

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 76-858

MIDLAND MODEL 76-858

MANUFACTURER'S SPECIFICATIONS

Circuitry:	4 IC, 19 Transistors, 17 Diodes, 2 Zener Diode, 1 Vari-cap.
Frequency Control:	Phase Locked Loop Synthesizing System
Channels:	40 channels all installed
Mode of Operation:	AM
Receiver System:	Dual Conversion Superheterodyne
Sensitivity:	Nominal 0.7 μ V (S/N 10 dB)
Selectivity:	More than 45 dB down at $\pm$ 10 kHz
Intermediate Frequency:	1st: 10.695 MHz 2nd: 455 kHz
Frequency Tolerance:	$\pm$ 0.005 %
Spurious Rejection:	More than 60 dB down
RF Output Power:	Maximum 4.0 W (F.C.C. Maximum) at 117 V AC 50/60 Hz or 13.8 V DC
Squelch Range:	0.5 μ V — 500 μ V
Audio Output Power:	More than 3 W (EXT. SP at 8 ohms)
Controls:	OFF/Volume (PA), PA-Squelch, Channel Selector, EXT. CB-OFF switch, Hi FILTER switch.
Jacks and Connectors:	Antenna, EXT. CB/PA, EXT. SP, DC Power connector, AC Power connector

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 RV1 in AC power supply for 13.8-volts DC at TP11.
 Connect low sides of test equipment to ground unless specified otherwise.
 Connect 50-ohm dummy load or antenna before keying transmitter.
 Connect microphone.

Suggested Alignment Tools:

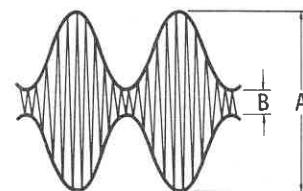
GC ELECTRONICS:

T1, T2, T3, T4, T5, T6, L1, L2, L5 9440

T7, T8, T9, T10, L14 5009

L7, L11, L12 9304

CT1 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 (Q1, Emitter).	Ch. 19	CT1	Adjust for 10.240MHz $\pm$ 50Hz.
Input of oscilloscope to TP2 (T1, Secondary).	Ch. 19	T1	Adjust for maximum RF at 20.480MHz.
Input of DC meter to TP8 (Junction of R1, R2, and R3).	Ch. 1	L1	Adjust for 3.60 volts $\pm$.1 volt.
Input of oscilloscope to TP3 (IC3, Pin 4).	Ch. 19	L2, T2	Adjust for maximum RF.
Input of frequency counter to TP3 (IC3, Pin 4).	Ch. 1		Check for 37.660MHz. Check all channels. See Truth Chart for correct frequencies.
Input of frequency counter to TP4 (IC3, Pin 3).	Ch. 19, Xmt		Check for 10.695MHz.
Input of frequency counter to antenna jack.	Ch. 19, Xmt	CT1	Check for 27.185MHz. (If necessary, readjust for 27.185MHz.)

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
 Adjust volume control to obtain a suitable indication.
 Set generator output low enough to prevent AGC limiting.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP10 (Q10, Emitter). 455kHz, 1000Hz @ 30% modulation.	Ch. 19 Squelch MIN Hi Filter Off	T10, T9, T8	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19 Squelch MIN Hi Filter Off	T7, L14, T6, T5	Adjust for maximum output. If necessary, readjust T10, T9 and T8.

RECEIVER ADJUSTMENTS

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

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 500uV.	Ch. 19 Squelch Max Hi Filter Off	RV1	SQUELCH RANGE Adjust so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19 Squelch MIN Hi Filter Off	RV3	SIGNAL METER Adjust for 9 on signal 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	TRANSCEIVER	ADJUST	REMARKS
	Ch. 19	L5,T3,T4, L7,L11,L12	Adjust for maximum RF output.
	Ch. 19	L7	Readjust for 4.4 watts output.
	Ch. 19	L12	Adjust for 3.8 watts output.

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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.

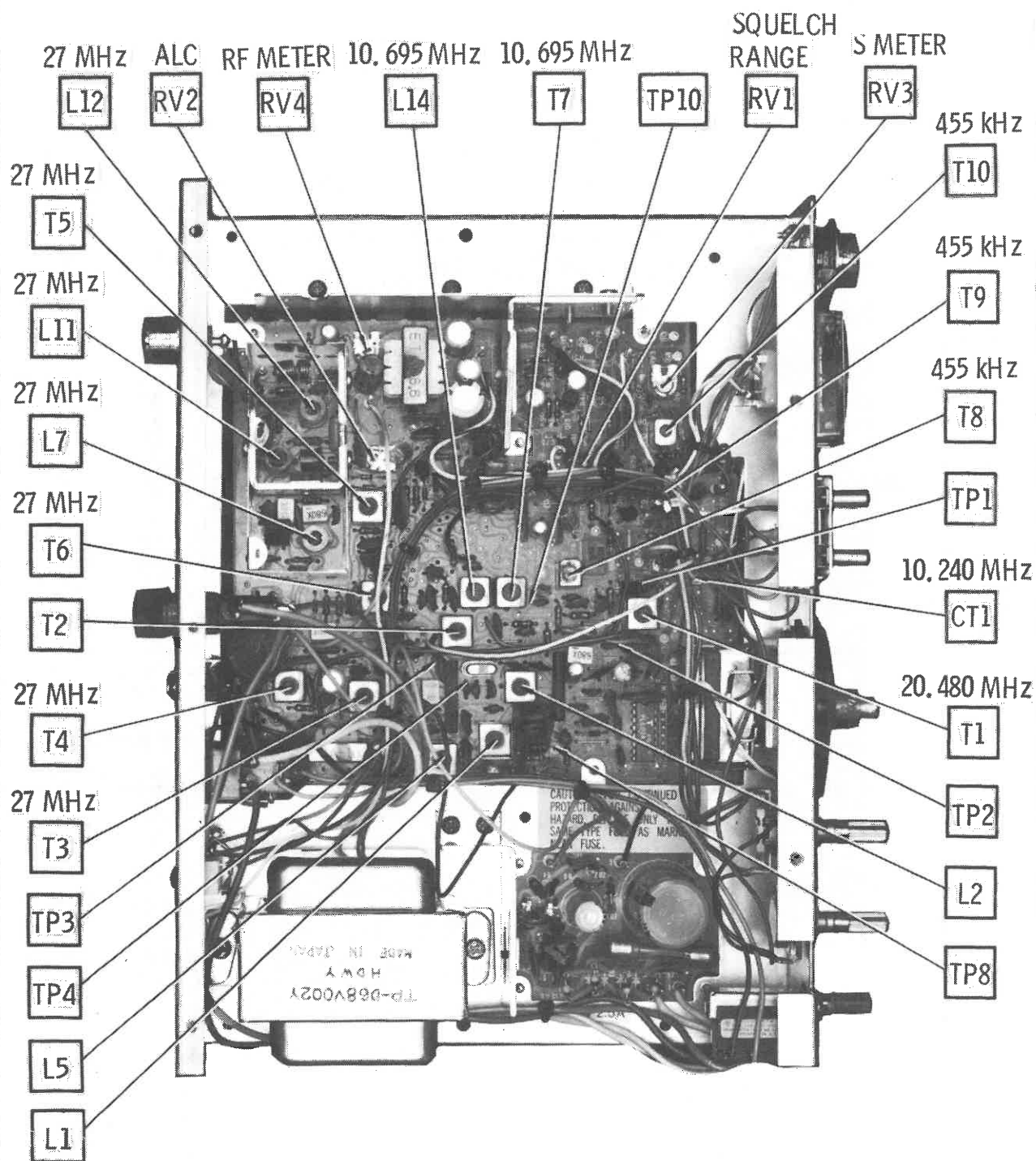
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of modulation meter to antenna jack. Inject a 20mV, 1000Hz signal at mic input.	Ch. 19	RV2	AF ALC Adjust for 85% modulation maximum. See FIGURE 1.
	Ch. 19	RV4	POWER METER Adjust so that RF panel meter agrees with RF wattmeter.

TRUTH CHART

1 = <u>5.44</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	ICI PROGRAM DIVIDER							REC & XMT VCO OUTPUT IN MHz AT TP3
	PINS							
	9	10	11	12	13	14	15	
1	1	0	0	1	0	1	0	37.660
2	1	0	0	1	0	0	1	37.670
3	1	0	0	1	0	0	0	37.680
4	1	0	0	0	1	1	0	37.700
5	1	0	0	0	1	0	1	37.710
6	1	0	0	0	1	0	0	37.720
7	1	0	0	0	0	1	1	37.730
8	1	0	0	0	0	0	1	37.750
9	1	0	0	0	0	0	0	37.760
10	0	1	1	1	1	1	1	37.770
11	0	1	1	1	1	1	0	37.780
12	0	1	1	1	1	0	0	37.800
13	0	1	1	1	0	1	1	37.810
14	0	1	1	1	0	1	0	37.820
15	0	1	1	1	0	0	1	37.830
16	0	1	1	0	1	1	1	37.850
17	0	1	1	0	1	1	0	37.860
18	0	1	1	0	1	0	1	37.870
19	0	1	1	0	1	0	0	37.880
20	0	1	1	0	0	1	0	37.900

