

PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

Repair or adjustment of transmitter circuits must be under supervision of a person with first-or second-class radiotelephone license.

(Refer to FCC Rules and Regulations Part 95, Subpart 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.



SBE MODELS SBE-26CB/A

MODEL SBE-26CB/A

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

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ALIGNMENT INSTRUCTIONS

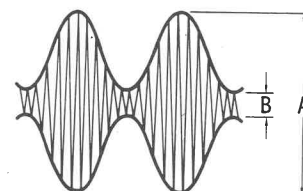
CAUTION: Use isolation transformer or observe polarity when connecting test equipment.
 Allow a 15-minute warm-up period.
 Adjustments made with 13.8 volt DC input.
 Connect low sides of test equipment to ground unless specified otherwise.
 Connect 50-ohm dummy load or antenna before keying transmitter.
 Connect Microphone.

Suggested Alignment Tools:..... GC ELECTRONICS

T1, L1, L3, L4, L11, L13, L14..... 9440

T2-1, T2-2, T3, T4, T5, T6..... 5000, 5009, 8276, 8728, 8728A

L6, L8, L9, T7..... 8282, 9304, 8728, 8728A



$$\text{Modulation Ratio} = \frac{A - B}{A + B} \times 100 (\%)$$

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1 (IC5 pin 14).	Ch. 19 Fine Tune Midrange	L11	Adjust for 10.240MHz.
Input of frequency counter to TP1 (IC5 pin 14).	Ch. 19 XMT Fine Tune Midrange		Check for 10.380MHz.
Input of DC meter to TP3.	Ch. 19 Fine Tune Midrange	L14	Adjust for 2.00 volts.
Input of oscilloscope to TP5 (Q23 collector).	Ch. 19	L13	Adjust for maximum RF.
Input of frequency counter to TP5 (Q23 collector).	Ch. 1 Fine Tune Midrange		Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP5 (Q23 collector).	Ch. 1 XMT		Check for 16.726MHz. Check all channels. (See Truth Chart for correct frequencies.)

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
 Adjust volume control to obtain a suitable indication.
 Set generator output low enough to prevent AGC limiting.
 Fine Tune Midrange, LOC/DIS Switch DIS, Squelch MINIMUM, NL Switch off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP6 (D4 cathode). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T6,T5,T4,T3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T2-2,T2-1,L1, T1	Adjust for maximum output. If necessary readjust T3, T4, T5 and T6 for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Fine Tune Midrange, LOC/DIS Switch DIS, NL Switch off.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV.	Ch. 19 Squelch Maximum	VR8	SQUELCH RANGE Adjust so that squelch just breaks.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19 Squelch MINIMUM	VR7	S METER Adjust for 9 on S scale of meter.

TRANSMITTER ALIGNMENT

Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of RF wattmeter and 50 ohm, 25 watt dummy load to antenna input.	Ch. 19	L3,L4,T7,L6	Adjust for maximum RF output.
Input of RF wattmeter and 50 ohm, 25 watt dummy load to antenna input.	Ch. 19	L8,L9	Adjust for 4.0 watts RF output maximum.

TRANSMITTER ADJUSTMENTS

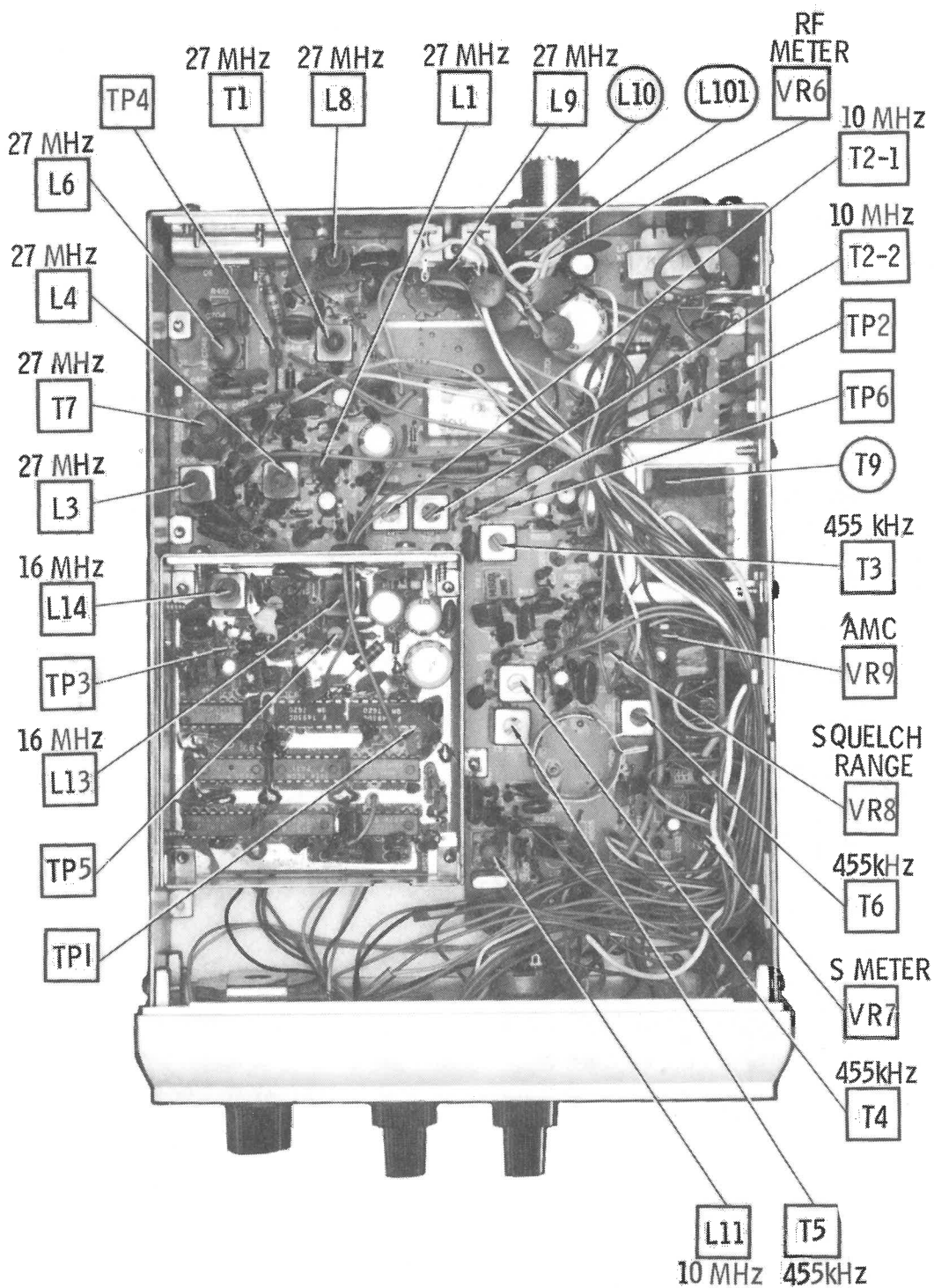
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 10mV signal at Mic input.	Ch. 19	VR9	AMC Adjust for 100% modulation maximum. See Figure 1.
Input of RF wattmeter and 50 ohm, 25 watt dummy load to antenna input.	Ch. 19	VR6	RF METER Adjust so that RF meter agrees with RF wattmeter

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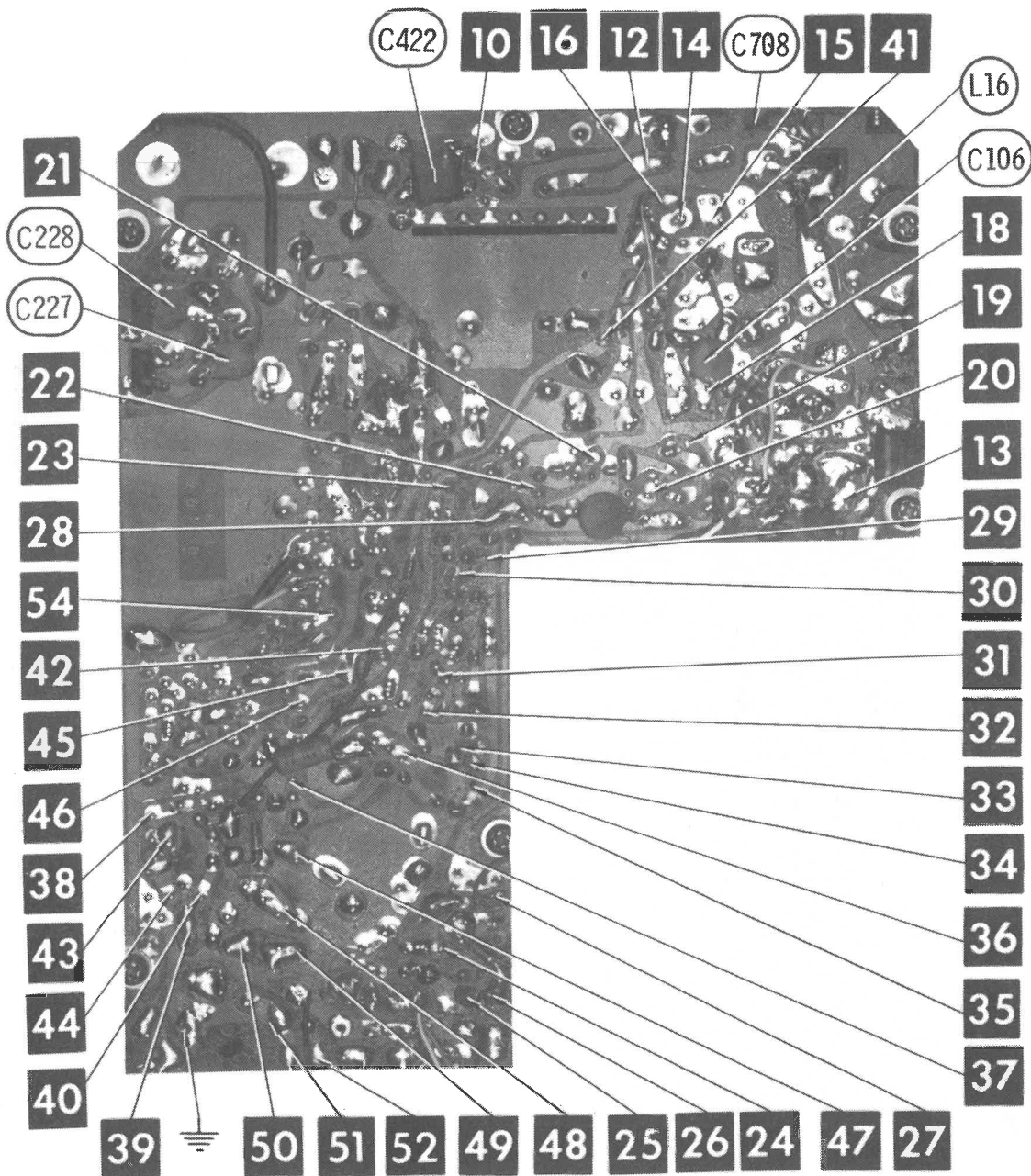
TRUTH CHART

