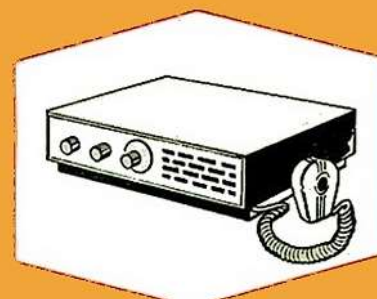


SAMS PHOTOFACT CB RADIO SERIES



CB-235
235
NOVEMBER 1978



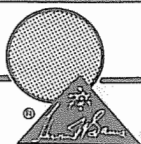
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COBRA	89GTL	
	1000GTL	5
GENERAL ELECTRIC	3-5804D	
	3-5813B	49
JCPenney	681-6241	
	(981-8360)	79



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



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 1000GTL

MANUFACTURER'S SPECIFICATIONS

TRANSMITTER

Power Output	4 watts.
Modulation	High and low-level Class B amplitude modulation.
Frequency Response	300 to 3000 Hz.
Output Impedance	50 ohms, unbalanced.
Output Indicators	Meter indicates relative RF output power, standing wave ratio and level of modulation.

RECEIVER

Sensitivity	0.5 μ V for 10 dB (S+N)/N.
Selectivity	6 dB @ 7 KHz. 60 dB @ 10 KHz.
Image Rejection	80 dB.
IF Frequencies	Double conversion, 1st: 10.695 MHz. 2nd: 455 KHz.
Adjacent Channel Rejection	-60 dB
RF Gain Control	40 dB.
Automatic Gain Control (AGC)	Less than 10 dB change in audio output for inputs from 10 to 500,000 microvolts.
Delta Tune Range	± 1.5 KHz continuously adjustable.
Squelch	Adjustable, threshold less than 1 μ V.
Audio Output Power	4 watts.
Frequency Response	300 to 3000 Hz.
Distortion	Less than 7% @ 3 watts @ 1000 Hz.
External Speaker	8 ohms.

Courtesy of the Manufacturer

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

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COBRA MODEL 89GTL, 1000GTL

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.
Adjust VR201 for 13.8 volts DC at TP10.
Connect low sides of test equipment to ground unless specified otherwise.
Connect 50-ohm dummy load or antenna before keying transmitter.
Connect microphone.

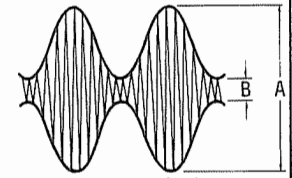
Suggested Alignment Tools:

GC ELECTRONICS

L1 thru L5, L17 thru L21, L23, L24, L25. . . .9440

L6, L7, L85000, 5009, 8276, 8278, 8278A

L10, L13, L16.8728, 8728A, 9304



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

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope to TP6.	Ch. 19	L23	Adjust for maximum RF.
Input of frequency counter to TP7 (IC4 pin 12).	Ch. 19 Delta Tune Detent	L21	Adjust for 10.240MHz.
Input of DC meter to TP4.	Ch. 40	L20	Adjust for 2.10 volts. Check for approx. 1.30 volts on Channel 1.
Input of oscilloscope to TP8 (IC2 pin 4).	Ch. 19	L19	Adjust for maximum RF.
Input of frequency counter to TP8 (IC2 pin 4).	Ch. 19		Check for 15.360MHz.
Input of frequency counter to TP5 (IC4 pin 22).	Ch. 1		Check for .910MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP5 (IC4 pin 22).	Ch. 1, XMT		Check for 1.365MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP2.	Ch. 19	L18	Adjust for maximum RF.
Input of frequency counter to TP2.	Ch. 1		Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP1.	Ch. 19, XMT	L24, L25	Adjust for maximum RF.
Input of frequency counter to TP1.	Ch. 1, XMT		Check for 26.965MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to antenna input.	Ch. 1, XMT		Check for 26.965MHz. If necessary readjust L21 for correct frequency. Check all channels. (See page 4 for channel 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. Preset controls as follows, unless otherwise noted:

RF Gain Max, Squelch MINIMUM, Delta Tune Detent, Tone fully clockwise, ANL Off, NB Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP9 (TR4 gate). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	L8, L7, L6	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	L5, L4, L3, L2 L1	Adjust for maximum output. Readjust L6, L7 and L8 for maximum. (L4 not used in Model 89GTL.)

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Preset controls as follows, unless otherwise noted:
RF Gain Maximum, Squelch MINIMUM, Delta Tune Detent, Tone fully clockwise, ANL Off, NB Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output .5uV.	Ch. 19, Volume Max	VR1	IF GAIN Adjust for 2.00 volts RMS audio output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19, Squelch Max	VR3	SQUELCH RANGE Adjust so squelch just breaks.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	VR2	SIGNAL METER Adjust for 9 on SIGNAL scale of meter.

TRANSMITTER ALIGNMENT

Connect a 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.

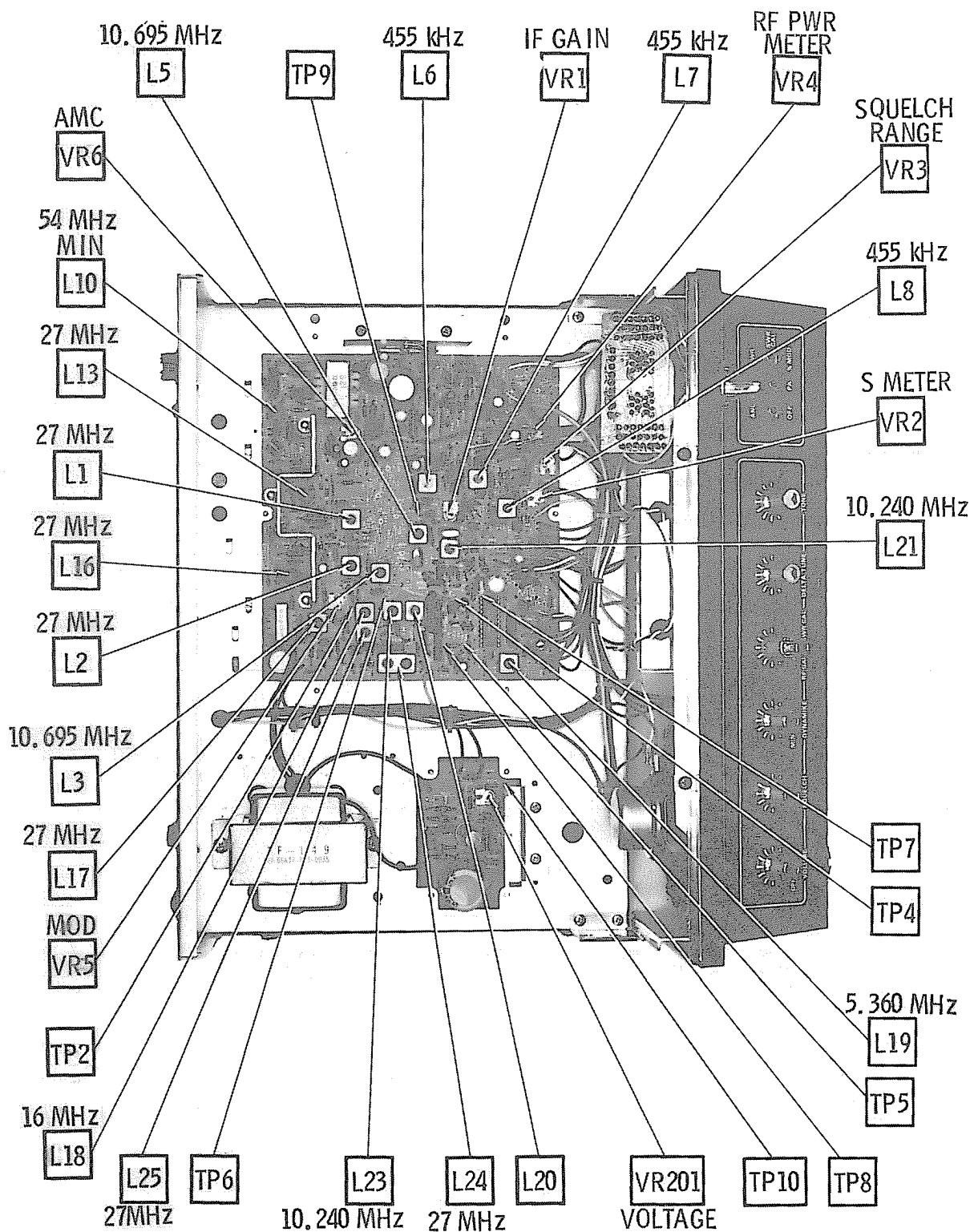
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input.	Ch. 19	L17, L16	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19	L13	Adjust for 4.0 watts RF output.
Input of spectrum analyzer or harmonic meter to antenna input.	Ch. 19	L10	Adjust for MINIMUM at 54MHz (2nd harmonic).

TRANSMITTER ADJUSTMENTS

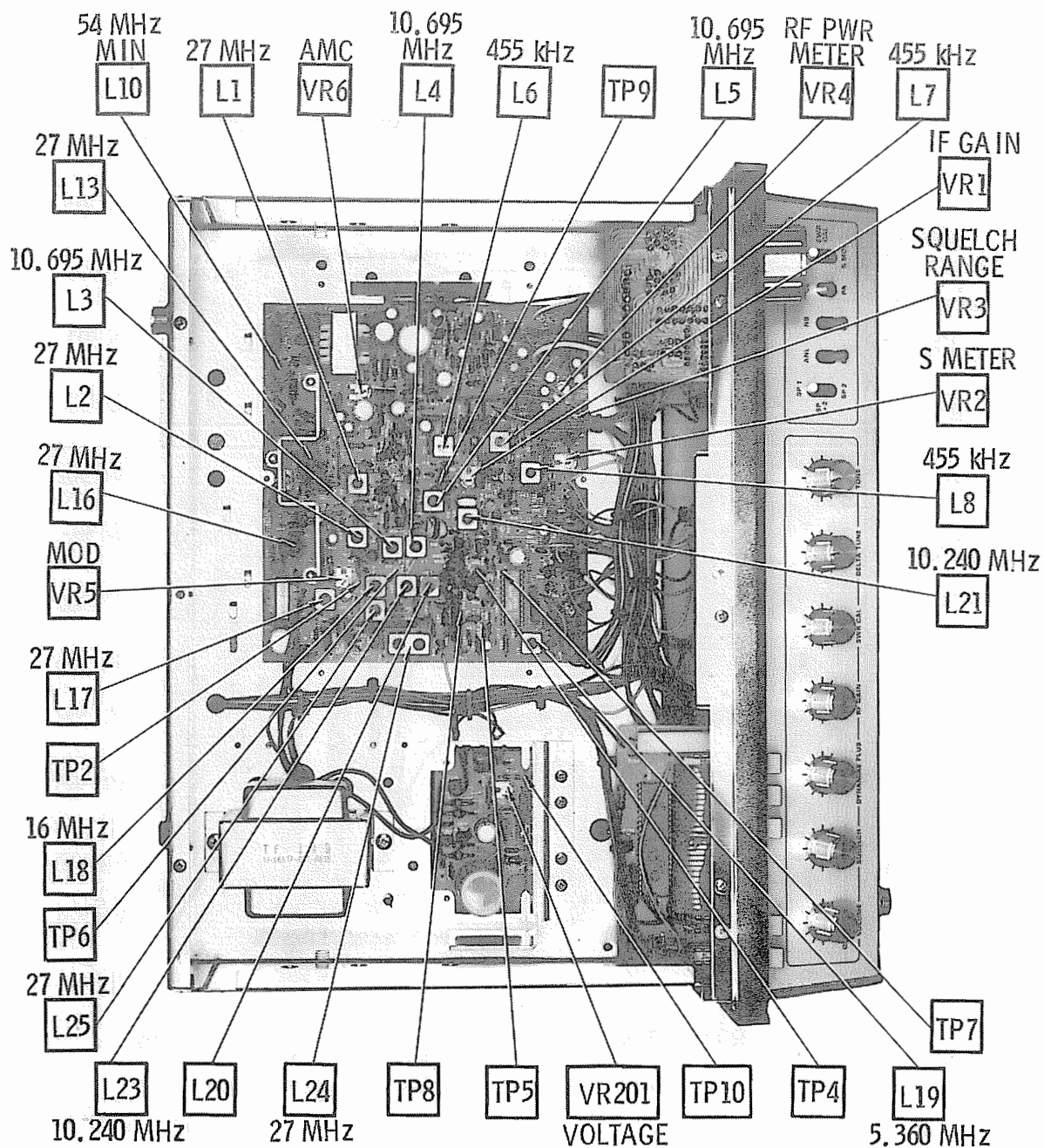
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 100mV signal at Mic input.	Ch. 19 SWR/SWR Cal/Mod Mod Dynamike Max	VR6	AMC Adjust for 95% modulation maximum. (See Figure 1.)
Input of oscilloscope or modulation meter to antenna input. Inject 1000Hz signal at Mic input. Set output level to produce 100% modulation.	Ch. 19 SWR/SWR Cal/Mod Mod Dynamike Max	VR5	MOD METER Adjust so MOD METER indicates 100% modulation.
Input of RF wattmeter to antenna input.	Ch. 19 SWR/SWR CAL/MOD Mod	VR4	RF PWR METER Adjust so RF METER agrees with RF wattmeter.

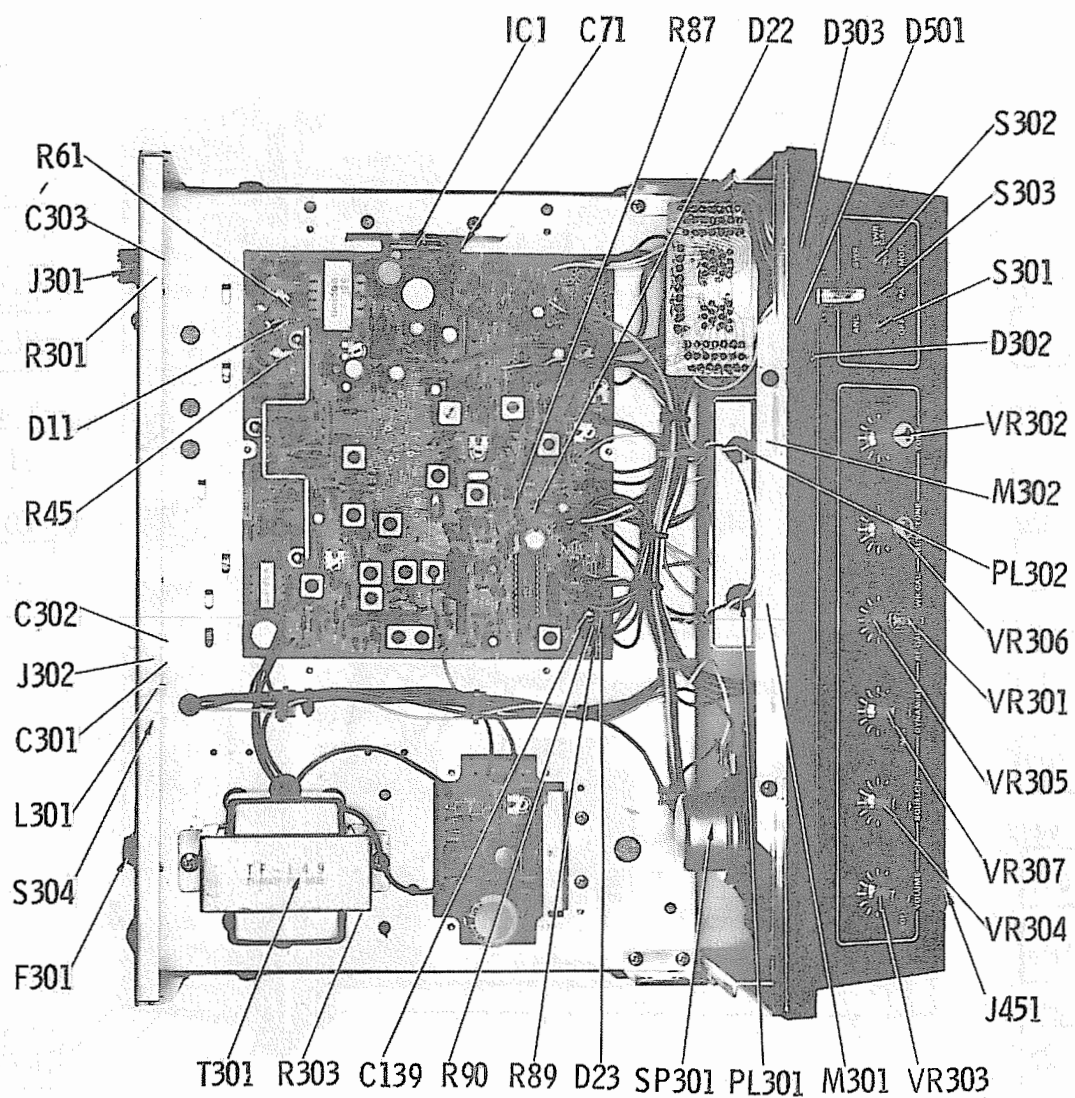
COBRA MODEL 89GTL, 1000GTL



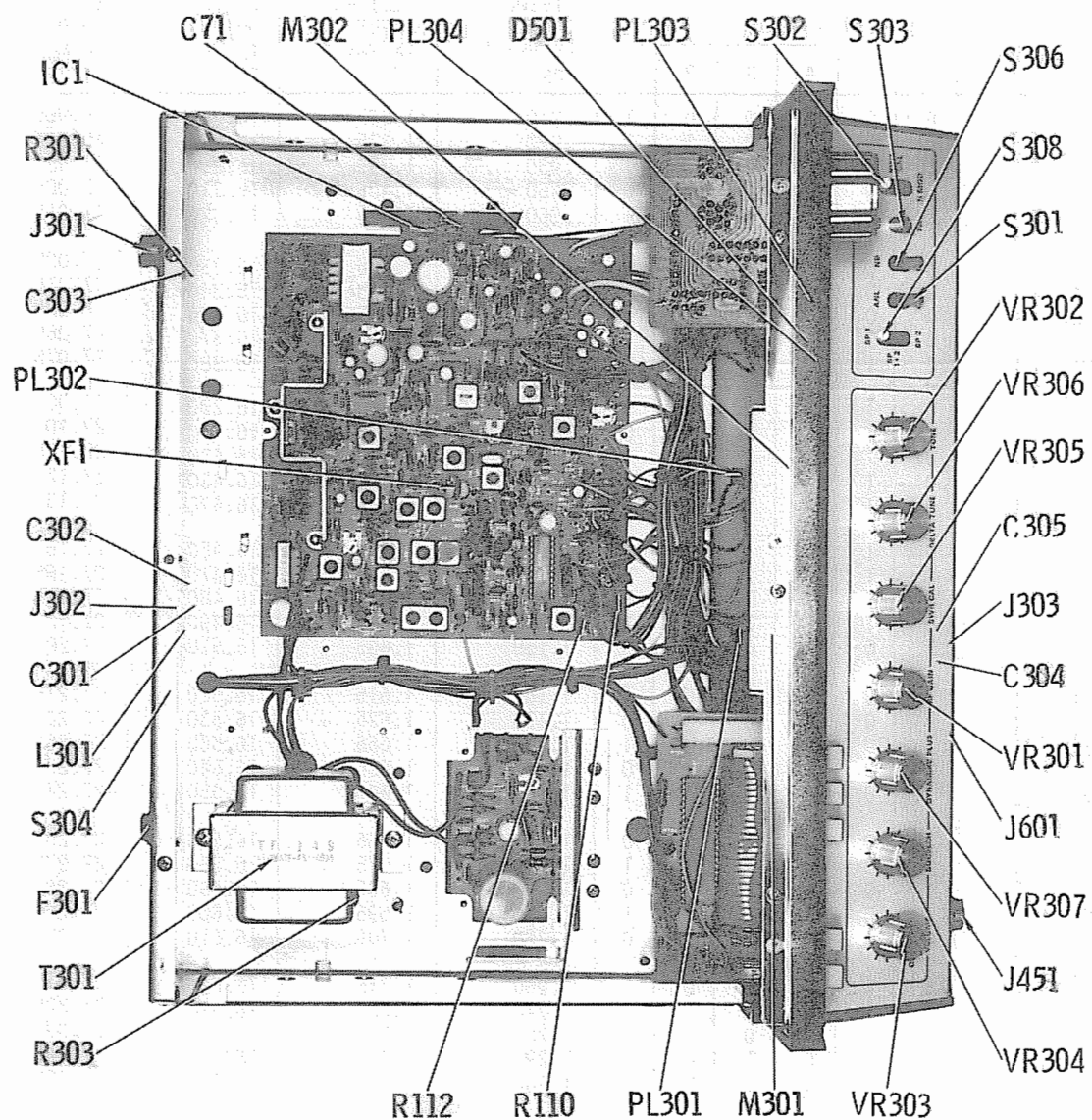
CH. TOP (MODEL 89GTL)



CH. TOP (MODEL 1000GTL)



CH. TOP (MODEL 89GTL)

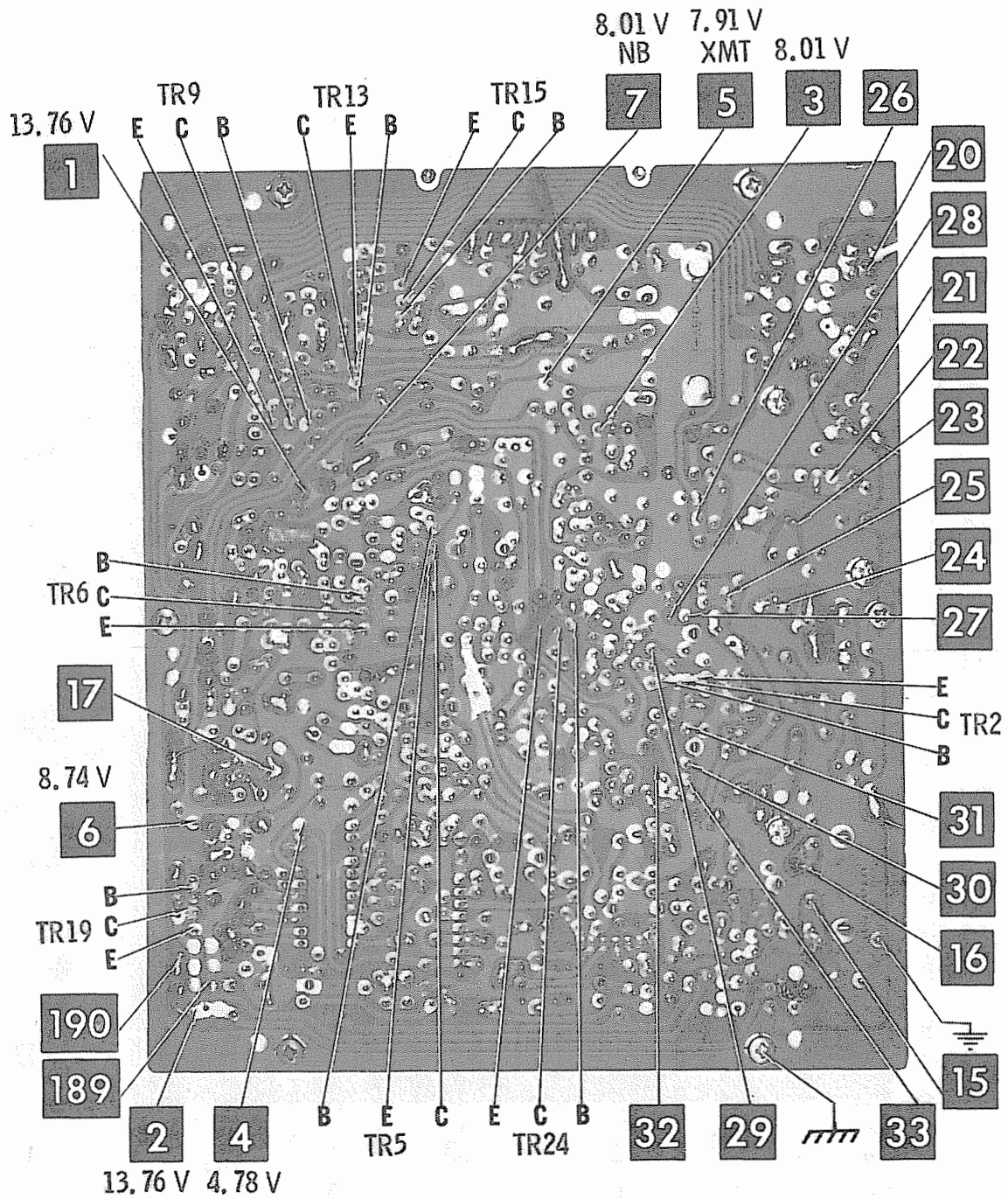


CH. TOP (MODEL 1000GTL)

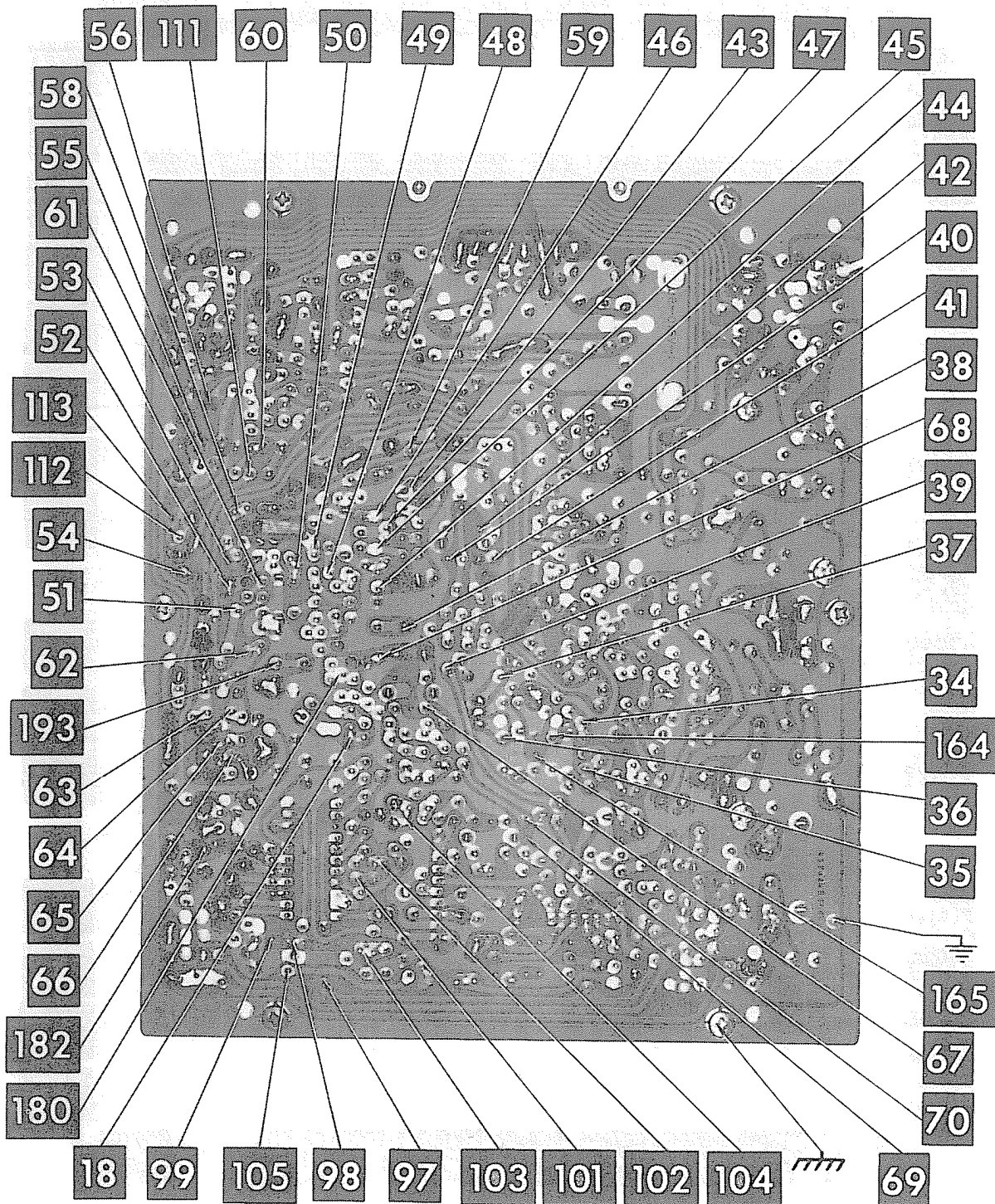
TRUTH CHART

C H A N N E L	1 = 4.80 Volts 0 = 0 - .50 Volts IC4 PROGRAM DIVIDER							REC DIVIDER INPUT IN MHz AT TP5	XMT DIVIDER INPUT IN MHz AT TP5	REC SYNTH OUTPUT IN MHz AT TP2	XMT SYNTH OUTPUT IN MHz AT TP1	
	PINS											
			6	5	4	3	2					1
1			0	0	0	0	0	1	.910	1.365	16.270	26.965
2			0	0	0	0	1	0	.920	1.375	16.280	26.975
3			0	0	0	0	1	1	.930	1.385	16.290	26.985
4			0	0	0	1	0	0	.950	1.405	16.310	27.005
5			0	0	0	1	0	1	.960	1.415	16.320	27.015
6			0	0	0	1	1	0	.970	1.425	16.330	27.025
7			0	0	0	1	1	1	.980	1.435	16.340	27.035
8			0	0	1	0	0	0	1.000	1.455	16.360	27.055
9			0	0	1	0	0	1	1.010	1.465	16.370	27.065
10			0	1	0	0	0	0	1.020	1.475	16.380	27.075
11			0	1	0	0	0	1	1.030	1.485	16.390	27.085
12			0	1	0	0	1	0	1.050	1.505	16.410	27.105
13			0	1	0	0	1	1	1.060	1.515	16.420	27.115
14			0	1	0	1	0	0	1.070	1.525	16.430	27.125
15			0	1	0	1	0	1	1.080	1.535	16.440	27.135
16			0	1	0	1	1	0	1.100	1.555	16.460	27.155
17			0	1	0	1	1	1	1.110	1.565	16.470	27.165
18			0	1	1	0	0	0	1.120	1.575	16.480	27.175
19			0	1	1	0	0	1	1.130	1.585	16.490	27.185
20			1	0	0	0	0	0	1.150	1.605	16.510	27.205
21			1	0	0	0	0	1	1.160	1.615	16.520	27.215
22			1	0	0	0	1	0	1.170	1.625	16.530	27.225
23			1	0	0	0	1	1	1.200	1.655	16.560	27.255
24			1	0	0	1	0	0	1.180	1.635	16.540	27.235
25			1	0	0	1	0	1	1.190	1.645	16.550	27.245
26			1	0	0	1	1	0	1.210	1.665	16.570	27.265
27			1	0	0	1	1	1	1.220	1.675	16.580	27.275
28			1	0	1	0	0	0	1.230	1.685	16.590	27.285
29			1	0	1	0	0	1	1.240	1.695	16.600	27.295
30			1	1	0	0	0	0	1.250	1.705	16.610	27.305
31			1	1	0	0	0	1	1.260	1.715	16.620	27.315
32			1	1	0	0	1	0	1.270	1.725	16.630	27.325
33			1	1	0	0	1	1	1.280	1.735	16.640	27.335
34			1	1	0	1	0	0	1.290	1.745	16.650	27.345
35			1	1	0	1	0	1	1.300	1.755	16.660	27.355
36			1	1	0	1	1	0	1.310	1.765	16.670	27.365
37			1	1	0	1	1	1	1.320	1.775	16.680	27.375
38			1	1	1	0	0	0	1.330	1.785	16.690	27.385
39			1	1	1	0	0	1	1.340	1.795	16.700	27.395
40			0	0	0	0	0	0	1.350	1.805	16.710	27.405

13.

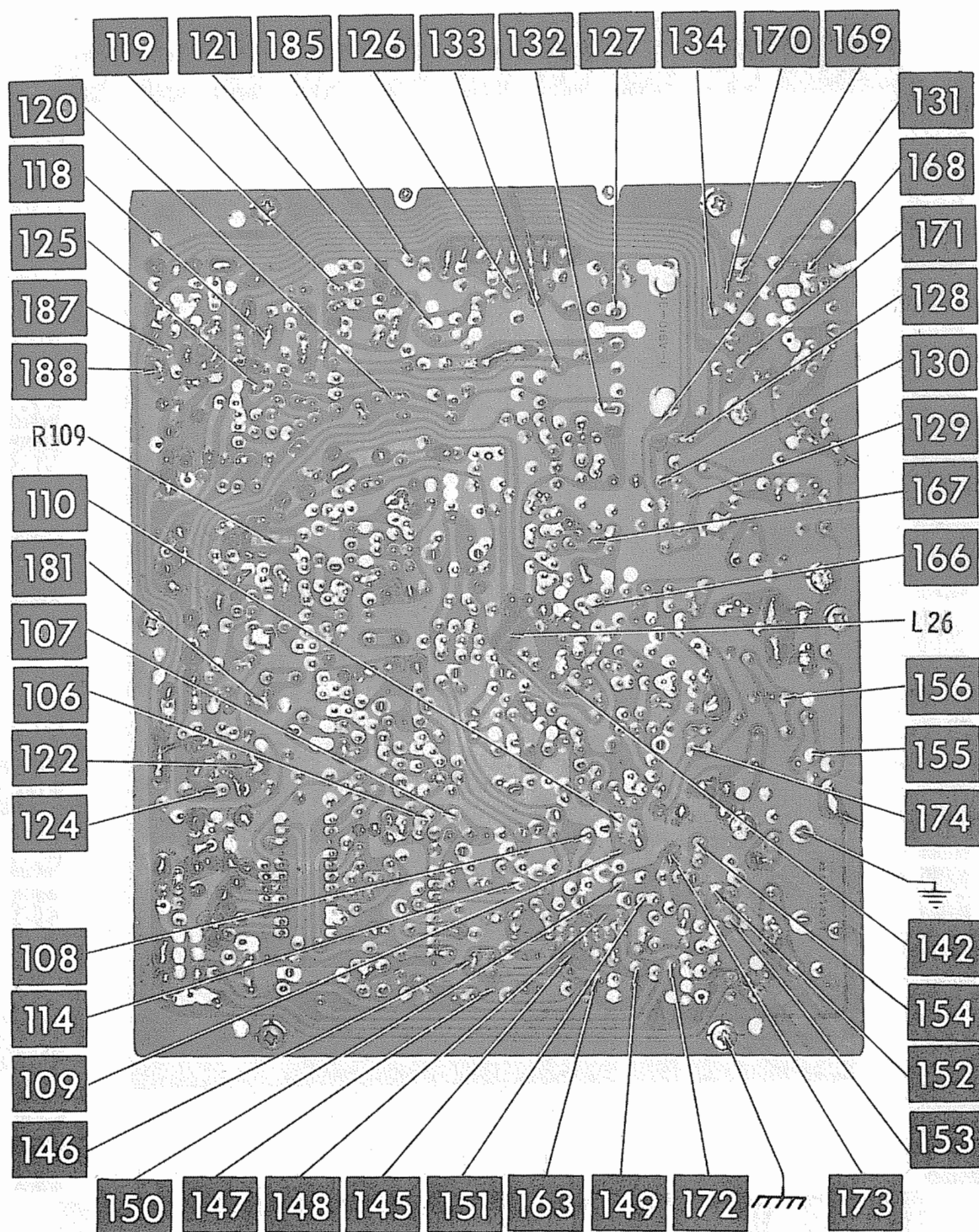


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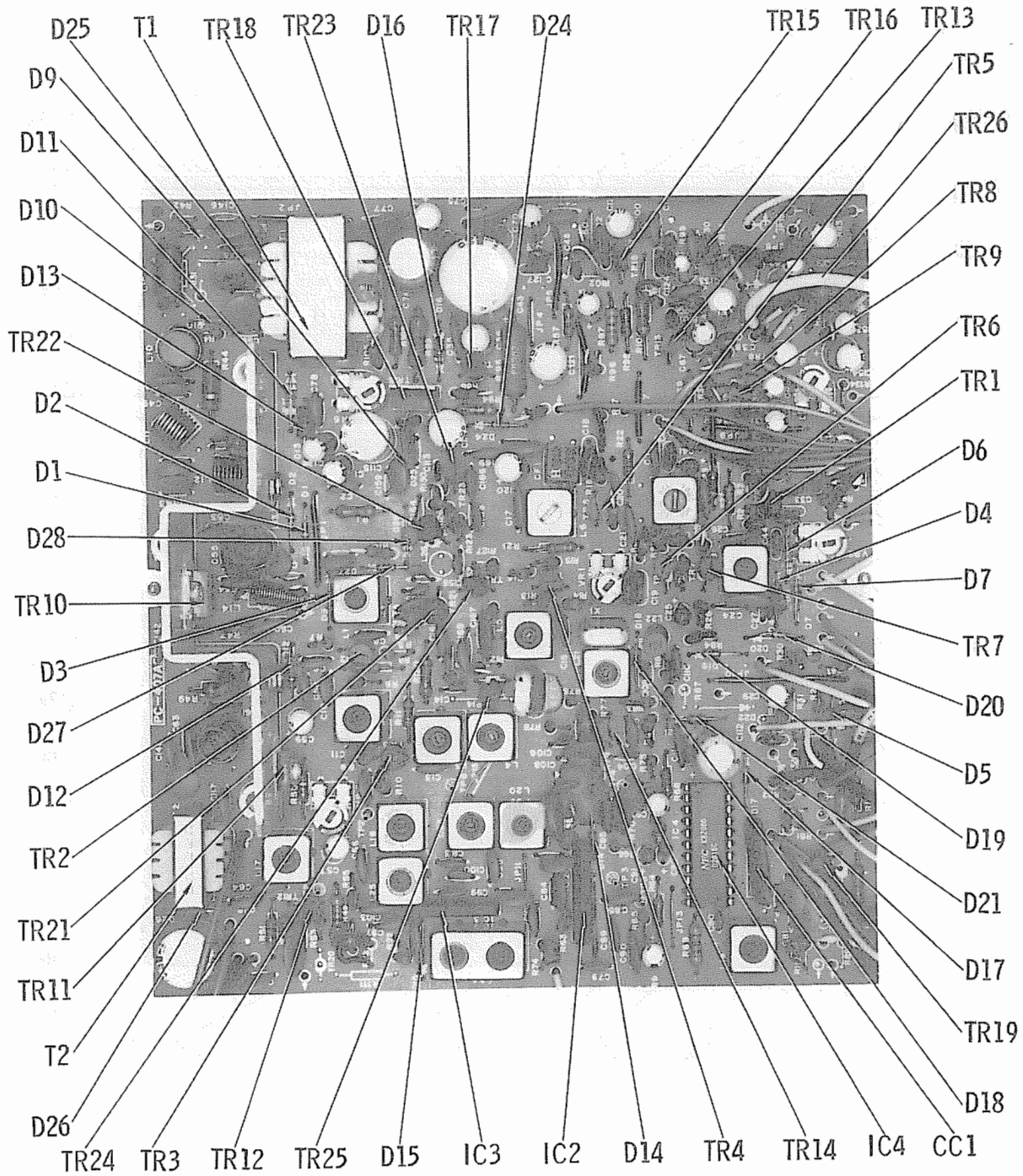


COBRA MODEL 89GTL, 1000GTL

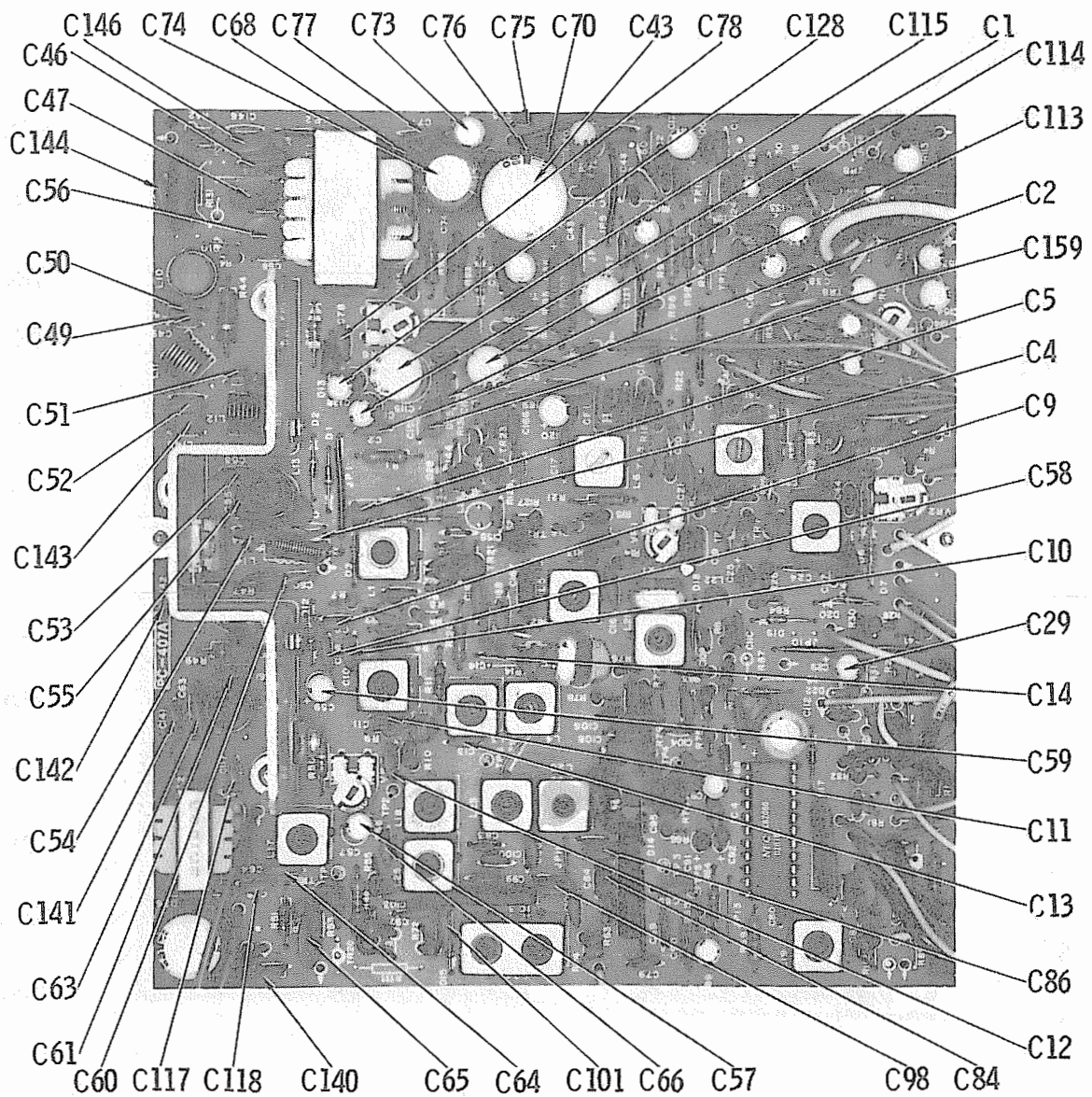
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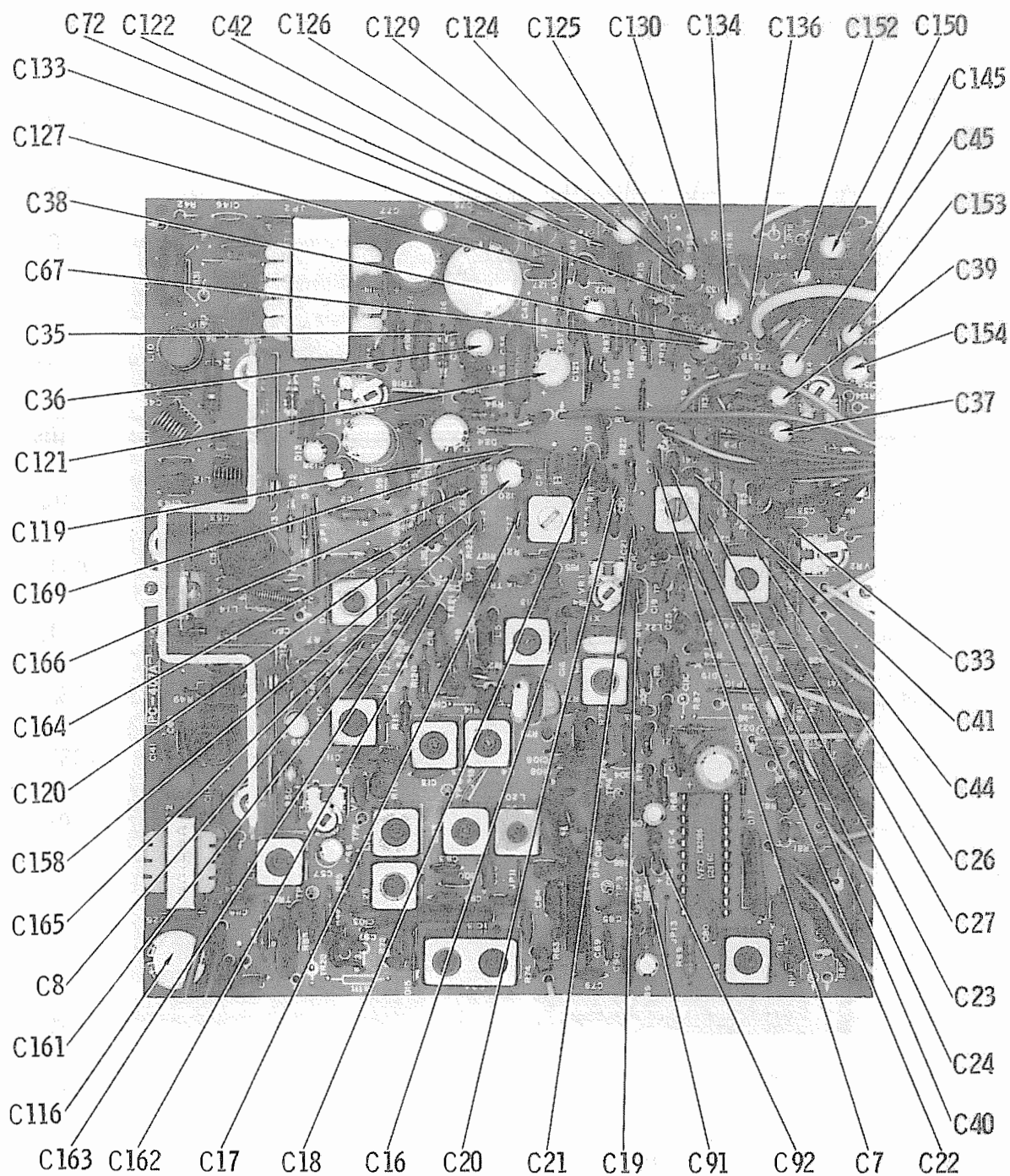
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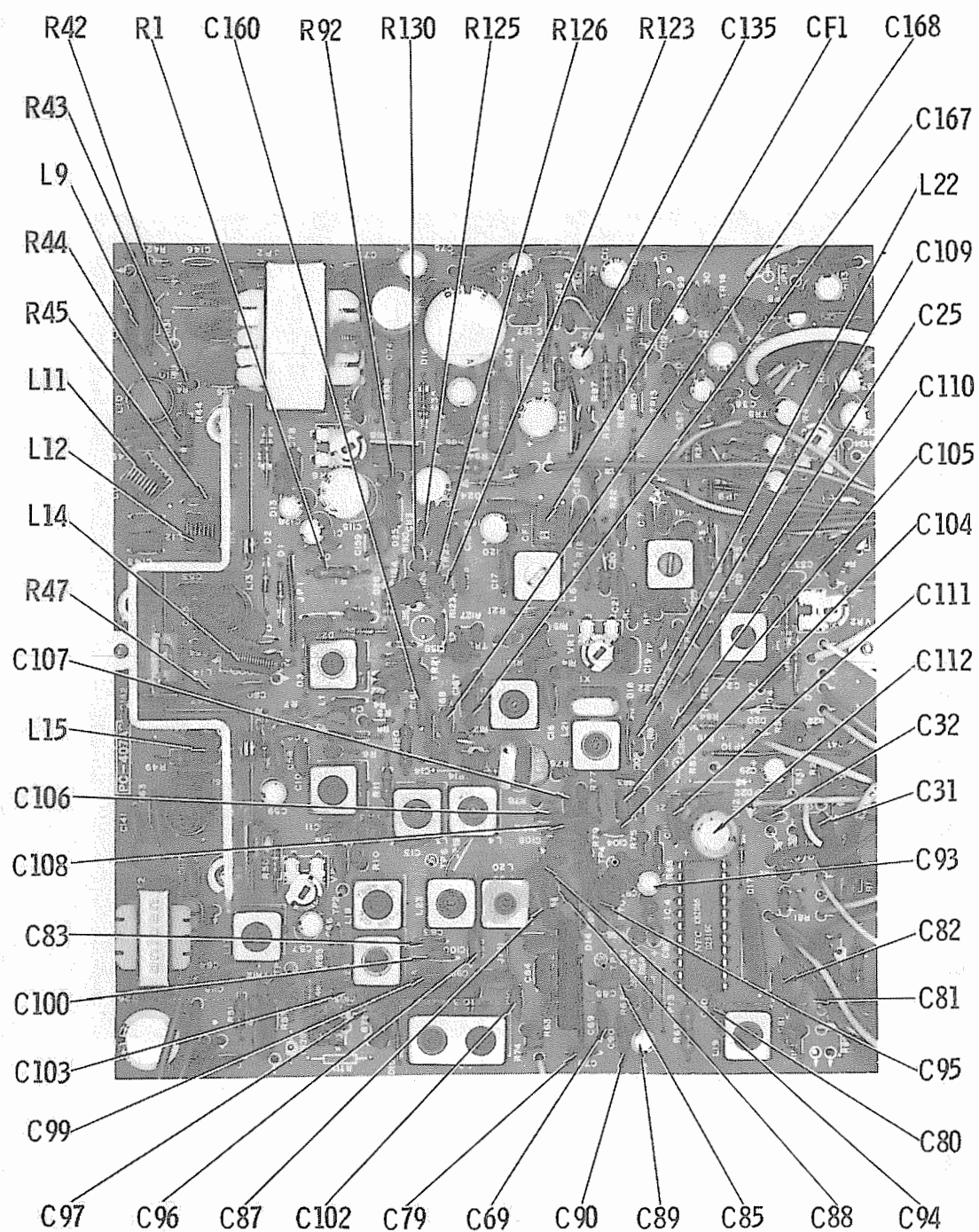
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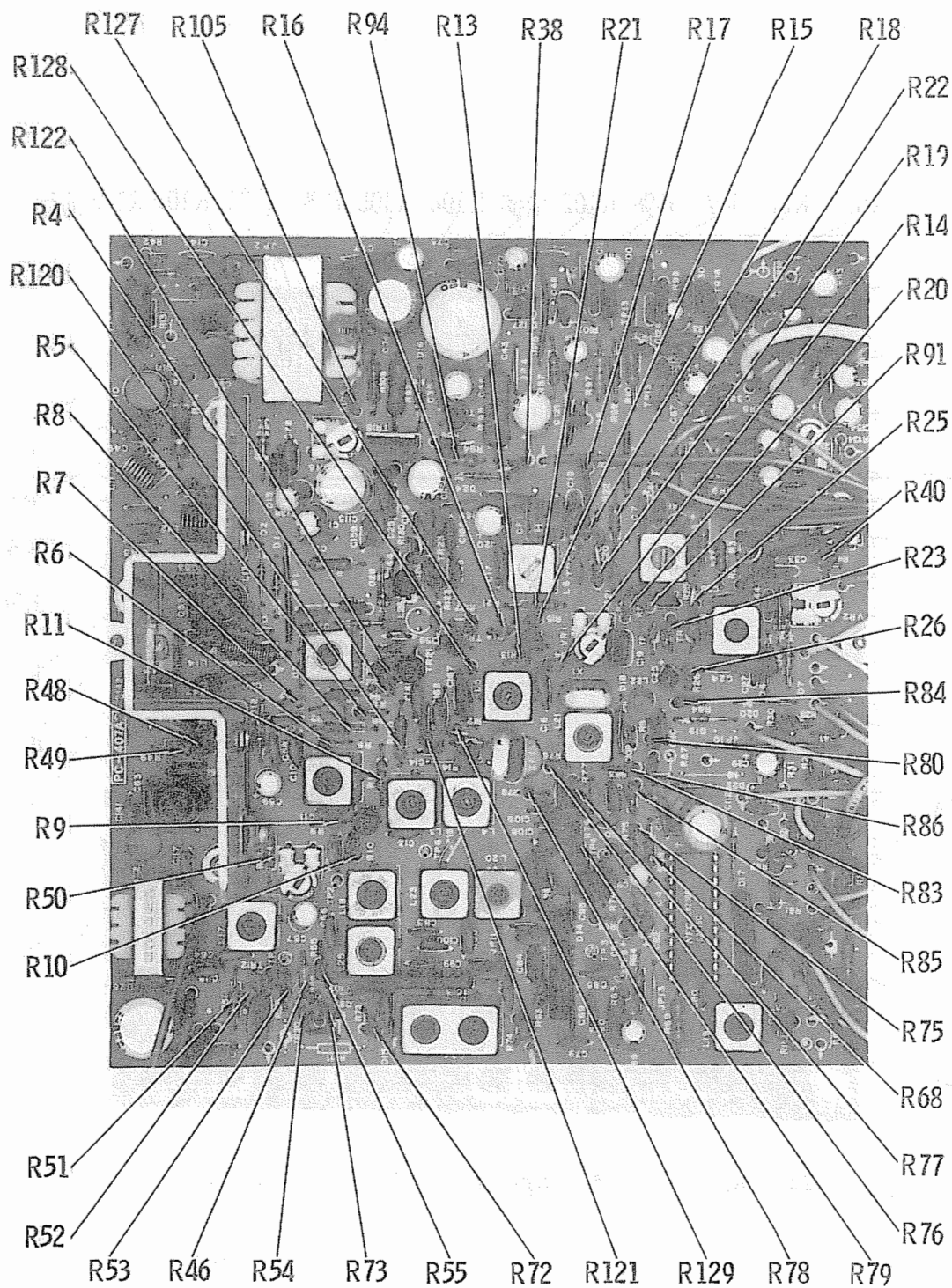
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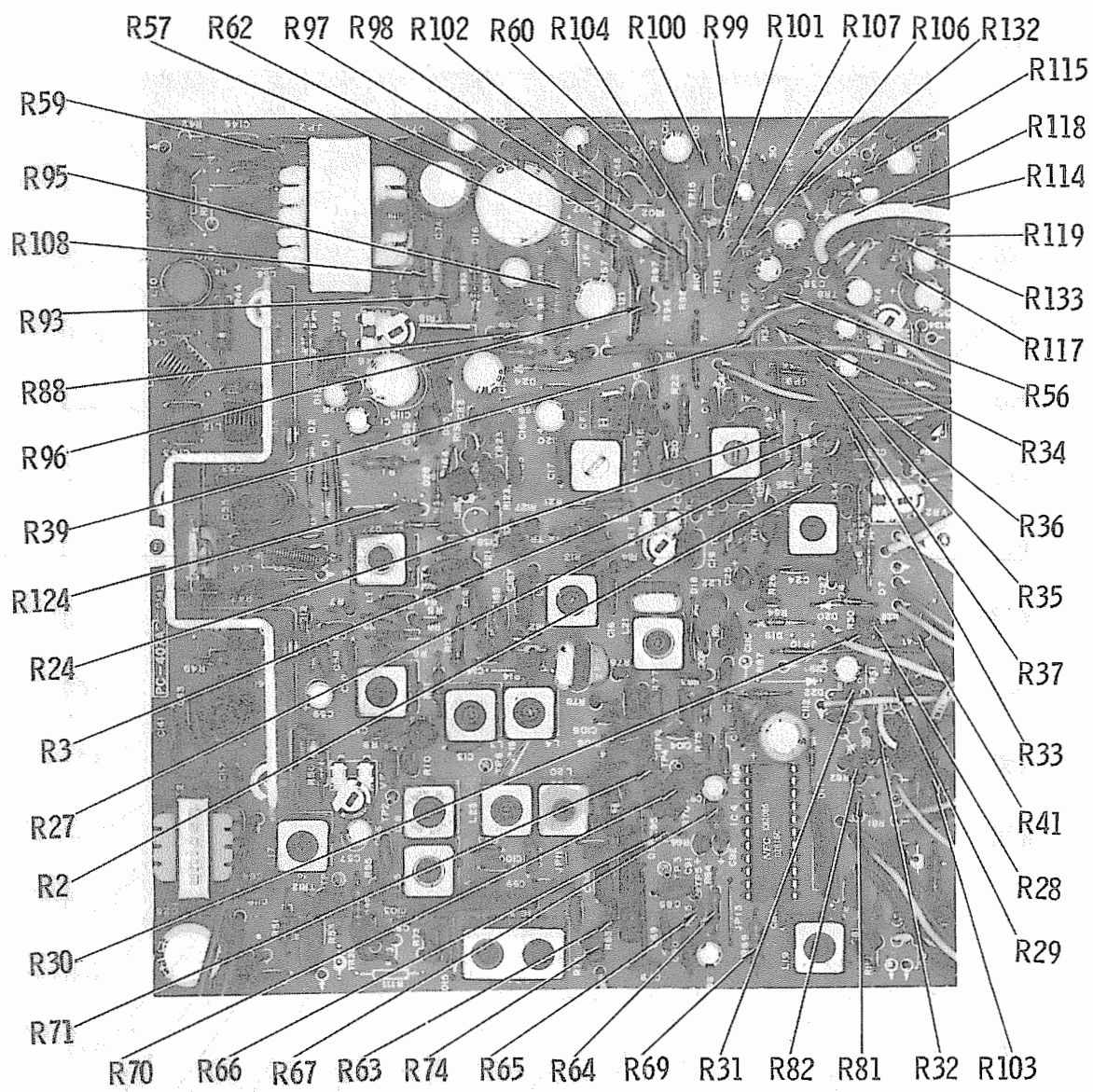
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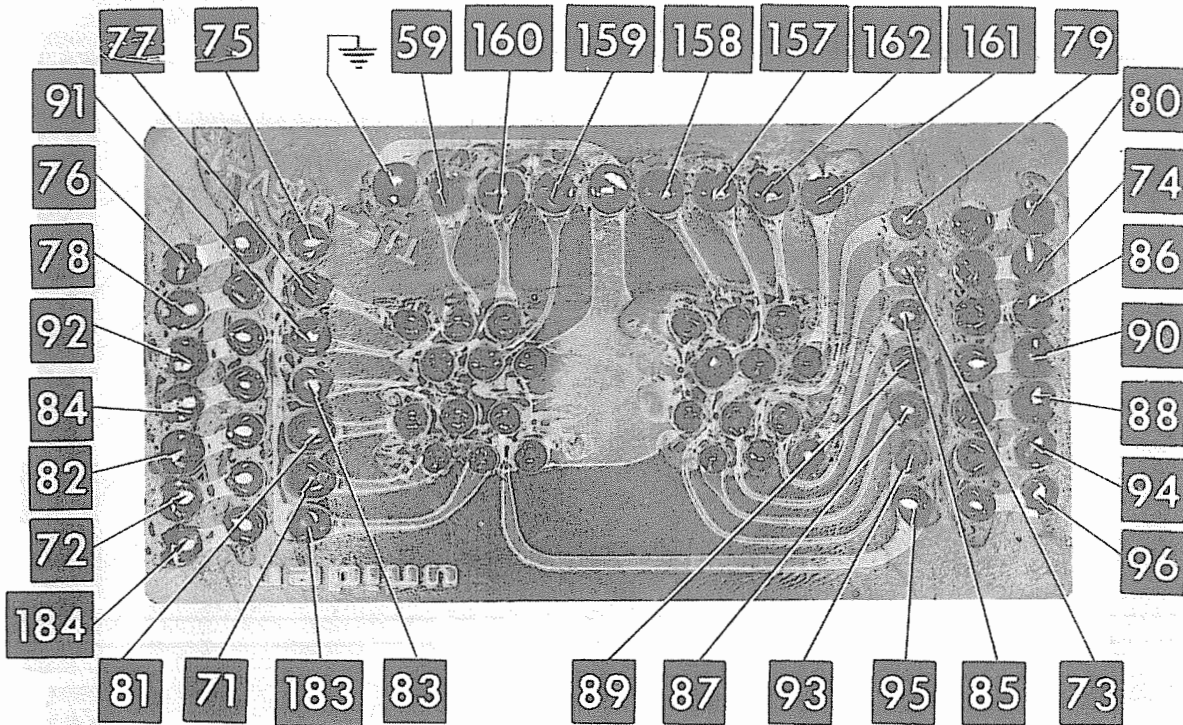
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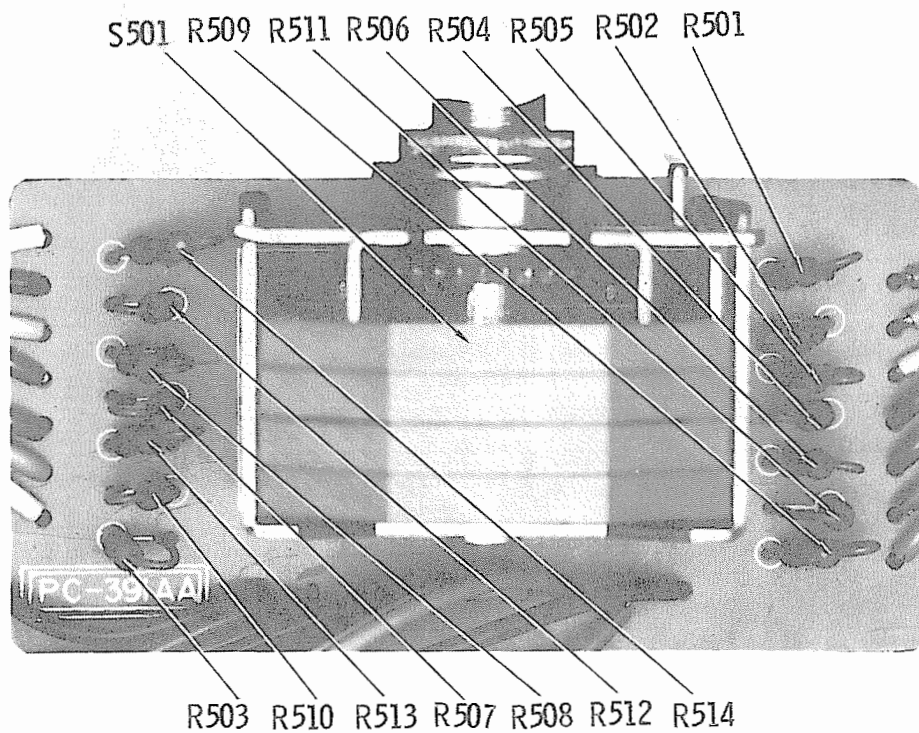
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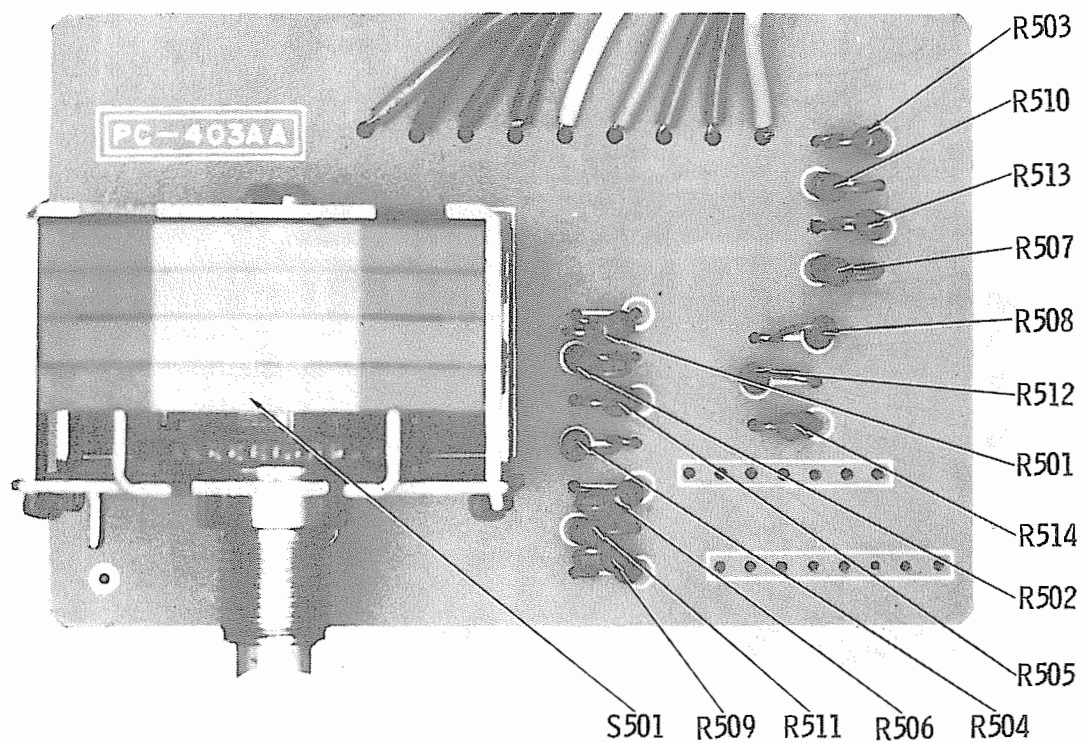
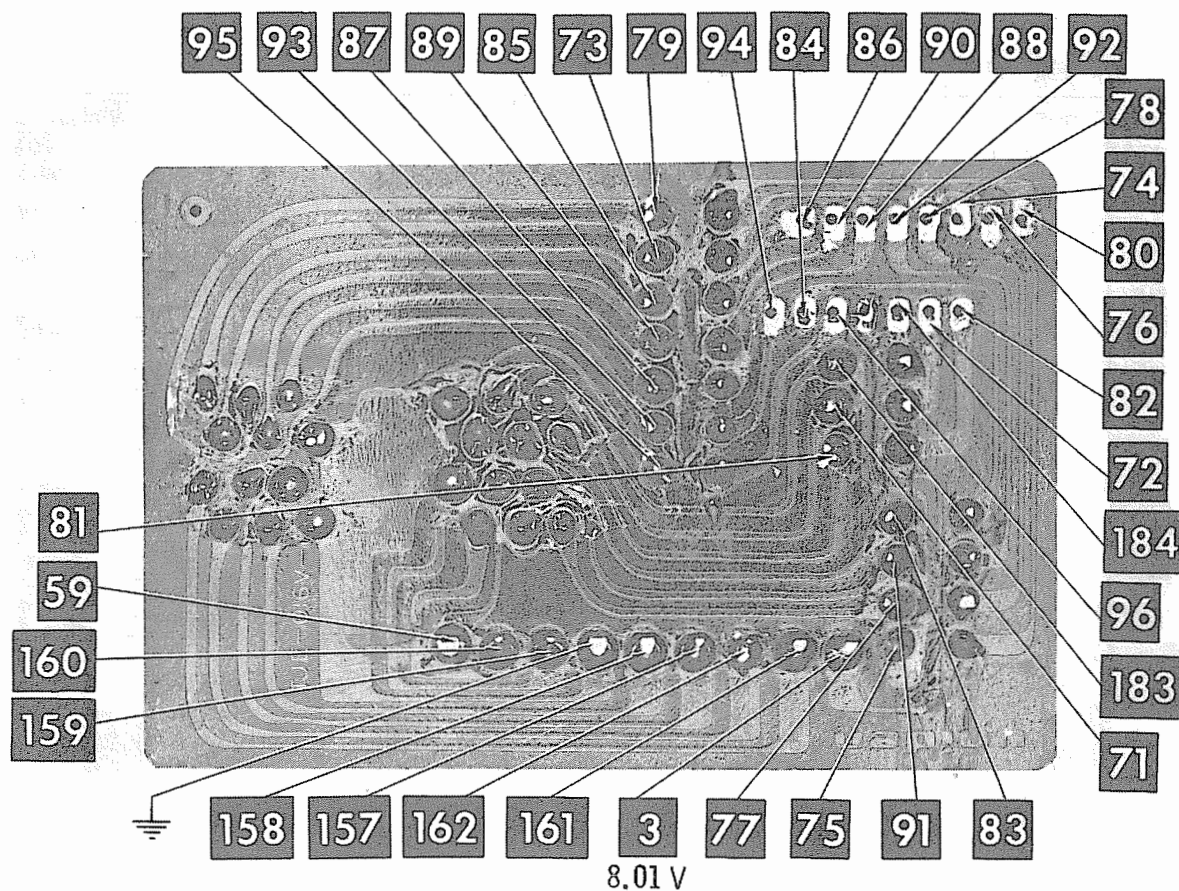
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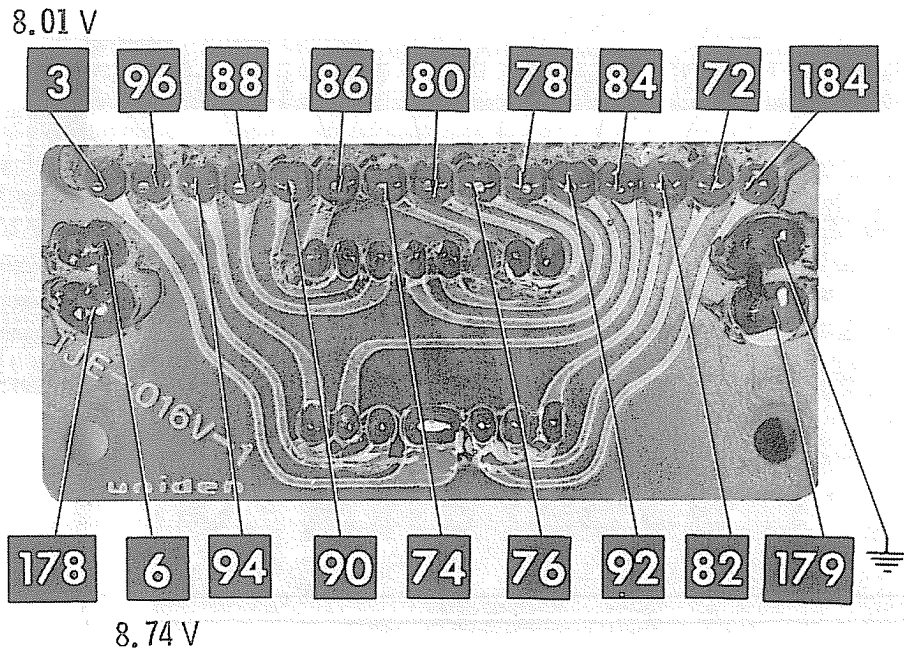
COBRA MODEL 89GTL, 1000GTL



