

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 77-889

MANUFACTURER'S SPECIFICATIONS

Circuitry:	8 ICs, 36 Transistors, 25 Diodes, 1 L.E.D., 3 Zeners, 1 Varicap.
Frequency Control:	PLL (phase locked loop) synthesizer
Channels:	40
Mode of Operation:	AM
Receiver System:	Dual conversion superheterodyne
Sensitivity:	Nominal 0.7 microvolts for 10 dB S/N
Selectivity:	55 dB down at ± 10 kHz
Intermediate Frequencies:	10.695 MHz (1st), 455 kHz (2nd)
Frequency Tolerance:	$\pm 0.005\%$
Spurious Rejection (TX):	60 dB down
RF Output Power:	4 watts (FCC maximum)
Squelch Range:	0.5 microvolts — 500 microvolts
Audio Output Power:	3 watts for EXT SP at 8 ohms
Controls:	Main Unit: Off/On Volume control, PA/Squelch control, RF Gain-SWR/CAL control, Mic Gain control, Channel select UP and DOWN buttons, AWI lamp, Channel indicator, Channel priority switch, NB switch, ANL switch, SWR-CAL-S.RF switch, Electronic S/RF-SWR meter, Microphone unit: Push-to-talk bar, Volume control, Channel select buttons, Channel lock switch
Jacks and Connectors:	Microphone jack, EXT SP jack, PA jack, ANT connector, DC power jack
Speaker:	3-1/2" dynamic type, 8 ohms
Microphone:	Dynamic type, 500 ohms
Power Source:	13.8 V DC
Size:	2-9/32(H) $\times$ 9-7/16(D) $\times$ 7-3/32(W) inches [57(H) $\times$ 240(D) $\times$ 184(W) mm]
Weight:	3.7 lbs. [1.7 kg.]
Accessories:	DC power cord, Microphone, Mounting bracket and hardware

MIDLAND MODEL 77-889

Courtesy of the Manufacturer

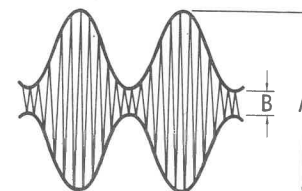
HOWARD W. SAMS & CO., INC. Indianapolis, Indiana 46206

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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.
 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.....9330,9302,9304
 L14,T7 thru T10.....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 oscilloscope to TP1 (T1 secondary).	Ch. 19	T1	Adjust for maximum RF.
Input of frequency counter to TP1 (T1 secondary).	Ch. 19	CT1	Adjust for 20.480MHz.
Input of DC meter to TP8.	Ch. 1	L1	Adjust for 3.60 volts $\pm$.1 volt. Check for 1.4 volts to 2.3 volts on channel 40.
Input of frequency counter to TP2 (IC1 pin 2).	Ch. 1		Check for 3.300MHz. Check all channels (See Truth Chart for correct frequencies).
Input of oscilloscope to TP3 (T2 secondary).	Ch. 19	L2,T2	Adjust for maximum RF.
Input of frequency counter to TP3 (T2 secondary).	Ch. 1		Check for 37.660MHz. Check all channels (See Truth Chart for correct frequencies).
Input of frequency counter to TP4 (Junction of C24 and C26).	Ch. 19, XMT		Check for 10.695MHz.
Input of frequency counter to TP5 (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 Max, Squelch MINIMUM, Ch. 9 Off/Ch. 19 Off, NB Off, ANL Off

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP6 (Q10 emitter). 455kHz,1000Hz @ 30% modulation.	Ch. 19	T10,T9,T8	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation.	Ch. 19	T7,L14,T6,T5	Adjust for maximum output. If necessary readjust T8, T9 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 Max, Squelch MINIMUM, Ch. 9 Off/Ch. 19 Off, NB Off, ANL Off

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 500uV.	Ch. 19 Squelch Max	RV1	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	RV3	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	TRANSCEIVER	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.

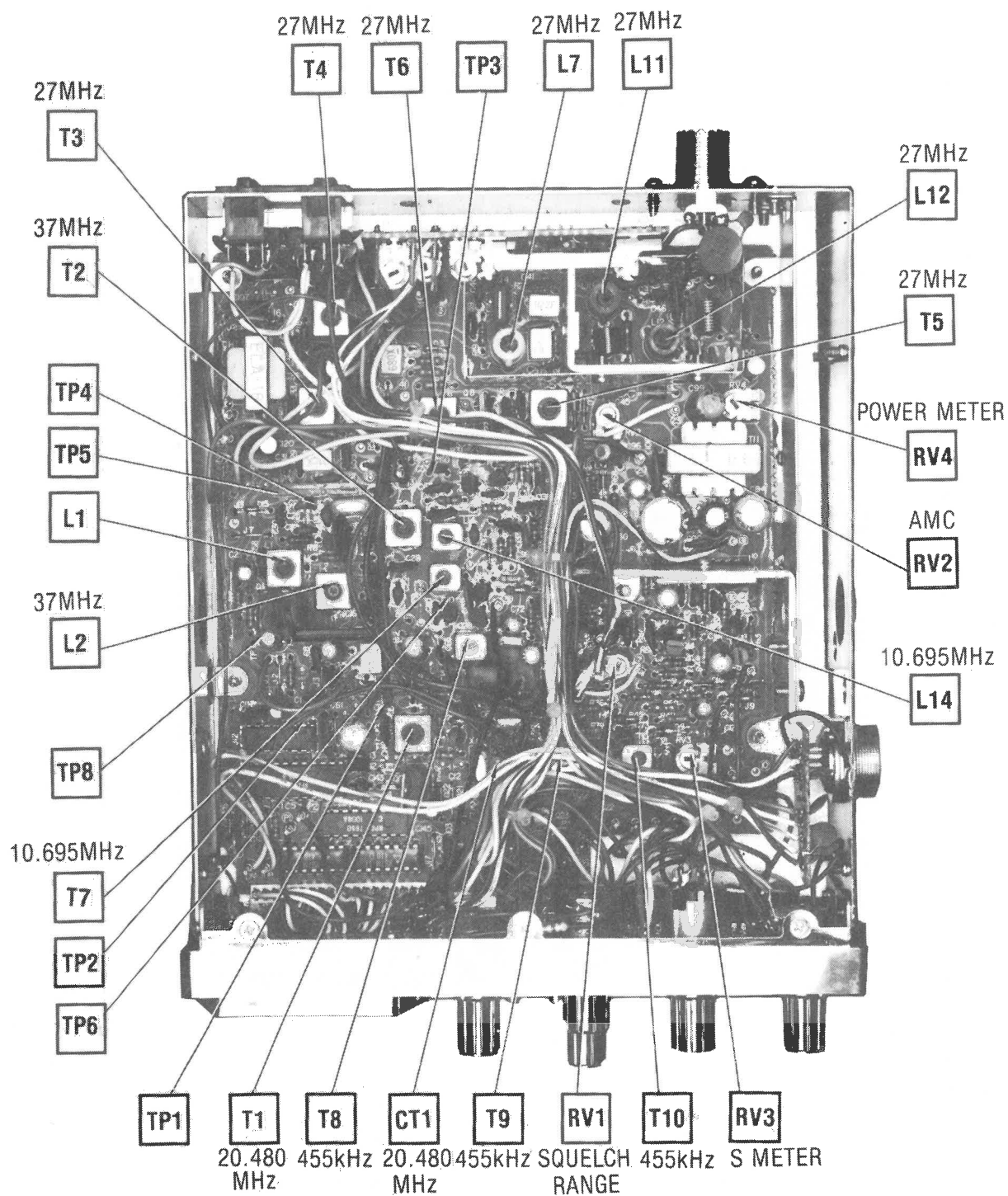
TRANSMITTER ADJUSTMENTS

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.

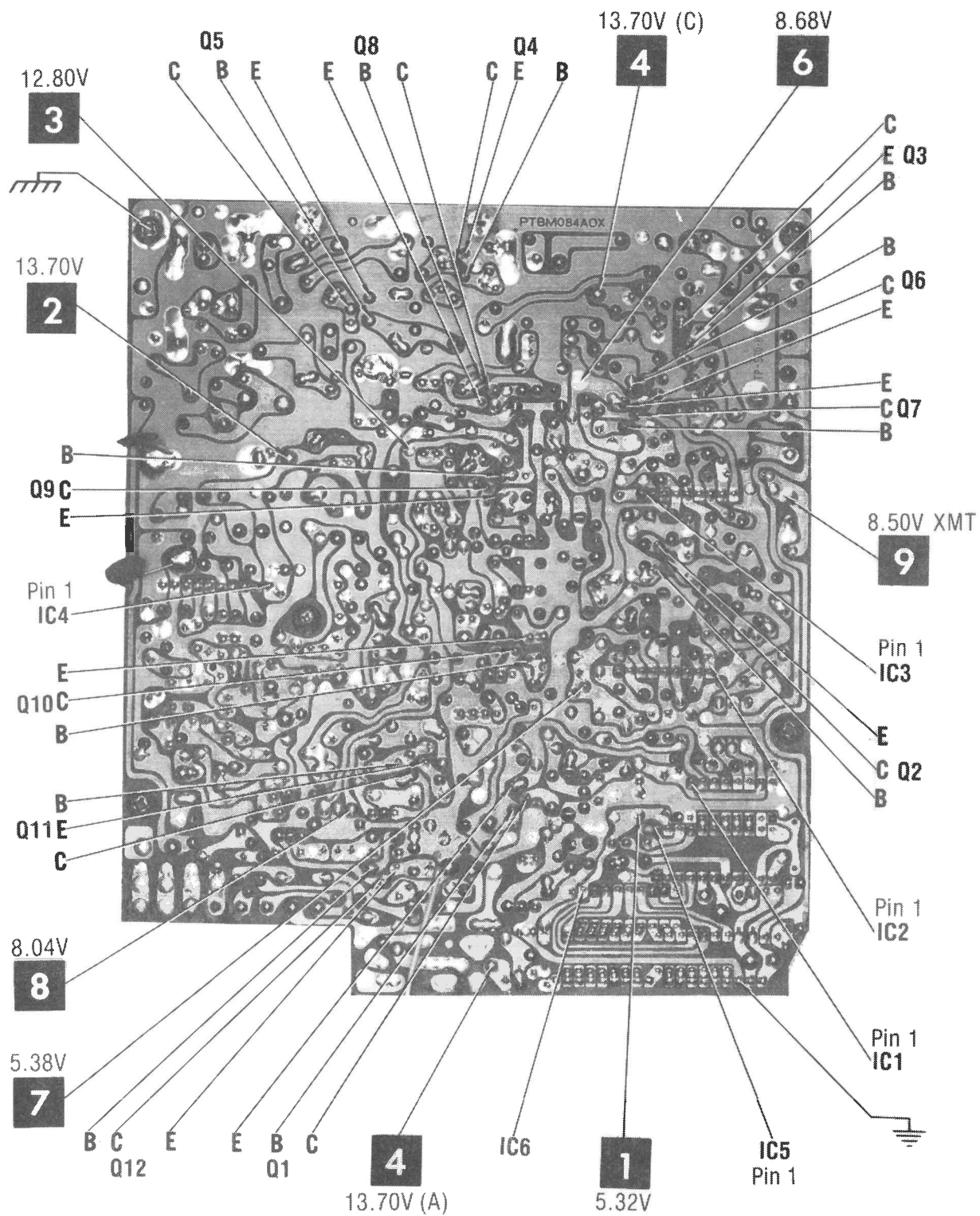
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter antenna input. Inject a 1000Hz, 6mV signal at mic input.	Ch. 19 Mic Gain Max	RV2	AMC Adjust for 85% modulation maximum. (See figure 1)
Input of RF wattmeter to antenna input.	Ch. 19	RV4	POWER METER Adjust for middle of wide bar on P scale of meter.
Reduce power supply voltage to 10.5 volts. Short circuit antenna input.	Ch. 19 SWR/CAL/S RF Cal	R503 (RV503)	SWR CAL RANGE Set SWR CAL, VR5, to maximum clockwise. Adjust for middle of wide bar on SWR scale of meter. Increase power supply voltage to 13.8 volts.
Connect a 150 ohm, 5 watt non-inductive resistor to antenna input.	Ch. 19 SWR/CAL/S RF Cal	RV502	SWR METER Set SWR CAL, VR5, for middle of wide bar on SWR scale of meter. Adjust for 3 on SWR scale of meter.
Connect a 350 ohm non-inductive resistor to antenna input.	Ch. 19	RV501	AWI Adjust so indicator just begins to light.