CHANNEL	1 = 4.90 Volts 0 = 0 Volts PROGRAM DIVIDER								REC SYNTH OUTPUT IN MHz AT TP2	XMIT SYNTH OUTPUT IN MHz AT TP2	
	PINS										
	IC2						IC1				
	4	3	7	6	5	4	3				
1	1	1	1	1	1	1	0		16.270	16.727	
2	1	1	1	1	1	0	1		16.280	16.737	
3	1	1	1	1	1	0	0		16.290	16.747	
4	1	1	1	1	0	1	0		16.310	16.767	
5	1	1	1	1	0	0	1		16.320	16.777	
6	1	1	1	1	0	0	0		16.330	16.787	
7	1	1	1	0	1	1	1		16.340	16.797	
8	1	1	1	0	1	0	1		16.360	16.817	
9	1	1	1	0	1	0	0		16.370	16.827	
10	1	1	1	0	0	1	1		16.380	16.837	
11	1	1	1	0	0	1	0		16.390	16.847	
12	1	1	1	0	0	0	0		16.410	16.867	
13	1	0	1	1	1	1	1		16.420	16.877	
14	1	0	1	1	1	1	0		16.430	16.887	
15	1	0	1	1	1	0	1		16.440	16.897	
16	1	0	1	1	0	1	1		16.460	16.917	
17	1	0	1	1	0	1	0		16.470	16.927	
18	1	0	1	1	0	0	1		16.480	16.937	
19	1	0	1	1	0	0	0		16.490	16.947	
20	1	0	1	0	1	1	0		16.510	16.967	
21	1	0	1	0	1	0	1		16.520	16.977	
22	1	0	1	0	1	0	0		16.530	16.987	
23	1	0	1	0	0	0	1		16.560	17.017	
24	1	0	1	0	0	1	1		16.540	16.997	
25	1	0	1	0	0	1	0		16.550	17.007	
26	1	0	1	0	0	0	0		16.570	17.027	
27	0	1	1	1	1	1	1		16.580	17.037	
28	0	1	1	1	1	1	0		16.590	17.047	
29	0	1	1	1	1	0	1		16.600	17.057	
30	0	1	1	1	1	0	0		16.610	17.067	
31	0	1	1	1	0	1	1		16.620	17.077	
32	0	1	1	1	0	1	0		16.630	17.087	
33	0	1	1	1	0	0	1		16.640	17.097	
34	0	1	1	1	0	0	0		16.650	17.107	
35	0	1	1	0	1	1	1		16.660	17.117	
36	0	1	1	0	1	1	0		16.670	17.127	
37	0	1	1	0	1	0	1		16.680	17.137	
38	0	1	1	0	1	0	0		16.690	17.147	
39	0	1	1	0	0	1	1		16.700	17.157	
40	0	1	1	0	0	1	0		16.710	17.167	



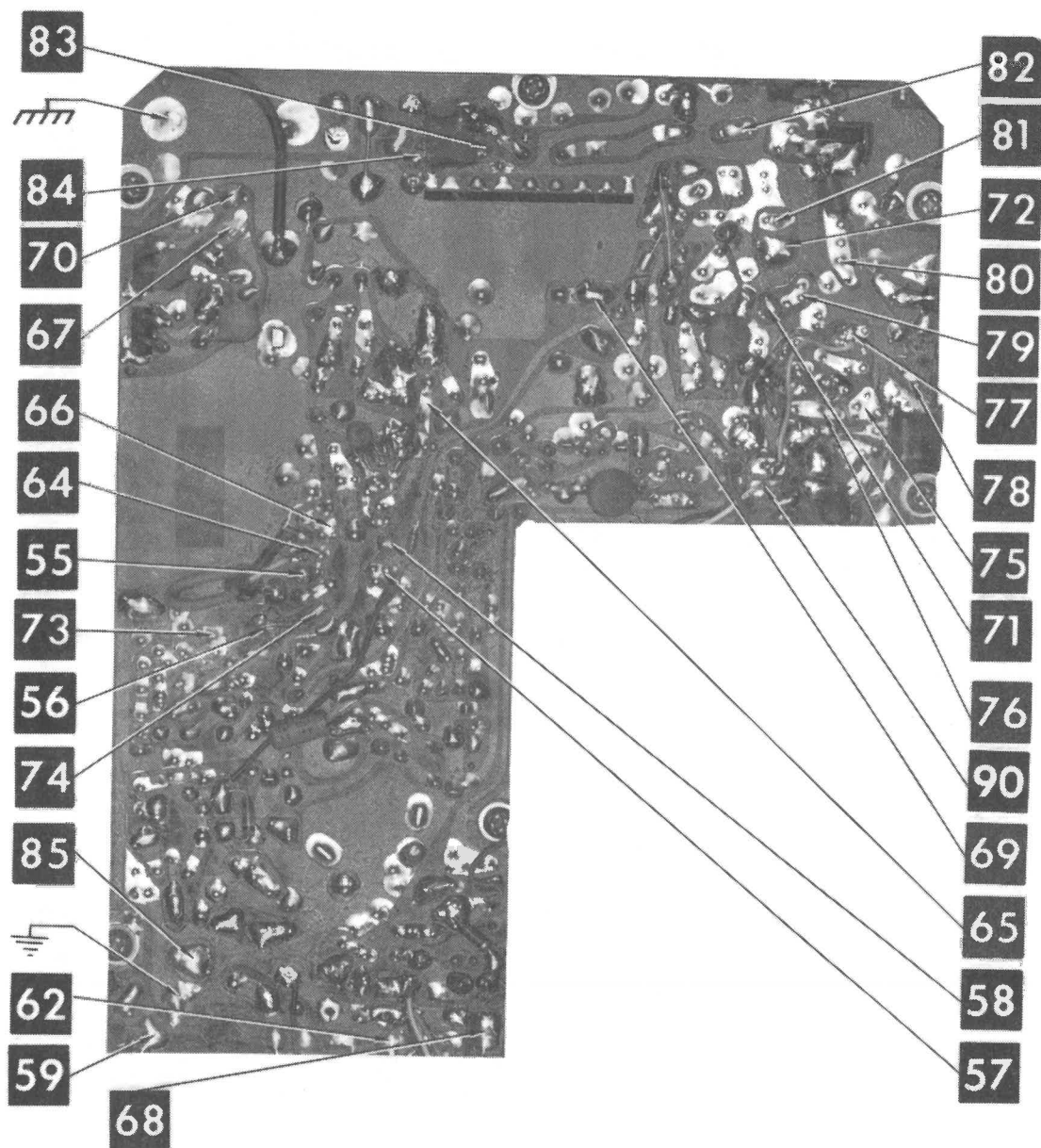
CHASSIS-BOTTOM



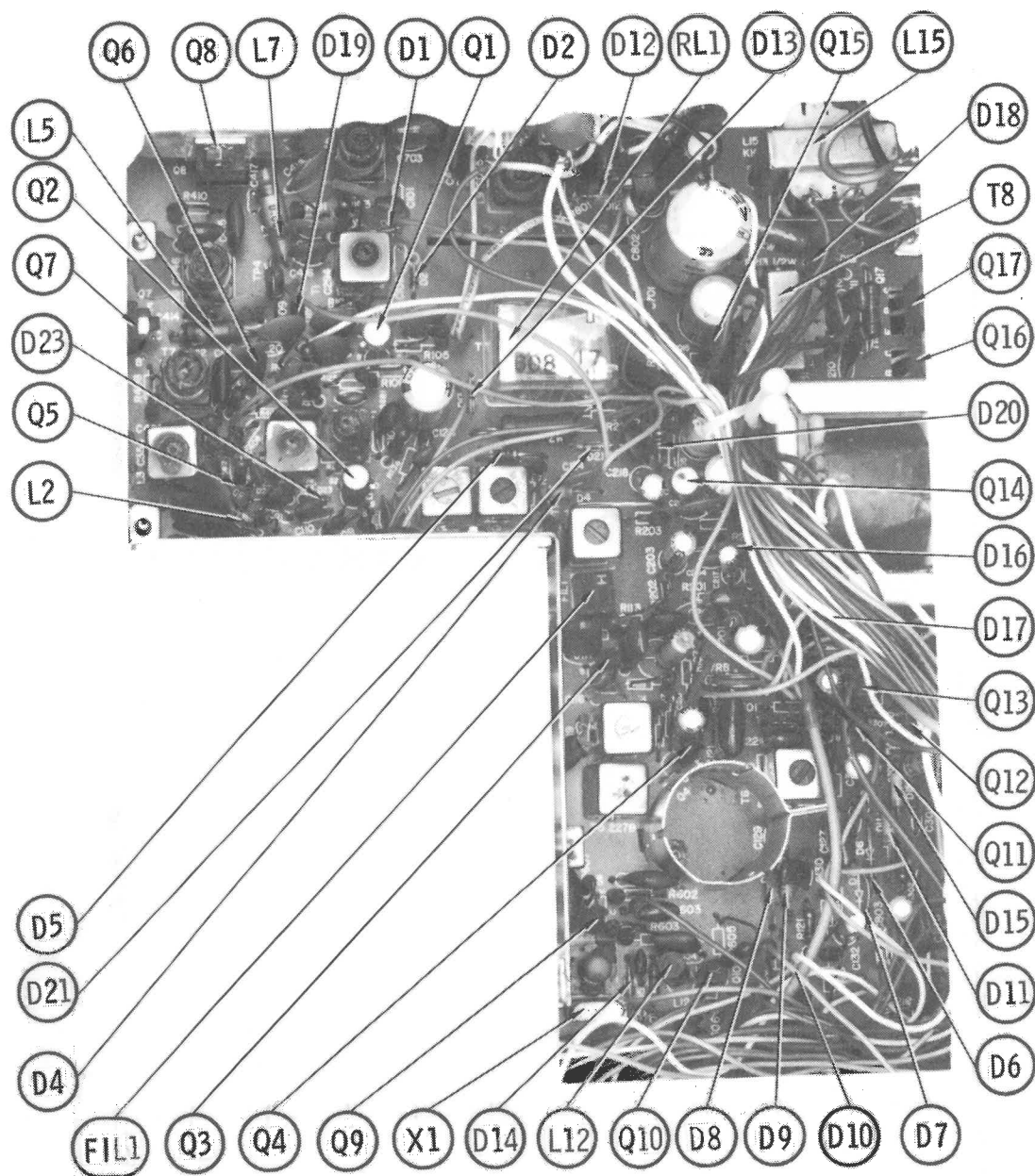


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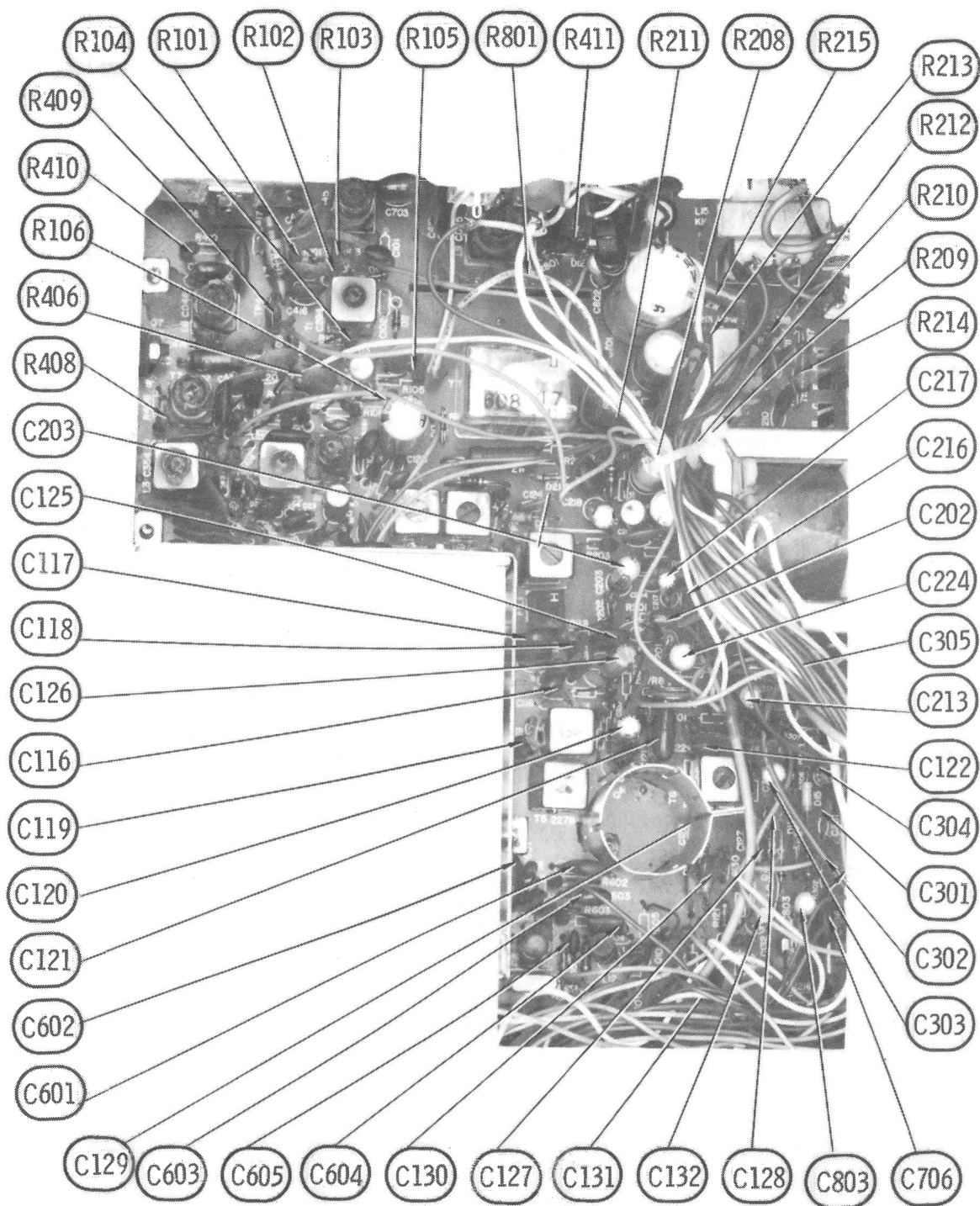
MAIN BOARD