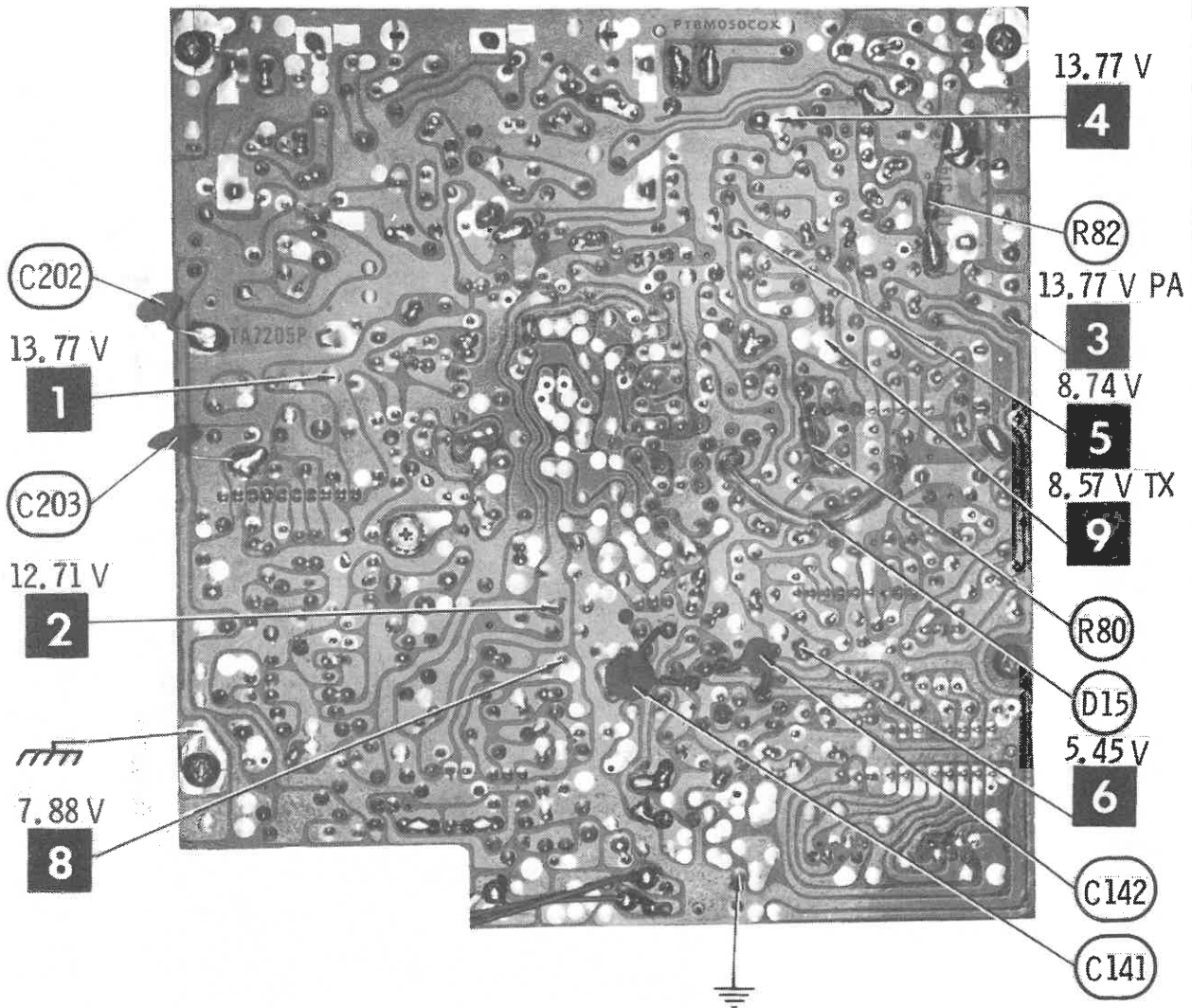
1 = <u>5.44</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	ICI PROGRAM DIVIDER							REC & XMT VCO OUTPUT IN MHz AT TP3
	PINS							
	9	10	11	12	13	14	15	
21	0	1	1	0	0	0	1	37.910
22	0	1	1	0	0	0	0	37.920
23	0	1	0	1	1	0	1	37.950
24	0	1	0	1	1	1	1	37.930
25	0	1	0	1	1	1	0	37.940
26	0	1	0	1	1	0	0	37.960
27	0	1	0	1	0	1	1	37.970
28	0	1	0	1	0	1	0	37.980
29	0	1	0	1	0	0	1	37.990
30	0	1	0	1	0	0	0	38.000
31	0	1	0	0	1	1	1	38.010
32	0	1	0	0	1	1	0	38.020
33	0	1	0	0	1	0	1	38.030
34	0	1	0	0	1	0	0	38.040
35	0	1	0	0	0	1	1	38.050
36	0	1	0	0	0	1	0	38.060
37	0	1	0	0	0	0	1	38.070
38	0	1	0	0	0	0	0	38.080
39	0	0	1	1	1	1	1	38.090
40	0	0	1	1	1	1	0	38.100



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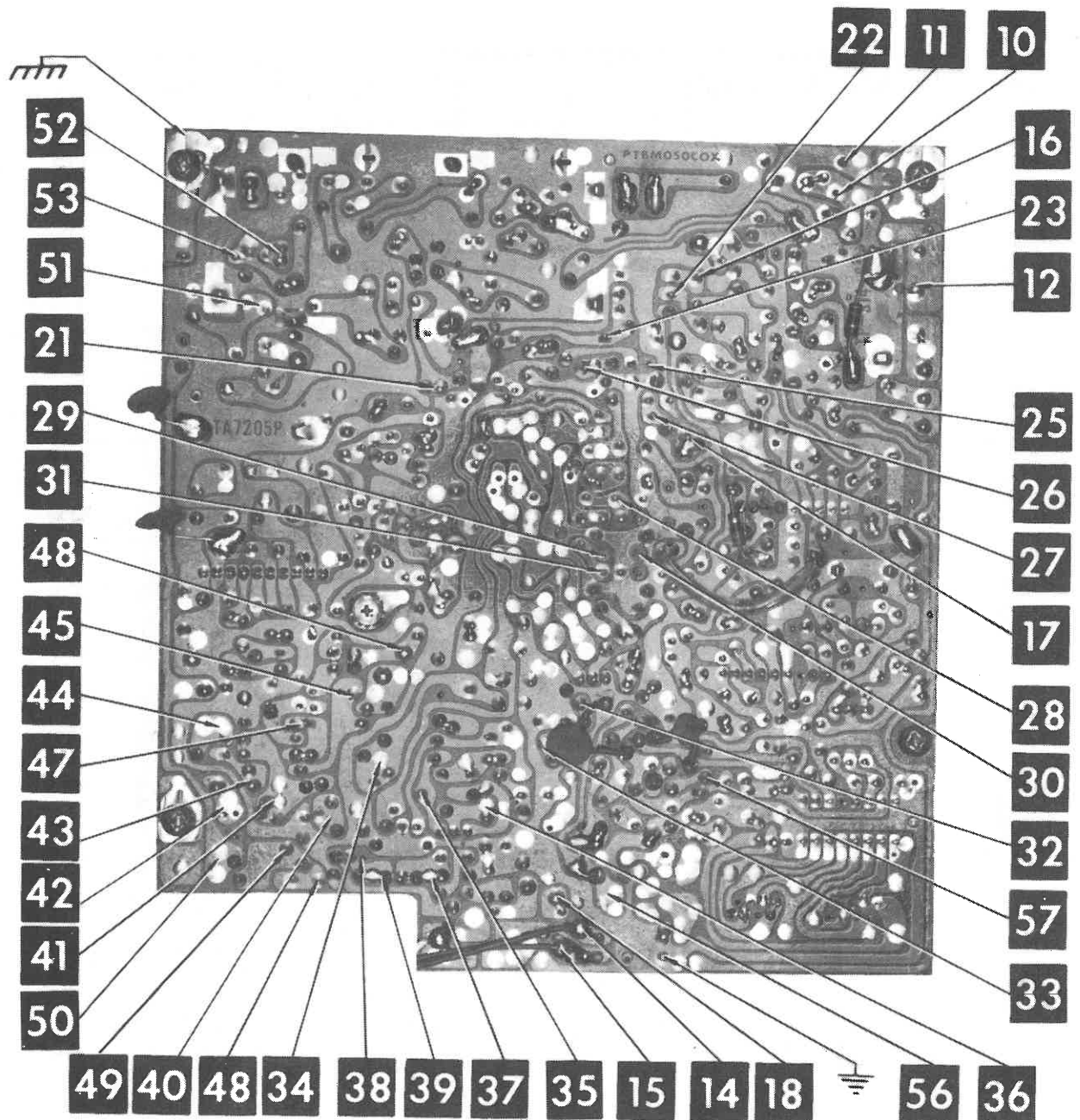
CHASSIS - BOTTOM