TRUTH CHART

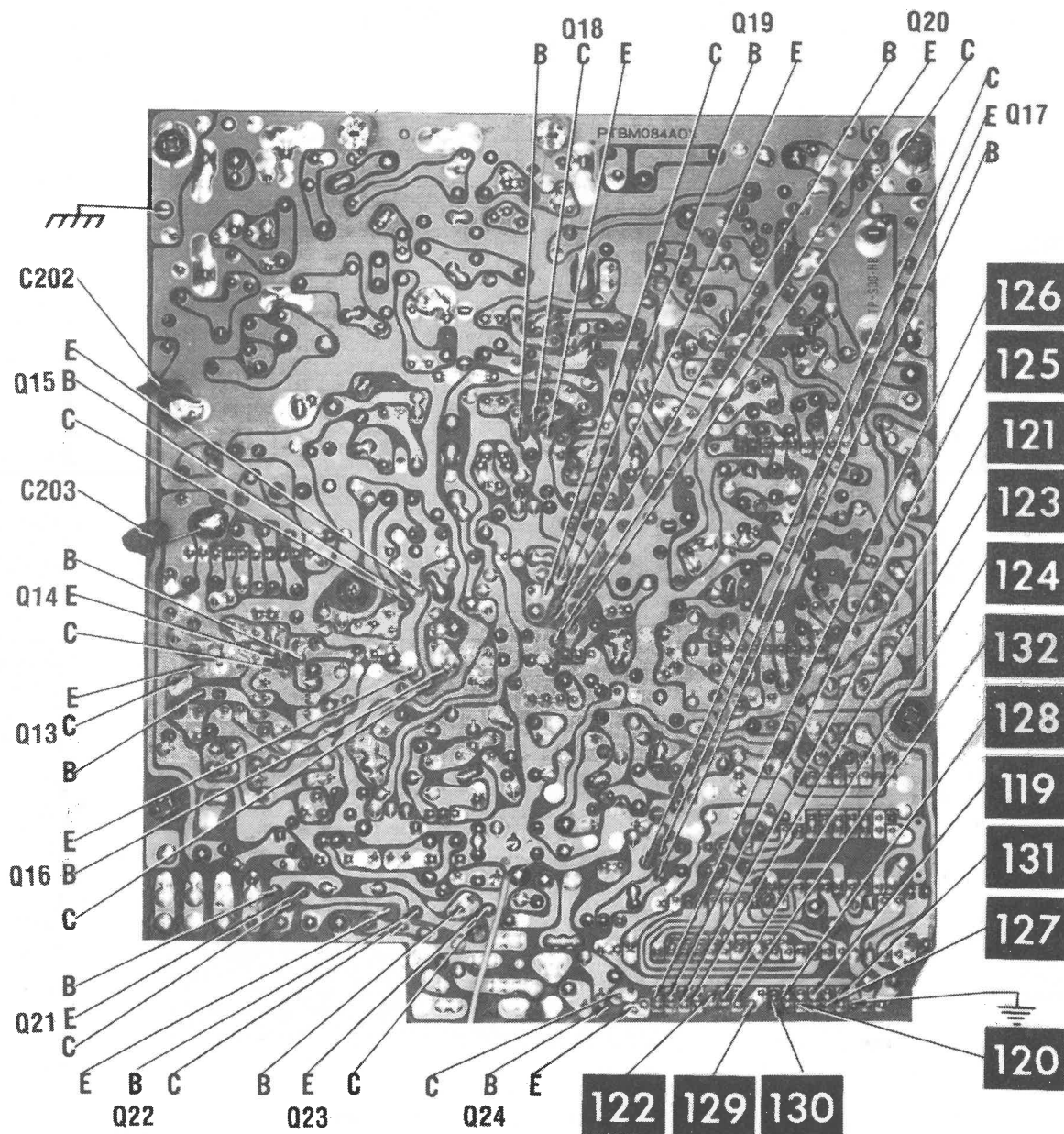
C H A N N E L	1 = 5.27 Volts 0 = 0 Volts									DIVIDER INPUT IN MHz AT TP2	REC SYNTH OUTPUT IN MHz AT TP3	XMIT SYNTH OUTPUT IN MHz AT TP5
	IC1 PROGRAM DIVIDER											
	PINS											
	7	8	9	10	11	12	13	14	15			
1	1	0	1	0	0	1	0	1	0	3.300	37.660	26.965
2	1	0	1	0	0	1	0	0	1	3.290	37.670	26.975
3	1	0	1	0	0	1	0	0	0	3.280	37.680	26.985
4	1	0	1	0	0	0	1	1	0	3.260	37.700	27.005
5	1	0	1	0	0	0	1	0	1	3.250	37.710	27.015
6	1	0	1	0	0	0	1	0	0	3.240	37.720	27.025
7	1	0	1	0	0	0	0	1	1	3.230	37.730	27.035
8	1	0	1	0	0	0	0	0	1	3.210	37.750	27.055
9	1	0	1	0	0	0	0	0	0	3.200	37.760	27.065
10	1	0	0	1	1	1	1	1	1	3.190	37.770	27.075
11	1	0	0	1	1	1	1	1	0	3.180	37.780	27.085
12	1	0	0	1	1	1	1	0	0	3.160	37.800	27.105
13	1	0	0	1	1	1	0	1	1	3.150	37.810	27.115
14	1	0	0	1	1	1	0	1	0	3.140	37.820	27.125
15	1	0	0	1	1	1	0	0	1	3.130	37.830	27.135
16	1	0	0	1	1	0	1	1	1	3.110	37.850	27.155
17	1	0	0	1	1	0	1	1	0	3.100	37.860	27.165
18	1	0	0	1	1	0	1	0	1	3.090	37.870	27.175
19	1	0	0	1	1	0	1	0	0	3.080	37.880	27.185
20	1	0	0	1	1	0	0	1	0	3.060	37.900	27.205
21	1	0	0	1	1	0	0	0	1	3.050	37.910	27.215
22	1	0	0	1	1	0	0	0	0	3.040	37.920	27.225
23	1	0	0	1	0	1	1	0	1	3.010	37.950	27.255
24	1	0	0	1	0	1	1	1	1	3.030	37.930	27.235
25	1	0	0	1	0	1	1	1	0	3.020	37.940	27.245
26	1	0	0	1	0	1	1	0	0	3.000	37.960	27.265
27	1	0	0	1	0	1	0	1	1	2.990	37.970	27.275
28	1	0	0	1	0	1	0	1	0	2.980	37.980	27.285
29	1	0	0	1	0	1	0	0	1	2.970	37.990	27.295
30	1	0	0	1	0	1	0	0	0	2.960	38.000	27.305
31	1	0	0	1	0	0	1	1	1	2.950	38.010	27.315
32	1	0	0	1	0	0	1	1	0	2.940	38.020	27.325
33	1	0	0	1	0	0	1	0	1	2.930	38.030	27.335
34	1	0	0	1	0	0	1	0	0	2.920	38.040	27.345
35	1	0	0	1	0	0	0	1	1	2.910	38.050	27.355
36	1	0	0	1	0	0	0	1	0	2.900	38.060	27.365
37	1	0	0	1	0	0	0	0	1	2.890	38.070	27.375
38	1	0	0	1	0	0	0	0	0	2.880	38.080	27.385
39	1	0	0	0	1	1	1	1	1	2.870	38.090	27.395
40	1	0	0	0	1	1	1	1	0	2.860	38.100	27.405