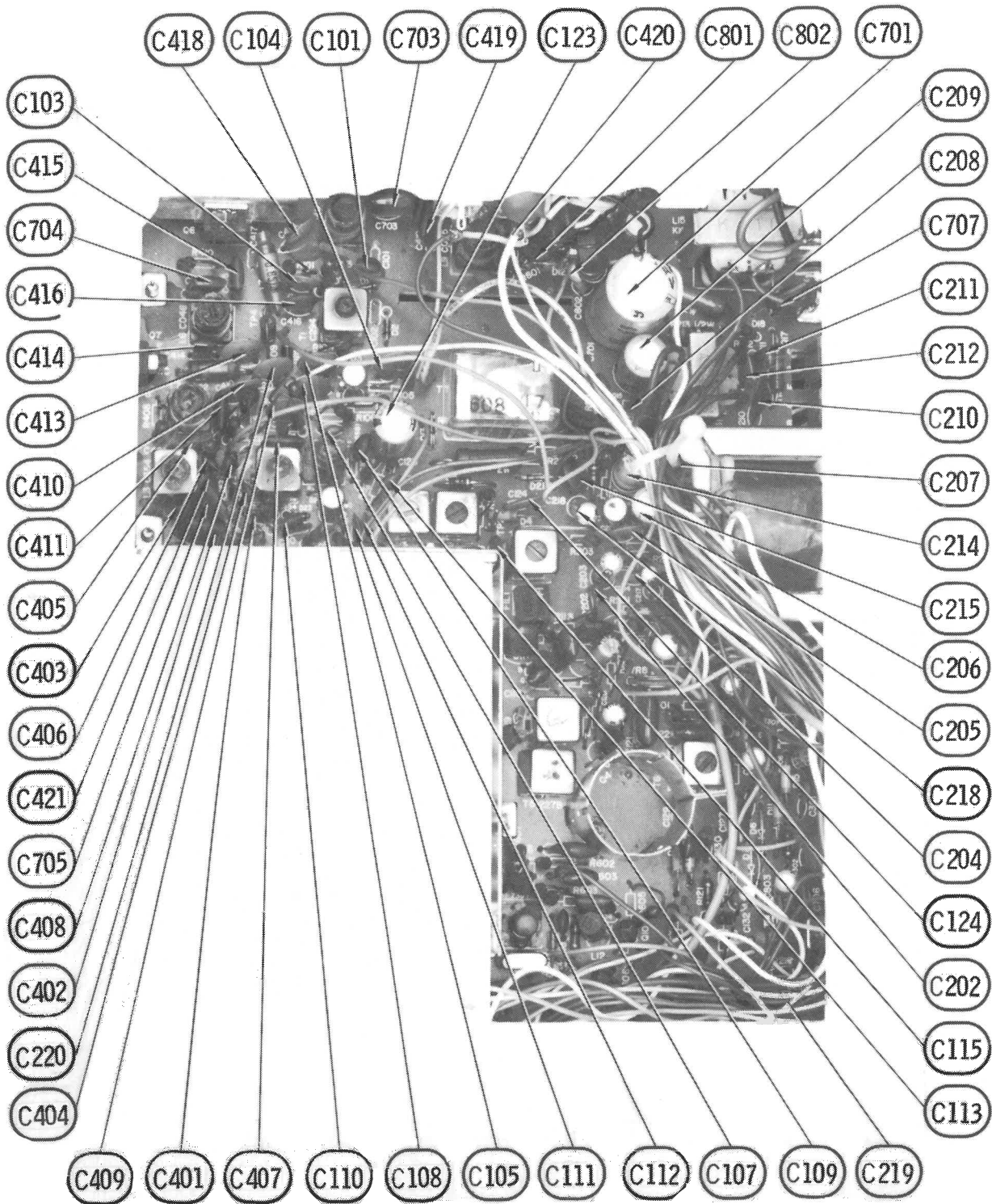
MAIN BOARD



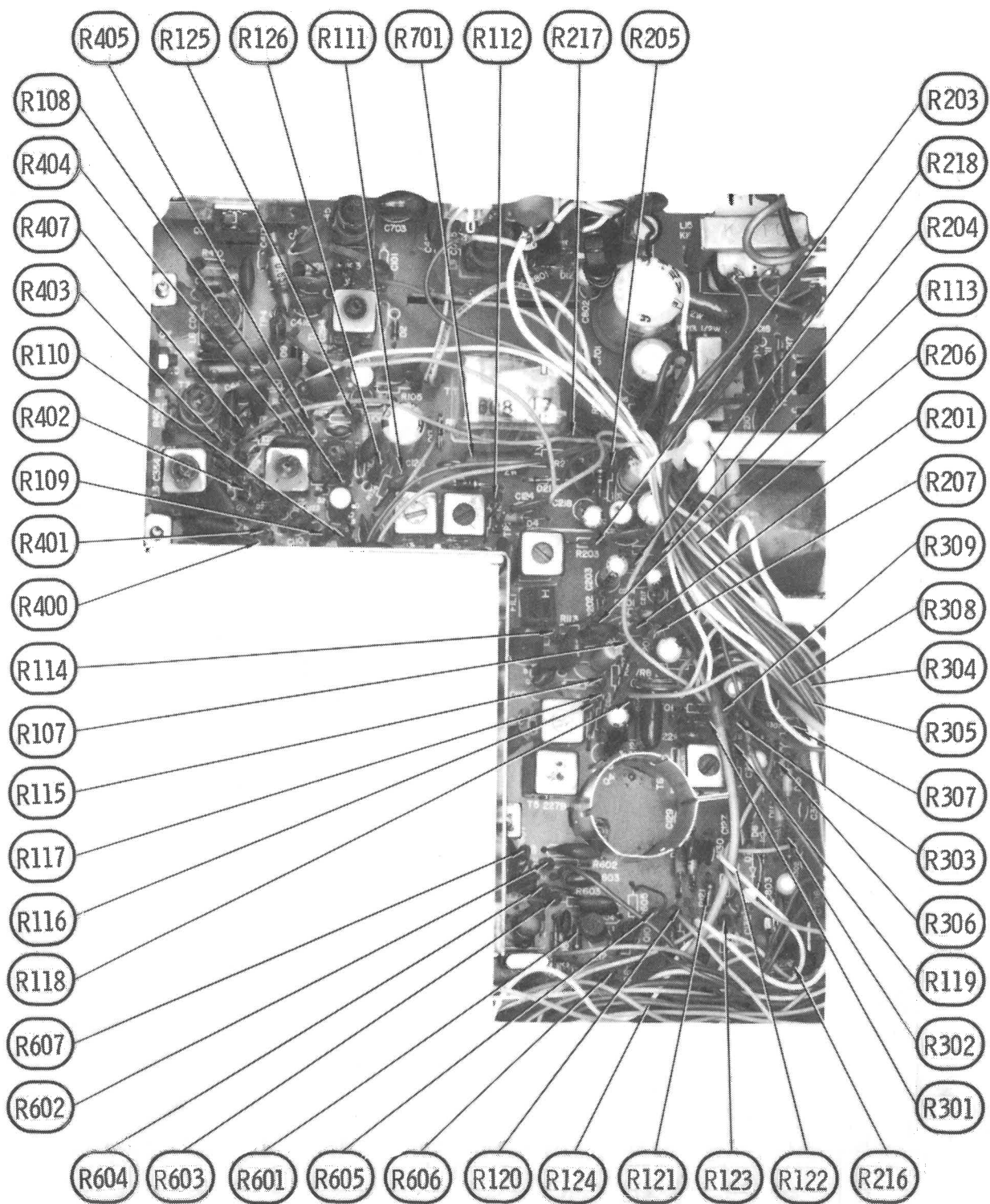
MAIN BOARD



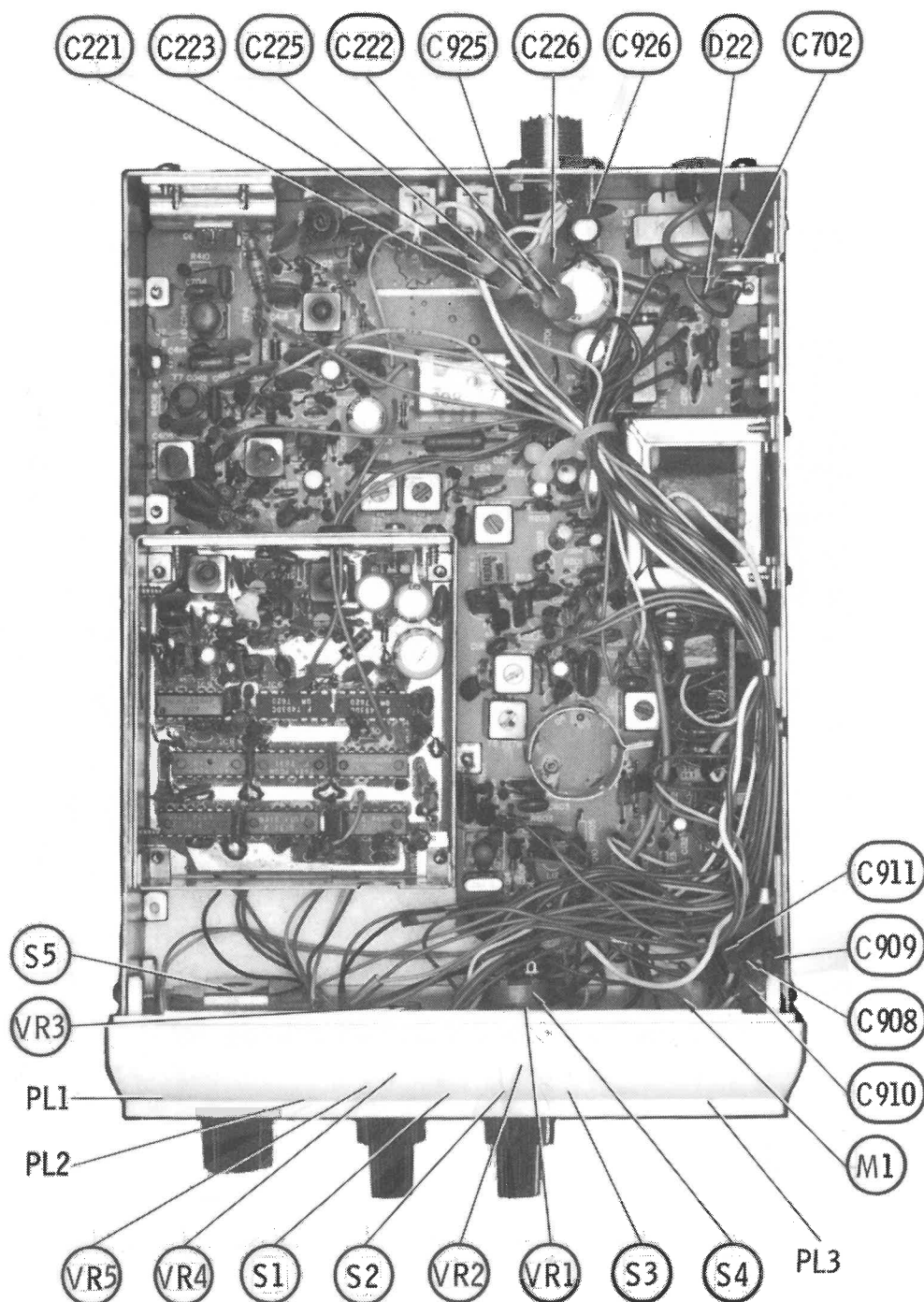
MAIN BOARD



