



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 77-963

MANUFACTURER'S SPECIFICATIONS

Circuitry:	4 ICs, 17 Transistors, 16 Diodes, 2 Zener Diodes, 1 Vari-cap
Frequency Control:	PLL (Phase Lock Loop) Synthesizer
Channels:	40 channels
Mode of Operation:	AM
Receiver System:	Dual Conversion Superheterodyne
Sensitivity:	Nominal 0.7 μ V (for S/N 10 dB)
Selectivity:	More than 55 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
RF Output Power:	Maximum 4.0W (F.C.C. Maximum) at 13.8 VDC
Squelch Range:	0.5 μ V – 500 μ V
Audio Output Power:	More than 3W (EXT. SP at 8 ohms)
Controls:	Volume Control/Power Switch, Squelch Control, RF Gain Control, SWR (Calibration) Control, Dimmer Control, Channel Selector, SWR-CAL-S/RF, ANL-OFF Switch, CB-PA Switch, Tone Switch, EXT CB Switch, HANDSET-SPEAKER Switch.
Indicators:	TX (Transmit) Lamp, Channel Indicator LED, S/RF/SWR Meter
Jacks and Connectors:	Microphone Jack, EXT (External) SP Jack, ANT (Antenna) Connector, EXT CB/PA Jack, DC Power Connector
Speaker:	3-1/2", Dynamic type, 8-ohm (Main unit), 1.8", Dynamic, 8 ohms (Handset)
Microphone (Handset):	Dynamic type, 700-ohms
Power Source:	DC 13.8V
Size:	10-1/4 (W) x 6-7/8 (D) x 3-15/16 (H) inches
Weight:	3.6 lbs.

Courtesy of the Manufacturer

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

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MIDLAND MODEL 77-963

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:
 CT1 8276, 5000
 L7, L11, L12 9304, 9300, 9302
 L14, T7 thru T10 5009, 8728A, 8728
 L1, L2, L5, T1 thru T6 9440

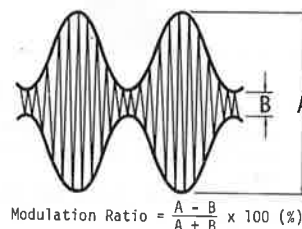


FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP10 (Q2, Emitter).	Ch. 19	CT1	Adjust for 10.240MHz
Input of frequency counter to TP11 (IC2, Pin 4).	Ch. 19	T1	Adjust for maximum.'
Input of DC meter to TP8.	Ch. 1	L1	Adjust for 3.6V $\pm$.1 volt.
Input of oscilloscope to TP12 (Junction of C23 and C57).	Ch. 19	L2,T2	Adjust for maximum RF.
Input of frequency counter to TP12 (Junction of C23 and C57).	Ch. 1		Check for 37.660MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP14 (Junction of C24 and R80).	Ch. 1, XMT		Check for 10.695MHz.
Input of frequency counter to TP15 (IC3, Pin 9).	Ch. 1, XMT		Check for 26.965MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to antenna jack.	Ch. 1, XMT	CT1	Check for 26.965MHz. If necessary adjust CT1 for 26.965MHz.

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil. Adjust volume control to obtain a suitable indication. Set generator low enough to prevent AGC limiting. RF Gain Maximum, Squelch MINIMUM.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP13. (Q10, Emitter.) 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T10,T9,T8	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T7,L14, T6,T5	Adjust for maximum output. If necessary readjust T8, T9 and T10.

RECEIVER ADJUSTMENTS

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

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 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 jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19 Squelch MINIMUM	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 correct frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
	Ch. 19	L5, T3, T4, L7, L11, L12	Adjust for maximum.
	Ch. 19	L7	Adjust L7 clockwise for 4.4 watts.
	Ch. 19	L12	Adjust L12 counterclockwise for 3.8 watts.