MAIN BOARD



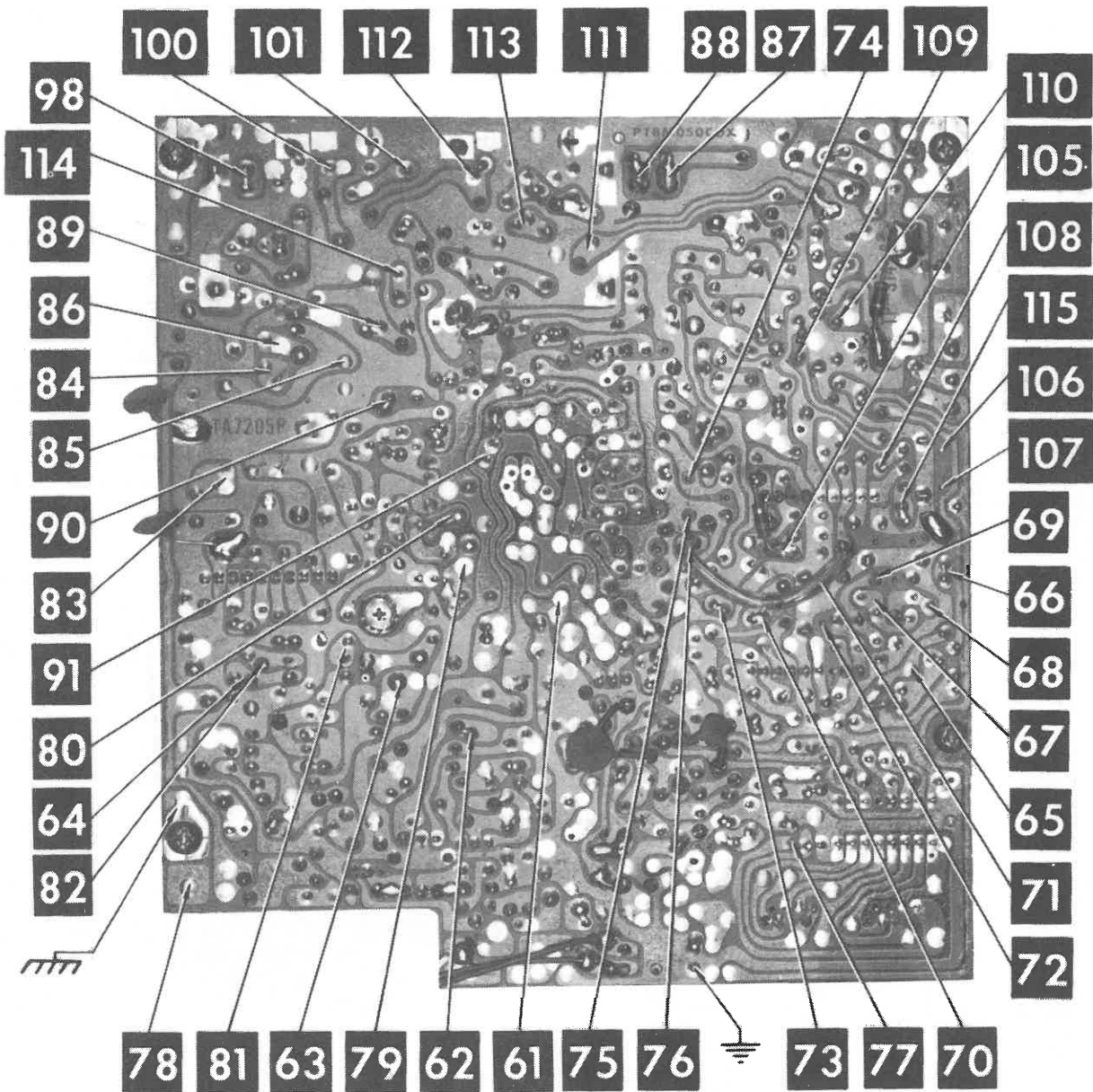
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MAIN BOARD