CHASSIS BOTTOM

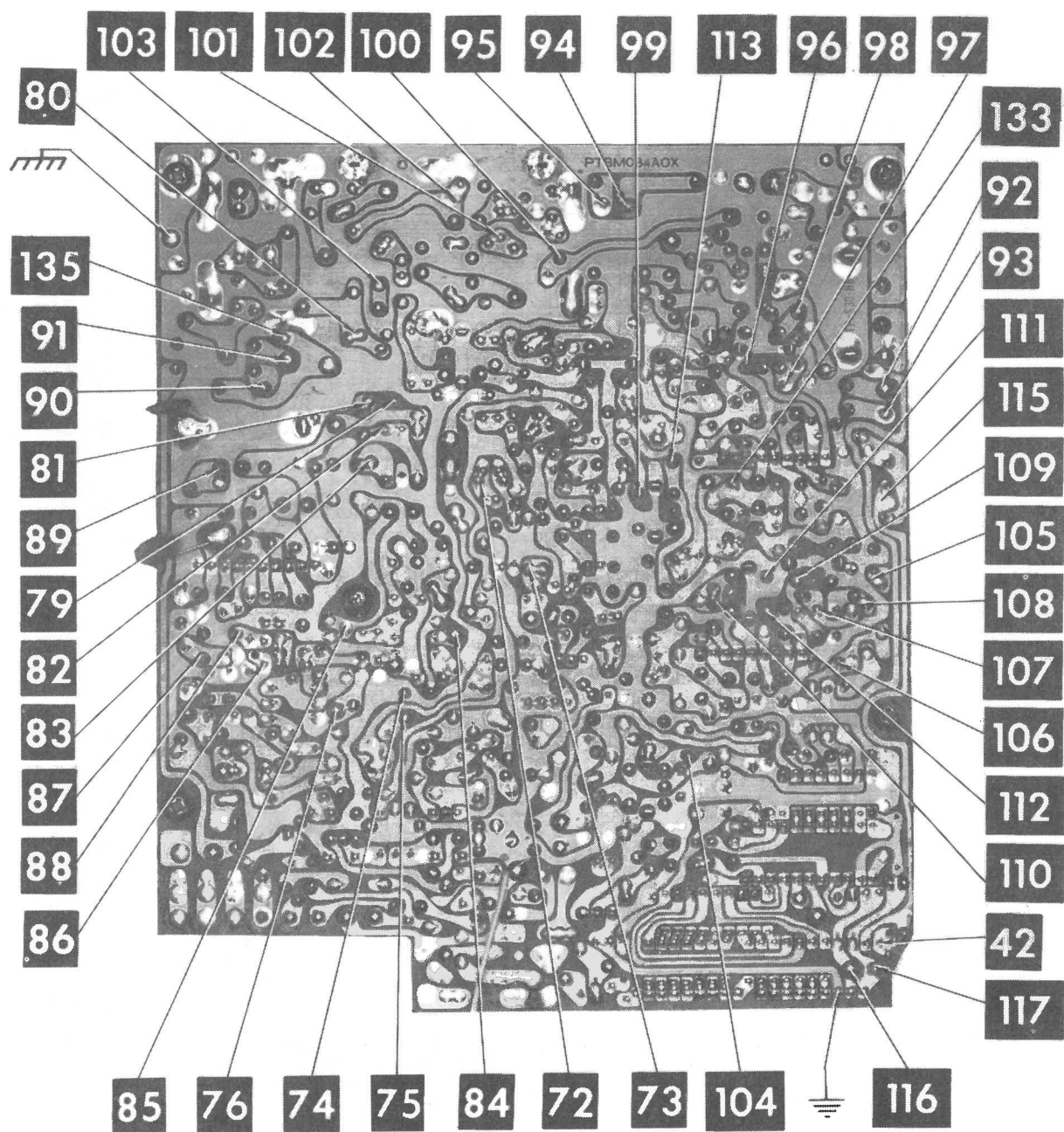


MAIN BOARD

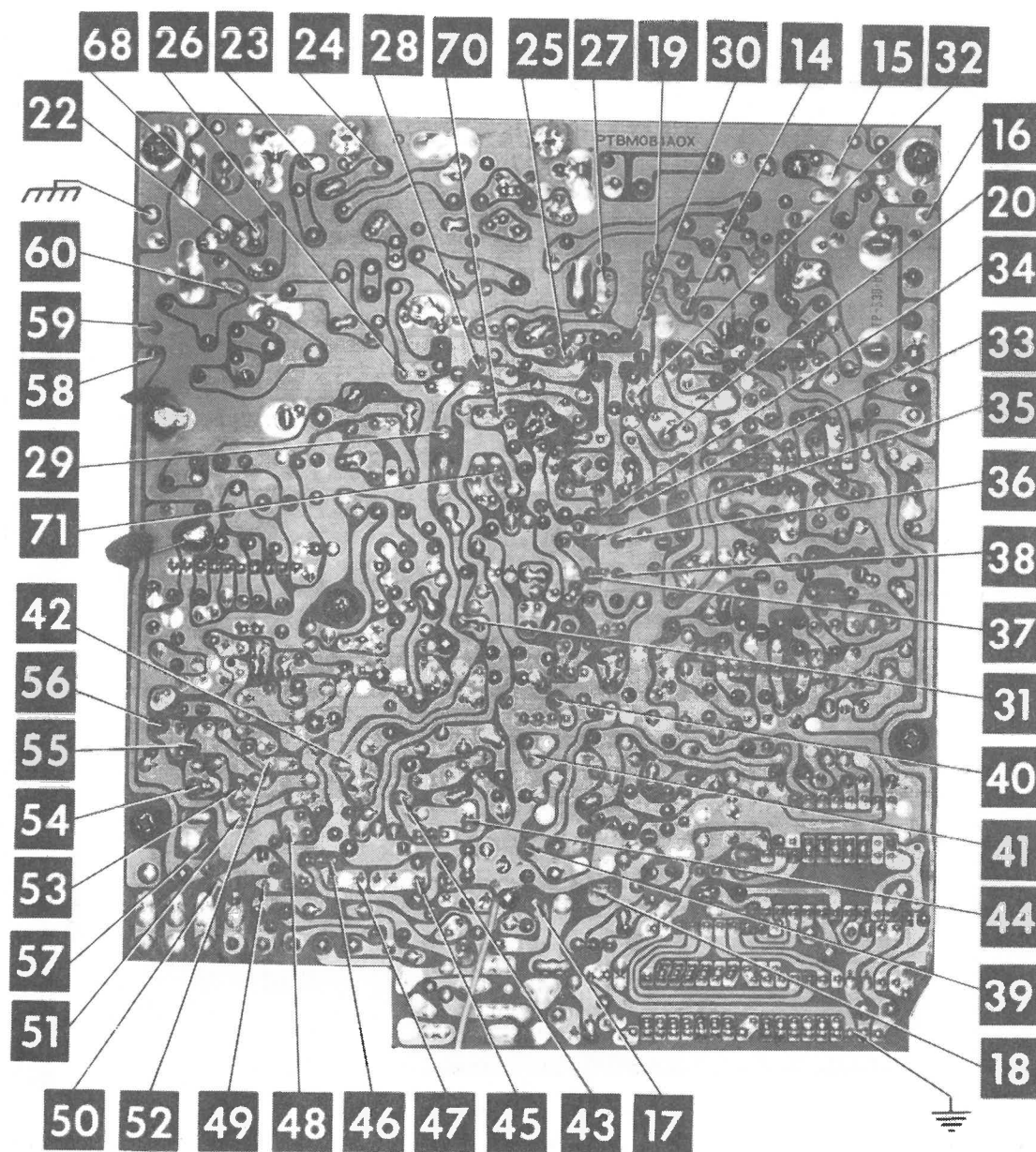


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MAIN BOARD

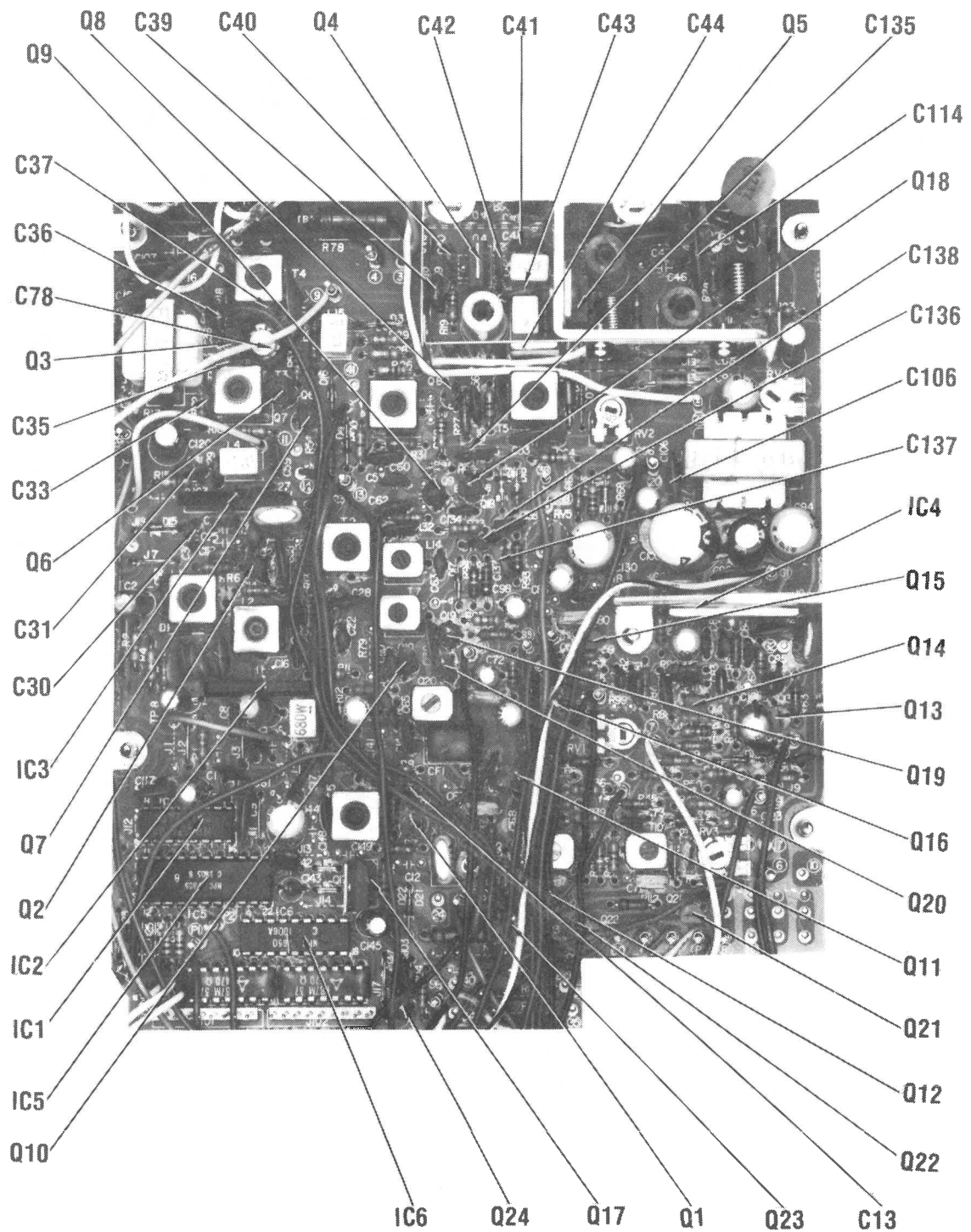


MAIN BOARD

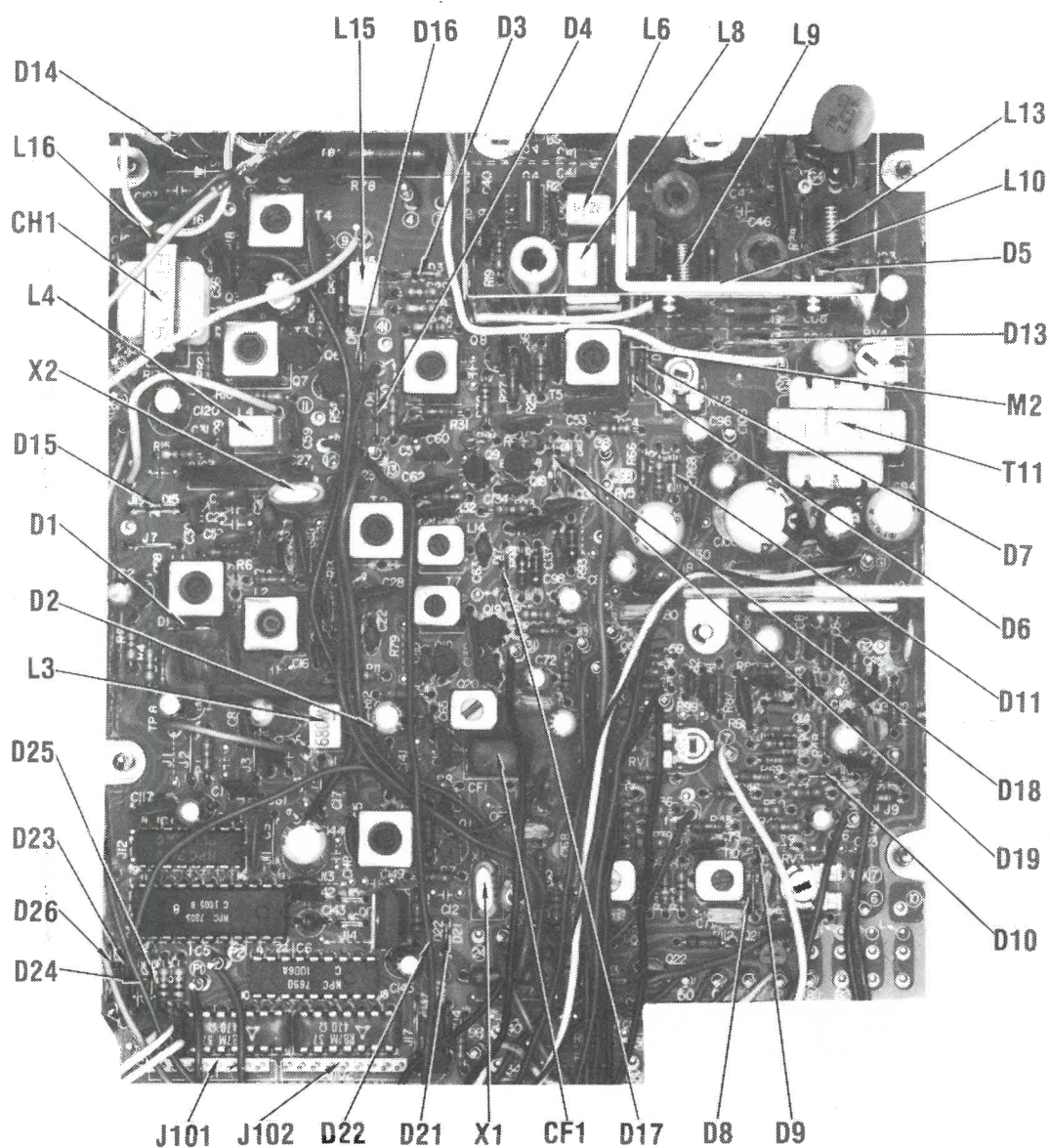