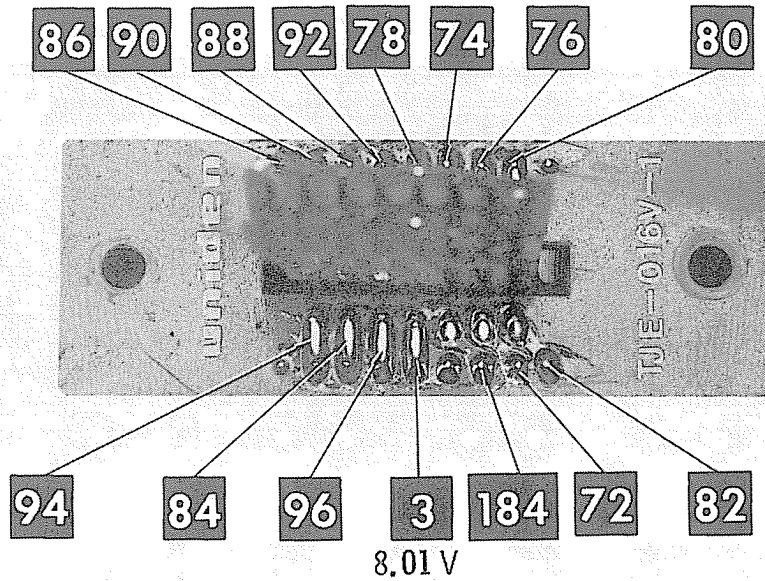
CH. SELECTOR BOARD (MODEL 89GTL)



CH. SELECTOR BOARD (MODEL I000GTL)

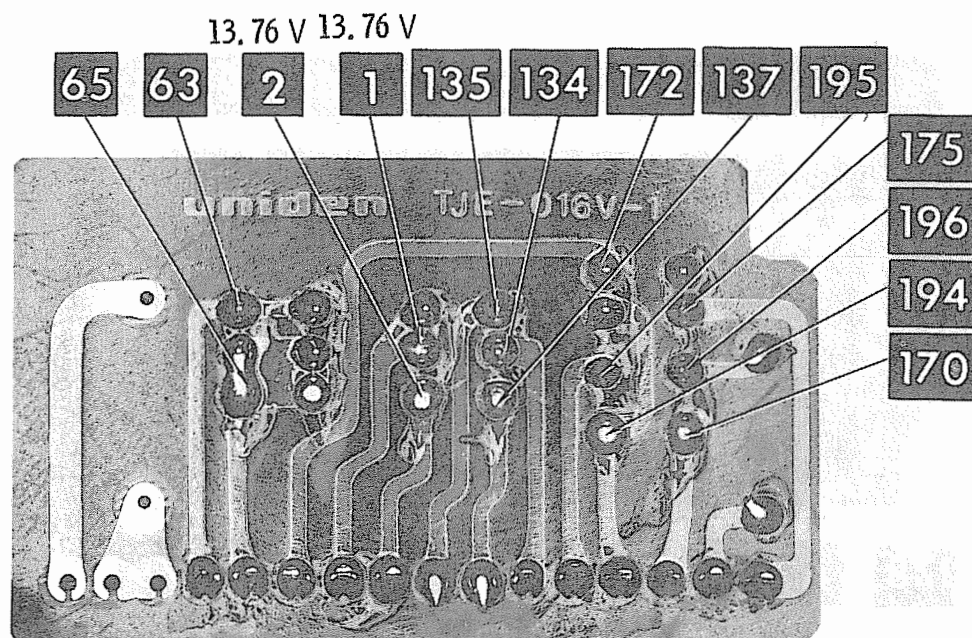


LED BOARD (MODEL 89GTL)



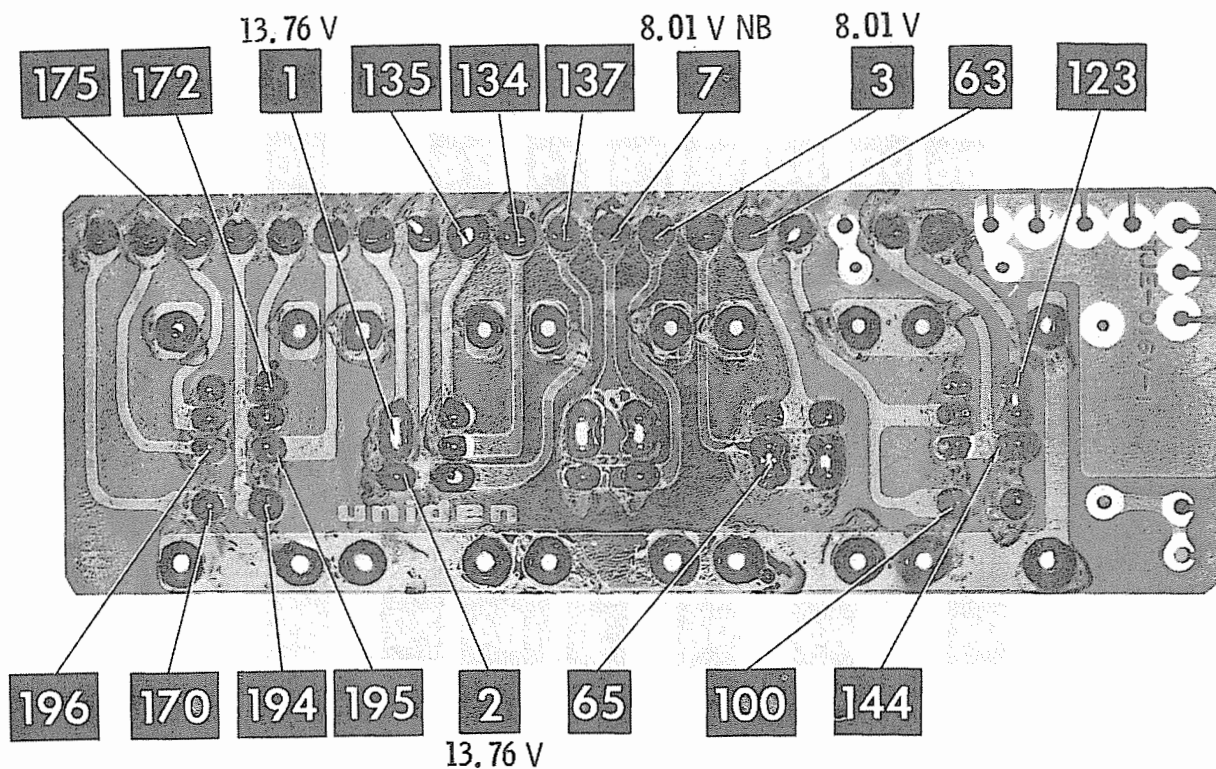
LED BOARD (MODEL 1000GTL)

COBRA MODEL 89GTL, 1000GTL

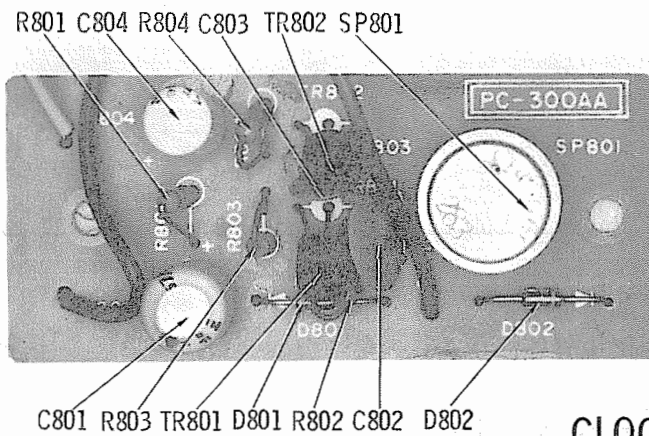
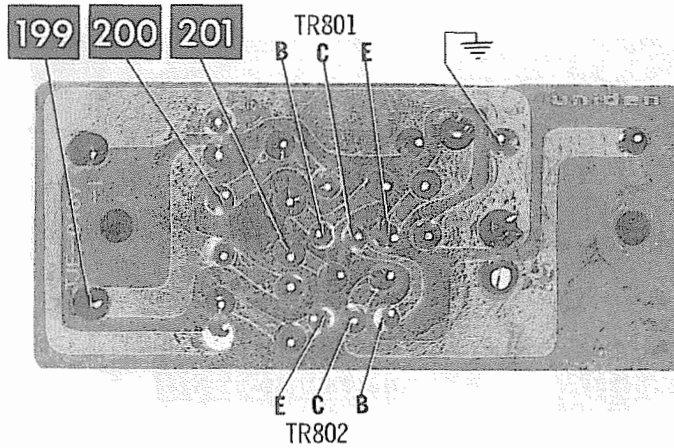


SWITCH BOARD (MODEL 89GTL)

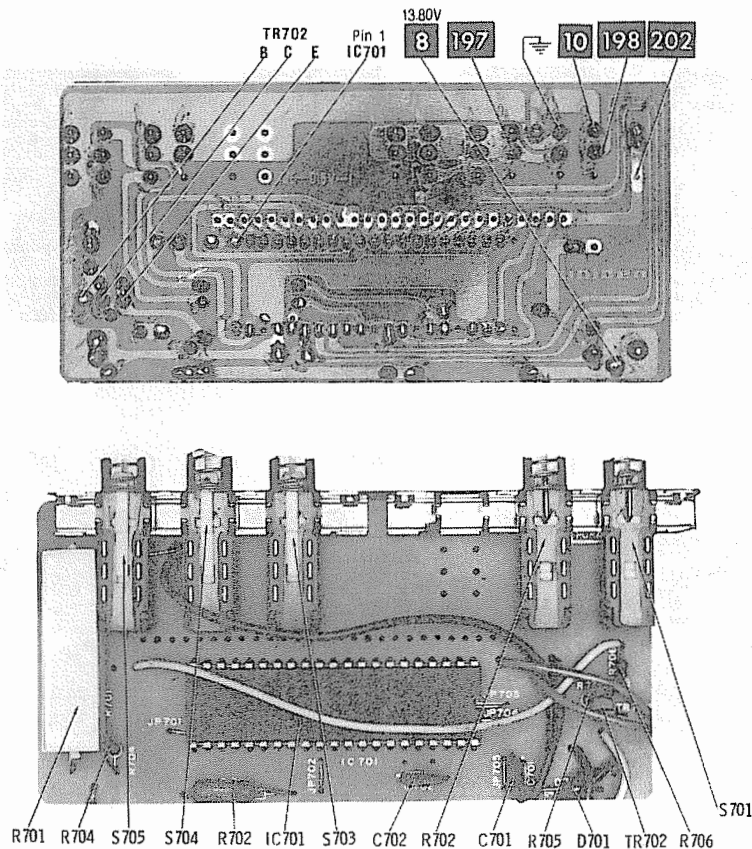
A Howard W. Sams **CIRCUITRACE** Photo



SWITCH BOARD (MODEL 1000GTL)

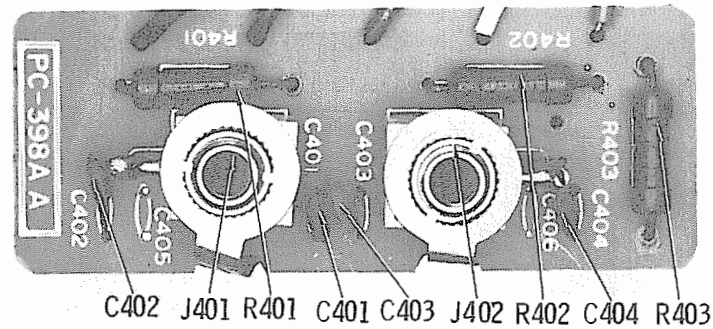
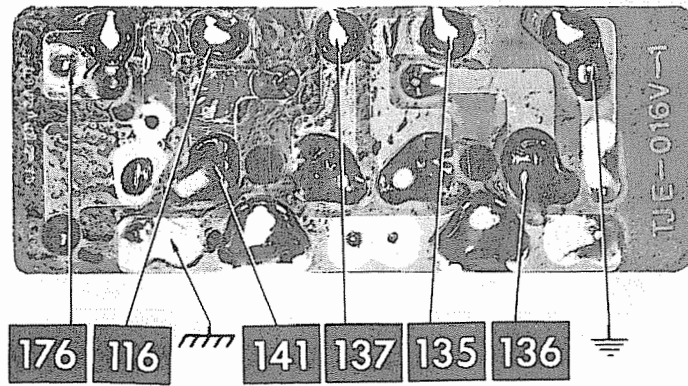


CLOCK ALARM BOARD

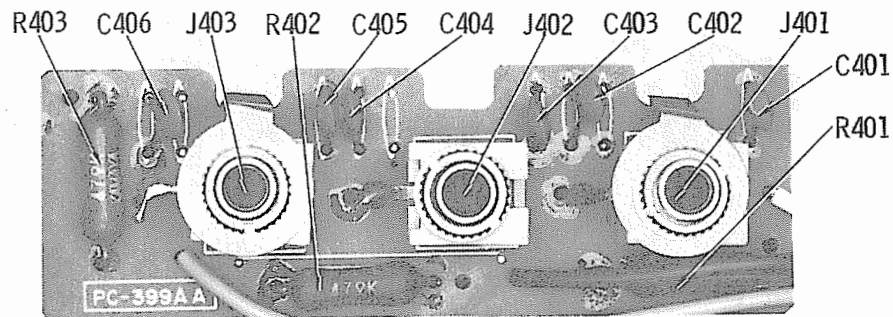
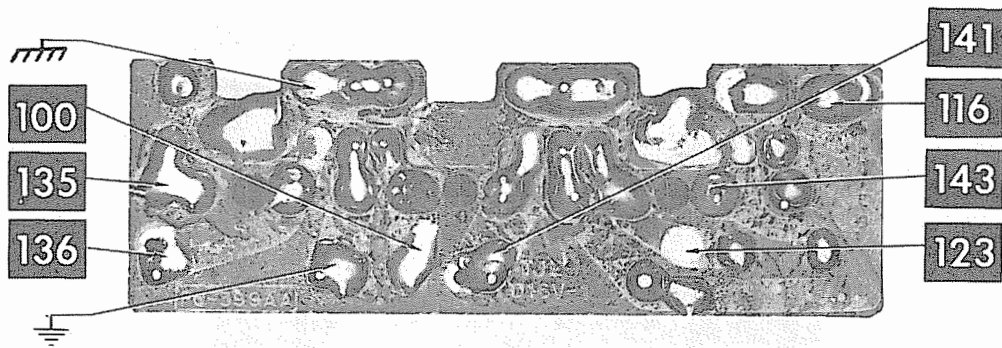


CLOCK BOARD

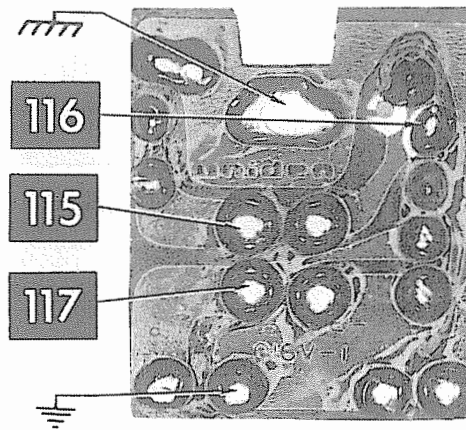
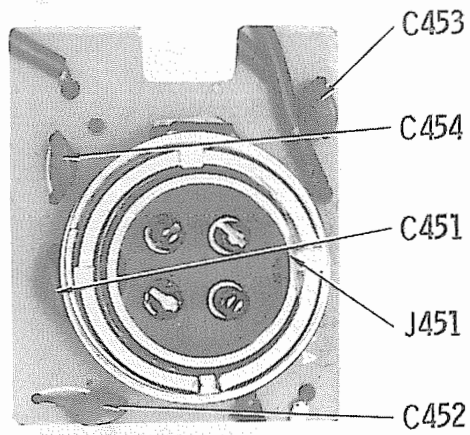
COBRA MODEL 89GTL, 1000GTL



PA & SPEAKER BOARD (MODEL 89GTL)

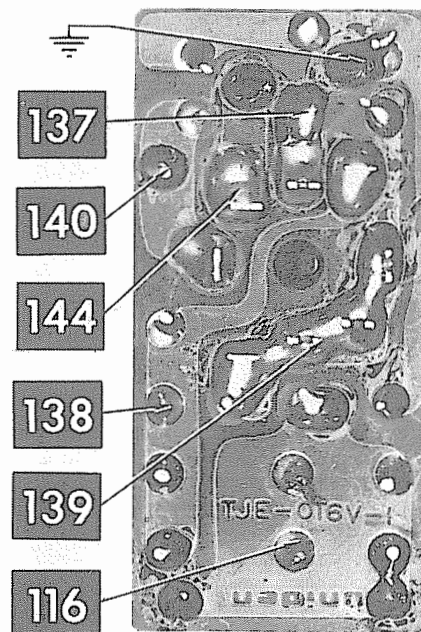
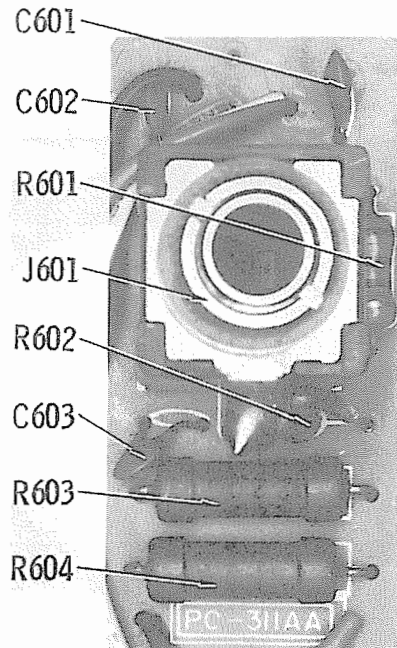


PA & SPEAKER BOARD (MODEL 1000GTL)



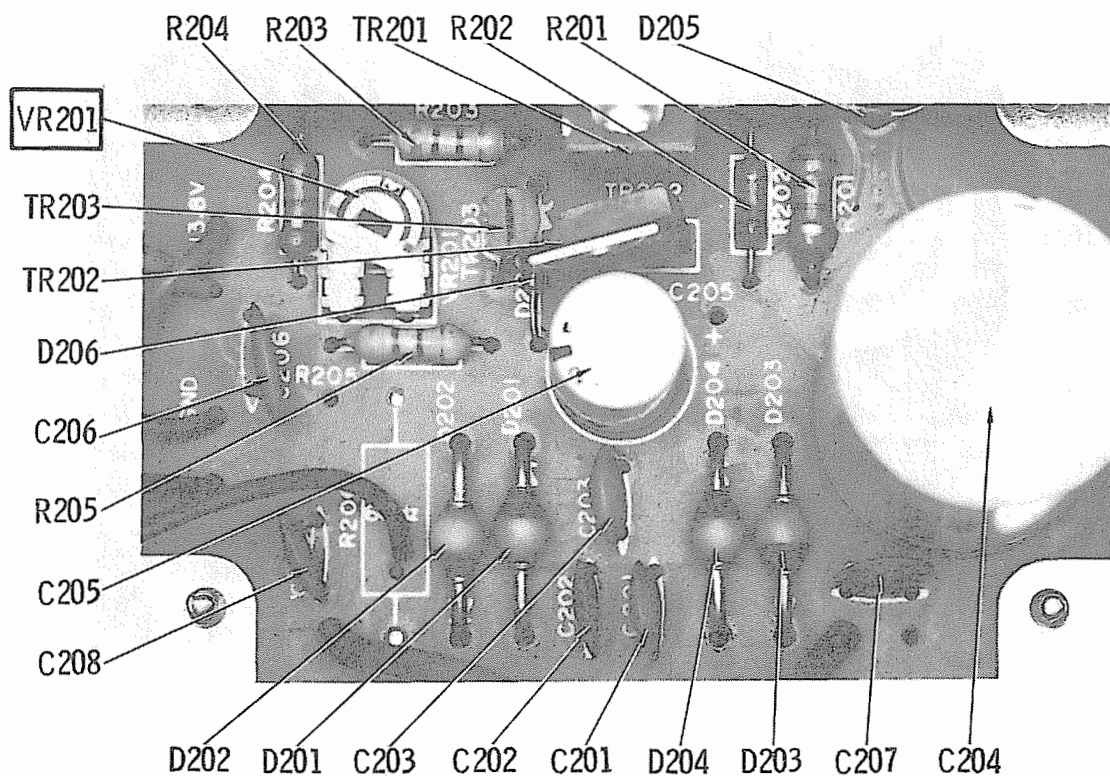
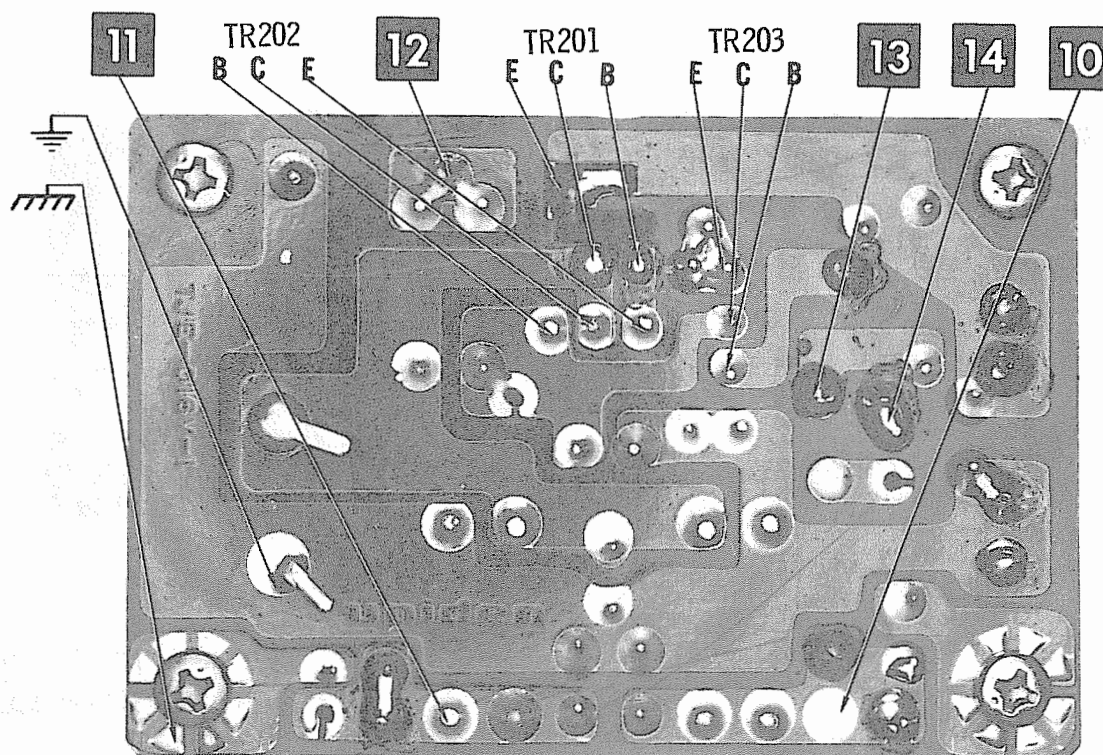
MIC BOARD

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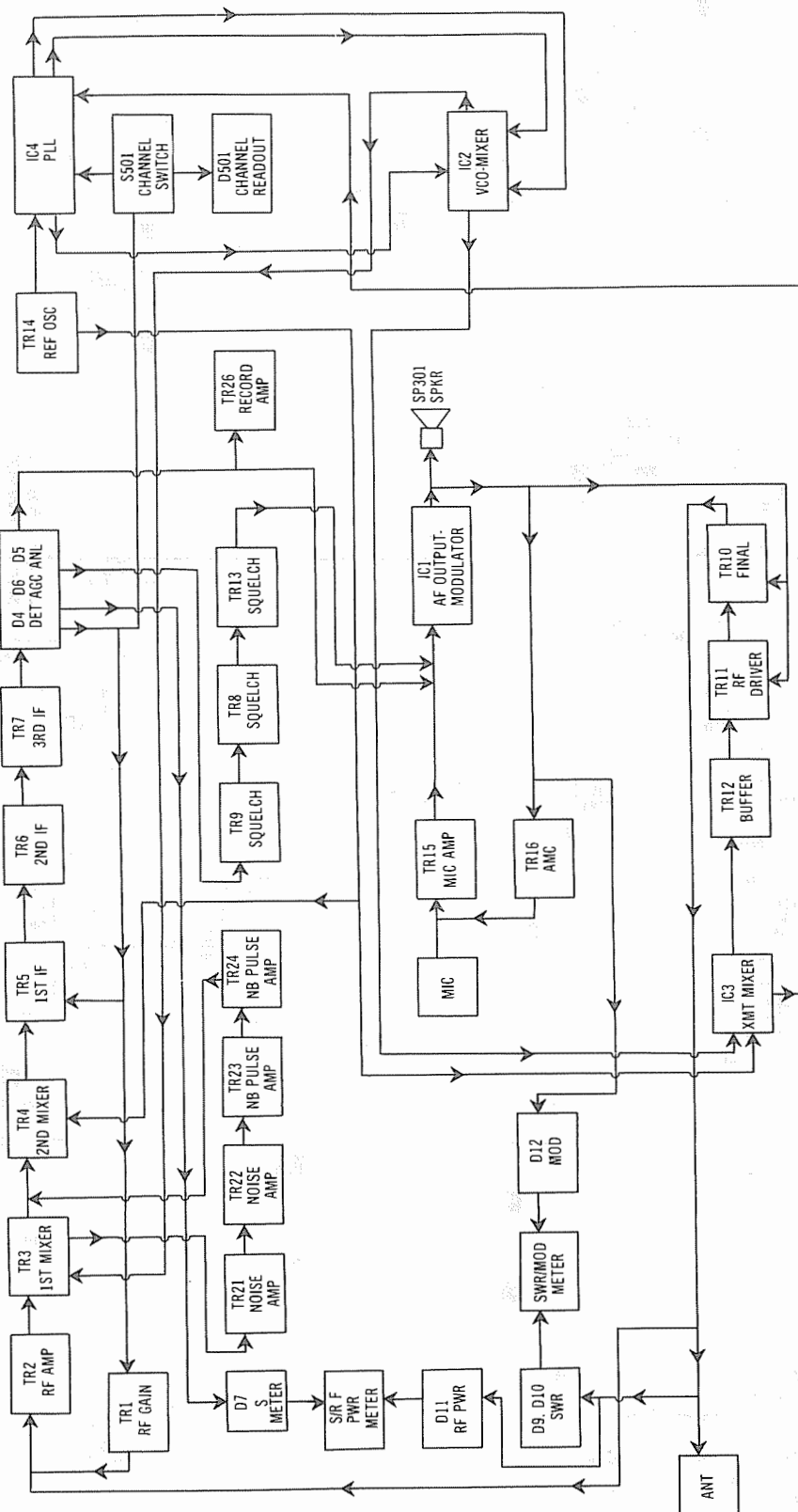


PHONE JACK BOARD

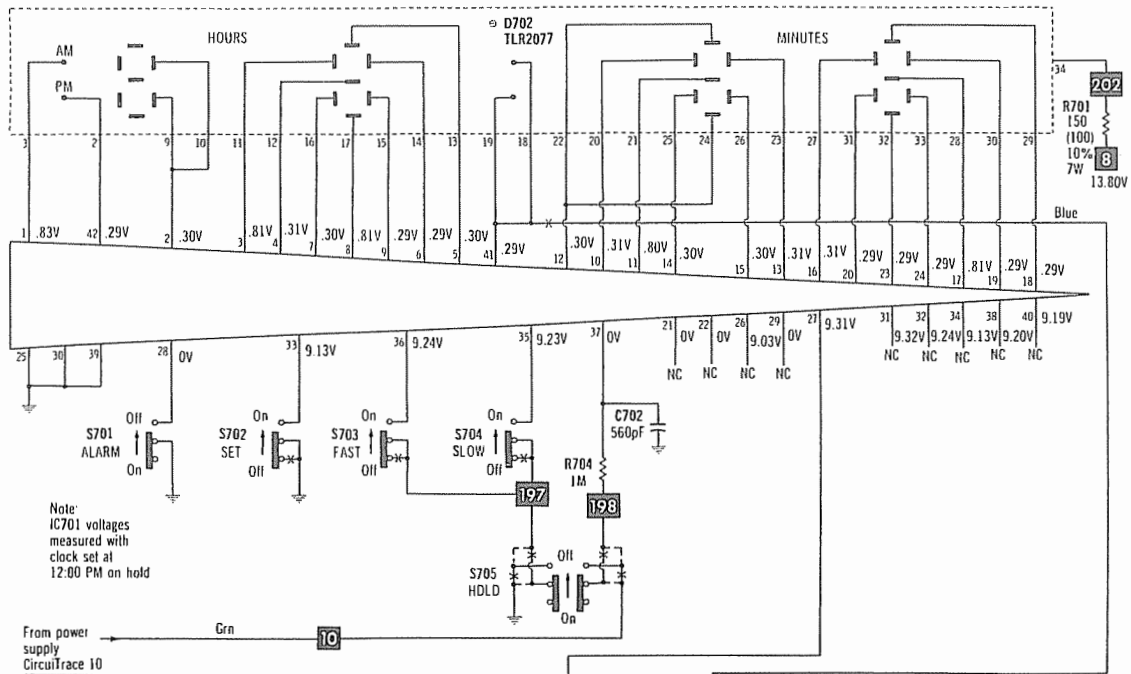
COBRA MODEL 89GTL, 1000GTL



POWER SUPPLY SCHEMATIC



BLOCK DIAGRAM



- *— Circuitry not used in some versions
- Circuitry used in some versions
- ⊙ See parts list
- * Nominal value
- ⊕ Ground
- Chassis
- Common tie point
- Signal path
- Voltage path

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.

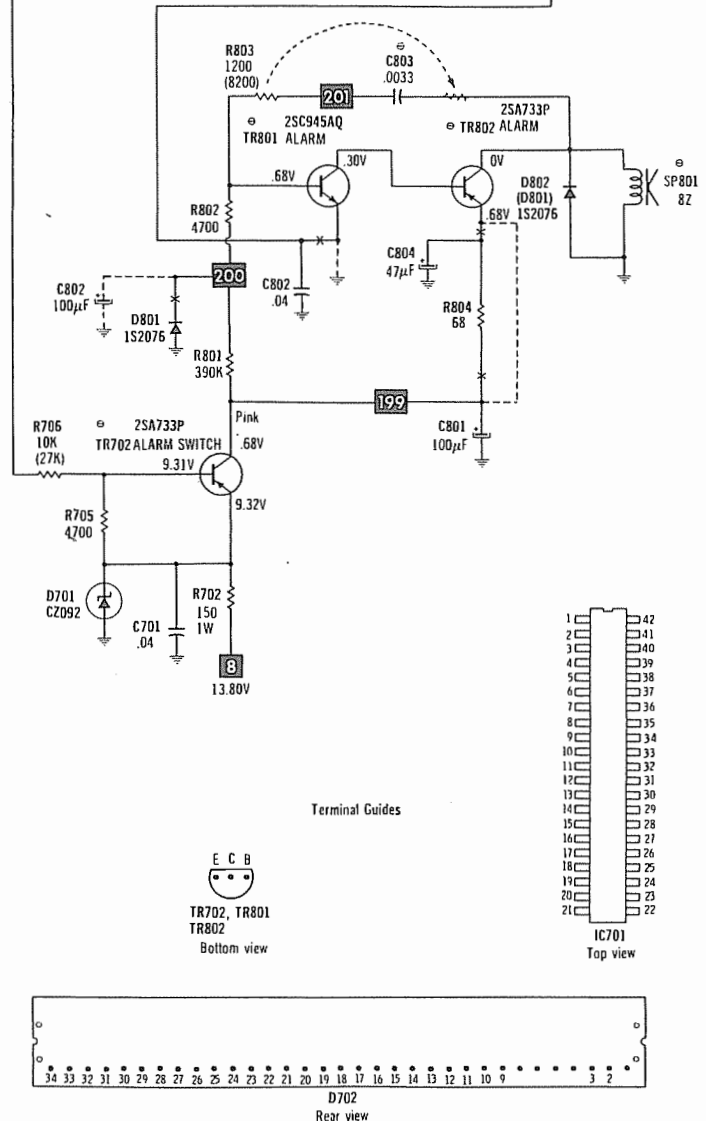
Resistors are 1/2W or less, 5% unless noted.

Value in () used in some versions.

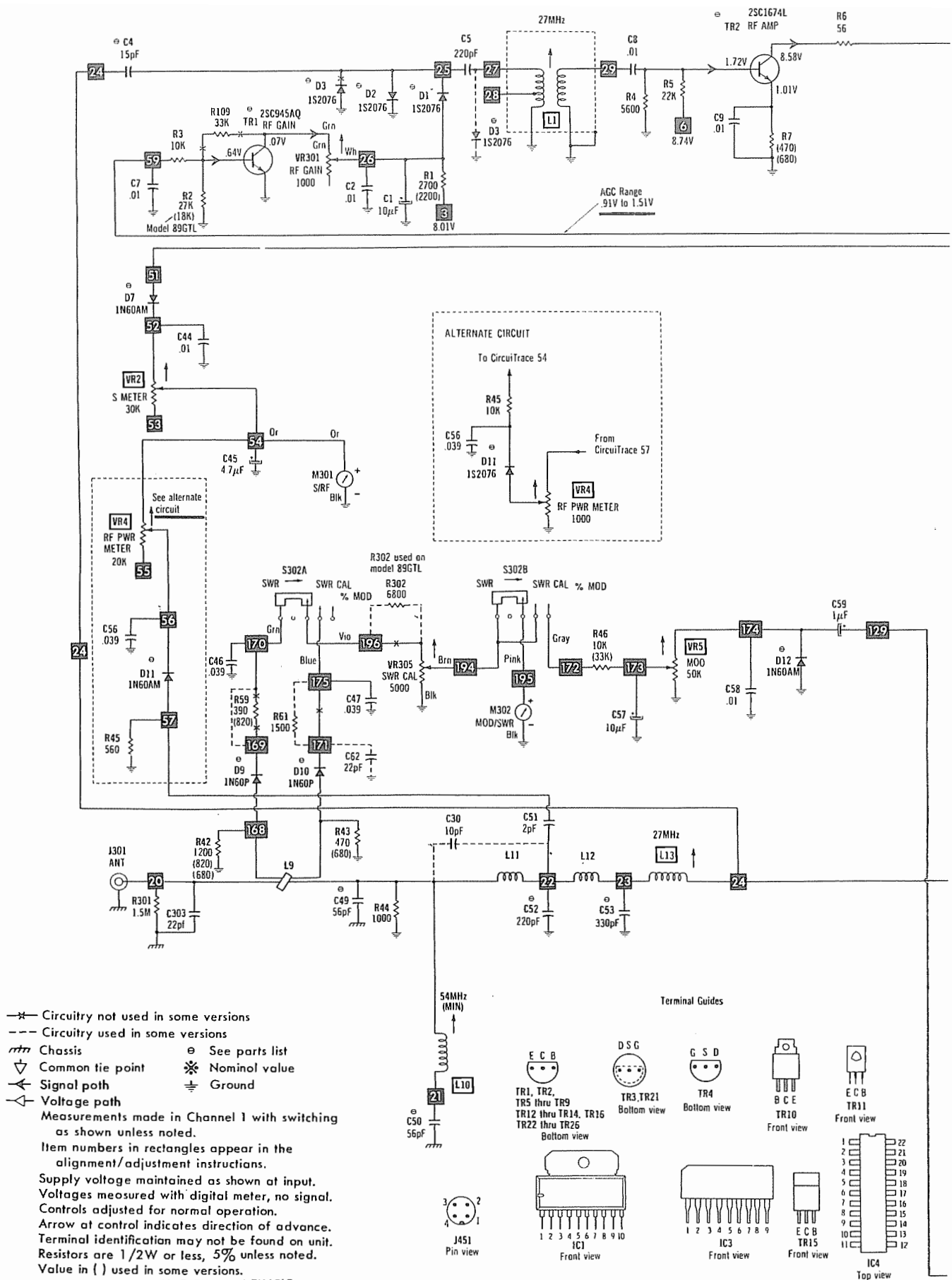
A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH **CIRCUITTRACE**

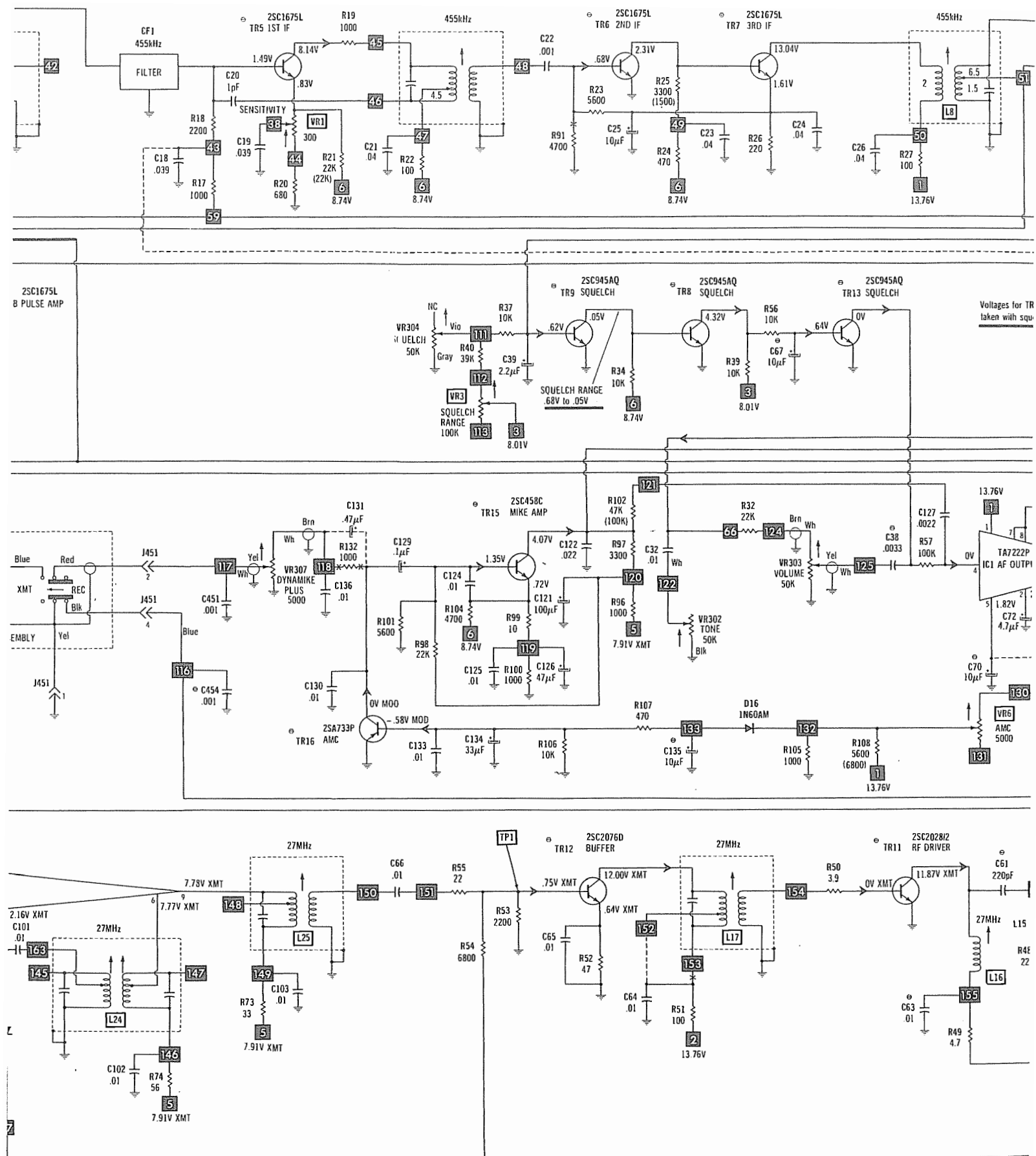
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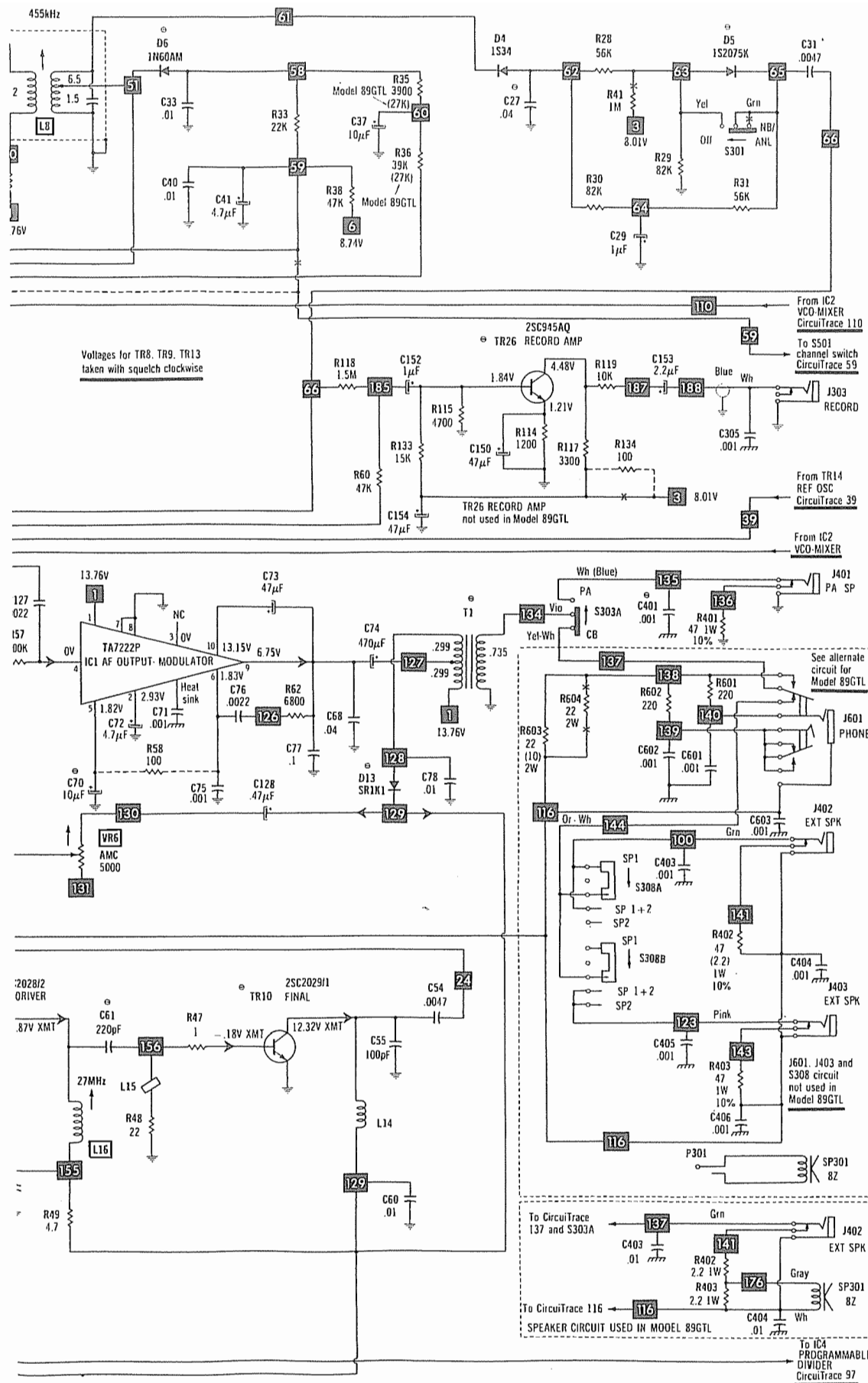
CLOCK SCHEMATIC



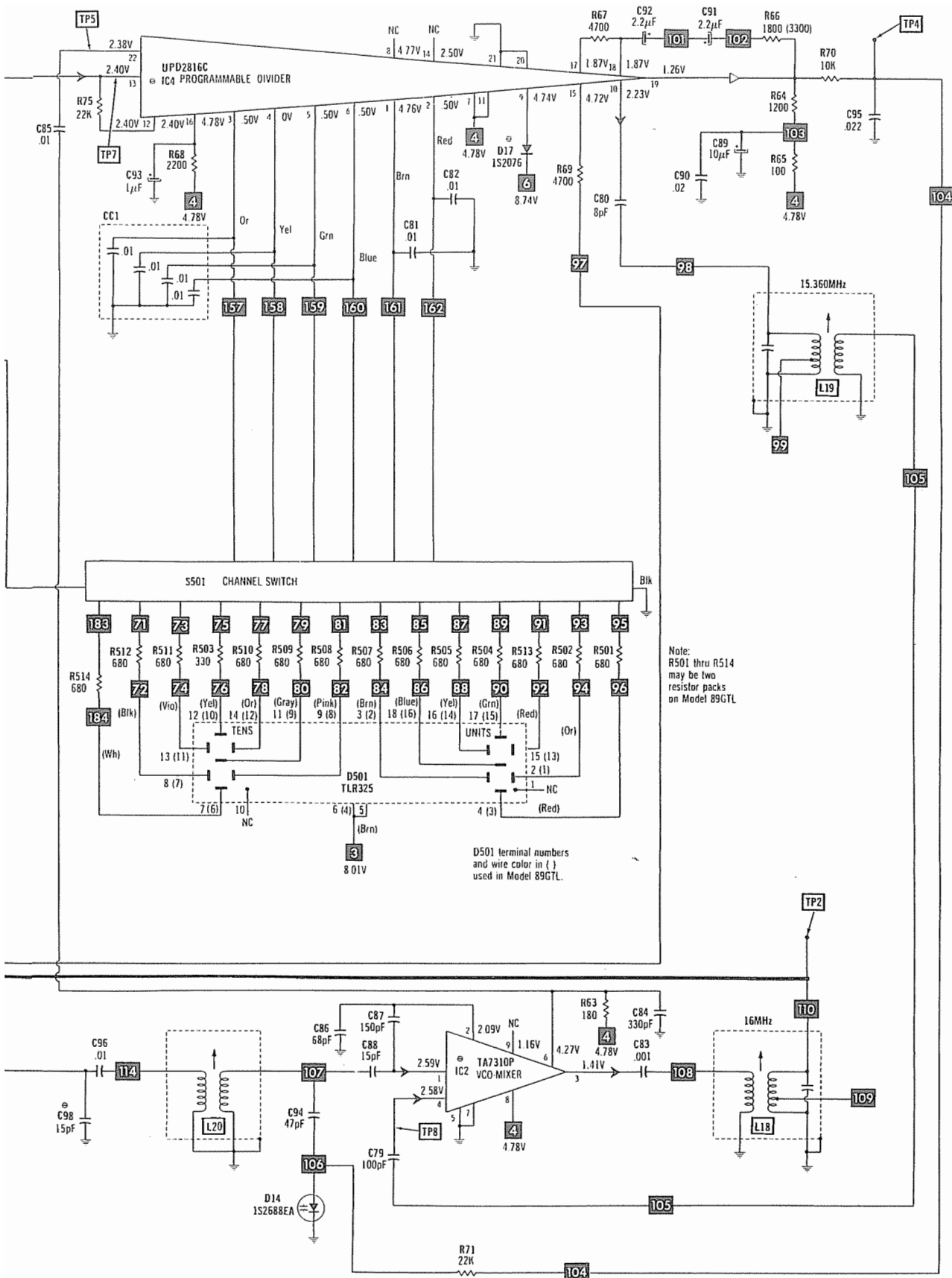




MAIN SCHEMATIC







SCHEMATIC

COBRA MODEL 89GTL, 1000GTL

PARTS LIST AND DESCRIPTION

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

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')

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.	
01	1S2076	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076	151-067-9-001 (13)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	WG713	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
02	1N4448	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076		151-067-9-001 (13)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S2473	GE-514		PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		
03	1N4448	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076		151-067-9-001 (13)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S2473	GE-514		PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		
04	1N4448	153-008-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076		151-067-9-001 (13)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S34	150-016-9-001	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-Z9001	
	05	1S2075K	151-028-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
1S2473K		150-014-9-001 (12)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S2076			GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1N60AM			1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
06		1N60AM	150-001-9-005 (13)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60AM	150-014-9-001 (12)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60AM	150-001-9-005 (13)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60P	150-006-9-001	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60P	150-006-9-001	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
07	1N60P	150-006-9-001	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60AM	150-014-9-001 (12)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60AM	150-001-9-005 (13)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60P	150-006-9-001	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60P	150-006-9-001	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
08	1N60P	150-006-9-001	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60AM	150-014-9-001 (12)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1S2076	151-067-9-001 (13)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1N60AM	150-014-9-001 (12)	1N60	PTC206	HEPR9135~	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60AM	150-001-9-005 (13)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
09	SRIK1	151-040-9-003	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02	
	1001 (12)	154-004-9-001	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02	
	1S2688EA		GE-90	HEPR2503	REN 614	REN 614	RT-262	ECG614	TM116	WEP200			
	1S2076 (12)		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	015	1S2076 (13)	153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
1S2076 (13)		151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
WG713		153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S1588			GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S2473			GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
016	1N4448	150-014-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1N60AM		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1N60AM		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001	
	1S2076 (12)	153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076 (13)	151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
017	WG713	153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1N4448	153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S26870		153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
1S2076 (12)	153-008-9-001		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
019	1S2076 (13)	151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	WG713	151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S1588		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	020	1N4448	153-008-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
1S2076 (12)		153-008-9-001		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
1S2076 (13)		151-067-9-001		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
WG713		151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S1588			GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1S2473	GE-514		PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		
021	1N4448	152-088-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076 (13)		151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	WG713 (13)		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S1588	151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2473		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
1N4448	GE-514		PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		
022	X2051	152-088-9-001	GEZD-5.1	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	1S2076 (13)	151-067-9-001	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287	
	WG713 (13)	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		
	1S1588	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		
	1S2473	GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287		