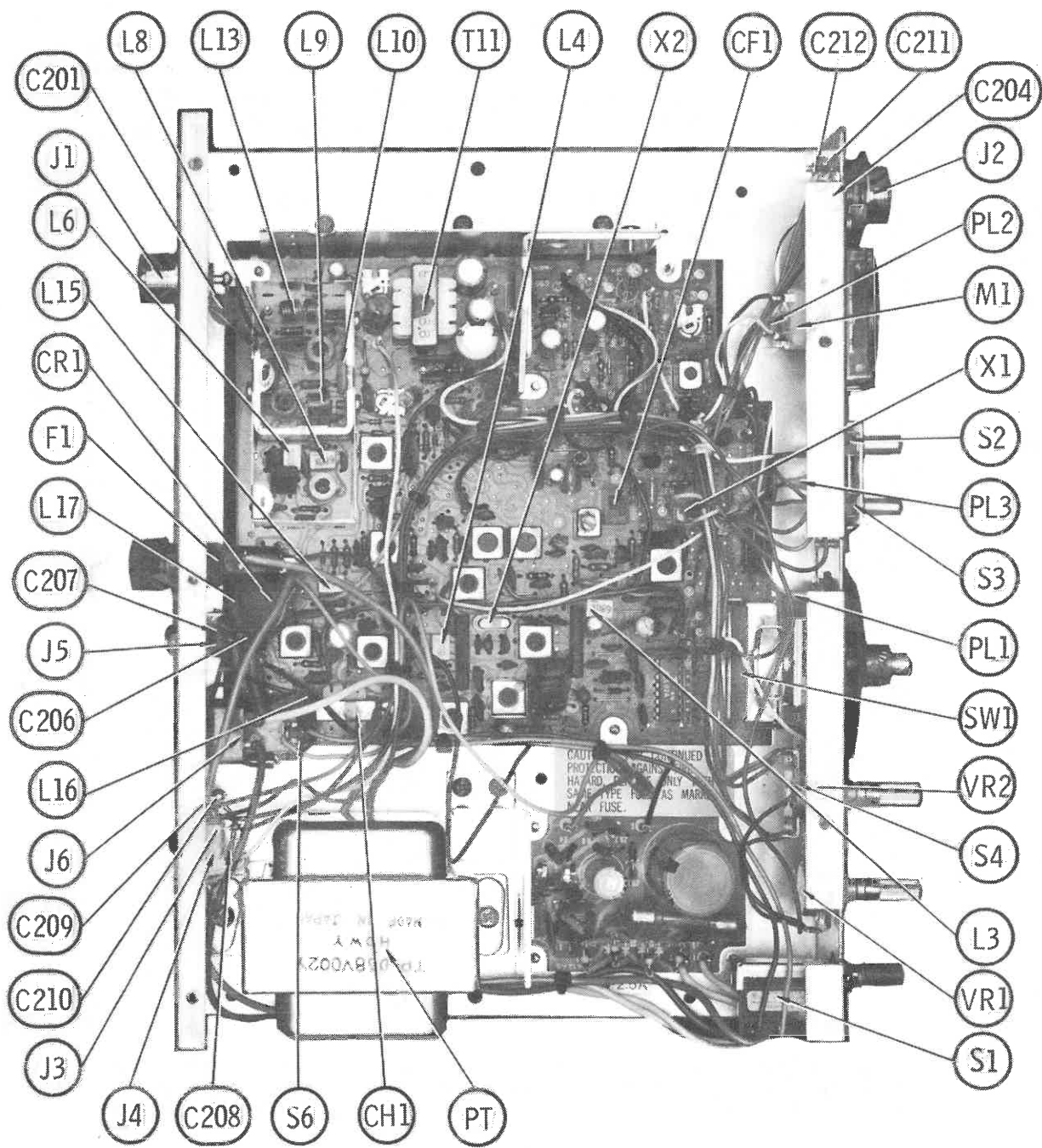


MAIN BOARD

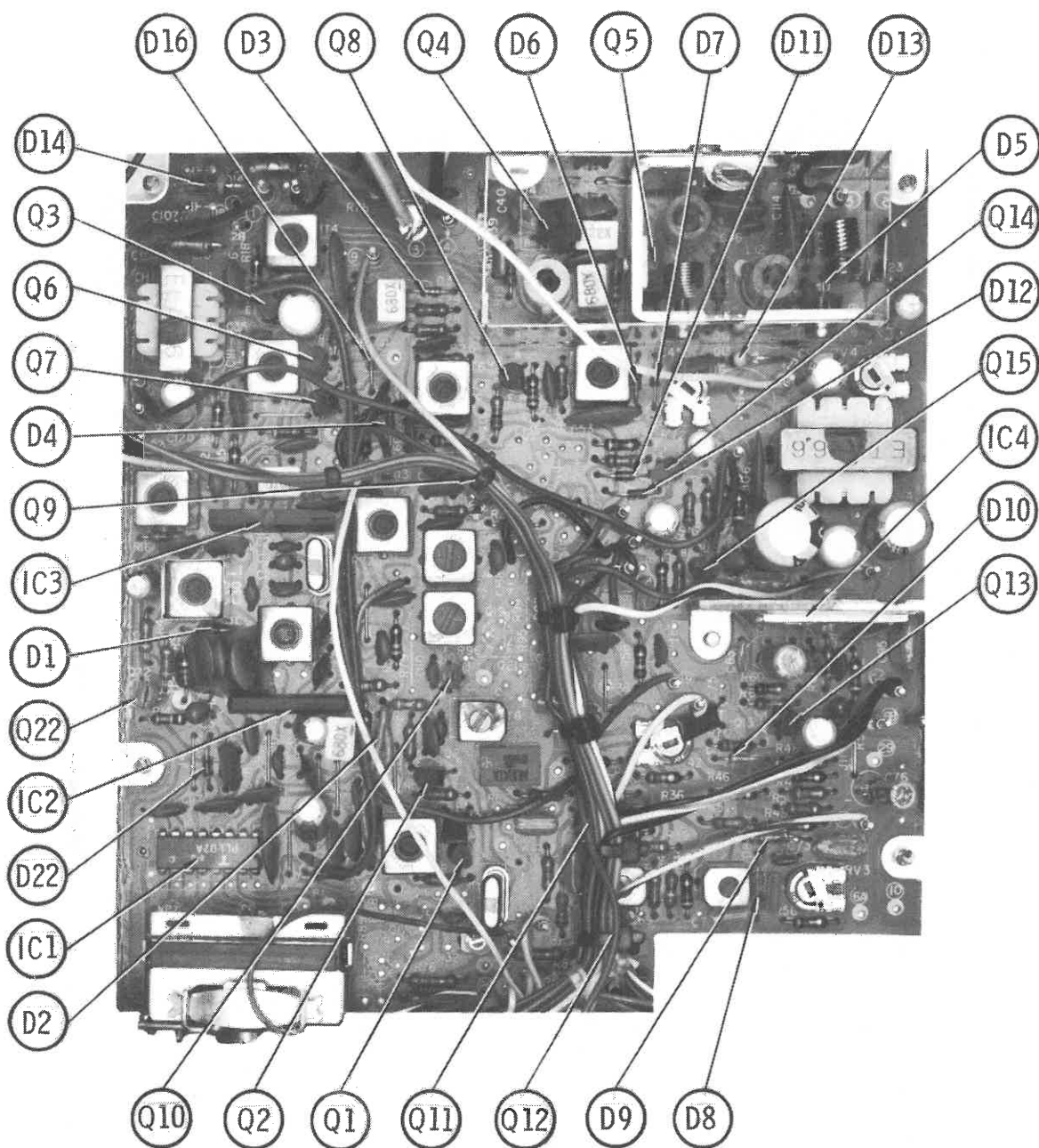
MIDLAND MODEL 76-858



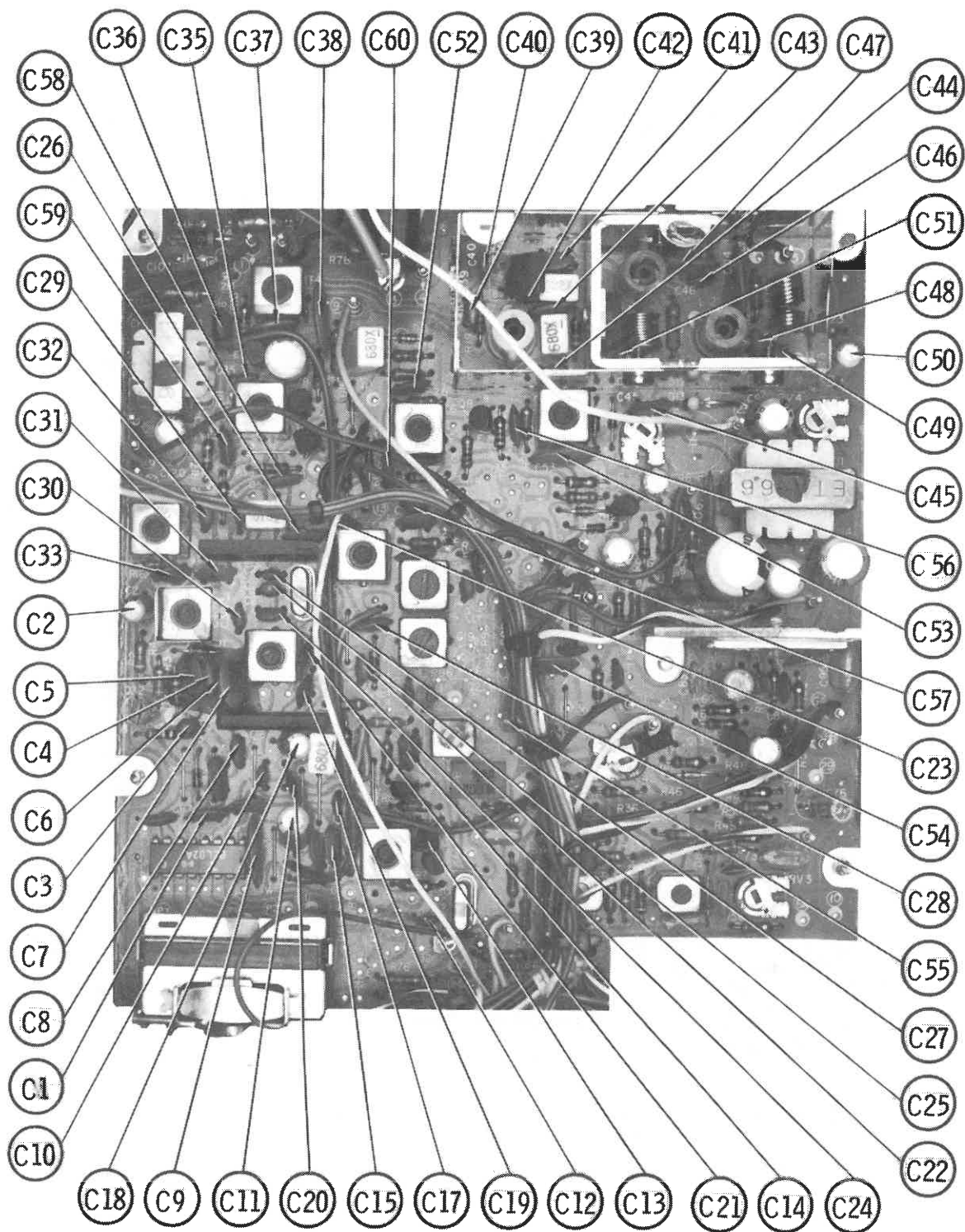
MAIN BOARD



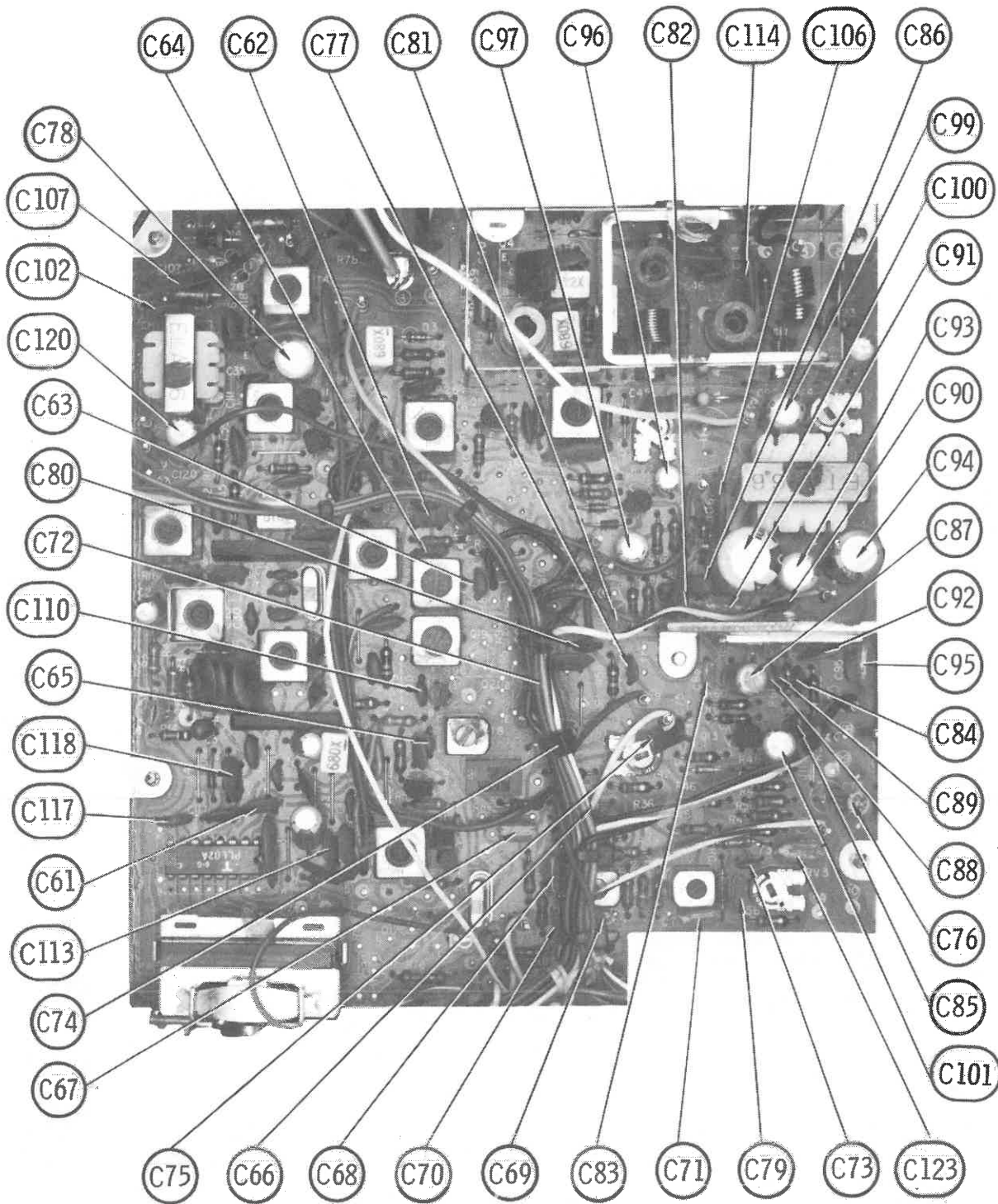
CHASSIS - BOTTOM



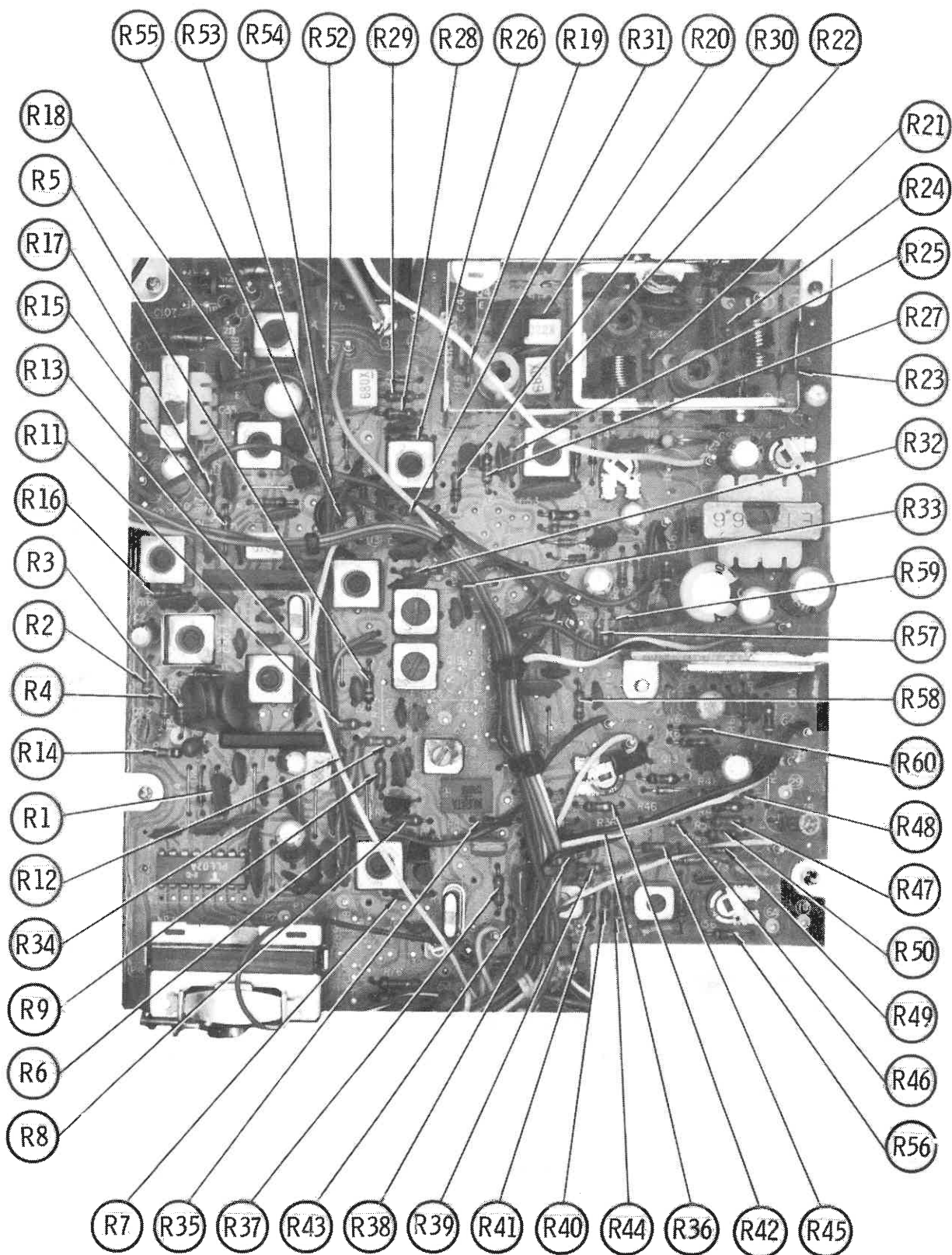
