

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.



MODEL LION 40

MANUFACTURER'S SPECIFICATIONS

Circuitry	4 ICs, 21 Transistors, 17 Diodes, 2 Zener-Diodes, 1 Vari-cap.
Frequency Control	PLL (Phase Lock Loop) Synthesizing System
Channels	40 channels all installed
Mode of Operation	AM
Receiver System	Dual Conversion Superheterodyne
Sensitivity	Nominal 0.7 μ V (S/N 10 dB)
IF	1st: 10.695 MHz 2nd: 455 KHz
Frequency Tolerance	$\pm 0.005\%$
Spurious Rejection	More than 60 dB
RF Output Power	Maximum 4.0 W (F.C.C. Maximum), at 13.8 V
Squelch Range	0.5 μ V – 500 μ V
Δ Tune	About ± 1 KHz (Receiving only)
Audio Output power	More than 3W (EXT. SP at 8 ohms)
Controls	VOLUME/POWER SWITCH, SQUELCH, RF GAIN, TONE CONTROL, SWR/CAL CONTROL, CHANNEL SELECTOR, SWR-CAL-RF METER SWITCH, ANL-OFF SWITCH, NB-OFF SWITCH, CB-PA SWITCH, CB-MONITOR SWITCH, DELTA TUNE SWITCH
Jacks and Connector	MICROPHONE, PA, EXT. SP, ANTENNA, DC POWER
Speaker	3" dynamic, 8 ohms
Microphone	Dynamic CB mike
Power Source	DC 13.8V

Courtesy of the Manufacturer

PEARCE-SIMPSON MODEL LION 40

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.
 Maintain line voltage at 120V AC. Allow a 15-minute warm-up period.
 Adjustments made with 9-volt DC input.
 Adjustments made with 12-volt DC input.
 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:

L14, T7 thru T10	5009
L7, L11, L12	9304
L1, L2, L5, T1 thru T6	9440
CT1	5000

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1. (Q1, Emitter).	Ch. 19, RECEIV-O-SLIDE 0	CT1	Adjust for 10.240MHz. + 50Hz.
Input of RF VTVM to TP2 (T1, Secondary).	Ch. 19	T1	Adjust for maximum.
Input of DC Meter to TP8.	Ch. 1	L1	Adjust for 3.6V $\pm$.1V.
Input of frequency counter to TP3 (IC3, Pin 2).	Ch. 19, Xmit		Check for 10.695MHz.
Input of RF VTVM to TP4 (IC3, Pin 4).	Ch. 19	L2, T2	Adjust for maximum.
Input of frequency counter to TP4 (IC3, Pin 4).	Ch. 1		Check for 37.660MHz. Repeat for all channels, (Channel frequency +10.695 MHz = frequency counter).

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.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP10, (Emitter of Q10) 455kHz, 1000Hz @ 30% modulation.	Ch. 19, RECEIV-O-SLIDE 0 RF Gain Max ANL OFF NB OFF	T10, T9, T8	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19, RECEIV-O-SLIDE 0 RF Gain Max ANL OFF NB OFF	T7, L14, T6, T5	Adjust for maximum output. IF necessary, readjust T8, T9, and T10.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV.	Ch. 19, RECEIV-O-SLIDE 0 RF Gain Max ANL OFF NB OFF	RV1	SQUELCH RANGE Set squelch control VR2 fully clockwise. Adjust RV1 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19, RECEIV-O-SLIDE 0 RF Gain Max ANL OFF NB OFF	RV3	S METER Adjust RV3 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
	Ch. 19	L5, T3, T4, L7, L11, L12	Adjust for maximum.
	Ch. 19	L12	Adjust for 4 watts maximum.

TRANSMITTER ADJUSTMENTS

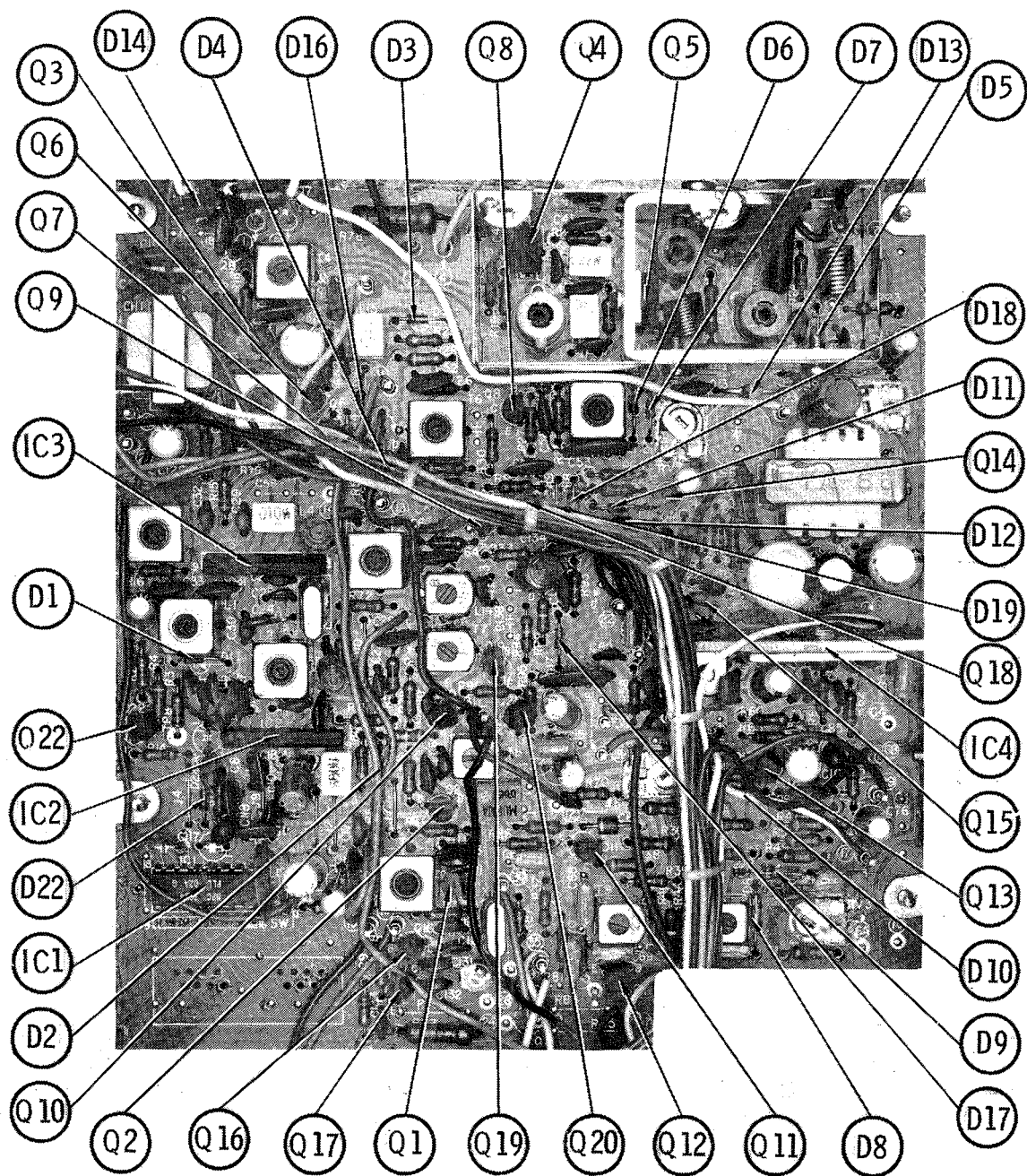
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.

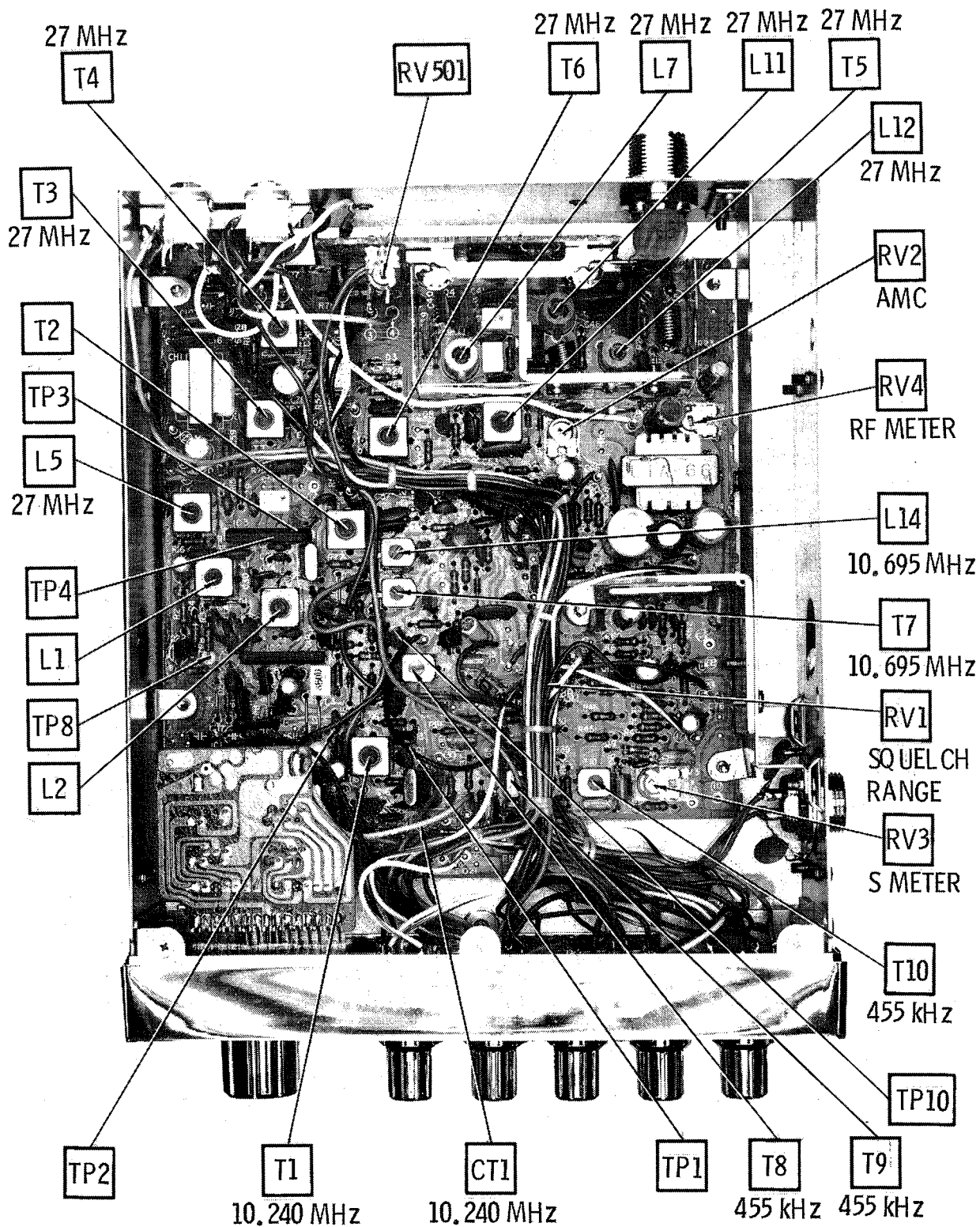
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 60mV, 1000Hz signal at Mic input.	Ch. 19	RV2	AMC Adjust for 95% modulation.
	Ch. 19	RV4	RF PANEL METER Adjust for 3/4 reading on RF scale of meter.
SWR meter to antenna jack.	Ch. 19	RV501	SWR METER Adjust RV501 so that SWR Meter agrees with external meter.