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

REPLACEMENT DATA			

COBRA MODEL 89GTL, 1000GTL

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

			REPLACEMENT DATA									
ITEM No.	TYPE No.	MFR. PART No.	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.
TR9	25C945AQ	176-062-9-001	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C1815		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
	25C536		GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
TR10	25C458	172-038-9-002	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	25C2029/1		GE-333	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	25C2029B/10		GE-333	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	25C2029		GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	25C2075		GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
TR11	25C1909	172-038-9-001	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	25C2028/2		GE-270	PTC180	HEPS3044	REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C2028B/20		GE-270	PTC180	HEPS3044	REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C2028		GE-270	PTC180	HEPS3044	REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C1760		GE-270	PTC180	HEPS3044	REN 295	SK3197	RT-310	ECG306	TM306	WEP771	121-880
TR12	25C1957	176-060-9-004	GE-270	PTC180		REN 295	SK3197		ECG306	TM306	WEP771	121-880
	25C1957		GE-270	PTC180		REN 295	SK3197		ECG306	TM306	WEP771	121-880
	25C495T		GE-270	PTC180		REN 295	SK3197	RT-162	ECG295	TM295	WEP913	121-880
	25C1846		GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C1974		GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
TR13	25C2091	176-062-9-001	GE-270	PTC180		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C20760		GE-210	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-308	ECG295	TM295	WEP736	121-722
	25C2076C		GE-210	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-308	ECG295	TM295	WEP736	121-722
	25C735		GE-210	PTC123*	HEPS0014*	REN 289	SK3122	RT-308*	ECG289	TM289/**	WEP735A	121-773
	25C1364		GE-210	PTC121*	HEPS0015*	REN 123A*	SK3124	RT-308	ECG123A*	TM123A/**	WEP736*	121-29000A
TR14	25C933	176-062-9-001	GE-210	PTC136	HEPS0015*	REN 123A*	SK3444	RT-308*	ECG123A	TM123A	WEP736	121-29000A
	25C945AQ		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C545		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
TR15	25C536	176-065-9-001	GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
	25C458		GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	25C1675L		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-29021
	25C1675		GE-61*	PTC136*	HEPS0016*	REN 107	SK3018*	RT-107A	ECG107	TM107/**	WEP380	121-522
	25C380		GE-62*	PTC139*	HEPS0024*	REN 199*	SK3122*	RT-108A*	ECG199*	TM199*	WEP66*	121-972
TR16	25C930	177-020-9-001(12)	GE-60*	PTC132*	HEPS0016*	REN 229	SK3018	RT-308	ECG229*	TM229*/**	WEP56*	121-29021*
	25C460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	25C458C		GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	25C458		GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	25C945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
TR17	25C828	177-020-9-001(12)	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	25C536		GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
	25A733P		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	25A733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	25A495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-29003
TR18	25A564	177-020-9-001	GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
	25A659		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
	25A844		GE-244*	PTC103*	HEPS0019*	REN 129*	SK3114	RT-126A*	ECG129*	TM129*	WEP60*	121-29005
	25A733P		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	25A733AP		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
TR19	25A495	177-020-9-001	GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-29003
	25A564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
	25C1096		GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-29008
	25C2236		GE-336	PTC180		REN 295	SK3518		ECG306	TM306	WEP771	121-880
	25C2028		GE-270	PTC180	HEPS3044	REN 295	SK3253		ECG295	TM295	WEP913	121-880
TR20	25C2091	172-024-9-001	GE-270	PTC180		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C1846		GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	25C1974		GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	25C1760		GE-276	PTC180		REN 306	SK3197	RT-310	ECG306	TM306	WEP771	121-880
	25C1096-3ZL		GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-29008
TR21	25C945AQ	176-062-9-001 (12)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C945 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C1815 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C1359 (12)		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
	25C536 (12)		GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
TR22	25C458 (12)	182-037-9-001 (12)	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	25K198L		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
	25K104		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
	25C1675L		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-29021
	25C1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-29021
TR23	25C460	176-065-9-001	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	25C1815		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
	25C930		GE-60*	PTC132*	HEPS0016*	REN 229	SK3018	RT-308	ECG229*	TM229*/**	WEP956*	121-29021*
	25C945AQ		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
TR24	25C945	176-062-9-001	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	25C828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	25C458		GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	25C900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	25C1815		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
TR25	25A733P	177-020-9-001 (12)	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	25A733 (12)		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	25A495 (12)		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-29003
	25A564 (12)		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
	25A659 (12)		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR26	25A844 (12)	176-065-9-001 (12)	GE-244*	PTC103*	HEPS0019*	REN 129*	SK3114	RT-126A*	ECG129*	TM129*	WEP60*	121-29005
	25C1675L		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-29021
	25C1675 (12)		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-29021
	25C460 (12)		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	25C1815 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
TR27	25C829 (12)	176-062-9-001	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
	25C930 (12)		GE-60*	PTC132*	HEPS0016*	REN 229	SK3018	RT-308	ECG229*	TM229*/**	WEP956*	121-29021*
	25C945AQ		GE-212	PTC121*	HEPS00							

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.	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.
TR26	2SC945AQ	176-062-9-001 (12)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC1815 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC536 (12)		GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
	2SC458 (12)		GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
TR201	2SC1359 (12)	176-044-9-001	GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
	2SC1061C		GE-66	PTC167	HEPS3061	REN 152	SK3054	RT-197	ECG152	TM152/**	WEP745	121-987-02
	2SC1061		GE-66	PTC167	HEPS3061	REN 152	SK3054	RT-197	ECG152	TM152/**	WEP745	121-987-02
	2S0313		GE-241	PTC154		REN 196	SK3054	RT-154	ECG196	TM196	WEP756	121-987-02
	2S0235		GE-66	PTC154	HEPS3061	REN 152	SK3054	RT-197	ECG152	TM152/**	WEP745	121-987-02
TR202	2SD570	172-024-9-001	GE-241	PTC154	HEPS3060	REN 196	SK3054	RT-197	ECG196	TM196	WEP756	121-987-02
	2SC1096		GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-29008
	2SC1096-3ZL		GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-29008
	2SC1419		GE-66	PTC167	HEPS5027	REN 152	SK3054	RT-197	ECG152	TM152	WEP745	121-987-02
	2SC1173		GE-215	PTC110		REN 236	SK3197	RT-160	ECG236	TM236/**	WEP840	121-29040
TR203	2SC458C	176-048-9-002	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC458		GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A/**	WEP372	121-29000A*
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
TR702	2SC536	177-020-9-001	GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
	2SA733P		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733 (12)		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495 (12)		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159/**	WEP495	121-29003
	2SA564 (12)		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR801	2SC945AQ	176-062-9-001 (12)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC1815 (12)		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC1359 (12)		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
	2SC536 (12)		GE-212	PTC121*	HEPS0016*	REN 199	SK3124	RT-107A	ECG199	TM199	WEP536	121-972
TR802	2SC458 (12)	177-020-9-001	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SA733P (12)		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733 (12)		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952

COBRA MODEL 89GTL, 1000GTL

* Lead configuration may vary from original.
/** Also available as exact type replacement.
(12) Use in 1000GTL.
(13) Use in 89GTL.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFG. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	10 16V	022-157-9-004	PC10-25	VTT10B25	QV1-41	EV-1222
C25	10 10V	027-025-9-001		TDC106M025FL	QOT1-64	S025-109
C29	1 50V	022-157-9-002	PC1-50	VTT1A50	QV1-11	EV-1615
C36	22 16V	022-157-9-005	PC25-25	VTT22B16	QV1-55	EV-1224
C37	10 16V	022-157-9-004	PC10-25	VTT10B25	QV1-41	EV-1222
C39	2.2 25V	022-158-9-002	PC2-100	VTT2R2A50	QV1-19	EV-1517
C41	4.7 16V	027-026-9-004		TDC685M006EL	QOT1-54	S06-6RB9
C43	1000 16V	022-158-9-004	PC1000-16	VTT1000L16	QV1-183	EV-1260
C45	4.7 25V	022-157-9-003	PC5-50	VTT4R7B50	QV1-27	EV-1319
C57	10 16V	022-157-9-004	PC10-25	VTT10B25	QV1-41	EV-1222
C59	1 50V	022-157-9-002	PC1-50	VTT1A50	QV1-11	EV-1615
C67	10 16V	022-157-9-004	PC10-25	VTT10B25	QV1-41	EV-1222
C70	3.3 25V	022-172-9-001(1)	PC5-50	VTT3R3A50	QV1-23	EV-1318
	10 10V	027-025-9-001		TDC106M025FL	QOT1-64	S025-109
	4.7 16V	027-026-9-004(1)	PC5-50	VTT4R7B50	QV1-27	EV-1319
	4.7 25V	022-157-9-003	PC5-50	VTT4R7B50	QV1-27	EV-1319
	47 10V	022-160-9-002	PC50-16	VTT47016	QV1-73	EV-1226
C74	10 16V	022-076-9-008	PC500-16	VTT470K16	QV1-151	EV-1250
C89	10 16V	022-157-9-004	PC10-25	VTT10B25	QV1-41	EV-1222
C91	2.2 16V	027-033-9-001		TDC225M035FL		S035-2R29
C92	2.2 16V	027-033-9-001		TDC225M035FL		S035-2R29
C93	1 50V	022-157-9-002	PC1-50	VTT1A50	QV1-11	EV-1615
C112	470 6.3V	022-158-9-008	PC500-16	VTT470K16	QV1-149	EV-1150
C114	100 10V	022-157-9-008	PC100-10	VTT100E10	QV1-93	EV-1130
C115	220 16V	022-163-9-003	PC250-25	VTT220H16	QV1-117	EV-1240
C116	220 25V	022-175-9-003	PC250-25	VTT220K25	QV1-119	EV-1340
C120	47 10V	022-160-9-002	PC50-16	VTT47016	QV1-73	EV-1226
C121	100 10V	022-157-9-008	PC100-10	VTT100E10	QV1-93	EV-1130
C126	22 16V	022-157-9-005(1)	PC25-25	VTT22B16	QV1-55	EV-1224
	47 10V	022-160-9-002	PC50-16	VTT47016	QV1-73	EV-1226
	.47 50V	022-157-9-001	PC1-50	VTT47A63	QV1-3	EV-1610
	.1 16V	022-177-9-001		TDC104M050EL	QOT1-2	S050-R109
	.47 50V	022-157-9-001(1)	PC1-50	VTT47A63	QV1-3	EV-1610
C134	4.7 25V	022-157-9-003(2)				
	33 16V	022-157-9-006	PC30-25	VTT33025	QV1-63	EV-1325
	10 16V	022-157-9-004	PC10-25	VTT10B25	QV1-41	EV-1222
	3.3 25V	027-033-9-002(1)	PC5-50	VTT3R3A50	QV1-23	EV-1318
	22 16V	022-157-9-005(2)	PC25-25	VTT22B16	QV1-55	EV-1224
C150	47 10V	022-160-9-002	PC50-16	VTT47016	QV1-73	EV-1226
C152	1 50V	022-157-9-002	PC1-50	VTT1A50	QV1-11	EV-1615
C153	2.2 25V		PC2-100	VTT2R2A50	QV1-19	EV-1517
C154	47 10V	022-160-9-002	PC50-16	VTT47016	QV1-73	EV-1226
C204	2200 35V	022-175-9-004	WBR2000-50	TC50200A	QEI-648	TVA-1318.3
C205	220 16V	022-163-9-003	PC250-25	VTT220H16	QV1-117	EV-1240
C801	100 10V	022-157-9-008	PC100-10	VTT100E10	QV1-93	EV-1130
C802	100 10V	022-157-9-008(1)	PC100-10	VTT100E10	QV1-93	EV-1130
C804	47 10V	022-160-9-002	PC50-16	VTT47016	QV1-73	EV-1226

(1) Used in some versions.
(2) Used in Model 89GTL.

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
C2	.01 10% 50V	(1)	UK50-103		MAG5011		
	15 N220				*		
C4	22 50V 10%	(2)	OTZ-22	NP022	CN0422		10TCR-Q15
	27 50V 10%				CN0427		10TCC-Q22
C5	.01 10% 50V	(2)	UK50-103		MAG5011		10TCC-Q27
C7	.01 10% 50V		UK50-103		MAG5011		
C8	.01 10% 50V		UK50-103		MAG5011		
C9	.01 10% 50V		UK50-103		MAG5011		
C10	.01 10% 50V		UK50-103		MAG5011		
C11	.01 10% 50V		UK50-103		MAG5011		
C12	.01 10% 50V		UK50-103		MAG5011		
C13	.01 10% 50V		UK50-103		MAG5011		
C14	2 NP0 +.25 50V		OTZ-2R2	NP02P2	CN0522		10TCC-V22
C16	.039 10% 25V				GP140		5GA-S40
C17	.039 10% 25V				GP140		5GA-S40
C18	.039 10% 25V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C19	.039 10% 25V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C20	1 +.25 50V				CN0510		10TCC-V10
C21	.039 10% 25V				GP140		5GA-S40
C22	.001 25V		00-102G	GP1000	GP210	QC2-81	5GA-010
C23	.039 10% 25V				GP140		5GA-S40
C24	.039 10% 25V				GP140		5GA-S40
C26	.039 10% 25V				GP140		5GA-S40
C27	.04				GP140		5GA-S40
	.0047 25V	(1)		OPMS6S39	M192P3939R8	QFT2-159	1FT-S39
	.0022 25V	(2)		WMF0147	M192P4729R8	QFT2-63	1FT-047
	10 10% 50V	(1)	OTZ-10	DPMS6022	M192P2229R8	QFT2-27	1FT-022
C30	.0047 25V			NP010	CN0410		10TCC-010
C31	.01 25V			WMF1047	M192P4729R8	QFT2-63	1FT-D47
C32	.01 25V			WMF1S1	EWFTA110	QFT2-91	1FT-S10
C33	.01 25V			WMF1S1	EWFTA110	QFT2-91	1FT-S10
C35	.02		UK50-223		MAG5012		
	.039 25V	(1)			GP140		5GA-S40
C38	.033 25V			WMF1033	M192P3329R8	QFT2-43	1FT-D33
	.0022 25V	(1)		DPMS6022	M192P2229R8	QFT2-27	1FT-022
C40	.01 25V			WMF1S1	EWFTA110	QFT2-91	1FT-S10
C42	.01 10% 50V		UK50-103		MAG5011		
C44	.01 25V			WMF1S1	EWFTA110	QFT2-91	1FT-S10
C46	.039 10% 25V				GP140		5GA-S40
C47	.039 10% 25V				GP140		5GA-S40
C49	56 10% 50V		OTZ-47	NP047	CN0456		10TCC-Q56
	47 10% 50V	(1)			CN0447		10TCC-Q47
C50	56 10% 50V				CN0456		10TCC-Q56
C51	2 +.25 50V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C52	220 10% 50V		OTZ-220				10TCC-T22
	390 10% 50V	(1)	OTZ-1R5	NP01P5	CN0515		10TCC-V15
C53	330 10% 50V		00-331	GP330	GP333		10TS-T33
	390 10% 50V	(1)	00-391	GP390	GP339		10TS-T39
C54	.0047 10% 50V		OTZ-6R8	NP06P8	CN0568		10TCC-V68
C55	100 10% 50V		OTZ-100	NP0100	CN0310		10TCC-T10
C56	.039 10% 25V				GP140		5GA-S40
C58	.01 10% 50V		UK50-103		MAG5011		
C60	.01 50V		UK50-103		MAG5011		
	.039 10% 25V	(1)			GP140		5GA-S40
C61	220		DTZ-220				10TCC-T22
	270 10% 50V	(1)	DTZ-270				10TCC-T27
C62	22 10% 50V	(1)	OTZ-22	NP022	CN0422		10TCC-Q22
C63	.01 50V		UK50-103		MAG5011		
C64	.01 10% 50V		UK50-103		MAG5011		
C65	.01 50V		UK50-103		MAG5011		
C66	.01 10% 50V		UK50-103		MAG5011		
C67	.01 10% 50V						
C68	.039 10% 25V	(1)			GP140		5GA-S40
C69	.01 10% 50V		UK50-103		MAG5011		
C71	.001 10% 50V		00-102G	GP1000	GP210	QC2-81	5GA-010
C75	.001 10% 50V		00-102G	GP1000	GP210	QC2-81	5GA-010
C76	.0022		00-222		GP222	QC2-97	5GA-D22
	.001 25V	(2)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C77	.1 25V		UK25-104		MAG2501		HY-750
C78	.01 10% 50V			WMF1S1	EWFTA110	QFT2-91	1FT-S10
C79	100 10% 50V		DTZ-100	NP0100	CN0310		10TCC-T10
	.01 10%	(2)	UK50-103		MAG5011		
C80	8 +.5 50V		DTZ-10	NP010	CN0410		10TCC-Q10
	1 +.25 50V	(2)			CN0510		10TCC-V10
C81	.01 10% 50V		UK50-103		MAG5011		
C82	.01 10% 50V		UK50-103		MAG5011		
C83	.001 10% 50V		00-102G	GP1000	GP210	QC2-81	5GA-010
C84	330 10% 50V		00-331	GP330	GP333		10TS-T33
C85	.01 10% 50V		UK50-103		MAG5011		
C86	68 10% 50V		OTZ-68	NP068	CN0468		10TCC-Q68
C87	150 10% 50V		DTZ-150		CN0315		10TCC-T15
C88	15 N220 10% 50V				*		10TCR-Q15
C90	.022 10% 25V		UK25-223		CN7447		HY-725
C94	47 N750 5% 50V		DTN-47	N47	M192P2239R8	QFT2-127	10TCU-Q47
C95	.022 10% 25V			OPMS2S22			1FT-S22
C96	.01 10% 50V		UK50-103		MAG5011		
C97	.01 10% 50V		UK50-103		MAG5011		
C98	15 10% 50V		DTZ-15	NP015	CN0415		10TCC-Q15

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C99	39 10% 50V	(3)			CN0439		10TCC-Q39
	220 10% 50V	(2)	DTZ-220				10TCC-T22
C100	39 10% 50V						10TCC-Q39
C101	.01 10% 50V		UK50-103		CN0439		
C102	.01 10% 50V		UK50-103		MAG5011		
C103	.01 10% 50V		UK50-103		MAG5011		
C104	10 10% 50V		DTZ-10	NP010	CN0410		10TCC-Q10
C105	.01 10% 50V		UK50-103		MAG5011		
C106	10 10% 50V		DTZ-10	NP010	CN0410		10TCC-Q10
C107	220 10% 50V		DTZ-220				10TCC-T22
C108	100 10% 50V		DTZ-100	NP0100	CN0310		10TCC-T10
C109	9 M220 10% 50V				*		10TCR-Q10
C110	.01 10% 50V		UK50-103		MAG5011		
C111	.039 10% 25V				GP140		5GA-S40
C113	.039 10% 25V				GP140		5GA-S40
C116	.039 25V		UK50-103		MAG5011		
C117	.01 10% 50V				GP140		5GA-S40
C118	.01 10% 50V		UK50-103		MAG5011		
C119	.039 10% 25V				GP140		5GA-S40
C122	.022 25V		UK25-223				HY-725
C124	.01 25V			WMF1S1	EW1A110	QFT2-91	1FT-S10
C125	.01 10% 50V		UK50-103		MAG5011		
C127	.0022 10% 25V			OPMS6022	M192P2229R8	QFT2-27	1FT-022
C130	.01 10% 50V		UK50-103		MAG5011		
C133	.01 10% 50V		UK50-103		MAG5011		
C136	.01 10% 50V		UK50-103		MAG5011		
C140	.01 10% 50V		UK50-103		MAG5011		
C141	.01 10% 50V		UK50-103		MAG5011		
C142	.01 10% 50V		UK50-103		MAG5011		
C143	.01 10% 50V		UK50-103		MAG5011		
C144	.01 10% 50V		UK50-103		MAG5011		
C145	.01 10% 50V		UK50-103		MAG5011		
C146	.01		UK50-103		MAG5011		
	.039 25V	(2)			GP140		5GA-S40
C147	.01		UK50-103		MAG5011		
	.039 25V	(2)			GP140		5GA-S40
C148	.039 25V				GP140		5GA-S40
C158	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C159	.01	(3)	UK50-103		MAG5011		
C160	.01	(3)	UK50-103		MAG5011		
C161	.01	(3)	UK50-103		MAG5011		
C162	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C163	22 10% 50V	(3)	DTZ-22	NP022	CN0422		10TCC-Q22
C164	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C165	100 10% 50V	(3)	DTZ-100	NP0100	CN0310		10TCC-T10
C166	150 10% 50V	(3)	DTZ-150		CN0315		10TCC-T15
C167	680 10% 50V	(3)	00-681	GP680	GP368		10TS-T68
C168	.01	(3)	UK50-103		MAG5011		
C169	.01	(3)	UK50-103		MAG5011		
C201	.01 10% 50V		UK50-103		MAG5011		
C202	.01 10% 50V		UK50-103		MAG5011		
C203	.01 10% 50V		UK50-103		MAG5011		
C206	.039 10% 25V				GP140		5GA-S40
C207	.01	(3)	UK50-103		MAG5011		
C208	.01	(3)	UK50-103		MAG5011		
C301	.01 10% 50V		UK50-103		MAG5011		
C302	.01 10% 50V		UK50-103		MAG5011		
C303	22 10% 50V		DTZ-22	NP022	CN0422		10TCC-Q22
C304	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
C305	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C401	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(1)	UK50-103		MAG5011		
C402	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(1)	UK50-103		MAG5011		
C403	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(2)	UK50-103		MAG5011		
C404	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(2)	UK50-103		MAG5011		
C405	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
C406	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
C451	.001 10% 50V		00-102G	GP1000	GP210	QC2-81	5GA-D10
C452	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(2)	UK50-103		MAG5011		
C453	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(2)	UK50-103		MAG5011		
C454	.001		00-102G	GP1000	GP210	QC2-81	5GA-D10
	.01 10% 50V	(2)	UK50-103		MAG5011		
C601	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C602	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C603	.001	(3)	00-102G	GP1000	GP210	QC2-81	5GA-D10
C701	.04	(3)			GP140		5GA-S40
C702	560 10% 50V	(3)	00-561		GP356		10TS-T56
C802	.04	(3)			GP140		5GA-S40
C803	.0033	(3)	00-332	GP3300	GP233	QC2-107	5GA-D33
	.0022 50V	(1)(3)	00-222		GP222	QC2-97	5GA-D22
CC1		527-077-9-002(4)					

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

(1) Used in some versions.

(2) Used in Model 89GTL.

(3) Used in Model 10DDGTL.

(4) Consists of four .01 capacitors.

COBRA MODEL 89GTL, 1000GTL

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
VR1	Sensitivity	300	008-345-9-001(19) 008-347-9-001(20)			
VR2	S Meter	30K	008-331-9-001			U260R503B
VR3	Squelch Range	100K	008-316-9-001			U260R104B
VR4	RF Meter	20K	008-316-9-003			U260R253B
VR5	RF Meter	1000				
VR6	Mod Meter	50K	008-316-9-002			U260R503B
VR201	AMC	5000	008-316-9-004			U260R502B
VR301	B+ Voltage Adjust	500	008-342-9-001			U260R501B
VR301	RF Gain	1000	008-350-9-001(19)			
VR301	SWR Cal	5000	008-347-9-005(18)			
VR301	RF Gain	1000				
VR302	Tone	50K	008-347-9-004	F2-50K(1), SSK012	RU54A, SL36(1), SL1500	BU1(1), CF63, SS1, DC1
VR303	Volume/Switch	50K	008-347-9-002	F2-50K(1), SSK012, KR1	RU54A, SL36(1), SL1500, US41	BU1(1), CF63, SS1, GC
VR304	Squelch	50K	008-347-9-003	F1-50K(1), SSK012	RU54L, SL36(1), SL1500	BU1(1), CF12, SS1, DC1
VR305	SWR Cal	5000	008-350-9-002(19)	F1-5000(1), SSK012	RU53L, SL36(1), SL1500	BU1(1), CF8, SS1, DC1
VR306	Delta Tune	20K	008-350-9-003(19)	F1-25K(1), SSK012	P24L, SL36(1), SL1500	BU1(1), CF62, SS1, DC1
VR307	Dynamike Plus	5000	008-345-9-003(20) 008-344-9-005			

(1) Enlarge mounting hole.

(18) Used in Model 896TL, Includes VR301 and VR305

(19) Used in Model 1000GTL

(20) Used in Model 89GTL

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.
R701	150 5% 7W		013-039-9-003(1)				

(1) Used in Model 1000GTL.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Rec RF (27MHz)	060-023-9-001	LLAY029001 LA02978084	CBS740-T	(1) Model 1000GTL only.
L2	RF Amp (27MHz)	046-024-9-001	LLAY138001 LA13878164		
L3	IF (10.695MHz)	046-025-9-004	LLAY277001 LA-277		
L4	IF (10.695MHz)	060-024-9-001(1)	LLAY180001 LA18078134		
L5	IF (10.695MHz)	046-025-9-002	LLAY274001 LA27478184		
L6	IF (455kHz)	060-019-9-002	LLAY106001 LA10678152	8517	
L7	IF (455kHz)	046-024-9-003	LLAY204001 LA20478152		
L8	IF (455kHz)	046-025-9-001	LLAY207001 LA20778142		
L10	TVI Trap (54MHz)	041-056-9-003	LLCY018001 LC-018	C8304	
L11	Antenna Loading	041-104-9-002	LLEY089001 LE-089		
L12	Pi Filter	041-104-9-001	LLEY088001 LE-088		
L13	Final Loading (27MHz)	041-088-9-001	LLCY019001 LC-019	C8305	
L14	RF Choke	041-069-9-004	LLDY012001 LD-012	4588	
L16	Final (27MHz)	041-056-9-003	LLCY018001 LC-018	C8304	
L17	RF Driver (27MHz)	060-029-9-004	LLAY208001 LA20878164		
L18	VCO (16MHz)	046-024-9-002	LLAY201001 LA20178164		
L19	Driver (15.360MHz)	066-025-9-005	LLAY166001		
L19	Driver (15.360MHz)	066-025-9-005	LLAY166001 LA16678164		
L20	VCO	046-025-9-003	LLAY275001 LA27578154		
L21	Ref Oscillator (10.240MHz)	060-030-9-003	LLAY217001 LA21778124		
L22	RF Choke (100uH)	041-062-9-002	LLZY001013 LZ-001	9250-104	
L23	Divider (10.240MHz)	060-024-9-003	LLAY182001 LA18278134		
L24	XMT Mixer (27MHz)	060-029-9-001	LLAY198001 LA19878174		
L25	Buffer (27MHz)	066-019-9-002	LLAY088001 LA-088	CBS717-TC	
L26	RF Choke (10uH)	041-105-9-001(1)	LLZY001001 LZ-001		

PARTS LIST AND DESCRIPTION (CONTINUED)

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

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T2	1.45A	.8	.86mH	042-021-9-001 TF-803(1)	TR507		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	18	8	061-039-9-001 061-041-9-001(2) TF-129(1)			(1) Number on unit. (2) Used in some versions.

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T301	120V AC @ 500mA AC	19.00V AC @ 2.61A AC	065-144-9-001 065-143-9-001(2) TF-149(1)		PCB-2	(1) Number on unit. (2) Used in some versions.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP301	4" PM 8 Ohms	580-013-9-001(1) 580-015-9-001(2)	4A1Z8	(1) Used in 1000GTL
SP801	3" X 4" PM 8 Ohms	583-001-9-001(1)		(2) Used in 89GTL

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	
F301	2A Quick Acting	191-251-3-002	742-035-9-001	AGC2	HKP	312002	342048	FG2-2	
F302	2A Quick Acting	191-251-3-002	742-035-9-001	AGC2	HDJ	312002	150145	FG2-2	

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	562-025-9-001	18-032	18-034	18-010	18-092	2	1	3	4	NC	1	

COBRA MODEL 89GTL, 1000GTL

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	140-009-9-001	455kHz
O302	LEO	158-022-9-002(1)	Rec (1.90V @ 9.5mA)
O303	LEO	158-008-9-001(1)	XMT (1.90V @ 9.5mA)
O501	LEO	158-014-9-001(1)	Channel Readout
	LED	158-023-9-001(2)	Channel Readout
O702	LEO	158-023-9-002(2)	Clock Readout
J301	Jack	772-027-9-001	Antenna
J302	Jack	762-020-9-001	DC Power
J303	Jack	773-077-9-001(2)	Record
J401	Jack	773-077-9-001	PA
J402	Jack	773-077-9-001	External Speaker
J403	Jack	773-077-9-001(2)	External Speaker
J451	Jack	773-073-9-001	Mic
J601	Jack	773-094-9-001(2)	Phone
L9	Ferrite Bead	044-043-9-006	
L15	Ferrite Bead	044-048-9-003	
L301	Ferrite Bead	044-051-9-001	
M301	Meter	320-097-9-001(1)	S/Rf
	Meter	320-100-9-001(2)	S/Rf
M302	Meter	320-098-9-001(1)	Mod/SWR
	Meter	320-100-9-002(2)	Mod/SWR
P301	Jack	775-034-9-001(2)	External Speaker
PL301	Lamp	400-057-9-001	Meter S/Rf (11.71V @ 39mA)
PL302	Lamp	400-057-9-002(1)	Meter SWR/Mod (11.71V @ 34mA)
	Lamp	400-058-9-001(2)	Meter SWR/Mod (11.71V @ 34mA)
PL303	Lamp	400-057-9-002(2)	TX (7.63V @ 35mA)
PL304	Lamp	400-058-9-002(2)	RX (11.10V @ 42mA)
S301	Switch	084-066-9-002(1)	ANL
	Switch	080-010-9-002(2)	ANL
S302	Switch	084-066-9-003(1)	SWR/SWR Ca1
	Switch	080-010-9-001(2)	SWR/SWR Ca1
S303	Switch	084-066-9-002(1)	CB/PA
	Switch	080-010-9-002(2)	CB/PA
S304	Switch	084-066-9-001(1)	AC/OC
	Switch	084-065-9-003(2)	AC/OC
S306	Switch	080-010-9-002(2)	NB
S308	Switch	080-010-9-001(2)	Speaker
S501	Switch	083-243-9-001	Channel Selector
S701	Switch	088-047-9-001(2)	Alarm
S702	Switch	088-047-9-001(2)	Set
S703	Switch	088-047-9-002(2)	Fast
S704	Switch	088-047-9-002(2)	Slow
S705	Switch	088-047-9-002(2)	Hold
X1	Crystal	132-027-9-001	10.240MHz
XF1	Filter	143-009-9-001(1)	10.7MHz
	Filter	143-011-9-001(2)	10.7MHz
	Cord	426-044-9-001(1)	AC
	Cord	420-027-9-001(2)	AC
	Cord	426-044-9-002	DC
	Printed Circuit Board	302-345-9-001(2)	Alarm
	Printed Circuit Board	302-332-9-001(1)	Channel LED
	Printed Circuit Board	302-343-9-001(2)	Channel LED
	Printed Circuit Board	302-344-9-001(2)	Clock
	Printed Circuit Board	302-333-9-001(1)	Channel Switch
	Printed Circuit Board	302-342-9-001(2)	Channel Switch
	Printed Circuit Board	302-331-9-001	DC Power Supply
	Printed Circuit Board	302-329-9-001	Main
	Printed Circuit Board	302-330-9-001	Mic Jack
	Printed Circuit Board	302-346-9-001(2)	Phone
	Printed Circuit Board	302-334-9-001(1)	Speaker Jack
	Printed Circuit Board	302-340-9-001(2)	Speaker Jack
	Printed Circuit Board	302-335-9-001(1)	Switch
	Printed Circuit Board	302-341-9-001(2)	Switch

(1) Used in Model 89GTL.

(2) Used in Model 1000GTL.

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Wood	290-004-9-001(2)	Panel, Rear	262-022-9-001(2)
Cover, Top	253-068-9-001(2)	Panel, Rear	262-021-9-001(1)
Cover, Top	253-057-9-001(1)	Knob, Channel	751-168-9-001(2)
Cover, Bottom	252-026-9-001(2)	Knob, Channel	751-147-9-003(1)
Cover, Bottom	252-022-9-001(1)	Knob, Clock	751-168-9-007(2)
Panel, Front	255-174-9-001(2)	Cabinet, Wood (Speaker)	290-004-9-002(2)
Panel, Front	255-171-9-001(1)	Cover, Bottom (Speaker)	253-068-9-002(2)
Panel, Right	263-009-9-001(2)	Cover, Rear (Speaker)	253-068-9-003(2)
Panel, Left	263-009-9-002(2)	Panel, Front (Speaker)	255-174-9-002(2)

(1) Used in Model 89GTL (2) Used in Model 1000GTL



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 3-5813B

MANUFACTURER'S SPECIFICATIONS

SPECIFICATIONS:

CHANNELS: 40 channels, PLL digital logic synthesizer circuitry

POWER REQUIREMENT: Consumption: 25 watts; current drain: 1.8 amps (100% mod.) at 13.8-volt DC

POWER SUPPLY: 12 volts DC nominal (positive or negative ground)

SEMICONDUCTORS: Integrated circuits, transistors and diodes

OPERATING TEMPERATURE RANGE: -30 to +50°C

MICROPHONE: Dynamic with push-to-talk switch, 500-ohm

BUILT-IN SPEAKER: 8 ohms impedance, 77mm (3 inches) in size

CONTROLS: Volume with ON/OFF switch, squelch control, R.F. Gain control, channel selector switch, automatic noise limiter switch, CB/PA control.

CONNECTORS: External speaker jack 3.5mm (8 ohms impedance), antenna receptacle to match PL-259 coax plug (50 ohms impedance), 12-volt DC power jack (polarized type), PA Speaker Jack 3.5mm (8 ohms impedance)

CIRCUIT PROTECTION: Prevents transistor burn-out when transmitting without antenna (5-minute limit); 2-amp fuse in DC power cord

RECEIVER

SENSITIVITY: 10 db (S+N)/N: Less than 1.0 uv.

FREQUENCY COVERAGE: 26.965 to 27.405 MHz

ADJACENT CHANNEL SELECTIVITY: Better than 40 db

AUDIO OUTPUT POWER (power to speaker): @ 10% DIST., better than 3 watts

SPURIOUS REJECTION: Better than 50 db

IF FREQUENCIES: 455 kHz, 10.695 MHz.

SQUELCH RANGE (SENSITIVITY): 0.5 to 2000 uv nominal

IMAGE REJECTION RATIO: Better than 40 db

TRANSMITTER

FREQUENCY RESPONSE: 400 Hz to 2.5 KHz

FREQUENCY COVERAGE: 26.965 to 27.405 MHz

TRANSMIT POWER OUTPUT (RF (radio frequency) power to antenna): 4 watts maximum as limited by FCC Regulations at 13.8 volts DC nominal between 3.5 and 4 watts

MODULATION: Capable of 100%; factory pre-set limit 85-100%

FREQUENCY TOLERANCE: Better than $\pm .004\%$ MAX.

Courtesy of the Manufacturer

GENERAL ELECTRIC MODELS 3-5804D/-5813B

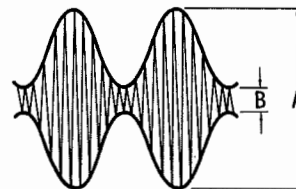
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ALIGNMENT INSTRUCTIONS

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
 L1, L2, T1 thru T6..... 9440
 L7, L11, L12..... 9300, 9302, 9304
 T8, T10, L14..... 5000, 5009, 8276, 8728, 8728A
 CT1..... 5000, 8276



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

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1 (Q10 base).	Ch. 19	CT1	Adjust for 10.240MHz $\pm$ 50Hz.
Input of oscilloscope to TP2 (T1 secondary).	Ch. 19	T1	Adjust for maximum RF.
Input of DC meter to TP8.	Ch. 1	L1	Adjust for 3.60 volts $\pm$.1 volt. Check for approx. 1.90 volts on Channel 40.
Input of frequency counter to TP3 (IC1 pin 2).	Ch. 1		Check for 3.300MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP4 (T2 secondary).	Ch. 19	L2,T2	Adjust for maximum RF.
Input of frequency counter to TP4 (T2 secondary).	Ch. 1		Check for 37.660MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP5 (Q2 emitter).	Ch. 19, XMT		Check for 10.695MHz.
Input of frequency counter to TP6 (IC3 pin 9).	Ch. 1, XMT		Check for 26.965MHz. 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.
 RF Gain Maximum, Squelch MINIMUM, ANL Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP1 (Q10 base). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T10,T8	Adjust for maximum RF.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	L14,T6,T5	Adjust for maximum output. Readjust T8 and T10 for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF Gain Maximum, ANL Off.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 500uV.	Ch. 19 Squelch Maximum	RV1	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	RV3	SIGNAL METER Adjust for 9 on signal scale of meter.

TRANSMITTER ALIGNMENT

Connect a 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 to antenna input.	Ch. 19	T3,T4	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19	L7,L11,L12	Adjust for 4.0 watts RF output maximum.

TRANSMITTER ADJUSTMENTS

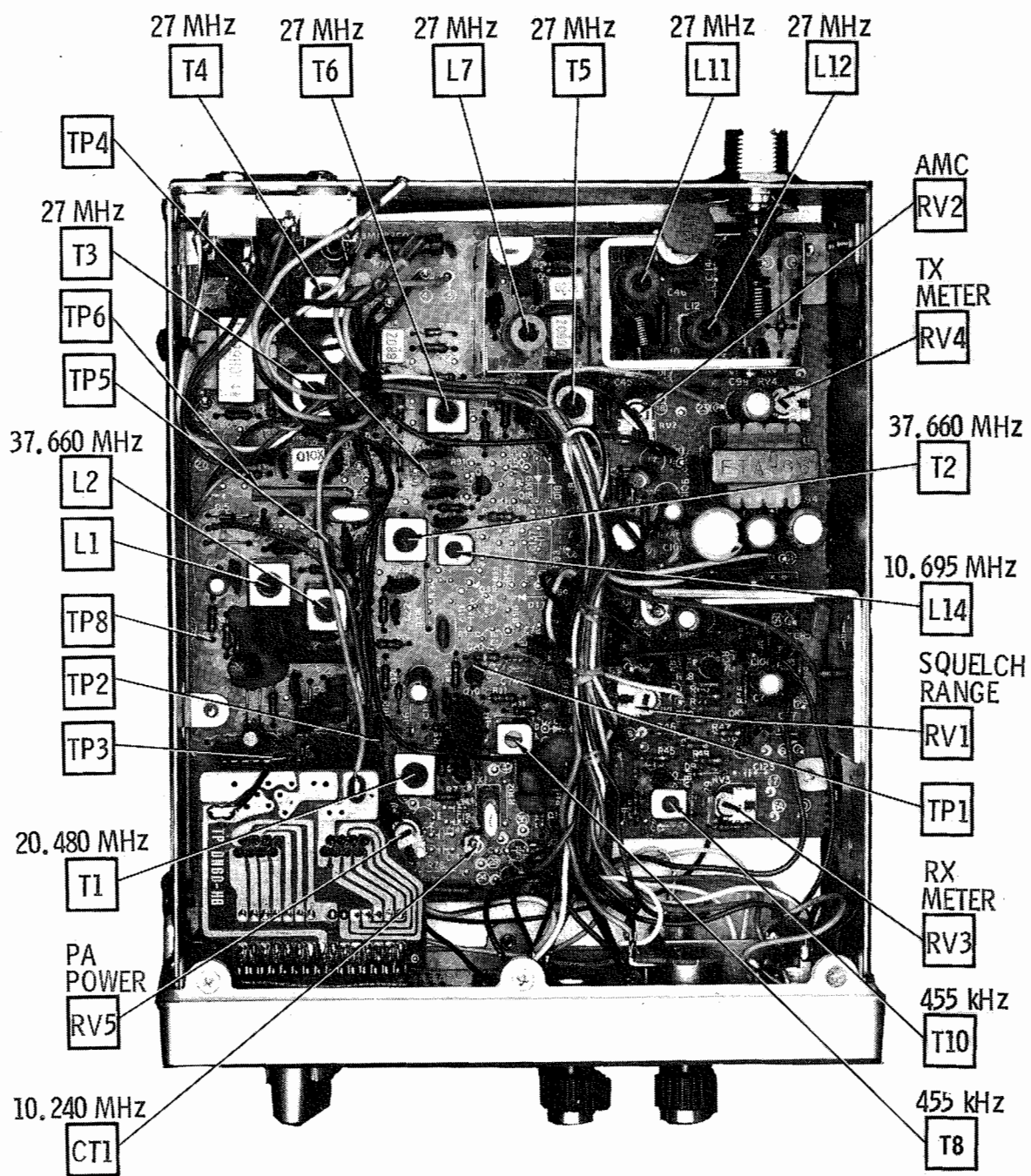
Connect a 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 8mV signal at mic input.	Ch. 19	RV2	AMC Adjust for 90% modulation maximum. See Figure 1.
Input of RF wattmeter to antenna input.	Ch. 19	RV4	POWER METER Adjust so that power meter agrees with RF wattmeter.
Connect a 250 ohm, non-inductive resistor to antenna input.	Ch. 19	*RV501	AWI Adjust so that AWI light just turns on.
Inject a 1000Hz, 8mV signal at mic input. Input of AC VTVM or AF wattmeter across PA speaker.	XMT CB/PA CB	**RV5	PA POWER Adjust for 6.30 volts RMS (5 watts) audio output.

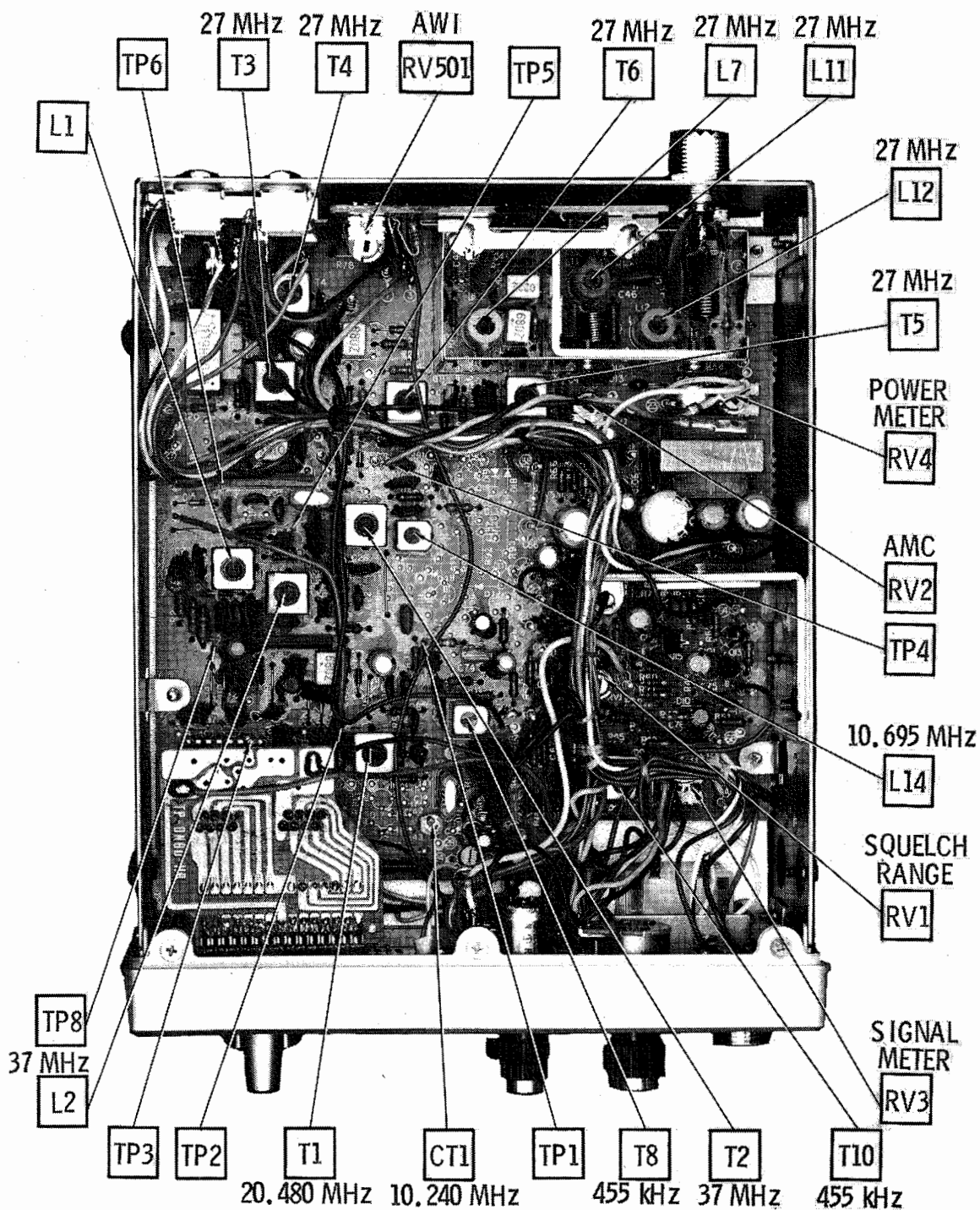
* Used Model 3-5813B only.

** Used Model 3-5804D only.

GENERAL ELECTRIC MODELS 3-5804D/-5813B



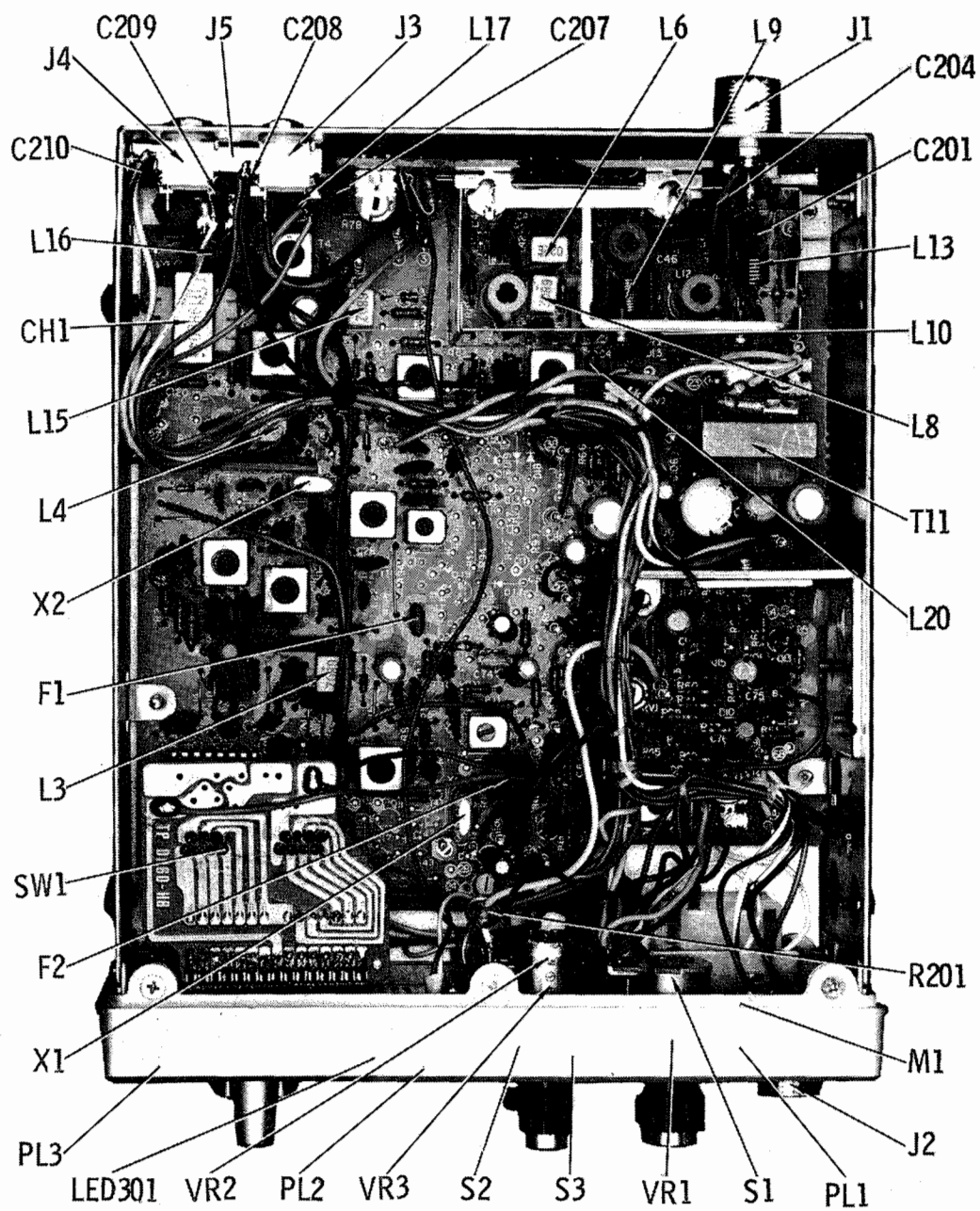
CH. BOTTOM (MODEL 3-5804D)



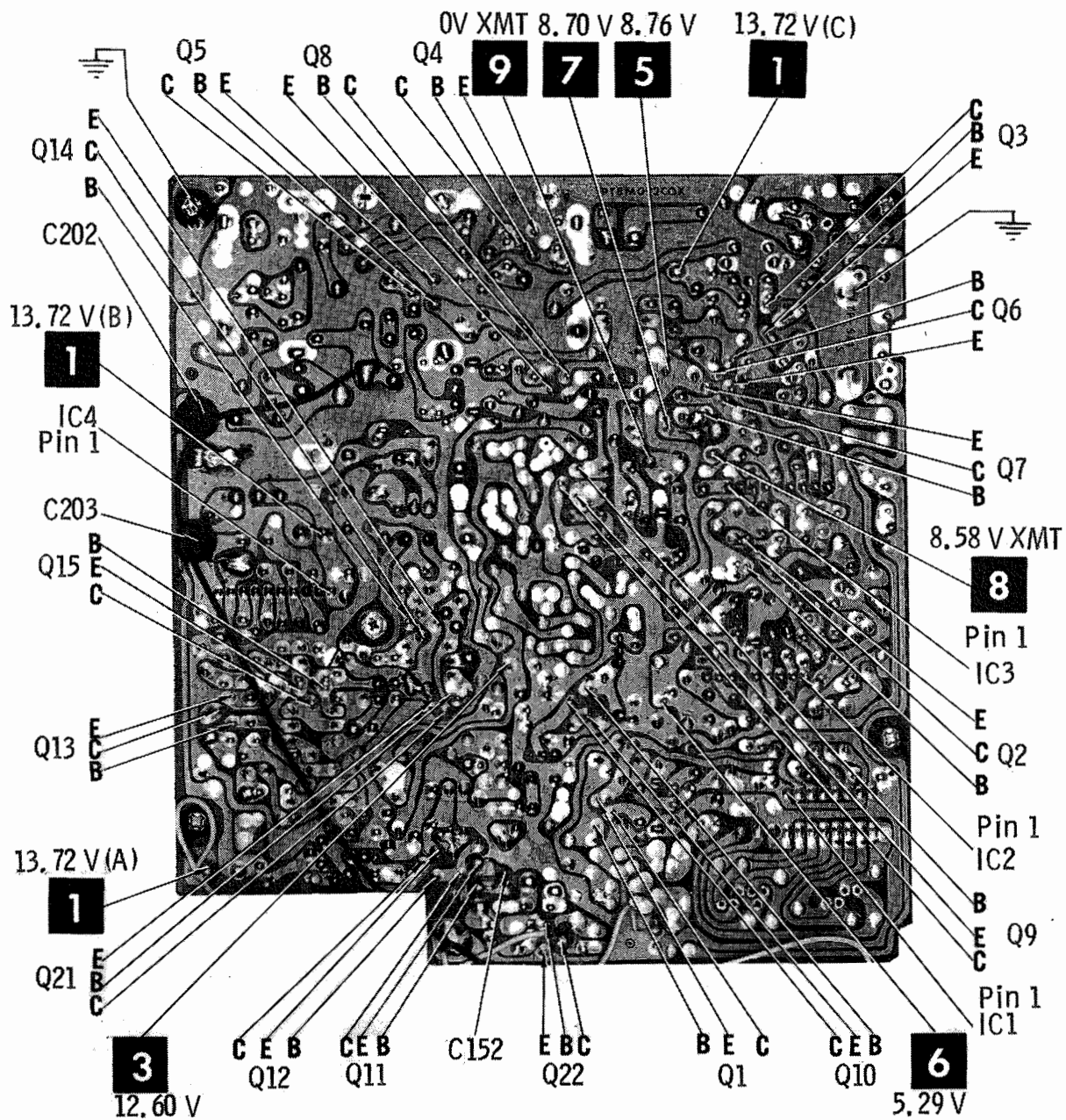
CH. BOTTOM (MODEL 3-5813B)

TRUTH CHART

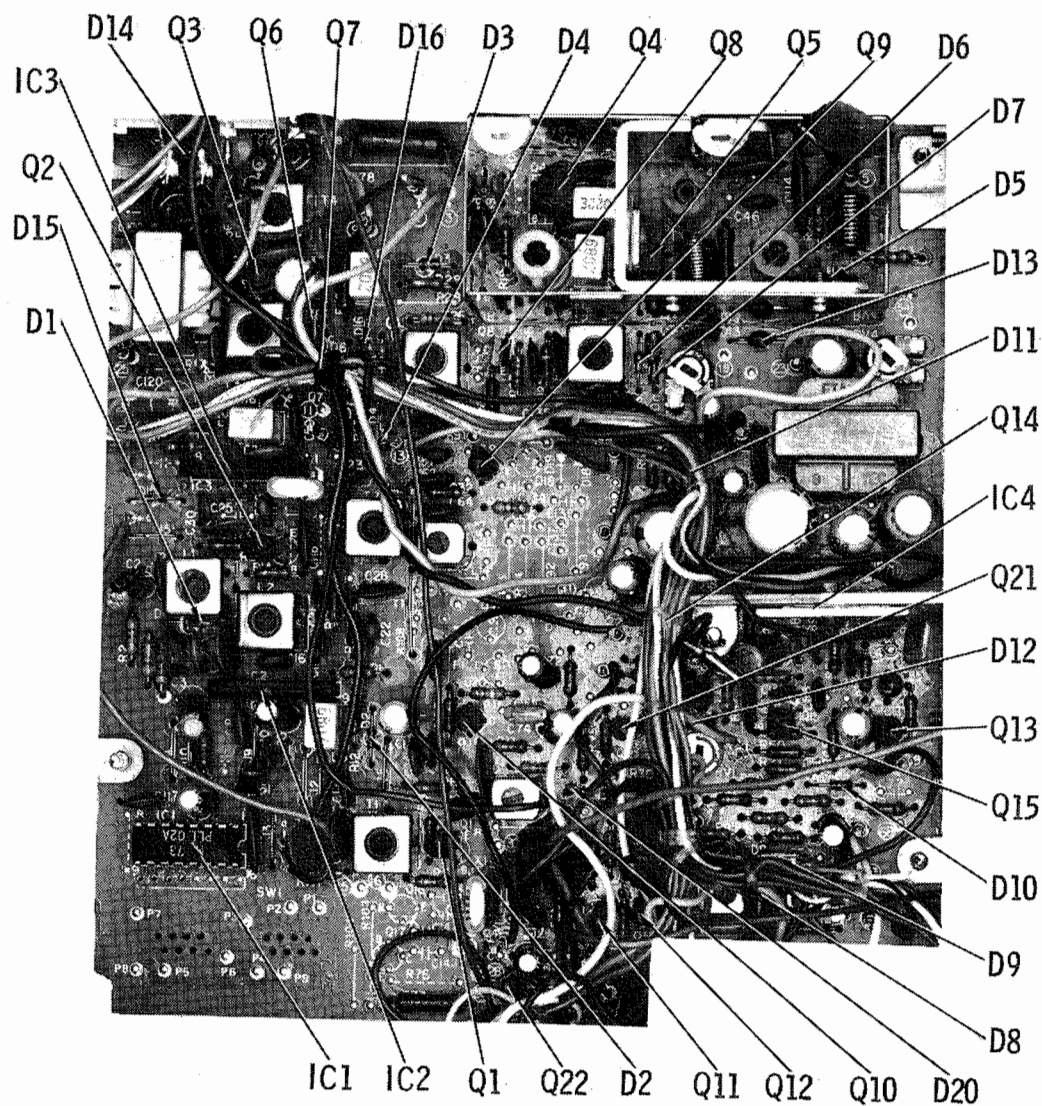
CHANNEL	1 = 5.95 Volts 0 = 0 Volts PROGRAM DIVIDER								DIVIDER INPUT IN MHz AT TP3	REC SYNTH OUTPUT IN MHz AT TP4	XMT SYNTH OUTPUT IN MHz AT TP6
	PINS										
		9	10	11	12	13	14	15			
1		1	0	0	1	0	1	0	3.300	37.660	26.965
2		1	0	0	1	0	0	1	3.290	37.670	26.975
3		1	0	0	1	0	0	0	3.280	37.680	26.985
4		1	0	0	0	1	1	0	3.260	37.700	27.005
5		1	0	0	0	1	0	1	3.250	37.710	27.015
6		1	0	0	0	1	0	0	3.240	37.720	27.025
7		1	0	0	0	0	1	1	3.230	37.730	27.035
8		1	0	0	0	0	0	1	3.210	37.750	27.055
9		1	0	0	0	0	0	0	3.200	37.760	27.065
10		0	1	1	1	1	1	1	3.190	37.770	27.075
11		0	1	1	1	1	1	0	3.180	37.780	27.085
12		0	1	1	1	1	0	0	3.160	37.800	27.105
13		0	1	1	1	0	1	1	3.150	37.810	27.115
14		0	1	1	1	0	1	0	3.140	37.820	27.125
15		0	1	1	1	0	0	1	3.130	37.830	27.135
16		0	1	1	0	1	1	1	3.110	37.850	27.155
17		0	1	1	0	1	1	0	3.100	37.860	27.165
18		0	1	1	0	1	0	1	3.090	37.870	27.175
19		0	1	1	0	1	0	0	3.080	37.880	27.185
20		0	1	1	0	0	1	0	3.060	37.900	27.205
21		0	1	1	0	0	0	1	3.050	37.910	27.215
22		0	1	1	0	0	0	0	3.040	37.920	27.225
23		0	1	0	1	1	0	1	3.010	37.950	27.255
24		0	1	0	1	1	1	1	3.030	37.930	27.235
25		0	1	0	1	1	1	0	3.020	37.940	27.245
26		0	1	0	1	1	0	0	3.000	37.960	27.265
27		0	1	0	1	0	1	1	2.990	37.970	27.275
28		0	1	0	1	0	1	0	2.980	37.980	27.285
29		0	1	0	1	0	0	1	2.970	37.990	27.295
30		0	1	0	1	0	0	0	2.960	38.000	27.305
31		0	1	0	0	1	1	1	2.950	38.010	27.315
32		0	1	0	0	1	1	0	2.940	38.020	27.325
33		0	1	0	0	1	0	1	2.930	38.030	27.335
34		0	1	0	0	1	0	0	2.920	38.040	27.345
35		0	1	0	0	0	1	1	2.910	38.050	27.355
36		0	1	0	0	0	1	0	2.900	38.060	27.365
37		0	1	0	0	0	0	1	2.890	38.070	27.375
38		0	1	0	0	0	0	0	2.880	38.080	27.385
39		0	0	1	1	1	1	1	2.870	38.090	27.395
40		0	0	1	1	1	1	0	2.860	38.100	27.405