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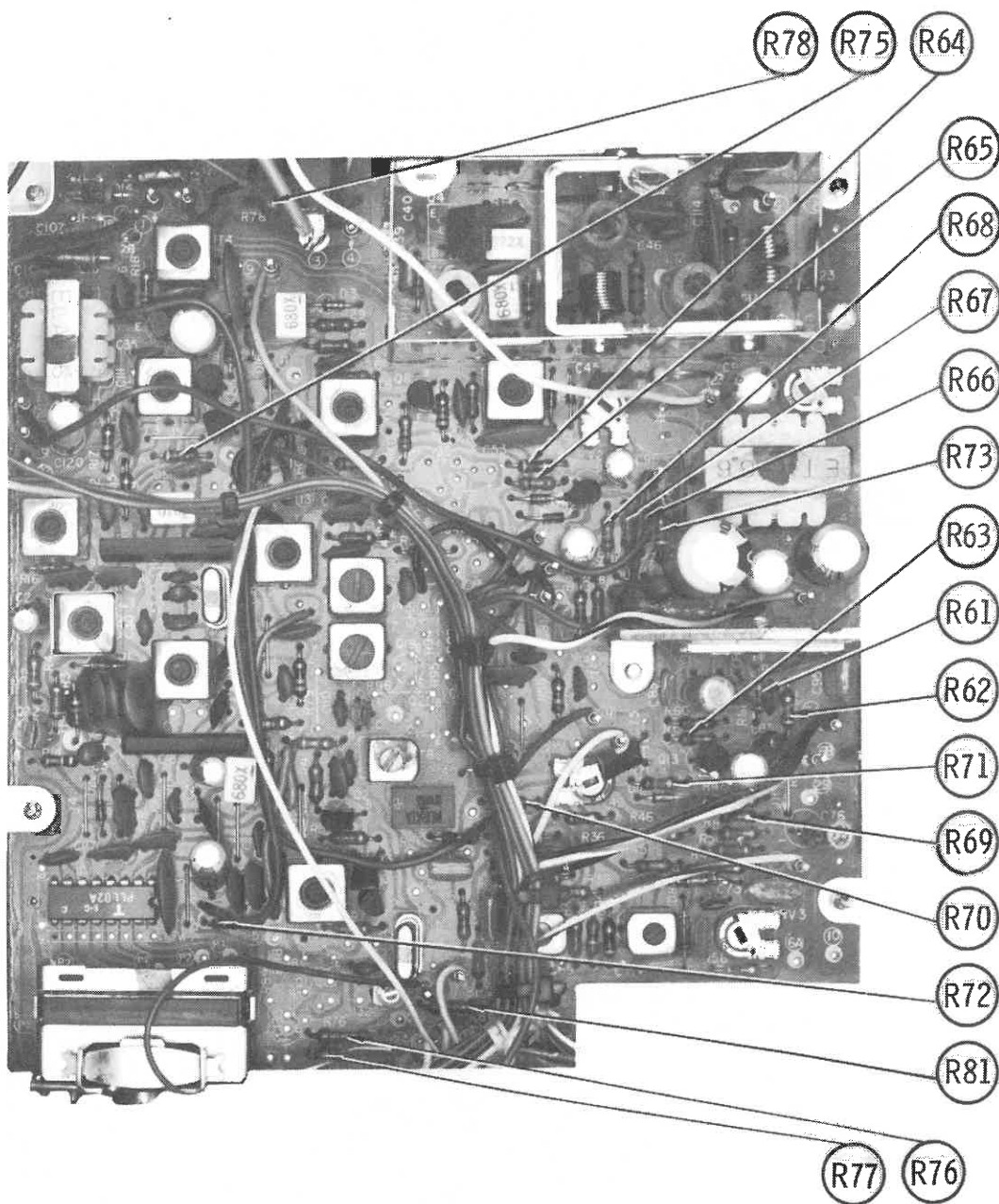
MAIN BORD



MAIN BOARD



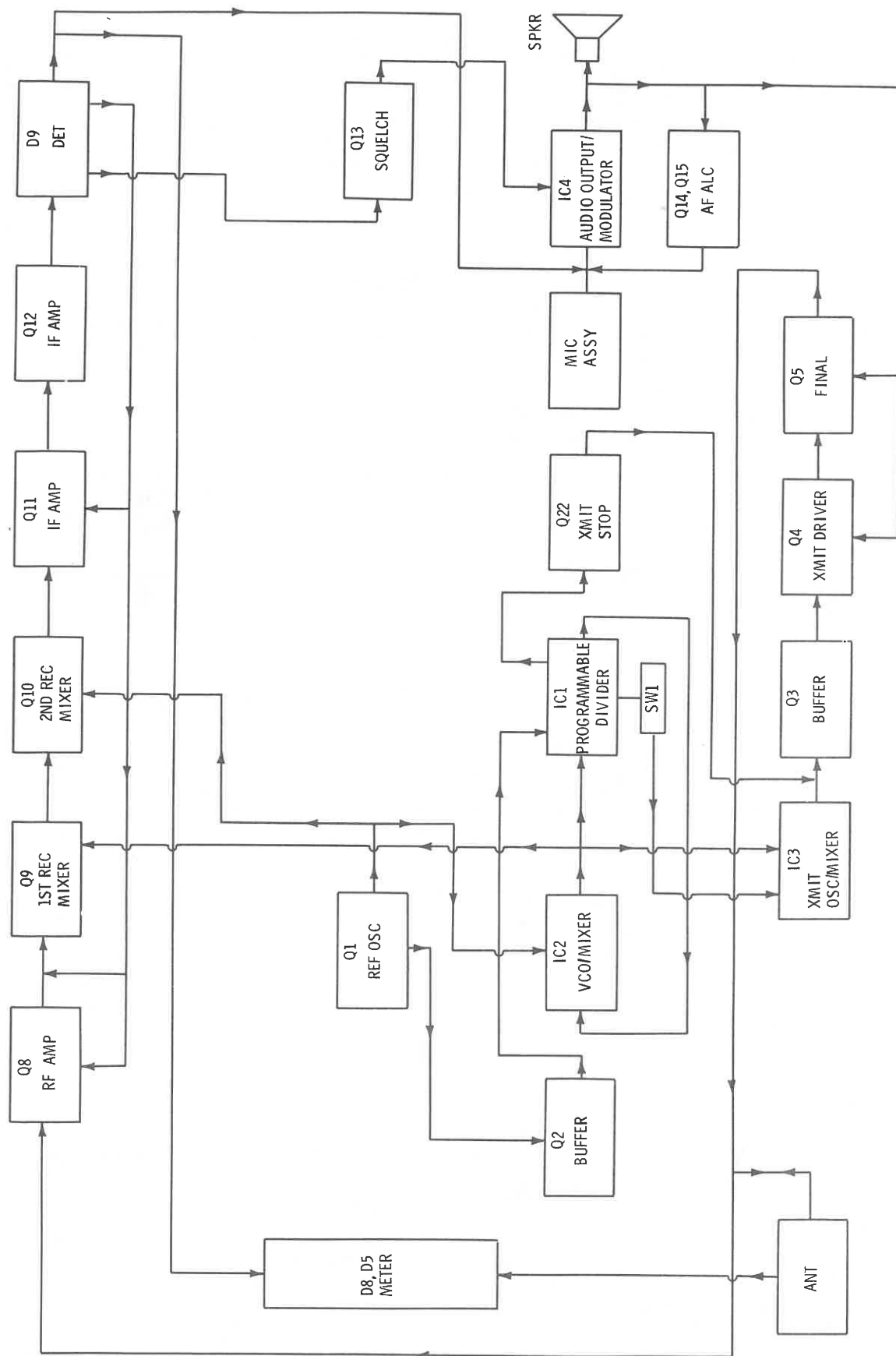
MAIN BOARD



MAIN BOARD



POWER SUPPLY BOARD



BLOCK DIAGRAM

PARTS LIST AND DESCRIPTION

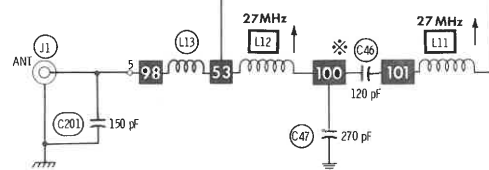
(When ordering parts, state Model, Part Number, and Description.)