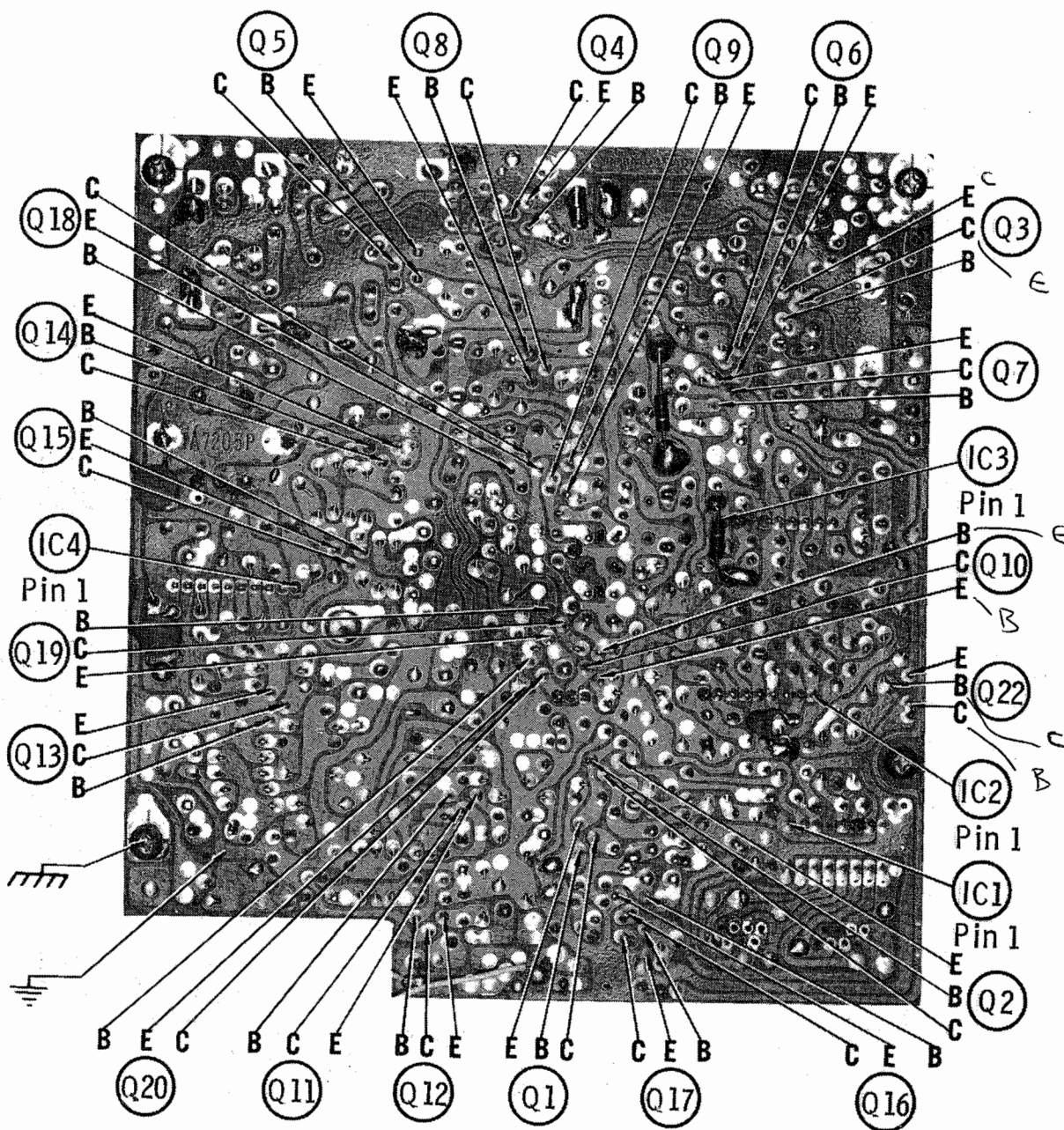
PEARCE-SIMPSON MODEL LION 40



MAIN BOARD

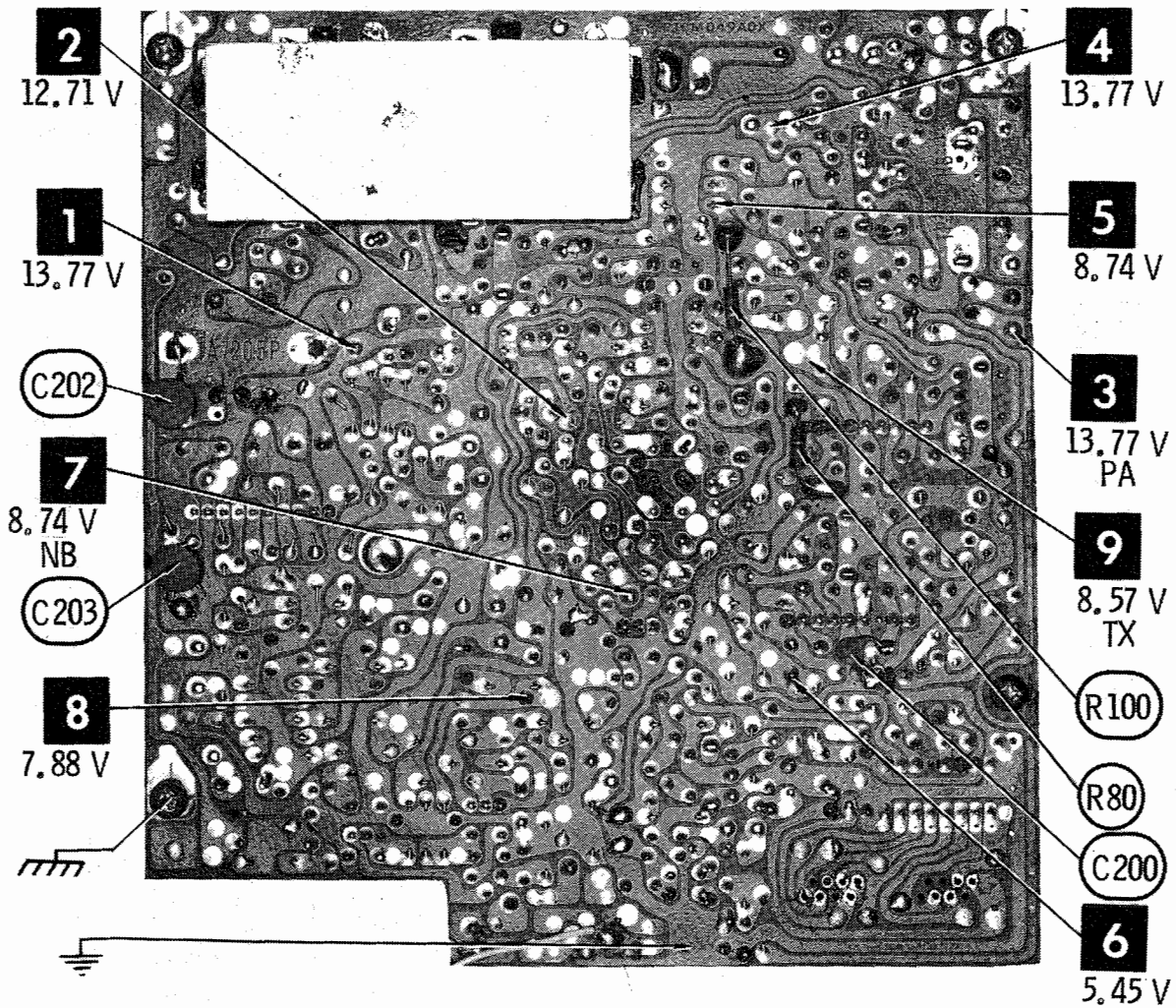


CHASSIS - BOTTOM

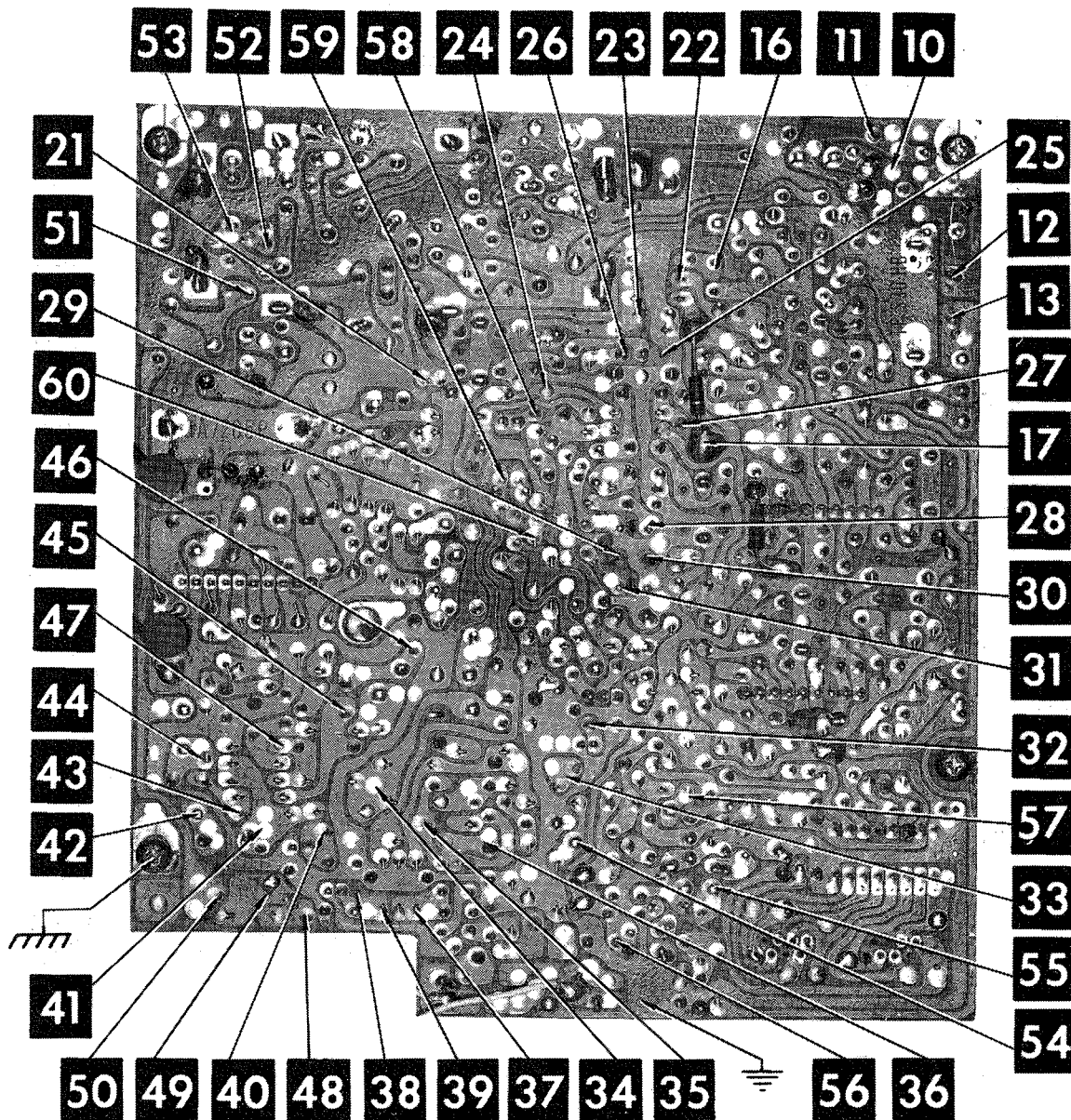


MAIN BOARD