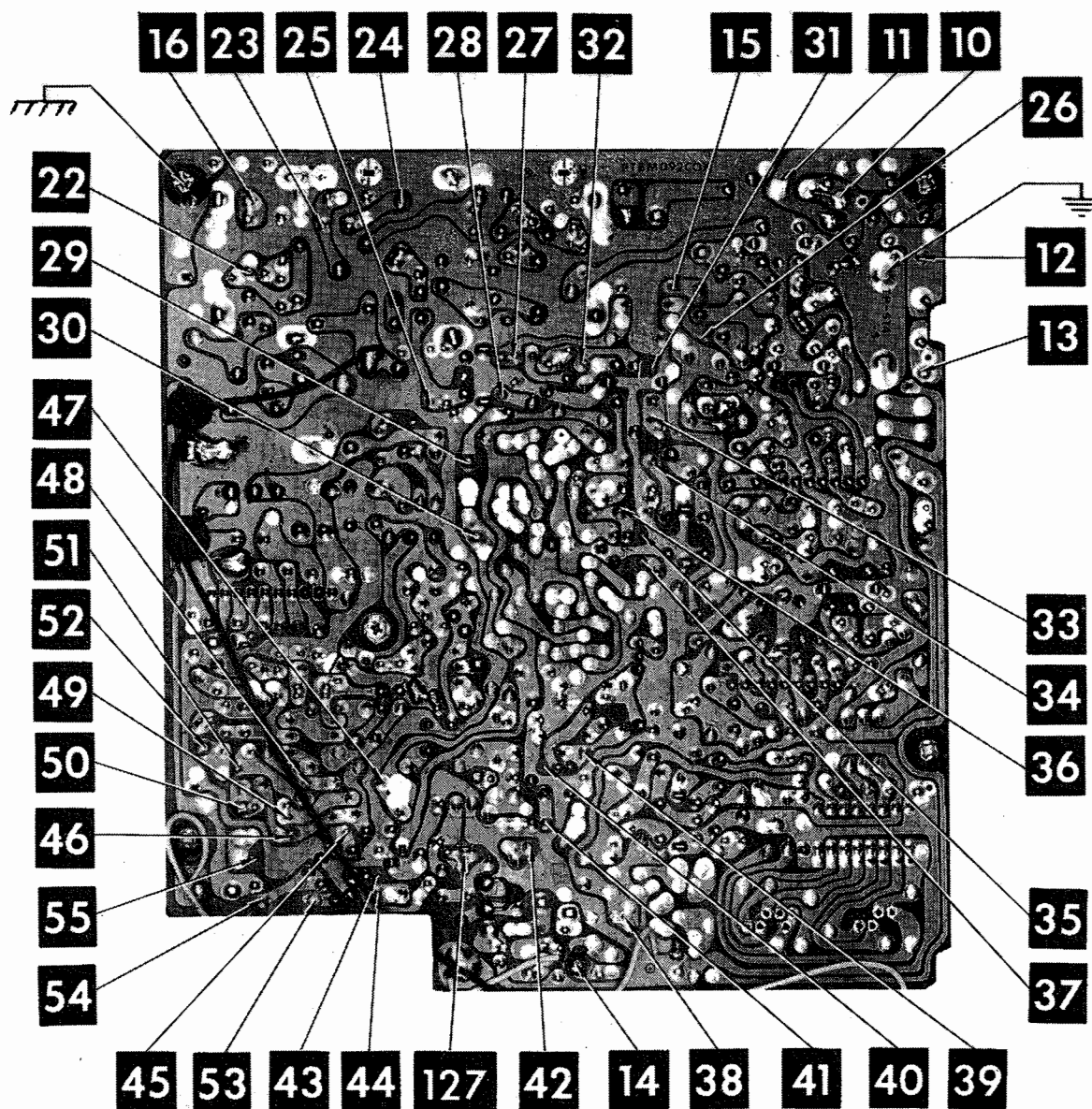
CH. BOTTOM (MODEL 3-5813B)



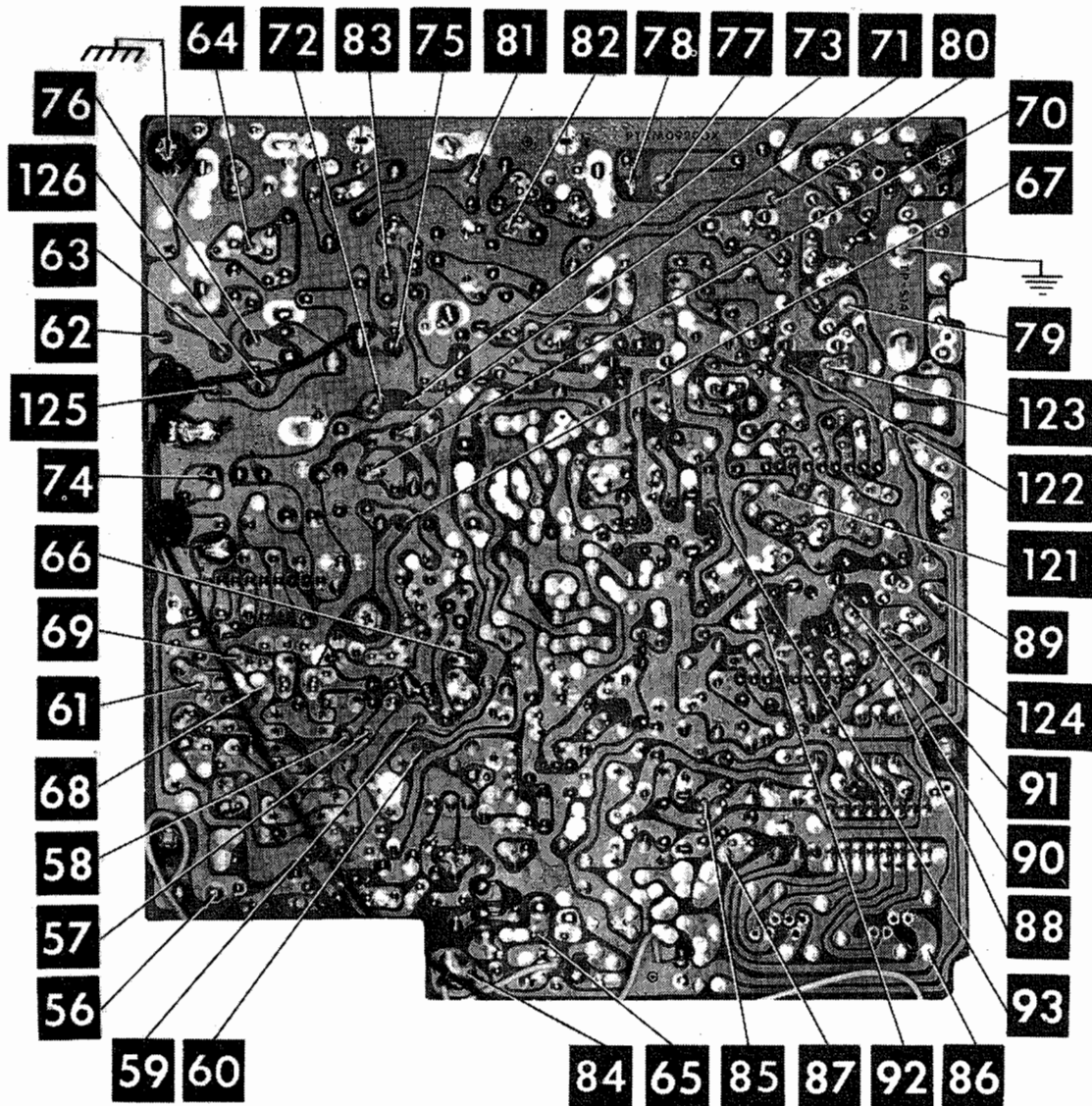
MAIN BOARD



MAIN BOARD

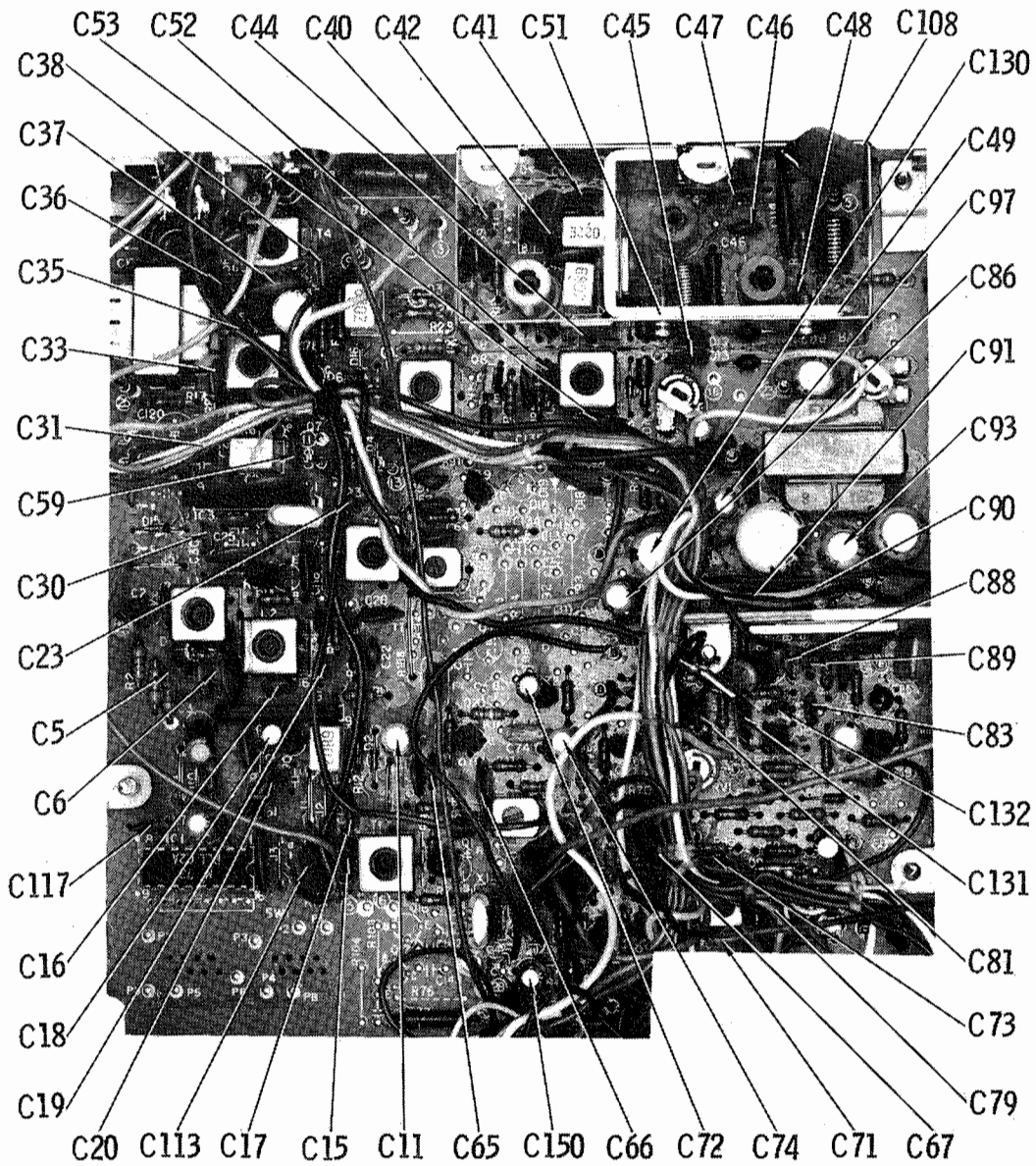


MAIN BOARD

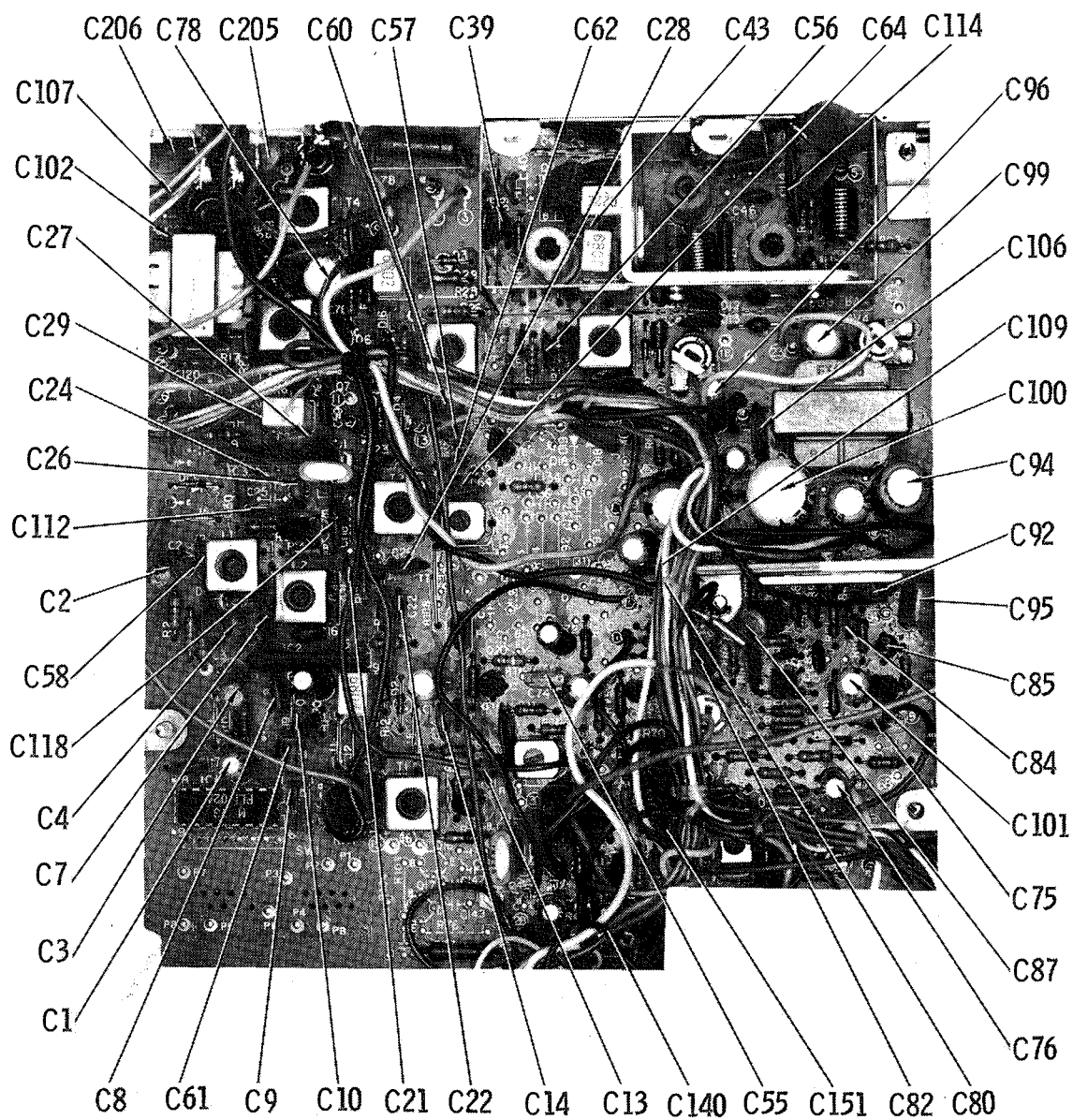


GENERAL ELECTRIC MODELS 3-5804D/-5813B

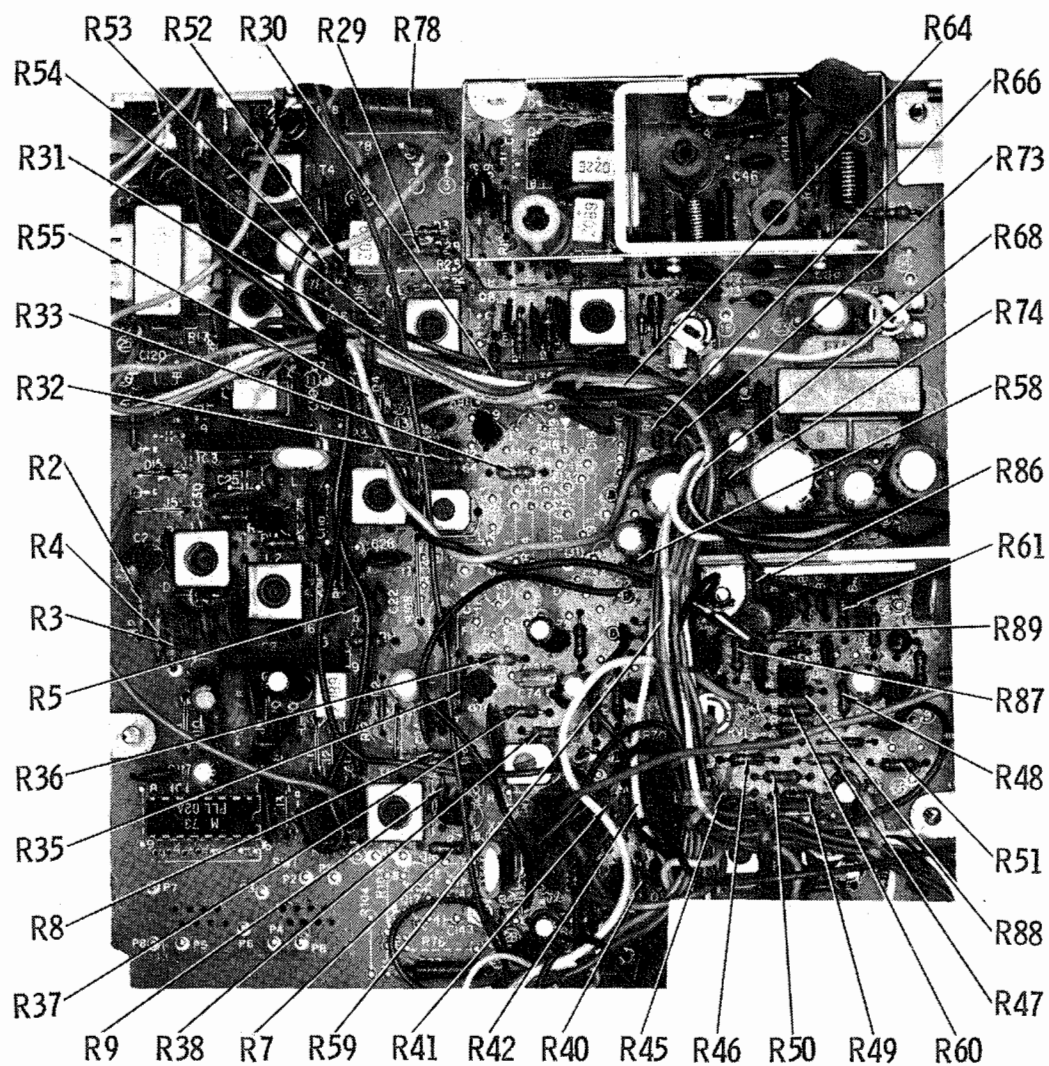
MAIN BOARD



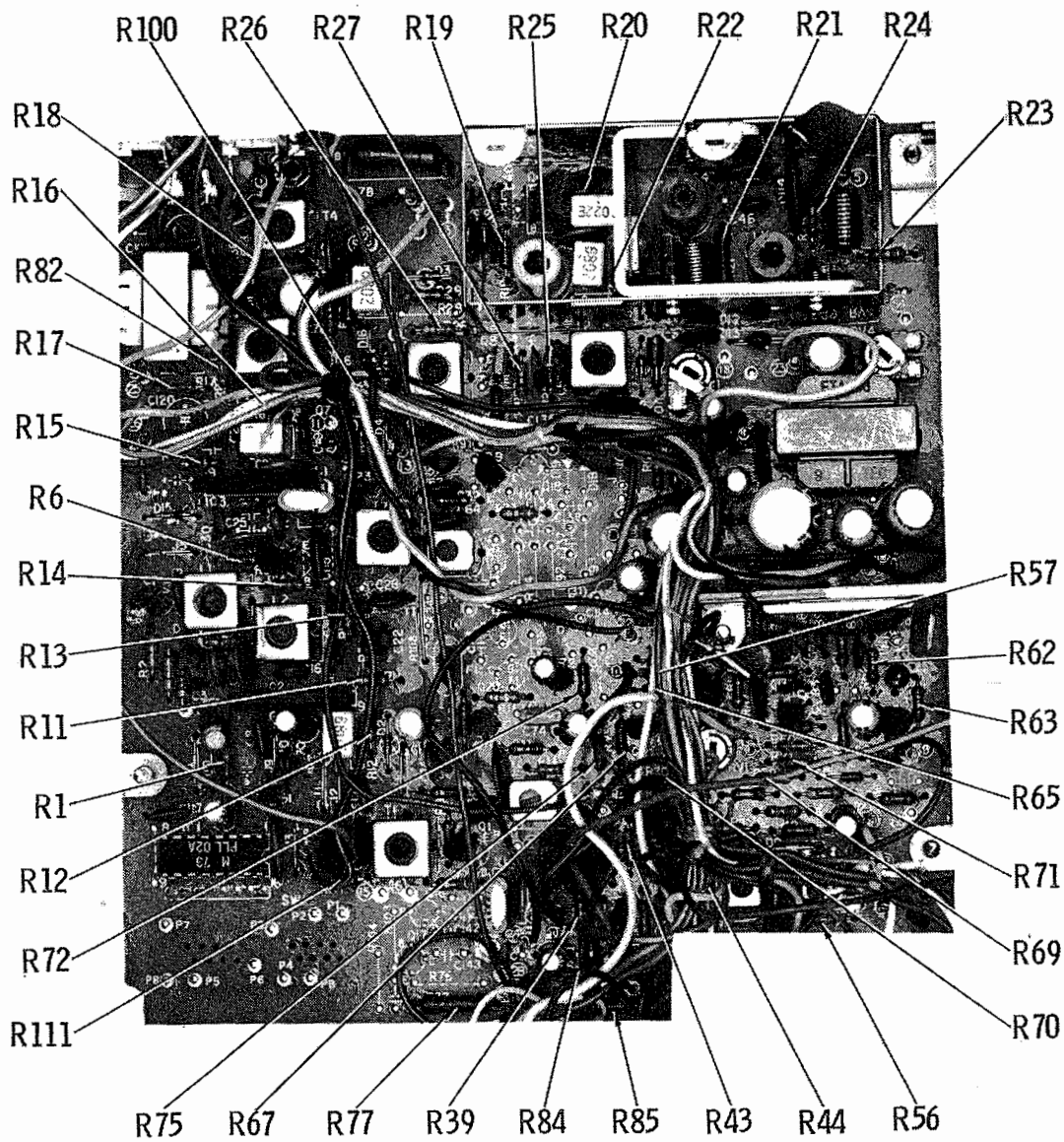
MAIN BOARD



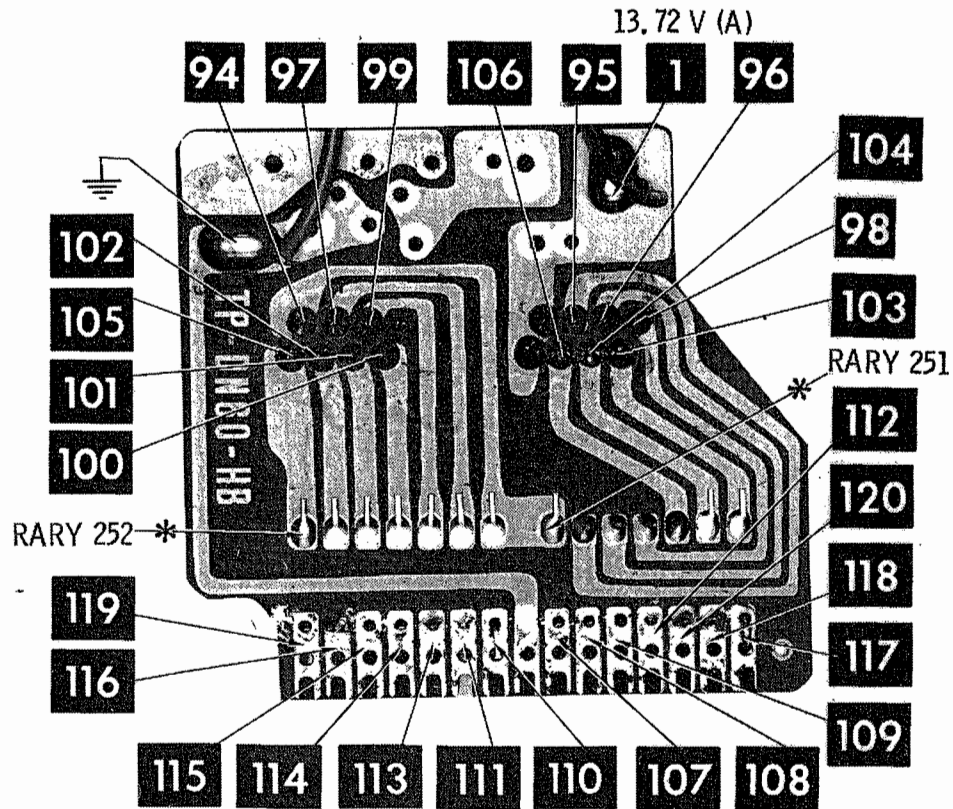
MAIN BOARD



MAIN BOARD

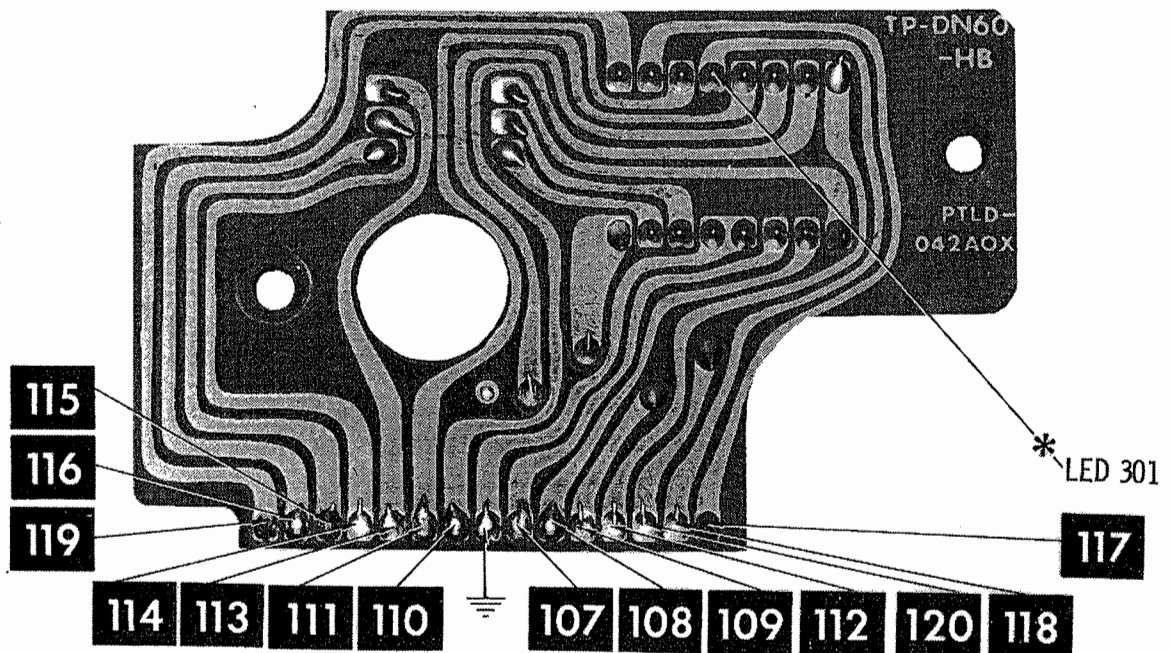


MAIN BOARD



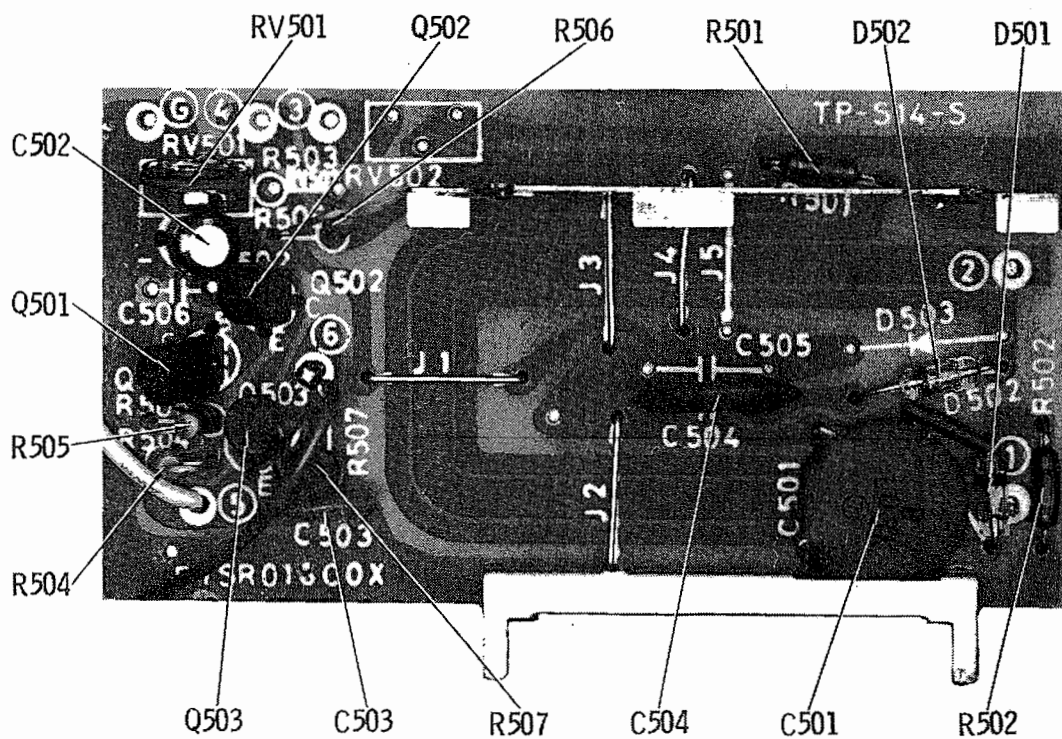
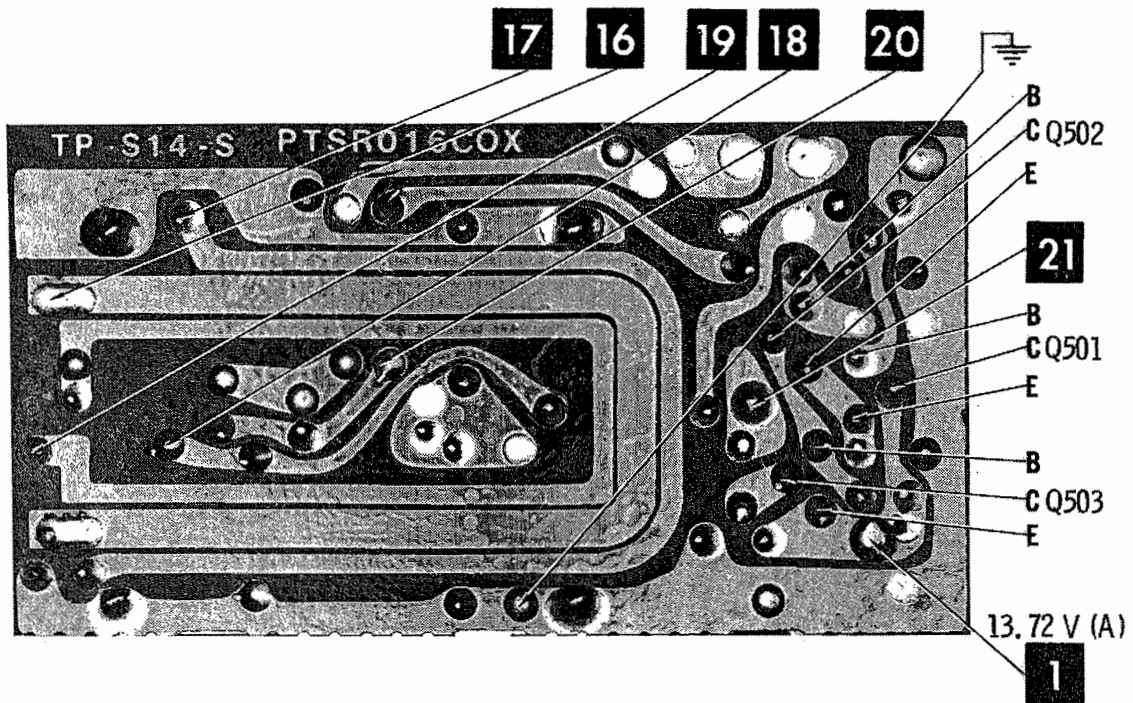
*Located on top of board

Ch. SELECTOR BOARD

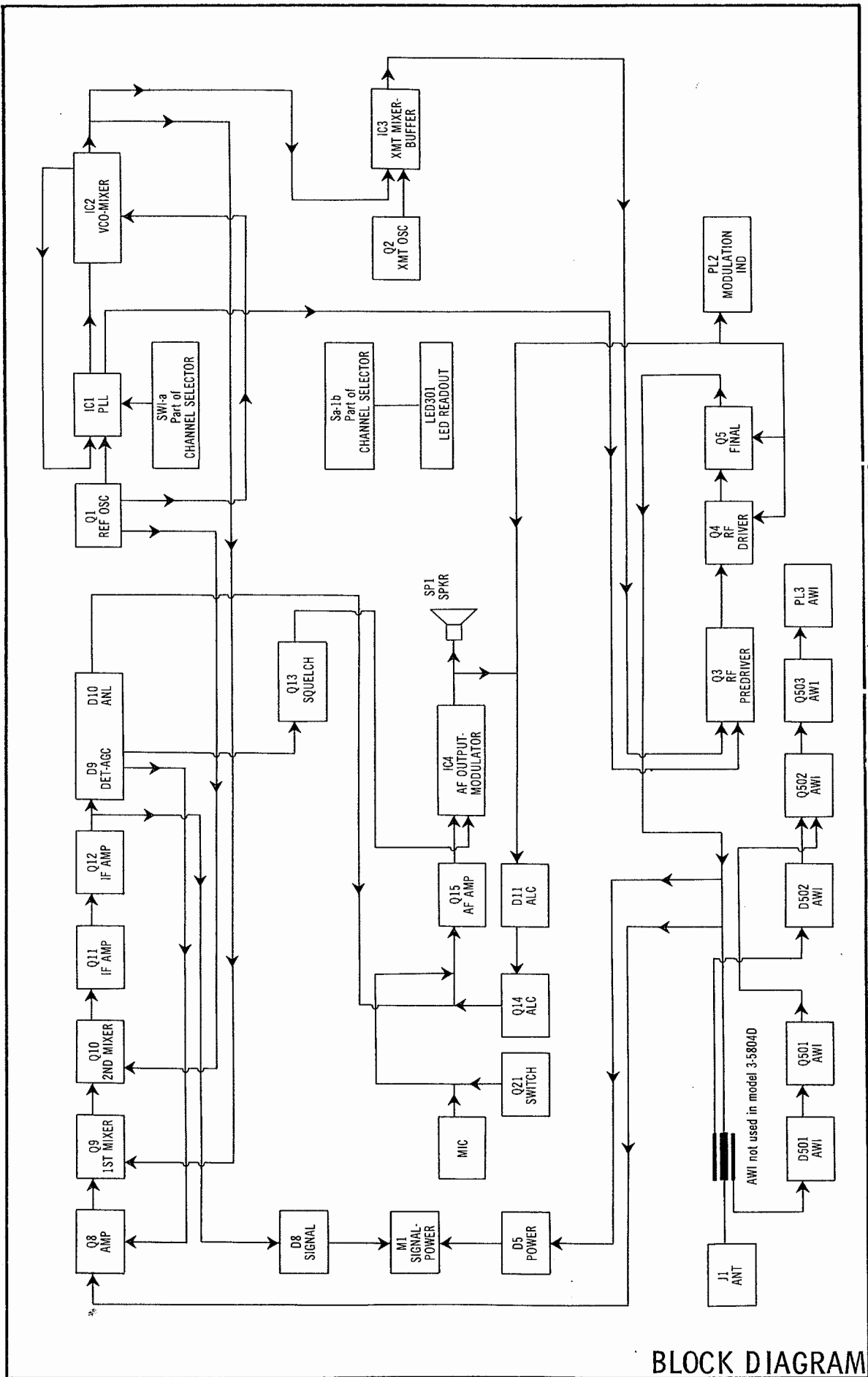


*Located on top of board

LED BOARD

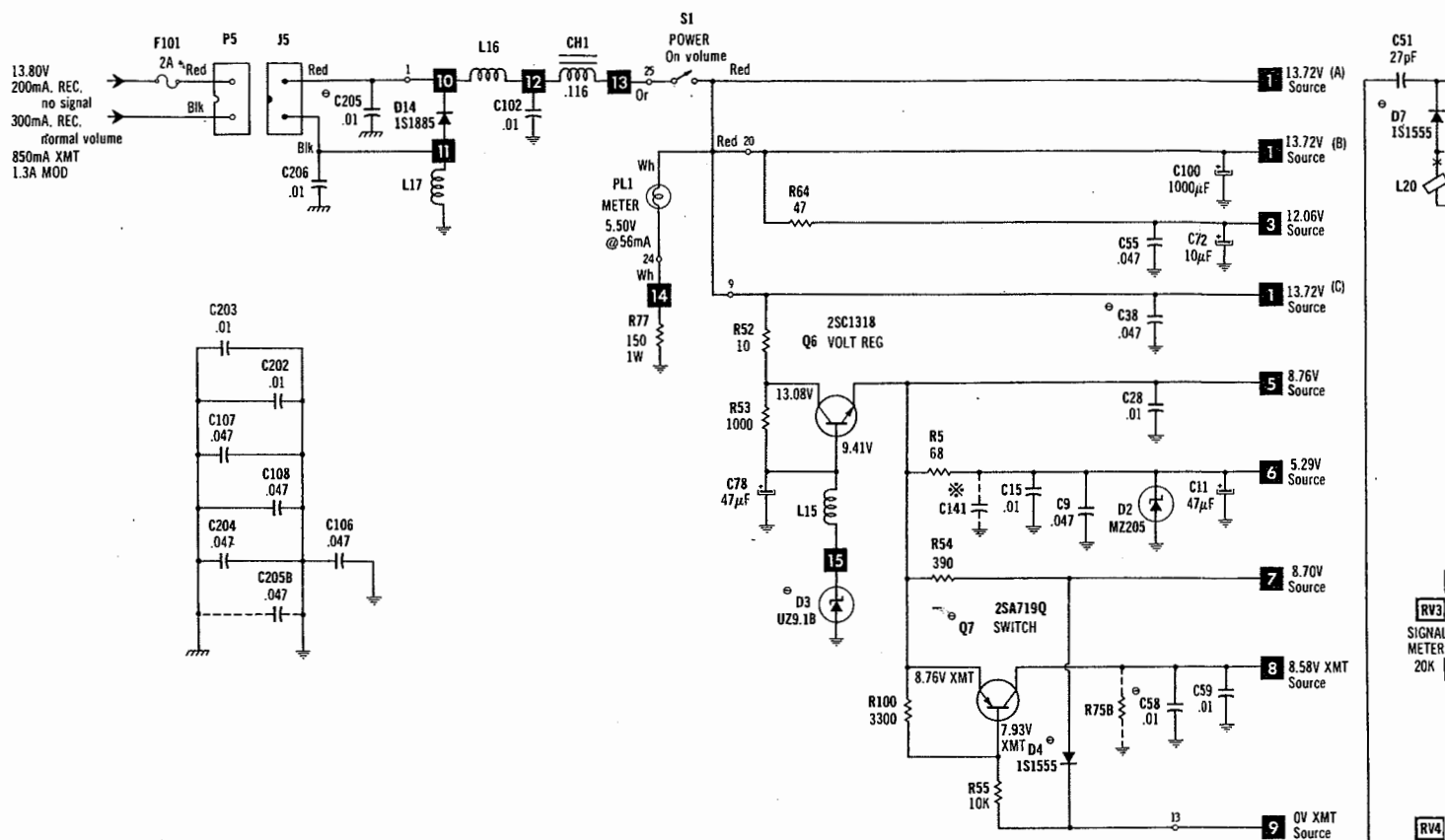


AWI BOARD

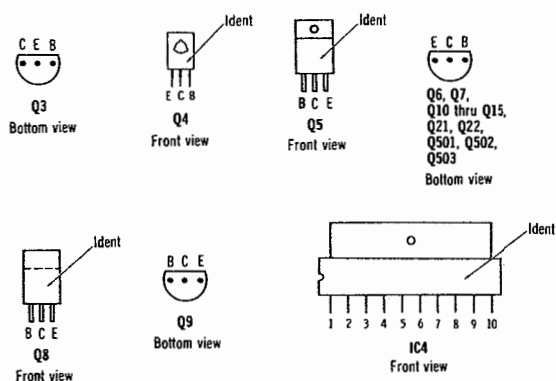


GENERAL ELECTRIC MODELS 3-5804D/-5813B

BLOCK DIAGRAM



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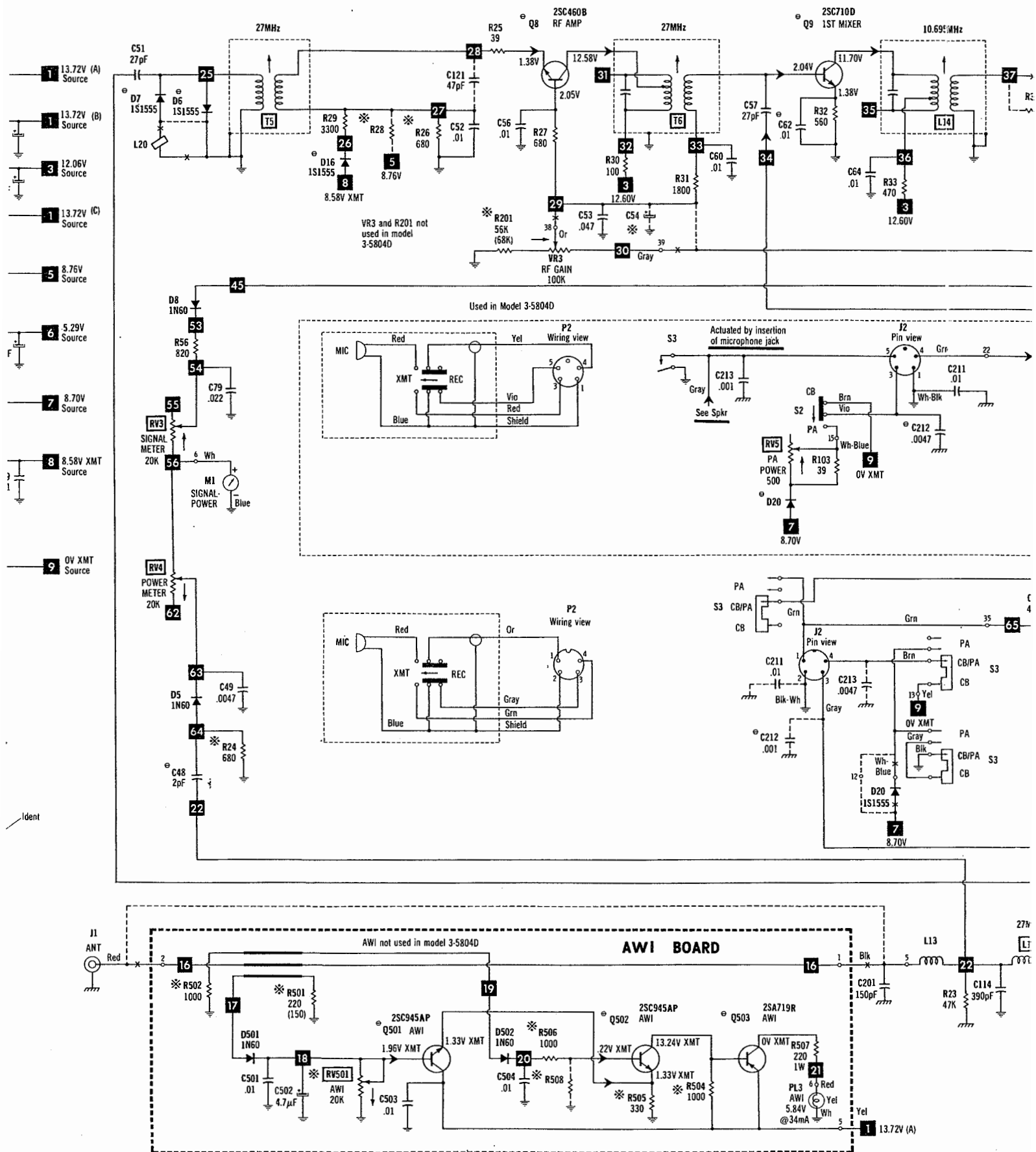
- Circuitry not used in some versions
- - - Circuitry used in some versions
- Chassis
- Common tie point
- Signal path
- Voltage path
- See parts list
- Nominal value
- Ground

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.

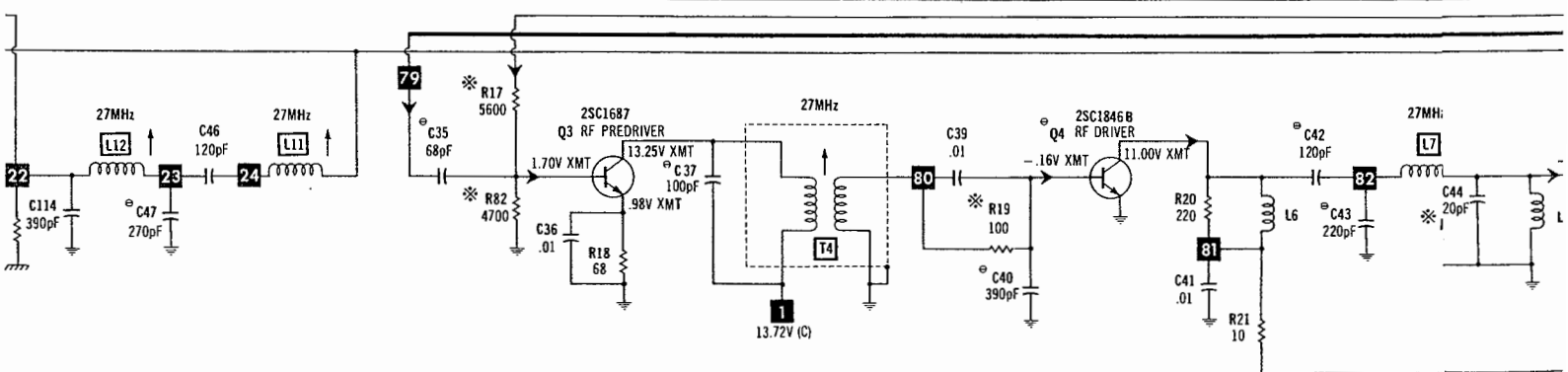
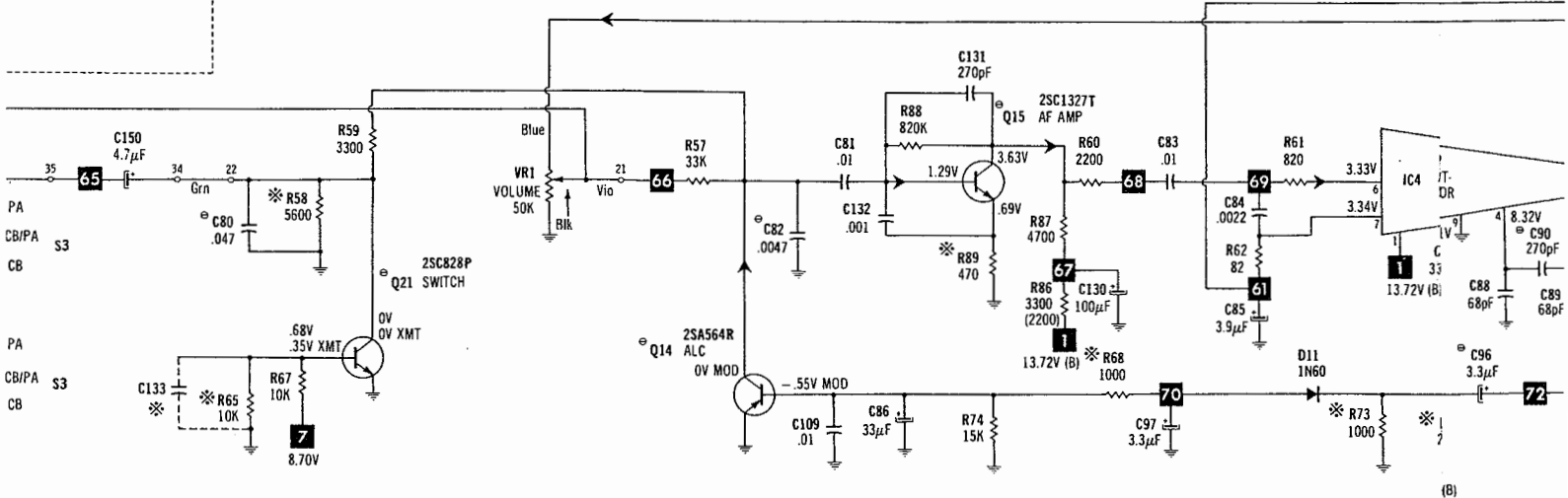
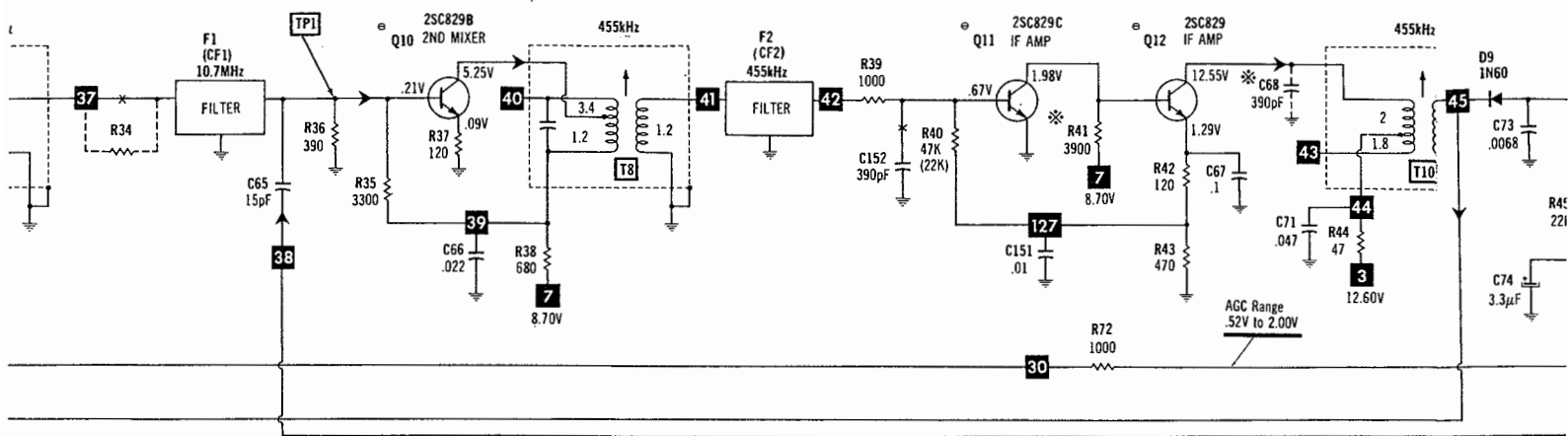
A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

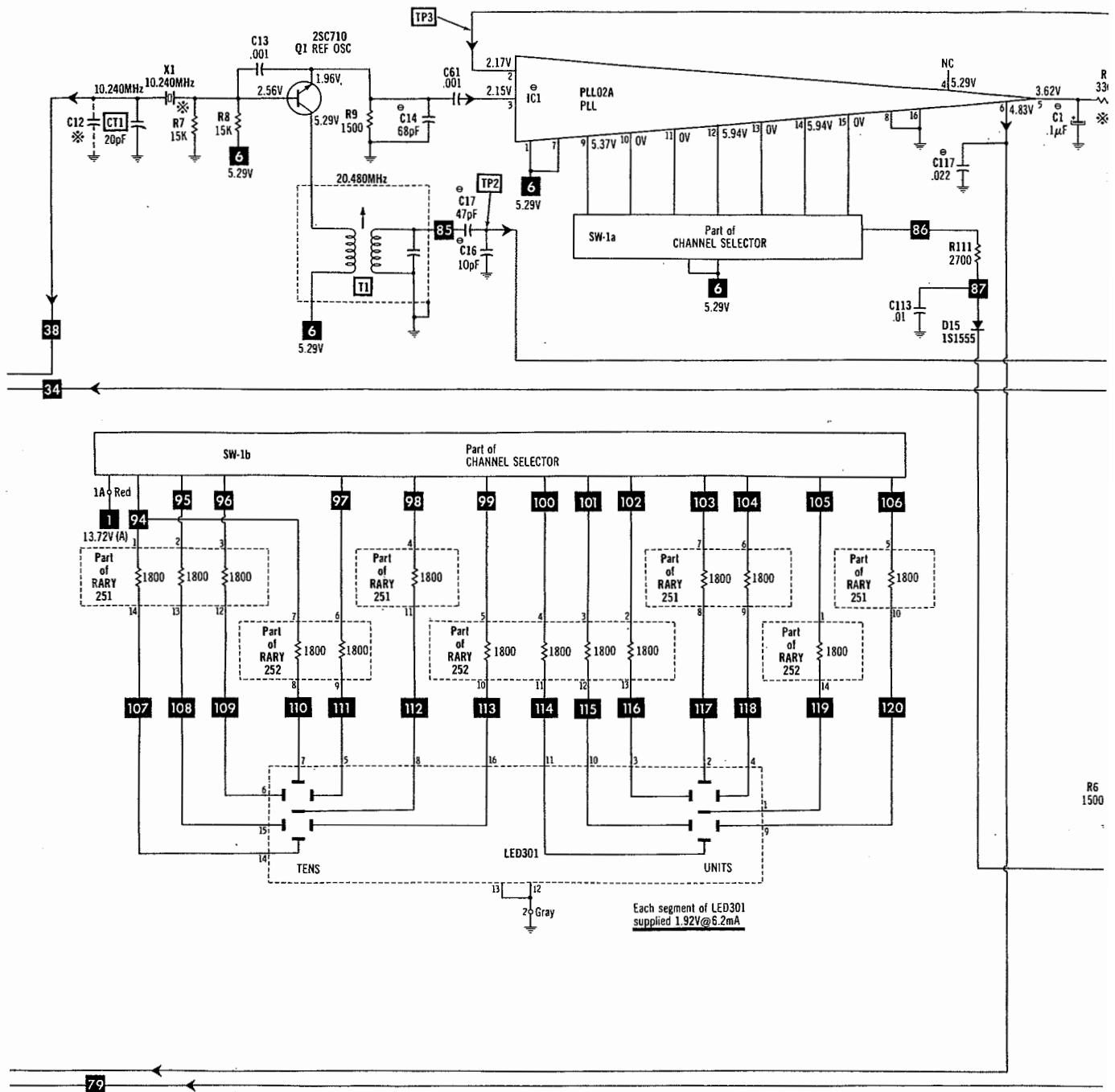
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MAIN SCHEM



SCHEMATIC



- ✖ Circuitry not used in some versions
 - Circuitry used in some versions
 - Chassis
 - Common tie point
 - Signal path
 - Voltage path
 - See ports list
 - Nominal value
 - Ground
- 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.