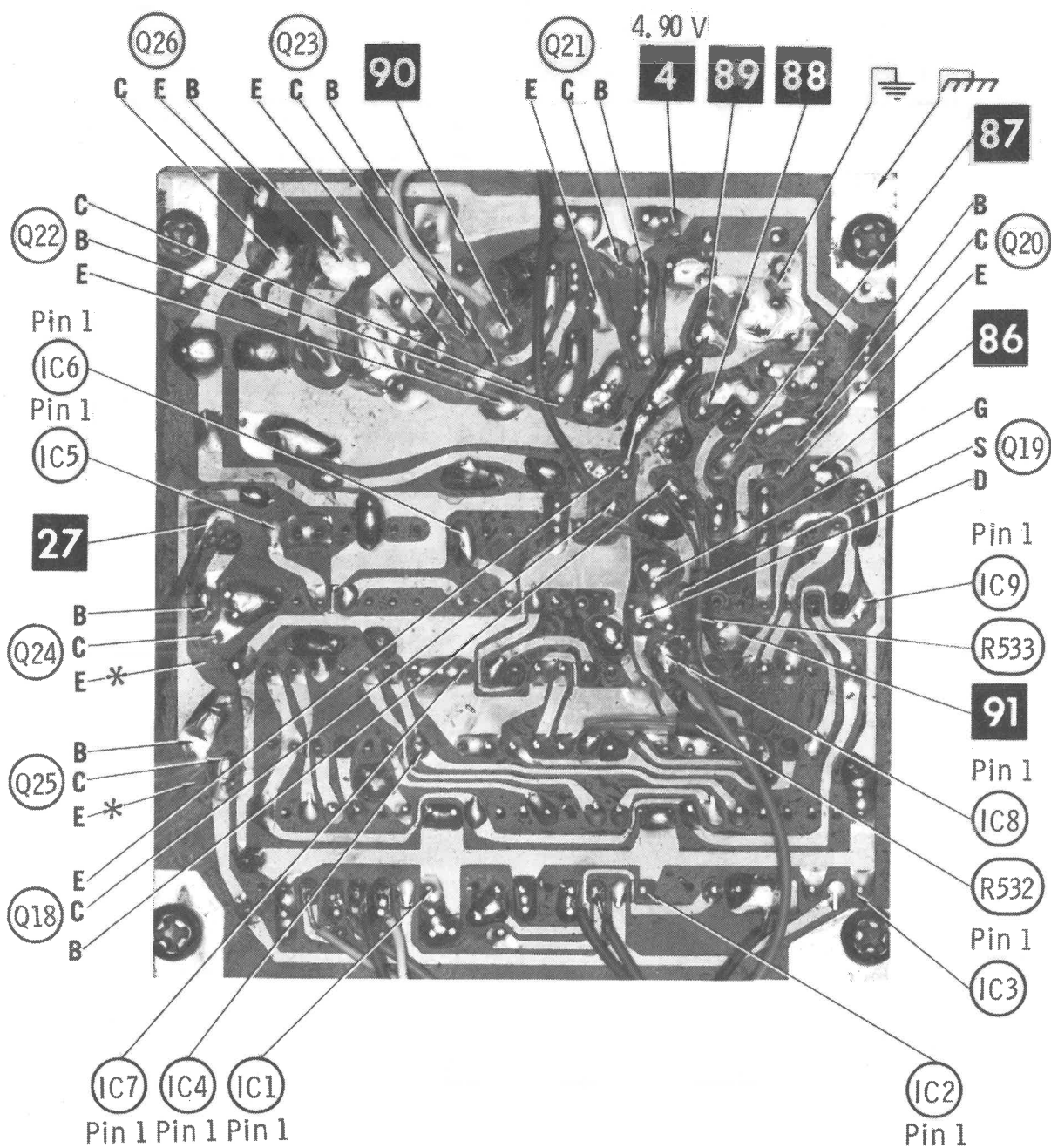
MAIN BOARD



MAIN BOARD

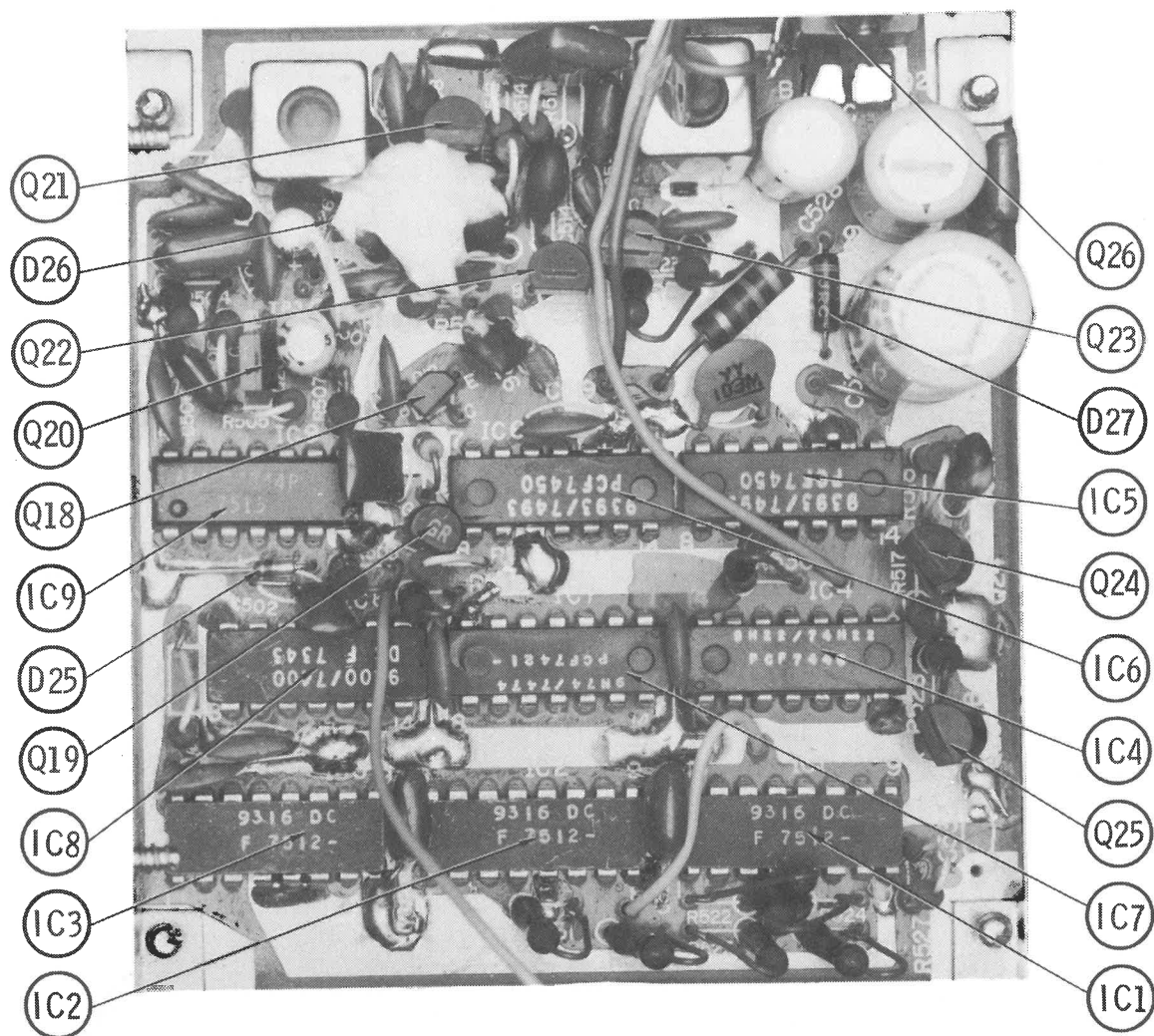


CHASSIS - BOTTOM

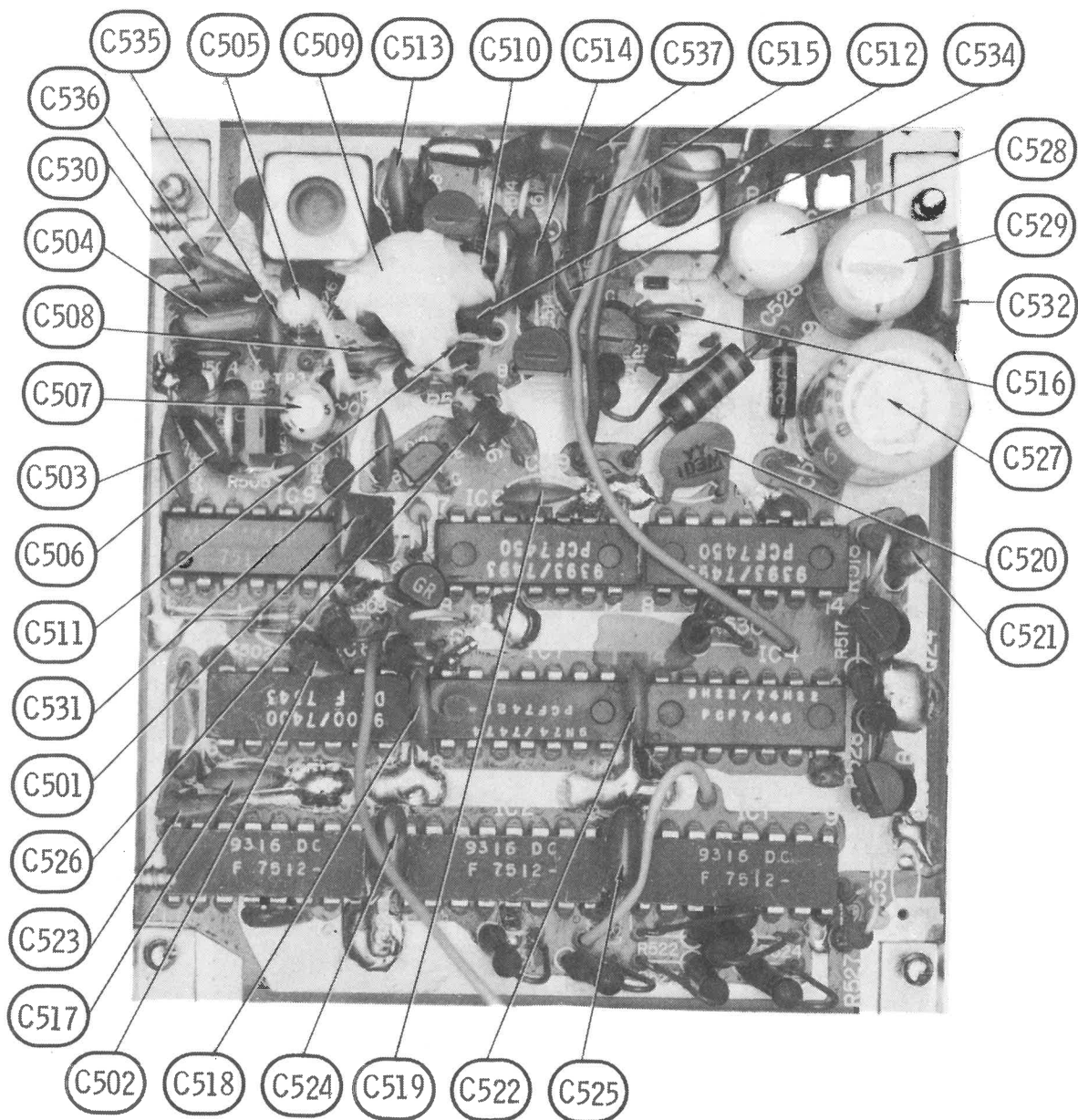


* Located on top of board.