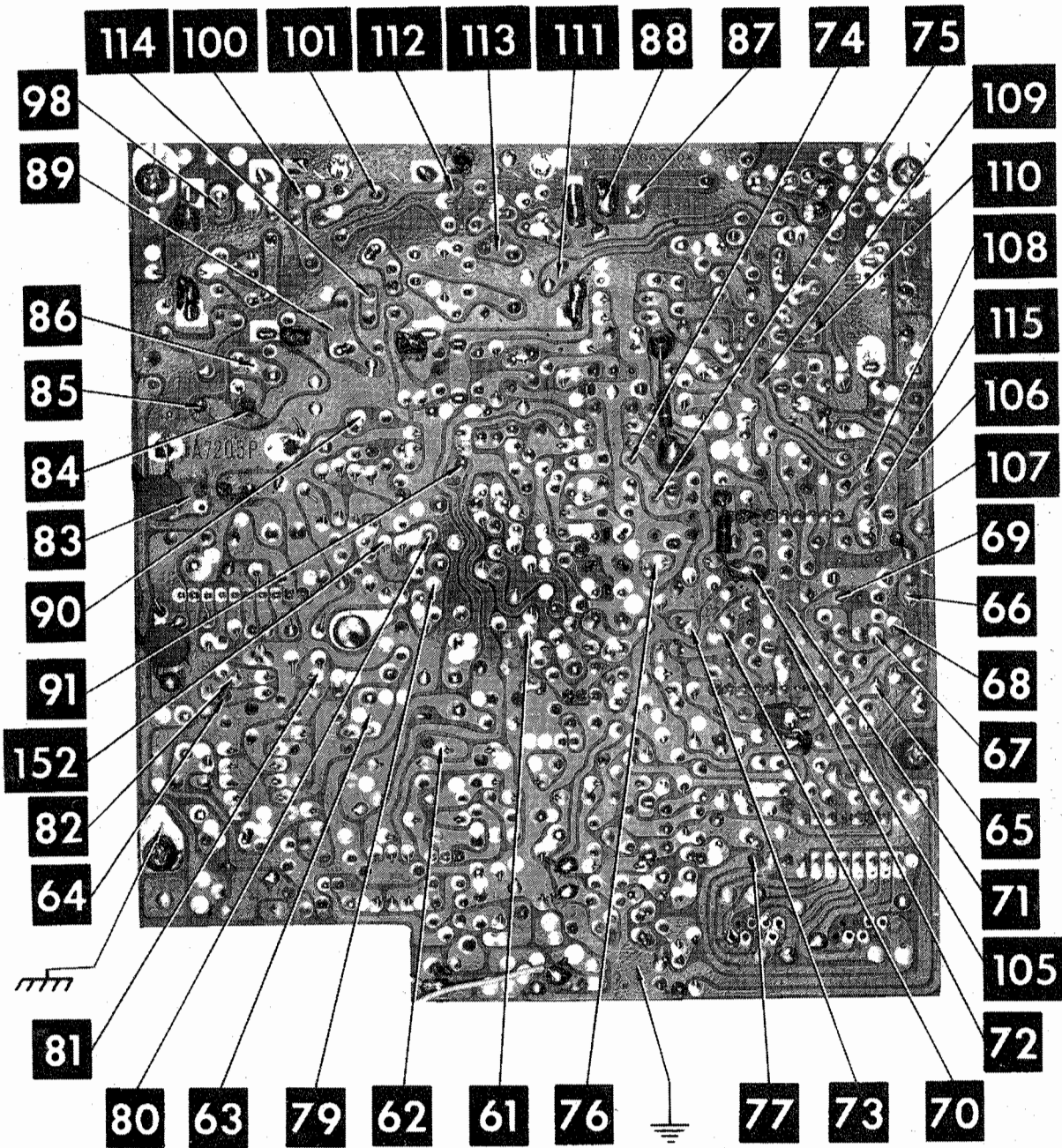
PEARCE-SIMPSON MODEL LION 40



MAIN BOARD

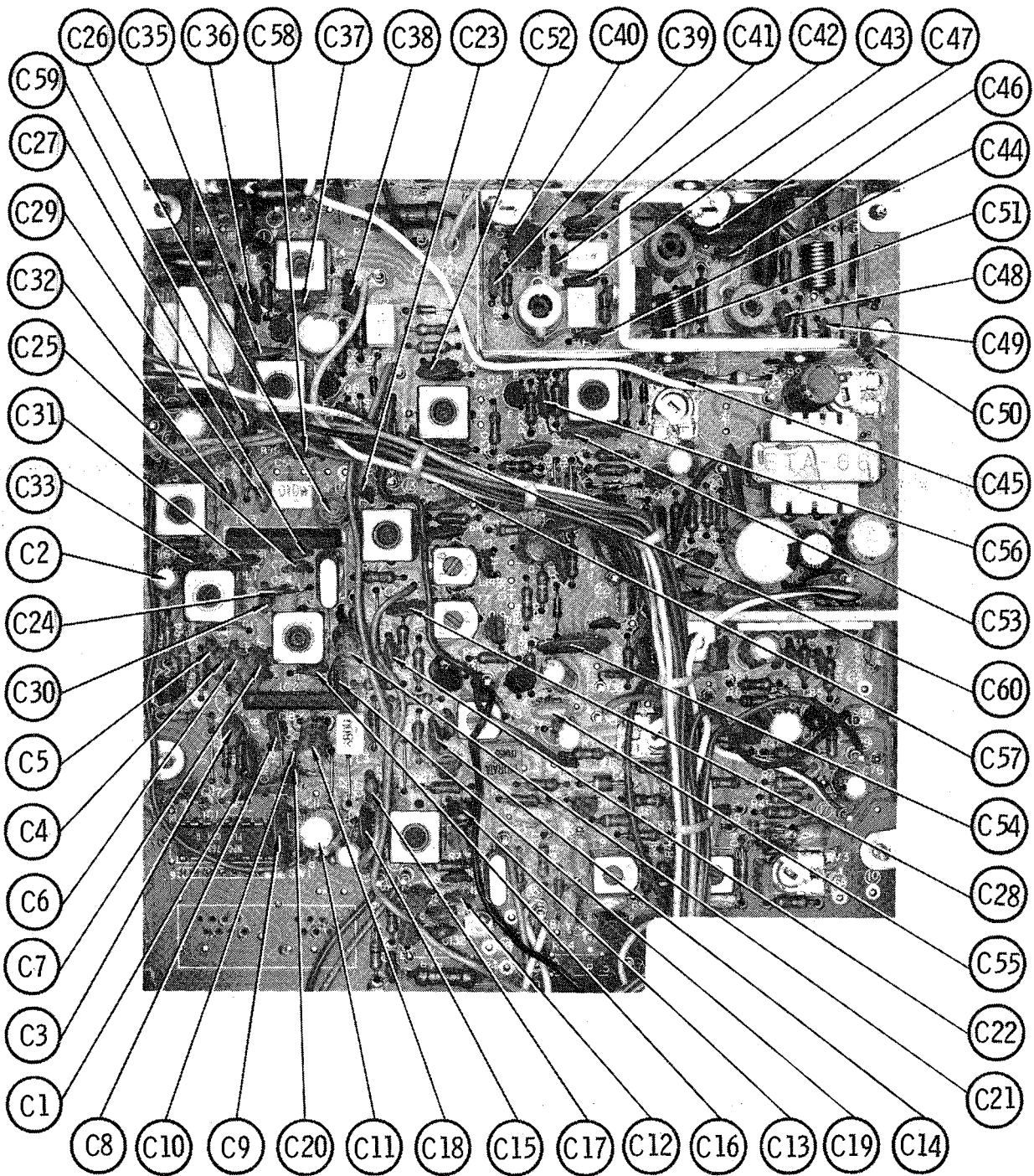


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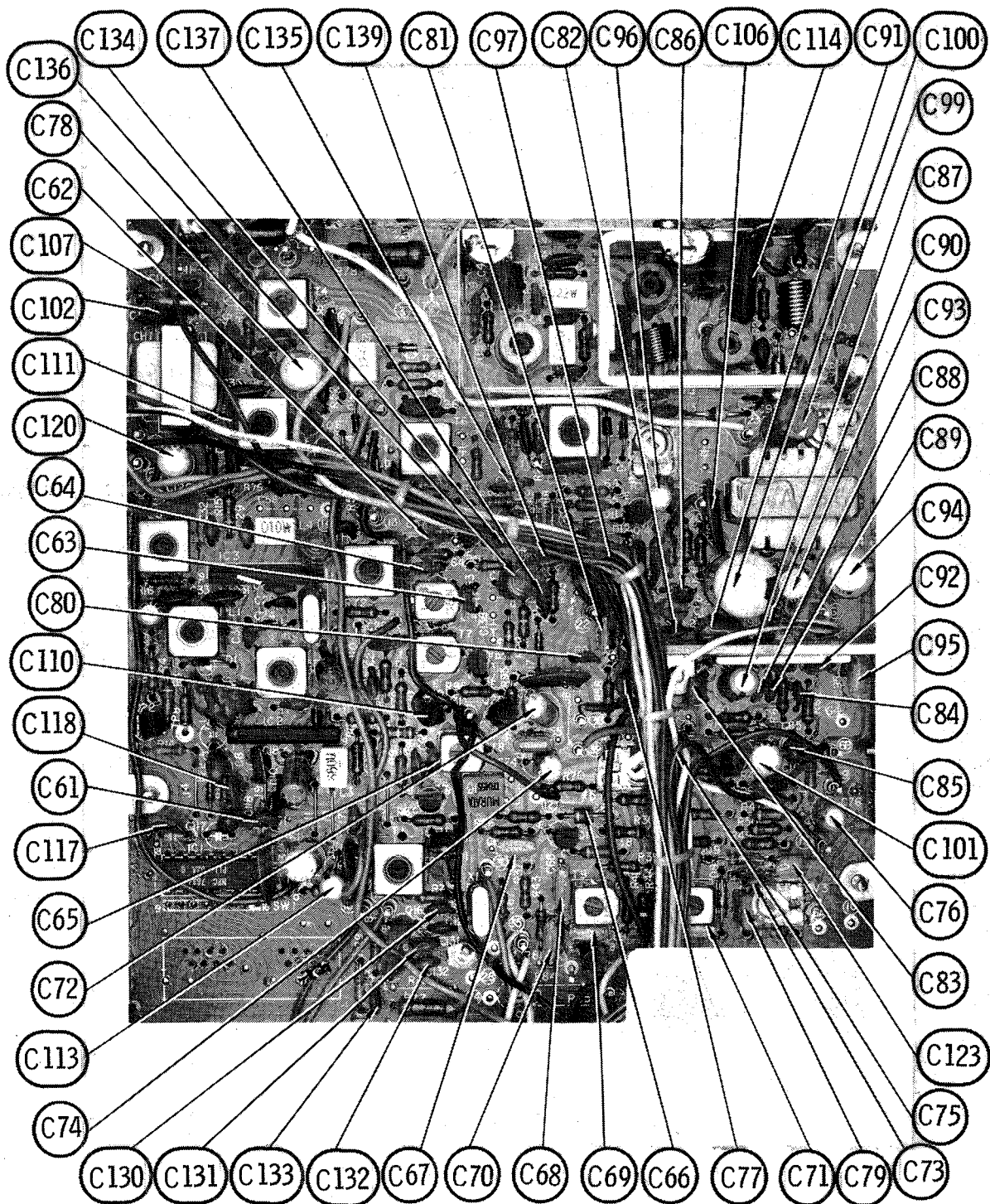