MIDLAND MODEL 77-963

TRANSMITTER ADJUSTMENTS

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

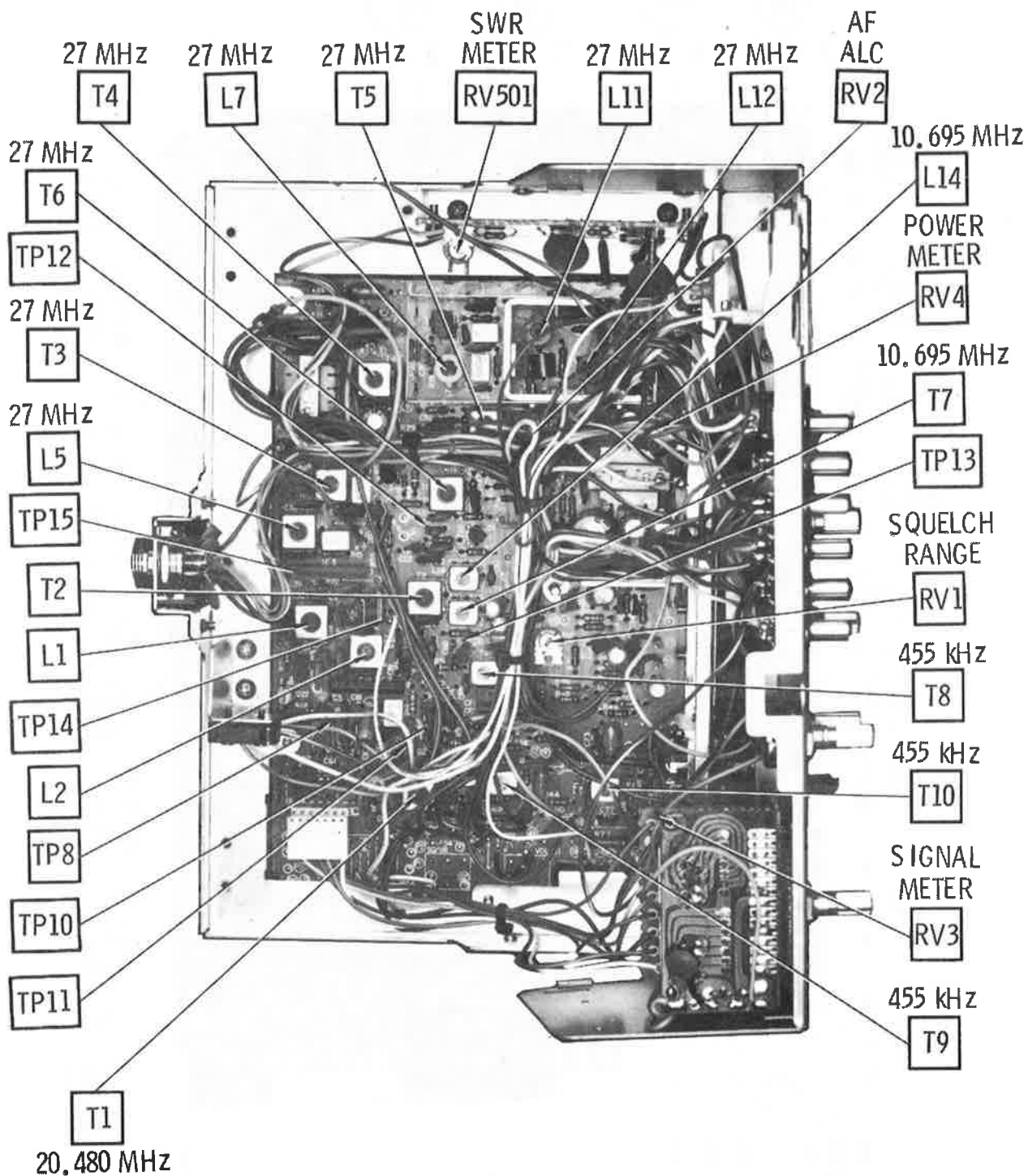
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.