MIDLAND MODEL 77-889

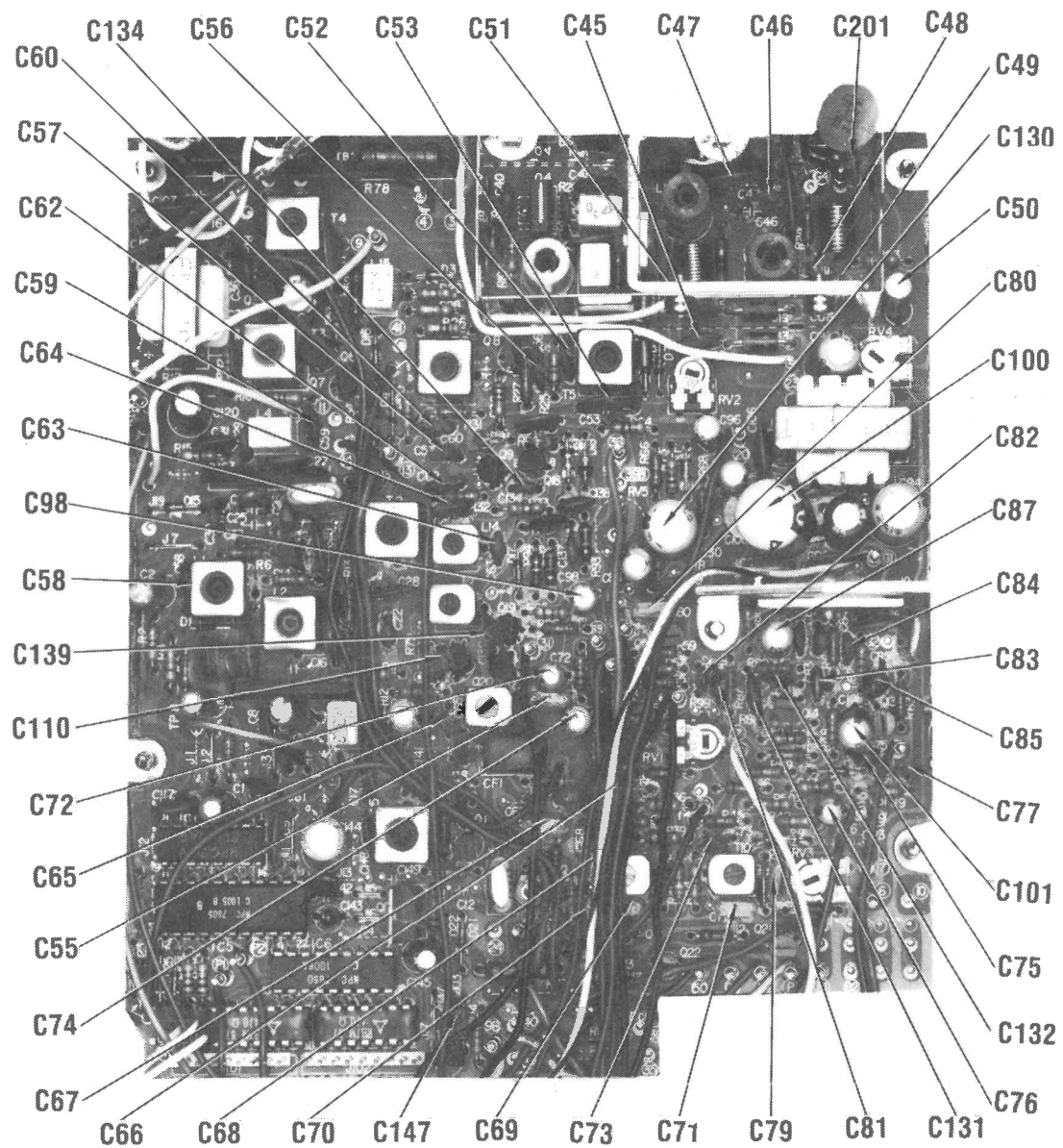
MAIN BOARD



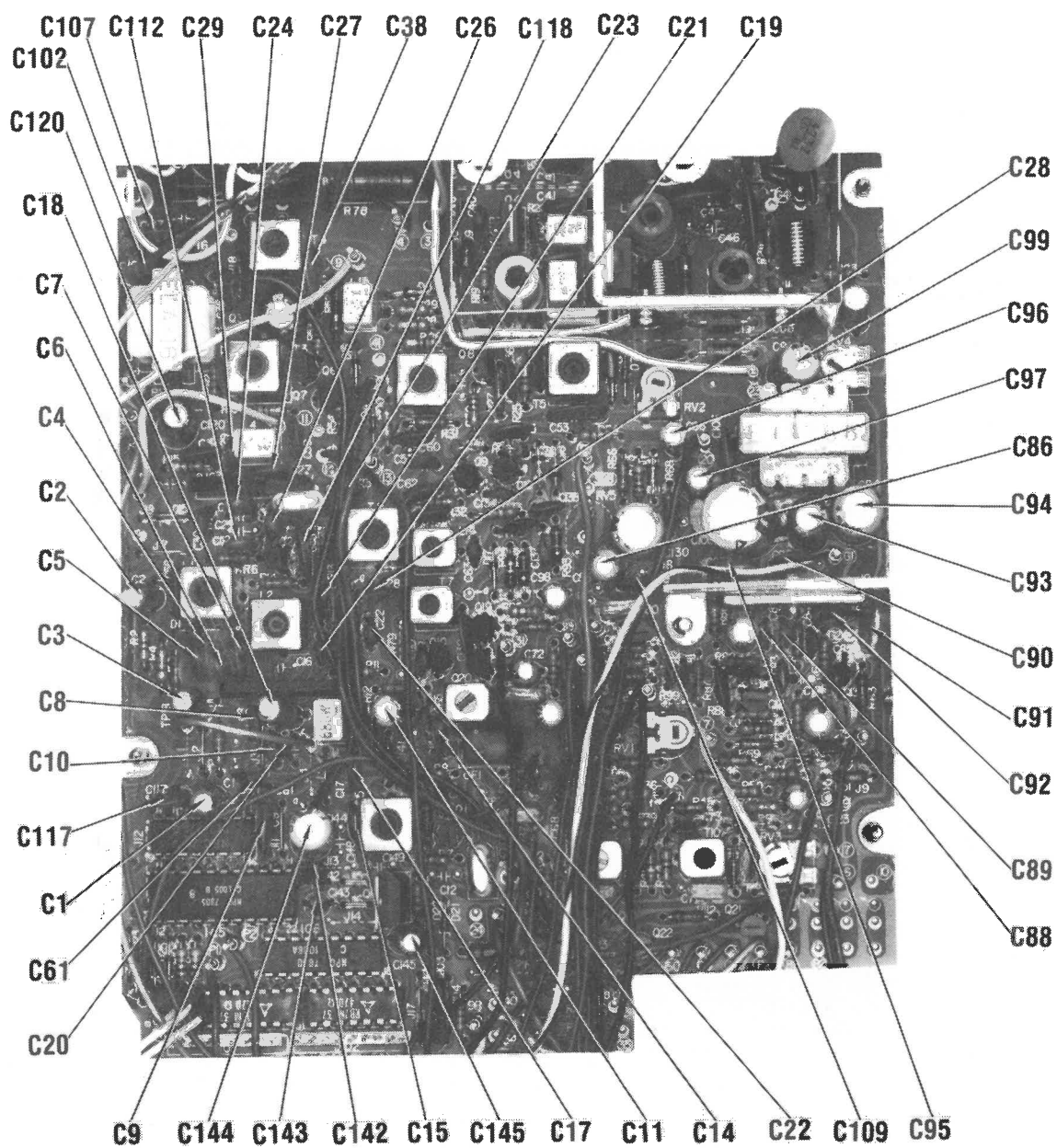
MAIN BOARD



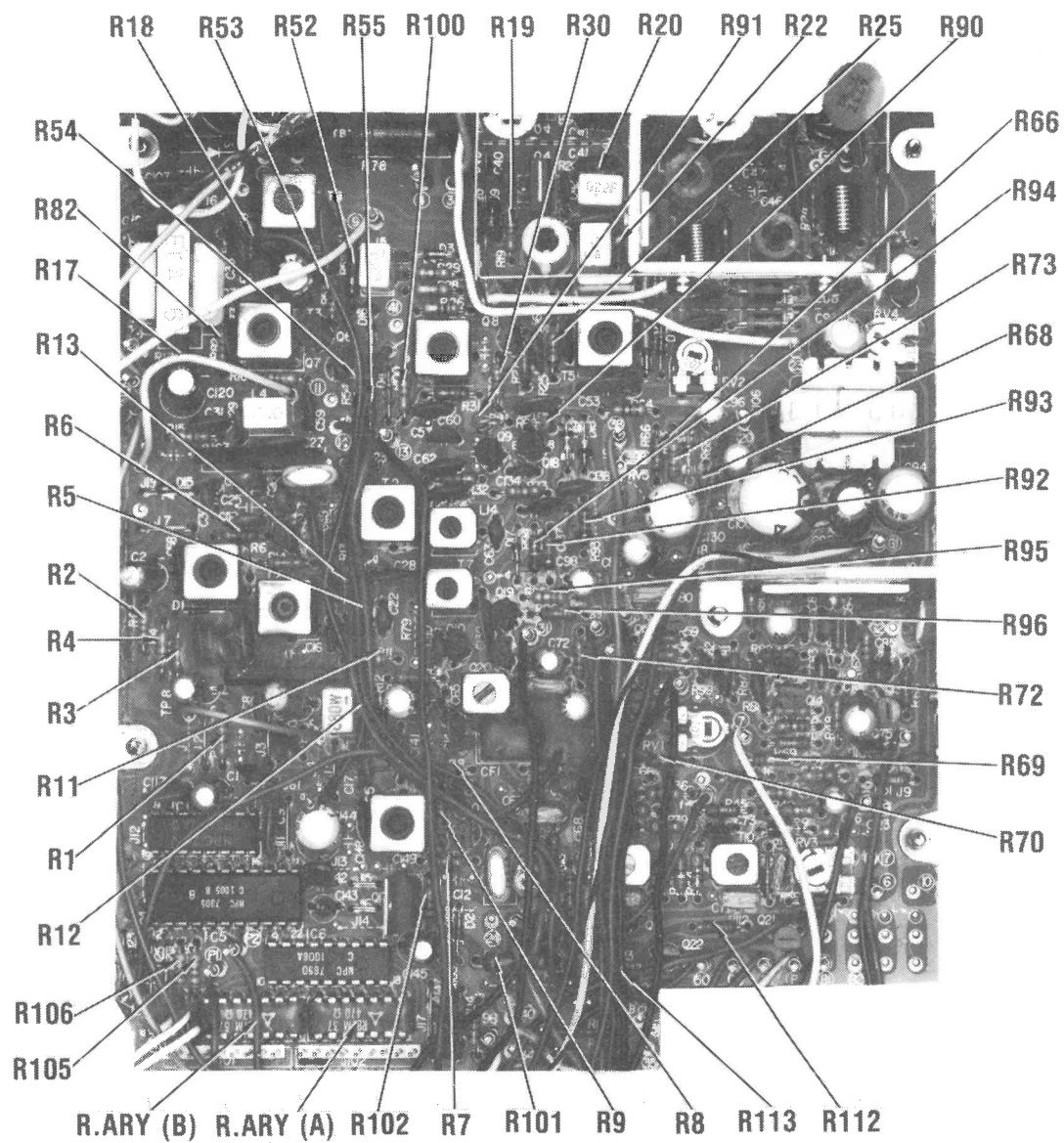
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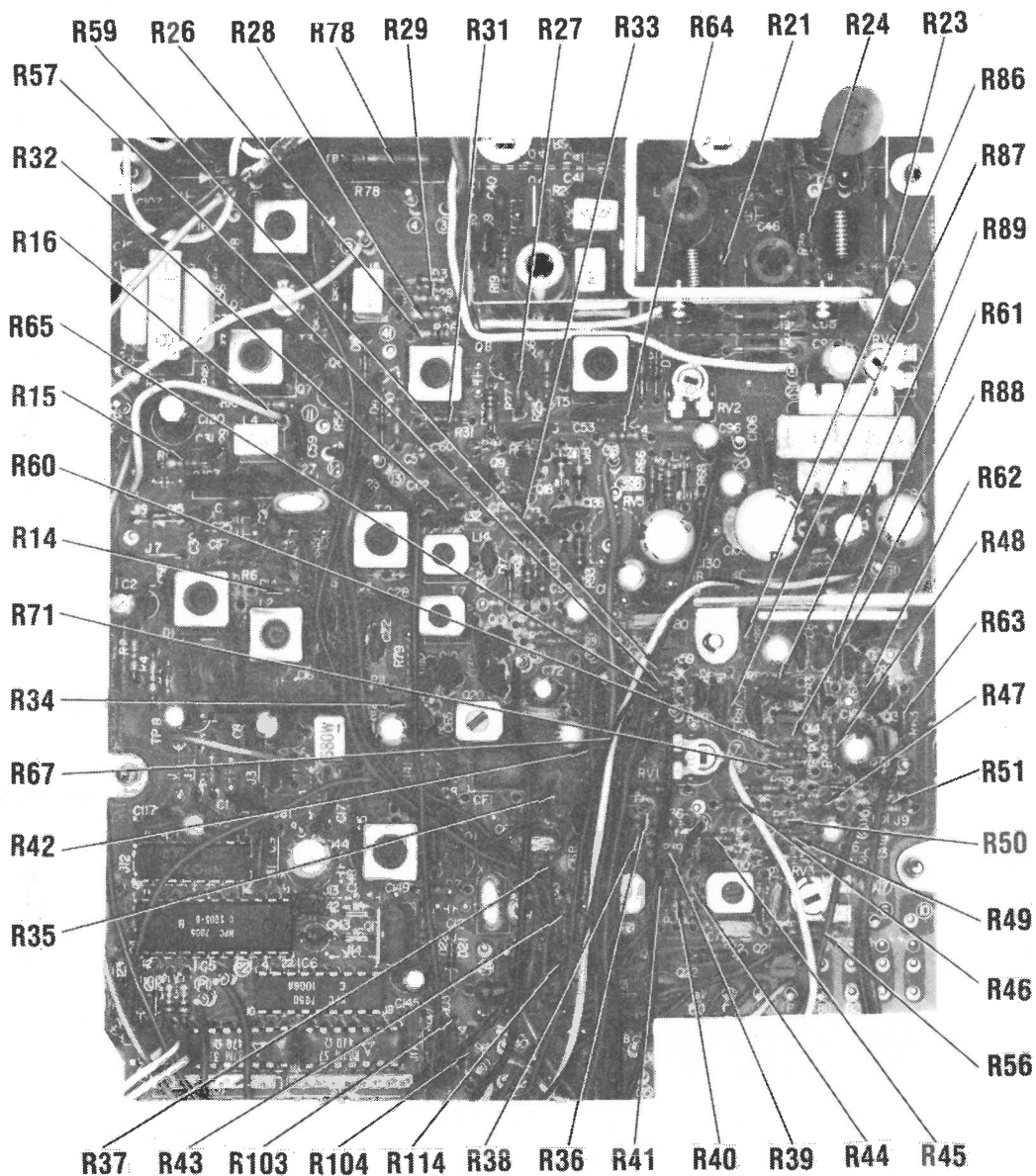
MAIN BOARD