PEARCE-SIMPSON MODEL LION 40

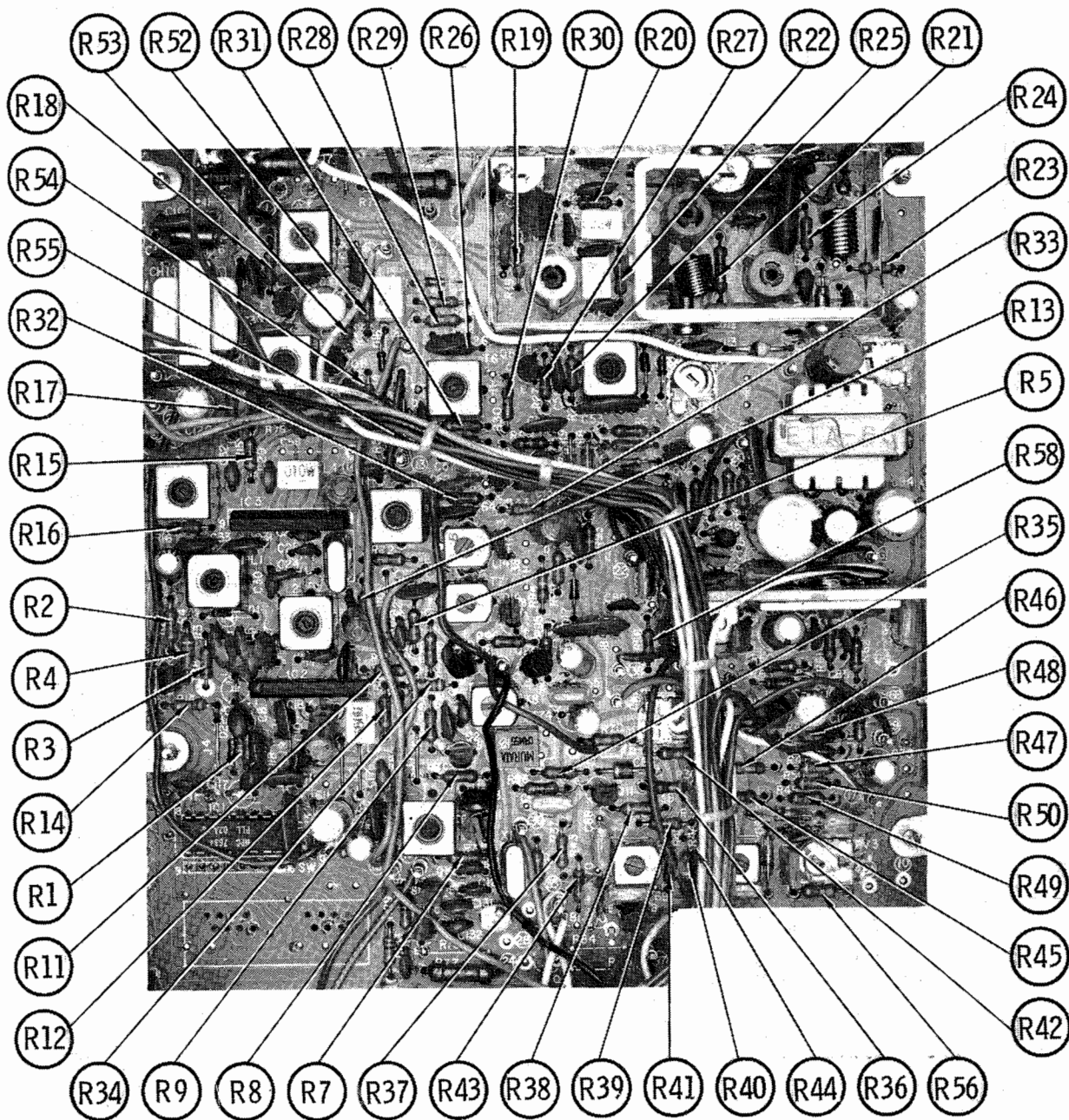
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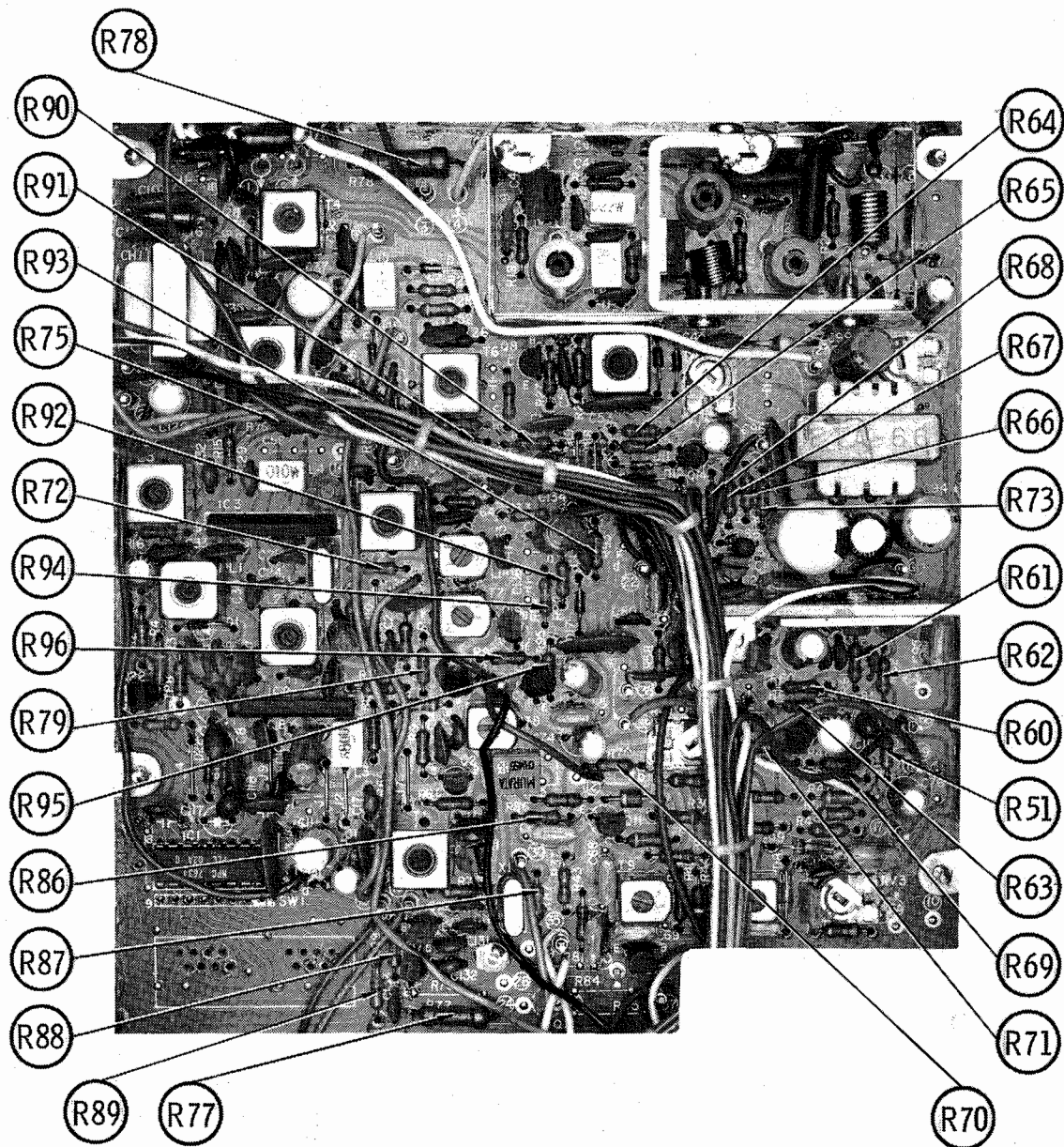
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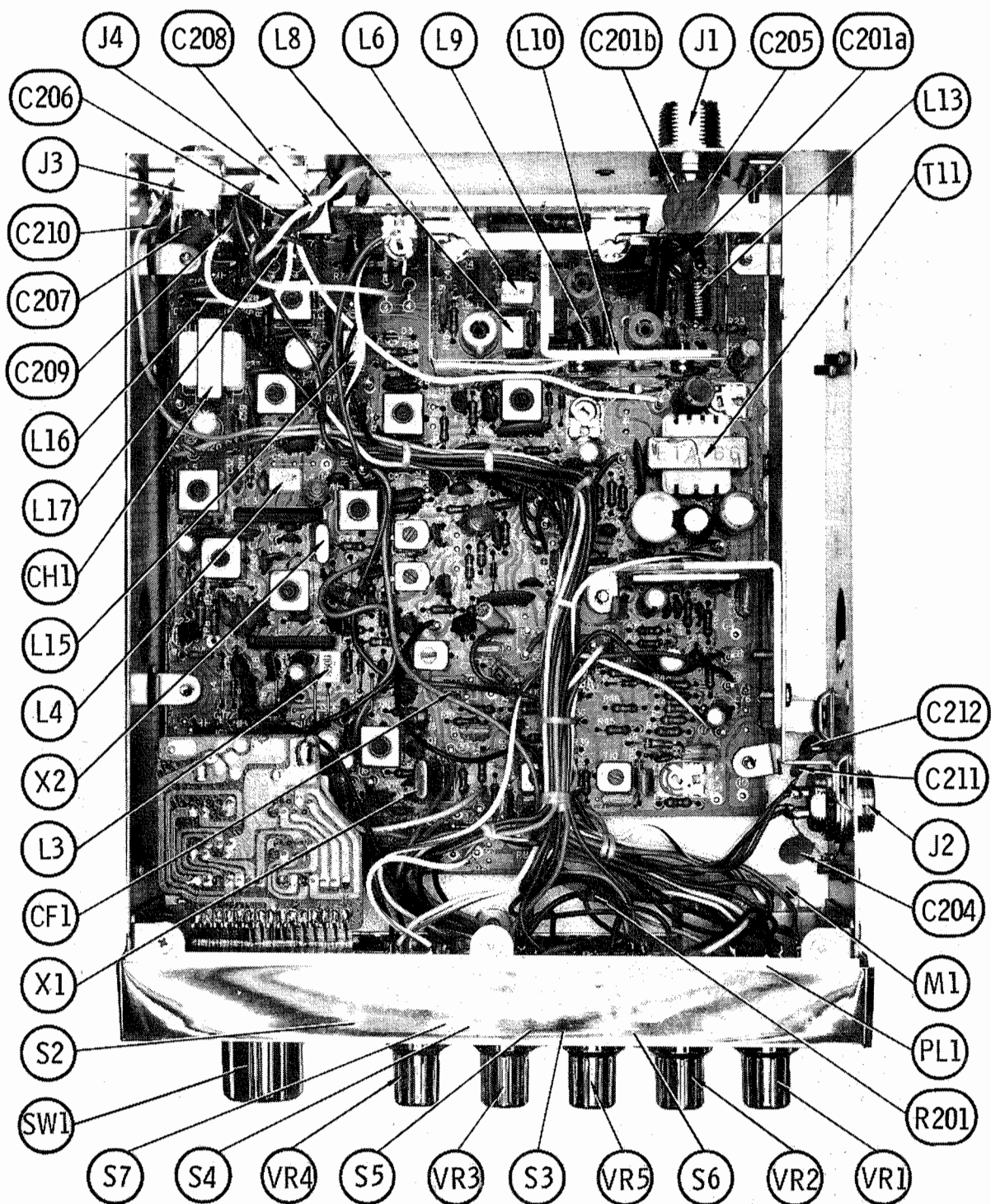
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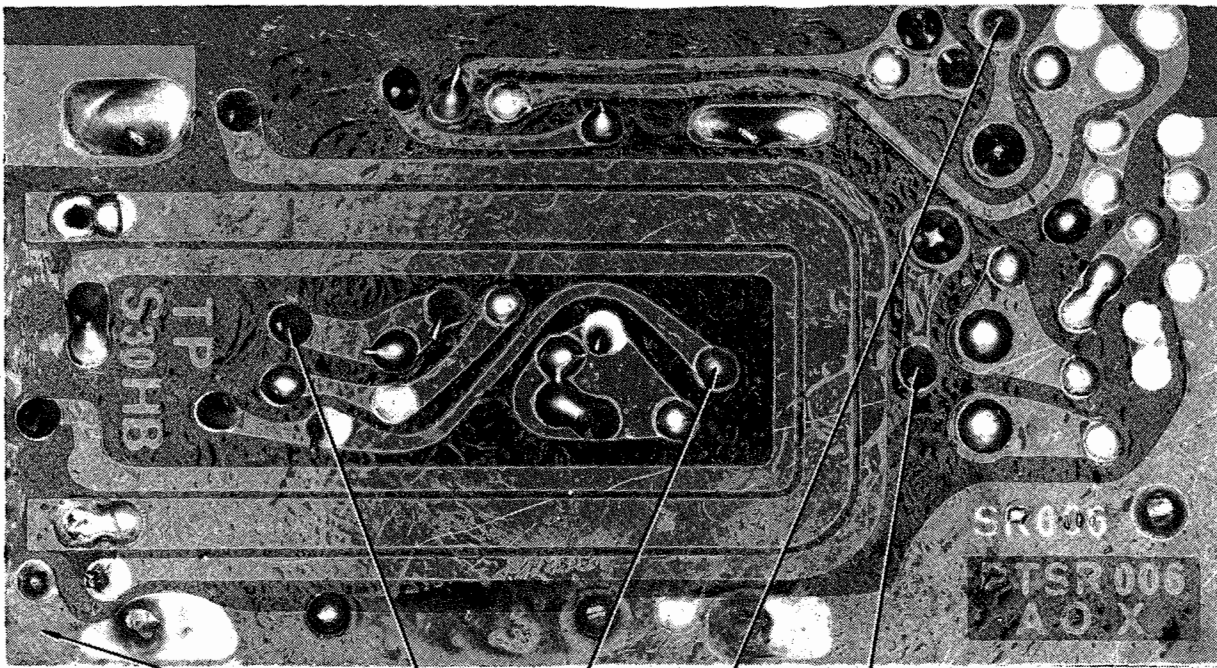
MAIN BOARD