See page 4 for correct frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna jack. Inject a 1000Hz, 20mV signal at Mic input.	Ch. 19	RV2	AF ALC Adjust for 85% modulation. See Figure 1.
Connect an RF wattmeter and 50-ohm, 25 watt dummy load to antenna connector.	Ch. 19	RV4	POWER METER Adjust so that Power meter agrees with RF wattmeter.
Connect a 150-ohm 5 watt non-inductive resistor to antenna jack.	Ch. 19	RV501	SWR METER Place S/RF/CAL/SWR switch to CAL. Adjust SWR/CAL control RV2 to SET on SWR scale of meter. Place S/RF/CAL/SWR switch to SWR position. Adjust RV501 for 3 on SWR scale of meter.

TRUTH CHART

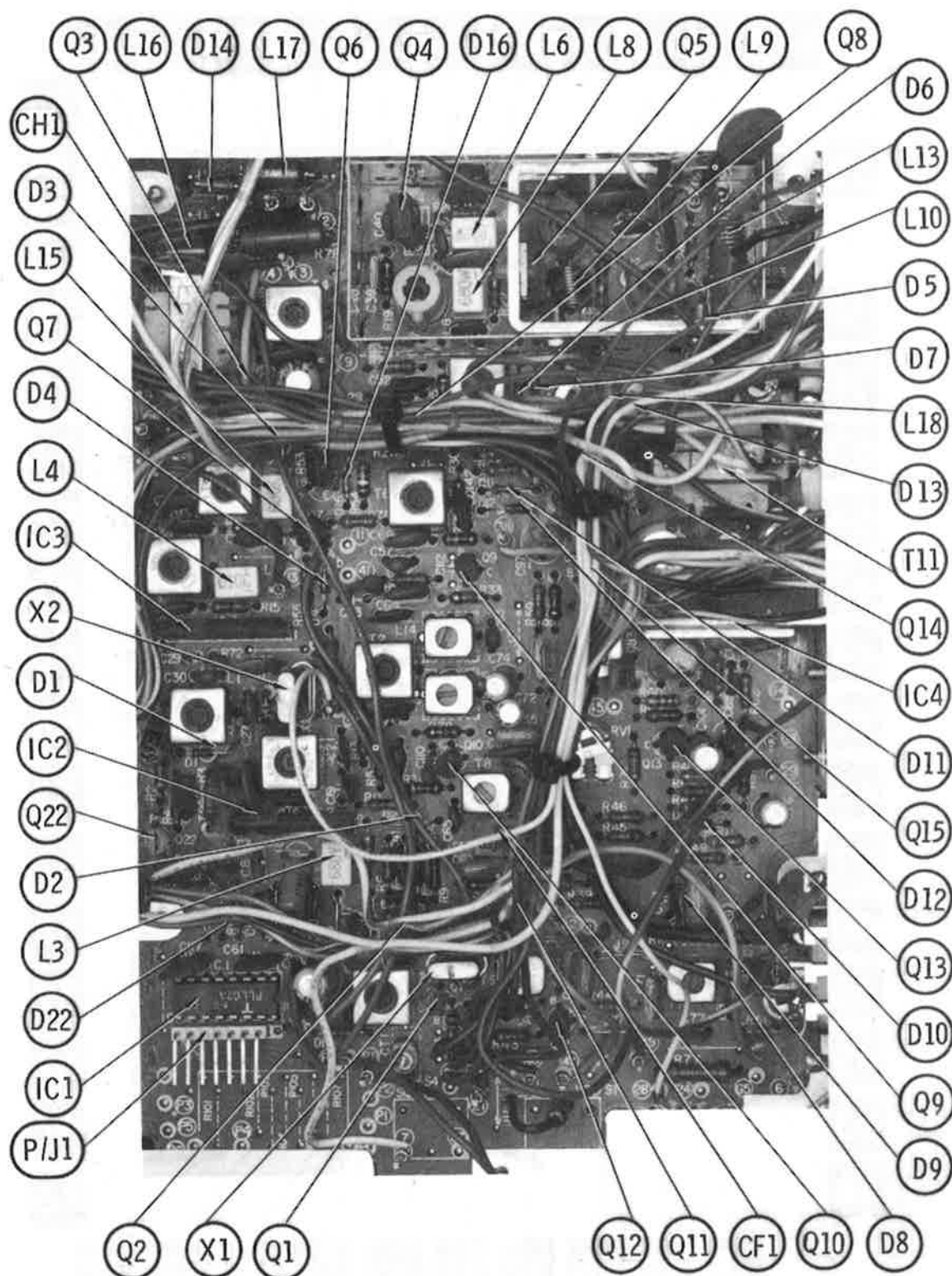
C H A N N E L	1 = 5.34 Volts 0 = 0 Volts								REC SYNTHESIZER OUTPUT IN MHz AT TP12	XMT SYNTHESIZER OUTPUT IN MHz AT TP13	
	IC1 PROGRAM DIVIDER										
	PINS										
	9	10	11	12	13	14	15				
1	1	0	0	1	0	1	0		37.660	26.965	
2	1	0	0	1	0	0	1		37.670	26.975	
3	1	0	0	1	0	0	0		37.680	26.985	
4	1	0	0	0	1	1	0		37.700	27.005	
5	1	0	0	0	1	0	1		37.710	27.015	
6	1	0	0	0	1	0	0		37.720	27.025	
7	1	0	0	0	0	1	1		37.730	27.035	
