132-008-9-014	AHC32W7.8015	LSB	X306	16.215	132-008-9-007	AHA20W16.215	21,22,23
X3	7.3435	132-008-9-015	AHC32W7.3435	ALL, Receive	X307	6.000	132-008-9-008	AHB39W6.000	1,5,9,13,17,21
X301	15.965	132-008-9-002	AHA20W15.965	1,2,3,4	X308	6.010	132-008-9-009	AHB39W6.010	2,6,10,14,18,22
X302	16.015	132-008-9-003	AHA20W16.015	5,6,7,8	X308	6.020	132-008-9-010	AHB39W 6.020	3,7,11,15,19
X303	16.065	132-008-9-004	AHA20W16.065	9,10,11,12	X310	6.040	132-008-9-011	AHB39W6.040	4,8,12,16,20,23
X304	16.115	132-008-9-005	AHA20W16.115	13,14,15,16	X311	12.800	132-008-9-012	AHC32W12.800	ALL, Transmit

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
U1	Ceramic Filter	143-002-9-001	7.8MHz
U2	Ceramic Filter	140-008-9-001	455kHz
U3	Crystal Filter	140-008-9-003	455kHz
M1	Meter	320-036-9-001	S/Rf (DC Ammeter 200uA)
K1	Relay	441-006-9-001	(12V)
K2	Relay	441-007-9-001	(6V)
S1	Switch	083-138-9-003	
S2	Switch	083-138-9-002	
S3	Switch	084-025-9-001	
S4	Switch	084-025-9-001	

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

ITEM	PART No.	ITEM	PART No.
Case	272-100-9-001	Knob, Mode SW	751-092-9-004
Front Panel	255-124-9-001	Knob, Volume, Mic Gain	751-092-9-002
Chassis	257-062-9-001	Knob, Squelch, RF Gain	751-092-9-003
Knob, Channel	751-092-9-005	Channel Indicator	380-157-9-001
Knob, Voice Lock	751-092-9-006		

ACCESSORIES

ITEM	MFGR. PART No.	REMARKS
Microphone	562-003-9-001	Dynamic