MAIN BOARD



CHASSIS - BOTTOM



93

97

103

104

R 503

RV501

C 502

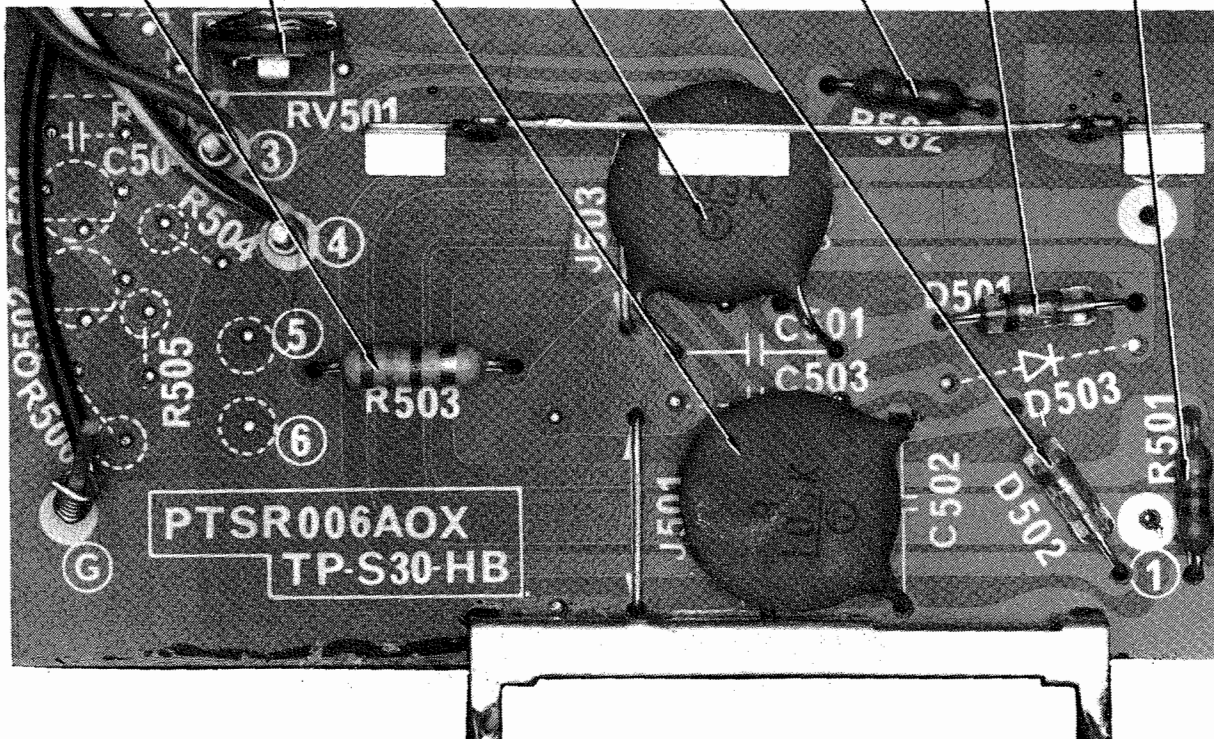
C 501

D 502

R 502

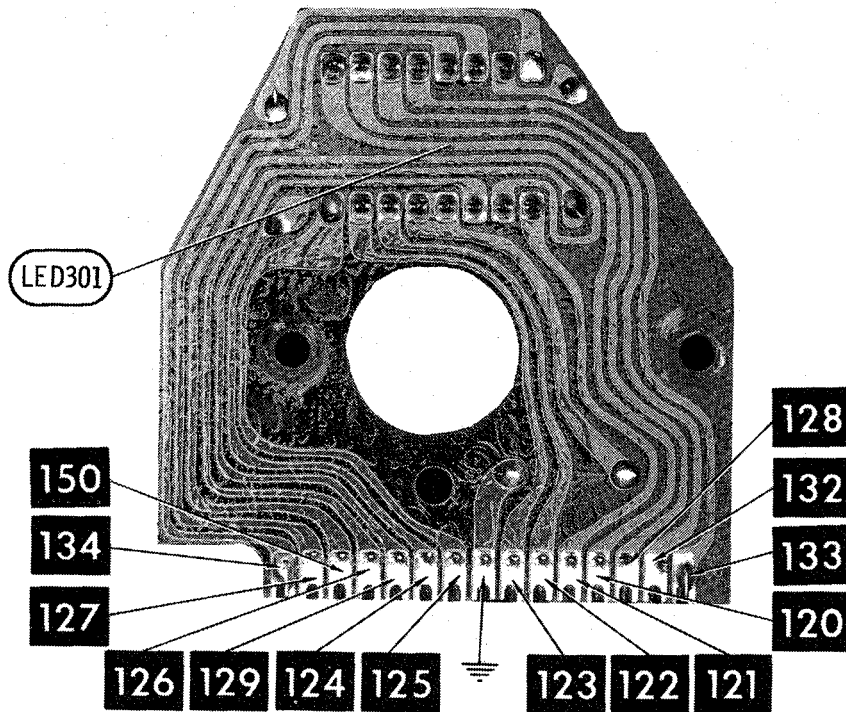
D 501

R 501

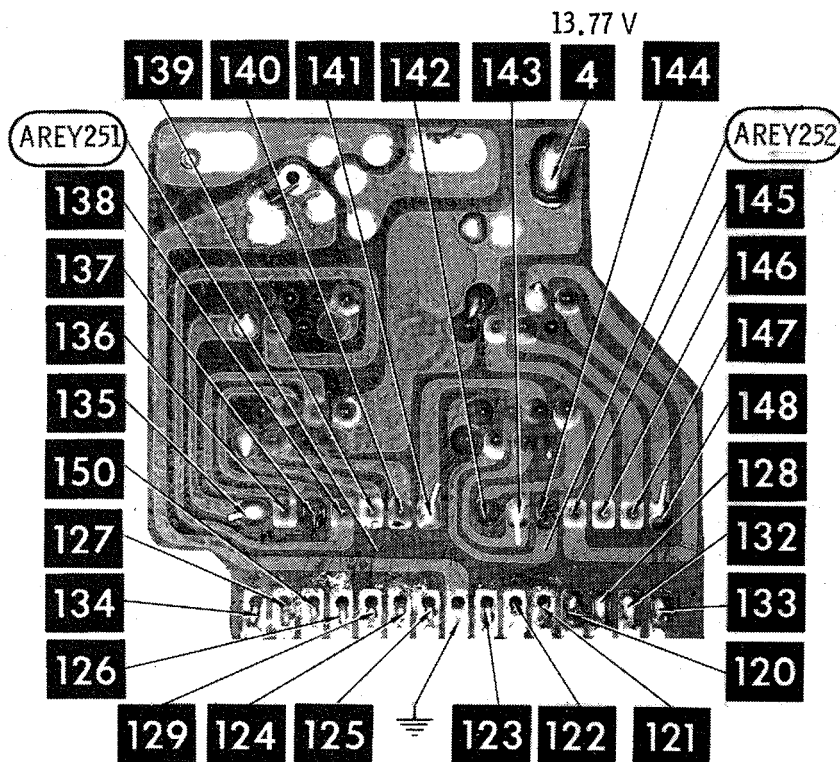


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ANT. WARNING BOARD



LED BOARD



SWITCH BOARD

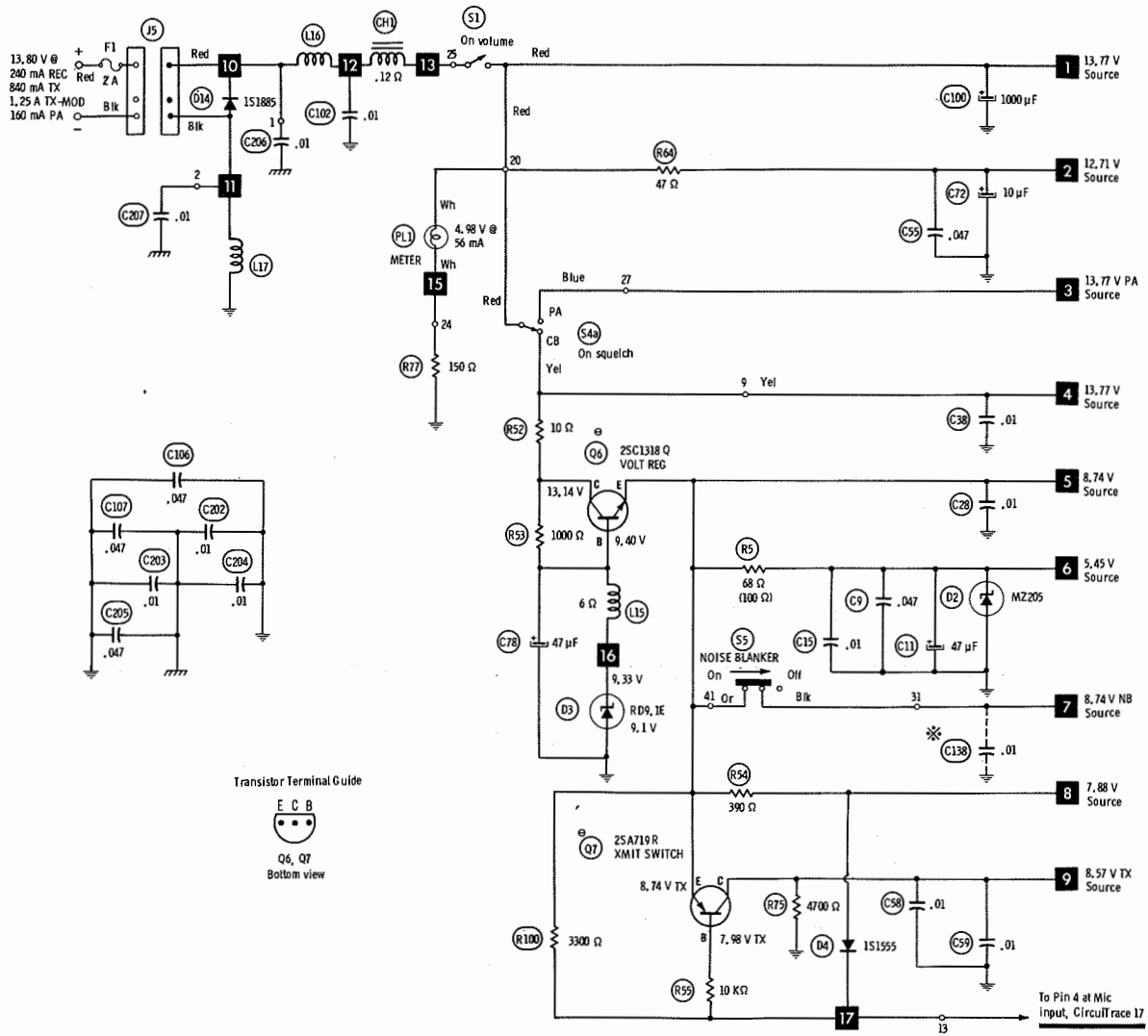
TRUTH CHART

5V_{DD} 86 5.45V

1 = <u>5.40</u> Volts 0 = <u>0</u> Volts								
CHANNEL	IC1 PROGRAM DIVIDER							REC VCO OUTPUT IN MHz
	PINS							
	9	10	11	12	13	14	15	AT TP4
1	1	0	0	1	0	1	0	37.660
2	1	0	0	1	0	0	1	37.670
3	1	0	0	1	0	0	0	37.680
4	1	0	0	0	1	1	0	37.700
5	1	0	0	0	1	0	1	37.710
6	1	0	0	0	1	0	0	37.720
7	1	0	0	0	0	1	1	37.730
8	1	0	0	0	0	0	1	37.750
9	1	0	0	0	0	0	0	37.760
10	0	1	1	1	1	1	1	37.770
11	0	1	1	1	1	1	0	37.780
12	0	1	1	1	1	0	0	37.800
13	0	1	1	1	0	1	1	37.810
14	0	1	1	1	0	1	0	37.820
15	0	1	1	1	0	0	1	37.830
16	0	1	1	0	1	1	1	37.850
17	0	1	1	0	1	1	0	37.860
18	0	1	1	0	1	0	1	37.870
19	0	1	1	0	1	0	0	37.880
20	0	1	1	0	0	1	0	37.900