8	1	0	0	0	0	0	1		37.750	27.055	
9	1	0	0	0	0	0	0		37.760	27.065	
10	0	1	1	1	1	1	1		37.770	27.075	
11	0	1	1	1	1	1	0		37.780	27.085	
12	0	1	1	1	1	0	0		37.800	27.105	
13	0	1	1	1	0	1	1		37.810	27.115	
14	0	1	1	1	0	1	0		37.820	27.125	
15	0	1	1	1	0	0	1		37.830	27.135	
16	0	1	1	0	1	1	1		37.850	27.155	
17	0	1	1	0	1	1	0		37.860	27.165	
18	0	1	1	0	1	0	1		37.870	27.175	
19	0	1	1	0	1	0	0		37.880	27.185	
20	0	1	1	0	0	1	0		37.900	27.205	
21	0	1	1	0	0	0	1		37.910	27.215	
22	0	1	1	0	0	0	0		37.920	27.225	
23	0	1	0	1	1	0	1		37.950	27.255	
24	0	1	0	1	1	1	1		37.930	27.235	
25	0	1	0	1	1	1	0		37.940	27.245	
26	0	1	0	1	1	0	0		37.960	27.265	
27	0	1	0	1	0	1	1		37.970	27.275	
28	0	1	0	1	0	1	0		37.980	27.285	
29	0	1	0	1	0	0	1		37.990	27.295	
30	0	1	0	1	0	0	0		38.000	27.305	
31	0	1	0	0	1	1	1		38.010	27.315	
32	0	1	0	0	1	1	0		38.020	27.325	
33	0	1	0	0	1	0	1		38.030	27.335	
34	0	1	0	0	1	0	0		38.040	27.345	
35	0	1	0	0	0	1	1		38.050	27.355	
36	0	1	0	0	0	1	0		38.060	27.365	
37	0	1	0	0	0	0	1		38.070	27.375	
38	0	1	0	0	0	0	0		38.080	27.385	
39	0	0	1	1	1	1	1		38.090	27.395	
40	0	0	1	1	1	1	0		38.100	27.405	