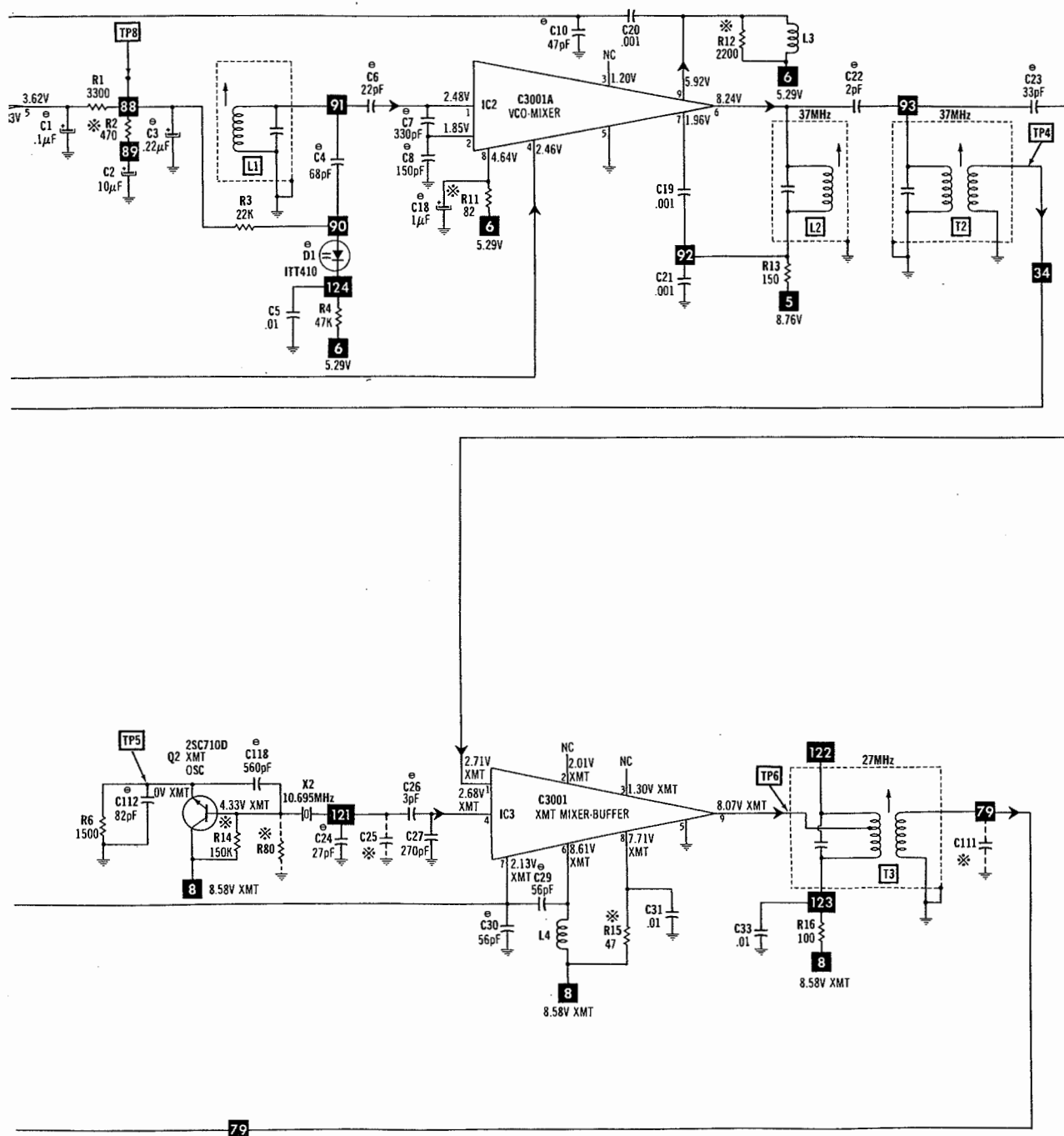
A PHOTOFAC STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

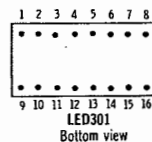
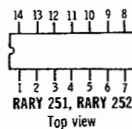
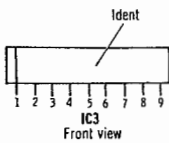
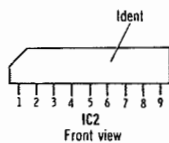
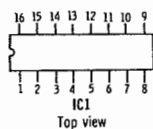
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PLL SCHEMA



Terminal Guides



PARTS LIST AND DESCRIPTION

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

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')

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. 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	ITT410	EA16X106			HEPR2502	REN 612			ECG612			103-176
	BB122				HEPR2502	REN 612			ECG612			103-176
	MV201				HEPR2502	REN 612			ECG612			103-176
D2	MZ205	EA16X136	GEZD-5.0	ZB9.1A	HEP20412	REN 135	SK3060	RT-240	ECG135	TM135	WEP1103	103-29006
D3	UZ9.1B	EA16X314	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
	RD9.1E					REN 139	SK3060	RT-218	ECG177	TM177	WEP1062	103-272
D4	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-131
	SN4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-263	ECG109	TM109/**	WEP134	103-287
D5	1N60	EA16X48	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-218	ECG177	TM177	WEP1062	103-29001
D6	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D7	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D8	1N60	EA16X48	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D9	1N60	EA16X48	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D10	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D11	1N60	EA16X48	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D12	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D13	SR1K-4	RT5217	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1S1555	RV1189	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D14	1S1885	RT5217	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D15	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D16	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D20	1S1555	RT5217	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D501	1N60	EA16X48(11)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D502	1N60	EA16X48(11)	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
IC1	PLL02A	EA33X8388				REN 1167	SK3732		ECG1233		WEP2007	
IC2	PLL02					REN 1192	SK3732		ECG1167	TM1167	WEP2007	
	C3001A					REN 1192	SK3445		ECG1192			
	C3001	EA33X8394				REN 1192	SK3445		ECG1192			
	TA7310P					REN 1192	SK3445		ECG1192			
IC3	AN103G					REN 1192	SK3445		ECG1192			
	C3001					REN 1192	SK3445		ECG1192			
IC4	TA7310P	EA33X8394				REN 1192	SK3445		ECG1192			
	TA7205AP					REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
	TA7205		GEIC-179	PTC780		REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
	TA7205P	EA33X8389	GEIC-179	PTC780		REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
Q1	2SC710D	EA15X364	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q2	2SC710D	EA15X364	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q3	2SC1687	EA15X379	GE-20*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-107A*	ECG123A*	TM123A*	WEP736*	121-29000A
Q4	2SC1846B		GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	2SC1846Q/R/S	EA15X383	GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	2SC1760		GE-276	PTC180		REN 306	SK3197	RT-310	ECG306	TM306	WEP771	
	2SC2074		GE-275			REN 322			ECG322	TM322	WEP771	
Q5	2SC1306	EA15X381	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235/**	WEP785	121-29039
	2SC2075		GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	2SC1678		GE-322	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	2SC1974		GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
Q6	2SC1318R		GE-210	PTC123	HEPS0015*	REN 128	SK3122	RT-302	ECG297	TM297	WEP59*	121-1007
	2SC1318		GE-210	PTC123	HEPS0015*	REN 128	SK3122	RT-302	ECG297	TM297	WEP59*	121-1007
	2SC1318Q	EA15X378	GE-210	PTC123	HEPS0015*	REN 128	SK3122	RT-302	ECG297	TM297	WEP59*	121-1007
Q7	2SA719Q	RV2355	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
	2SA720		GE-272	PTC103*	HEPS0019*	REN 298	SK3450	RT-305	ECG298	TM298	WEP915*	121-879*
Q8	2SC460B		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC1047		GE-60*	PTC132*	HEPS0016*	REN 229*	SK3018*	RT-107	ECG229*	TM229*	WEP63*	121-29021
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC460	RT 6204	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q9	2SC710D	EA15X364	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
Q10	2SC829B	RT 6733	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*	WEP829	121-29021*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*	WEP829	121-29021*
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A

GENERAL ELECTRIC MODELS 3-5804D/-5813B

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.	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.
Q11	2SC829C	RT6733	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-Z9021*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-Z9021*
Q12	2SC710	RT6733	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A*/**	WEP710	121-Z9000A
	2SC829B		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-Z9021*
Q13	2SC829	RV2354	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-Z9021*
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A*/**	WEP710	121-Z9000A
Q14	2SC829C	RV2353	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-Z9021*
	2SC828P		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q15	2SC828	EA15X386	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q21	2SC372	EA15X325	GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SA564R		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q22	2SA564	EA15X404	GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
Q501	2SC1327T	(11)	GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199/**	WEP66	121-972
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
Q502	2SC945	RT7557(11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC1327		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199/**	WEP66	121-972
Q503	2SC828P	(11)	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q504	2SC945	RV2355(11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC828R		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q505	2SC945AP	(11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q506	2SC828	(11)	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC945A/D		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q507	2SC945AP	(11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q508	2SC828	(11)	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC945A/D		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q509	2SA719R	(11)	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
	2SA719		GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
Q510	2SA733	RV2355(11)	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA719K		GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019

* Lead configuration may vary from original.

/** Also available as exact type replacement.

(11) Used in model 3-5813B.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNEILL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	.1 50V	EA31X241	PC10-25	TDC104M050EL	QDT1-2	SD50-R109
C2	10 16V	EA31X246		VTT10B25	QV1-41	EV-1222
C3	.22 50V	EA31X271	PC50-16	TDC224M050EL	QDT1-10	SD50-R229
C11	47 16V	EA31X214		VTT47D16	QV1-73	EV-1226
C18	1 50V	EA31X204	PC10-25	VTT1A50	QV1-11	EV-1615
C72	10 16V	EA31X246		VTT10B25	QV1-41	EV-1222
C74	3.3 25V	EA2552	PC50-16	VTT3R3A50	QV1-23	EV-1318
C76	1 50V	EA31X204		VTT1A50	QV1-11	EV-1615
C78	47 16V	EA31X214	PC50-16	VTT47D16	QV1-73	EV-1226
C85	3.9 25V	EA31X242		VTT47D16	QV1-73	SD35-3R99
C86	33 6.3V	RT5269	PC30-25	VTT33B10	QV1-61	EV-1125
C87	33 6.3V	RT5269		VTT33B10	QV1-61	EV-1125
C93	47 16V	EA31X214	PC50-16	VTT47D16	QV1-73	EV-1226
C94	220 16V	RT5047		PC250-25	QV1-117	EV-1240
C96	3.3 25V	EA2552	PC5-50	VTT3R3A50	QV1-23	EV-1318
C97	3.3 25V	EA2552		VTT3R3A50	QV1-23	EV-1318
C99	47 25V	RT4632	PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000 16V	EA31X200		VTT1000L16	QV1-183	EV-1260
C101	33 6.3V	RT5269	PC30-25	VTT33B10	QV1-61	EV-1125
C130	100 16V	EA31X269		VTT33B10	QV1-95	EV-1230
C140	3.3 50V	EA31X239	PC5-50	VTT100F16	QV1-25	EV-1618
C150	4.7 25V	EA31X211		VTT3R3A50	QV1-27	EV-1319
C502	4.7 25V	EA31X211	PC5-50	VTT47R7B50	QV1-27	EV-1319

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA			
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
						Q-LINE GENERAL LINE
C4	68 N150 10% 50V	EA118X173			*	10TCP-Q68
C5	.01 50V				MAG5011	
C6	22 N150 50V	EA18X155	UK50-103		*	10TCP-Q22
C7	330 10% 50V		DD-331	GP330	GP333	10TS-T33
C8	150 50V		DTZ-150		CN0315	10TCC-T15
C9	.047 50V		UK25-503		MAG2515	HY-735
C10	47 50V		DTZ-47	NP047	CN0447	10TCC-Q47
C13	.001 10% 50V			DPMS6D1	EWFA210	1FT-D10
C14	68 N150 10% 50V	EA118X173			*	10TCP-Q68
C15	.01 N150 50V	EA18X228			*	
C16	10 50V		DTZ-10	NP010	CN0410	10TCC-Q10
C17	47 N150 50V	RT3281			*	
C19	.001 10% 50V		DD-102G	DPMS6D1	EWFA210	1FT-D10
C20	.001 50V			GP1000	GP210	5GA-D10
C21	.001 10% 50V			DPMS6D1	EWFA210	1FT-D10
C22	2 50V		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C23	33 50V		DTZ-33	NP033	CN0433	10TCC-Q33
C24	27 N150 50V	EA18X181			*	10TCP-Q27
C26	3 50V		DTZ-3R3	NP03P3	CN0533	10TCC-V33
C27	270 10% 50V		DTZ-270			10TCC-T27
C28	.01 50V		UK50-103		MAG5011	
C29	56 50V				CN0456	10TCC-Q56
C30	56 50V				CN0456	10TCC-Q56
C31	.01 50V		UK50-103		MAG5011	
C33	.01 50V		UK50-103		MAG5011	
C35	68 N150 10% 50V	EA118X173			*	10TCP-Q68
C36	.01 50V		UK50-103		MAG5011	
C37	100 50V		DTZ-100	NP0100	CN0310	10TCC-T10
C38	.047		UK50-503		MAG5015	
C39	.01 10% 50V			WMF1S1	EWFA111D	1FT-S10
C40	390 10%		DD-391	GP390	GP339	10TS-T39
C41	.01 50V		UK50-103		MAG5011	
C42	120 50V		DTZ-120		CN0312	10TCC-T12
C43	220 10% 50V		DTZ-220			10TCC-T22
C44	120 50V		DTZ-120		CN0312	10TCC-T12
C45	.01 50V		UK50-103		MAG5011	
C46	120 50V		DTZ-120		CN0312	10TCC-T12
C47	270 50V		DTZ-270			10TCC-T27
C48	2 50V		DTZ-2R2	NP02P2	CN0522	10TCC-V22
C49	.0047 50V		DD-472	GP4700	GF247	5GA-D47
C51	27 50V				CN0427	10TCC-Q27
C52	.01 50V		UK50-103		MAG5011	
C53	.047 50V		UK50-503		MAG5015	
C55	.047 10% 50V			DPMS247	EWFA147	1FT-S47
C56	.01 10% 50V		UK50-103		MAG5011	
C57	27 50V				CN0427	10TCC-Q27
C58	.01 50V		UK50-103		MAG5011	
C59	.01 50V		UK50-103		MAG5011	
C60	.01 50V		UK50-103		MAG5011	
C61	.001 10% 50V			DPMS6D1	EWFA210	1FT-D10
C62	.01 50V		UK50-103		MAG5011	
C64	.01 50V		UK50-103		MAG5011	
C65	15 N150 50V	EA18X200			*	10TCP-Q15
C66	.022 50V		DC-253	MGP025	TA125	TG-S25
C67	.1 10% 50V			WMF05P1	EWFO5010	1FT-P10
C68	390 10% 50V		DD-391	GP390	GP339	10TS-T39
C71	.047 50V		UK50-503		MAG5015	
C73	.0068 50V		DD-682	GP6800	GP268	5GA-D68
C75	.0047 10% 50V			WMF1D47	M192P4729R8	1FT-D47
C79	.022 50V		UK25-223			HY-725
C80	.047 10% 50V			DPMS247	EWFA147	1FT-S47
C81	.01 10% 50V			WMF1S1	EWFA1110	1FT-S10
C82	.0047 50V		DD-472	GP4700	GP247	5GA-D47
C83	.01 10% 50V			WMF1S1	EWFA1110	1FT-S10
C84	.0022				GP222	10TS-D22
C88	68 N150 10% 50V	EA118X173			*	10TCP-Q68
C89	68 N150 10% 50V	EA118X173			*	10TCP-Q68
C90	270 50V		DTZ-270			10TCP-Q68
C91	.068 50V		UK50-683		MAG50168	10TCC-T27
C92	220 50V		DTZ-220			10TCC-T22
C95	.068 10% 50V	EA22X24				1PB-S68
C102	.01 50V		UK50-103		MAG5011	
C106	.047 50V		UK50-503		MAG5015	
C107	.047 50V		UK50-503		MAG5015	
C108	.047 50V		UK50-503		MAG5015	
C109	.01 50V		UK50-103		MAG5011	
C112	82 10% N150 50V	EA18X234			*	10TCP-Q82

GENERAL ELECTRIC MODELS 3-5804D/-5813B

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
C113	.01 50V		UK50-103		MAG5011	
C114	390 50V		0D-391	GP390	GP339	10TS-T39
C117	.022 50V		DC-253	MGP025	TA125	TG-S25
C118	560 50V		0D-561		GP356	10TS-T56
C121	47 50V		DTZ-47	NP047	CN0447	10TCC-Q47
C131	270 10% 50V		DTZ-270			10TCC-T27
C132	.001 50V		DD-102G	GP1000	GP210	5GA-D10
C151	.01 50V		UK50-103		MAG5011	
C152	390 10% 50V		DD-391	GP390	GP339	10TS-T39
C201	150 50V		DD-151		GP315	10TS-T15
C202	.01 50V		UK50-103		MAG5011	
C203	.01 50V		UK50-103		MAG5011	
C205	.01 50V		UK50-103		MAG5011	
C205B	.047 50V		UK50-503		MAG5015	
C206	.01 50V		UK50-103		MAG5011	
C207	.0047 50V		DD-472	GP4700	GP247	5GA-D47
C208	.001 50V		DD-102G	GP1000	GP210	5GA-D10
C209	.0047 50V		DD-472	GP4700	GP247	5GA-D47
C210	.0047 50V		DD-472	GP4700	GP247	5GA-D47
C211	.01 50V		UK50-103		MAG5011	
C212	.0047 50V		DD-472	GP4700	GP247	5GA-D47
C213	.001 50V		DD-102G	GP1000	GP210	5GA-D10
C501	.01 10% 50V		UK50-103		MAG5011	
C503	.01 50V		UK50-103		MAG5011	
C504	.01 10% 50V		UK50-103		MAG5011	
CT1		EA30X52				

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

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
RV1	Squelch Range	20K	EA49X332			U260R253B
RV2	AMC	2000	EA49X331			U260R252B
RV3	Signal Meter	20K	EA49X332			U260R253B
RV4	Power Meter	20K	EA49X332			U260R253B
RV5	PA Power	500	(A)			
RV501	AWI	20K	EA49X332(20)			U260R253B
VR1	Volume/Power Switch	50K	EA49X392			
VR2	Squelch	10K	EA49X479(18)(20)			
VR3	RF Gain	100K				
VR2	Squelch	10K	EQ49X480(19)			

(18) Includes VR2 and VR3.

(19) Used in Model 3-5804D.

(20) Used in Model 3-5813B.

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.
RARY 251	Resistor Network		EA62X167(1)				

(1) Consists of thirteen 18 ohm resistors.

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	VCO	EA36X257			
L2	Mixer IF	EA36X258			
L3	RF Choke (68uH)	EA36X239			
L4	RF Choke (1uH)	EA36X259			
L6	RF Choke (2.2uH)	EA36X237			
L7	Driver (27MHz)	EA36X238		4602 70F226A1	
L8	RF Choke (68uH)	EA36X239			
L9	RF Choke (.55uH)	EA36X245			
L10	RF Choke (1uH)	EA36X240			
L11	Final Amp (27MHz)	EA36X241			
L12	Pi Filter	EA36X242			
L13	RF Choke (.40uH)	EA36X261			
L14	Mixer IF (10.695MHz)	EA61X204			
L15	RF Choke (68uH)	EA36X239			
L16	RF Choke (1.15uH)	EA36X263			
L17	RF Choke (1.15uH)	EA36X263			
T1	Ref Osc. (20.480MHz)	EA35X1D2			
T2	Mixer IF (37MHz)	EA36X264			
T3	Xmt Mixer (27MHz)	EA36X260			
T4	Pre Driver (27MHz)	EA36X248			
T5	Rec Antenna (27MHz)	EA36X249			
T6	Rec RF (27MHz)	EA36X265			
T8	IF (455kHz)	EA61X188			
T10	IF (455kHz)	EA61X190			

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	1.3A	.241	3.72MH	EA36X256 LJ119H004W(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.	
T11	2.88	1 8 2 13.52	EA64X30 ETA66(1)	TR723	MCB-16	(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP-1	3" PM 8 ohms	EA95X137	30A05Z8R	

GENERAL ELECTRIC MODELS 3-5804D/-5813B

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	2A Quick Acting	5-1725		AGC2	HDJ	312002	150145	FG2-2

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	EA68X123B(1)	18-032	18-034	18-010	18-092	1	2	4	3	NC	2
	EA68X63B (2)	18-032	18-034	18-010	18-105	4	1	3	5	NC	1

(1) Number on unit, Model 3-5813A (2) Number on unit, Model 3-5804D

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
F1	Filter	EA36X448	10.7MHz
F2	Filter	EA36X332	455kHz
J1	Socket	EA41X217	Antenna
J2	Socket	EA41X175	Mic
J3	Socket	EA41X135	Ext. Speaker
J4	Socket	EA41X135	PA
J5	Socket	EA41X149	Power, DC
LED301	LED	EA93X362	Channel Display
L20	Ferrite Core		
M1	Meter	EA62X151	S/Rf (Used in Model 3-5813B)
	Meter	EA62X219	S/Rf (Used in Model 3-5804D)
PL2	Lamp	EA41X145	Modulation (3.66V @ 32mA)
P13	Lamp	EA41X179	AWI (5.84V @ 34mA)
S2	Switch	EA39X225	ANL
S3	Switch	EA55X133	CB/PA
SW1	Switch	EA55X140	Channel Selector
X1	Crystal	EA75X6	10.24MHz
X2	Crystal	EA75X7	10.7MHz
	Power Cord	EA68X119	AC (Includes Plug, P5)
	Earphone	5-1082	

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Top	EA98X542	Knob, RF Gain	EA43X729
Cabinet, Bottom	EA98X654	Knob, Squelch	EA43X730
Escutcheon	EA89X271	Knob, Volume	EA43X727
Knob, Channel Selector	EA43X897		



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 3-5813B

MANUFACTURER'S SPECIFICATIONS

SPECIFICATIONS:

CHANNELS: 40 channels, PLL digital logic synthesizer circuitry

POWER REQUIREMENT: Consumption: 25 watts; current drain: 1.8 amps (100% mod.) at 13.8-volt DC

POWER SUPPLY: 12 volts DC nominal (positive or negative ground)

SEMICONDUCTORS: Integrated circuits, transistors and diodes

OPERATING TEMPERATURE RANGE: -30 to +50°C

MICROPHONE: Dynamic with push-to-talk switch, 500-ohm

BUILT-IN SPEAKER: 8 ohms impedance, 77mm (3 inches) in size

CONTROLS: Volume with ON/OFF switch, squelch control, R.F. Gain control, channel selector switch, automatic noise limiter switch, CB/PA control.

CONNECTORS: External speaker jack 3.5mm (8 ohms impedance), antenna receptacle to match PL-259 coax plug (50 ohms impedance), 12-volt DC power jack (polarized type), PA Speaker Jack 3.5mm (8 ohms impedance)

CIRCUIT PROTECTION: Prevents transistor burn-out when transmitting without antenna (5-minute limit); 2-amp fuse in DC power cord

RECEIVER

SENSITIVITY: 10 db (S+N)/N: Less than 1.0 uv.

FREQUENCY COVERAGE: 26.965 to 27.405 MHz

ADJACENT CHANNEL SELECTIVITY: Better than 40 db

AUDIO OUTPUT POWER (power to speaker): @ 10% DIST., better than 3 watts

SPURIOUS REJECTION: Better than 50 db

IF FREQUENCIES: 455 kHz, 10.695 MHz.

SQUELCH RANGE (SENSITIVITY): 0.5 to 2000 uv nominal

IMAGE REJECTION RATIO: Better than 40 db

TRANSMITTER

FREQUENCY RESPONSE: 400 Hz to 2.5 KHz

FREQUENCY COVERAGE: 26.965 to 27.405 MHz

TRANSMIT POWER OUTPUT [RF (radio frequency) power to antenna]: 4 watts maximum as limited by FCC Regulations at 13.8 volts DC nominal between 3.5 and 4 watts

MODULATION: Capable of 100%; factory pre-set limit 85-100%

FREQUENCY TOLERANCE: Better than $\pm .004\%$ MAX.

Courtesy of the Manufacturer

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

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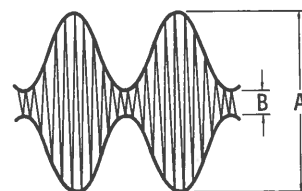
GENERAL ELECTRIC MODELS 3-5804D/-5813B

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
L1, L2, T1 thru T6.....	9440
L7, L11, L12.....	9300, 9302, 9304
T8, T10, L14.....	5000, 5009, 8276, 8728, 8728A
CT1.....	5000, 8276



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

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1 (Q10 base).	Ch. 19	CT1	Adjust for 10.240MHz $\pm$ 50Hz.
Input of oscilloscope to TP2 (T1 secondary).	Ch. 19	T1	Adjust for maximum RF.
Input of DC meter to TP8.	Ch. 1	L1	Adjust for 3.60 volts $\pm$.1 volt. Check for approx. 1.90 volts on Channel 40.
Input of frequency counter to TP3 (IC1 pin 2).	Ch. 1		Check for 3.300MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to TP4 (T2 secondary).	Ch. 19	L2,T2	Adjust for maximum RF.
Input of frequency counter to TP4 (T2 secondary).	Ch. 1		Check for 37.660MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP5 (Q2 emitter).	Ch. 19, XMT		Check for 10.695MHz.
Input of frequency counter to TP6 (IC3 pin 9).	Ch. 1, XMT		Check for 26.965MHz. 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.
 RF Gain Maximum, Squelch MINIMUM, ANL Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP1 (Q10 base). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T10,T8	Adjust for maximum RF.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	L14,T6,T5	Adjust for maximum output. Readjust T8 and T10 for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF Gain Maximum, ANL Off.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 500uV.	Ch. 19 Squelch Maximum	RV1	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	RV3	SIGNAL METER Adjust for 9 on signal scale of meter.

TRANSMITTER ALIGNMENT

Connect a 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 to antenna input.	Ch. 19	T3,T4	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19	L7,L11,L12	Adjust for 4.0 watts RF output maximum.

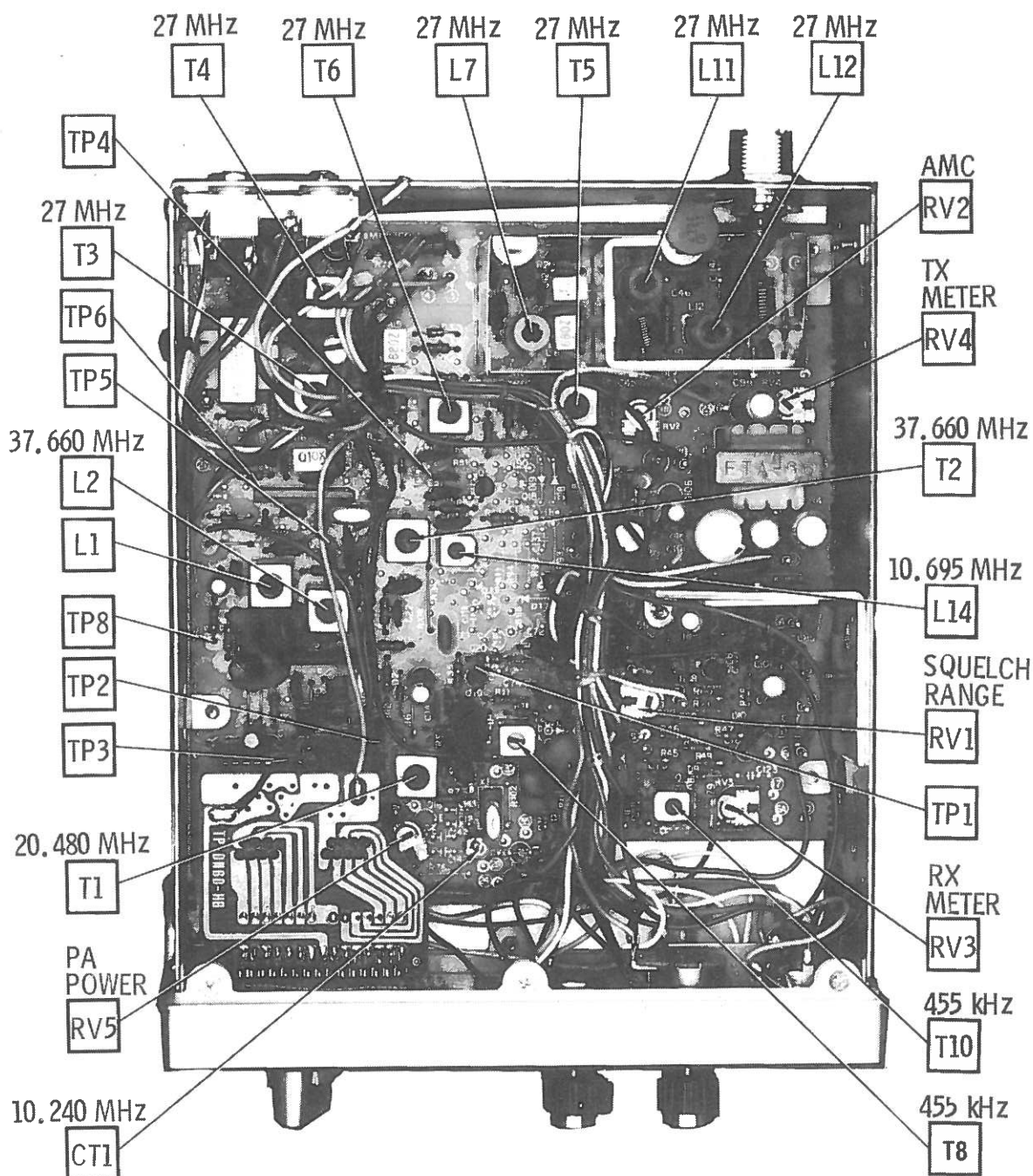
TRANSMITTER ADJUSTMENTS

Connect a 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.

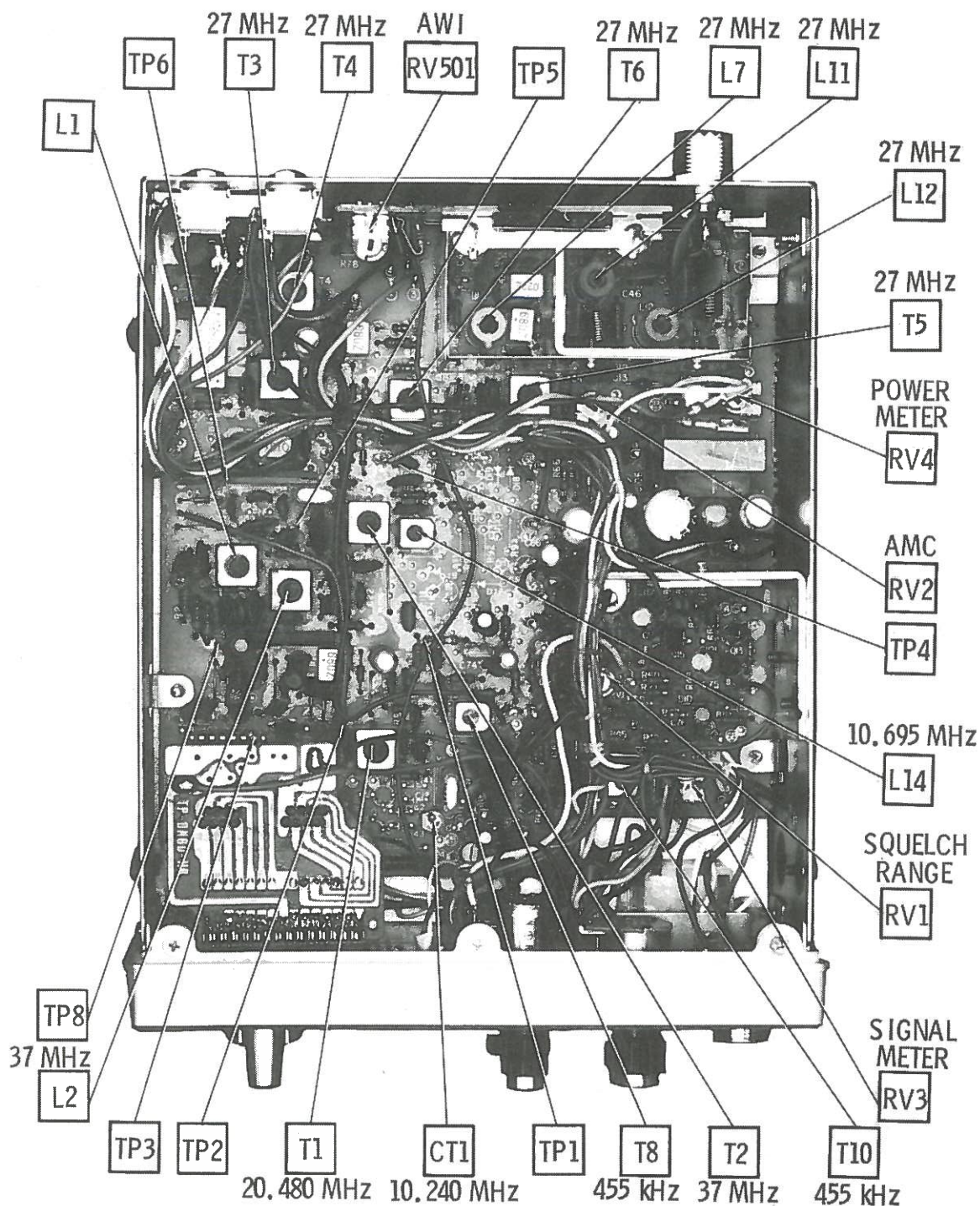
TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 8mV signal at mic input.	Ch. 19	RV2	AMC Adjust for 90% modulation maximum. See Figure 1.
Input of RF wattmeter to antenna input.	Ch. 19	RV4	POWER METER Adjust so that power meter agrees with RF wattmeter.
Connect a 250 ohm, non-inductive resistor to antenna input.	Ch. 19	*RV501	AWI Adjust so that AWI light just turns on.
Inject a 1000Hz, 8mV signal at mic input. Input of AC VTVM or AF wattmeter across PA speaker.	XMT CB/PA CB	**RV5	PA POWER Adjust for 6.30 volts RMS (5 watts) audio output.

* Used Model 3-5813B only.

** Used Model 3-5804D only.



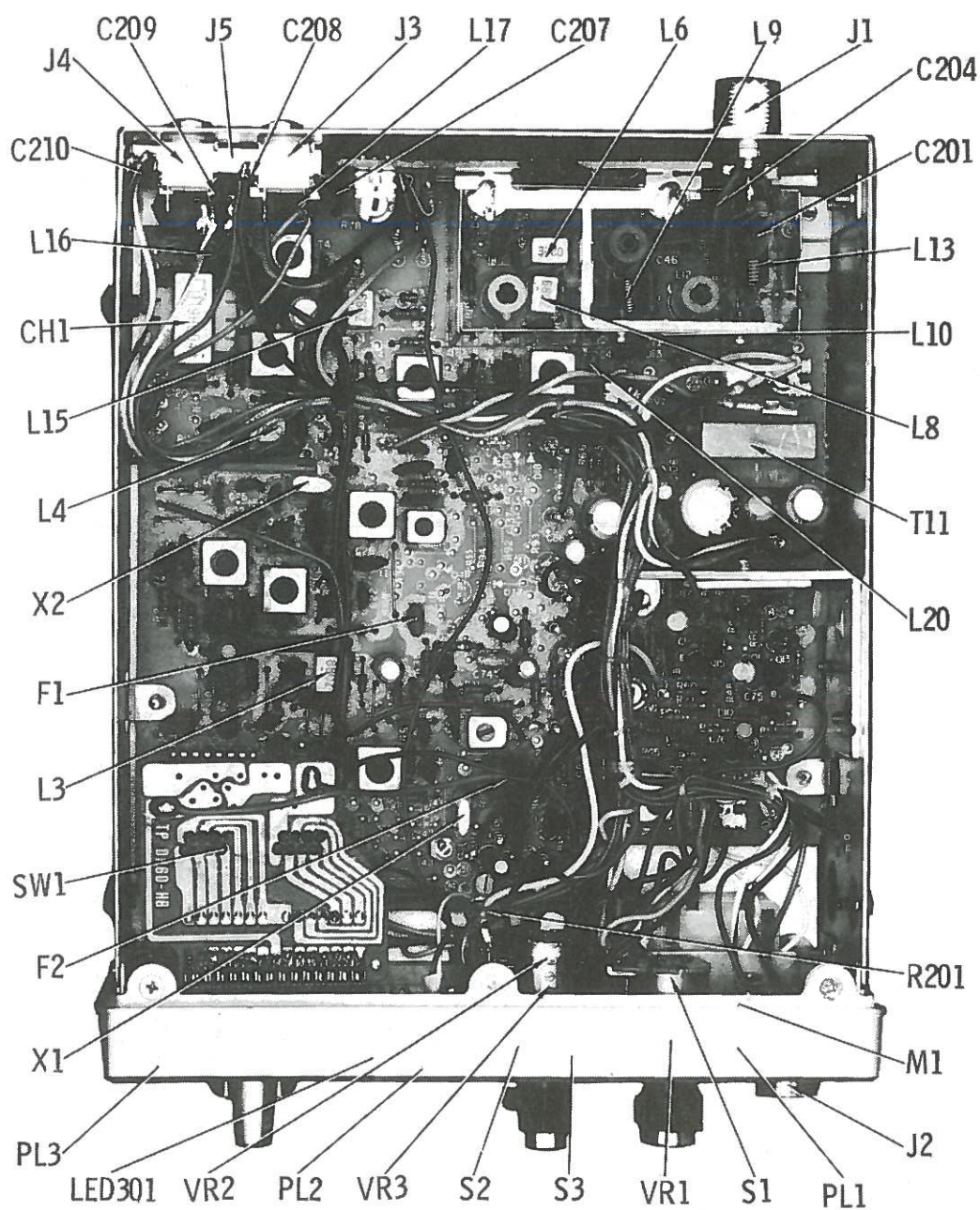
CH. BOTTOM (MODEL 3-5804D)



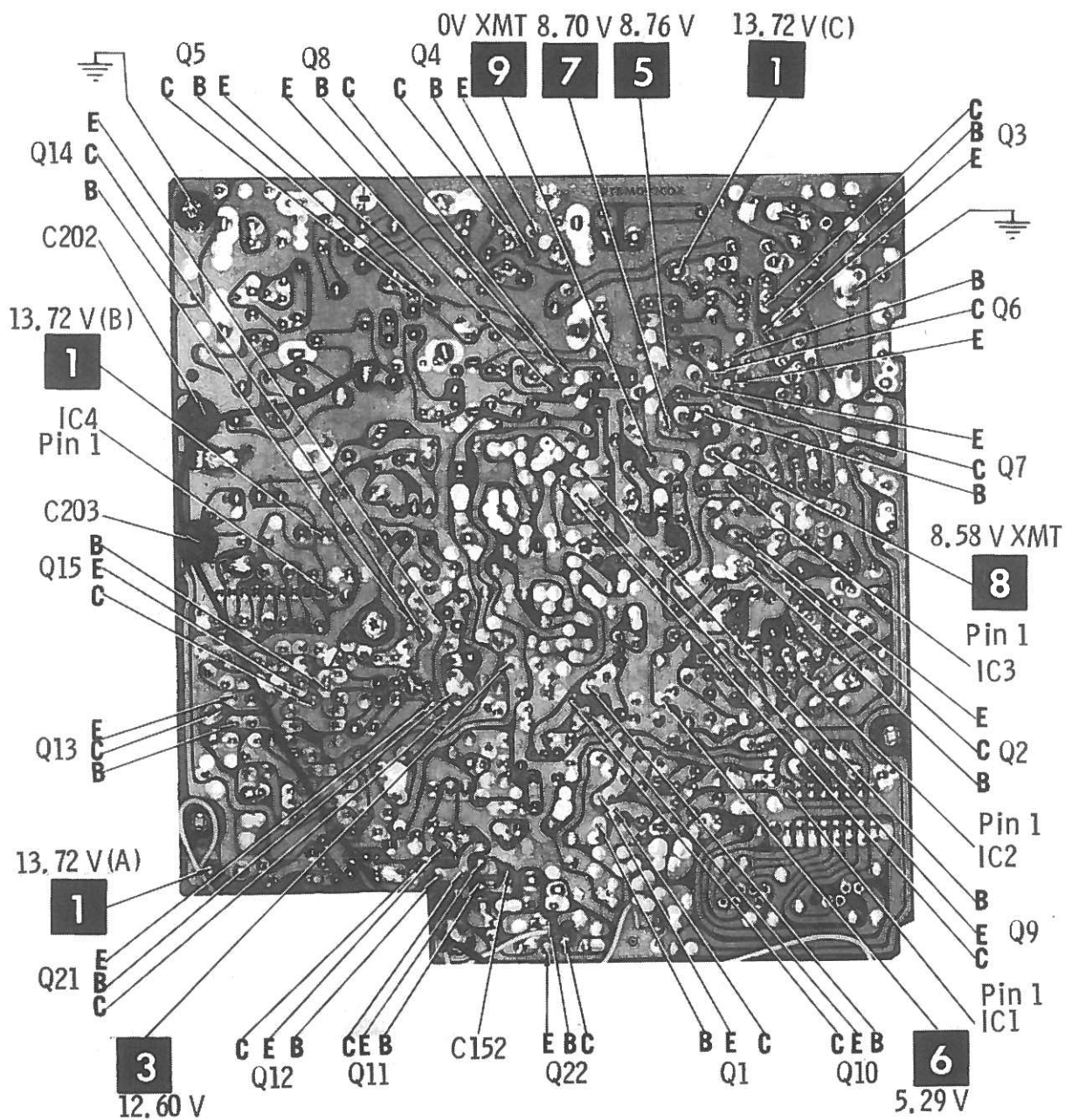
CH. BOTTOM (MODEL 3-5813B)

TRUTH CHART

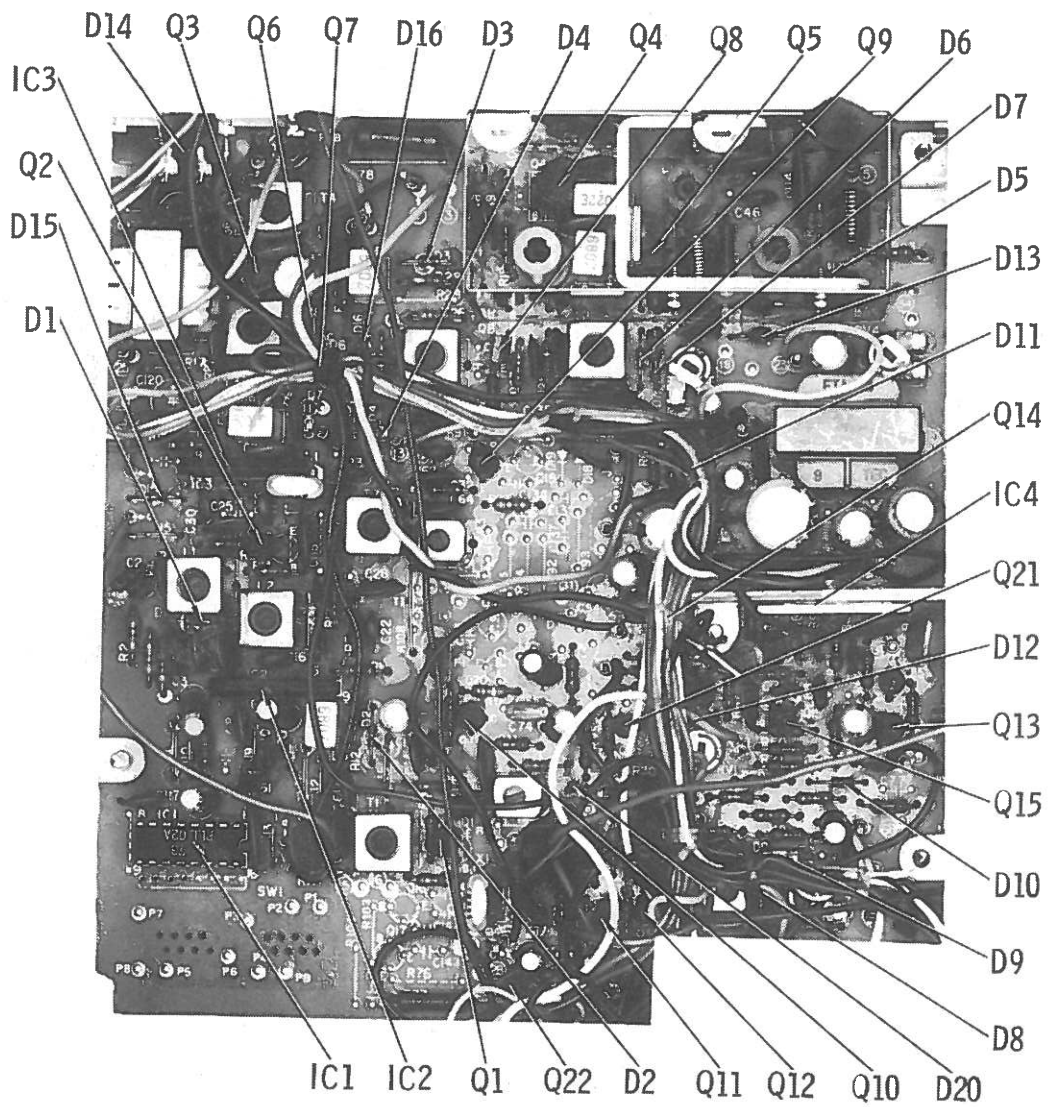
1 = 5.95 Volts 0 = 0 Volts PROGRAM DIVIDER										DIVIDER INPUT IN MHz AT TP3	REC SYNTH OUTPUT IN MHz AT TP4	XMT SYNTH OUTPUT IN MHz AT TP6
PINS												
	9	10	11	12	13	14	15					
1	1	0	0	1	0	1	0	3.300	37.660	26.965		
2	1	0	0	1	0	0	1	3.290	37.670	26.975		
3	1	0	0	1	0	0	0	3.280	37.680	26.985		
4	1	0	0	0	1	1	0	3.260	37.700	27.005		
5	1	0	0	0	1	0	1	3.250	37.710	27.015		
6	1	0	0	0	1	0	0	3.240	37.720	27.025		
7	1	0	0	0	0	1	1	3.230	37.730	27.035		
8	1	0	0	0	0	0	1	3.210	37.750	27.055		
9	1	0	0	0	0	0	0	3.200	37.760	27.065		
10	0	1	1	1	1	1	1	3.190	37.770	27.075		
11	0	1	1	1	1	1	0	3.180	37.780	27.085		
12	0	1	1	1	1	0	0	3.160	37.800	27.105		
13	0	1	1	1	0	1	1	3.150	37.810	27.115		
14	0	1	1	1	0	1	0	3.140	37.820	27.125		
15	0	1	1	1	0	0	1	3.130	37.830	27.135		
16	0	1	1	0	1	1	1	3.110	37.850	27.155		
17	0	1	1	0	1	1	0	3.100	37.860	27.165		
18	0	1	1	0	1	0	1	3.090	37.870	27.175		
19	0	1	1	0	1	0	0	3.080	37.880	27.185		
20	0	1	1	0	0	1	0	3.060	37.900	27.205		
21	0	1	1	0	0	0	1	3.050	37.910	27.215		
22	0	1	1	0	0	0	0	3.040	37.920	27.225		
23	0	1	0	1	1	0	1	3.010	37.950	27.255		
24	0	1	0	1	1	1	1	3.030	37.930	27.235		
25	0	1	0	1	1	1	0	3.020	37.940	27.245		
26	0	1	0	1	1	0	0	3.000	37.960	27.265		
27	0	1	0	1	0	1	1	2.990	37.970	27.275		
28	0	1	0	1	0	1	0	2.980	37.980	27.285		
29	0	1	0	1	0	0	1	2.970	37.990	27.295		
30	0	1	0	1	0	0	0	2.960	38.000	27.305		
31	0	1	0	0	1	1	1	2.950	38.010	27.315		
32	0	1	0	0	1	1	0	2.940	38.020	27.325		
33	0	1	0	0	1	0	1	2.930	38.030	27.335		
34	0	1	0	0	1	0	0	2.920	38.040	27.345		
35	0	1	0	0	0	1	1	2.910	38.050	27.355		
36	0	1	0	0	0	1	0	2.900	38.060	27.365		
37	0	1	0	0	0	0	1	2.890	38.070	27.375		
38	0	1	0	0	0	0	0	2.880	38.080	27.385		
39	0	0	1	1	1	1	1	2.870	38.090	27.395		
40	0	0	1	1	1	1	0	2.860	38.100	27.405		



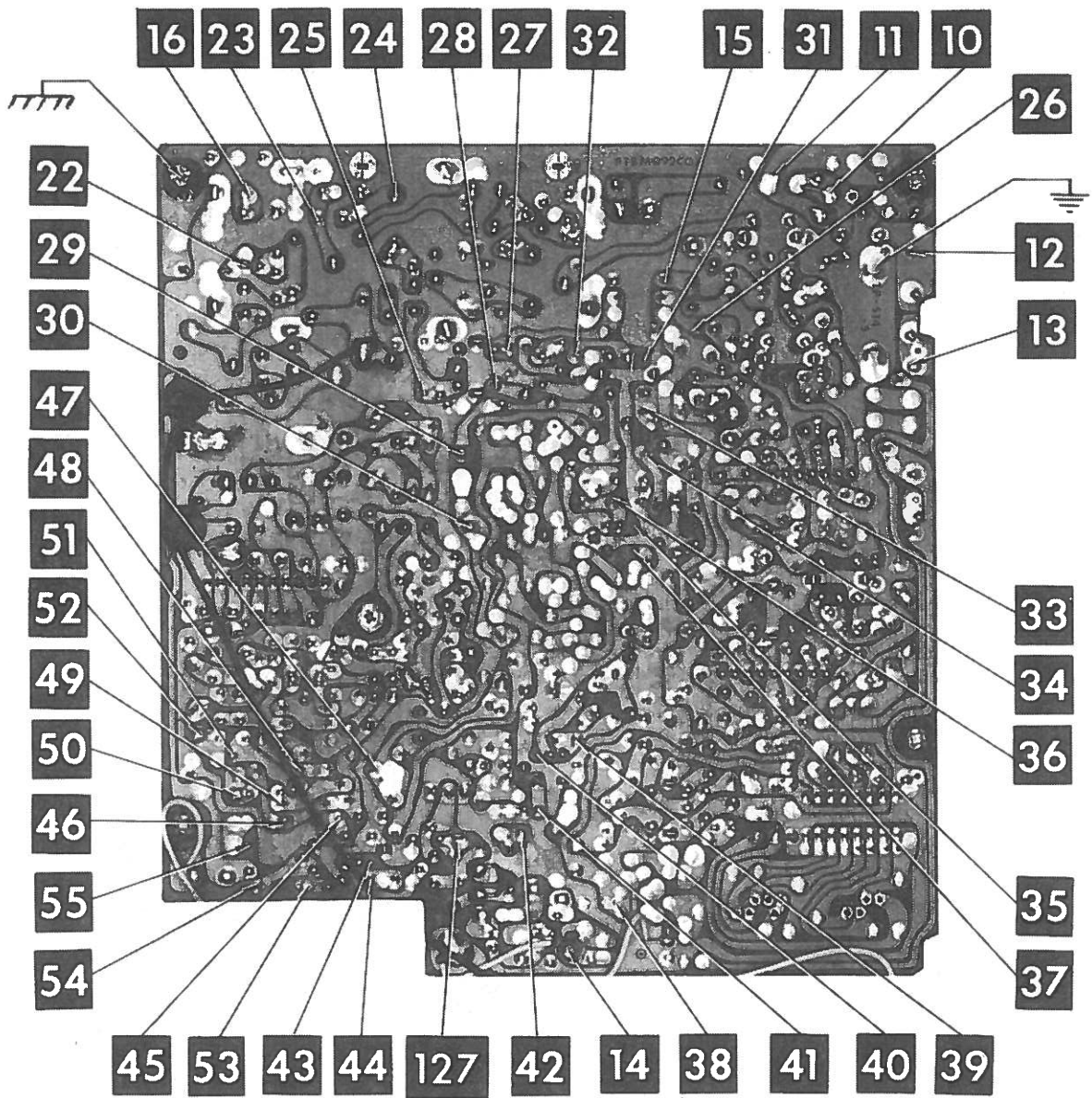
CH. BOTTOM (MODEL 3-5813B)



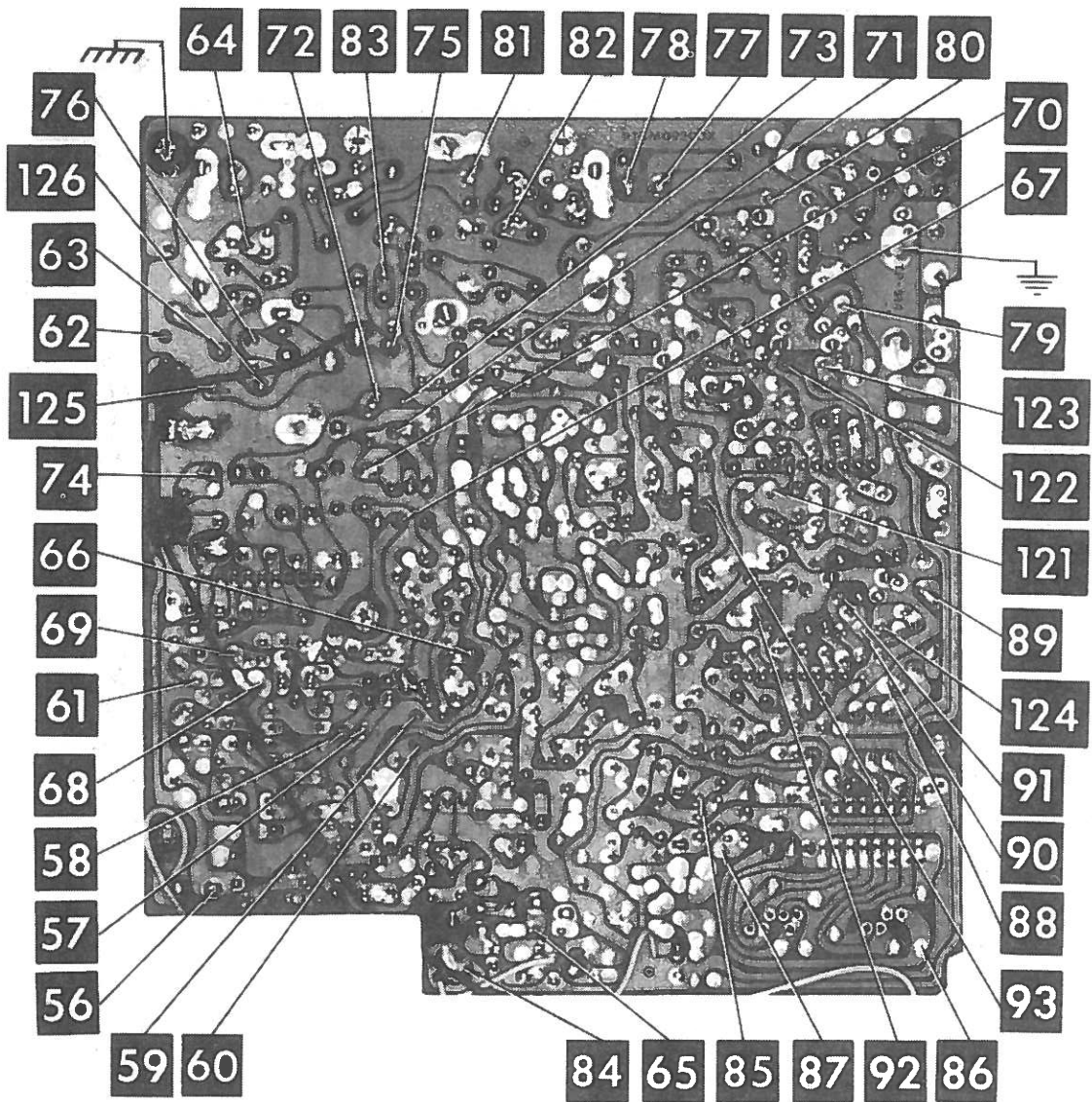
MAIN BOARD



MAIN BOARD

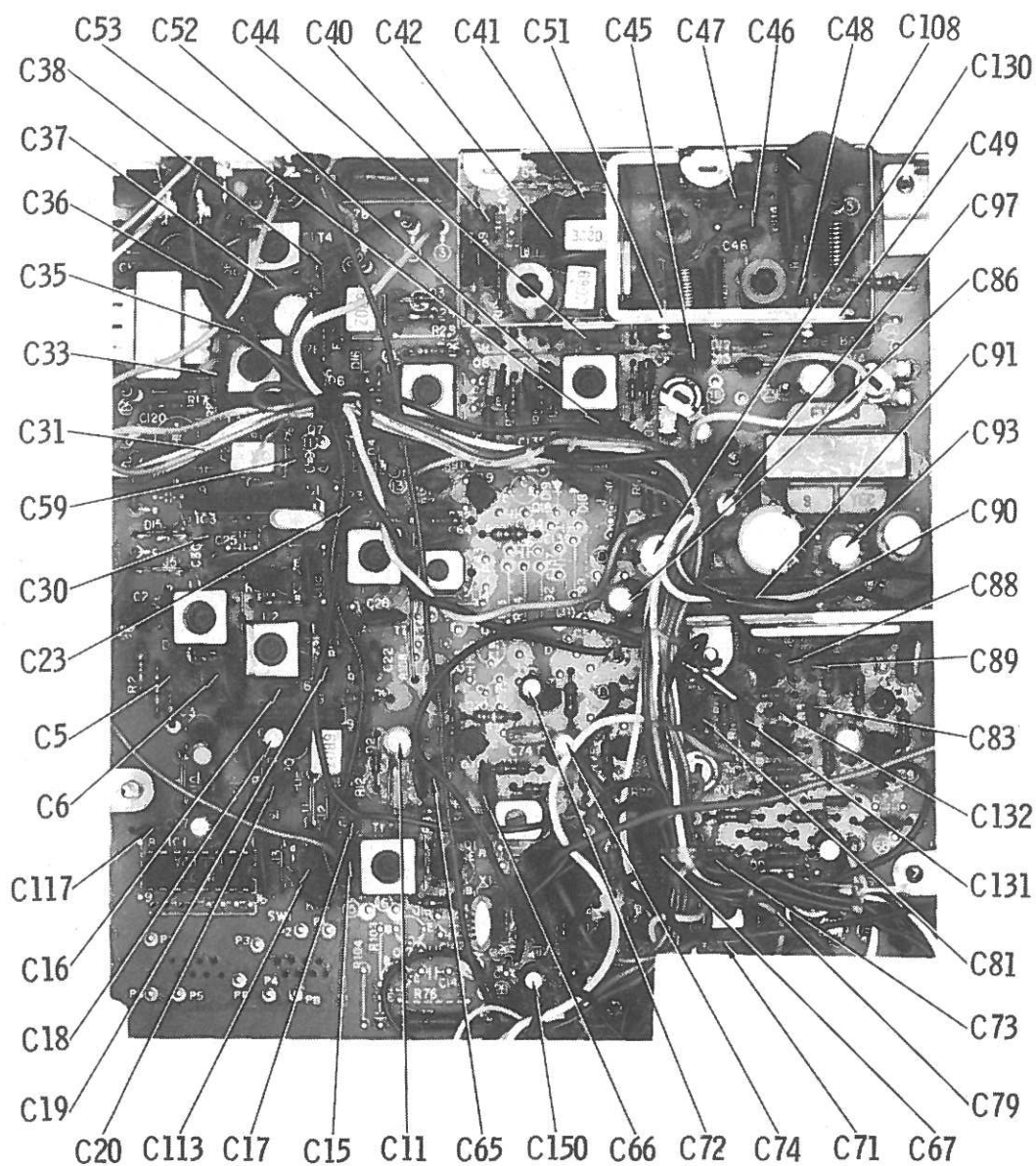


MAIN BOARD

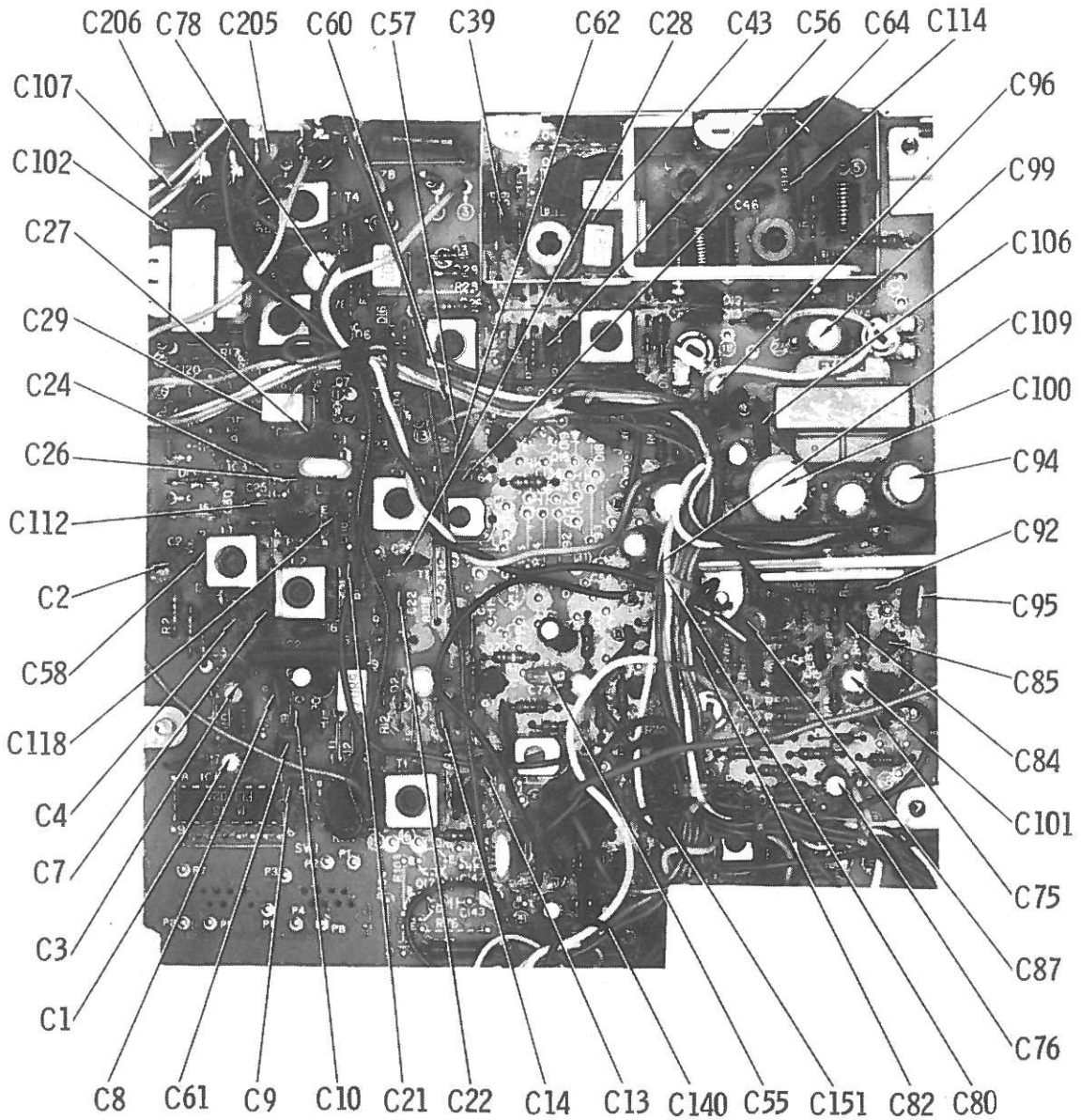


GENERAL ELECTRIC MODELS 3-5804D/-5813B

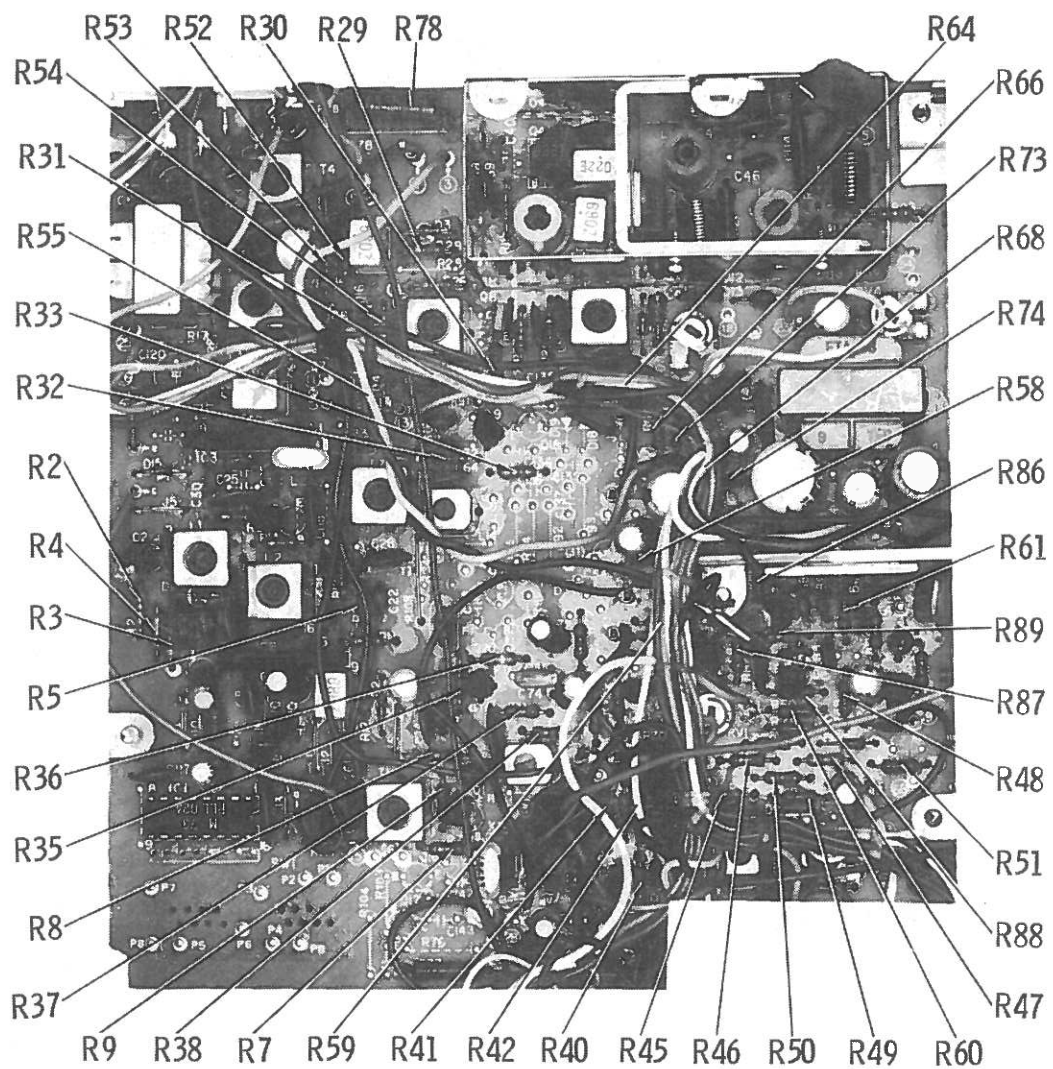
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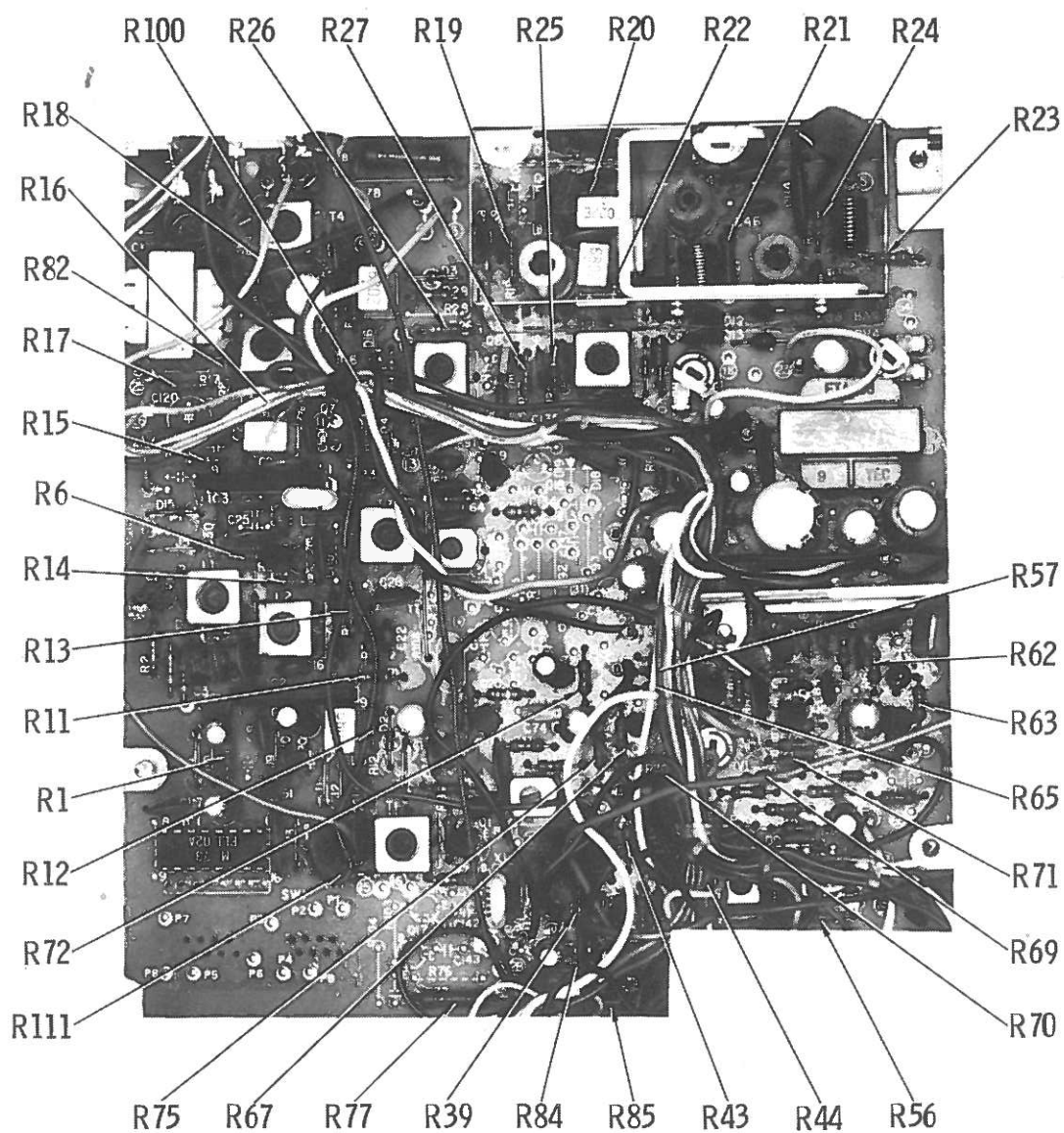
MAIN BOARD