1 = <u>5.40</u> Volts 0 = <u>0</u> Volts								
CHANNEL	IC1 PROGRAM DIVIDER							REC VCO OUTPUT IN MHz
	PINS							
	9	10	11	12	13	14	15	AT TP4
21	0	1	1	0	0	0	1	37.910
22	0	1	1	0	0	0	0	37.920
23	0	1	0	1	1	0	1	37.950
24	0	1	0	1	1	1	1	37.930
25	0	1	0	1	1	1	0	37.940
26	0	1	0	1	1	0	0	37.960
27	0	1	0	1	0	1	1	37.970
28	0	1	0	1	0	1	0	37.980
29	0	1	0	1	0	0	1	37.990
30	0	1	0	1	0	0	0	38.000
31	0	1	0	0	1	1	1	38.010
32	0	1	0	0	1	1	0	38.020
33	0	1	0	0	1	0	1	38.030
34	0	1	0	0	1	0	0	38.040
35	0	1	0	0	0	1	1	38.050
36	0	1	0	0	0	1	0	38.060
37	0	1	0	0	0	0	1	38.070
38	0	1	0	0	0	0	0	38.080
39	0	0	1	1	1	1	1	38.090
40	0	0	1	1	1	1	0	38.100

PEARCE-SIMPSON MODEL LION 40



Transistor Terminal Guide



Q6, Q7
Bottom view

* Circuitry not used in some versions

--- Circuitry used in some versions

⊙ See ports 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.

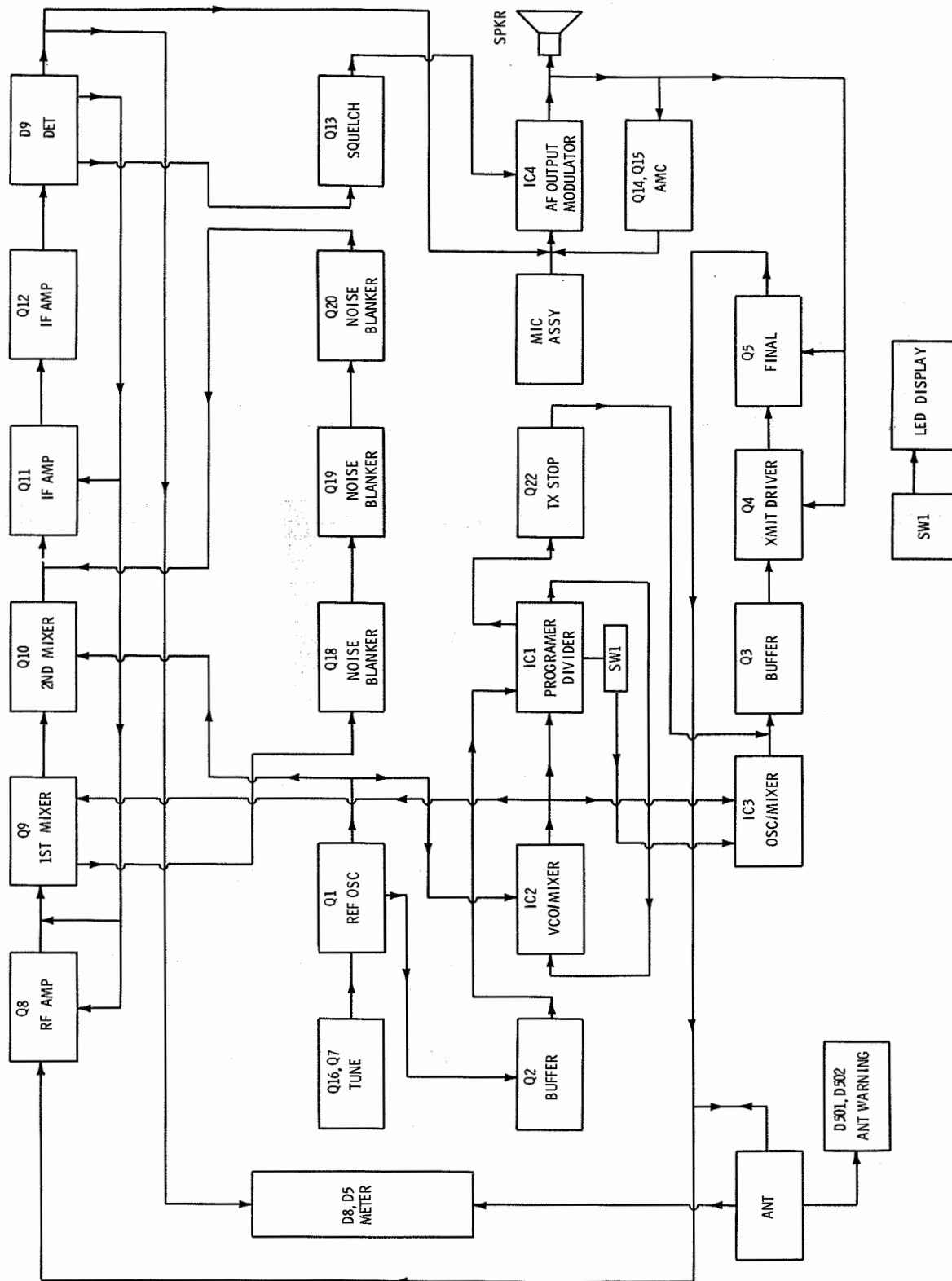
Value in () used in some versions.