SEMICONDUCTORS (Select replacement transistor for best results)

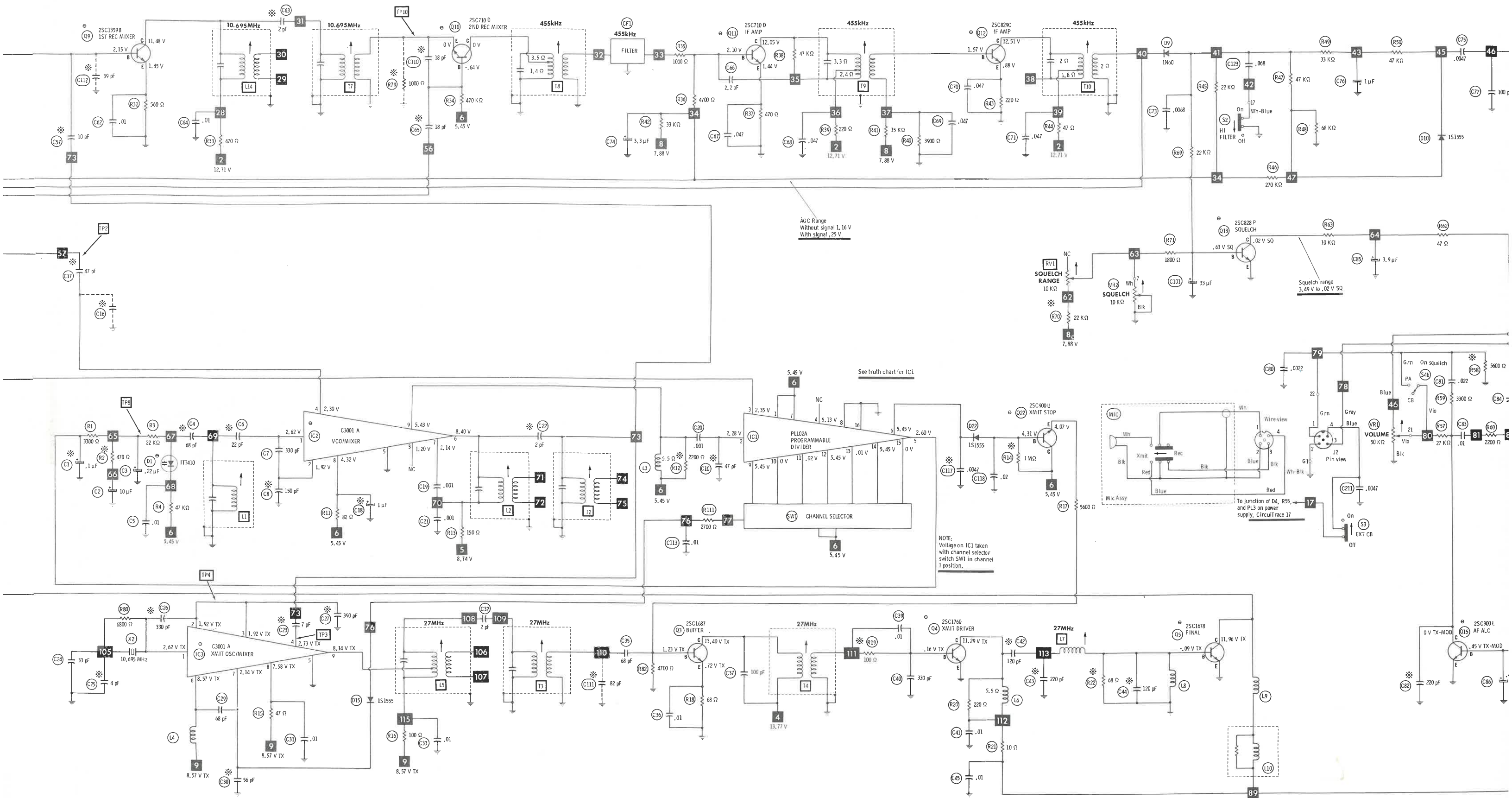
ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
MAIN BOARD												
D1	BB122 ITT410 MV201 MZ205				HEPR2502 HEPR2502 HEPR2502				ECG6612 ECG6612 ECG6612 ECG135			ZEN-452 ZEN-452 ZEN-452 103-290
D2	RD9.1E		GEZE-9.1	ZM9.1B		RE 105			ECG5018	1N4739A	WEP1419	103-279-18
D3	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3060	RT-240	ECG177		WEP1062	
D4	1N60		1N60	PTC206	HEPR9135	RE 47	SK3088	RT-218	ECG109	1N60	WEP134	ZEN-430
D5	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D6	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D7	1N60		1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D8	1N60		1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D9	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D10	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D11	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D12	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D13	V06C		GE-504A	PTC202	HEPR0054	RE 49	SK3017A	RT-215	ECG116	1N4007	WEP158	212-76
D14	1S1885		GE-504A	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116	1N4004	WEP156	212-61
D15	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D16	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D22	1S1555		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
IC1	PLL02A PLL02					RE 360-1C RE 360-1C			ECG1167 ECG1167		WEP2007 WEP2007	
IC2	C3001 TA7310P								ECG1197 ECG1197			
IC3	C3001 TA7310P								ECG1197 ECG1197			
IC4	TA7205P		GEIC-179	PTC780		RE 357-1C	SK3231	TVCM-81	ECG1155	TA7205P	WEP949	
Q1	2SC710		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
Q2	2SC710		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
Q3	2SC1687		GE-20*	PTC121*	HEPS0015*	RE 13*	SK3018*	RT-107A*	ECG123A*	2SC536*	WEP736*	
Q4	2SC1760		GE-276	PTC180		RE 224		RT-310	ECG306		WEP771	
	2SC1846		GE-336			RE 209			ECG295	2SC496	WEP913	
Q5	2SC2036		GE-336			RE 209			ECG306		WEP771	
	2SC2075		GE-215	PTC186		RE 203	SK3197	RT-146	ECG235		WEP785	
	2SC1306	(12)	GE-215	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC1678		GE-322	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC1974		GE-337	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
Q6	2SC1318Q		GE-210*	PTC178	HEPS0015*	RE 17*	SK3122	RT-302	ECG128*		WEP59*	121-722
	2SC1318		GE-210*	PTC178	HEPS0015*	RE 17*	SK3122	RT-302	ECG128*		WEP59*	121-722
Q7	2SA719R		GE-269	PTC103*	HEPS0019*	RE 26*	SK3114	RT-305	ECG290		WEP911	121-879
	2SC719		GE-269	PTC103*	HEPS0019*	RE 26*	SK3114	RT-305	ECG290		WEP911	121-879
	2SC720		GE-269	PTC103*	HEPS0019*	RE 26*	SK3114	RT-305	ECG290		WEP911	121-879
Q8	2SC1047C		GE-60*	PTC132*	HEPS0016*	RE 28*	SK3018*	RT-107	ECG161*	2SC784	WEP63*	ZEN-109
	2SC1047		GE-60*	PTC132*	HEPS0016*	RE 28*	SK3018*	RT-107	ECG161*	2SC784	WEP63*	ZEN-109
	2SC710											
Q9	2SC460		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
	2SC1359B		GE-61*	PTC136*	HEPS0014*	RE 9	SK3018*	RT-134	ECG107	2SC460	WEP460	121-722
	2SC1359		GE-212	PTC121*	HEPS0014*	RE 192	SK3038*	RT-308	ECG199	2SC710	WEP66	121-29000
	2SC710		GE-212	PTC121*	HEPS0014*	RE 192	SK3038*	RT-308	ECG199	2SC710	WEP66	121-29000
Q10	2SC710D		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
	2SC710		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
	2SC829		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
Q11	2SC710D		GE-20*	PTC121*	HEPS0015*	RE 9*	SK3122	RT-308	ECG229*	2SC829	WEP829	ZEN-127
	2SC710		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
	2SC829		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
Q12	2SC829C		GE-20*	PTC121*	HEPS0015*	RE 9*	SK3122	RT-308	ECG229*	2SC829	WEP829	ZEN-127
	2SC829		GE-20*	PTC121*	HEPS0015*	RE 9*	SK3122	RT-308	ECG229*	2SC829	WEP829	ZEN-127
	2SC710		GE-20*	PTC121*	HEPS0015*	RE 9*	SK3122	RT-308	ECG229*	2SC829	WEP829	ZEN-127
Q13	2SC828P		GE-211*	PTC132	HEPS0016*	RE 13*	SK3018*	RT-308*	ECG123A*	2SC710	WEP710	ZEN-114
	2SC828		GE-61*	PTC121*	HEPS0015*	RE 192	SK3122	RT-302	ECG199	2SC828	WEP828	ZEN-119
	2SC945		GE-61*	PTC121*	HEPS0015*	RE 192	SK3122	RT-302	ECG199	2SC828	WEP828	ZEN-119
	2SC372		GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
Q14	2SA719Q		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3122	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SA719		GE-269	PTC103*	HEPS0019*	RE 26*	SK3114	RT-305	ECG290		WEP911	121-879
	2SA564		GE-269	PTC103*	HEPS0019*	RE 26*	SK3114	RT-305	ECG290		WEP911	121-879
	2SA720		GE-65	PTC103*	HEPS0019*	RE 193	SK3114	RT-303	ECG234	2SA564	WEP564	121-879
Q15	2SC945L		GE-269	PTC103*	HEPS0019*	RE 26*	SK3114	RT-305	ECG290		WEP911	121-879
	2SC945		GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
	2SC900		GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
Q22	2SC900U		GE-62	PTC139*	HEPS0015*	RE 192	SK3124	RT-302	ECG199	2SC900	WEP66	ZEN-119
	2SC900		GE-62	PTC139*	HEPS0015*	RE 192	SK3124	RT-302	ECG199	2SC900	WEP66	ZEN-119
POWER SUPPLY BOARD												
D1	V06C F14A		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
	1S1885		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
D2	V06C F14A		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
	1S1885		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
D3	V06C F14A		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
	1S1885		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
D4	V06C F14A		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
	1S1885		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
	V06C F14A		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
	1S1885		GE-512	PTC204	HEPR0098	RE 92	SK3051	RT-201	ECG156		WEP4008	
Q1	2SC900		GE-62	PTC139*	HEPS0015*	RE 192	SK3124	RT-302	ECG199	2SC900	WEP66	ZEN-119
Q2	2SC900		GE-62	PTC139*	HEPS0015*	RE 192	SK3124	RT-302	ECG199	2SC900	WEP66	ZEN-119
Q3	2SD313	(13)	GE-241	PTC154		RE 205	SK3054	RT-154	ECG196		WEP756	
ZD1	BZ-162		GEZD-16	ZB168		RE 122		RT-246	ECG5075A	1N4745A	WEP1160	
ZD	RD6A		GEZD-5.6	ZB5.6A	HEPZ0407	RE 107	SK3057	RT-236	ECG136	1N4734A	WEP1104	