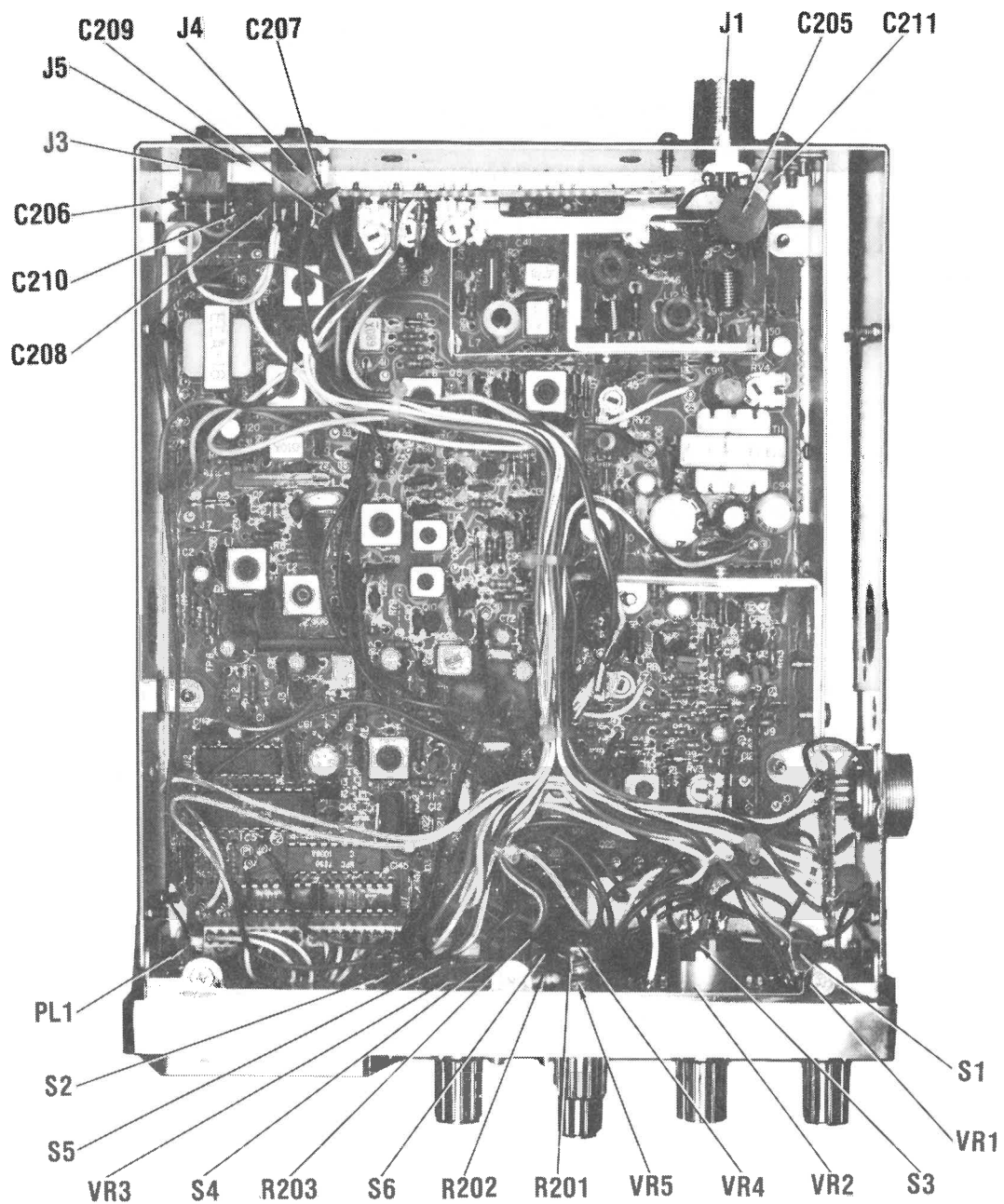
MAIN BOARD



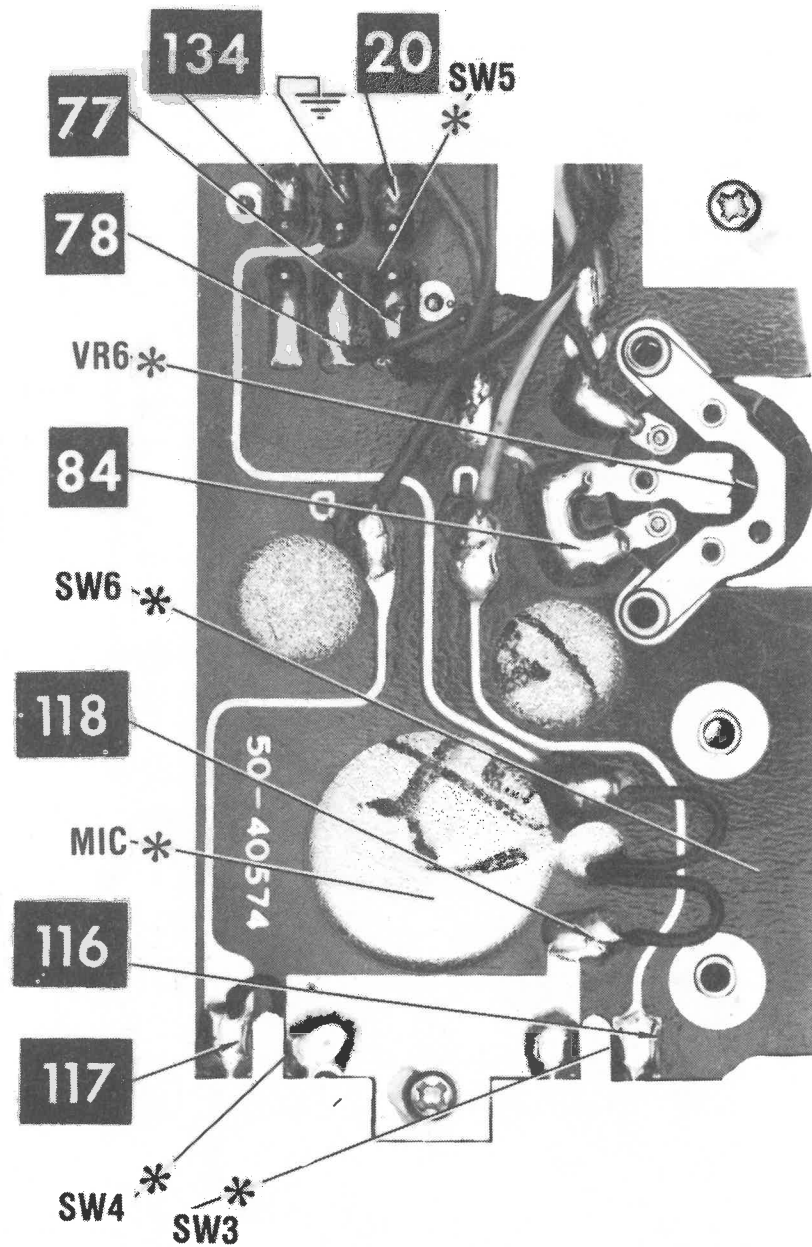
MAIN BOARD



MAIN BOARD



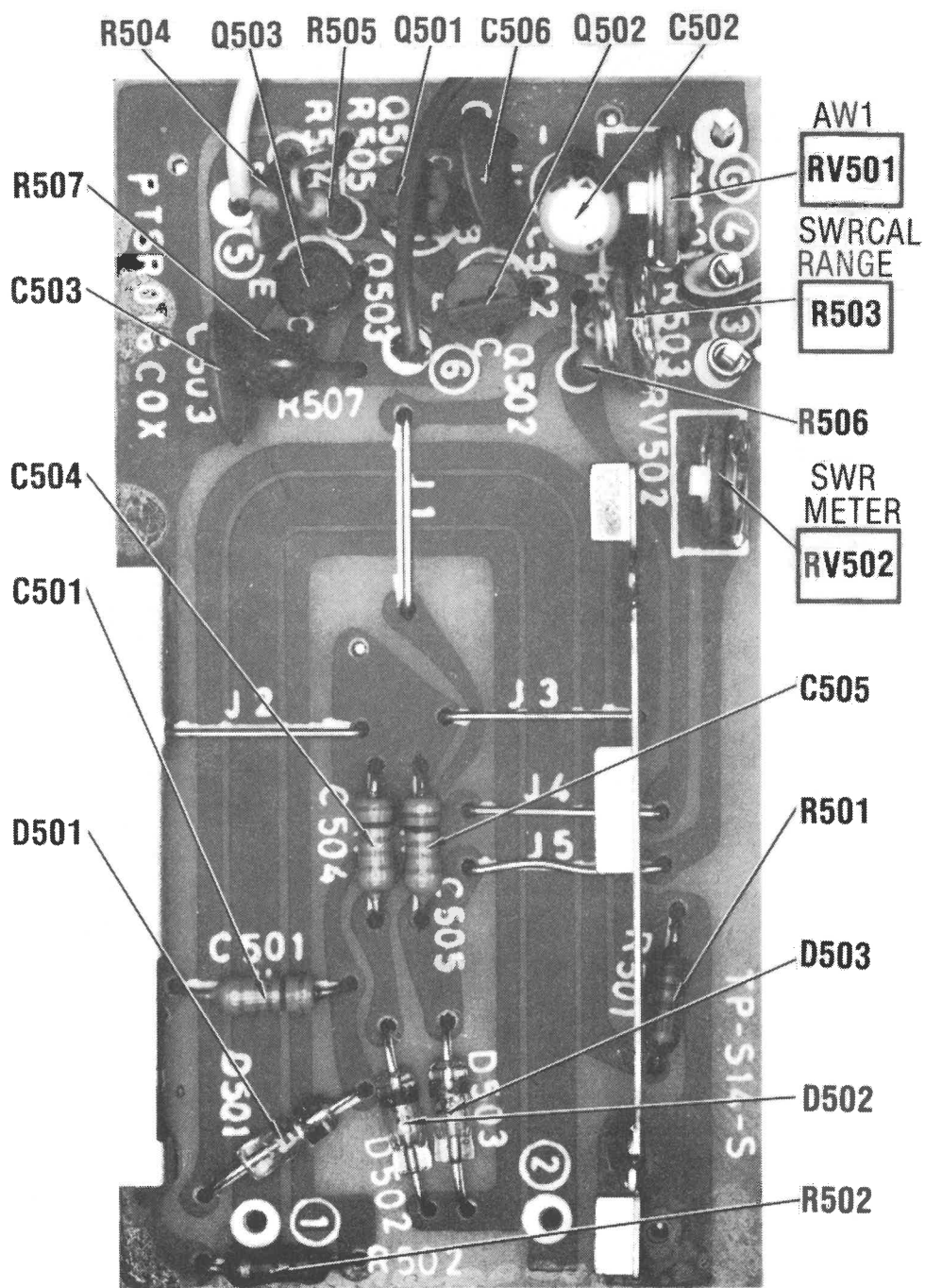
CHASSIS BOTTOM



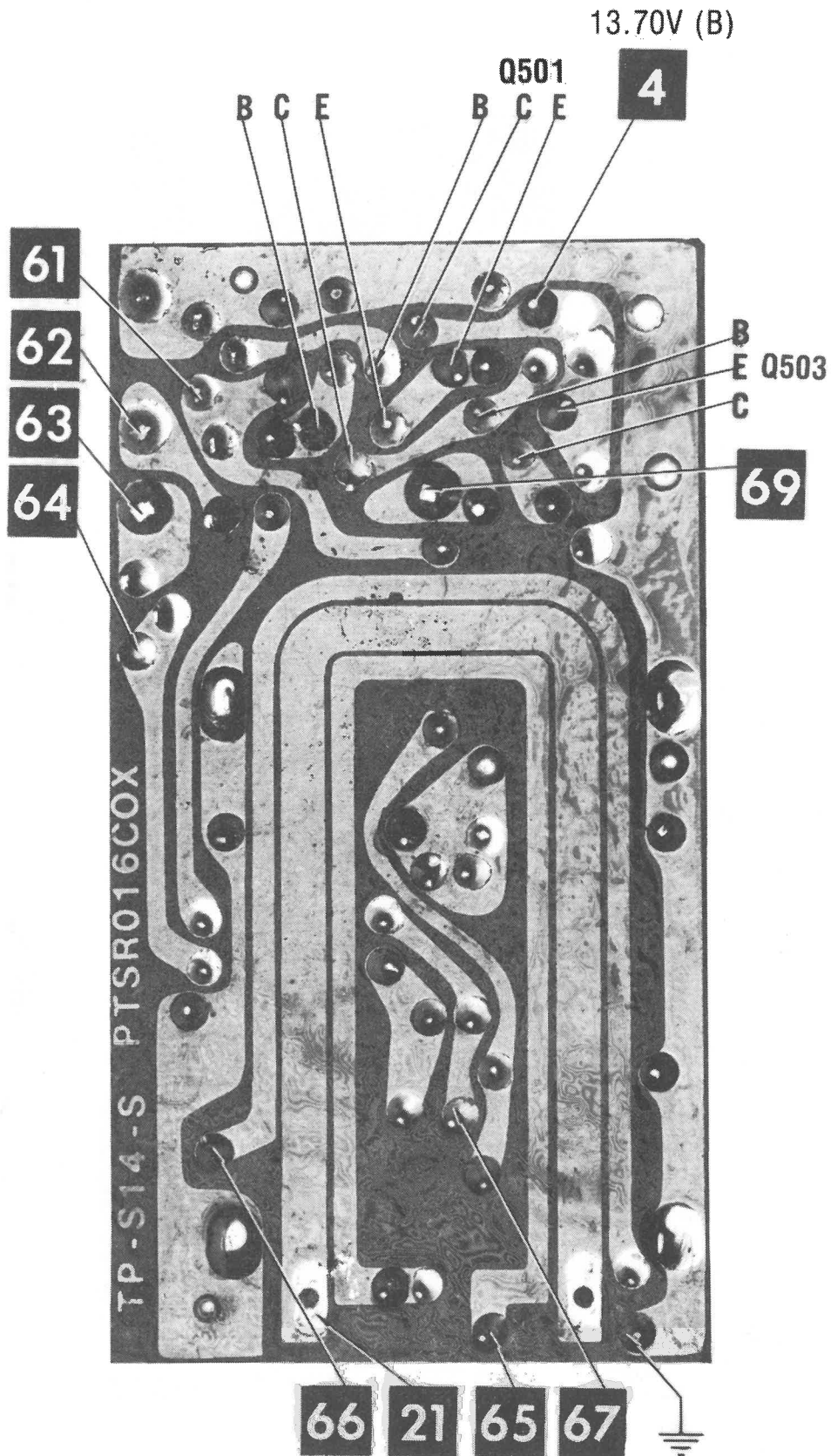
* Located on top of board

MIC CONTROL BOARD

MIDLAND MODEL 77-889

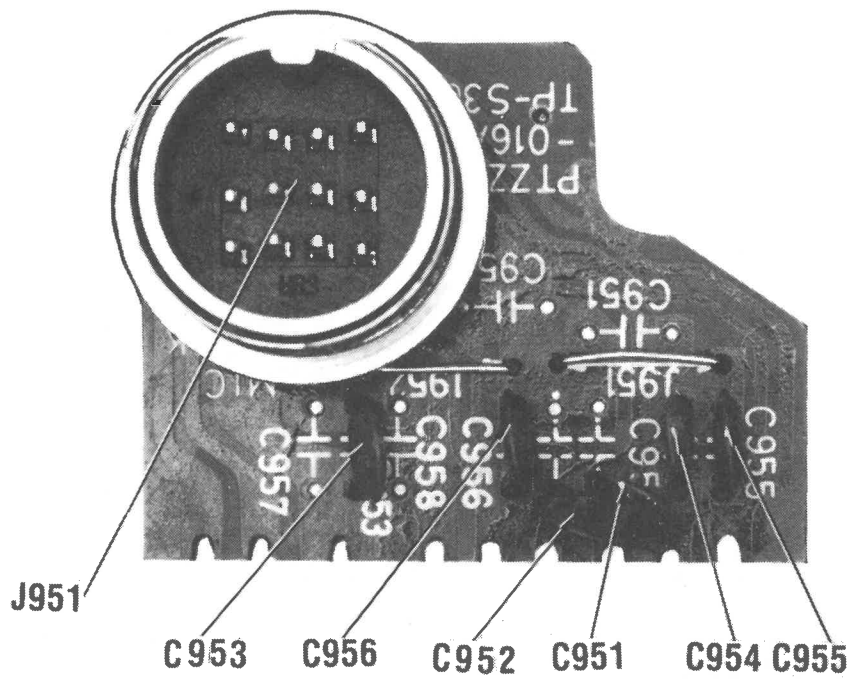
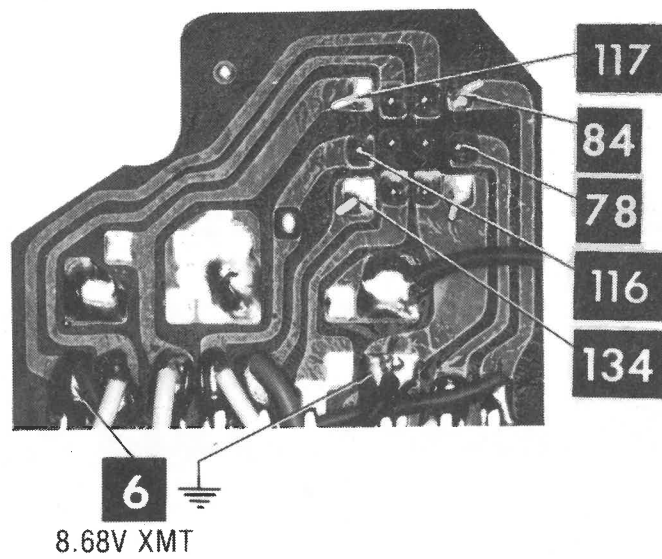