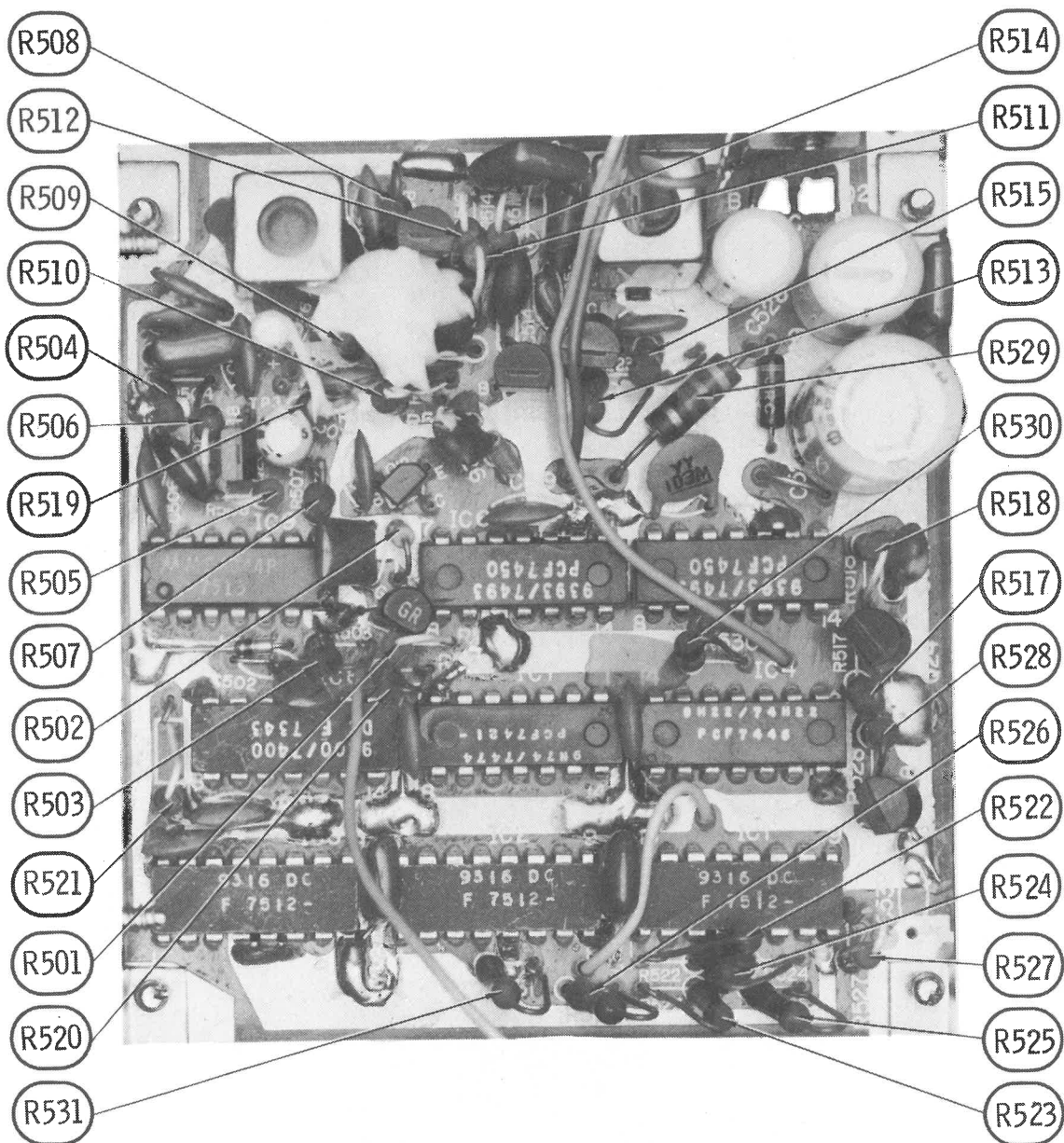
DIGITAL SYNTH BOARD



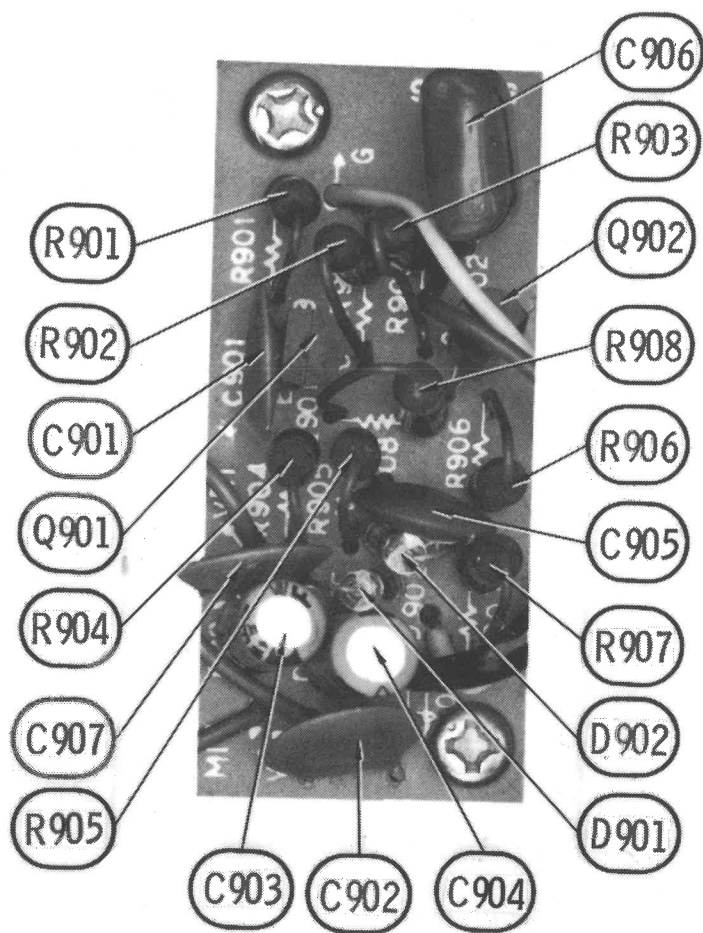
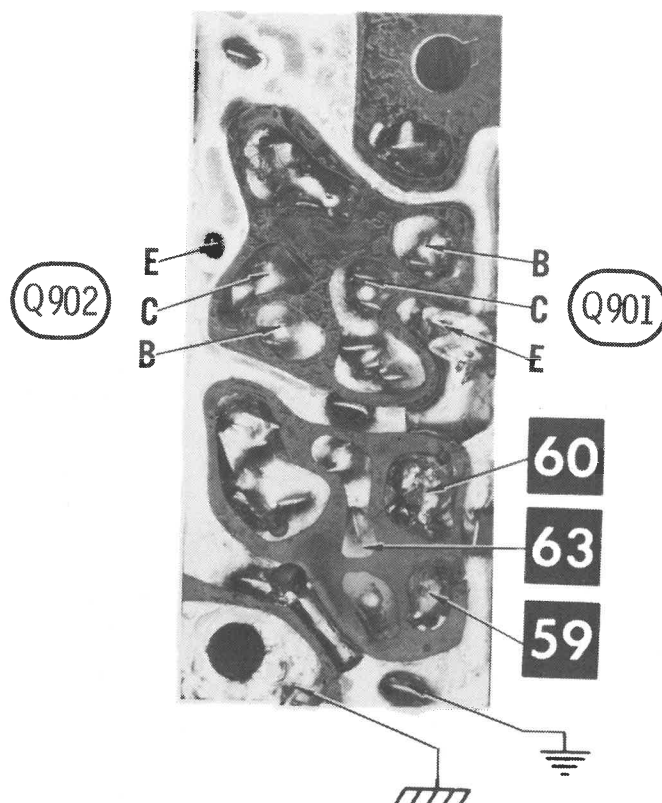
DIGITAL SYNTHESIZER BOARD