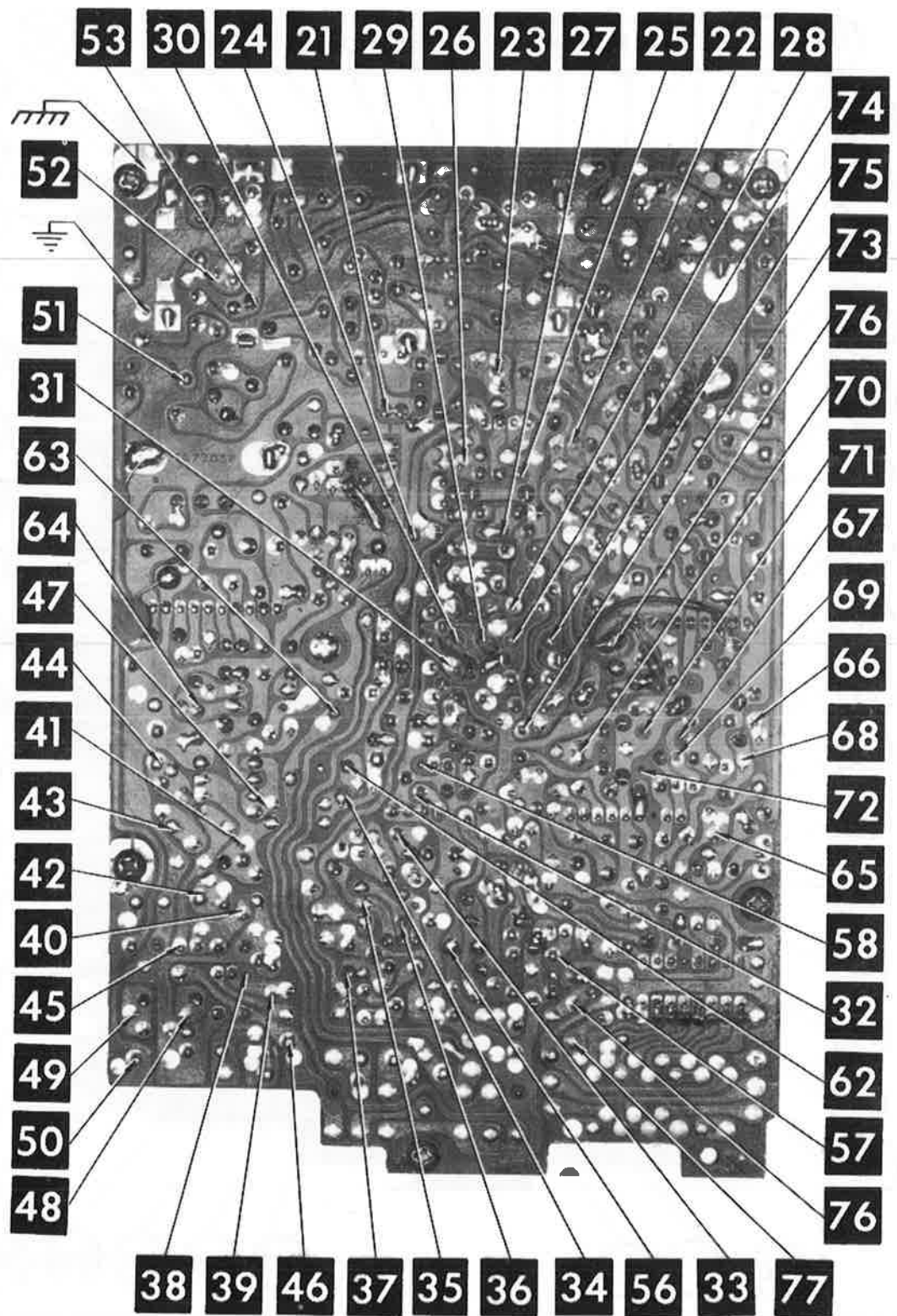
MIDLAND MODEL 77-963