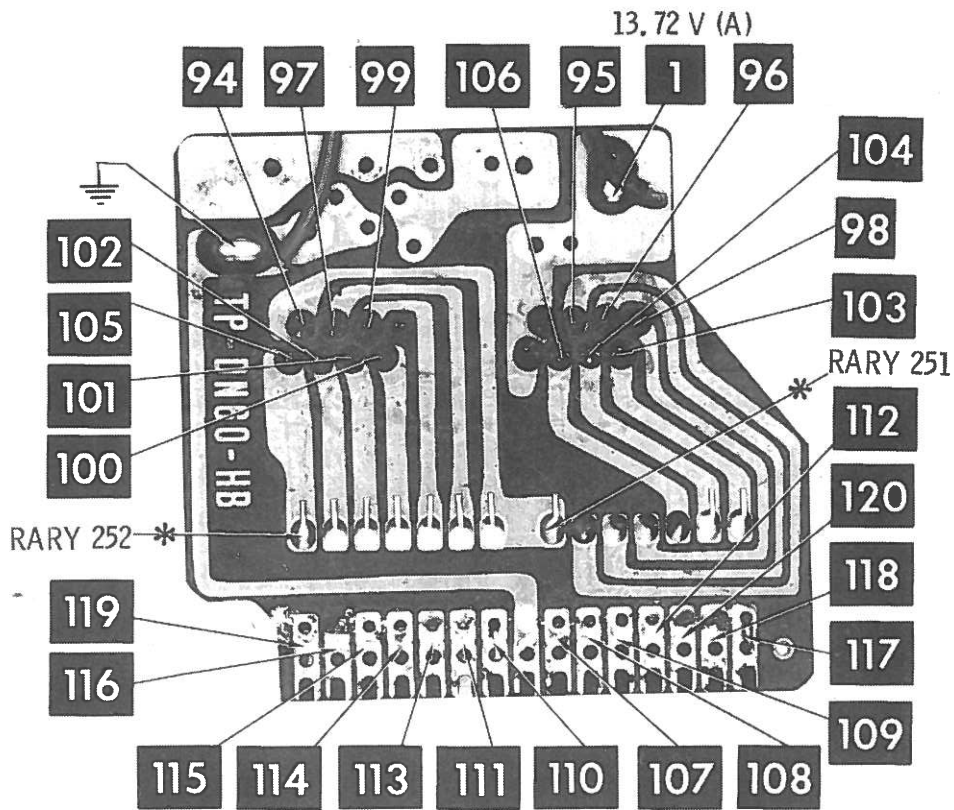
MAIN BOARD



MAIN BOARD

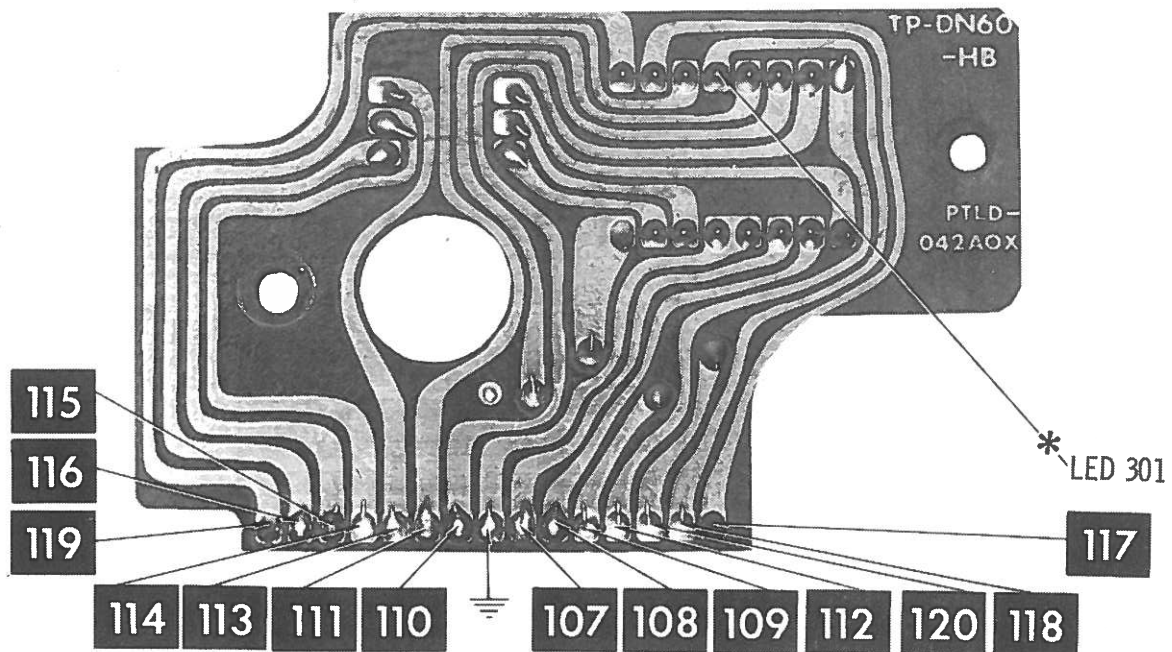


MAIN BOARD



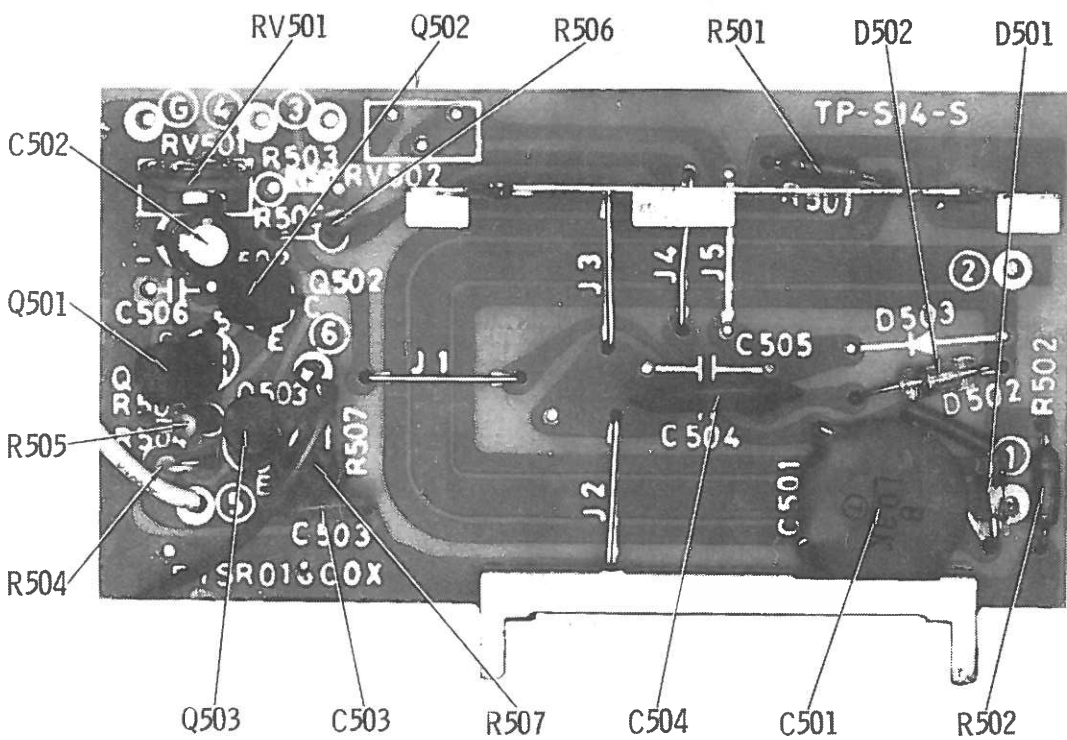
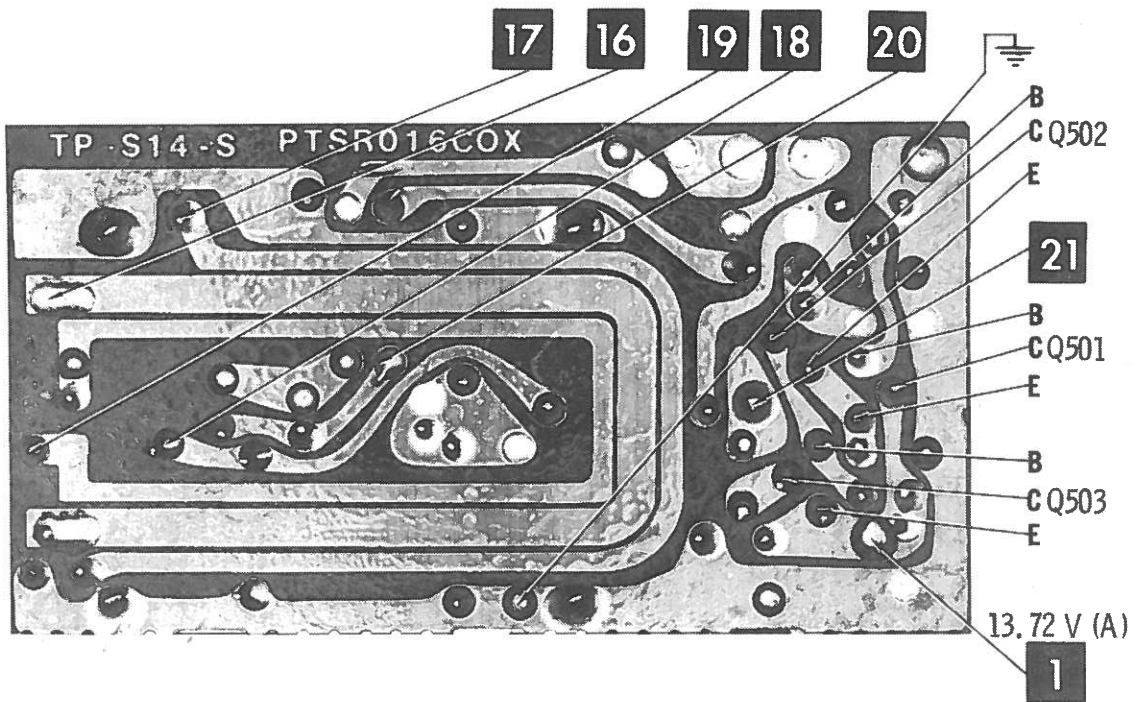
*Located on top of board

Ch. SELECTOR BOARD

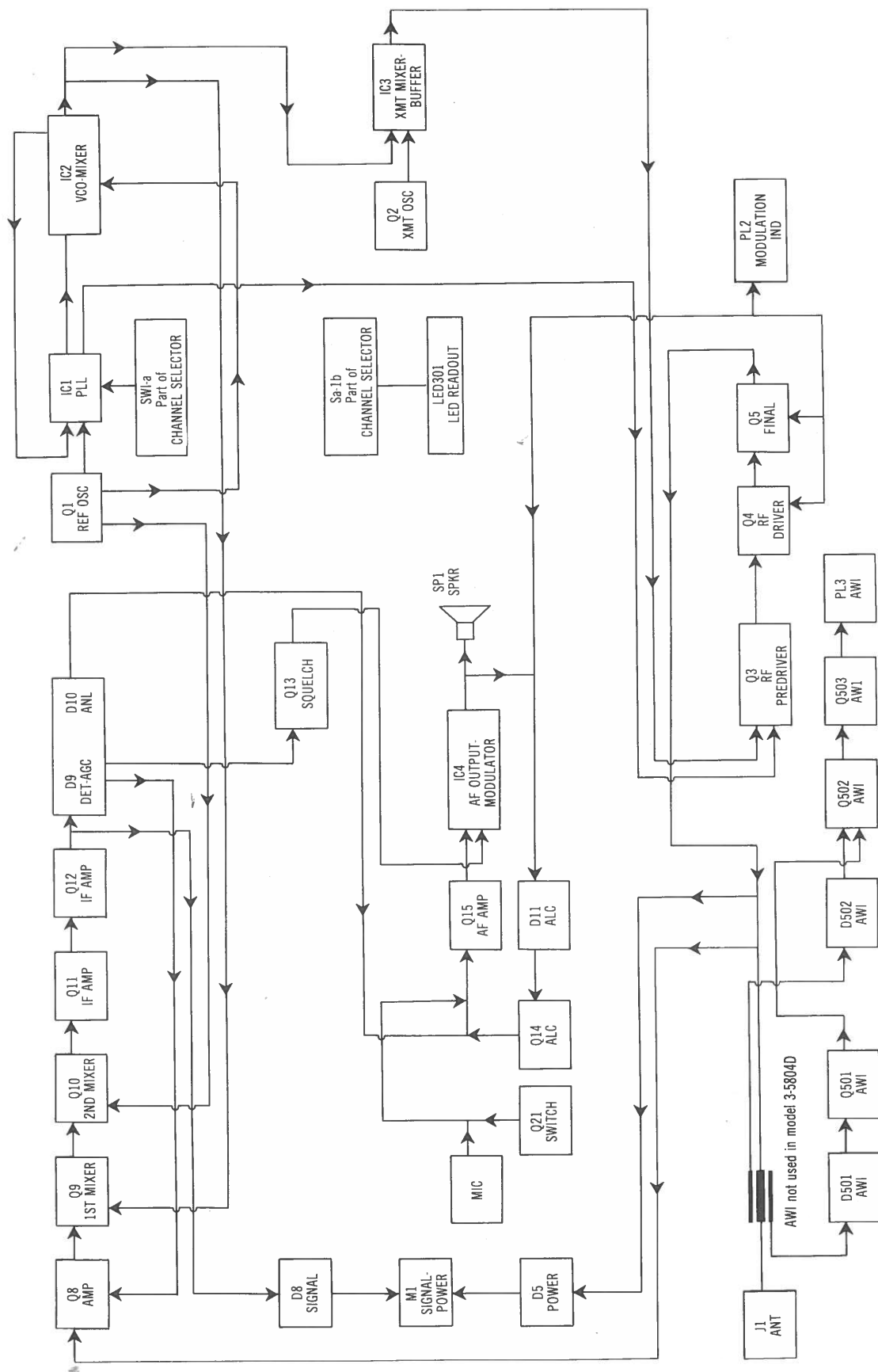


*Located on top of board

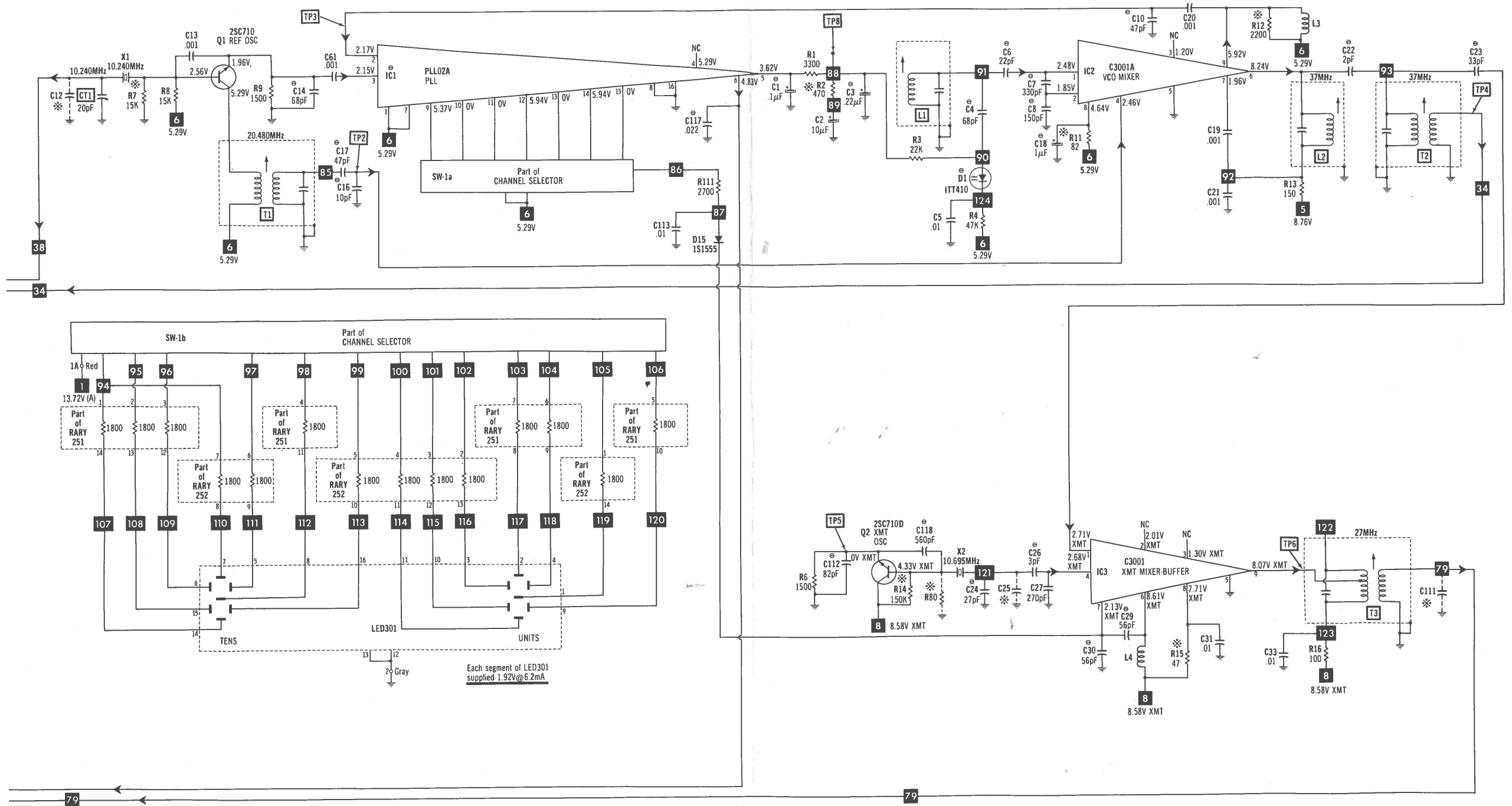
LED BOARD



AWI BOARD



BLOCK DIAGRAM



- Circuitry not used in some versions
- Circuitry used in some versions
- Chassis
- Common tie point
- Signal path
- Voltage path
- 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 PHOTOFAC STANDARD NOTATION SCHEMATIC

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PLL SCHEMATIC

PARTS LIST AND DESCRIPTION

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

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')

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	ITT410	EA16X106			HEPR2502	REN 612			ECG612			103-176
	BB122				HEPR2502	REN 612			ECG612			103-176
	MV201				HEPR2502	REN 612			ECG612			103-176
D2	MZ205	EA16X136	GEZD-5.0						ECG135	TM135	WEP1103	103-29006
D3	UZ9.1B	EA16X314	GEZD-9.1	ZB9.1A	HEPZ0412	REN 139	SK3060	RT-240	ECG139	TM139/**	WEP1109	103-272
	RD9.1E		GE-300	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
D4	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514		HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D5	1N60	EA16X48	PTC206		HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D6	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514		HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D7	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514		HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D8	1N60	EA16X48	PTC206		HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D9	1N60	EA16X48	PTC206		HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D10	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514		HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D11	1N60	EA16X48	PTC206		HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D12	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514		HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D13	SR1K-4	RT5217	PTC201		HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1S1555		GE-300		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D14	1S1885	RV1189	PTC201		HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D15	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D16	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	SN4448		GE-514		HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D20	1S1555	RT5217	PTC214		HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D501	1N60	EA16X48(11)	PTC206		HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D502	1N60	EA16X48(11)	PTC206		HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
IC1	PLL02A						SK3732		ECG1233			
	PLL02						SK3732		ECG1167	TM1167	WEP2007	
IC2	C3001A	EA33X8388				REN 1192	SK3445		ECG1192			
	C3001					REN 1192	SK3445		ECG1192			
	TA7310P	EA33X8394				REN 1192	SK3445		ECG1192			
	AN103G					REN 1192	SK3445		ECG1192			
IC3	C3001					REN 1192	SK3445		ECG1192			
	TA7310P	EA33X8394				REN 1192	SK3445		ECG1192			
IC4	TA7205AP		GEIC-179	PTC780		REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
	TA7205		GEIC-179	PTC780		REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
	TA7205P	EA33X8389	GEIC-179	PTC780		REN 1155	SK3231	TVCM-81	ECG1155	TM1155	WEP949	
Q1	2SC710D	EA15X364	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q2	2SC710D	EA15X364	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q3	2SC1687	EA15X379	GE-20*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-107A*	ECG123A*	TM123A/**	WEP736*	121-29000A
Q4	2SC1846B		GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	2SC1846Q/R/S	EA15X383	GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	2SC1760		GE-276	PTC180		REN 306	SK3197	RT-310	ECG306	TM306	WEP771	
	2SC2074		GE-275			REN 322			ECG322	TM322	WEP771	
Q5	2SC1306	EA15X381	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235/**	WEP785	121-29039
	2SC2075		GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	2SC1678		GE-322	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
	2SC1974		GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
Q6	2SC1318R		GE-210	PTC123	HEPS0015*	REN 128	SK3122	RT-302	ECG297	TM297	WEP59*	121-1007
	2SC1318		GE-210	PTC123	HEPS0015*	REN 128	SK3122	RT-302	ECG297	TM297	WEP59*	121-1007
	2SC1318Q	EA15X378	GE-210	PTC123	HEPS0015*	REN 128	SK3122	RT-302	ECG297	TM297	WEP59*	121-1007
Q7	2SA719Q	RV2355	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
	2SA720		GE-272	PTC103*	HEPS0019*	REN 298	SK3450	RT-305	ECG298	TM298	WEP915*	121-879*
Q8	2SC460B		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC1047		GE-60*	PTC132*	HEPS0016*	REN 229*	SK3018*	RT-107	ECG229*	TM229*	WEP63*	121-29021
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC460	RT 6204	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q9	2SC710D	EA15X364	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021*
Q10	2SC829B	RT 6733	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A

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.	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.
Q11	2SC829C	RT6733	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
Q12	2SC829B	RT6733	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A*/**	WEP710	121-29000A
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
Q13	2SC829C	RV2354	GE-211*	PTC139*	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A*/**	WEP710	121-29000A
	2SC829C		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
Q14	2SA564R	RV2353	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SA564		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q15	2SA733	EA15X386	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC1327T		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q21	2SC828P	EA15X325	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q22	2SC828R	EA15X404	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q501	2SC945A	(11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945AP		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q502	2SC945A/D	RT7557 (11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945AP		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q503	2SC945A/D	RT7557 (11)	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SA719R		GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
Q504	2SA719	RV2355 (11)	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
	2SA719K		GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019

* Lead configuration may vary from original.

/** Also available as exact type replacement.

(11) Used in model 3-5813B.

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 50V	EA31X241	PC10-25	TDC104M050EL	QDT1-2	SD50-R109
C2	10 16V	EA31X246		VTT10825	QV1-41	EV-1222
C3	.22 50V	EA31X271	PC50-16	TDC224M050EL	QDT1-10	SD50-R229
C11	47 16V	EA31X214		VTT47D16	QV1-73	EV-1226
C18	1 50V	EA31X204	PC1-50	VTT1A50	QV1-11	EV-1615
C72	10 16V	EA31X246	PC10-25	VTT10825	QV1-41	EV-1222
C74	3.3 25V	EA2552	PC5-50	VTT3R3A50	QV1-23	EV-1318
C76	1 50V	EA31X204	PC1-50	VTT1A50	QV1-11	EV-1615
C78	47 16V	EA31X214	PC50-16	VTT47D16	QV1-73	EV-1226
C85	3.9 25V	EA31X242	PC30-25	VTT33B10	QV1-61	SD35-3R99
C86	33 6.3V	RT5269				EV-1125
C87	33 6.3V	RT5269	PC30-25	VTT33B10	QV1-61	EV-1125
C93	47 16V	EA31X214	PC50-16	VTT47D16	QV1-73	EV-1226
C94	220 16V	RT5047	PC250-25	VTT220H16	QV1-117	EV-1240
C96	3.3 25V	EA2552	PC5-50	VTT3R3A50	QV1-23	EV-1318
C97	3.3 25V	EA2552	PC5-50	VTT3R3A50	QV1-23	EV-1318
C99	47 25V	RT4632	PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000 16V	EA31X200	PC1000-16	VTT1000L16	QV1-183	EV-1260
C101	33 6.3V	RT5269	PC30-25	VTT33B10	QV1-61	EV-1125
C130	100 16V	EA31X269	PC100-16	VTT100F16	QV1-95	EV-1230
C140	3.3 50V	EA31X239	PC5-50	VTT3R3A50	QV1-25	EV-1618
C150	4.7 25V	EA31X211	PC5-50	VTT4R7B50	QV1-27	EV-1319
C502	4.7 25V	EA31X211	PC5-50	VTT4R7B50	QV1-27	EV-1319

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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 10% 50V	EA118X173	UK50-103		* MAG5011		10TCP-Q68
C5	.01 50V				*		
C6	22 N150 50V	EA18X155		GP330	GP333		10TCP-Q22
C7	330 10% 50V		DD-331		CN0315		10TS-T33
C8	150 50V		DTZ-150		MAG2515		10TCC-T15
C9	.047 50V		UK25-503		CN0447		HY-735
C10	47 50V		DTZ-47	NP047	EWFA1210	QFT2-1	10TCC-Q47
C13	.001 10% 50V			DPMS6D1	*		1FT-D10
C14	68 N150 10% 50V	EA118X173			*		10TCP-Q68
C15	.01 N150 50V	EA18X228			*		
C16	10 50V		DTZ-10	NP010	CN0410		10TCC-Q10
C17	47 N150 50V	RT3281			*		
C19	.001 10% 50V			DPMS6D1	EWFA1210	QFT2-1	1FT-D10
C20	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C21	.001 10% 50V			DPMS6D1	EWFA1210	QFT2-1	1FT-D10
C22	2 50V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C23	33 50V		DTZ-33	NP033	CN0433		10TCC-Q33
C24	27 N150 50V	EA18X181			*		10TCP-Q27
C26	3 50V		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C27	270 10% 50V		DTZ-270				10TCC-T27
C28	.01 50V		UK50-103		MAG5011		
C29	56 50V				CN0456		10TCC-Q56
C30	56 50V				CN0456		10TCC-Q56
C31	.01 50V		UK50-103		MAG5011		
C33	.01 50V		UK50-103		MAG5011		
C35	68 N150 10% 50V	EA118X173			*		10TCP-Q68
C36	.01 50V		UK50-103		MAG5011		
C37	100 50V		DTZ-100	NP0100	CN0310	QFT2-91	10TCC-T10
C38	.047		UK50-503		MAG5015		
C39	.01 10% 50V			WMF1S1	EWFA1110		1FT-S10
C40	390 10%		DD-391	GP390	GP339		10TS-T39
C41	.01 50V		UK50-103		MAG5011		
C42	120 50V		DTZ-120		CN0312		10TCC-T12
C43	220 10% 50V		DTZ-220		MAG5011		10TCC-T22
C44	120 50V		DTZ-120		CN0312		10TCC-T12
C45	.01 50V		UK50-103		MAG5011		
C46	120 50V		DTZ-120		CN0312		10TCC-T12
C47	270 50V		DTZ-270				10TCC-T27
C48	2 50V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C49	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C51	27 50V				CN0427		10TCC-Q27
C52	.01 50V		UK50-103		MAG5011		
C53	.047 50V		UK50-503		MAG5015	QFT20171	1FT-S47
C55	.047 10% 50V			DPMS247	EWFA147		
C56	.01 10% 50V		UK50-103		MAG5011		10TCC-Q27
C57	27 50V				CN0427		
C58	.01 50V		UK50-103		MAG5011		
C59	.01 50V		UK50-103		MAG5011		
C60	.01 50V		UK50-103		MAG5011		
C61	.001 10% 50V			DPMS6D1	EWFA1210	QFT2-1	1FT-D10
C62	.01 50V		UK50-103		MAG5011		
C64	.01 50V		UK50-103		MAG5011		
C65	15 N150 50V	EA18X200			*		10TCP-Q15
C66	.022 50V		DC-253	MGP025	TA125	QFT2-215	TG-S25
C67	.1 10% 50V			WMF05P1	EWFO5010		1FT-P10
C68	390 10% 50V		DD-391	GP390	GP339		10TS-T39
C71	.047 50V		UK50-503		MAG5015		5GA-D68
C73	.0068 50V		DD-682	GP6800	GP268	QFT2-63	1FT-D47
C75	.0047 10% 50V			WMF1D47	M192P4729R8		HY-725
C79	.022 50V		UK25-223				1FT-S47
C80	.047 10% 50V			DPMS247	EWFA147	QFT2-171	1FT-S10
C81	.01 10% 50V			WMF1S1	EWFA1110	QFT2-91	5GA-D47
C82	.0047 50V		DD-472	GP4700	GP247	QFT2-91	1FT-S10
C83	.01 10% 50V			WMF1S1	EWFA1110		10TS-D22
C84	.0022				GP222		10TCP-Q68
C88	68 N150 10% 50V	EA118X173			*		10TCP-Q68
C89	68 N150 10% 50V	EA118X173			*		10TCC-T27
C90	270 50V		DTZ-270				
C91	.068 50V		UK50-683		MAG50168		10TCC-T22
C92	220 50V		DTZ-220				
C95	.068 10% 50V	EA22X24				QF1-195	1PB-S68
C102	.01 50V		UK50-103		MAG5011		
C106	.047 50V		UK50-503		MAG5015		
C107	.047 50V		UK50-503		MAG5015		
C108	.047 50V		UK50-503		MAG5015		
C109	.01 50V		UK50-503		MAG5011		
C112	82 10% N150 50V	EA18X234	UK50-103		*		10TCP-Q82

GENERAL ELECTRIC MODELS 3-5804D/-5813B

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
C113	.01 50V		UK50-103		MAG5011		
C114	390 50V		DD-391	GP390	GP339		10TS-T39
C117	.022 50V		DC-253	MGP025	TA125		TG-S25
C118	560 50V		DD-561		GP356		10TS-T56
C121	47 50V		DTZ-47	NP047	CN0447		10TCC-Q47
C131	270 10% 50V		DTZ-270				10TCC-T27
C132	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C151	.01 50V		UK50-103		MAG5011		
C152	390 10% 50V		DD-391	GP390	GP339		10TS-T39
C201	150 50V		DD-151		GP315		10TS-T15
C202	.01 50V		UK50-103		MAG5011		
C203	.01 50V		UK50-103		MAG5011		
C205	.01 50V		UK50-103		MAG5011		
C205B	.047 50V		UK50-503		MAG5015		
C206	.01 50V		UK50-103		MAG5011		
C207	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C208	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C209	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C210	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C211	.01 50V		UK50-103		MAG5011		
C212	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C213	.001 50V		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C501	.01 10% 50V		UK50-103		MAG5011		
C503	.01 50V		UK50-103		MAG5011		
C504	.01 10% 50V		UK50-103		MAG5011		
CT1		EA30X52					

* 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.
RV1	Squelch Range	20K	EA49X332			U260R253B
RV2	AMC	2000	EA49X331			U260R252B
RV3	Signal Meter	20K	EA49X332			U260R253B
RV4	Power Meter	20K	EA49X332			U260R253B
RV5	PA Power	500	(A)			
RV501	AWI	20K	EA49X332(20)			U260R253B
VR1	Volume/Power Switch	50K	EA49X392			
VR2	Squelch	10K	EA49X479(18)(20)			
VR3	RF Gain	100K				
VR2	Squelch	10K	EQ49X480(19)			

(18) Includes VR2 and VR3.

(19) Used in Model 3-5804D.

(20) Used in Model 3-5813B.

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.
RARY 251	Resistor Network		EA62X167(1)				

(1) Consists of thirteen 18 ohm resistors.

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	VCO	EA36X257			
L2	Mixer IF	EA36X258			
L3	RF Choke (68uH)	EA36X239			
L4	RF Choke (1uH)	EA36X259			
L6	RF Choke (2.2uH)	EA36X237			
L7	Driver (27MHz)	EA36X238			
L8	RF Choke (68uH)	EA36X239			
L9	RF Choke (.55uH)	EA36X245			
L10	RF Choke (1uH)	EA36X240			
L11	Final Amp (27MHz)	EA36X241			
L12	Pi Filter	EA36X242			
L13	RF Choke (.40uH)	EA36X261			
L14	Mixer IF (10.695MHz)	EA61X204			
L15	RF Choke (68uH)	EA36X239			
L16	RF Choke (1.15uH)	EA36X263			
L17	RF Choke (1.15uH)	EA36X263			
T1	Ref Osc. (20.480MHz)	EA35X102			
T2	Mixer IF (37MHz)	EA36X264			
T3	Xmt Mixer (27MHz)	EA36X260			
T4	Pre Driver (27MHz)	EA36X248			
T5	Rec Antenna (27MHz)	EA36X249			
T6	Rec RF (27MHz)	EA36X265			
T8	IF (455kHz)	EA61X188			
T10	IF (455kHz)	EA61X190			

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	1.3A	.241	3.72MH	EA36X256 LJ119H004W(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.	
T11	2.88	1 8 2 13.52	EA64X30 ETA66(1)	TR723	MCB-16	(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP-1	3" PM 8 ohms	EA95X137	30A05Z8R	

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	2A Quick-Acting	5-1725		AGC2	HDJ	312002	150145	FG2-2

MICROPHONE

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	EA68X123B (1)	18-032	18-034	18-010	18-092	1	2	4	3	NC	2
	EA68X63B (2)	18-032	18-034	18-010	18-105	4	1	3	5	NC	1

(1) Number on unit, Model 3-5813A (2) Number on unit, Model 3-5804D

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
F1	Filter	EA36X448	10.7MHz
F2	Filter	EA36X332	455kHz
J1	Socket	EA41X217	Antenna
J2	Socket	EA41X175	Mic
J3	Socket	EA41X135	Ext. Speaker
J4	Socket	EA41X135	PA
J5	Socket	EA41X149	Power, DC
LED301	LED	EA93X362	Channel Display
L20	Ferrite Core		
M1	Meter	EA62X151	S/Rf (Used in Model 3-5813B)
	Meter	EA62X219	S/Rf (Used in Model 3-5804D)
PL2	Lamp	EA41X145	Modulation (3.66V @ 32mA)
P13	Lamp	EA41X179	AWI (5.84V @ 34mA)
S2	Switch	EA39X225	ANL
S3	Switch	EA55X133	CB/PA
SW1	Switch	EA55X140	Channel Selector
X1	Crystal	EA75X6	10.24MHz
X2	Crystal	EA75X7	10.7MHz
	Power Cord	EA68X119	AC (Includes Plug, P5)
	Earphone	5-1082	

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Top	EA98X542	Knob, RF Gain	EA43X729
Cabinet, Bottom	EA98X654	Knob, Squelch	EA43X730
Escutcheon	EA89X271	Knob, Volume	EA43X727
Knob, Channel Selector	EA43X897		



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 681-6241 (981-8360)

MANUFACTURER'S SPECIFICATIONS

Receiver

Sensitivity for 0.5W Output:	AM; 0.25 μ V
	SSB; 0.2 μ V
Sensitivity at 10dB S/N:	AM; 0.5 μ V
Image Rejection:	40dB
Squelch Sensitivity at Maximum:	100 μ V
Squelch Sensitivity at Threshold:	0.5 μ V
A.G.C. figure of merit:	70dB
Adjacent Channel Selectivity:	AM; 60dB
	SSB; 60dB
Frequency Stability:	0.005%
Audio Output Power at 10% Distortion:	3W
Audio Fidelity at 400 Hz:	-6dB
Audio Fidelity at 2,500 Hz:	-6dB
Current Drain at No Signal:	340 mA
Current Drain at Maximum Audio Output:	980 mA

Transmitter

R-F Output Power at 13.8V dc:	AM; 4W (FCC max.)
	SSB; 12W PEP (FCC max.)
Modulation Capability:	AM; 80%
Frequency Stability:	0.005%
Spurious Emission Ratio:	60dB (down)
Current Drain at No Modulation:	AM; 1,600 mA
	SSB; 700 mA
Current Drain at Maximum Modulation:	AM; 2,100 mA
	SSB; 1,800 mA

JCPenney MODEL 681-6241

Courtesy of the Manufacturer

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.
Adjust RT601 for 13.8 volts DC at TP9 (Q601 Emitter).
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:

L101, T101, T102, T132, T134, T151, T152,
T301 thru T304, T703 9440
T131, T351 5000, 5009, 8276, 8728, 8728A
T103, T201, T202 5009, 8728, 8728A
L702, L704 8282, 9304, 8728, 8728A
T701, T702, T704 9440
CT301, CT302, CT351, CT352 5000, 8276

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to TP1 (Q306 Collector).	Ch. 19	T302	Adjust for 2.40 volts.
Input of oscilloscope to TP2 (IC301 Pin 2).	Ch. 19	T301	Adjust for maximum RF.
Input of oscilloscope to TP3 (T304 Secondary).	Ch. 19	T303, T304	Adjust for maximum RF.
Input of frequency counter to TP3 (T304 Secondary).	Ch. 1, USB Fine Tune Midrange	CT301	Adjust for 38.240MHz ± 50 Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP3 (T304 Secondary).	Ch. 1, LSB Fine Tune Midrange	CT302	Adjust for 38.237MHz ± 50 Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP2 (IC301 Pin 2).	Ch. 1, USB		Check for 1.280MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP4 (IC131 Pin 3).	Ch. 19, USB	CT351	Adjust for 11.275MHz ± 50 Hz.
Input of frequency counter to TP4 (IC131 Pin 3).	Ch. 19, LSB	CT352	Adjust for 11.272MHz ± 50 Hz.

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.
RF Gain Maximum, Fine Tuning Midrange, Squelch MINIMUM, ANL Off, NB Off, Tone High.

AM

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP5 (Q103 Base). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T202, T201, T103	Adjust for Maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T102, T101, L101	Adjust for Maximum output. If necessary readjust T103, T201 and T202 for maximum.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T151, T152	Set generator output to 10db signal to noise plus noise ratio of receiver. Inject a 100pps, 1uSec pulse width signal at antenna input. Switch Noise Blanker to On and adjust for Maximum amplitude pulses.
Input of oscilloscope to TP6 (Q154 Base).			

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF Gain Maximum, Fine Tuning Midrange, Squelch MINIMUM, ANL Off, NB Off, Tone High

AM

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output .25uV.	Ch. 19	RT101	IF GAIN Adjust for best signal to noise ratio.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19 Squelch Maximum	RT202	SQUELCH RANGE Adjust so squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	RT201	S METER Adjust for 9 on S scale of meter.

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.
RF Gain Maximum, Squelch MINIMUM, Fine Tuning Midrange, ANL Off, NB Off, Tone High

SSB

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP7 (Q102 Base). 11.275MHz, no modulation.	Ch. 19, USB	T134, T132, T131	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation.	Ch. 19, USB	T101, L101	Adjust for maximum output. If necessary readjust T131, T132 and T134 for maximum.

JCPenney MODEL 681-6241

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF Gain Maximum, Squelch MINIMUM, Fine Tuning Midrange, ANL Off, NB Off, Tone High.

SSB

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.186MHz, no modulation. Output .25uV.	Ch. 19, USB	RT131	IF GAIN Adjust for best signal to noise ratio.
Output of signal generator thru .01uF to antenna input. 27.186MHz, no modulation. Output .1uV. Input of DC meter to TP8 (D134 cathode).	Ch. 19, USB	RT251	AGC Adjust for 2.00 volts.
Output of signal generator thru .01uF to antenna input. 27.186MHz, no modulation. Output 100uV.	Ch. 19, USB Squelch Maximum	RT252	SQUELCH RANGE Adjust so squelch just breaks.
Output of signal generator thru .01uF to antenna input. 27.186MHz, no modulation. Output 100uV.	Ch. 19, USB	RT253	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 oscilloscope to antenna input. Inject a two tone, 20mV signal at Mic input.	Ch. 19, USB SWR/RF/CAL RF	T132,T351, T701,T702, T703,T704, L702,L704	Set RT701 to MINIMUM (fully clockwise). Adjust for maximum RF output.

TRANSMITTER ADJUSTMENTS

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

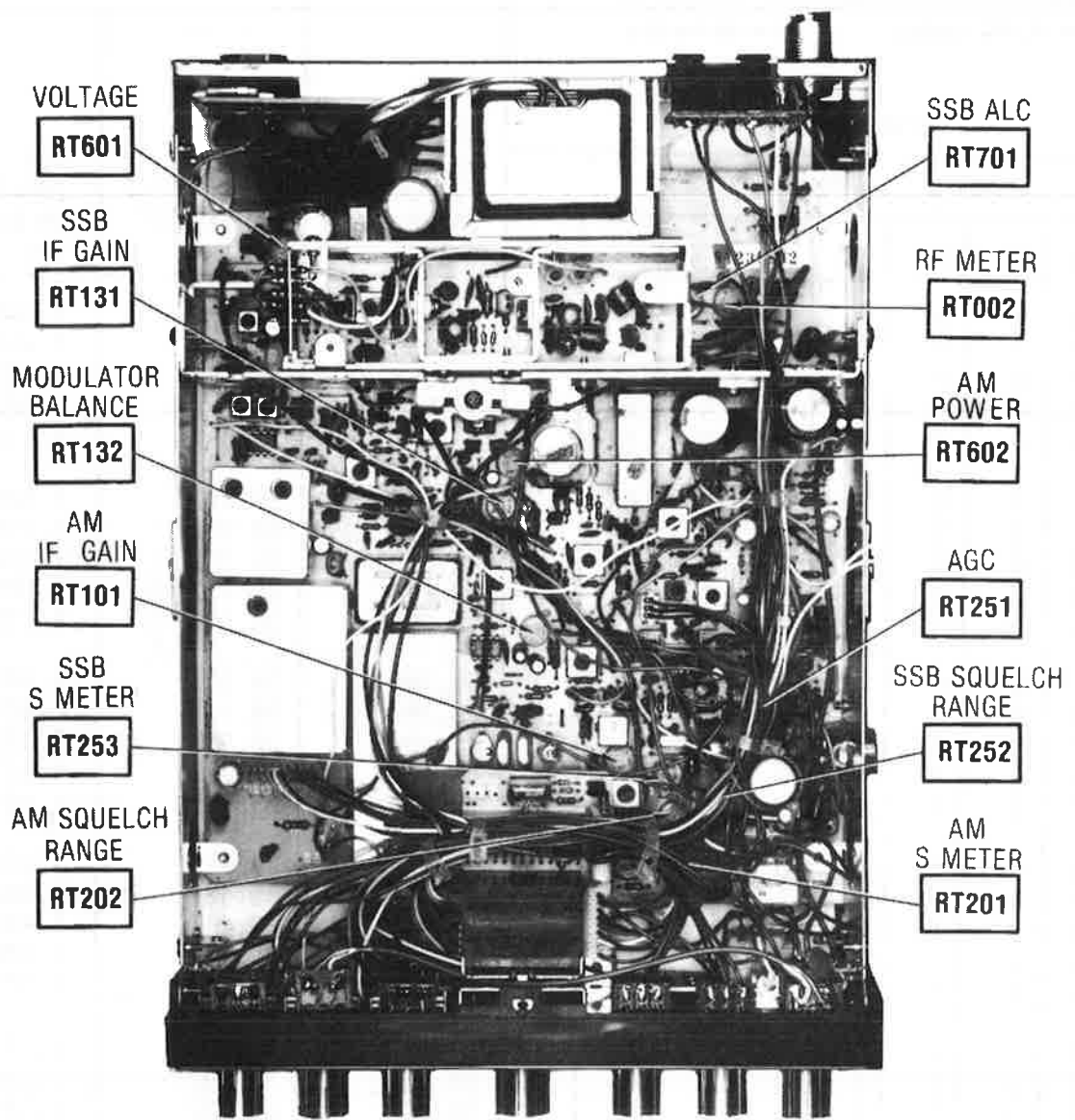
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of RF wattmeter and 50-ohm, 25 watt dummy load to antenna input. Inject a two tone, 100mV signal at Mic input.	Ch. 19, USB SWR/RF/CSL RF	RT701	SSB ALC Adjust for 5.2 watts peak RF output maximum.
Input of RF wattmeter and 50-ohm, 25 watt dummy load to antenna input. No modulation.	Ch. 19, USB SWR/RF/CAL RF	RT132	MODULATOR BALANCE Adjust for MINIMUM RF output.
Input of RF wattmeter and 50-ohm, 25 watt dummy load to antenna input.	Ch. 19, AM SWR/RF/CAL RF	RT602	AM POWER Adjust for 4.0 watts RF output maximum.
Input of RF wattmeter and 50-ohm, 25 watt dummy load to antenna input.	Ch. 19, AM SWR/RF/CAL RF	RT002	RF METER Adjust so RF meter agrees with RF wattmeter.