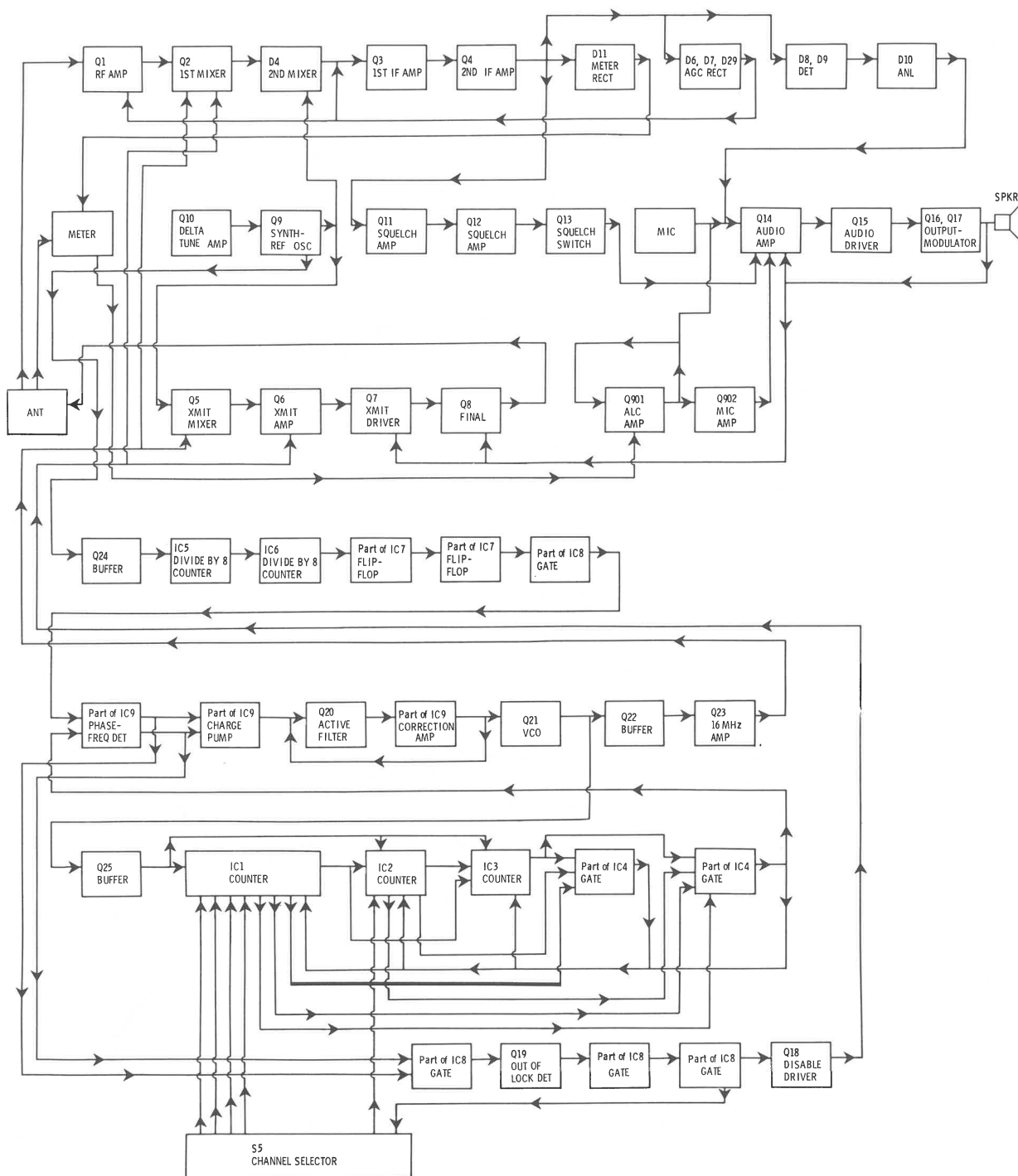
DIGITAL SYNTHESIZER BOARD



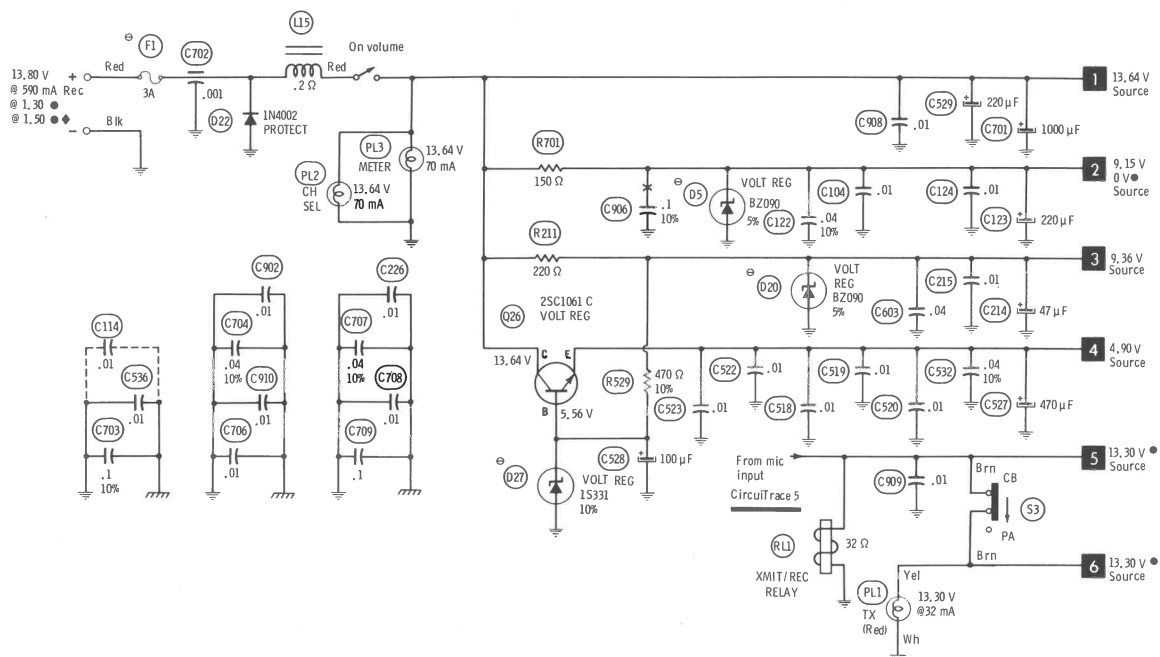
DIGITAL SYNTHESIZER BOARD



MIC AMP BOARD



BLOCK DIAGRAM



Terminal Guides



Q1, Q3, Q4
Q6, Q9, Q901
Q902

Bottom view



G2, G1
S, Q2, Q5

Bottom view



IDENT
E C B

Front view



IDENT
B C E

Front view



E C B

Front view



Q14

Bottom view



IDENT
C B E

Front view



IDENT
B C E

Front view

✖ Circuitry not used in some versions

--- Circuitry used in some versions

⊙ See parts list

✱ Nominal value

⊥ Ground

⏏ Chassis

▽ Common tie point

Measurements made in Channel 1 with switching as shown unless noted.

Item numbers in rectangles appear in the alignment/adjustment instructions.

Supply voltage maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Arrow at control indicates direction of advance.

Terminal identification may not be found on unit.

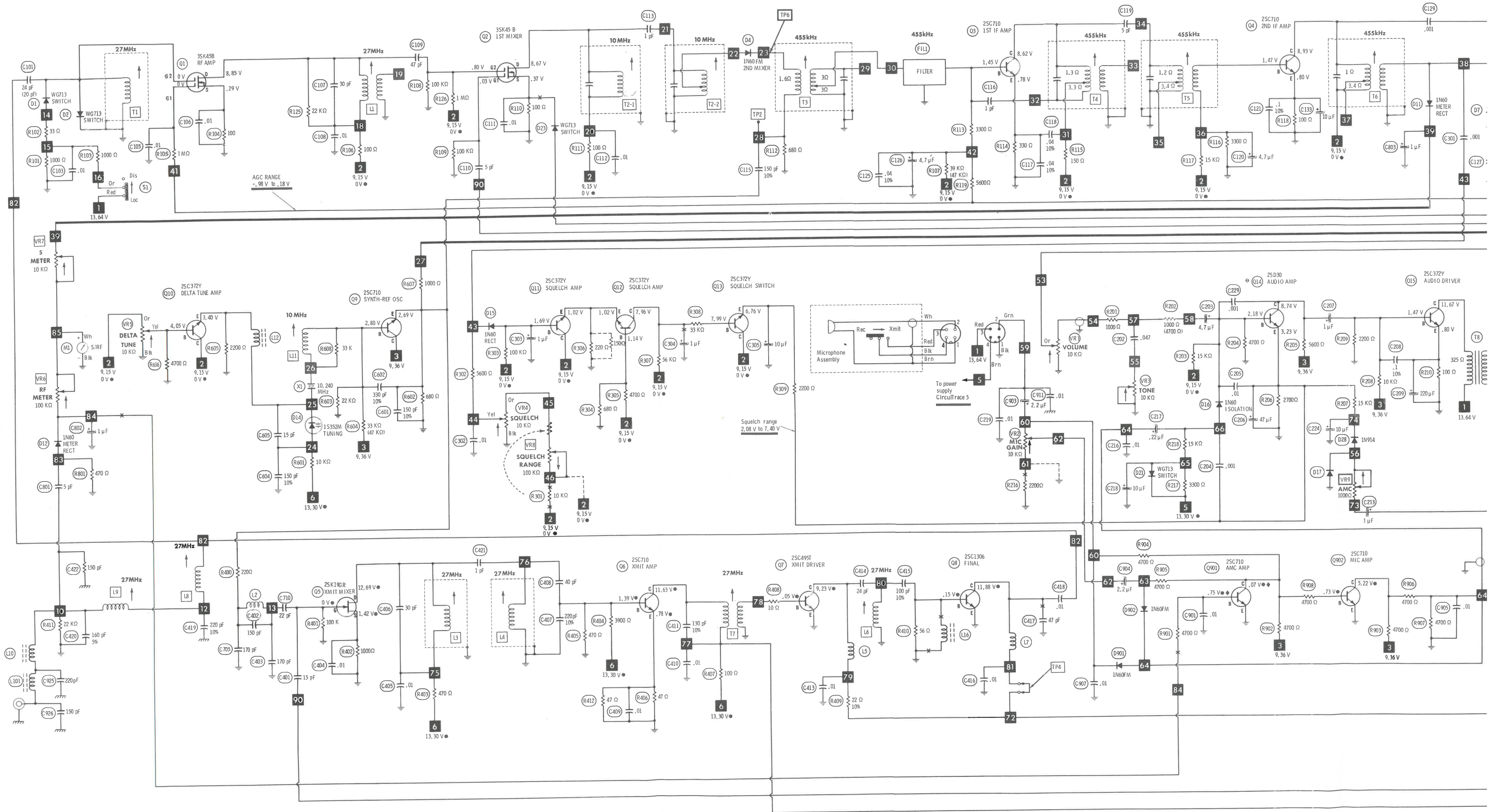
Resistors are 1/2W or less, 5% unless noted.

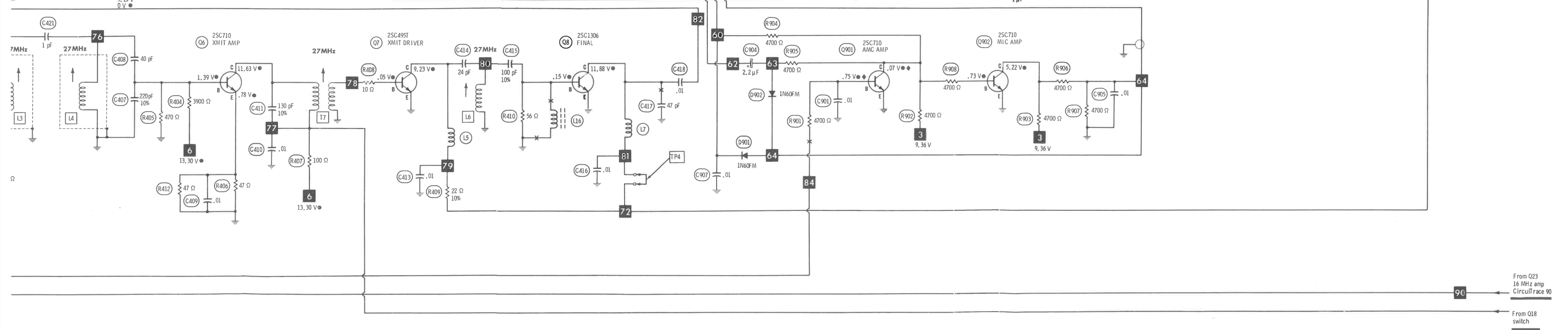
Value in () used in some versions.

A PHOTOFACE STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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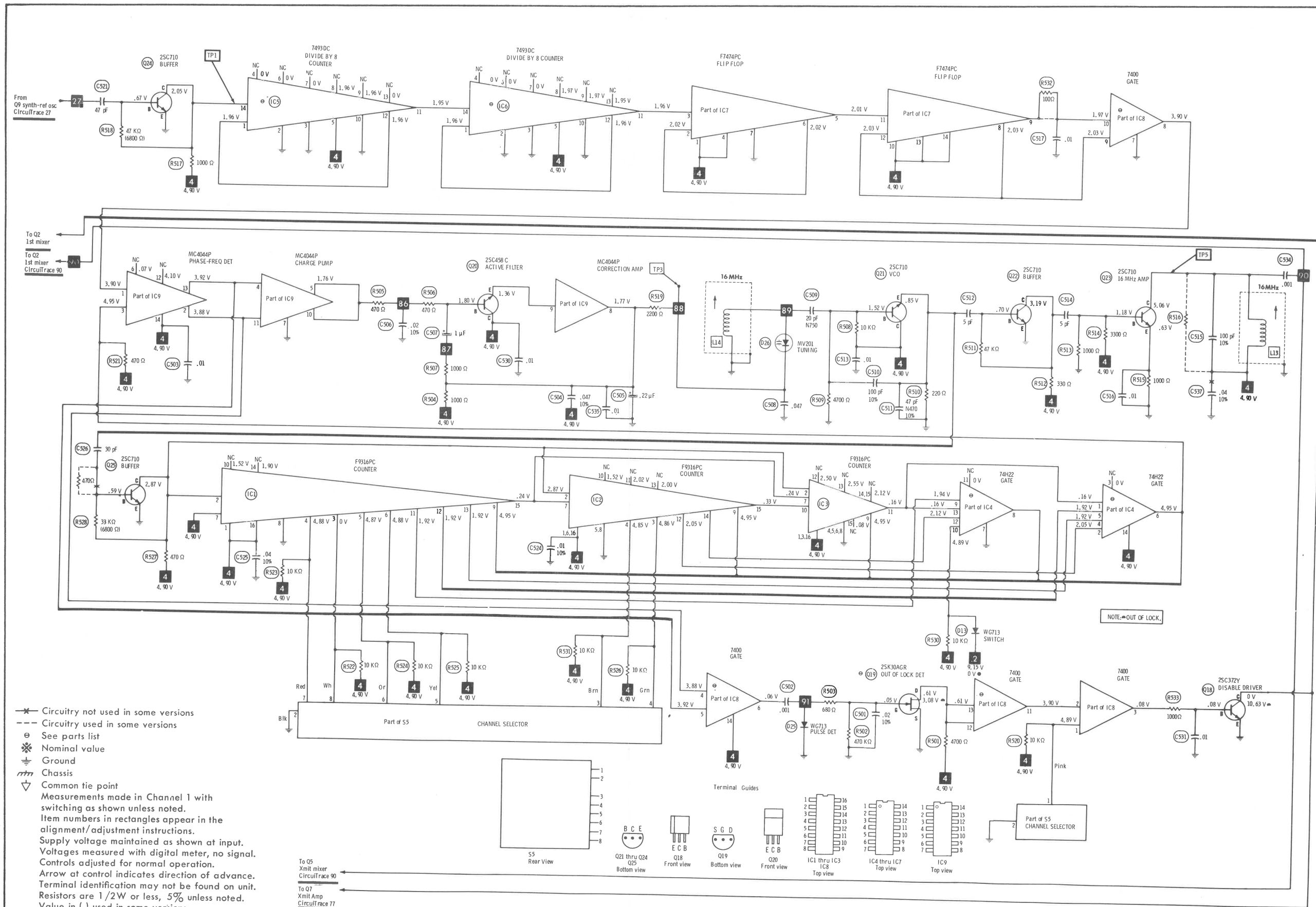