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* Lead configuration may vary from original.
(12) 12 WATTS @ 3 AMPS.
(13) 30 WATTS @ 3 AMPS.



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PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	.1 10V			TDC104M050EL	QDT1-2	SD50-R109
C2	10 16V			VTT10B25	QV1-41	EV-1222
C3	.22 10V			TDC224M050EL	QDT1-10	SD50-R229
C11	47 10V			VTT47D16	QV1-73	EV-1226
C18	1 50V			VTT1A50	QV1-11	EV-1615
C50	1 50V			VTT1A50	QV1-11	EV-1615
C72	10 16V			VTT10B25	QV1-41	EV-1222
C74	3.3 25V			VTT3R3A50	QV1-23	EV-1318
C76	1 50V			VTT1A50	QV1-11	EV-1615
C78	47 16V			VTT47D16	QV1-73	EV-1226
C85	3.9 25V			TDC475M010EL	QDT1-48	SD10-4R79
C86	.47 10V			TDC474M050EL	QDT1-19	SD50-R479
C87	33 6.3V			VTT33B10	QV1-61	EV-1125
C93	47 16V			VTT47D16	QV1-73	EV-1226
C94	220 16V			VTT220H16	QV1-117	EV-1240
C96	3.3 25V			VTT3R3A50	QV1-23	EV-1318
C97	47 10V			VTT47D16	QV1-73	EV-1226
C99	47 25V			VTT47E25	QV1-75	EV-1326
C100	1000 16V			VTT1000L16	QV1-183	EV-1260
C101	33 6.3V			VTT33B10	QV1-61	EV-1125
C120	33 16V			VTT33D25	QV1-63	EV-1325
POWER SUPPLY BOARD						
C1	2200 25V		WBR2000-25	TC2520A	QE1-645	TVA-1213.5
C2	100 25V		PC100-25	VTT100G25	QV1-97	EV-1330

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		DC-103	MGP01	*	QC2-141	10TCP-Q68
C5	.01 50V				TA110		TG-S10
C6	22 N150 10% 50V				*		10TCP-Q22
C7	330 50V		DD-331	GP330	GP333		10TS-T33
C8	150 50V		DD-151		GP315		10TS-T15
C9	.047 50V		UK50-503		MAG5015		
C10	47 50V		DTZ-47	NP047	CN0447		
C12	18 NPO 50V				CN0418		
C13	.001 50V				EWFI A210	QF1-1	10TCP-Q68
C14	68 N150 10% 50V				*		TG-S10
C15	.01 50V		DC-103	MGP01	TA110	QC2-141	10TCP-Q33
C16	33 50V		DTZ-33	NP033	CN0433		10TCP-Q47
C17	47 N150 10% 50V				*		10TCP-Q77
C19	.001 50V				EWFI A210	QF1-1	1PB-D10
C20	.001 50V				EWFI A210	QF1-1	1PB-D10
C21	.001 100V				CD19FD102J03		MMC-102
C22	2 5% 50V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C23	7 50V		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C24	33 N150 10% 50V				*		10TCP-Q33
C25	4 NPO 50V		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C26	330 100V		DD-331	GP330	GP333		10TS-T33
C27	390 50V		DD-391	GP390	GP339		10TS-T39
C28	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C29	68 50V		DD-680	GP68	GP468		10TS-Q68
C30	56 50V		DD-560		GP456		10TS-Q56
C31	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C32	2 5% 50V		DTZ-2R2	NP02P2	CN0522	QC2-141	10TCC-V22
C33	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C35	68 50V		DD-680	GP68	GP468	QC2-141	10TS-Q68
C36	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C37	100 N150 10% 50V				*		10TCP-T10
C38	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C39	.01 50V				EWFI A110	QF1-91	1PB-S10
C40	330 50V		DD-331	GP330	GP333		10TS-T33
C41	.01 50V				TA110	QC2-141	TG-S10
C42	120 50V		DC-103	MGP01	CN0312		10TCC-T12
C43	220 50V		DD-221	GP322	GP322		10TS-T22
C44	120 50V		DTZ-120		CN0312		10TCC-T12
C45	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C46	120 50V		DTZ-120		CN0312		10TCC-T12
C47	270 10% 500V				SX327	QW1-37	MMB-271
C48	2 500V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C49	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C51	27 50V				CN0427		10TCC-Q27
C52	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C53	.047 50V		UK50-503		MAG5015		
C54	.047 50V				MAG5015		
C55	.047 50V				EWFI A147	QF1-171	1PB-S47
C56	.01 50V		DC-103	DPMS2S47	TA110	QC2-141	TG-S10
C57	10 50V		DTZ-10	MGP01	CN0410		10TCC-Q10
C58	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C59	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C60	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C61	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C62	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C63	2 5% 50V		DTZ-2R2	NP02P2	CN0522	QC2-141	10TCC-V22
C64	.01 50V		DC-103	MGP01	TA110	QC2-141	TG-S10
C65	18 10% N150 50V				*		10TCP-Q18
C66	2.2 10% 500V		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C67	.047 50V				DPMS2S47	QF1-171	1PB-S47
C68	.047 50V				EWFI A147	QF1-171	1PB-S47
C69	.047 50V				DPMS2S47	QF1-171	1PB-S47
C70	.047 50V				EWFI A147	QF1-171	1PB-S47
C71	.047 50V				DPMS2S47	QF1-171	1PB-S47

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
C73	.0068 50V				WMF1D68	QF1-73	1PB-D68
C75	.0047 50V				WMF1D47	QF1-57	1PB-D47
C77	100 50V		DD-101		GP100		10TS-T10
C79	.022 50V				DPMS2S22	QF1-127	1PB-S22
C80	.0022 50V		DD-222		GP222	QC2-97	5GA-D22
C81	.022 50V				EWFI A122	QF1-127	1PB-S22
C82	.0022 50V		DD-221		GP322		10TS-T22
C83	.01 50V				EWFI A110	QF1-91	1PB-S10
C84	.0022 50V		DD-222		GP222	QC2-97	5GA-D22
C88	68 50V		DD-680		GP468		10TS-Q68
C89	68 50V		DD-680		GP468		10TS-Q68
C90	100 50V		DD-101		GP100		10TS-T10
C91	.068 50V				WMF1S68	QF1-195	1PB-S68
C92	100 50V		DD-101		GP100	QF1-195	10TS-T10
C95	.068 50V				WMF1S68	QC2-141	1PB-S68
C102	.01 50V		DC-103		TA110		TG-S10
C106	.047 50V		UK50-503		MAG5015		
C107	.047 50V		UK50-503		MAG5015		
C110	18 50V		DD-820		CN0418		10TCC-Q18
C111	82 50V				GP482		10TS-Q82
C112	39 50V				CN0439		10TCC-Q39
C113	.01 50V		DC-103		TA110	QC2-141	TG-S10
C114	390 500V		DD-391		GP339		10TS-T39
C117	.0047 50V		DD-472		GP247		5GA-D47
C118	.022 50V		DC-253		TA125		TG-S25
C123	.068 50V				EWFI A168	QF1-195	1PB-S68
C141	.01 50V		DC-103		MGP01	QC2-141	TG-S10
C142	100 50V		DD-101		TA110		10TS-T10
C201	150 500V		DD-151		GP315		10TS-T15
C202	.01 50V		DC-103		TA110	QC2-141	TG-S10
C203	.01 50V		DC-103		TA110	QC2-141	TG-S10
C204	.01 50V		DC-103		TA110	QC2-141	TG-S10
C205	.047 50V		UK50-503		MAG5015		
C206	.01 50V		DC-103		TA110	QC2-141	TG-S10
C207	.01 50V		DC-103		TA110	QC2-141	TG-S10
C208	.0047 50V		DD-472		GP4700		5GA-D47
C209	.0047 50V		DD-472		GP4700		5GA-D47
C210	.0047 50V		DD-472		GP4700		5GA-D47
C211	.0047 50V		DD-472		GP4700		5GA-D47
C212	.0047 50V		DD-472		GP4700		5GA-D47
CT1	20				GP247		
POWER SUPPLY BOARD							
C3	.022 50V		DC-253		MGP025		TG-S25
C4	.01 50V		DC-103		MGP01	QC2-141	TG-S10
C5	.047 50V		UK50-503		MAG5015		
C6	.022 50V		DC-253		MGP025		TG-S25