AWI BOARD

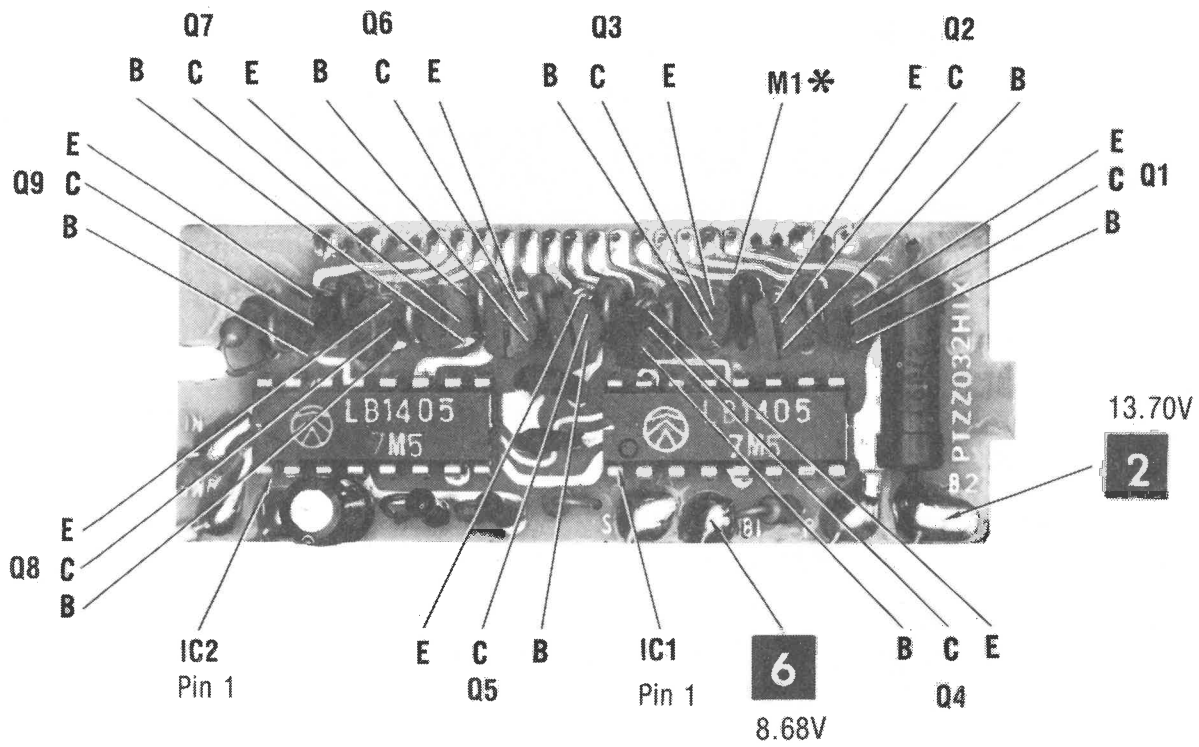


MIDLAND MODEL 77-889

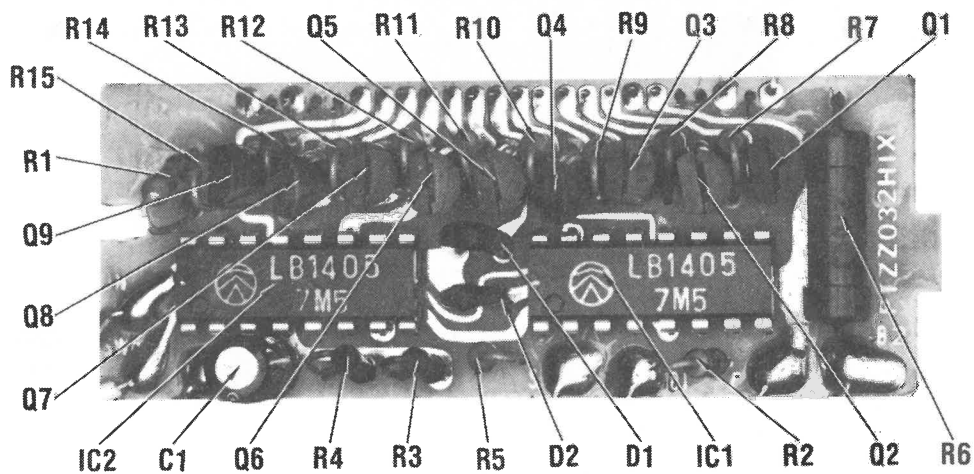
AWI BOARD



MIC JACK BOARD

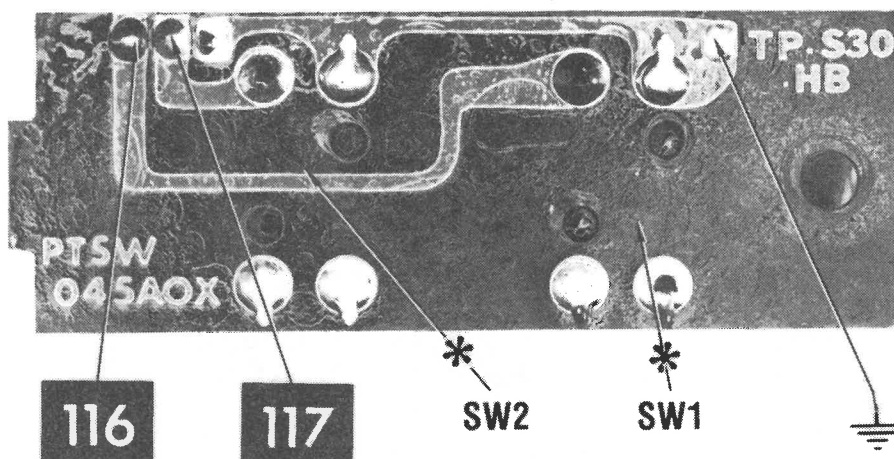


* Located on bottom of board



METER BOARD

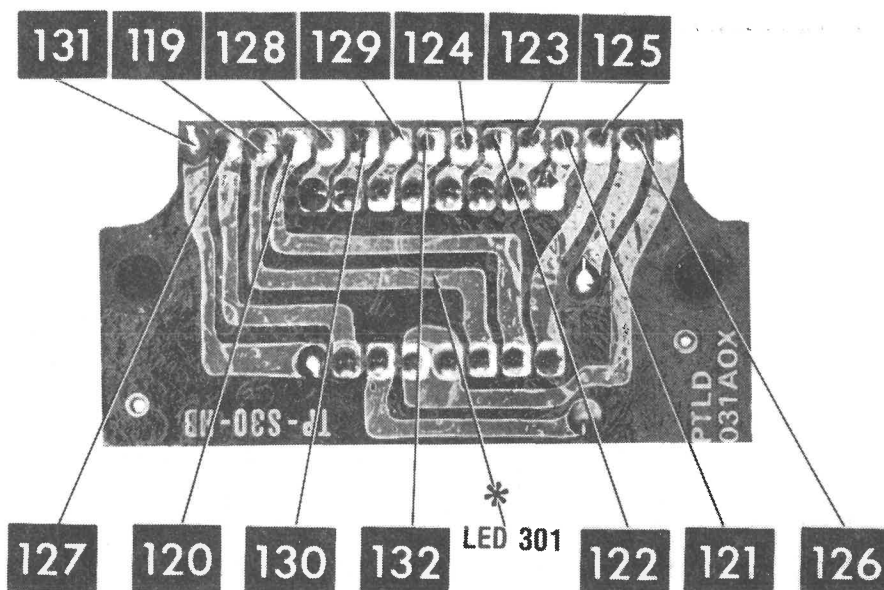
MIDLAND MODEL 77-889



* Located on top of board

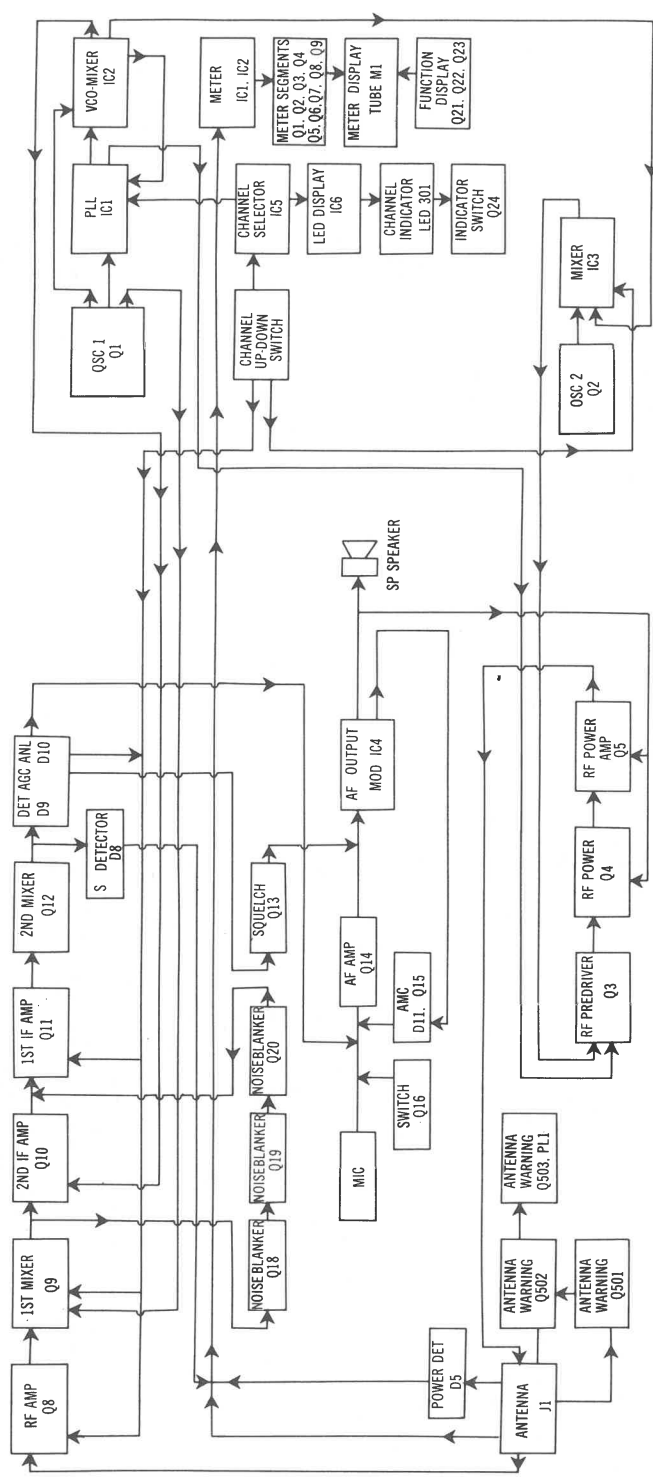
UP & DOWN BOARD

A Howard W. Sams **CIRCUITRACE®** Photo



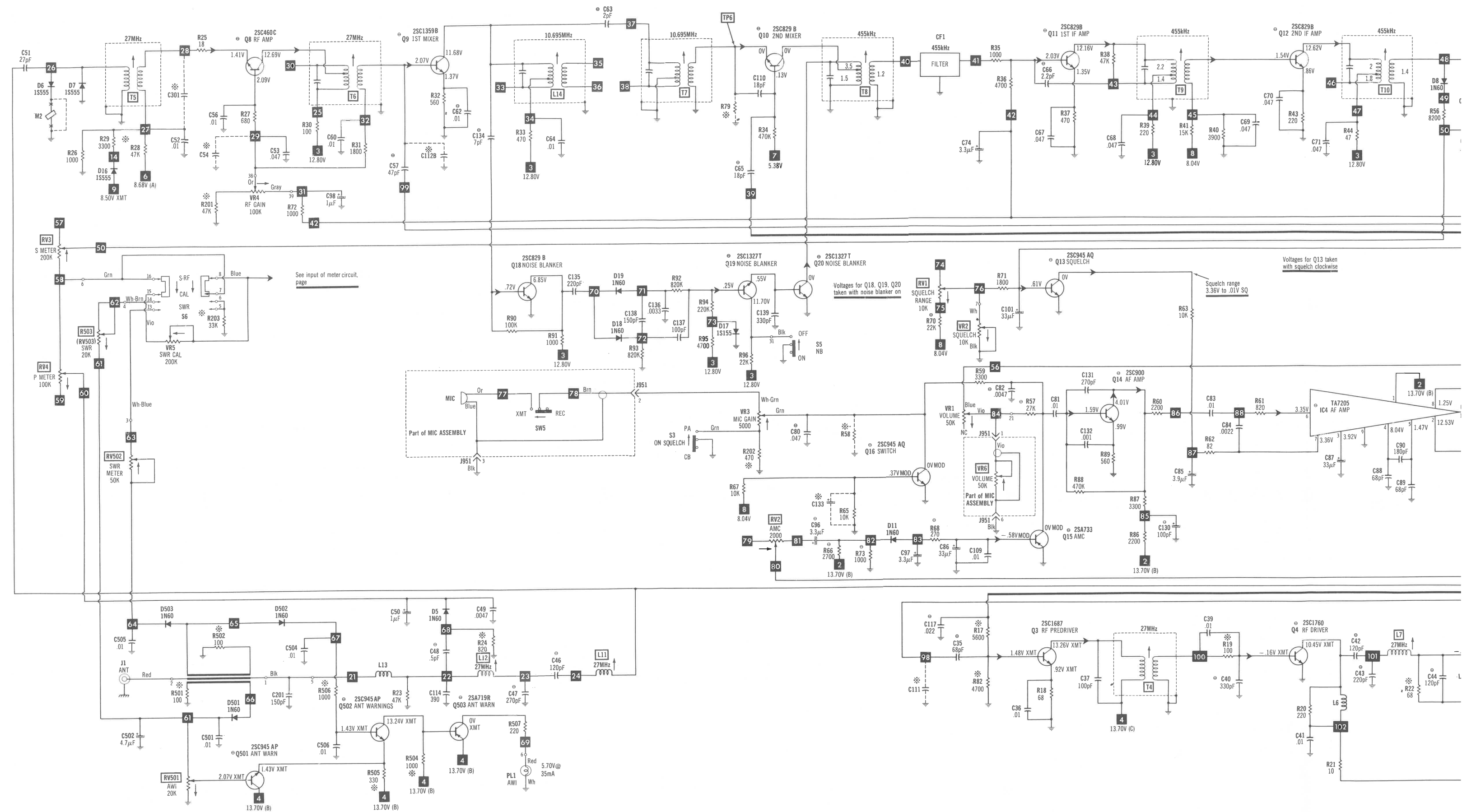
* Located on top of board

CHANNEL DISPLAY BOARD

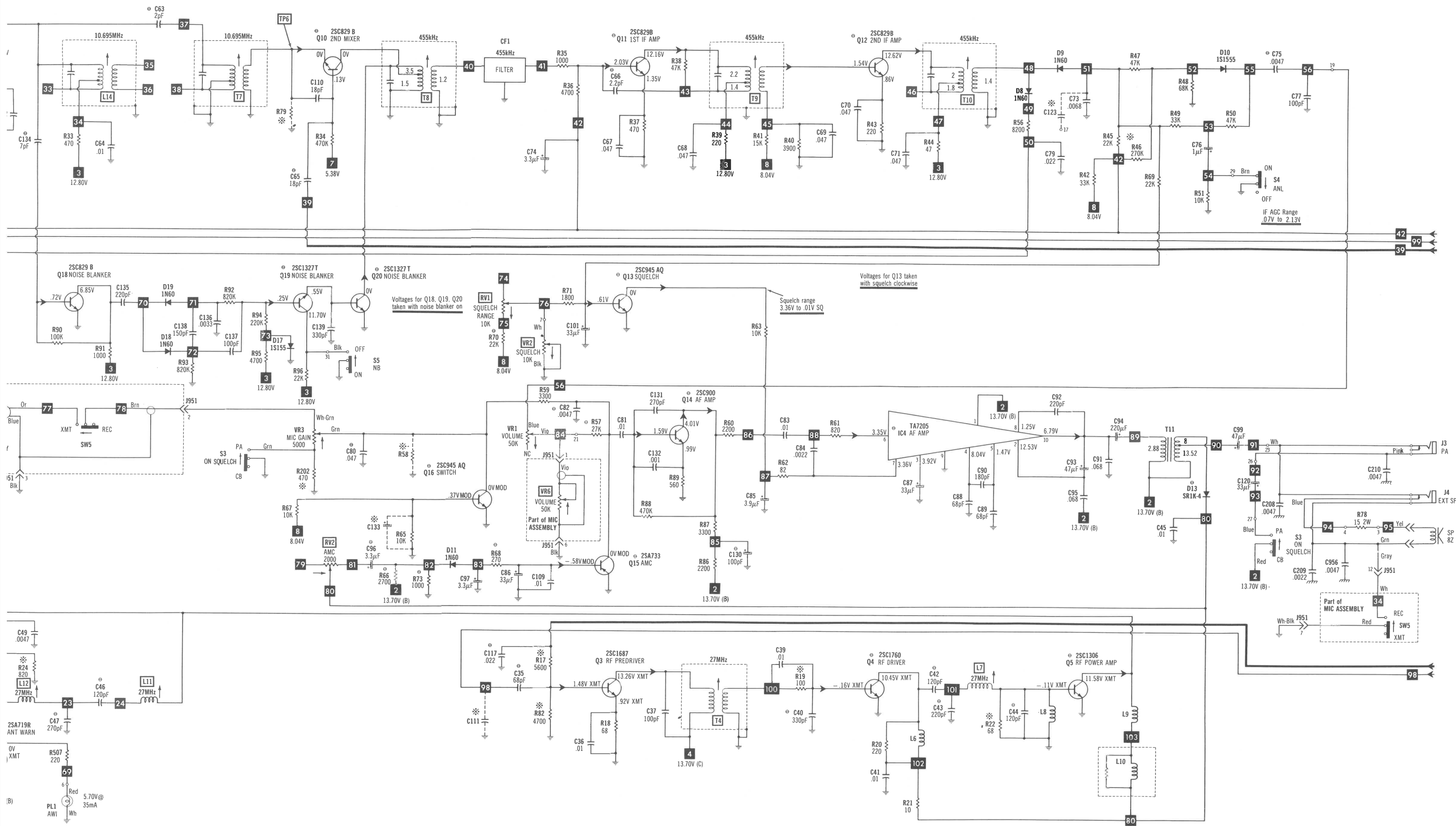


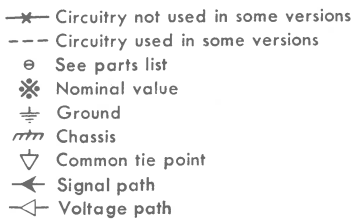
BLOCK DIAGRAM

MIDLAND MODEL 77-889



MAIN CB SCHEMATIC





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.

PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D1	ITT410 BB122 MV201	05-200410			HEPR2502 REN 612 HEPR2502 REN 612 HEPR2502				ECG612 REN 612 ECG612 REN 612 ECG612			103-176 103-176 103-176 103-176 103-176
D2	MZ205	05-480205	GEZD-5.0	ZB9.1B					ECG135	TM135	WEP1103	103-29006
D3	UZ9.1B RD9.1E	05-860091	GEZD-9.1 GE-300	ZB9.1B PTC214			SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
D4	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1109	103-272
D5	1N60	05-170004	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP1062	103-131
D6	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM109/**	WEP134	103-29001
D7	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D8	1N60	05-170004	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP1062	103-131
D9	1N60	05-170004	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D10	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM109/**	WEP134	103-29001
D11	1N60	05-170004	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP1062	103-131
D13	SR1K-4 V06C	05-750004	GE-504A	PTC201	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D14	1S1885	05-181885	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D15	1S1555	05-181555	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D16	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D17	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D18	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D19	1N60	05-170004	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D20	1N60	05-170004	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D21	MZ205	05-480205	GEZD-5.0	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM135	WEP1103	103-29006
D22	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D23	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D24	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D25	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D26	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D501	1N60	05-170060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D502	1N60	05-170060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
D503	1N60	05-170060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-29001
IC1	PLL02AG PLL02A PLL02					REN 1167 REN 1167 REN 1167			ECG1233 ECG1167 ECG1167	TM1167 TM1167	WEP2007 WEP2007 WEP2007	
IC2	C3001A C3001	02-183001				REN 1192 REN 1192 REN 1192	SK3445 SK3445 SK3445		ECG1192 ECG1192 ECG1192			
IC3	MC3001 TA7310P C3001-O C3001	02-183001				REN 1192 REN 1192 REN 1192	SK3445 SK3445 SK3445		ECG1192 ECG1192 ECG1192			
IC4	TA7310P TA7205AP TA7205	02-257205	GEIC-179 GEIC-179	PTC780 PTC780		REN 1155 REN 1155 REN 1155	SK3445 SK3231 SK3231	TVCM-81 TVCM-81	ECG1192 ECG1155 ECG1155	TA7205P TA7205P	WEP949 WEP949	
IC5	C1005B C1005	02-371005				REN 1155 REN 1155 REN 1155	SK3231 SK3231 SK3231	TVCM-81 TVCM-81	ECG1155 ECG1155 ECG1155			
IC6	C1006A C1006	02-371006				REN 1155 REN 1155 REN 1155	SK3231 SK3231 SK3231	TVCM-81 TVCM-81	ECG1155 ECG1155 ECG1155			
Q1	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q2	2SC710	01-031687	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q3	2SC1687	01-031687	GE-20*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-107A*	ECG123A*	TM123A/**	WEP736*	121-29000A
Q4	2SC1760	01-031846	GE-276	PTC180		REN 306	SK3197	RT-310	ECG306	TM306	WEP771	
Q5	2SC1846	01-031846	GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP713	121-880
Q6	2SC2036	01-031306	GE-336			REN 295	SK3518		ECG306	TM306	WEP771	
Q7	2SC1306	01-031306	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235/**	WEP785	121-29039
Q8	2SC2075	01-031306	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
Q9	2SC1678	01-031306	GE-322	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
Q10	2SC1974	01-031306	GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-29039
Q11	2SC1383Q	01-31383	GE-47	PTC143*	HEPS3001*	REN 293	SK3024*	RT-302	ECG293	TM293	WEP912	
Q12	2SC1383	01-31383	GE-47	PTC143*	HEPS3001*	REN 293	SK3024*	RT-302	ECG293	TM293	WEP912	
Q13	2SA719Q	01-010719	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