SEMICONDUCTORS

ITEM No.	TYPE No.	MFR. PART No.
D1	WG713	
D2	WG713	
D4	1N60	
D5	BZ090	
D6	1N60	
D7	WG713	
D8	1N60	
D9	1N60	
D10	1S84	
D11	1N60	
D12	1N60	
D13	WG713	
D14	1S352M	
D15	1N60	
D16	1N34A	
D17	1S1211	
D18	1N4002	
D19	BZ090	
D20	WG713	
D21	1N4002	
D22	WG713	
D23	WG713	
D25	WG713	
D26	MV201	
D27	1S331	
D28	1N914	
D29	1N4448	
D901	1N34A	
D902	1N60FM	
IC1	F9316PC	
IC2	F9316PC	
IC3	F9316PC	
IC4	74H22	
IC5	7493DC	
IC6	F7474PC	
IC7	7400	
IC8	7400	
IC9	MC4044P	
Q1	3SK45B	
Q2	3SK45	
Q3	3SK45B	
Q4	3SK45	
Q5	2SC710	8000-00009-17
	2SK196R	8000-00009-17
	2SK41	
Q6	2SC710	
Q7	2SC495T	
Q8	2SC1306(12)	
Q9	2SC710	
Q10	2SC372Y	
Q11	2SC403C	
Q12	2SC372Y	
Q13	2SC403C	
Q14	2SC372Y	
Q15	2SC403C	
Q16	2SC1014(13)	
Q17	2SC1014	
Q18	2SC372Y	
Q19	2SC403C	
Q20	2SK30AGR	
Q21	2SC458C	
Q22	2SC458LG	
Q23	2SC710	
Q24	2SC710	
Q25	2SC710	
Q26	2SC1061C(14)	
Q901	2SC1061	
Q902	2SC710	

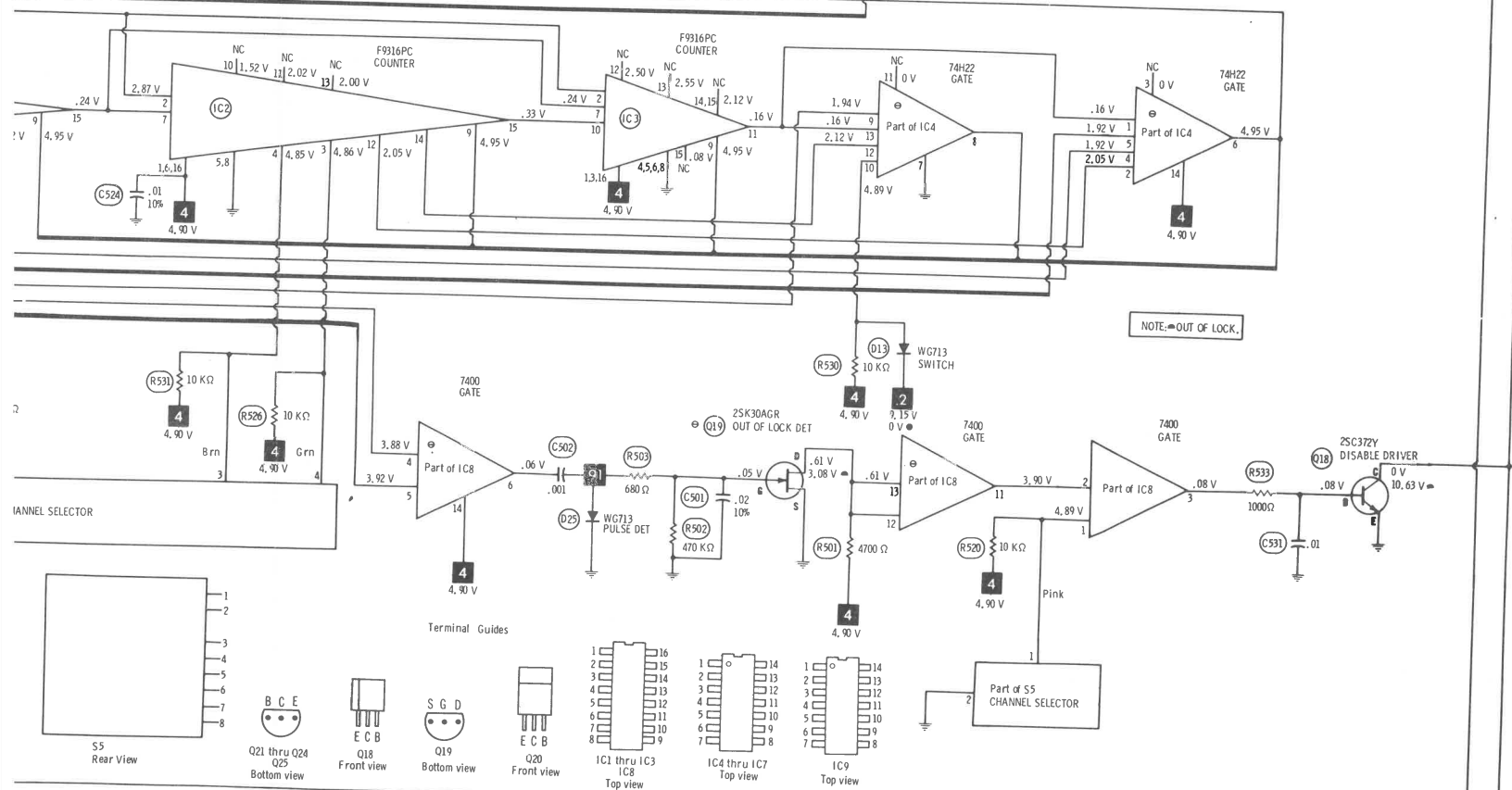
* Lead Configuration may vary
(12) 12 watt @ 3.0 Amp.
(13) 7.0 watt @ 1.5 Amp.
(14) 25 watt @ 3.0 Amp.



* Circuitry not used in some versions
 --- Circuitry used in some versions
 See parts list
 Nominal value
 Ground
 Chassis
 Common tie point
 Measurements made in Channel 1 with switching as shown unless noted.
 Item numbers in rectangles appear in the alignment/adjustment instructions.
 Supply voltage maintained as shown at input.
 Voltages measured with digital meter, no signal.
 Controls adjusted for normal operation.
 Arrow at control indicates direction of advance.
 Terminal identification may not be found on unit.
 Resistors are 1/2W or less, 5% unless noted.
 Value in () used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
 WITH **CIRCUITRACE**
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SBE MODELS SBE-26CB/A



PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA										
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.	
D1	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177				
D2	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177			WEP1062	
D4	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	1N4739A	WEP1062	
D5	BZ090		GEZD-9.1	ZB9.1B		REN 139		RT-240	ECG139A	1N60		WEP134	ZEN-430
D6	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	103-272
D7	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177			WEP1062	
D8	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	ZEN-430
D9	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	ZEN-430
D10	1S84		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	1N60		WEP1062	
D11	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	ZEN-430
D12	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	ZEN-430
D13	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	1N60		WEP134	ZEN-430
D14	1S352M		GE-90		HEPR2503	REN 614		RT-262	ECG614			WEP1062	
D15	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP200	ZEN-453
D16	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	ZEN-430
D17	1N34A		1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-263	ECG109	1N34A		WEP134	ZEN-430
D18	1S1211			PTC301		REN 601	SK3463	RT-200	ECG601			WEP134	ZEN-430
D19	1N4002		GE-504A	1N4002	HEPR0052	REN 116	SK3312						
D20	BZ090		GEZD-9.1	ZB9.1B		REN 139		RT-213	ECG116	1N4004		WEP156	212-76
D21	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-240	ECG139A	1N4739A		WEP1109	103-272
D22	1N4002		GE-504A	1N4002	HEPR0052	REN 116	SK3312	RT-218	ECG177			WEP1062	
D23	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-213	ECG116	1N4004		WEP156	212-76
D25	WG713		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177			WEP1062	
D26	MY201				HEPR2502	REN 612	SK3100	RT-218	ECG177			WEP1062	
D27	1S331		GEZD-6.0	ZM6A		REN 5070			ECG612				
D28	1N914		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG5012			WEP1413	
D29	1N4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148		WEP925	
D901	1N34A		1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-218	ECG519	1N4148		WEP925	
D902	1N60FM		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N34A		WEP134	ZEN-430
	1N60FM		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60		WEP134	ZEN-430
IC1	F9316PC					REN 74161	SK74161	TVCM-506	ECG74161				
IC2	F9316PC					REN 74161	SK74161	TVCM-506	ECG74161				
IC3	F9316PC					REN 74161	SK74161	TVCM-506	ECG74161				
IC4	74H22							TVCM-506	ECG74H22				
IC5	7493DC							TVCM-501	ECG74H22				
IC6	7493DC								ECG7493				
IC7	F7474FC								ECG7493				
IC8	7400				HEPC3000L	REN 7400		TVCM-502	ECG7474				
IC9	MC4044P				HEPC3806P			TVCM-500	ECG7400			WEP7400	
								TVCM-70	ECG974				
Q1	3SK45B		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222			WEP905	121-826
Q2	3SK45B		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222			WEP905	121-826
	3SK45B		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222			WEP905	121-826
Q3	3SK45		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q4	2SC710		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q5	2SK196R	8000-00009-178	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			WEP710	121-29000*
	2SK41		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			WEP710	121-29000*
	2SK41F	8000-00009-178	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			WEP710	121-29000*
Q6	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-175	ECG312			WEP710	121-29000*
Q7	2SC495T		GE-270	PTC180		REN 295	SK3253	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q8	2SC1306(12)		GE-215	PTC186		REN 235	SK3197	RT-162	ECG295			WEP913	ZEN-209
Q9	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-146	ECG235	2SC1306		WEP785	
Q10	2SC372Y		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
	2SC403C		GE-62	PTC121*	HEPS0015*	REN 123A	SK3124	RT-308	ECG123A*	2SC372		WEP372	121-29000*
Q11	2SC372Y		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-302	ECG289	2SC620*		WEP403	ZEN-120
	2SC403C		GE-62	PTC121*	HEPS0015*	REN 123A	SK3124	RT-308	ECG123A*	2SC372		WEP372	121-29000*
Q12	2SC372Y		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-302	ECG289	2SC620*		WEP403	ZEN-120
	2SC403C		GE-62	PTC121*	HEPS0015*	REN 123A	SK3124	RT-308	ECG123A*	2SC372		WEP372	121-29000*
Q13	2SC372Y		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-302	ECG289	2SC620*		WEP403	ZEN-120
	2SC403C		GE-62	PTC121*	HEPS0015*	REN 123A	SK3124	RT-308	ECG123A*	2SC372		WEP372	121-29000*
Q14	2SD30		GE-59	PTC134	HEPG6011	REN 103A	SK3124	RT-302	ECG289	2SC620*		WEP403	ZEN-120
	2SD187		GE-59	PTC134	HEPG6011	REN 103A	SK3010	RT-119	ECG103A	2SD187		WEP641B	
Q15	2SC372Y		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3070	RT-119	ECG103A	2SD187		WEP641B	
	2SC403C		GE-62	PTC121*	HEPS0015*	REN 123A	SK3444	RT-308	ECG123A*	2SC372		WEP372	121-29000*
Q16	2SC1014(13)		GE-273	PTC193		REN 300	SK3124	RT-302	ECG289	2SC620*		WEP403	ZEN-120
Q17	2SC1014		GE-273	PTC193		REN 300	SK3464	RT-137	ECG300			WEP1014	
Q18	2SC372Y		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3464	RT-137	ECG300			WEP1014	
	2SC403C		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	2SC372		WEP372	121-29000*
Q19	2SK30AGR		GE-FET-2	PTC161	HEPF0021	REN 132	SK3124	RT-302	ECG289	2SC620*		WEP403	ZEN-120
	2SK30GR		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			WEP403	ZEN-120
Q20	2SC458C		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3448	RT-175	ECG312			WEP403	ZEN-120
	2SC458LG		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3124	RT-187	ECG289	2SC458		WEP458	121-29000*
Q21	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-187	ECG289	2SC458		WEP458	121-29000*
Q22	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q23	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q24	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q25	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q26	2SC1061C(14)		GE-66	PTC164	HEPS3061	REN 152	SK3054	RT-197	ECG152	2SC1061		WEP745	921-1009
	2SC1061		GE-66	PTC154	HEPS3061	REN 152	SK3054	RT-197	ECG152	2SC1061		WEP745	921-1009
Q901	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*
Q902	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710		WEP710	121-29000*