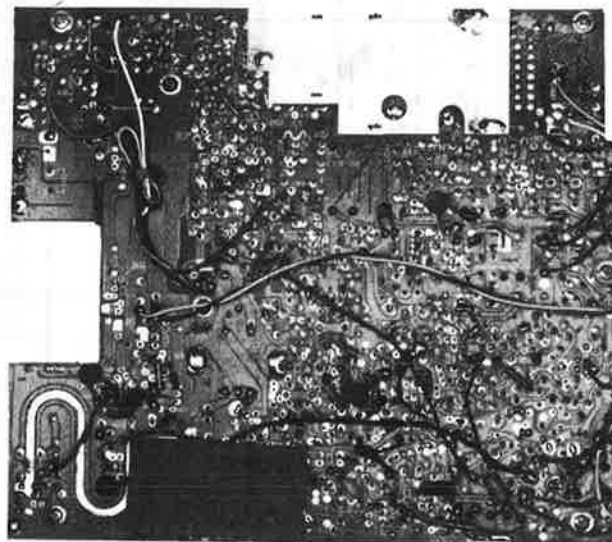
TRUTH CHART

CHANNEL	1 = 4.84 Volts 0 = 0 Volts								REC & XMT USB/AM VCO OUTPUT IN MHz AT TP3	REC & XMT LSB VCO OUTPUT IN MHz AT TP3	DIVIDER INPUT IN MHz AT TP2
	IC301 PROGRAM DIVIDER										
	PINS										
	9	10	11	12	13	14	15				
1	0	0	0	0	0	0	0		38.240	38.237	1.280
2	0	0	0	0	0	0	1		38.250	38.247	1.290
3	0	0	0	0	0	1	0		38.260	38.257	1.300
4	0	0	0	0	1	0	0		38.280	38.277	1.320
5	0	0	0	0	1	0	1		38.290	38.287	1.330
6	0	0	0	0	1	1	0		38.300	38.297	1.340
7	0	0	0	0	1	1	1		38.310	38.307	1.350
8	0	0	0	1	0	0	1		38.330	38.327	1.370
9	0	0	0	1	0	1	0		38.340	38.337	1.380
10	0	0	0	1	0	1	1		38.350	38.347	1.390
11	0	0	0	1	1	0	0		38.360	38.357	1.400
12	0	0	0	1	1	1	0		38.380	38.377	1.420
13	0	0	0	1	1	1	1		38.390	38.387	1.430
14	0	0	1	0	0	0	0		38.400	38.397	1.440
15	0	0	1	0	0	0	1		38.410	38.407	1.450
16	0	0	1	0	0	1	1		38.430	38.427	1.470
17	0	0	1	0	1	0	0		38.440	38.437	1.480
18	0	0	1	0	1	0	1		38.450	38.447	1.490
19	0	0	1	0	1	1	0		38.460	38.457	1.500
20	0	0	1	1	0	0	0		38.480	38.477	1.520
21	0	0	1	1	0	0	1		38.490	38.487	1.530
22	0	0	1	1	0	1	0		38.500	38.497	1.540
23	0	0	1	1	1	0	1		38.530	38.527	1.570
24	0	0	1	1	0	1	1		38.510	38.507	1.550
25	0	0	1	1	1	0	0		38.520	38.517	1.560
26	0	0	1	1	1	1	0		38.540	38.537	1.580
27	0	0	1	1	1	1	1		38.550	38.547	1.590
28	0	1	0	0	0	0	0		38.560	38.557	1.600
29	0	1	0	0	0	0	1		38.570	38.567	1.610
30	0	1	0	0	0	1	0		38.580	38.577	1.620
31	0	1	0	0	0	1	1		38.590	38.587	1.630
32	0	1	0	0	1	0	0		38.600	38.597	1.640
33	0	1	0	0	1	0	1		38.610	38.607	1.650
34	0	1	0	0	1	1	0		38.620	38.617	1.660
35	0	1	0	0	1	1	1		38.630	38.627	1.670
36	0	1	0	1	0	0	0		38.640	38.637	1.680
37	0	1	0	1	0	0	1		38.650	38.647	1.690
38	0	1	0	1	0	1	0		38.660	38.657	1.700
39	0	1	0	1	0	1	1		38.670	38.667	1.710
40	0	1	0	1	1	0	0		38.680	38.677	1.720

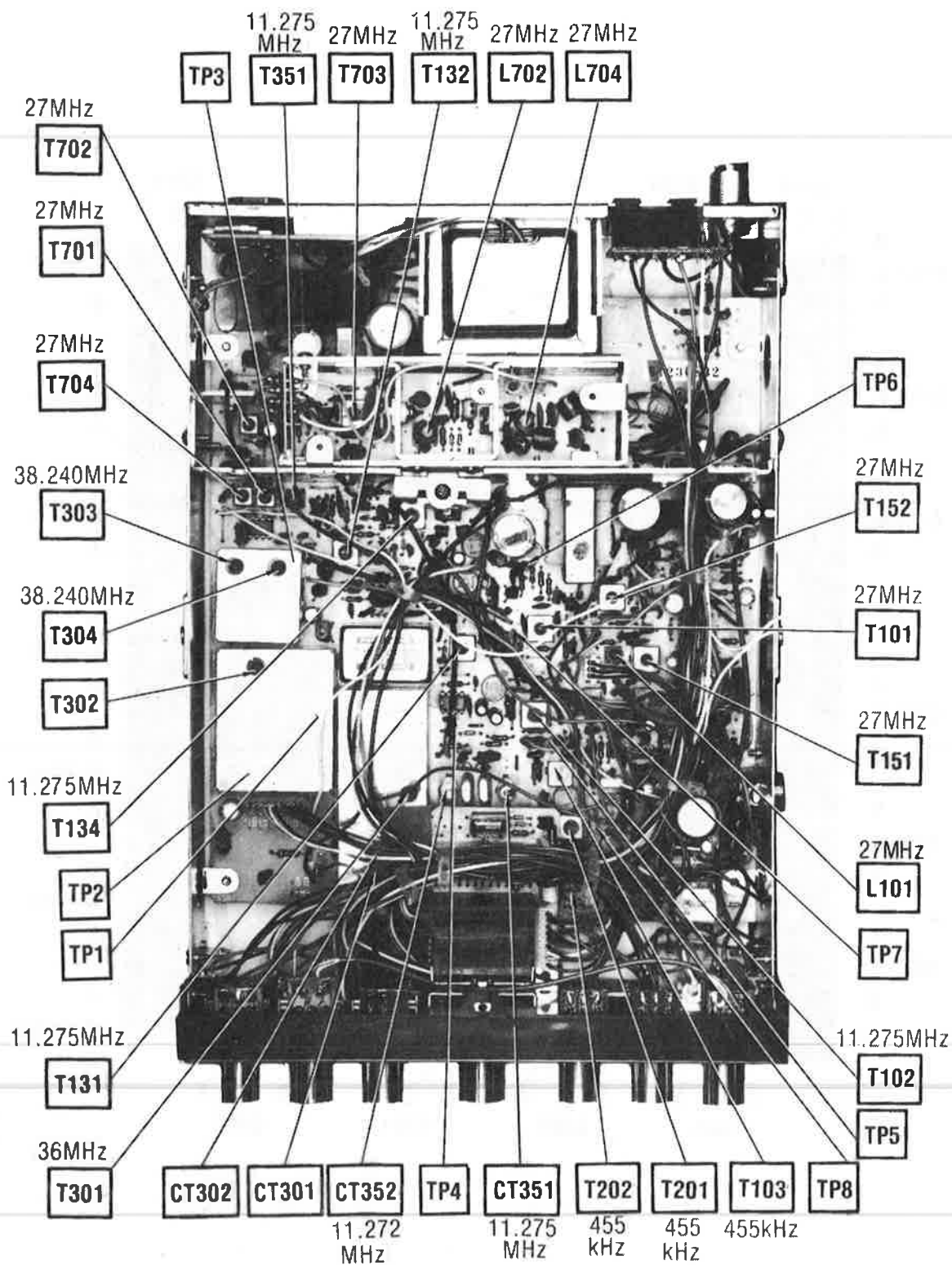
JCPenney MODEL 681-6241



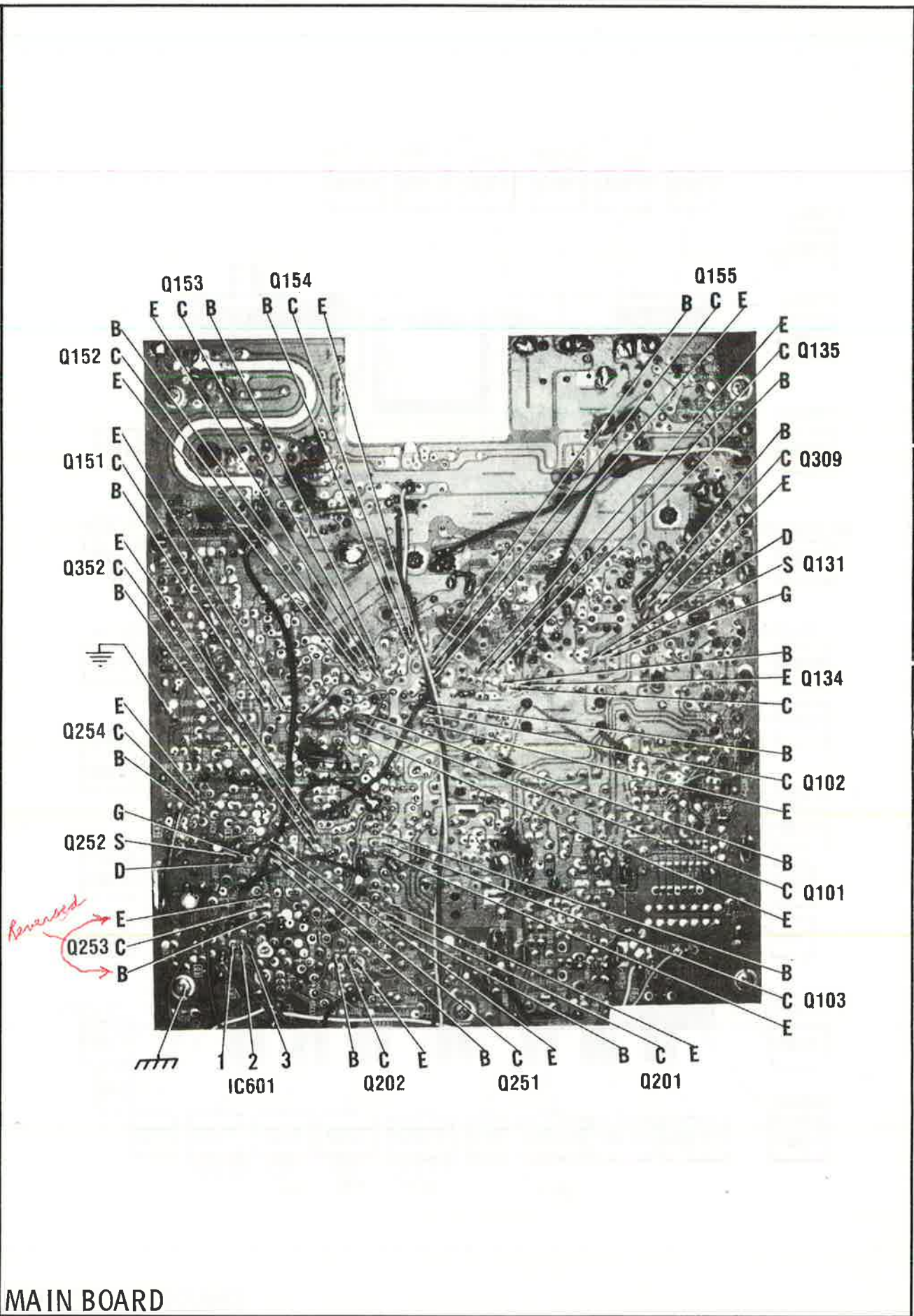
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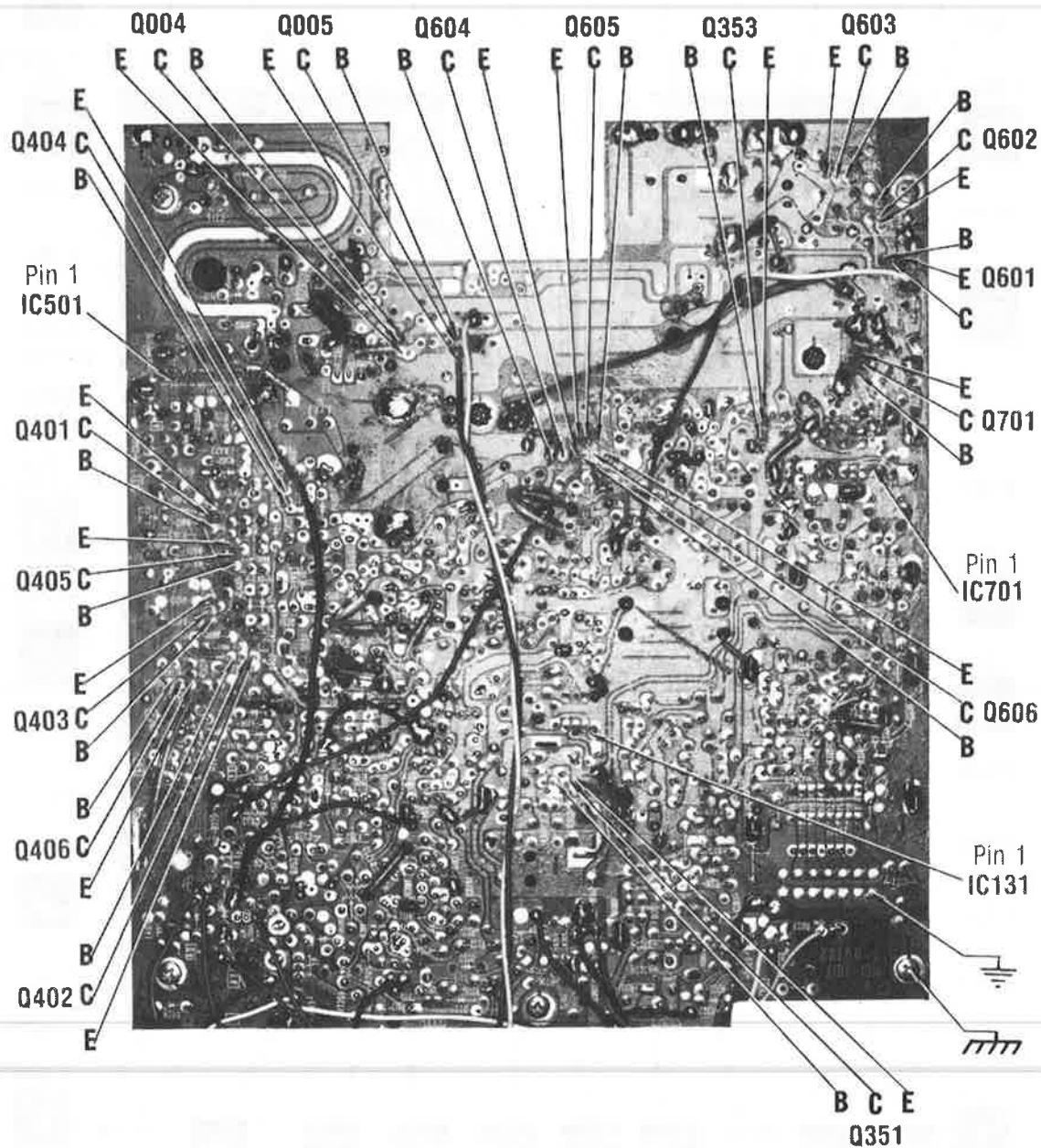
SHIELD LOCATION



CHASSIS - BOTTOM

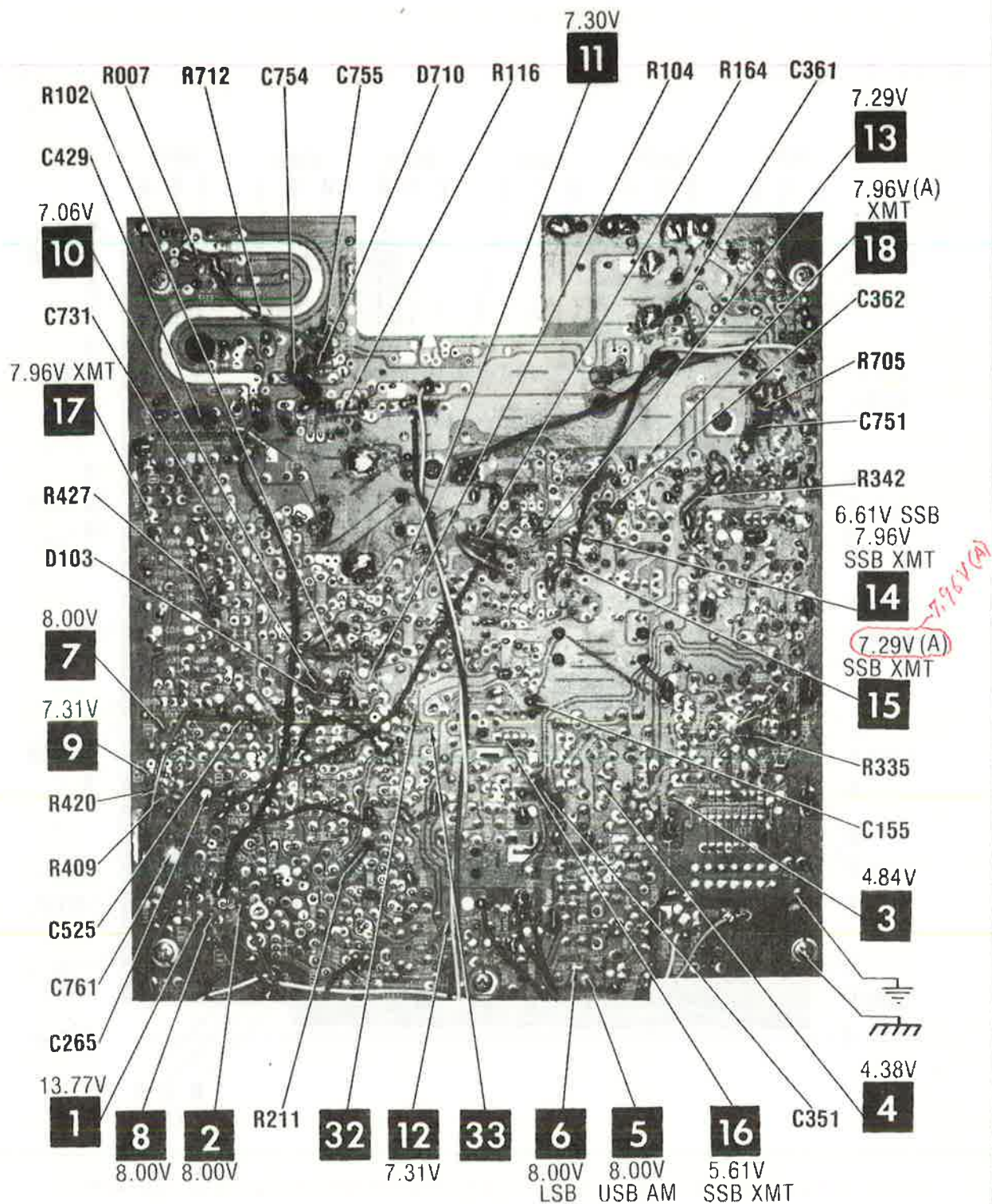


MAIN BOARD

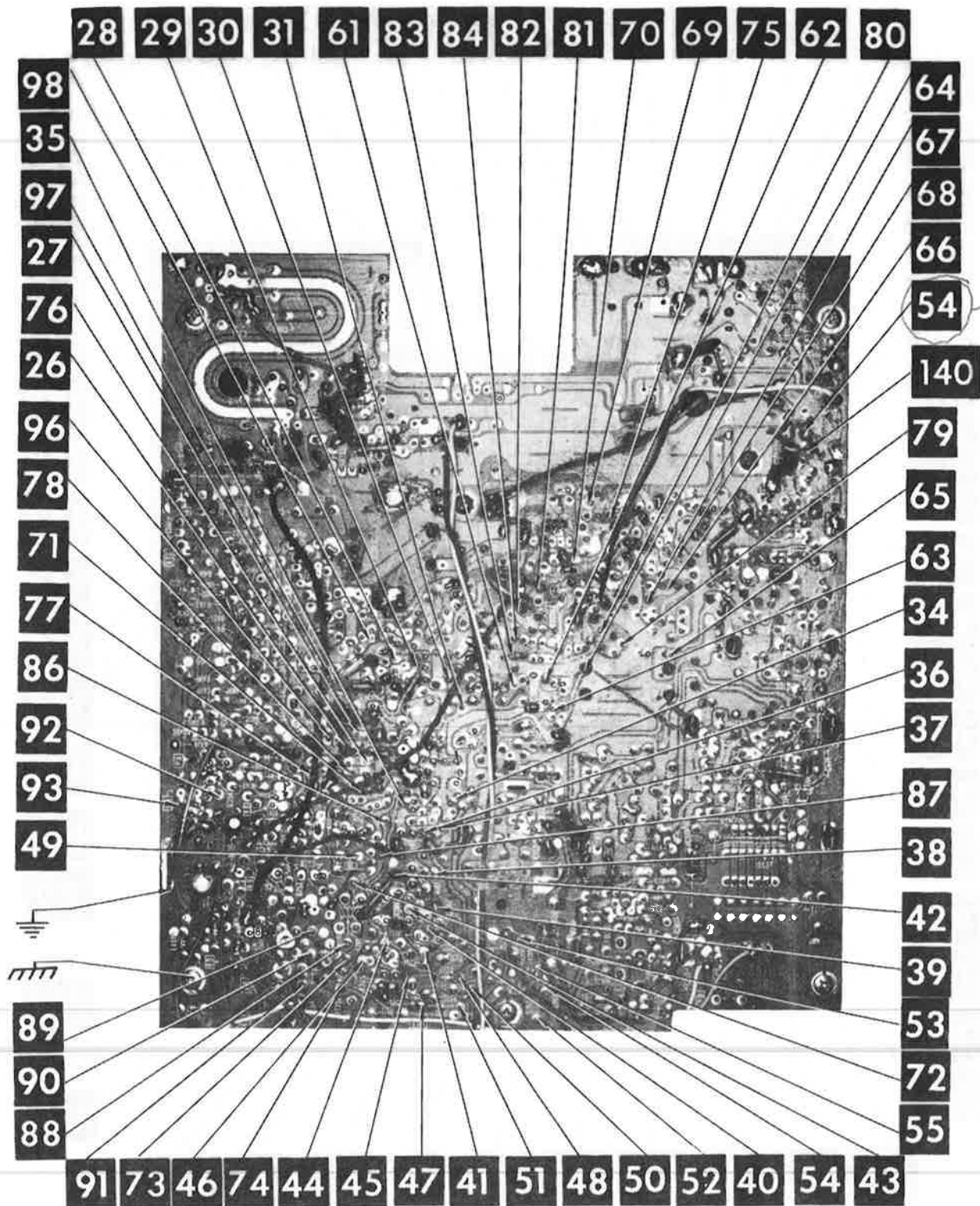


JC Penney MODEL 681-6241

MAIN BOARD

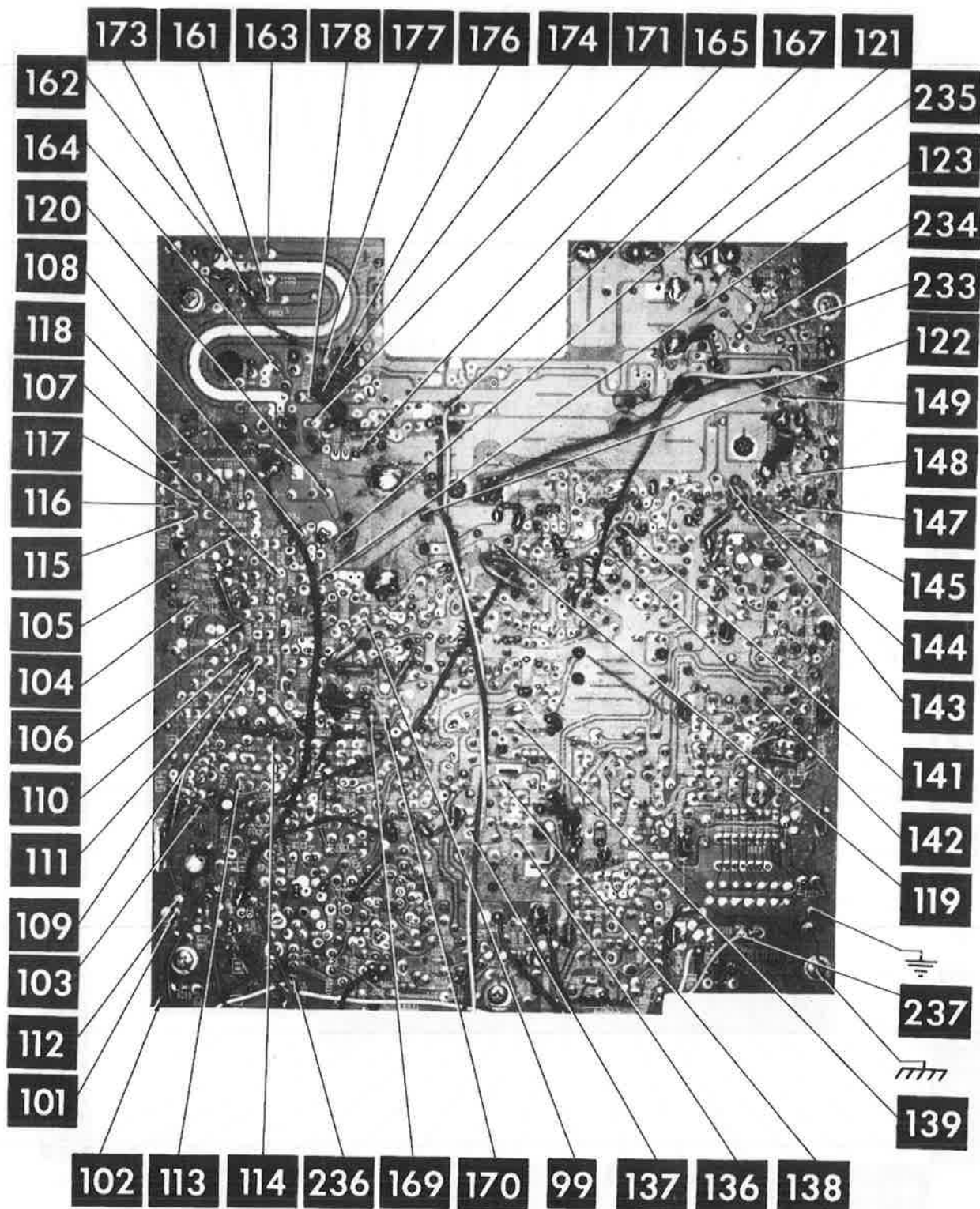


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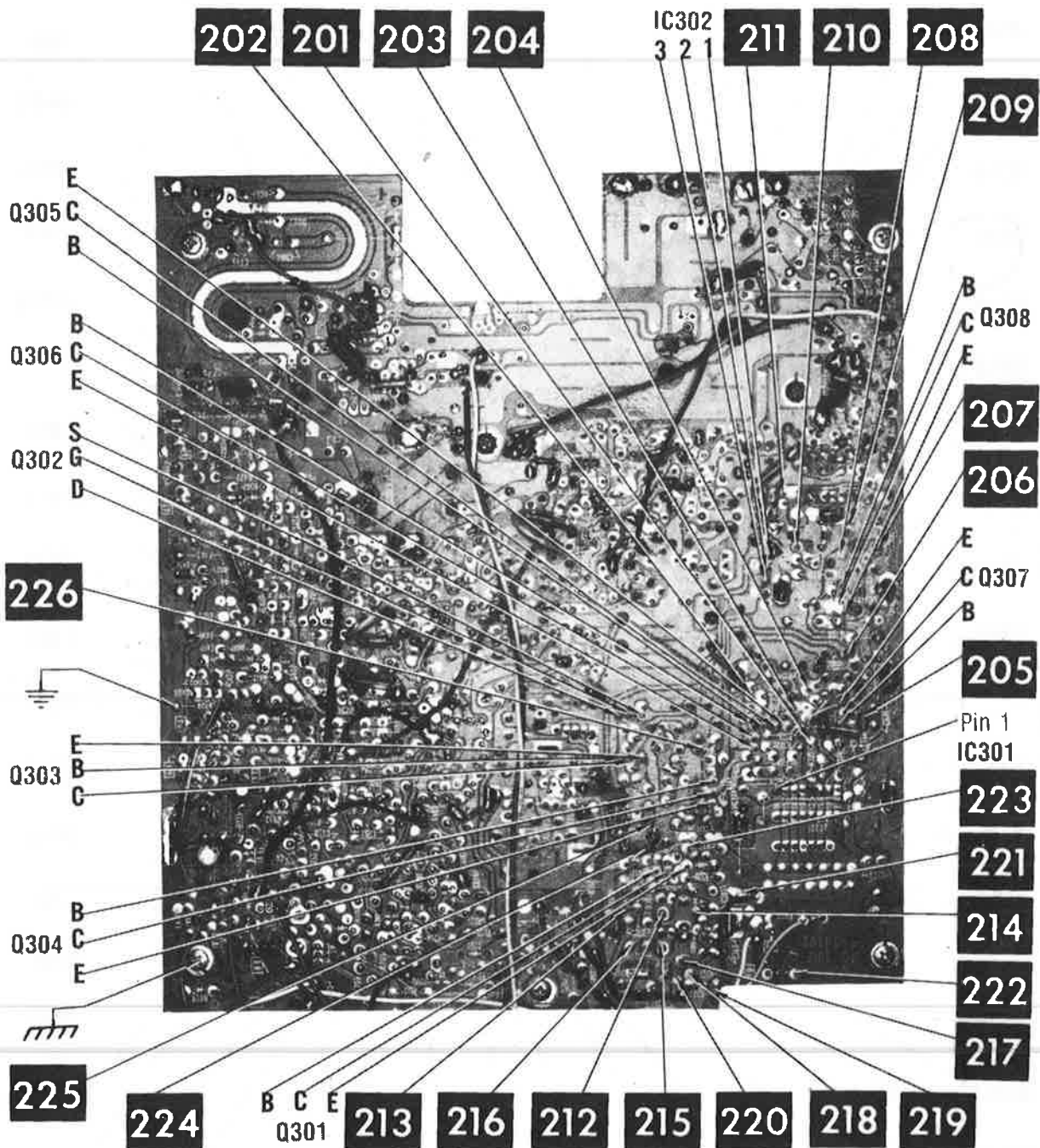


JCPenney MODEL 681-6241

MAIN BOARD

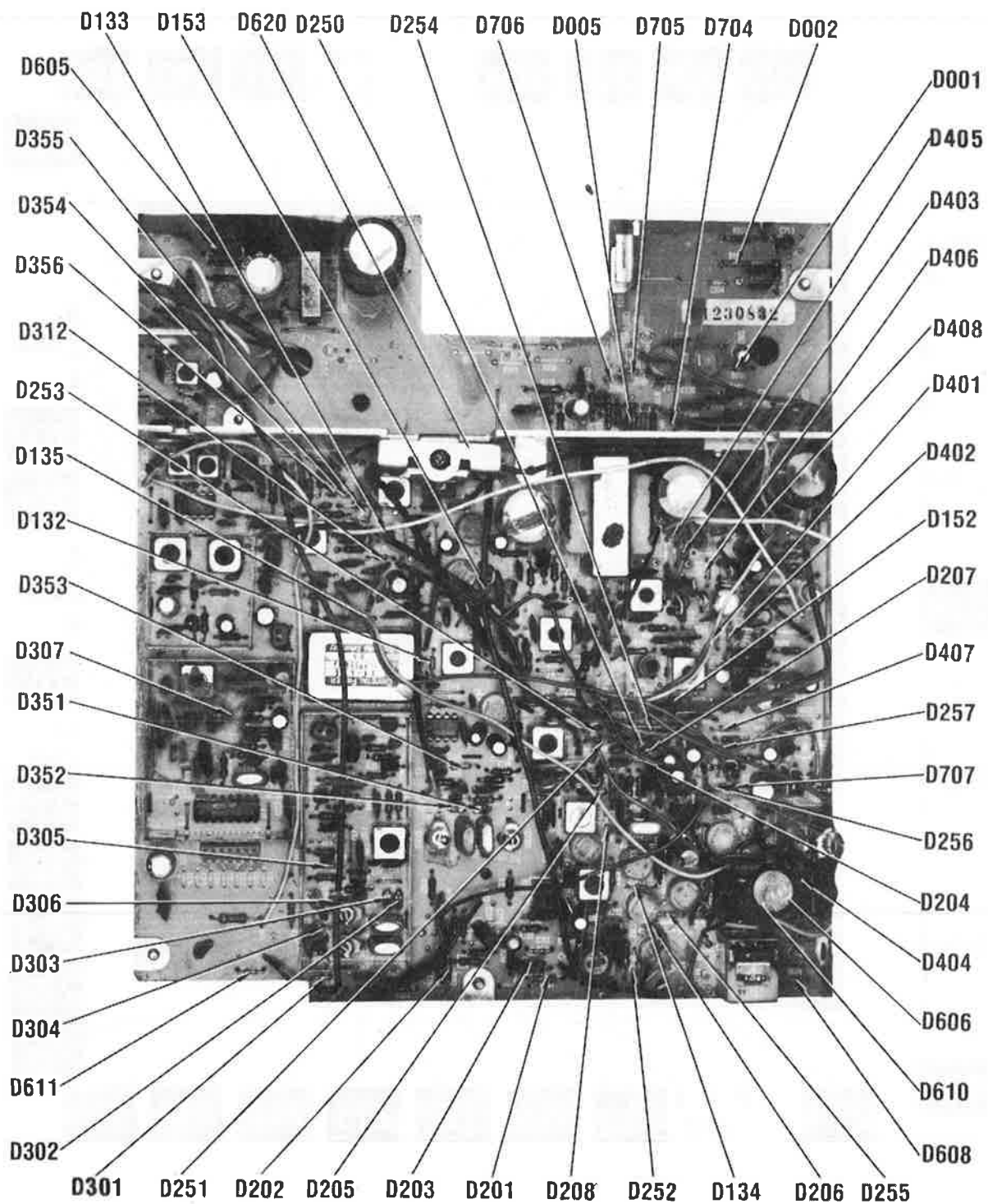


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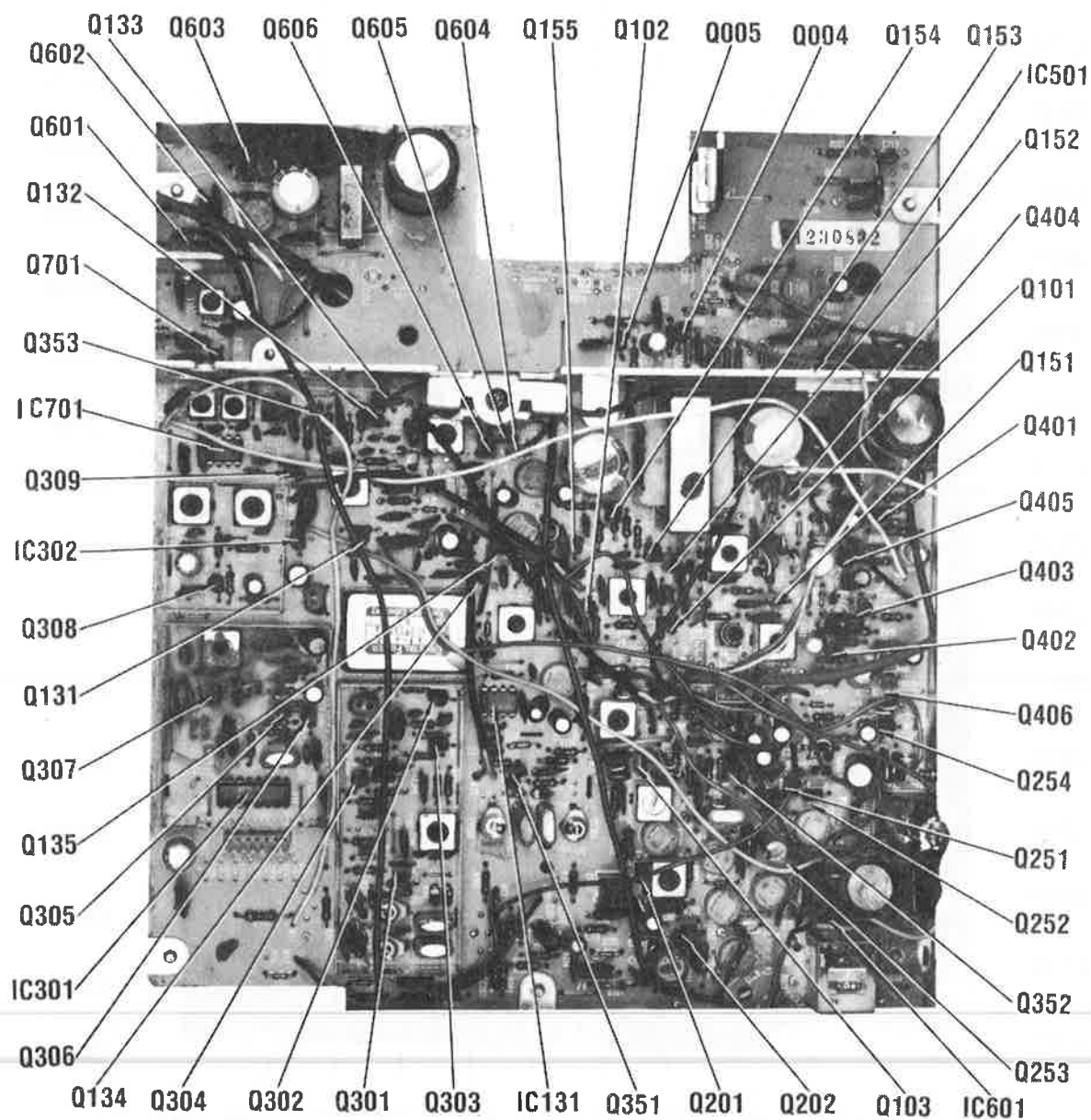


JCPenney MODEL 681-6241

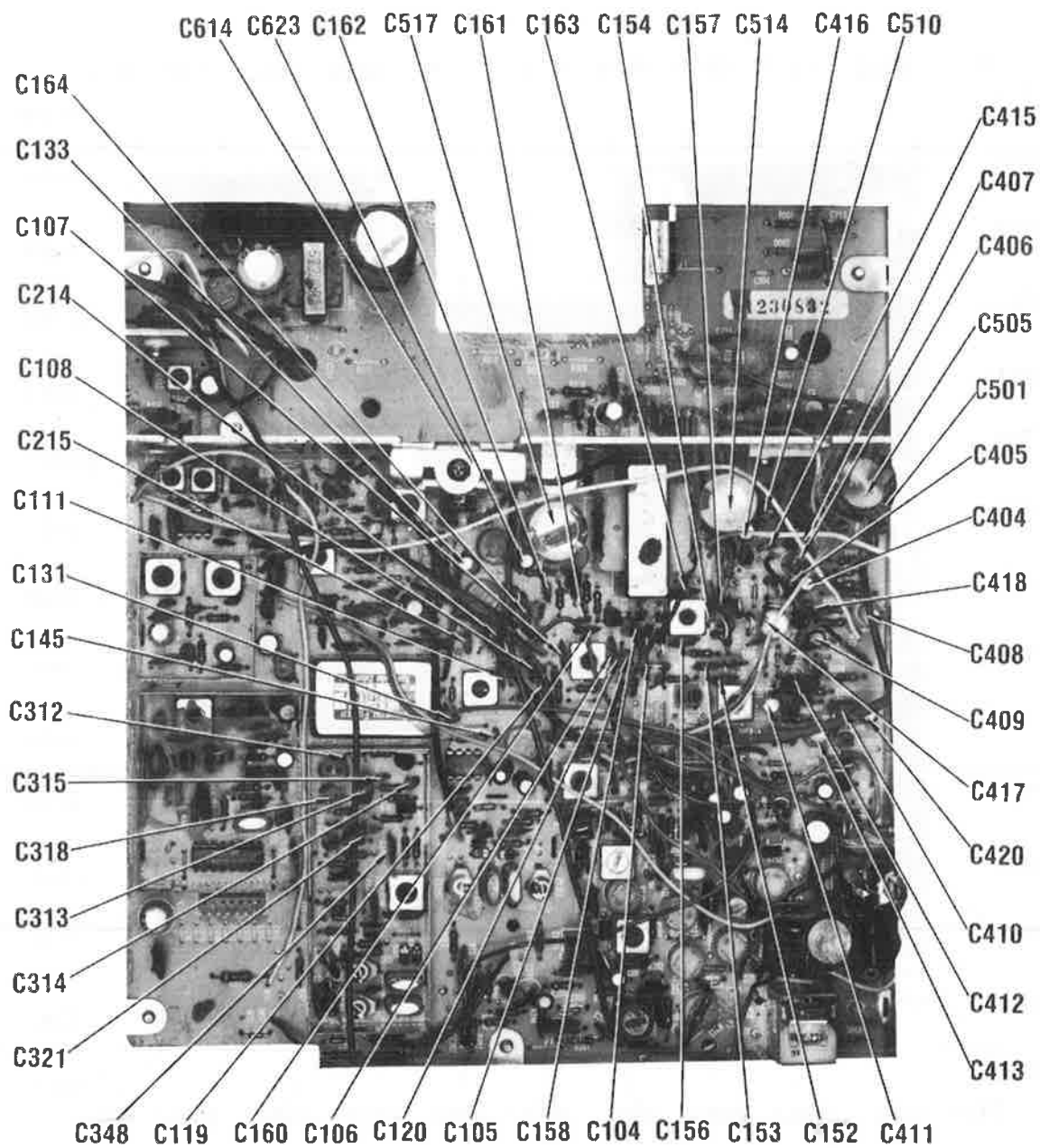
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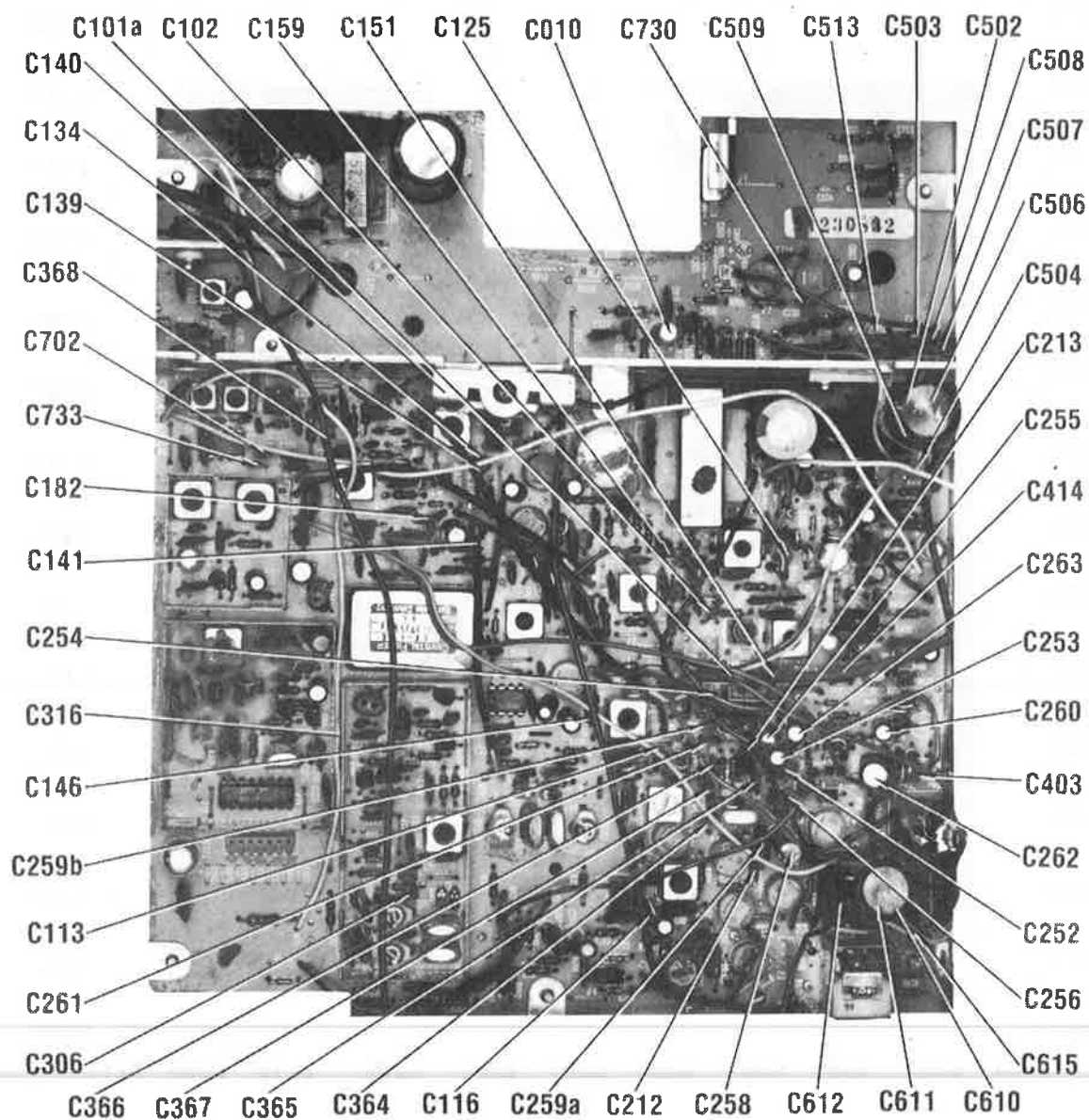
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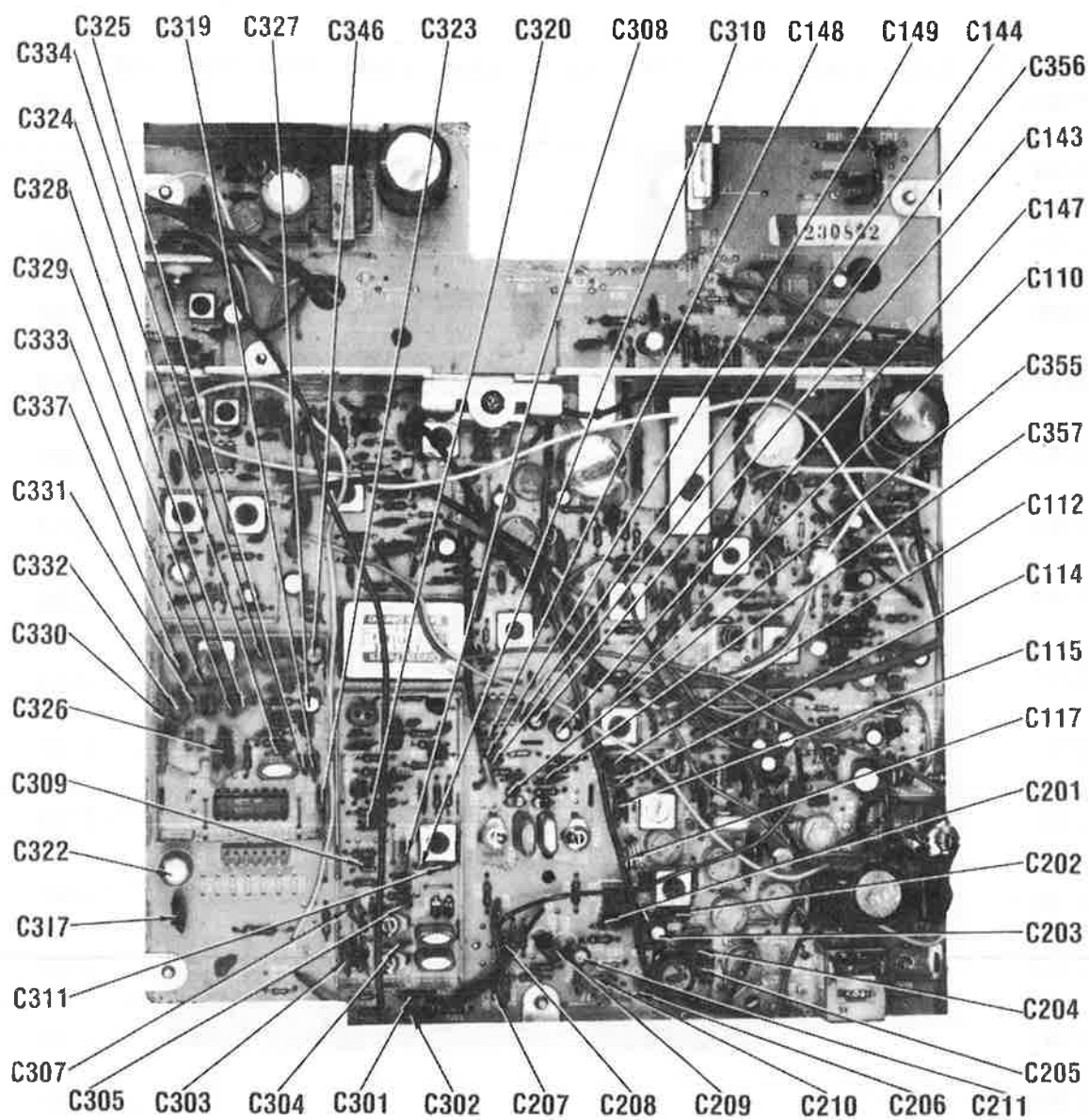
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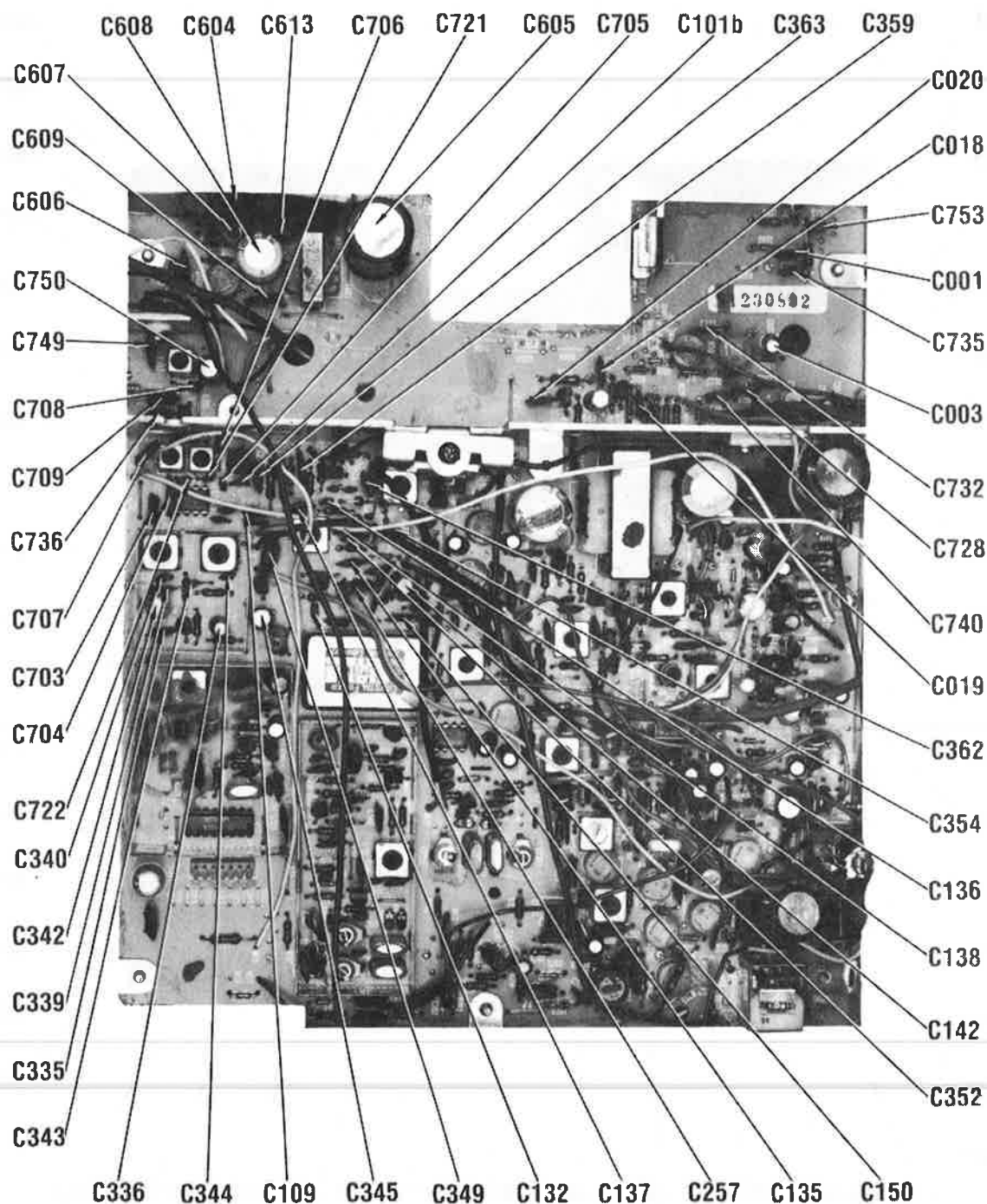
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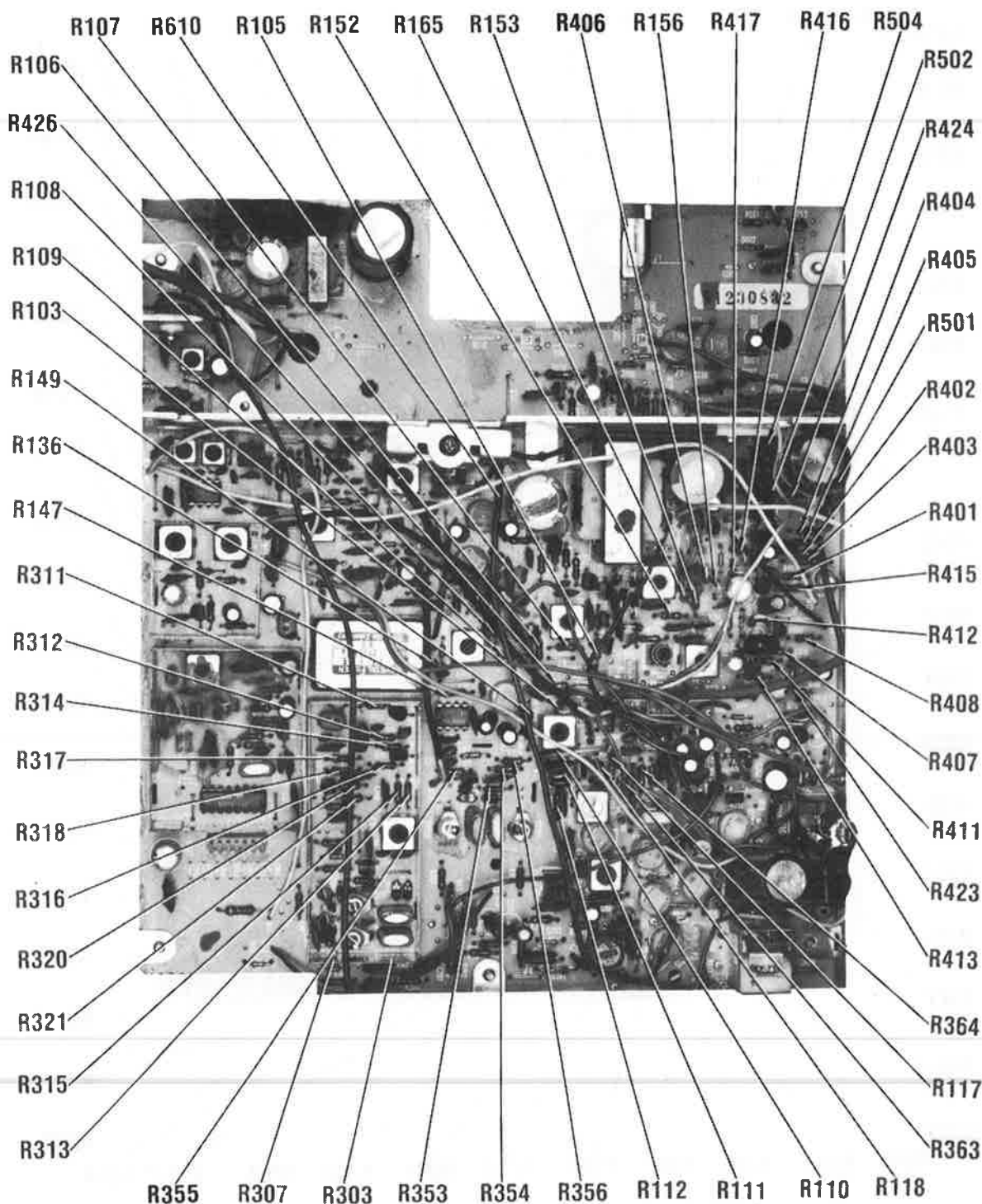
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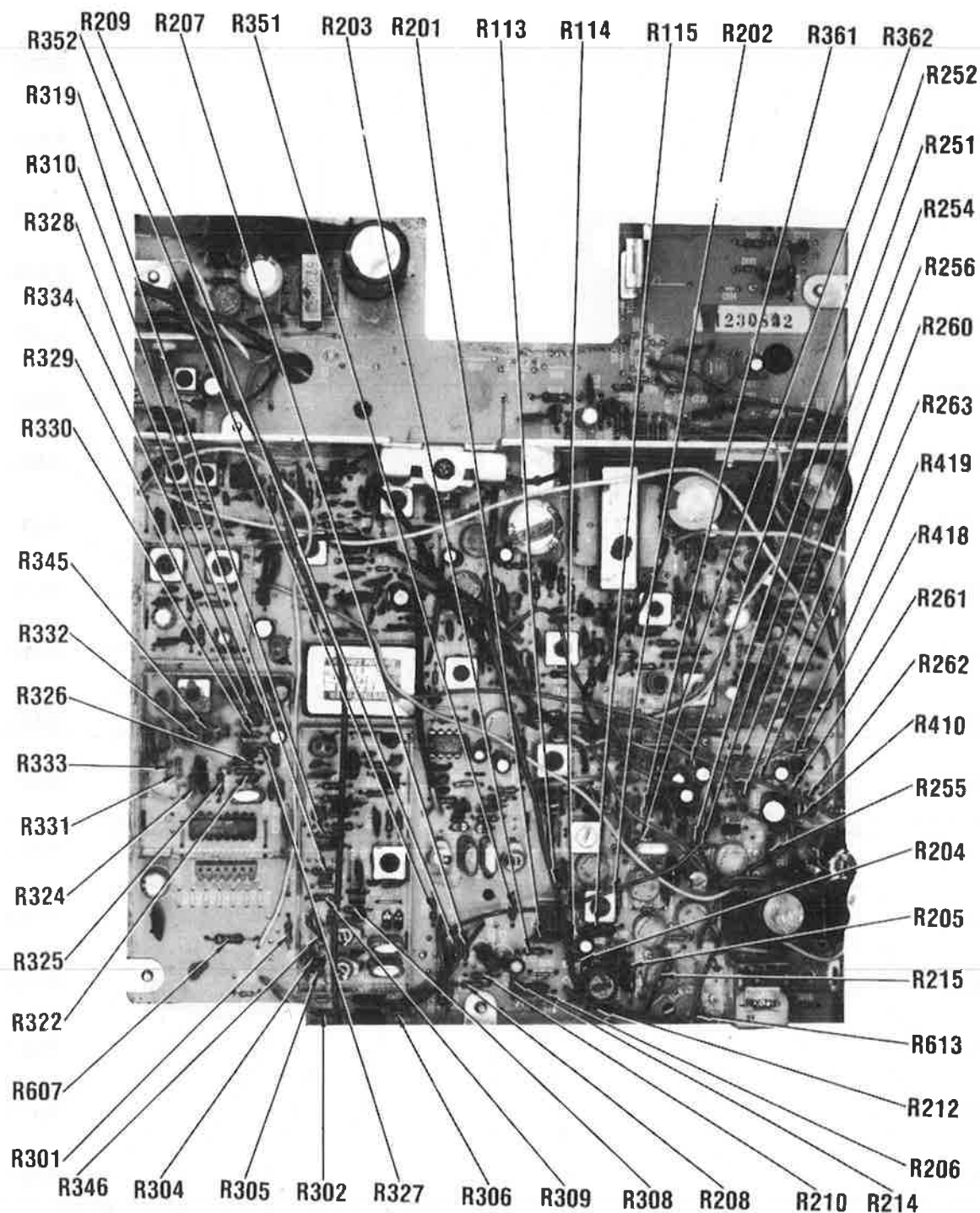
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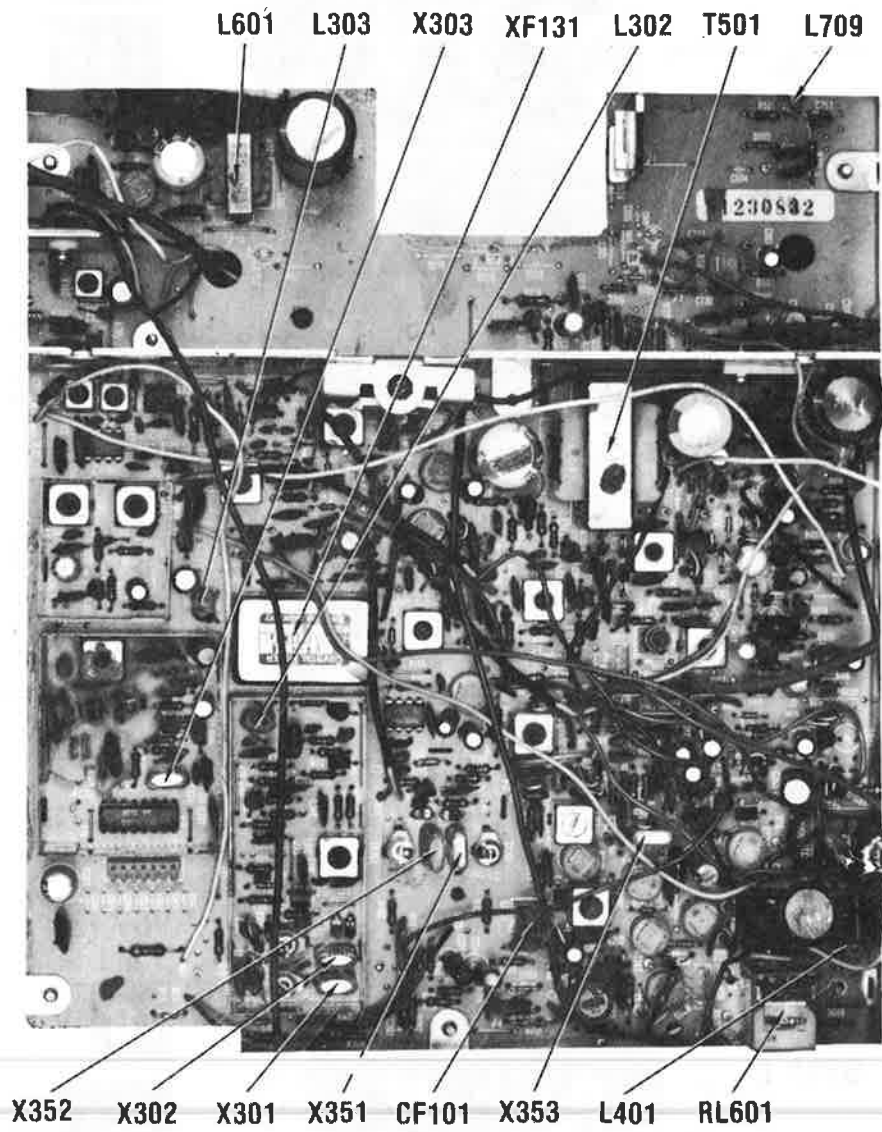
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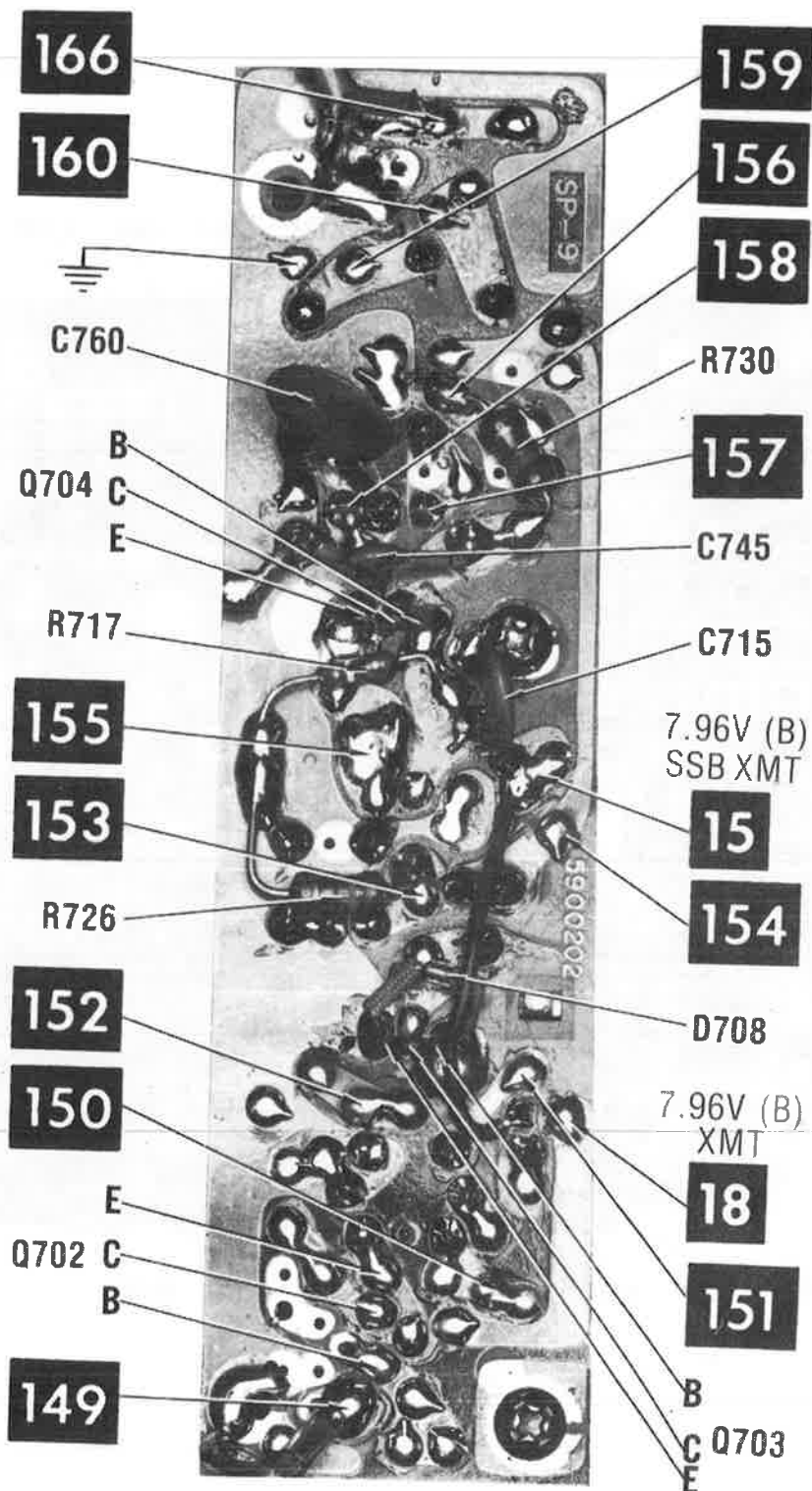
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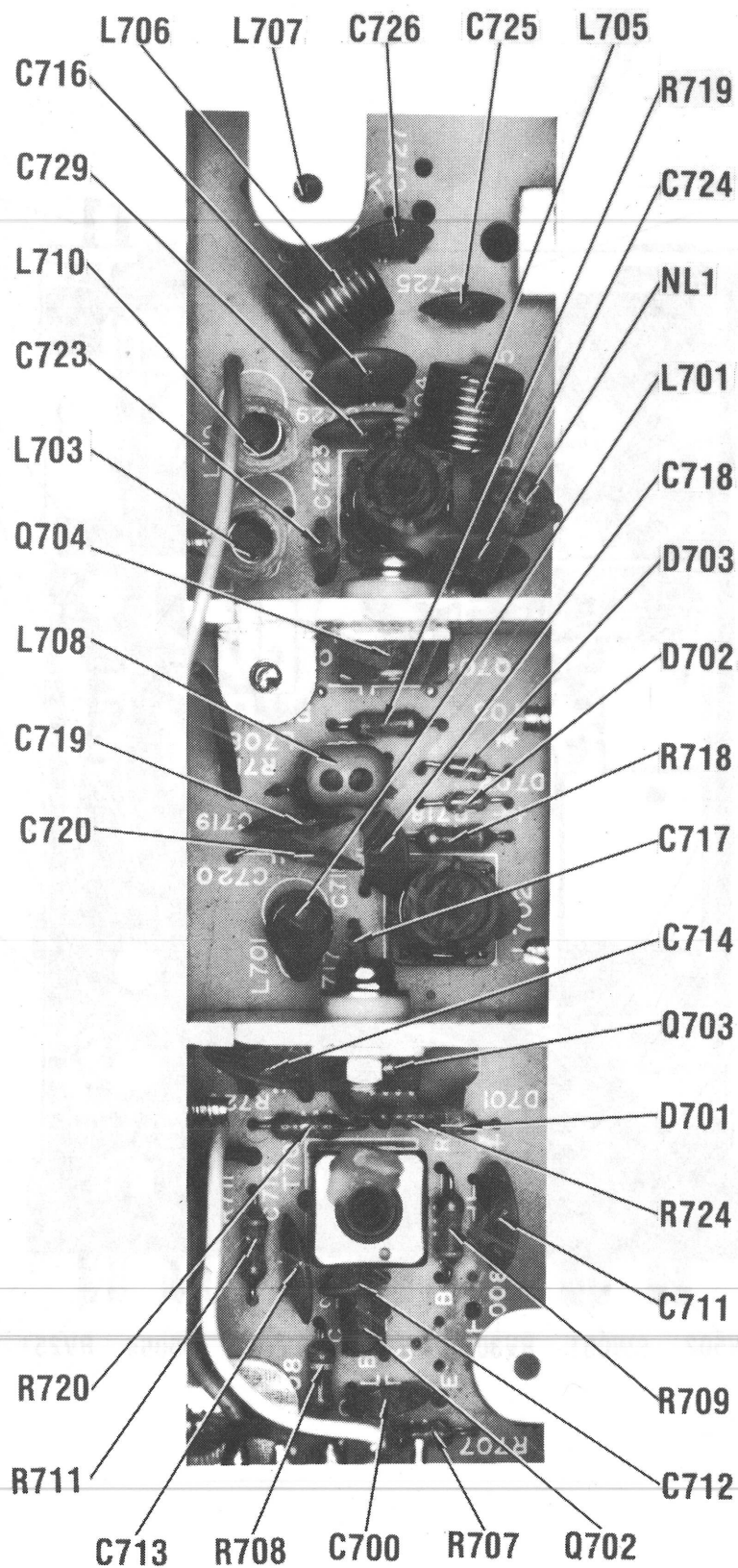
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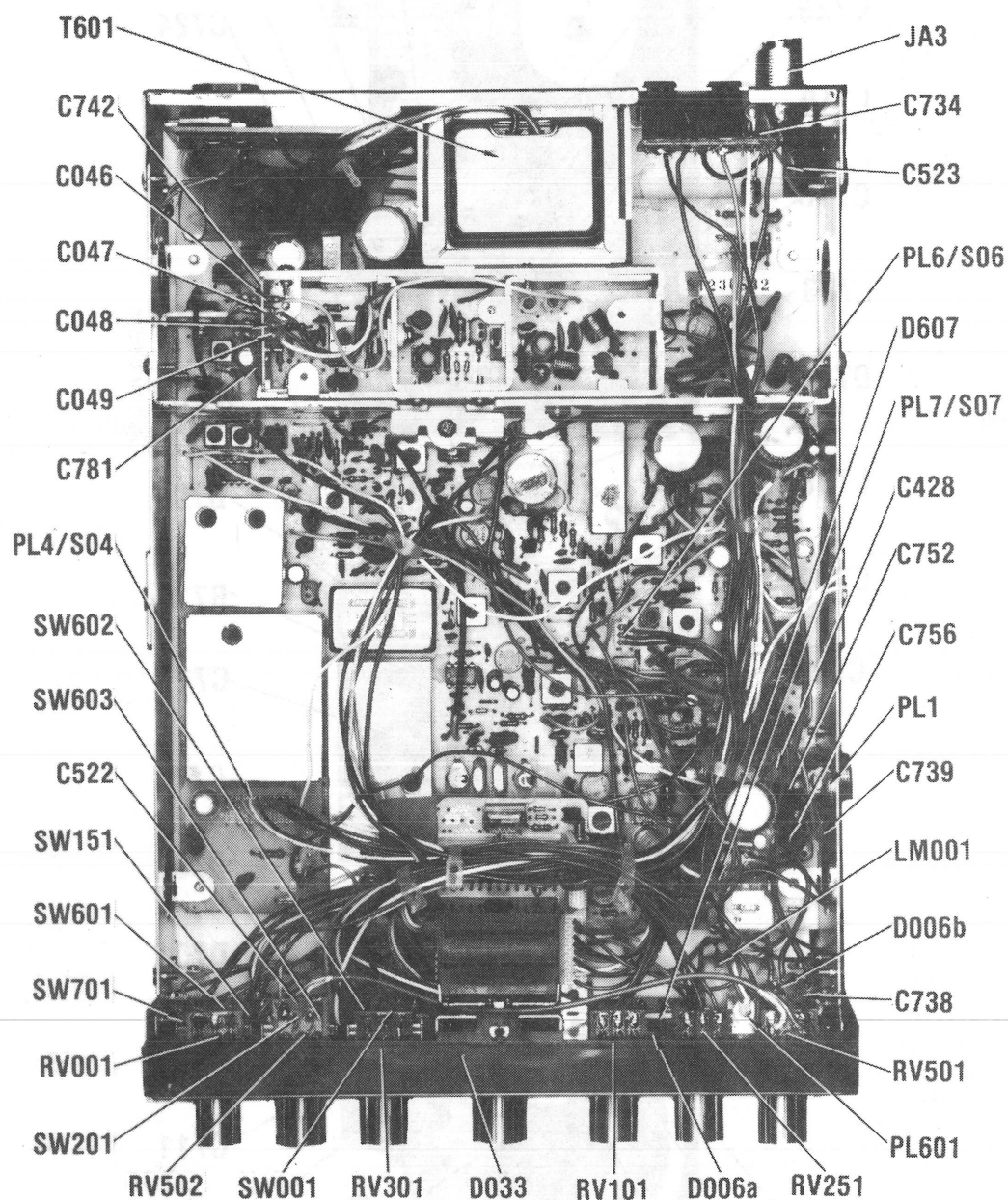
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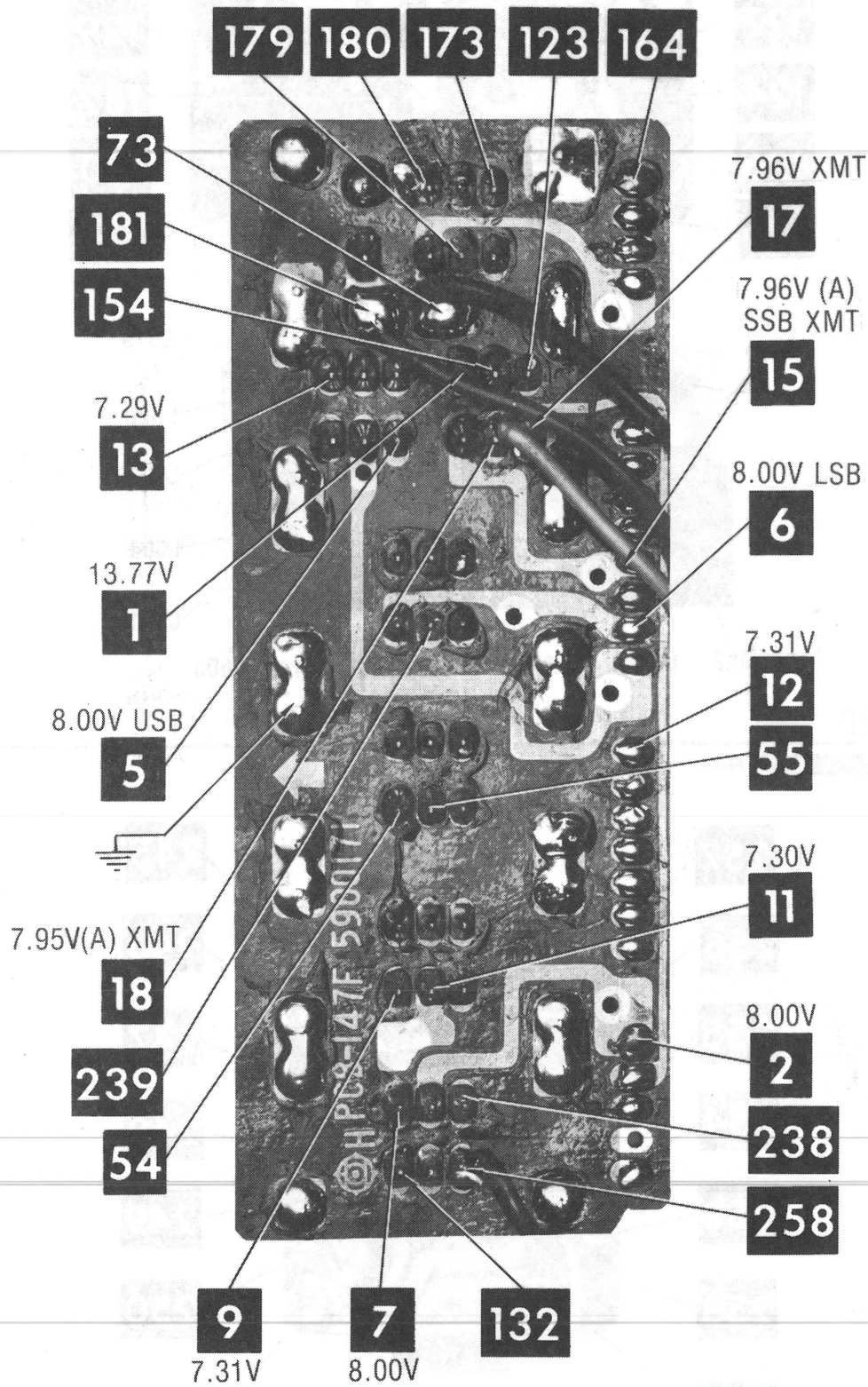
XMT BOARD