Q14	2SA719	01-010719	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
Q15	2SA720	01-010719	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	TM290/**	WEP911	121-1019
Q16	2SC460C	01-031306	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q17	2SC710	01-030460	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q18	2SC1047	01-030460	GE-60*	PTC132*	HEPS0016*	REN 229*	SK3018*	RT-107	ECG229*	TM229*	WEP63*	121-29021
Q19	2SC460	01-030460	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
Q20	2SC1359B	01-031359	GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
Q21	2SC1359	01-031359	GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	TM229*	WEP66	121-29021
Q22	2SC710	01-031359	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q23	2SC829B	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q24	2SC829	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q25	2SC710	01-030829	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q26	2SC829B	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q27	2SC829	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q28	2SC710	01-030829	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q29	2SC829B	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q30	2SC829	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q31	2SC710	01-030829	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q32	2SC829B	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q33	2SC829	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29021*
Q34	2SC710	01-030829	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A/**	WEP710	121-29000A
Q35	2SC945AQ	01-030945	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q36	2SC945	01-030945	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q37	2SC828	01-030945	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972

MIDLAND MODEL 77-889

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.
Q14	2SC372	01-030900	GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-29000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q15	2SC1327	01-030733	GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q16	2SC945AQ	01-030945	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
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q17	2SC1096	01-031096	GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-29008
	2SC2074		GE-275			REN 322			ECG322	TM322	WEP771	
	2SC829B		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
Q18	2SC829	01-03829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	TM229*/**	WEP829	121-29021*
	2SC1327T		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
	2SC1327		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
Q20	2SC900	01-031327	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC1327T		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
	2SC1327		GE-85*	PTC139*	HEPS0024*	REN 199	SK3245	RT-107A	ECG199	TM199	WEP66	121-972
Q21	2SC900	01-010733	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q22	2SC945AQ	01-030945	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
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q23	2SC945AQ	01-030945	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
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
Q24	2SC1318R	01-031318	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
	2SC945AP		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q501	2SC945	01-030945	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
	2SC945AP		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q502	2SC945AP	01-030945	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
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q503	2SC828	01-010719	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SA719R		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
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
METER BOARD												
D1	1S1555	05-181555	GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1N4888		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
D2	1S1555	05-181555	GE-300	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1N4888		GE-514	PTC214	HEPRO602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
IC1	LB1405	02-131405										
IC2	LB1405	02-131405										
Q1	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q2	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q3	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q4	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q5	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q6	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q7	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q8	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
Q9	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879

* Lead configuration may vary from original.
 /** Also available as exact type replacement.