CHASSIS-TOP

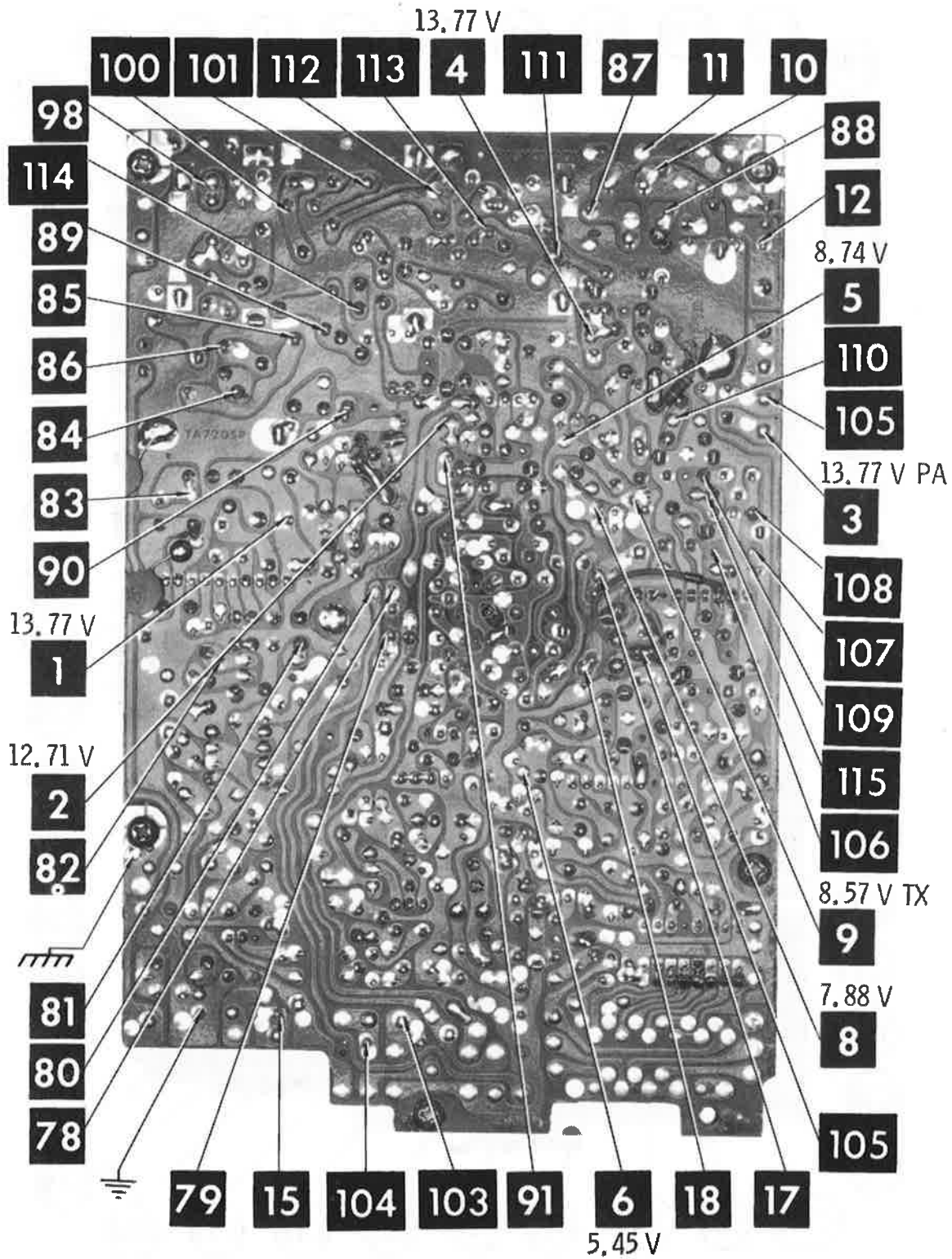