* Lead Configuration may vary from original.

(12) 12 watt @ 3.0 Amp.

(13) 7.0 watt @ 1.5 Amp.

(14) 25 watt @ 3.0 Amp.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C120	4.7 16V	8000-00040-054	PC5-50	VTT4R7B50	QV1-27	EV-1319
C123	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C126	4.7 16V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C132	.22 25V			TDC224M050EL	QDT1-10	SD50-R229
C133	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C203	4.7 16V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C206	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C207	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C209	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C213	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C214	47 16V	8000-00004-009	PC50-16	VTT47D16	QV1-73	EV-1226
C217	.22 16V			TDC224M050EL	QDT1-10	SD50-R229
C218	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C224	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C303	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C304	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C305	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C505	.22 25V			TDC224M050EL	QDT1-10	SD50-R229
C507	1 16V		PC1-50	VTT1A50	QV1-9	EV-1315
C527	470 16V		PC500-16	VTT470K16	QV1-151	EV-1250
C528	100 16V		PC100-16	VTT100F16	QV1-95	EV-1230
C529	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C701	1000 16V		PC1000-16	VTT1000L16	QV1-183	EV-1260
C802	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C803	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C903	2.2 50V		PC2-100	VTT2R2A50	QV1-19	EV-1517
C904	2.2 50V		PC2-100	VTT2R2A50	QV1-19	EV-1517

SBE MODELS SBE-26CB/A

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C101	24			CD15ED240J03	SX424	QW1-12	MMA-240
C103	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C104	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C105	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C106	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C107	30 N330				*		
C108	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C109	47			CD15ED470J03	SX447	QW1-19	MMA-470
C110	10			CD15CD100J03		QW1-6	MMA-100
C111	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C112	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C113	1				CN0510		10TCC-V10
C114	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C115	150			CD15FD151J03	SX315	QW1-31	MMA-151
C116	1				CN0510		10TCC-V10
C117	.04			DPMS6S39	PVC6139		6PS-S39
C118	.04			DPMS6S39	PVC6139		6PS-S39
C119	5			CD15CD050D03		QW1-2	MMA-050
C121	.1			DPMS2P1	EWFA010	QF1-215	1PB-P10
C122	.04			DPMS6S39	PVC6139		6PS-S39
C124	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C125	.04			DPMS6S39	PVC6139		6PS-S39
C127	.1			DPMS2P1	EWFA010	QF1-215	1PB-P10
C128	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C129	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C130	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C131	.02			DPMS2S2	PVC212		2PS-S20
C202	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C204	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C205	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C208	.1			DPMS2P1	EWFA010	QF1-215	1PB-P10
C210	.005			WMF1D5	EWFA250		
C211	.005			WMF1D5	EWFA250		
C212	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C215	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C216	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C219	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C220	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C221	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C222	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C223	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C225	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C226	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C227	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C228	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C229	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C301	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C302	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C401	15			CD15CD150J03	SX315	QW1-8	MMA-150
C402	150			CD15FD151J03	SX318	QW1-31	MMA-151
C403	170			CD15FD181J03	SX318	QW1-33	MMA-181
C404	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C405	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C406	30			CD15ED300J03	SX430	QW1-14	MMA-300
C407	220			CD15FD221J03	SX322	QW1-35	MMA-221
C408	40			CD15ED390J03	SX439	QW1-17	MMA-390
C409	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C410	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C411	130			CD15FD131J03	SX313	QW1-30	MMA-131
C413	.01		DC-103	MGP01	TA110	QC2-141	TG-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				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C414	24			CD15ED240J03	SX424	QW1-12	MWA-240
C415	100			CD15FD101J03	SX310	QW1-27	MWA-101
C416	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C417	47			CD15ED470J03	SX447	QW1-19	MWA-470
C418	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C419	220			CD15FD221J03	SX322	QW1-35	MWA-221
C420	160			CD15FD161J03	SX316	QW1-32	MWA-161
C421	1				CN0510		10TCC-V10
C422	150			CD15FD151J03	SX315	QW1-31	MWA-151
C501	.02			DPMS2S2	PVC212		2PS-S20
C502	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C503	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C504	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C506	.02			DPMS2S2	PVC212		2PS-S20
C508	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C509	20 N750		DTN-20	N20	CN7420		10TCU-Q20
C510	100			CD15FD101J03	SX310	QW1-27	MWA-101
C511	47 N470				*		
C512	5			CD15CD050D03		QW1-2	MWA-050
C513	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C514	5			CD15CD050D03		QW1-2	MWA-050
C515	100			CD15FD101J03	SX310	QW1-27	MWA-101
C516	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C517	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C518	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C519	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C520	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C521	47			CD15ED470J03	SX447	QW1-19	MWA-470
C522	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C523	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C524	.01			WMF1S1	EWFA1A10	QF1-91	1PB-S10
C525	.04			DPMS6S39	PVC6139		6PS-S39
C526	30		DTN-33	N33	CN7433		10TCU-Q33
C530	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C531	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C532	.04			DPMS6S39	PVC6139		6PS-S39
C534	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C535	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C536	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C537	.04			DPMS6S39	PVC6139		6PS-S39
C601	150			CD15FD151J03	SX315	QW1-31	MWA-151
C602	330			CD15FD331J03	SX333	QW1-39	MWA-331
C603	.04			DPMS6S39	PVC6139		6PS-S39
C604	150			CD15FD151J03	SX315	QW1-31	MWA-151
C605	15			CD15CD150J03		QW1-8	MWA-150
C702	.001						
C703	.1			DPMS2P1	EWFA010	QF1-215	1PB-P10
C704	.04			DPMS6S39	PVC6139		6PS-S39
C705	170			CD15FD181J03	SX318	QW1-33	MWA-181
C706	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C707	.04			DPMS6S39	PVC6139		6PS-S39
C708	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C709	.1			DPMS2P1	EWFA010	QF1-215	1PB-P10
C710	22			CD15ED220J03	SX422	QW1-11	MWA-220
C801	5			CD15CD050D03		QW1-2	MWA-050
C901	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C902	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C905	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C906	.1			DPMS2P1	EWFA010	QF1-215	1PB-P10
C907	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C908	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C909	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C910	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C911	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C925	220			CD15FD221J03	SX322	QW1-35	MWA-221
C926	150			CD15FD151J03	SX315	QW1-31	MWA-151

*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.	MALLORY PART No.	TRW PART No.
VR1	Volume	10K	(18)			
VR2	Mic Gain/Power Switch	10K				
VR3	Tone	10K	(19)			
VR4	Squelch	10K				
VR5	Delta Tune	10K				
VR6	RF Meter	100K				X260R104B(2)
VR7	S Meter	10K				X260R103B(2)
VR8	Squelch Range	100K				X260R104B(2)
VR9	AMC	1000				X260R102B(2)

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

(18) Includes VR1, VR2 and S2.

(19) Includes VR3 and VR4.

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	Rec RF (27MHz)				
L2	RF Choke (1mH)				
L3	XMT Mixer (27MHz)				
L4	XMT Mixer (27MHz)				
L5	RF Choke (2.5uH)				
L6	XMT Driver (27MHz)				
L7	RF Choke (.65uH)				
L8	Final (27MHz)				
L9	Pi Filter (27MHz)				
L10	RF Choke				
L11	Ref Osc (10MHz)				
L12	RF Choke				
L13	Buffer (16MHz)				
L14	VCO (16MHz)				
L101	RF Choke				
T1	Rec Ant (27MHz)				
T2-1	IF (10MHz)				
T2-2	IF (10MHz)				
T3	IF (455kHz)				
T4	IF (455kHz)				
T5	IF (455kHz)				
T6	IF (455kHz)				
T7	XMT Amp (27MHz)				

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.	
L15	1.5A	.2	1.98	K-18(1)	TR555		(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.	
T8	1	2.5		A-31(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.	
T9	32	1 2 2 8				

SBE MODELS SBE-26CB/A

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP	3 1/2" PM 8 ohms		3A05Z8	

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	3 amp			AGC3	HDJ	312003	HDJ	FG3-2

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC CONNECTOR	GC Red	GC Shield	GC Yellow	GC Blue	GC White	GC Black
MIC		18-032	18-034	18-010	18-092	2	1	4	NC	NC	3

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
FIL1	Crystal Filter		455kHz
M1	Meter		S/RF
PL1	Lamp		Tx (13.33V @ 70mA)
PL2	Lamp		Channel (13.78V @ 40mA)
PL3	Lamp		Meter (13.78V @ 40mA)
RL1	Relay		XMT/Rec
S1	Switch		Dis/Loc
S2	Switch		ANL
S3	Switch		CB/PA
S5	Switch		Channel Selector
X1	Crystal		10.240MHz

WIRING DATA

General-use Hook-up Wire (available in 5 colors)	BELDEN No. 8523	Coiled Microphone Cable	
Shielded Hook-up Wire (spiral wrapped)	BELDEN No. 8421	3-conductor (1 shielded)	23AWG BELDEN No. 9471 (5')
(braided)	BELDEN No. 8401		BELDEN No. 8497 (6')
Speaker Cable (available in 4 colors)	BELDEN No. 8782		BELDEN No. 9472 (7-1/2')
Bonding Strap	BELDEN No. 8672		28AWG BELDEN No. 9466 (6')
AC Power Cord	(6') BELDEN No. 17106		31AWG BELDEN No. 9468 (10')
	(9') BELDEN No. 17109	4-conductor (unshielded)	23AWG BELDEN No. 8415 (6')
		5-conductor (1 shielded)	28AWG BELDEN No. 9467 (6')
			BELDEN No. 9465 (7-1/2')