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		PC1-50	VTT1A50	QV1-11	EV-1615	
C2	10 16V	00-132115	PC10-25	VTT10B25	QV1-41	EV-1222	
C3	.22 50V	00-132255		TDC224M050EL	QDT1-10	SD50-R229	
C11	47 10V	00-132330	PC50-16	VTT47D16	QV1-73	EV-1226	
C18	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615	
C50	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615	
C72	10 16V	00-132115	PC10-25	VTT10B25	QV1-41	EV-1222	
C74	3.3 25V	00-132465	PC5-50	VTT3R3A50	QV1-23	EV-1318	
C76	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615	
C78	47 16V	00-132330	PC50-16	VTT47D16	QV1-73	EV-1226	
C85	3.9 10V	03-003050				SD15-3R99	
C86	33 6.3V	00-132500	PC30-25	VTT33B10	QV1-61	EV-1125	
C87	33 6.3V	00-132500	PC30-25	VTT33B10	QV1-61	EV-1125	
C93	47 16V	00-132330	PC50-16	VTT47D16	QV1-73	EV-1226	
C94	220 16V	00-132380	PC250-25	VTT220H16	QV1-117	EV-1240	
C96	3.3 25V	00-132465	PC5-50	VTT3R3A50	QV1-23	EV-1318	
C97	3.3 25V	00-132465	PC5-50	VTT3R3A50	QV1-23	EV-1318	

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C98	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C99	47 25V	00-132635	PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000 16V	00-132210	PC1000-16	VTT1000L16	QV1-183	EV-1260
C101	33 6.3V	00-132500	PC30-25	VTT33B10	QV1-61	EV-1125
C120	33 16V	00-132510	PC30-25	VTT33D25	QV1-63	EV-1325
C130	100 16V	00-132175	PC100-16	VTT100F16	QV1-95	EV-1230
C143	.47 35V	03-003026		TDC474M050EL	QDT1-19	SD50-R479
C144	100 6.3V	00-132160	PC100-10	VTT100E10	QV1-93	EV-1030
C145	10 16V	00-132115	PC10-25	VTT10B25	QV1-41	EV-1222
C502	4.7 25V	00-132600	PC5-50	VTT4R7B50	QV1-27	EV-1319
METER BOARD						
C1	10 16V	00-132115	PC10-25	VTT10B25	QV1-41	EV-1222

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%				MAG5011		10TCP-Q68
C5	.01		UK50-103				10TCP-Q22
C6	22 N150		DD-331	GP330	GP333		10TS-T33
C7	330 10%		DTZ-150		CNO315		10TCC-T15
C8	150 10%		UK25-503		MAG2515		HY-735
C9	.047		DTZ-47	NP047	CNO447		10TCC-Q47
C10	.001 50V 10%		DTZ-68	DPMS6D1	M192P10292	QFT2-1	1FT-D10
C13	68 10%		UK50-103	NP068	CNO468		10TCC-Q68
C14A	.01				MAG5011		10TCP-Q47
C15	47 N150 10%						1FT-D10
C17	.001 50V 10%			DPMS6D1	M192P10292	QFT2-1	1FT-D10
C19	.001 50V 10%			DPMS6D1	M192P10292	QFT2-1	1FT-D10
C20	.001 50V 10%			DPMS6D1	M192P10292	QFT2-1	1FT-D10
C21	.001 50V 10%			NP02P2	CNO522		10TCC-V22
C22	2		DTZ-2R2	NP033	CNO433		10TCC-Q33
C23	33		DTZ-33				10TCP-Q27
C24	27 N150			NP03P3	CNO533		10TCC-V33
C26	3		DTZ-3R3				10TCC-T27
C27	270		DTZ-270				10TCC-Q56
C28	.01		UK50-103		MAG5011		10TCC-Q56
C29	56				CNO456		10TCC-Q56
C30	56				CNO456		10TCC-Q56
C31	.01		UK50-103		MAG5011		10TCP-T10
C33	.01		UK50-103		MAG5011		HY-735
C35	68		DTZ-68	NP068	CNO468		1FT-S10
C36	.01		UK50-103		MAG5011		10TS-T33
C37	100 N150 10%						10TCC-T12
C38	.047		UK25-503		CNO312		10TCC-T22
C39	.01 50V 10%			WMF1S1	MAG5011		10TCC-T12
C40	330		DD-331	GP330	CNO312		10TCC-T12
C41	.01		UK50-103		MAG5011		10TCC-T12
C42	120 10%		DTZ-120		CNO312		10TCC-T12
C43	220 10%		DTZ-220		MAG5011		10TCC-T27
C44	120 10%		DTZ-120		CNO312		10TCC-T12
C45	.01		UK50-103		MAG5011		10TCC-T12
C46	120 10%		DTZ-120		CNO312		10TCC-T12
C47	270 10%		DTZ-270				10TCC-T27
C48	.5			WMF05P5	EWFO5050		5GA-D47
C49	.0047		DD-472	GP4700	GP247		10TCC-Q27
C51	27				CNO427		10TCC-Q27
C52	.01		UK50-103		MAG5011		HY-735
C53	.047		UK25-503		MAG2515		1FT-S47
C55	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	10TCC-Q47
C56	.01		UK50-103		MAG5011		10TCC-Q47
C57	47		DTZ-47	NP047	CNO447		10TCC-Q47
C58	.01		UK50-103		MAG5011		10TCC-Q47
C59	.01		UK50-103		MAG5011		10TCC-Q47
C60	.01		UK50-103		MAG5011		10TCC-Q47
C61	.001 50V 10%			DPMS6D1	M192P10292	QFT2-1	1FT-D10
C62	.01		UK50-103		MAG5011		10TCC-V22
C63	2		DTZ-2R2	NP02P2	CNO522		10TCC-V22
C64	.01		UK50-103		MAG5011		10TCC-V22
C65	18 N150				CNO522		10TCP-Q18
C66	2.2		DTZ-2R2	NP02P2	M192P4739R8	QFT2-171	10TCC-V22
C67	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C68	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C69	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C70	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C71	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C73	.0068 50V 10%			WMF1D68	M192P6829R8	QFT2-73	1FT-D68
C75	.0047 50V 10%			WMF1D47	M192P4729R8	QFT2-63	1FT-D47
C77	100 10%			NP0100	CNO310		10TCC-T10
C79	.022 50V 10%		DTZ-100	DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C80	.047 50V 10%			DPMS2S47	M192P4739R8	QFT2-171	1FT-S47
C81	.01 50V 10%			WMF1S1	M192P1039R8	QFT2-91	1FT-S10
C82	.0047 50V 10%			WMF1D47	M192P4729R8	QFT2-63	1FT-D47
C83	.01 50V 10%			WMF1S1	M192P1039R8	QFT2-91	1FT-S10
C84	.0022				GP222		10TS-D22
C88	68		DTZ-68	NP068	CNO468		10TCC-Q68
C89	68		DTZ-68	NP068	CNO468		10TCC-Q68

MIDLAND MODEL 77-889

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
C90	180 10%		DTZ-180		EWF1A168	QF1-195	10TCC-T18
C91	.068 50V 10%			WMF1S68			1PB-S68
C92	220		DTZ-220		EWF1A168	QF1-195	10TCC-T22
C95	.068 50V 10%			WMF1S68			1PB-S68
C102	.01		UK50-103		MAG5011		HY-735
C106	.047		UK25-503		MAG2515		HY-735
C107	.047		UK25-503		MAG2515		
C109	.01		UK50-103		MAG5011		
C110	18				CN0418		10TCC-Q18
C112A	82 10%		DTZ-82	NPO82	CN0482		10TCC-Q82
C114	390 10%		DD-391	GP390	GP339		10TS-T39
C117	.022		UK25-223				HY-725
C118	560 10%		DD-561		GP356		10TS-T56
C131	270 10%		DTZ-270				10TCC-T27
C132	.001 50V 10%			DPMS6D1	M192P10292	QFT2-1	1FT-D10
C134	7		DTZ-6R8	NPO6P8	CN0568		10TCC-V68
C135	220 10%		DTZ-220				10TCC-T22
C136	.0033 50V 10%			WMF1D33	M192P3329R8	QFT2-43	1FT-D33
C137	100 10%		DTZ-100	NPO100	CN0310		10TCC-T10
C138	150 10%		DTZ-150		CN0315		10TCC-T15
C139	330 10%		DD-331	GP330	GP333		10TS-T33
C142	.0012 50V 10%			DPMS6D12	PVC6212		6PS-D12
C147	.01		UK50-103		MAG5011		
C201	150 10%		DTZ-150		CN0315		10TCC-T15
C202	.01		UK50-103		MAG5011		
C203	.01		UK50-103		MAG5011		
C205	.047		UK25-503		MAG2515		HY-735
C206	.01		UK50-103		MAG5011		
C207	.01		UK50-103		MAG5011		
C208	.0047		DD-472	GP4700	GP247		5GA-D47
C209	.0022				GP222		10TS-D22
C210	.0047		DD-472	GP4700	GP247		5GA-D47
C211	.0022				GP222		10TS-D22
C501	.01		UK50-103		MAG5011		
C503	.01		UK50-103		MAG5011		
C504	.01		UK50-103		MAG5011		
C505	.01		UK50-103		MAG5011		
C506	.01		UK50-103		MAG5011		
C951	.0047		DD-472	GP4700	GP247		5GA-D47
C952	.0047		DD-472	GP4700	GP247		5GA-D47
C953	.0047		DD-472	GP4700	GP247		5GA-D47
C954	.0022				GP222		10TS-D22
C955	.0047		DD-472	GP4700	GP247		5GA-D47
C956	.0047		DD-472	GP4700	GP247		5GA-D47
CT1	20 Trimmer	13-120010					

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	10K	13-164132	T-10K(3)	MTC14L1(3)	U260R103B
RV2	AMC	2000	13-164133			U260R252B
RV3	S Meter	200K	79-164004			U260R254B
RV4	Power Meter	100K	77-164012			U260R104B
RV501	AWI	20K	77-164005			X260R253B
RV502	SWR Meter	50K				X260R503B
RV503	SWR Cal Range	20K	77-164014			X260R253B(2)
VR1	Volume	50K	77-160012			
VR2	Squelch/PA Switch	10K	77-166008			
VR3	Mic Gain	5000	77-166009			
VR4	RF Gain	100K	77-166010(18)			
VR5	SWR Cal	200K	(18)			
VR6	Volume	50K				

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

(3) For horizontal mounting bend the two outside terminals to fit PC Board. Use jumper to connect center terminal to PC Board.

(18) Includes VR4 and VR5.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.			WORKMAN PART No.	MFGR. PART No.
R.ARY(A)	Resistor Network		77-140009 (1)	R.ARY(B)	Resistor Network		77-140009 (1)

(1) Consists of seven 470 ohm resistors.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	VCO/Mixer	76-176002	100003572JS		
L2	VCO/Mixer	13-090405	10MB0035JJ		
L3	RF Choke (68uH)	13-178210			
L4	RF Choke (1uH)	77-178001			
L6	RF Choke (2.2uH)	13-176564			
L7	RF Driver (27MHz)	13-176508			
L8	RF Choke (68uH)	13-178210			
L9	RF Choke (.55uH)	13-176567			
L10	RF Choke (1uH)	13-176565			
L11	RF Power Amp (27MHz)	13-176509			
L12	Pi Filter (27MHz)	13-176510			
L13	RF Choke (.4uH)	77-178002			
L14	IF (10.695MHz)				
L15	RF Choke (68uH)	13-178210			
L16	RF Choke (.75uH)	13-178209			
T1	PLL (20.480MHz)	77-176010	10DB002S60C3		
T2	Mixer (37MHz)	77-176011			
T3	Mixer (27MHz)	77-176003			
T4	RF Predriver (27MHz)	13-176581	10CP005SGF		
T5	Rec RF (27MHz)	13-176511	ETA03369M17		
T6	RF (27MHz)	13-176512	ETR03346DC3		
T7	IF (10.695MHz)				
T8	IF (455kHz)	13-090371			
T9	IF (455kHz)	13-090375			
T10	IF (455kHz)	13-090372			

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	1.6A	.166	.48mH	13-178208	TR523		

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PARTS LIST AND DESCRIPTION (CONTINUED)

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

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	13-096200	TR723	MCB16	

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	3-1/2" PM 8 Ohms	77-060001	3A05Z8R	

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	13-204013		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	77-038013										

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	77-179001	455kHz
LED301	LED	77-202003	Channel Readout (1.98V @ 5.3mA)(2 used)
J1	Jack	77-159030	Antenna
J3	Jack	77-159031	PA
J4	Jack	77-159031	Ext. Speaker
J5	Jack	13-159235	DC Power
J951	Jack	77-159012	Mic
J951	Plug	77-159034	Mic
M1	Meter	77-200009	Tube Display
PL1	Lamp	13-201078	AWI (5.70V @ 35mA)
S2	Switch	77-183008	Channel 9/19
S3	Switch		CB/PA
S4	Switch	77-183009	ANL
S5	Switch	77-183009	NB
S6	Switch	77-183010	SWR/Cal
SW1	Switch	77-183011	Channel Up
SW2	Switch	77-183011	Channel Down
SW3	Switch	(1)	Channel Up
SW4	Switch	(1)	Channel Down
SW5	Switch	(1)	Rec/XMT
SW6	Switch	(1)	Channel Lock
X1	Crystal	77-128017	10.240MHz
X2	Crystal	77-128018	10.695MHz
	Cord	13-034055	DC Power
	PC Board	77-075024	LED
	PC Board	77-075028	Main
	PC Board	77-075026	Mic
	PC Board	77-075029	SWR/AWI
	PC Board	77-075025	Up-Down Switch
	PC Board		Meter
	PC Board	77-075027	Meter

(1) Part of Mic Assembly.

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

ITEM	PART No.	ITEM	PART No.
Case, Bottom	77-013013	Knob, Channel Selector	77-115007
Case, Front	77-010035	Knob, RF Inner	77-110008
Case, Top	77-010036	Knob, RF Outer	77-110009
		Knob, Volume/Squelch	77-110006

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')