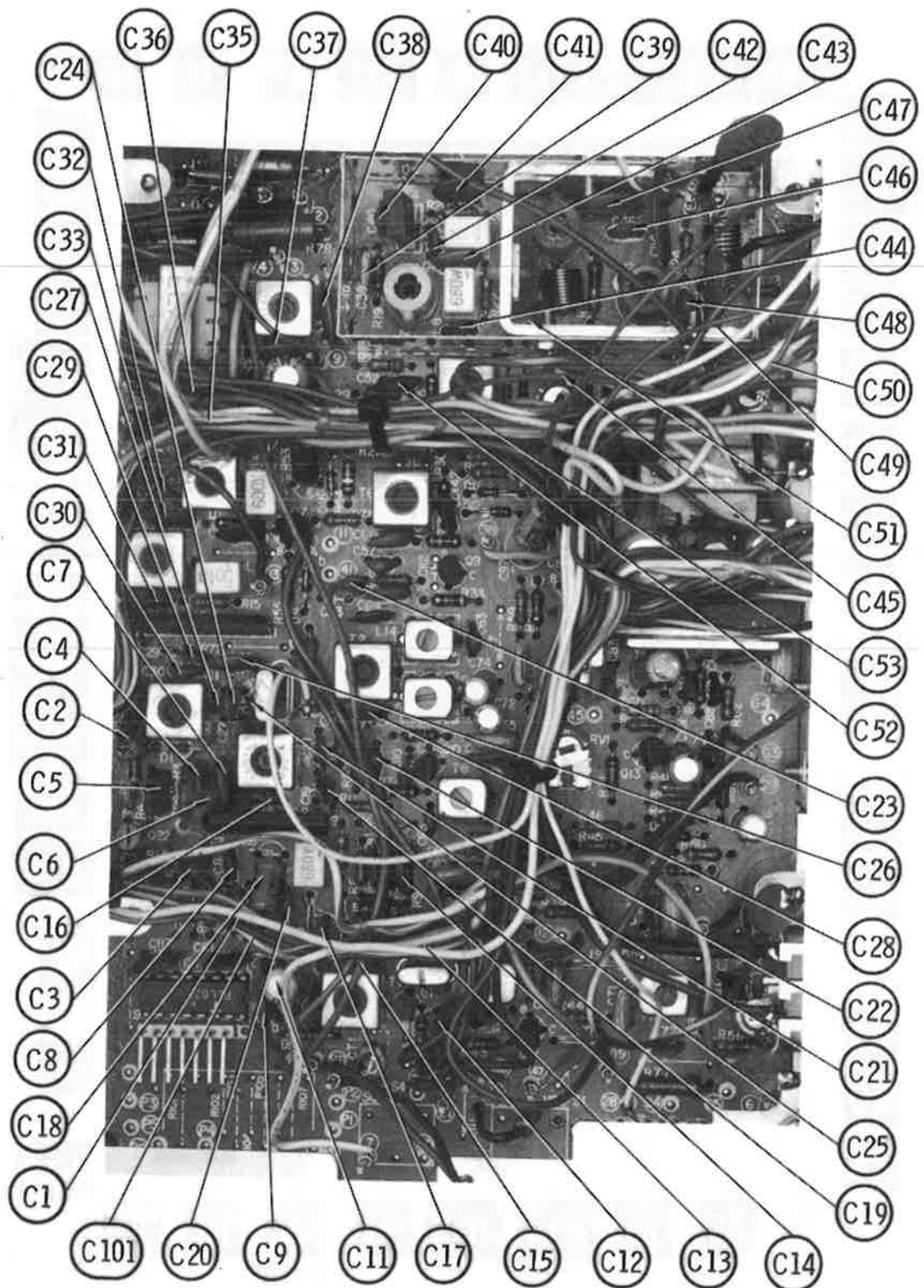
MAIN BOARD



MAIN BOARD