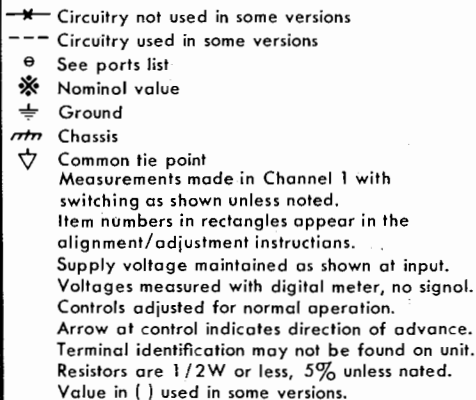
A PHOTOFACT STANDARD NOTATION SCHEMATIC

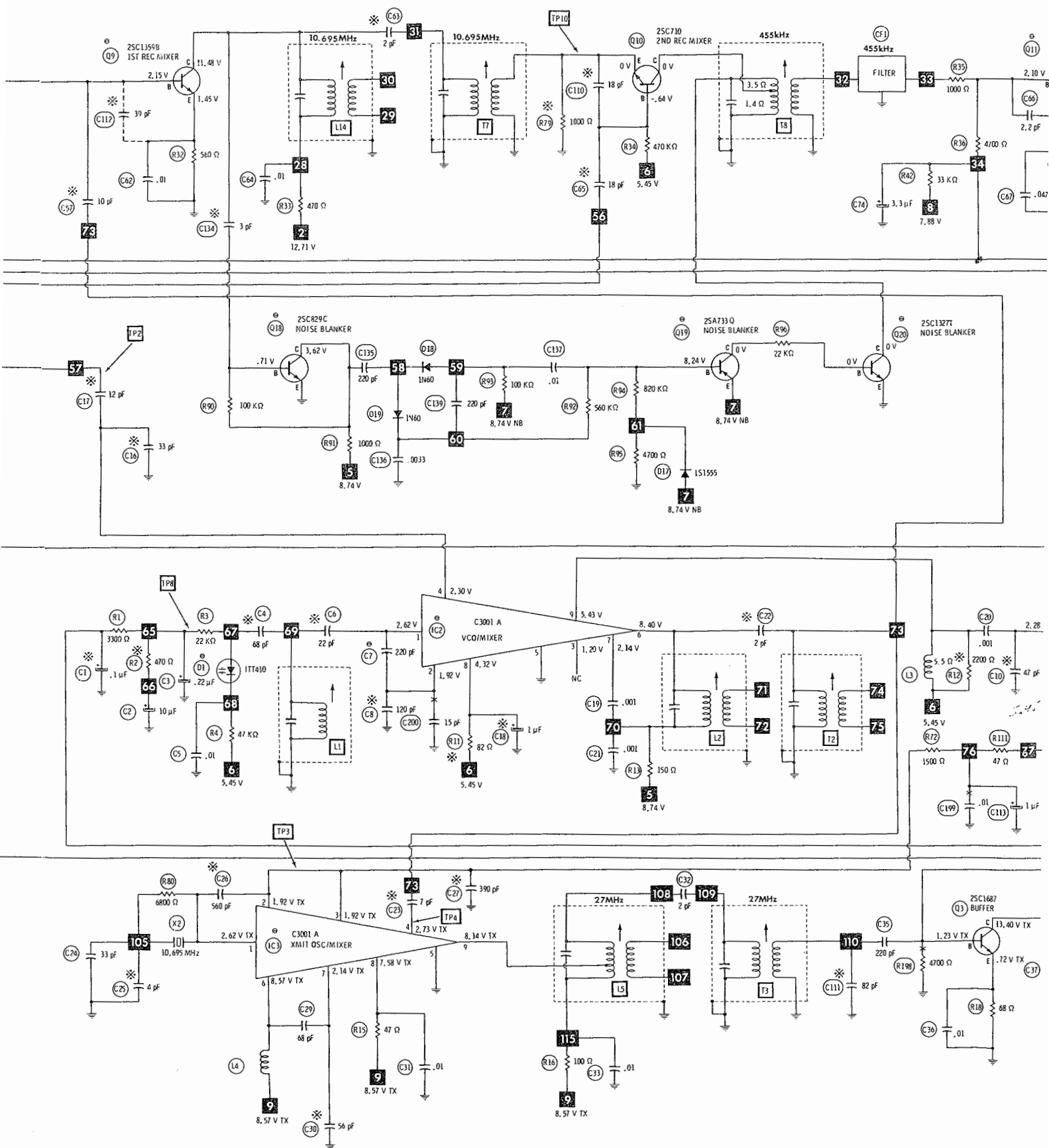
WITH **CIRCUITRACE**

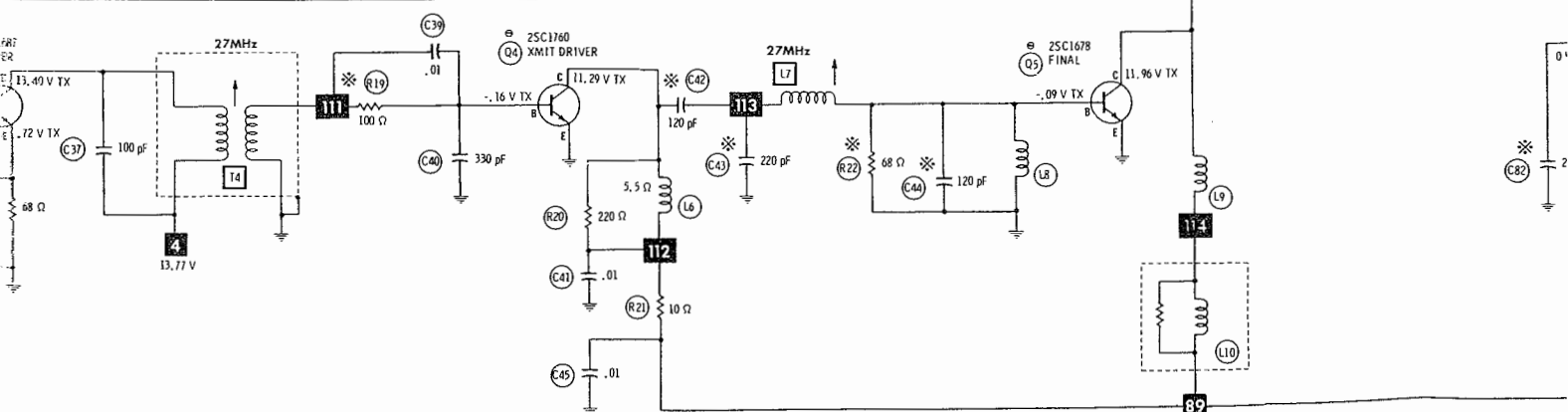
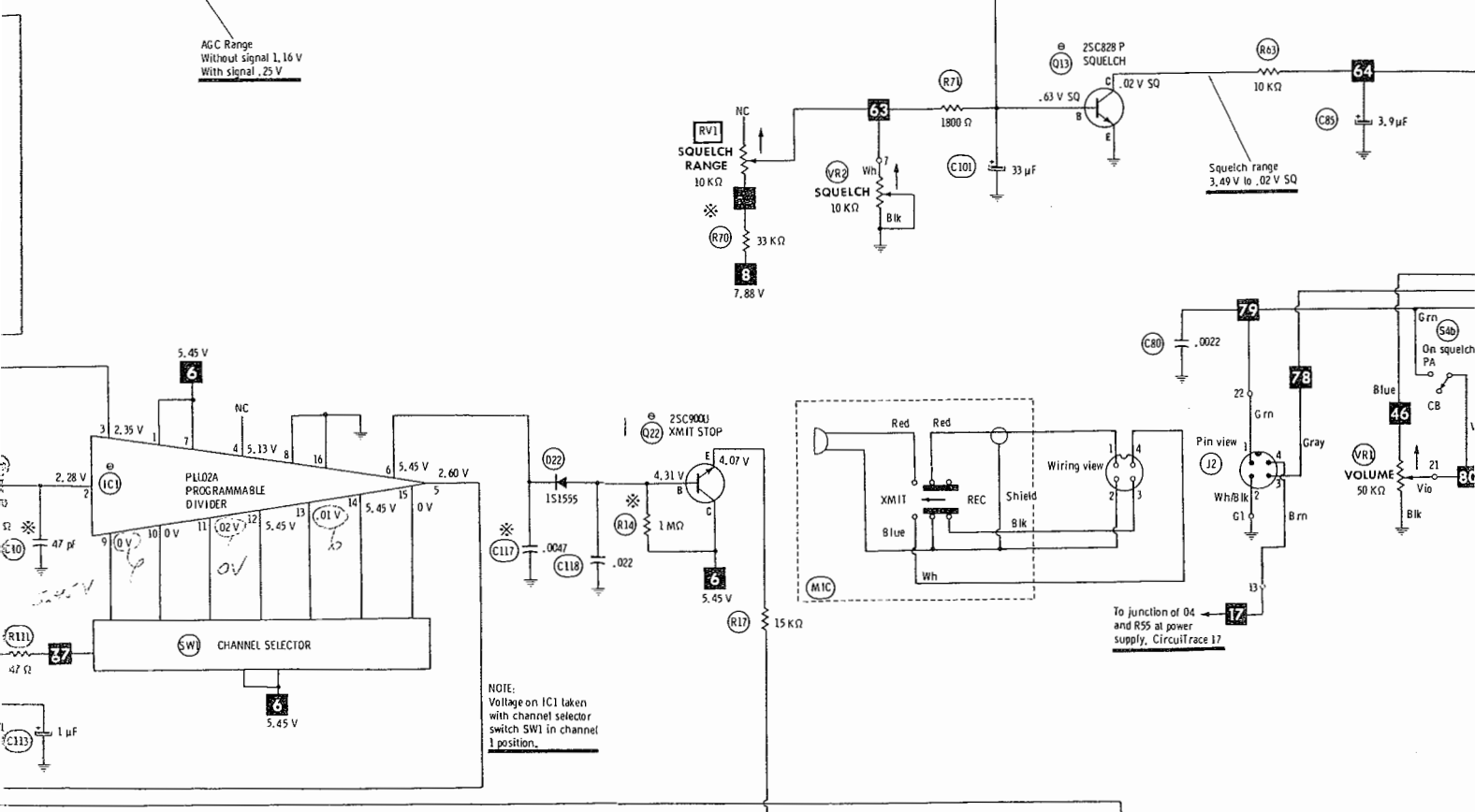
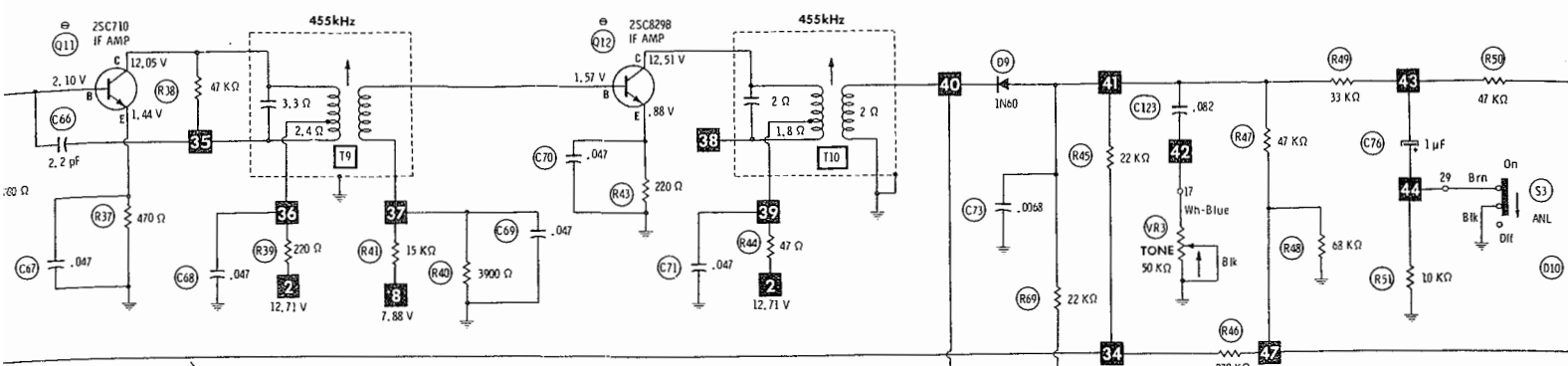
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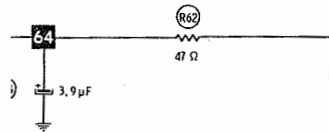
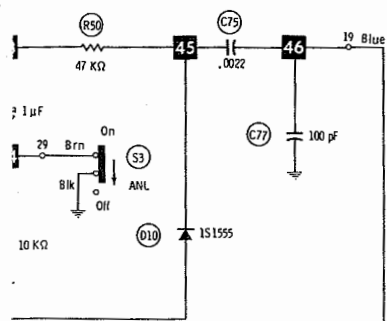
BLOCK DIAGRAM



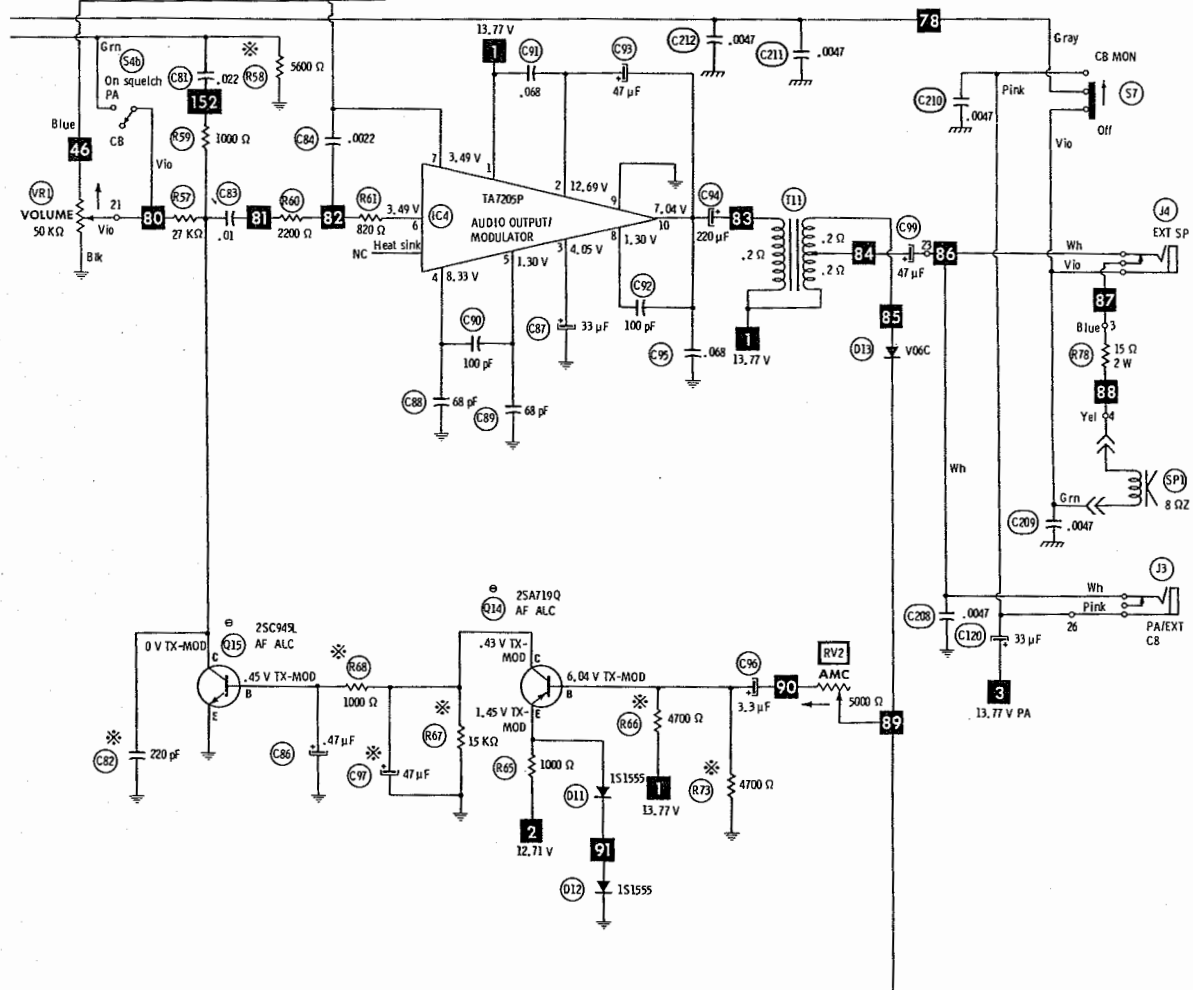
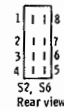
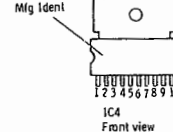
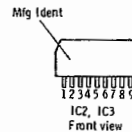
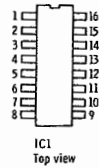
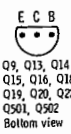
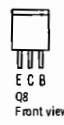
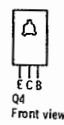