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

(1) Used in some versions.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
RV1	Squelch Range	10K					U26R103B
RV2	ALC	5000					U260R502B
RV3	S Meter	20K					U260R253B
RV4	RF Meter	20K					U260R253B
RV1	Voltage	500		T-500	C501	MTCS2L1	
RV1	Volume	50K					
VR2	Squelch/PA Switch	10K					

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	VCO (18MHz)				
L2	VCO Mixer (37MHz)				
L3	RF Choke(68uH)				
L4	RF Choke (1uH)				
L5	Xmit OSC(27MHz)				
L6	RF Choke(2.2uH)				
L7	Xmit Driver(27MHz)				
L8	RF Choke(68uH)				
L9	RF Choke(.55uH)				
L10	RF Choke(1uH)				
L11	Final(27MHz)				
L12	Pi Filter(27MHz)				
L13	RF Choke(.4uH)				
L14	IF(10.69MHz)				
L15	RF Choke(68uH)				
L16	RF Choke(.75uH)				
L17	RF Choke(.75uH)				
T1	REF OSC(20.480MHz)				
T2	VCO Mixer(38MHz)				
T3	Xmit Mixer(27MHz)				
T4	Xmit Buffer(27MHz)				
T5	REC Antenna(27MHz)				
T6	REC RF(27MHz)				
T7	IF(10.69MHz)				
T8	IF(455kHz)				
T9	IF(455kHz)				
T10	IF(455kHz)				

PARTS LIST AND D

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FILTER CHOKE

ITEM No.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

SPRAGUE PART No.	
LINE	GENERAL LINE
	SD50-R109
0	EV-1222
	SD50-R229
	EV-1226
	EV-1615
	EV-1615
	EV-1222
	EV-1318
	EV-1615
	EV-1226
8	SD10-4R79
9	SD50-R479
	EV-1125
	EV-1226
7	EV-1240
	EV-1318
	EV-1226
	EV-1326
13	EV-1260
	EV-1125
	EV-1325
15	TVA-1213.5
7	EV-1330

SPRAGUE PART No.	
Q-LINE	GENERAL LINE
1-141	10TCP-Q68
	TG-S10
	10TCP-Q22
	10TS-T33
	10TS-T15
	10TCC-Q47
	10TCC-Q18
-1	1PB-D10
1-141	10TCP-Q68
	TG-S10
	10TCC-Q33
	10TCP-Q47
1-1	1PB-D10
1-1	1PB-D10
	MMC-102
	10TCC-V22
	10TCC-V68
	10TCP-Q33
	10TCC-V47
	10TS-T33
	10TS-T39
2-141	TG-S10
	10TS-Q68
	10TS-Q56
2-141	TG-S10
	10TCC-V22
2-141	TG-S10
	10TS-Q68
2-141	TG-S10
	10TCP-T10
2-141	TG-S10
1-91	1PB-S10
	10TS-T33
2-141	TG-S10
	10TCC-T12
	10TS-T22
2-141	10TCC-T12
	TG-S10
1-37	10TCC-T12
	MMB-271
	10TCC-V22
	56A-D47
2-141	10TCC-Q27
	TG-S10
1-171	1PB-S47
2-141	TG-S10
	10TCC-Q10
2-141	TG-S10
2-141	TG-S10
2-141	TG-S10
2-141	TG-S10
2-141	TG-S10
2-141	10TCC-V22
2-141	TG-S10
	10TCP-Q18
	10TCC-V22
1-171	1PB-S47
1-171	1PB-S47
1-171	1PB-S47
1-171	1PB-S47
1-171	1PB-S47

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
C73	.0068 50V			WMF1D68	EWFI A268	QF1-73	1PB-D68
C75	.0047 50V			WMF1D47	EWFI A247	QF1-57	1PB-D47
C77	100 50V		DD-101	GP100	GP310		10TS-T10
C79	.022 50V		DD-222	DPMS2S22	EWFI A122	QF1-127	1PB-S22
C80	.0022 50V		DD-221	DPMS2S22	GP222	QC2-97	56A-D22
C81	.022 50V				EWFI A122	QF1-127	1PB-S22
C82	220 50V				GP322		10TS-T22
C83	.01 50V			WMF1S1	EWFI A110	QF1-91	1PB-S10
C84	.0022 50V		DD-222		GP222	QC2-97	56A-D22
C88	68 50V		DD-680	GP68	GP468		10TS-Q68
C89	68 50V		DD-101	GP68	GP468		10TS-Q68
C90	100 50V			GP100	GP310		10TS-T10
C91	.068 50V		DD-101	WMF1S68	EWFI A168	QF1-195	1PB-S68
C92	100 50V			GP100	GP310	QF1-195	10TS-T10
C95	.068 50V			WMF1S68	EWFI A168	QC2-141	1PB-S68
C102	.01 50V		DC-103	MGPO1	TA110		TG-S10
C106	.047 50V		UK50-503		MAG5015		
C107	.047 50V		UK50-503		MAG5015		
C110	18 50V	(1)			CNO418		10TCC-Q18
C111	82 50V	(1)	DD-820		GP482		10TS-Q82
C112	39 50V				CNO439		10TCC-Q39
C113	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C114	390 500V		DD-391	GP390	GP339		10TS-T39
C117	.0047 50V		DD-472	GP4700	GP247		56A-D47
C118	.022 50V		DC-253	MGPO25	TA125		TG-S25
C123	.068 50V			WMF1S68	EWFI A168	QF1-195	1PB-S68
C141	.01 50V		DD-101	MGPO1	TA110	QC2-141	TG-S10
C142	100 50V		DD-151	GP100	GP310		10TS-T10
C201	150 500V		DC-103		GP315		10TS-T15
C202	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C203	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C204	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C205	.047 50V		UK50-503		MAG5015		
C206	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C207	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C208	.0047 50V		DD-472	GP4700	GP247		56A-D47
C209	.0047 50V		DD-472	GP4700	GP247		56A-D47
C210	.0047 50V		DD-472	GP4700	GP247		56A-D47
C211	.0047 50V		DD-472	GP4700	GP247		56A-D47
C212	.0047 50V		DD-472	GP4700	GP247		56A-D47
CT1	20						
POWER SUPPLY BOARD							
C3	.022 50V		DC-253	MGPO25	TA125		TG-S25
C4	.01 50V		DC-103	MGPO1	TA110	QC2-141	TG-S10
C5	.047 50V		UK50-503		MAG5015		
C6	.022 50V		DC-253	MGPO25	TA125		TG-S25

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

(1) Used in some versions.

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
RV1	Squelch Range	10K					U26R103B
RV2	ALC	5000					U26OR502B
RV3	S Meter	20K					U26OR253B
RV4	RF Meter	20K					U26OR253B
RV1	Voltag	50K		T-500	C501	MTC52L1	
VR1	Volume	50K					
VR2	Squelch/PA Switch	10K					

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	VCO (18MHz)				
L2	VCO Mixer (37MHz)				
L3	RF Choke(68uH)				
L4	RF Choke (1uH)				
L5	Xmit OSC(27MHz)				
L6	RF Choke(2.2uH)				
L7	Xmit Driver(27MHz)				
L8	RF Choke(68uH)				
L9	RF Choke(.55uH)				
L10	RF Choke(1uH)				
L11	Final(27MHz)				
L12	Pi Filter(27MHz)				
L13	RF Choke(.4uH)				
L14	IF(10.69MHz)				
L15	RF Choke(68uH)				
L16	RF Choke(.75uH)				
L17	RF Choke(.75uH)				
T1	REF OSC(20.480MHz)				
T2	VCO Mixer(38MHz)				
T3	Xmit Mixer(27MHz)				
T4	Xmit Buffer(27MHz)				
T5	REC Antenna(27MHz)				
T6	REC RF(27MHz)				
T7	IF(10.695MHz)				
T8	IF(455kHz)				
T9	IF(455kHz)				
T10	IF(455kHz)				

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~)	MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
CH1	1.3A	.116	.48mH	ELA-16(1)	TR-523		(1) Number on unit

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T11	2.88	1 2 8 13.52	ETA-66(1)	TR723	MCB-16	(1) Number on unit

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFR. PART No.	THORDARSON PART No.	TRIAD PART No.	
PT	120V AC @ .36A	16.75V AC @ 2.34A	TP-D68V0024(1)			(1) Number on Unit

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP	3" PM, 8 Ohms		30A05Z8R	

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
F F1	2 AMP(DC line) .75 Amp(AC line)			AGC2 AGC 3/4	HDJ HKP	312002 312.750	150145 342001L	FG2-2
POWER SUPPLY BOARD								
F1	2.5 Amp P.T.			GJV		31802.5		

MICROPHONE

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Ceramic Filter		455kHz
CR1	AC Isolation		470pF/4Meg
M1	Meter		S/RF
S1	Switch		Power
S2	Switch		Filter
S3	Switch		Ext CB/PA (Part of Squelch Control)
S4	Switch		CB/PA
S6	Switch		Power (Part of J6)
SW1	Switch		Channel Selector
X1	Crystal		10.240MHz
X2	Crystal		10.695MHz
	Printed Circuit Board	PTBM050COX	Main
	Printed Circuit Board	EPO-0612B-01	Power Supply

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')

MIDLAND MODEL 76-858