XMT BOARD

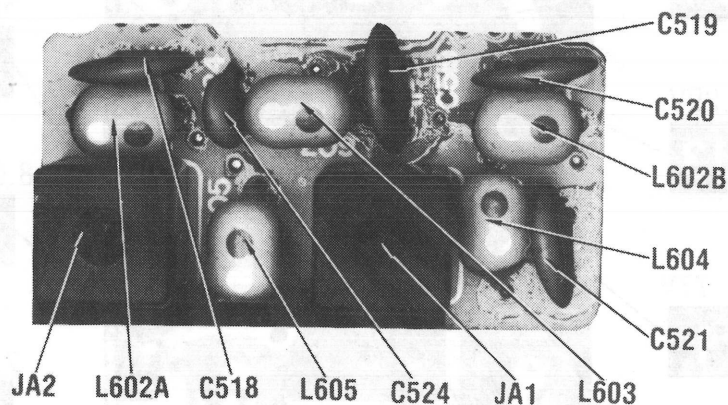
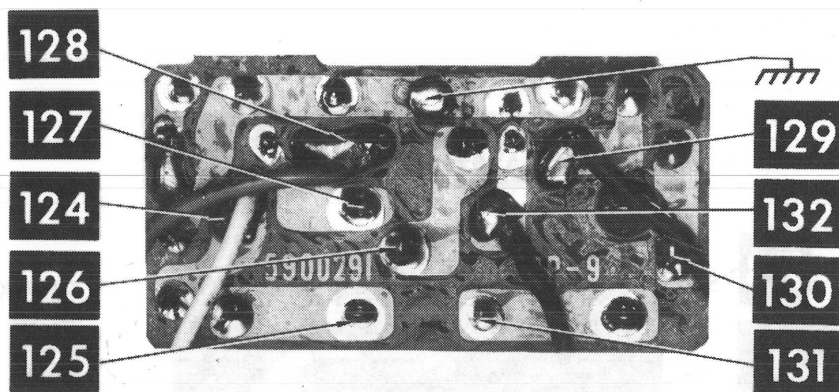


CHASSIS - BOTTOM

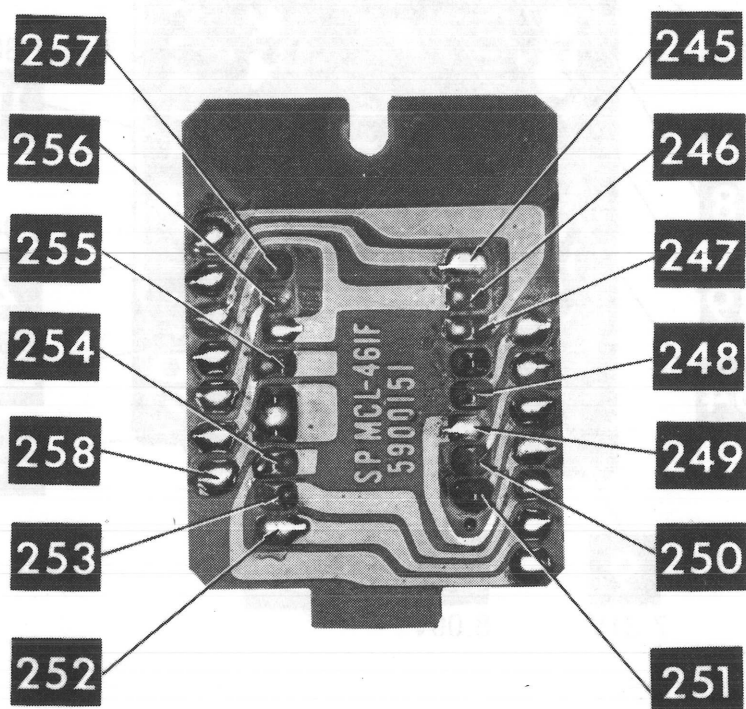


JCPenny MODEL 681-6241

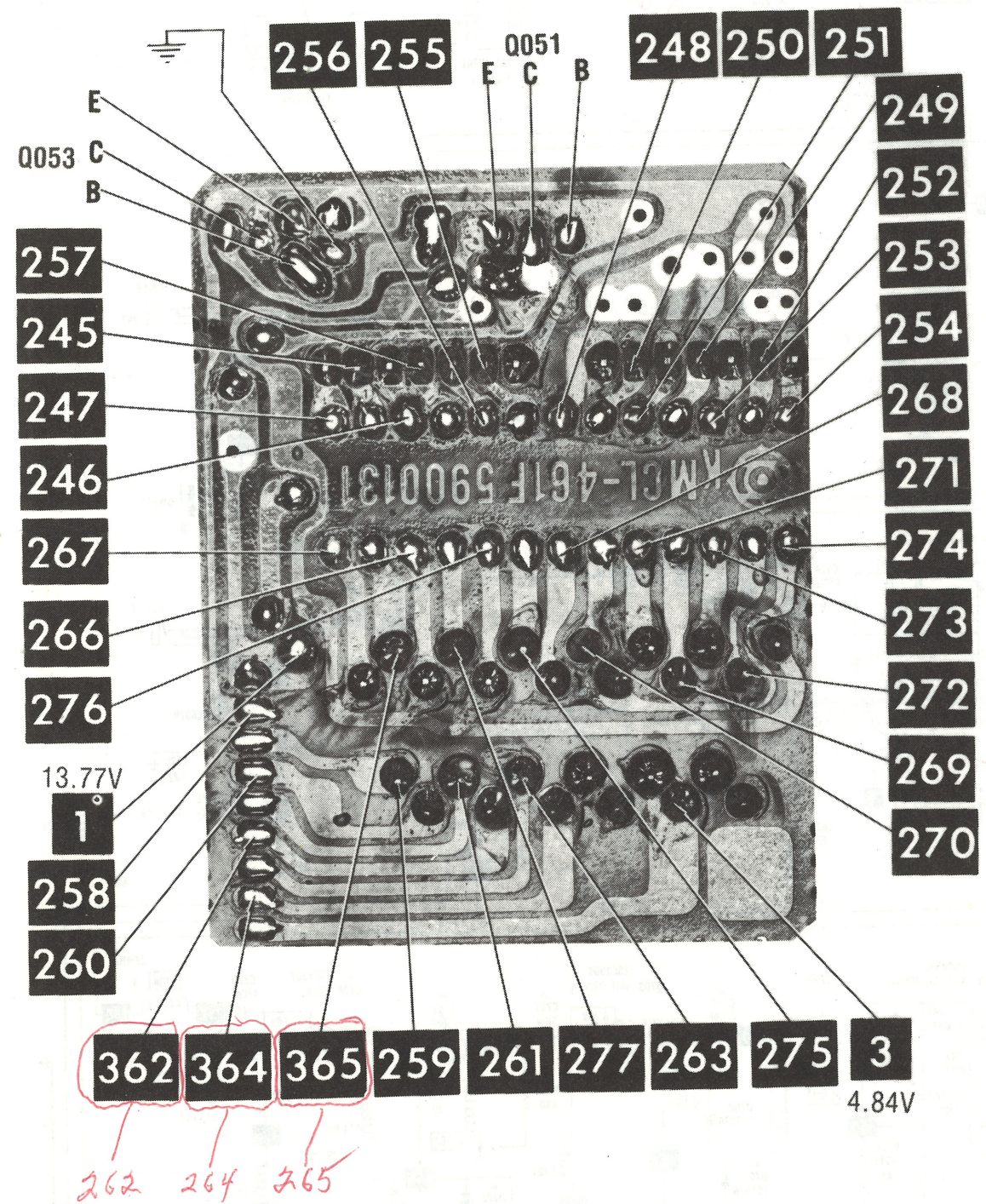
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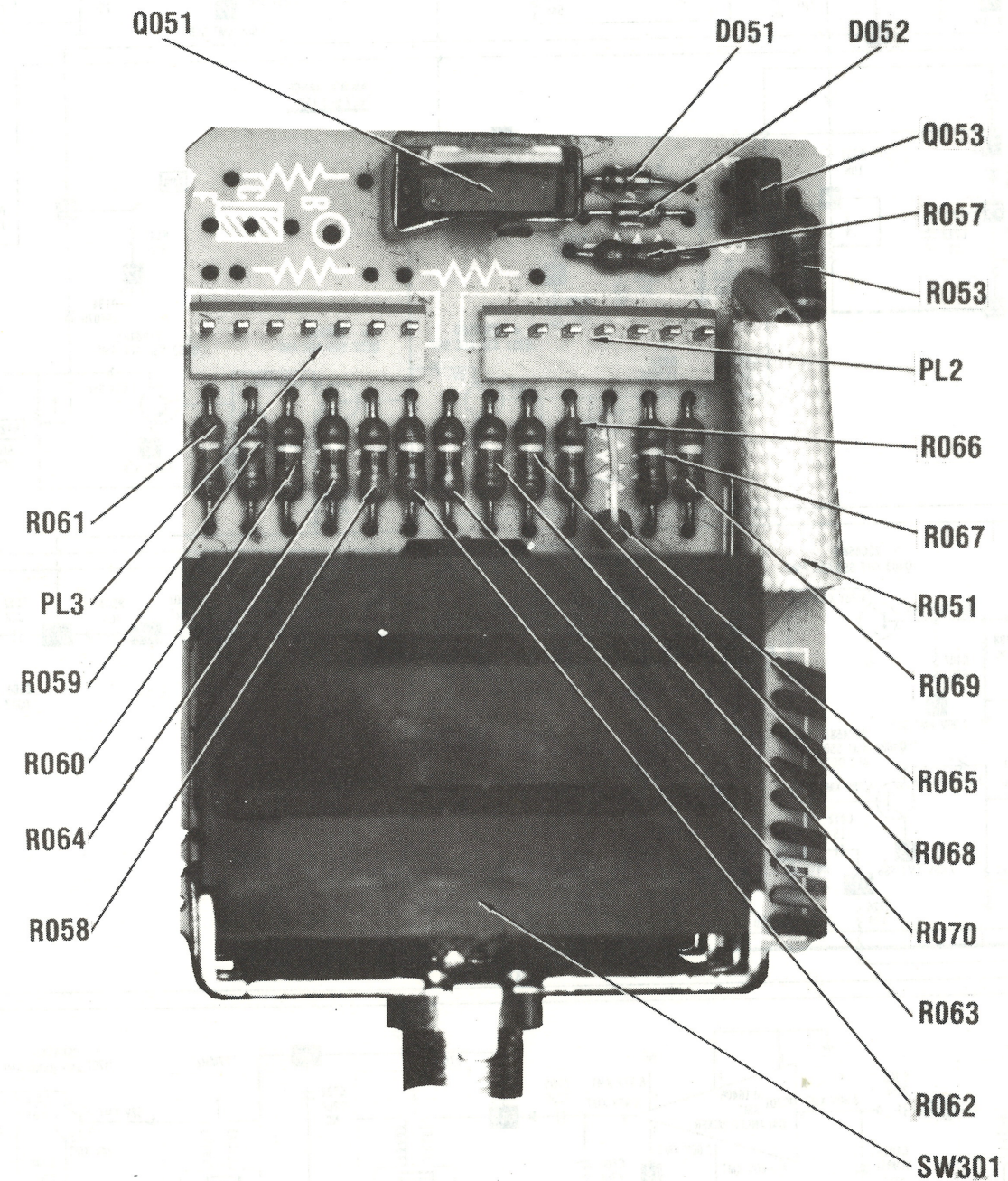
JACK BOARD



LED BOARD

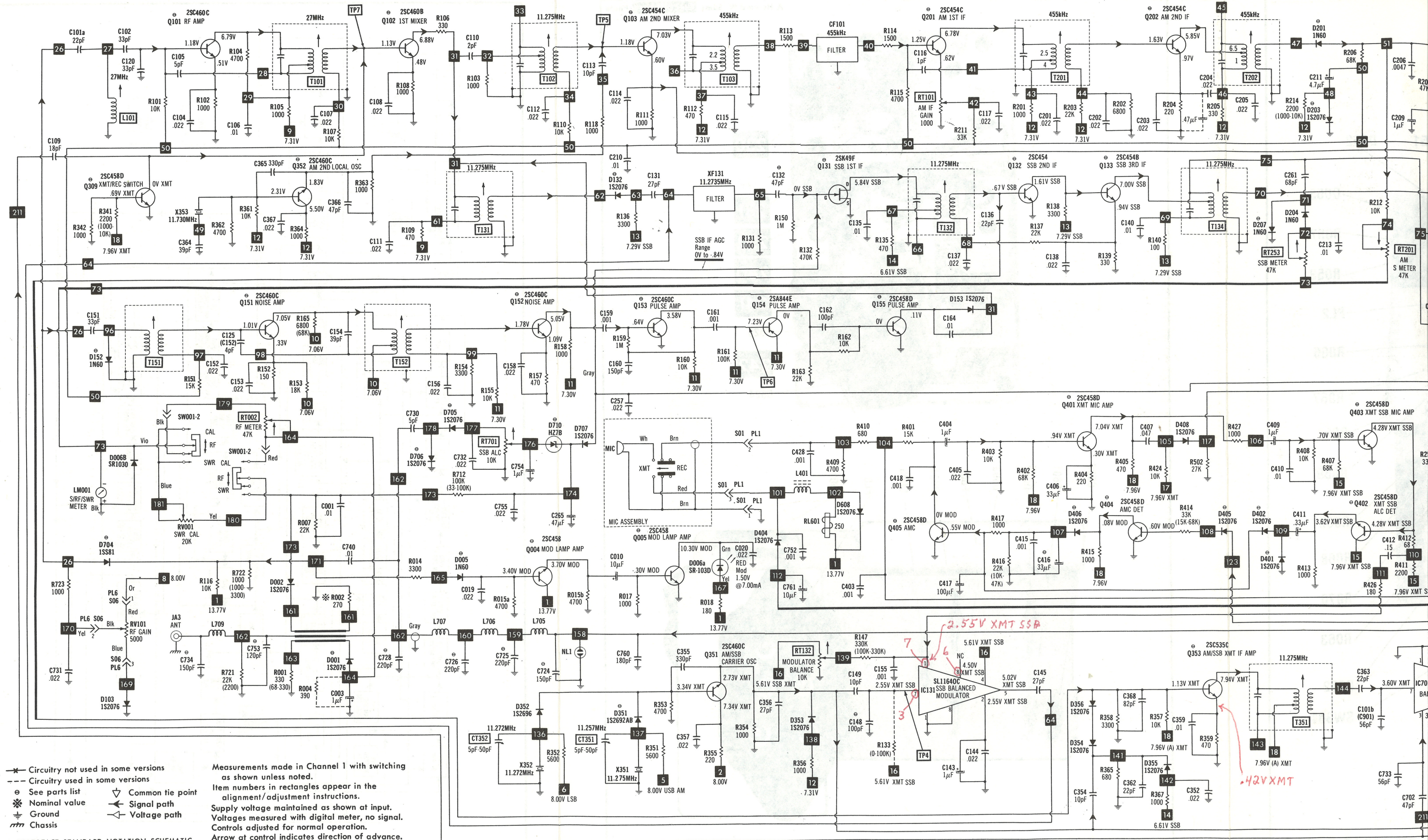


CH. SELECTOR BOARD



CH. SELECTOR BOARD



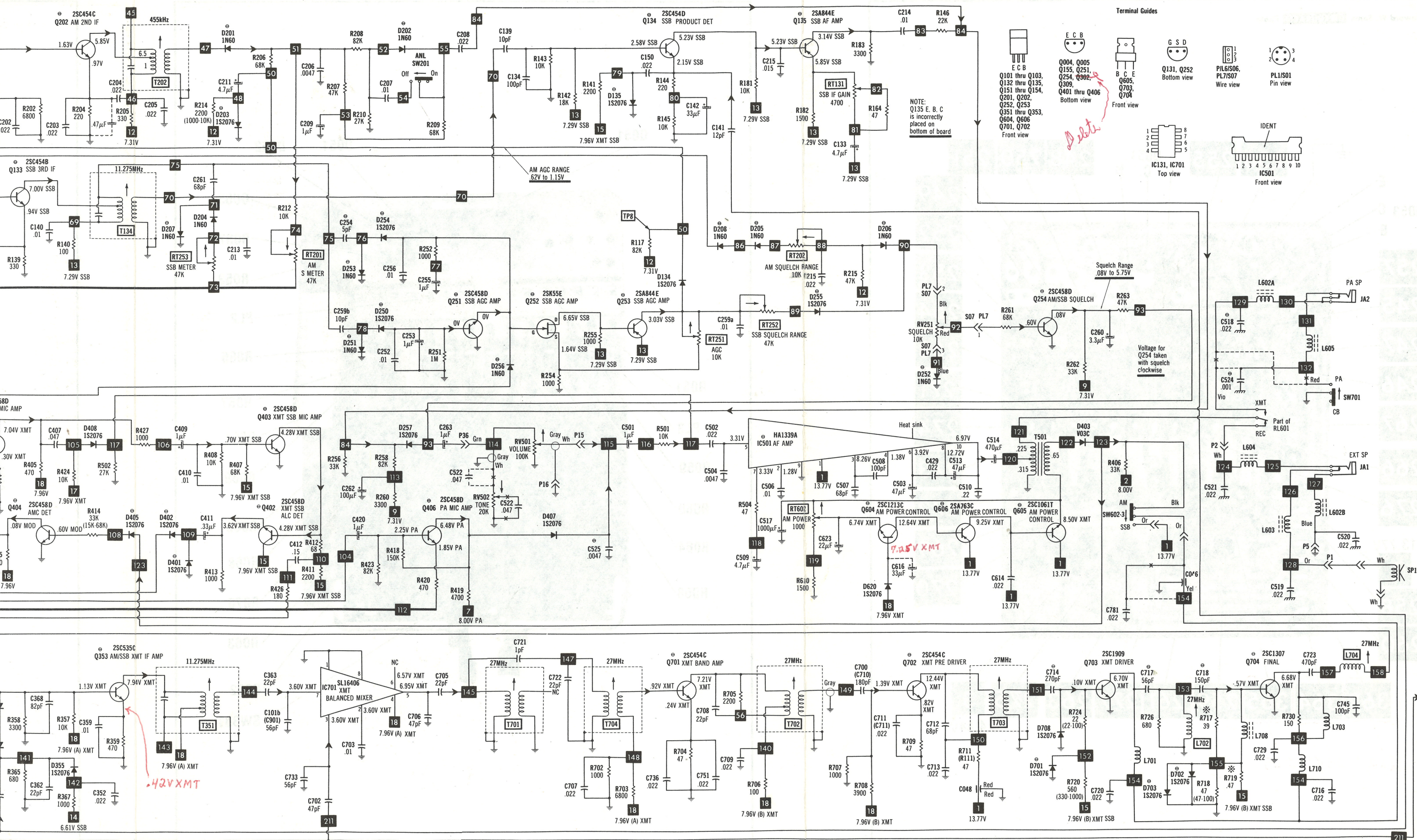


- ✕ Circuitry not used in some versions
- Circuitry used in some versions
- See parts list
- ✱ Nominal value
- ⊥ Ground
- mm Chassis
- ▽ Common tie point
- Signal path
- ⤵ Voltage path

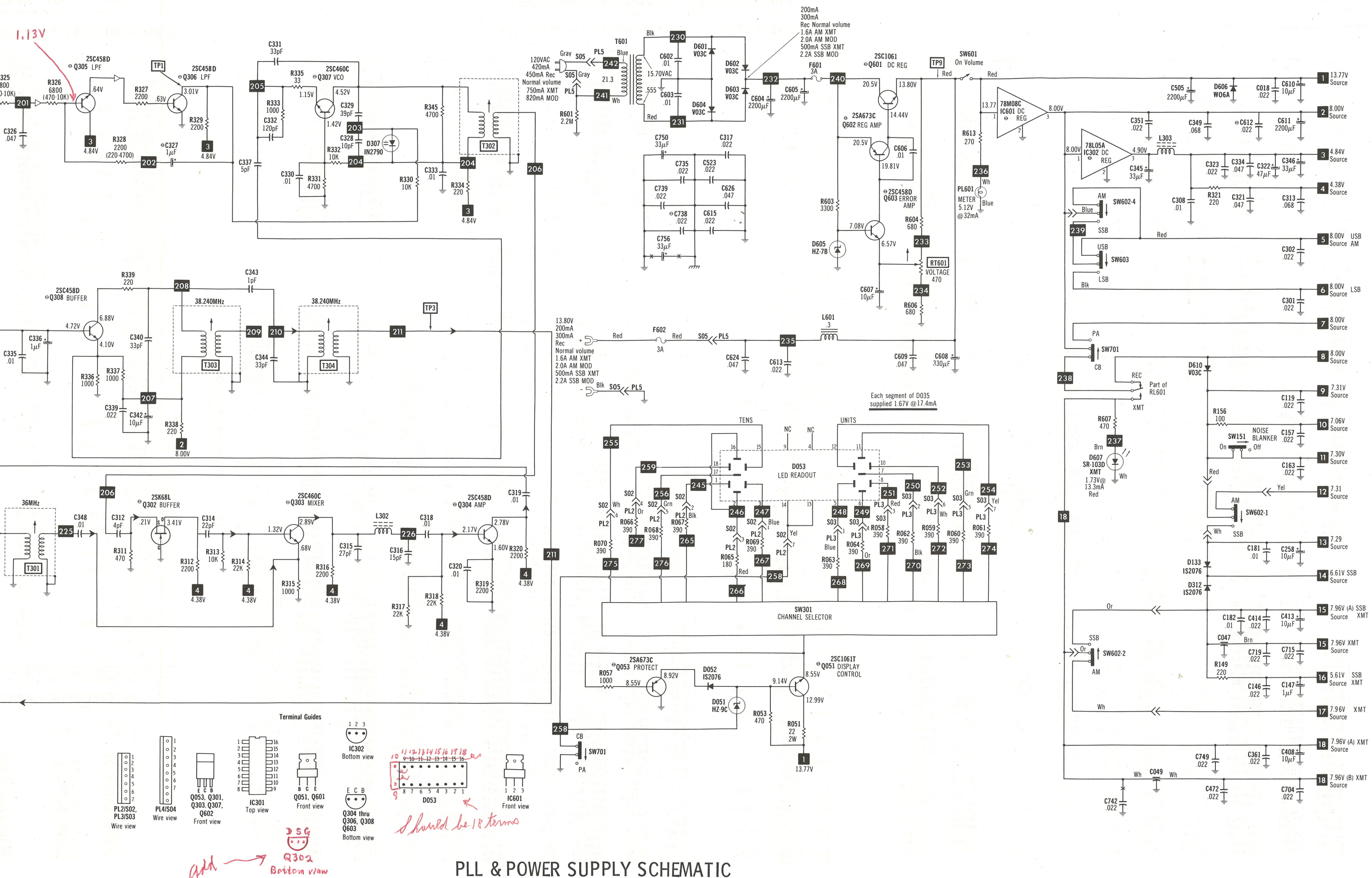
A PHOTOSTAT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRACE**

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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.







PLL & POWER SUPPLY SCHEMATIC

PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. 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.
D001	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D002	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D003	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D004	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D005	1N60	0575019	IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D006	1N60P		IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	SR-103D	5330323	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D051	HZ-9C		GEZD-9.1	ZB9.1B	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D052	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D103	1N2076	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D132	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D133	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D134	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D135	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D152	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D153	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D201	1N60	5330731	IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	1N60-TF1		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D202	1N60	5330731	IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D203	1N60-TF1		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D204	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D205	1N60P	0575019	IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	1N60		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D206	1N60P	0575019	IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D207	1N60		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	1N60P	0575019	IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D208	1N60P		IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D250	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D251	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1N60	5330731	IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D252	1N60		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D253	1N60P	5330731	IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	1N60-TF1		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D254	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D255	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D256	1N60	5330731	IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
	1N60-TF1		IN60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D257	1N60P	0575019	IN60P	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D301	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D302	1S2692AB		5330761	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D303	1S2692AB	5330761	5330661	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D304	1S2790		5330661	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D305	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D306	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D307	1S2790	5330661	5330661	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D312	1S2076		5330661	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D351	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2692AB		5330761	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D352	1S2692	5330761	5330761	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D353	1S2076		5330761	PTC214	HEPR2500	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D354	1S2076-TF1	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D355	1S2076	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D356	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D402	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D403	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D404	1S2076	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D405	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D407	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D408	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D601	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D602	1S2076	5330001	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D603	1S2076		GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D604	1S2076	5330001	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D605	1S2076-TF1		GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1S2076	5330341	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D606	1S2076		GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D608	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D610	1S2076-TF1		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2076	5330001	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D611	1S2076		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

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.	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.
D620	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D701	1S2076	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D702	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D703	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D704	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D705	1S2076	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D706	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D707	1S2076	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D708	1S2076-TF1	5330133	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D710	1S2076	5330131	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC131	SL1640C	5351211	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC301	UPC1037H	5359251	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC302	SM5104	5359331	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC501	78L05A	5350491	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC601	HA1339A	5350572	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC701	UPC14308H	5351211	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q004	25C458D	5320064	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q005	25C458	5320064	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q501	25C1740	5320671	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q503	25C1740	5320593	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q101	25C1740	0573487	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q102	25C1740	0573486	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q103	25C1740	0573492	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q131	25C1740	5321422	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q132	25C1740	0573491	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q133	25C1740	0573491	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q134	25C1740	5320651	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q135	25C1740	5321253	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q151	25C1740	0573487	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q152	25C1740	0573487	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q153	25C1740	0573487	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q154	25C1740	5321253	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q155	25C1740	5320064	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q201	25C1740	0573492	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q202	25C1740	0573492	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q251	25C1740	5320064	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q252	25C1740	5320944	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q253	25C1740	5321253	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q254	25C1740	5320064	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q301	25C1740	0573487	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q302	25C1740	5321501	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773

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.	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.
Q303	25C460C	0573487	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q304	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q305	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q306	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q307	25C460	0573487	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q308	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q309	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q351	25C460	0573487	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q352	25C460	0573487	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q353	25C460	0573511	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q401	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q402	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q403	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q404	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q405	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q406	25C460	5320064	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q601	25C1061T	5320671	GE-66	PTC167	HEPS3061	REN 152	SK3054	RT-197	ECG152	TM152/**	WEP745	121-987-02
Q602	25A673C	5320593	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q603	25C458D	5320064	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q604	25C1740	5320613	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q605	25C1740	5320671	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q606	25C1740	5320593	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q701	25C454C	0573492	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q702	25C454C	0573492	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q703	25C454C	5321321	GE-210	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
Q704	25C1307I	5321491	GE-216	PTC186	HEPS3001*	REN 236	SK3239	RT-158	ECG236	TM236	WEP840	121-29040

* Lead configuration may vary from original.

/** Also available as exact type replacement.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	GENERAL LINE
C003	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C010	10 25V	0252621	PC10-25	VTT10B25	QV1-23	EV-1322
C133	4.7 25V	0252615	PC5-50	VTT4R7B50	QV1-27	EV-1319
C142	3.3 10V	025223	PC5-50	VTT3R3A50	QV1-23	EV-1318
C143	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C147	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C203	.47 50V	0256118	PC1-50	VTT4R7A63	QV1-3	EV-1610
C209	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C211	4.7 25V	0252615	PC5-50	VTT4R7B50	QV1-27	EV-1319
C253	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C255	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C258	10 25V	0252621	PC10-25	VTT10B25	QV1-23	EV-1322
C260	3.3 50V	0252613	PC5-50	VTT3R3A50	QV1-25	EV-1618
C262	100 10V	0252331	PC100-10	VTT100E10	QV1-93	EV-1130

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

ITEM No.	RATING	REPLACEMENT DATA				
		MFRG. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C263	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C265	.47 50V	0256118	PC1-50	VTT47A63	QV1-3	EV-1610
C322	47 10V	0252525	PC50-16	VTT47D16	QV1-73	EV-1226
C327	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C336	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C342	10 25V	0252621	PC10-25	VTT10B25	QV1-43	EV-1322
C345	33 6.3V	0252223	PC30-25	VTT33B10	QV1-61	EV-1125
C346	33 6.3	0252223	PC30-25	VTT33B10	QV1-61	EV-1125
C404	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C406	33 10V	0252323	PC30-25	VTT33B10	QV1-61	EV-1125
C408	10 25V	0252621	PC10-25	VTT10B25	QV1-43	EV-1322
C409	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C411	.33 25V	0256530		TDC334M050EL	QDT1-14	SD50-R339
C413	10 25V	0252621	PC10-25	VTT10B25	QV1-43	EV-1322
C416	33 6.3V	0252223	PC30-25	VTT33B10	QV1-61	EV-1125
C417	100 6.3V	0252231	PC100-10	VTT100E10	QV1-93	EV-1130
C420	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C501	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C502	.22 25V			TDC224M050EL	QDT1-10	SD50-R229
C503	47 10V	0256114	PC50-16	VTT47D16	QV1-73	EV-1226
C505	2200 25V	0256110	WBR2000-25	TC2520A	QE1-645	TVA-1213.5
C509	4.7 25V	0252615	PC5-50	VTT47B50	QV1-27	EV-1319
C513	47 16V	0252525	PC50-16	VTT47D16	QV1-73	EV-1226
C514	470 25V	0256008	WBR500-25*	VTT470M25	QV1-153	EV-1350
C517	1000 25V	0256074	WBR1000-25*	VTT1000M25	QV1-185	EV-1360
C604	2200 25V	0256110	WBR2000-25	TC2520A	QE1-645	TVA-1213.5
C605	2200 25V	0256110	WBR2000-25	TC2520A	QE1-645	TVA-1213.5
C607	10 25V	0252621	PC10-25	VTT10B25	QV1-43	EV-1322
C608	330 6.3V	0252533	WBR300-35*	VTT330G10	QV1-131	EV-1145
C610	10 25V	0252621	PC10-25	VTT10B25	QV1-43	EV-1322
C611	2200 10V	0256104	WBR2000-16*	VTT2200N10	QV1-201	EV-1180
C616	3.3 25V	0252613	PC5-50	VTT33A50	QV1-23	EV-1318
C623	22 10V	0252322	PC25-25	VTT22B16	QV1-55	EV-1224
C750	33 25V	0252623	PC30-25	VTT33D25	QV1-63	EV-1325
C754	1 50V	0252811	PC1-50	VTT1A50	QV1-11	EV-1615
C756	33 25V		PC30-25	VTT33D25	QV1-63	EV-1325
C761	10 25V	0252621	PC10-25	VTT10B25	QV1-43	EV-1322

JCPenney MODEL 681-6241

CAPACITORS

			REPLACEMENT DATA				
ITEM No.	RATING	MFRG. PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C001	.01		UK50-103		MAG5011		
C018	.022		UK25-223				HY-725
C019	.022		UK25-223				HY-725
C020	.022		UK25-223				HY-725
C046							
C047							
C048							
C049							
C101A	22		DTZ-22	NP022	CN0422		10TCC-Q22
C101B	56				CN0456		10TCC-Q56
C102	33		DTZ-33	NP033	CN0433		10TCC-Q33
C104	.022		UK25-223				HY-725
C105	5		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C106	.01		UK50-103		MAG5011		
C107	.022		UK25-223				HY-725
C108	.022		UK25-223				HY-725
C109	18				CN0418		10TCC-Q18
C110	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C111	.022		UK25-223				HY-725
C112	.022		UK25-223				HY-725
C113	10		DTZ-10	NP010	CN0410		10TCC-Q10
C114	.022						
C115	.022		UK25-223				HY-725
C116	1				CN0510		10TCC-V10
C117	.022		UK25-223				HY-725
C119	.022		UK25-223				HY-725
C120	22		DTZ-22	NP022	CN0422		10TCC-Q22
C125	4		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C131	27				CN0427		10TCC-Q27
C132	47		DTZ-47	NP047	CN0447		10TCC-Q47
C134	100		DTZ-100	NP0100	CN0310		10TCC-T10
C135	.01		UK50-103		MAG5011		
C136	22		DTZ-22	NP022	CN0422		10TCC-Q22
C137	.022		UK25-223				HY-725
C138	.022		UK25-223				HY-725
C139	10		DTZ-10	NP010	CN0410		10TCC-Q10
C140	.01		UK50-103		MAG5011		
C141	12				CN0412		10TCC-Q12
C144	.022		UK25-223				HY-725
C145	27				CN0427		10TCC-Q27
C146	.022		UK25-223				HY-725
C148	100 10%		DTZ-100	NP0100	CN0310		10TCC-T10
C149	10		DTZ-10	NP010	CN0410		10TCC-Q10
C150	.022		UK25-223				HY-725
C151	33		DTZ-33	NP033	CN0433		10TCC-Q33
C152	.022		UK25-223				HY-725
C153	.022		UK25-223				HY-725
C154	39				CN0439		10TCC-Q39
C155	.001		DD-102		GP210		10TS-D10
C156	.022		UK25-223				HY-725
C157	.022		UK25-223				HY-725
C158	.022		UK25-223				HY-725
C159	.001		DD-102		GP210		10TS-D10

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
C160	150		DTZ-150		CN0315		10TCC-T15
C161	.001		DD-102		GP210		10TS-D10
C162	100		DTZ-100	NP0100	CN0310		10TCC-T10
C163	.022		UK25-223				HY-725
C164	.01		UK50-103		MAG5011		
C181	.01						
C182	.01		UK50-103		MAG5011		
C201	.022		UK25-223				HY-725
C202	.022		UK25-223				HY-725
C203	.022		UK25-223				HY-725
C204	.022		UK25-223				HY-725
C205	.022		UK25-223				HY-725
C206	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C207	.01			WMF1S1	M192P1039R8	QFT2-91	1FT-S10
C208	.022			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C210	.01		UK50-103		MAG5011		
C212	.022		UK50-103				HY-725
C213	.01				MAG5011		
C214	.01			WMF1S1	M192P1039R8	QFT2-91	1FT-S10
C215	.015			WMF1S1	M192P1039R8	QFT2-91	1FT-S10
C252	.01		UK50-103		MAG5011		
C254	5		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C256	.01		UK50-103		MAG5011		
C257	.022		UK25-223				HY-725
C259A	.01			WMF1S1	M192P1039R8	QFT2-91	1FT-S10
C259B	10		DTZ-10	NP010	CN0410		10TCC-Q10
C261	68		DTZ-68	NP068	CN0468		10TCC-068
C301	.022		UK25-223				HY-725
C302	.022		UK25-223				HY-725
C303	.022		UK25-223				HY-725
C304	6		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C305	6		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C306	470		DD-471	GP470	GP347		10TS-T47
C307	47		DTZ-47	NP047	CN0447		10TCC-Q47
C308	.01		UK50-103		MAG5011		
C309	12				CN0412		10TCC-Q12
C310	33		DTZ-33	NP033	CN0433		10TCC-Q33
C311	39 10%				CN0439		10TCC-Q39
C312	4		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C313	.068			WMF1S68	EWFTA168	QF1-195	1PB-S68
C314	22		DTZ-22	NP022	CN0422		10TCC-Q22
C315	27				CN0427		10TCC-Q27
C316	15		DTZ-15	NP015	CN0415		10TCC-Q15
C317	.022		UK25-223				HY-725
C318	.01		UK50-103		MAG5011		
C319	.01		UK50-103		MAG5011		
C320	.01		UK50-103		MAG5011		
C321	.047		UK25-503		MAG2515		HY-735
C323	.022		UK25-223				HY-725
C324	47		DTZ-47	NP047	CN0447		10TCC-Q47
C325	47		DTZ-47	NP047	CN0447		10TCC-Q47
C326	.047		UK25-503		MAG2515		HY-735
C328	10 N220	0248020			*		10TCR-Q10
C329	39 N750				CN7439		10TCU-Q39
C330	.01		UK50-103		MAG5011		
C331	33 N750	0248056	DTN-33	N33	CN7433		10TCU-Q33
C332	120 N220 5%				*		10TCR-T12
C333	.01		UK50-103		MAG5011		
C334	.047		UK25-503		MAG2515		HY-735
C335	.01		UK50-103		MAG5011		
C337	5		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C339	.022		UK25-223				HY-725
C340	33		DTZ-33	NP033	CN0433		10TCC-Q33
C343	1				CN0510		10TCC-V10
C344	33		DTZ-33	NP033	CN0433		10TCC-Q33
C348	.01		UK50-103		MAG5011		
C349	.068			WMF1S68	EWFTA168	QF1-195	1PB-S68
C351	.022		UK25-223				HY-725
C352	.022		UK25-223				HY-725
C354	10		DTZ-10	NP010	CN0410		10TCC-Q10
C355	.001		DD-102		GP210		10TS-D10
C356	27				CN0427		10TCC-Q27
C357	.022		UK25-223				HY-725
C359	.01		UK50-103		MAG5011		
C361	.022		UK25-223				HY-725
C362	22		DTZ-22	NP022	CN0422		10TCC-Q22
C363	22		DTZ-22	NP022	CN0422		10TCC-Q22
C364	39				CN0439		10TCC-Q39
C365	330		DD-331	GP330	GP333		10TS-T33
C366	47		DTZ-47	NP047	CN0447		10TCC-Q47
C367	.022		UK25-223				HY-725
C368	82		DTZ-82	NP082	CN0482		10TCC-Q82
C403	.001		DD-102		GP210		10TS-D10
C405	.022		UK25-223				HY-725
C407	.047			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C410	.01		UK50-103		MAG5011		
C412	.15			WMF05P15	EWFO5015		431P1549R5
C414	.022		UK25-223				HY-725
C415	.001		DD-102		GP210		10TS-D10
C418	.001		DD-102		GP210		10TS-D10
C428	.001		DD-102		GP210		10TS-D10
C429	.022		UK25-223				HY-725
C472	.022						
C502	.022		UK25-223				HY-725
C504	.0047						1FT-D47
C506	.01			WMF1D47	M192P4729R8	QFT2-63	1FT-S10
C507	68		DTZ-68	WMF1S1	M192P1039R8	QFT2-91	10TCC-Q68
C508	100		DTZ-100	NP068	CN0468		10TCC-T10
C510	.22			NP0100	CN0310		1FT-P22
				WMF05P22	M192P2249R8	QFT2-253	

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
C518	.022		UK25-223				HY-725
C519	.022		UK25-223				HY-725
C520	.022		UK25-223				HY-725
C521	.022		UK25-223				HY-725
C522	.047			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C523	.022		UK25-223				HY-725
C524	.001		DD-102		GP210		10TS-D10
C525	.0047			WMF1D47	M192P4729R8	QFT2-63	1FT-D47
C602	.01		UK50-103		MAG5011		
C603	.01		UK50-103		MAG5011		
C606	.01		UK50-103		MAG5011		
C609	.047		UK25-503		MAG2515		HY-735
C612	.022		UK25-223				HY-725
C613	.022		UK25-223				HY-725
C614	.022		UK25-223				HY-725
C615	.022		UK25-223				HY-725
C624	.047		UK25-503		MAG2515		HY-735
C626	.047		UK25-503		MAG2515		HY-735
C700	180 10%		DTZ-180				10TCC-T18
C702	47		DTZ-47	NP047	CN0447		10TCC-047
C703	.01		UK50-103		MAG5011		
C704	.022		UK25-223				HY-725
C705	22		DTZ-22	NP022	CN0422		10TCC-Q22
C706	47		DTZ-47	NP047	CN0447		10TCC-Q47
C707	.022		UK25-223				HY-725
C708	22		DTZ-47	NP047	CN0447		10TCC-047
C709	.022		UK25-223				HY-725
C711	.022		UK25-223				HY-725
C712	68		DTZ-68	NP068	CN0468		10TCC-068
C713	.022		UK25-223				HY-725
C714	270 5%		DTZ-270				10TCC-T27
C715	.022		UK25-223				HY-725
C716	.022		UK25-223				HY-725
C717	56				CN0456		10TCC-056
C718	150		DTZ-150		CN0315		10TCC-T15
C719	.022		UK25-223				HY-725
C720	.022		UK25-223				HY-725
C721	1				CN0510		10TCC-V10
C722	22		DTZ-22	NP022	CN0422		10TCC-Q22
C723	470		DD-471	GP470	GP347		10TS-T47
C724	150 NPO 5%		DTZ-150		CN0315		10TCC-T15
C725	220		DTZ-220				10TCC-T22
C726	220		DTZ-220				10TCC-T22
C728	220 10%		DTZ-220				10TCC-T22
C729	.022		UK25-223				HY-725
C730	5		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C731	.022		UK25-223				HY-725
C732	.022		UK25-223				HY-725
C733	56				CN0456		10TCC-056
C734	150		DTZ-150		CN0315		10TCC-T15
C735	.022		UK25-223				HY-725
C736	.022		UK25-223				HY-725
C738	.022		UK25-223				HY-725
C739	.022		UK25-223				HY-725
C740	.01		UK50-103		MAG5011		
C742	.022		UK25-223				HY-725
C745	100 10%		DTZ-100	NP0100	CN0310		10TCC-T10
C749	.022		UK25-223				HY-725
C751	.022		UK25-223				HY-725
C752	.001		DD-102		GP210		10TS-D10
C753	120 10%		DTZ-120		CN0312		10TCC-T12
C755	.022		UK25-223				HY-725
C760	180 N150 5%				*		10TCP-T18
C781	.022		UK25-223				HY-725
CT301	5-50	5058104					
CT302	5-50	5058104					
CT351	5-50	5058104					
CT352	5-50	5058104					

*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.
RT002	RF Meter	47K	0151888	T-50K(4)	MTC54L1(4)	U260R503B(4)
RT101	AM IF Gain	1000	0151883	T-1000(4)	MTC13L1(4)	U260R102B(4)
RT131	SSB IF Gain	4700	0151885	T-5000(4)	MTC53L1(4)	U260R502B(4)
RT132	Modulation Balance	10K	0151886	T-10K(4)	MTC14L1(4)	U260R103B(4)
RT201	AM S Meter	47K	0151888	T-50K(4)	MTC54L1(4)	U260R503B(4)
RT202	AM Squelch Range	10K	0151886	T-10K(4)	MTC14L1(4)	U260R103B(4)
RT251	AGC	10K	0151886	T-10K(4)	MTC14L1(4)	U260R103B(4)
RT252	SSB Squelch Range	47K	0151888	T-50K(4)	MTC54L1(4)	U260R503B(4)
RT253	SSB Meter	47K	0151888	T-50K(4)	MTC54L1(4)	U260R503B(4)
RT601	Voltage	470	0151882	T-500(4)	MTC52L1(4)	U260R102B(4)
RT602	AM Power	1000	0151883	T-1000(4)	MTC13L1(4)	U260R102B(4)
RT701	SSB ALC	10K	0151886	T-10K(4)	MTC14L1(4)	U260R103B(4)
RV001	SWR CAL	20K	5000307			
RV101	RF Gain	5000	5000309			
RV251	Squelch	10K	5000432			
RV301	Fine Tune	10K	5000306			
RV501	Volume/Power Switch	100K	5003142			
RV502	Tone	20K	5000307			

(4) Modify terminals to fit PC board.

JCPenney MODEL 681-6241

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.	
L101	RF (27MHz)	5126372			
L302	Mixer (120uH)	5152088			
L303	RF Choke (820uH)	5152099			
L401	RF Choke (150uH)	5152089			
L602A	RF Choke (3.9uH)	5152068			
L602B	RF Choke (3.9uH)	5152068			
L603	RF Choke (3.9uH)	5152068			
L604	RF Choke (3.9uH)	5152068			
L605	RF Choke (3.9uH)	5152068			
L701	RF Choke (1uH)	5150783			
L702	XMT Driver (27MHz)	5126292	6292		
L703	Trap	5123271			
L704	Final (27MHz)	5126292	6292		
L705	Loading Final (.35uH)	5126551			
L706	Pi Filter (.40uH)	5126552			
L707	Pi Filter (.40uH)	5126552			
L708	RF Choke (1uH)	5152061			
L709	Antenna Matching (.33uH)	5150073			
L710	Trap	5123271			
T101	RF Amp (27MHz)	5120099	20099		
T102	AM IF (11.275MHz)	0322341			
T103	AM Mixer (445kHz)	0322116	22116	CBS510-1TC	
T131	FM IF (11.275MHz)	5142026	42026	8517	
T132	SSB IF (11.275MHz)	0322341	22341		
T134	SSB IF (11.275MHz)	0322341		CBS510-1TC	
T151	SSB AGC Amp (27MHz)	5123266	23266	CBS510-1TC	
T152	Noise Amp (27MHz)	5123266	23266		
T201	AM IF (455kHz)	0322146			
T202	AM IF (455kHz)	5132031	320316735	CBS503-4TC	
T301	Local Oscillator (36MHz)	5123261	23261		
T302	VCO	5123269			
T303	Buffer (38.240MHz)	5123261			
T304	Buffer (38.240MHz)	5123261			
T351	XMT IF (11.275MHz)	5123445	23445		
T701	XMT Balanced Mixer (27MHz)	5123432	23432		
T702	XMT Band (27MHz)	5123432	23432		
T703	XMT Predriver (27MHz)	5123261	23261		
T704	XMT Balanced Mixer (27MHz)	5123432	23432		

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (O CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L601	2.2A	.3	1.5mH	5220002			

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
PT	120V AC @ 820mA AC	15.70V AC @ 3.6A AC	5212033			

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T501	8	8	5230193			

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	3 1/4" X 4 1/2" PM 8 Ohms	5415001		

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
F601	3A Quick Acting	5721131		GJV(3A)		318003		
F602	3A Quick Acting	5720243		AGC(3A)	HRK	312003	150145	FG3-2

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	5421227	18-032	18-034	18-010	18-092	2	1	3	NC	NC	1

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF101	Filter	5160011	455k Ω
D006A	LED	5380182	Modulation (LRD302)(SR-103D)(1.50V @ 7.00mA)
D053	LED	5310101	Channel Readout, Tens & Units (Each Segment Supplied 1.67V @ 17.4mA)
D607	LED	5380182	XMT (1.73V @ 13.3mA) (LR0302)
JA1	Jack	5673111	External Speaker
JA2	Jack	5673111	PA Speaker
JA3	Jack	5675152	Antenna
LM001	Meter	5554207	S/Rf/SWR
NL1	Lamp	0594094	Neon
PL601	Lamp	5760821	Meter (5.72V @ 32mA)
RL601	Relay	5640062	
SW001	Switch	5604205	SWR/CAL/Rf
SW151	Switch	5639241	Noise Blanker
SW201	Switch	5639241	ANL
SW301	Switch	5612221	Channel Selector
SW601	Switch		Power (Part of Volume Control)
SW602	Switch	5604203	AM/SSB
SW603	Switch	5639241	USB/LSB
SW701	Switch	5639241	PA/CB
X301	Crystal	5780284	12.320MHz
X302	Crystal	5780283	12.319MHz
X303	Crystal	5780281	10.240MHz
X351	Crystal	5780169	11.275MHz
X352	Crystal	5780168	11.272MHz
X353	Crystal	5780167	11.730MHz
XF131	Filter	5161011	11.2735MHz
	Cord	0593477	AC Power
	Cord	5740705	DC Power
	Holder	6575561	LED
	Jack	5663132	Microphone (4 Pin Connector)

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

ITEM	PART No.	ITEM	PART No.
Bottom, Cover	6147001	Rubber Plate	6576181
Escutcheon Assembly	6242223	Speaker, Panel	6738641
Knob Assembly (Channel)	6285361	Stand	7666311
Knob Assembly	6285362	Stand Bracket	6718253
Rubber Base	7666071	Stand Bracket	6718254
Rubber Base	7666161	Upper, Cover	6146991

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')

JCPenney MODEL 681-6241

INDEX

Listing all models/chassis covered in
PHOTOFACT CB (Citizens Band) Series volumes

KEY (EP) Early Production (LP) Late Production (Rev) Revised (SN) Serial Number (PCB) Production Change Bulletin

AIMOR	CADRE (CONT.)	COLT (CONT.)	EVERSONIC	GENERAL MOTORS (CONT.)	HY-GAIN	
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