Terminal Guides



PARTS LIST AND DESCRIPTION

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

PARTS LI

(When orderin

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	ITT410	(1)			PTC311	HEPR2502				ECG612
	BBT22	(1)			PTC311	HEPR2502				ECG612
	MV201				PTC311	HEPR2502				ECG612
D2	MZ205			WEP602	ZM5.18		RE 105			ECG135
D3	RD9.1E		GEZD-9.1		ZM9.18		RE 114		RT-240	ECG139A
D4	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D5	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D6	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D7	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D8	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D9	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D10	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D11	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D12	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D13	V06C		GE-504A	5A4D	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D14	1S1885		GE-504A	5A4D	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D16	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D17	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D18	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D19	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D22	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D501	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D502	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
IC1	PLL02A						RE 360-IC			ECG1167
	PLL02	(1)					RE 360-IC			ECG1167
IC2	C3001A	(1)								ECG1192
	C3001	(1)								ECG1192
	TA7310P	(1)								ECG1192
IC3	C3001A	(1)								ECG1192
	C3001	(1)								ECG1192
	TA7301P	(1)								ECG1192
IC4	TA7205P		GEIC-179	WEP949	PTC780		RE 357-IC	SK3231	TVCM-81	ECG1155
Q1	2SC710		GE-211 *	(IR)2SC710	PTC132	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q2	2SC710		GE-211 *	(IR)2SC710	PTC132	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q3	2SC1687		GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
Q4	2SC1760	(14)	GE-276	WEP1014	PTC180		RE 224		RT-310	ECG306
	2SC1846	(1)	GE-336		PTC904		RE 209			ECG295
	2SC2036	(1)	GE-276	WEP1014	PTC180		RE 224		RT-310	ECG306
Q5	2SC1678	(13)	GE-322	WEP1678	PTC186		RE 203	SK3197	RT-146	ECG235
	2SC1306	(12)(1)	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	2SC2075	(1)	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	2SC1974	(1)	GE-337	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
Q6	2SC1318Q		GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
	2SC1318	(1)	GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
Q7	2SA719R		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA719	(1)	GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA720	(1)	GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
Q8	2SC1047C		GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
	2SC1047	(1)	GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
	2SC710	(1)	GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC460	(1)	GE-61 *	(IR)2SC460B	PTC101	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
Q9	2SC1359B		GE-212	(IR)2SC380A0	PTC132 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC1359	(1)	GE-212	(IR)2SC380A0	PTC132 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC710	(1)	GE-211 *	(IR)2SC710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q10	2SC710		GE-211 *	(IR)2SC710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829	(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q11	2SC710		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829	(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q12	2SC829B		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829	(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC710	(1)	GE-211 *	(IR)2SC710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q13	2SC828P		GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
	2SC828	(1)	GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
	2SC372	(1)	GE-61 *	(IR)2SC372	PTC101	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
	2SC945	(1)	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
Q14	2SA719Q		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA719	(1)	GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA720	(1)	GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA564	(1)	GE-65	(IR)2SA564A	PTC103 *	HEPS0019 *	RE 193	SK3114	RT-303	ECG234
Q15	2SC945L		GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	2SC945	(1)	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	2SC900	(1)	GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
Q16	2SC710		GE-211 *	(IR)2SC710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829	(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839	(1)	GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308	ECG123A *
Q17	2SC710		GE-211 *	(IR)2SC710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829	(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839	(1)	GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308	ECG123A *
Q18	2SC829C		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC829	(1)	GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q19	2SA733Q		GE-48	TR-31	PTC103 *	HEPS0019 *	RE 26 *	SK3138	RT-303	ECG294
	2SA733	(1)	GE-48	TR-31	PTC103 *	HEPS0019 *	RE 26 *	SK3138	RT-303	ECG294
Q20	2SC1327T		GE-85 *	(IR)2SC945	PTC139 *	HEPS0024 *	RE 192	SK3124	RT-107A	ECG199
	2SC1327	(1)	GE-85 *	(IR)2SC945	PTC139 *	HEPS0024 *	RE 192	SK3124	RT-107A	ECG199
	2SC900		GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
Q22	2SC900U		GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
	2SC900	(1)	GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199

* Lead configuration may vary from original.

(1) Used in some versions.

(12) 12 WATTS @ 3 AMPS.

(13) 10 WATTS @ 3 AMPS.

(14) 950 M WATTS @ 500 M AMP.

ELECTRO

ITEM No.	
C1	1
C2	1
C3	1
C11	4
C18	1
C50	1
C72	1
C74	3
C76	1
C78	4
C85	4
C86	4
C87	4
C93	4
C94	2
C96	3
C97	4
C99	4
C100	4
C101	4
C113	4
C120	4

CAPACIT

ITEM No.	
C4	68
C5	.01
C6	.22
C7	220
C8	120
C9	.04
C10	.47
C12	4
C13	.00
C14	68
C15	.01
C16	.33
C17	12
C19	.00
C20	.00
C21	.00
C22	2
C23	7
C24	33
C25	4
C26	560
C27	330
C28	.01
C29	68
C30	56
C31	.01
C32	2
C33	.01
C35	220
C36	.01
C37	106
C38	.01
C39	.01
C40	330
C41	.01
C42	120
C43	220
C44	120
C45	.01
C46	120
C47	270
C48	2
C49	.00
C51	27
C52	.01
C53	.04
C54	.04
C55	.04
C56	.01
C57	10
C58	.01
C59	.01
C60	.01
C61	.01
C62	.01
C63	2
C64	.01

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
C1	.1 10V			TDC104M050EL	QDT1-2	SD50-R109
C2	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C3	.22 10V			TDC224M050EL	QDT1-10	SD50-R229
C11	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C18	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C50	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C72	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C74	3.3 25V		PC5-50	VTT3R3A50	QV1-23	EV-1318
C76	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C78	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C85	3.9 10V			TDC475M010EL	QDT1-48	SD10-4R79
C86	.47 10V			TDC474M050EL	QDT1-19	SD50-R479
C87	33 6.3V		PC30-25	VTT33B10	QV1-61	EV-1125
C93	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C94	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C96	3.3 25V		PC5-50	VTT3R3A50	QV1-23	EV-1318
C97	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C99	47 25V		PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000 16V		PC1000-16	VTT1000L16	QV1-183	EV-1260
C101	33 6.3V		PC30-25	VTT33B10	QV1-61	EV-1125
C113	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C120	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325

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
C4	68 N150				*		10TCP-Q68
C5	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C6	22 N150				*		10TCP-Q22
C7	220		DD-221		GP322		10TS-T22
C8	120		DTZ-120		CN0312		10TCC-T12
C9	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C10	47		DTZ-47	NPO47	CN0447		10TCC-Q47
C12	4 N150				*		10TCP-V39
C13	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C14	68 N150				*		10TCP-Q68
C15	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C16	33		DTZ-33	NP033	CN0433		10TCC-Q33
C17	12 N150				*		10TCP-Q12
C19	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C20	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C21	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C22	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C23	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C24	33 N150				*		10TCP-Q33
C25	4 N150				*		10TCP-V39
C26	560			CD19FD561J03	SX356		MWC-561
C27	330		DD-331	GP330	GP333		10TS-T33
C28	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C29	68		DD-680	GP68	GP468		10TS-Q68
C30	56		DD-560		GP456		10TS-Q56
C31	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C32	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C33	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C35	220		DTZ-200				10TCC-T20
C36	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C37	100 N150				*		10TCP-T10
C38	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C39	.01			WMF1S1	EWFA110	QF1-91	1PB-S10
C40	330		DD-331	GP330	GP333		10TS-T33
C41	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C42	120		DTZ-120				10TCC-T12
C43	220		DD-221		GP322		10TS-T22
C44	120		DTZ-120		CN0312		10TCC-T12
C45	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C46	120		DTZ-120		CN0312		10TCC-T12
C47	270			CD15FD271J03	SX327	QW1-37	MWB-271
C48	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C49	.0047				GP227		10TS-D27
C51	27				CN0427		10TCC-Q27
C52	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C53	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C54	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C55	.047			DPMS2S47	EWFA147	QF1-171	1PB-S47
C56	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C57	10		DTZ-10	NP010	CN0410		10TCC-Q10
C58	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C59	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C60	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C61	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C62	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C63	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C64	.01		DC-103	MGP01	TA110	QC2-141	TG-S10

PEARCE-SIMPSON MODEL LION 40

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
C65	18 N150				*		10TCP-Q18
C66	2.2				CN0522		10TCC-V22
C67	.047		DTZ-2R2	NP02P2	EWFA1A147	QF1-171	1PB-S47
C68	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C69	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C70	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C71	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C73	.0068			WMF1D68	EWFA1A268	QF1-73	1PB-D68
C75	.0022			DPMS6D22	EWFA222		6PS-D22
C77	100		DD-101	GP100	GP310		10TS-T10
C79	.022			DPMS2S22	EWFA1A122	QF1-127	1PB-S22
C80	.0022		DD-222		GP222	QC2-97	5GA-D22
C81	.022			DPMS2S22	EWFA1A122	QF1-127	1PB-S22
C82	220		DD-221		GP322		10TS-T22
C83	.01			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C84	.0022		DD-222		GP222	QC2-97	5GA-D22
C88	68		DD-680	GP68	GP468		10TS-Q68
C89	68		DD-680	GP68	GP468		10TS-Q68
C90	100		DD-101	GP100	GP310		10TS-T10
C91	.068			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C92	100		DD-101	GP100	GP310		10TS-T10
C95	.068			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C102	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C106	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C107	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C110	18				CN0418		10TCC-Q18
C111	82		DD-820		GP482		10TS-Q82
C112	39	(1)			CN0439		10TCC-Q39
C114	390			CD15FD391J03	SX339	QW1-41	MWA-391
C117	.0047			WMF1D47	EWFA1A247	QF1-57	1PB-D47
C118	.022		DC-253	MGP025	TA125		TG-S25
C123	.082			WMF1S82	EWFA1A182		1PB-S82
C130	.0022		DD-222		GP222	QC2-97	5GA-D22
C131	39 N150				*		10TCP-Q39
C132	15 N150				*		10TCP-Q15
C133	.0022		DD-222		GP222	QC2-97	5GA-D22
C134	3		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C135	220		DD-221		GP322		10TS-T22
C136	.0033			CD19FD332J03	SX233		MWC-332
C137	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C138	.01	(1)	DC-103	MGP01	TA110	QC2-141	TG-S10
C139	220		DD-221		GP322		10TS-T22
C200	15	(1)	DTZ-15	NP015	CN0415		10TCC-Q15
C201a	180			CD15FD181J03	SX318	QW1-33	MWA-181
	150	(1)		CD15FD151J03	SX315	QW1-31	MWA-151
C201b	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C202	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C203	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C204	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C205	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C206	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C207	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C208	.0047		DD-472	GP4700	GP247		5GA-D47
C209	.0047		DD-472	GP4700	GP247		5GA-D47
C210	.0047		DD-472	GP4700	GP247		5GA-D47
C211	.0047		DD-472	GP4700	GP247		5GA-D47
C212	.0047		DD-472	GP4700	GP247		5GA-D47
C501	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C502	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CT1							

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

(1) Used in some versions.

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.	MALLORY PART No.	TRW PART No.
RV1	Squelch Range	10K					
RV2	AMC	5000					
RV3	S Meter	20K					
RV4	RF Meter	20K					
RV501	SWR	2000					
VR1	Volume/Switch	50K					
VR2	Squelch	10K					
VR3	Tone	50K					
VR4	SWR/CAL	10K					
VR5	RF Gain	100K					

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.
AREY251	Resistor Network		(1)	AREY252	Resistor Network		(1)

(1) Consists of seven 1800-ohm resistors.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	VCO				
L2	VCO Mixer				
L3	RF Choke				
L4	RF Choke				
L5	Xmit Mixer (27MHz)				
L6	RF Choke				
L7	Xmit Driver (27MHz)				
L8	RF Choke				
L9	RF Choke				
L10	RF Choke				
L11	Final (27MHz)				
L12	Pi Filter (27MHz)				
L13	RF Choke				
L14	IF (10.695MHz)				
L15	RF Choke				
L16	RF Choke				
L17	RF Choke				
T1	Ref Oscillator(10.240MHz)				
T2	VCO Mixer				
T3	Xmit Mixer (27MHz)				
T4	Xmit Buffer (27MHz)				
T5	Rec Antenna (27MHz)				
T6	Rec RF (27MHz)				
T7	IF (10.695MHz)				
T8	IF (455kHz)				
T9	IF (455kHz)				
T10	IF (455kHz)				

PEARCE-SIMPSON MODEL LION 40

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.	
CH1	1.05A	.116	.48mH	ELA-16 (1)	TR523		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T11	2.88	1 8 2 13.52	ETA-66 (1)	TR-723	MCB-16	(1) Number on unit.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3 1/2" PM 8 Ohms		3A05Z8	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
F1	2 Amp			AGC2	HDJ	312002	150145

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFGR. 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	1	2	4	3	NC	2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Ceramic Filter		455kHz
LED301	Led		Channel Display
M1	Meter		S/Rf/SWR
S1	Switch		Power (Part of Volume Control)
S2	Switch		Receiv-O-Slide (Delta-Tune)
S3	Switch		ANL
S4	Switch		CB/PA
S5	Switch		NB
S6	Switch		S-RF/CAL/SWR
S7	Switch		CB Moni
SW1	Switch		Channel Selector
X1	Crystal		10.240MHz
X2	Crystal		10.695MHz

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')