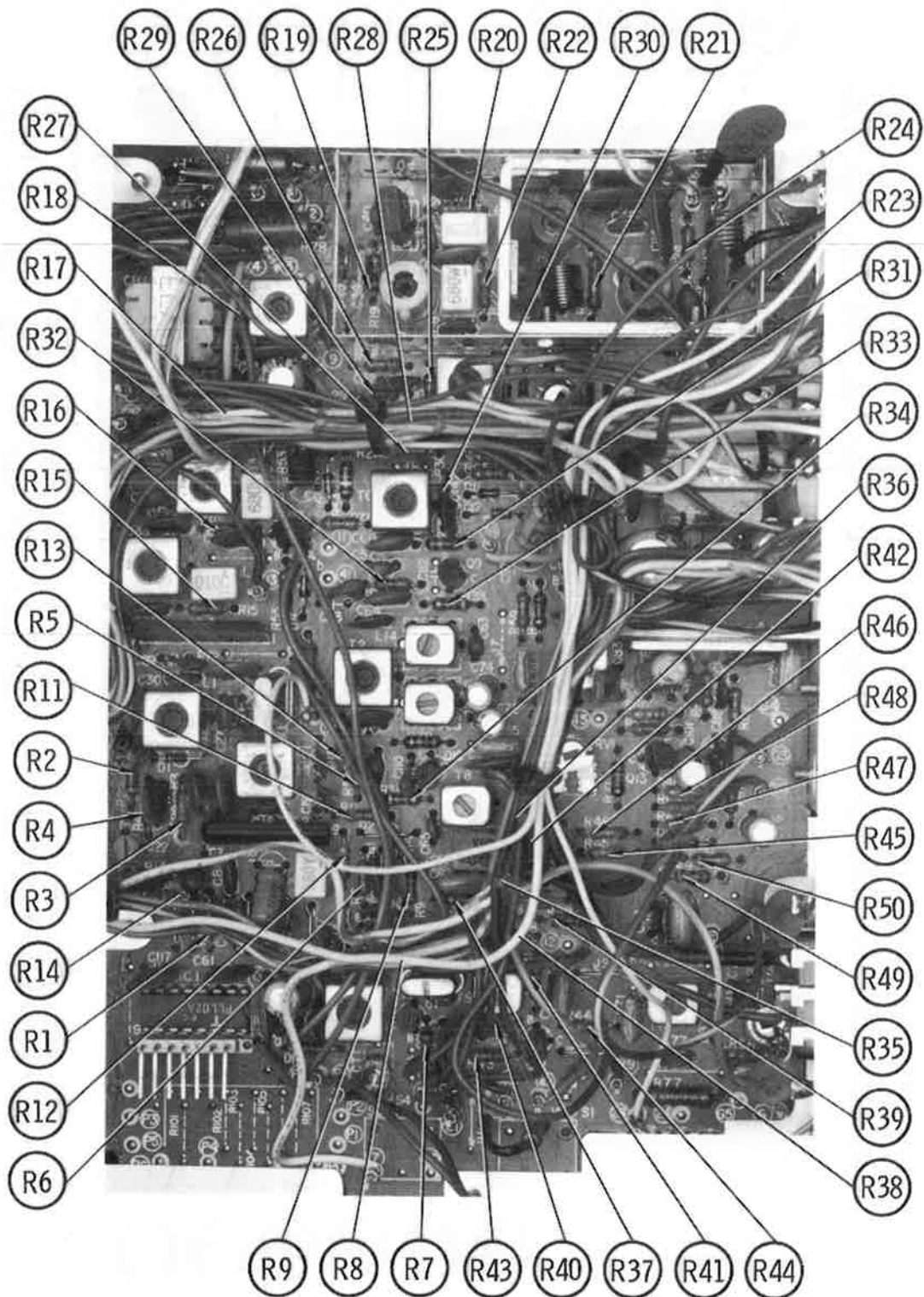
MIDLAND MODEL 77-963



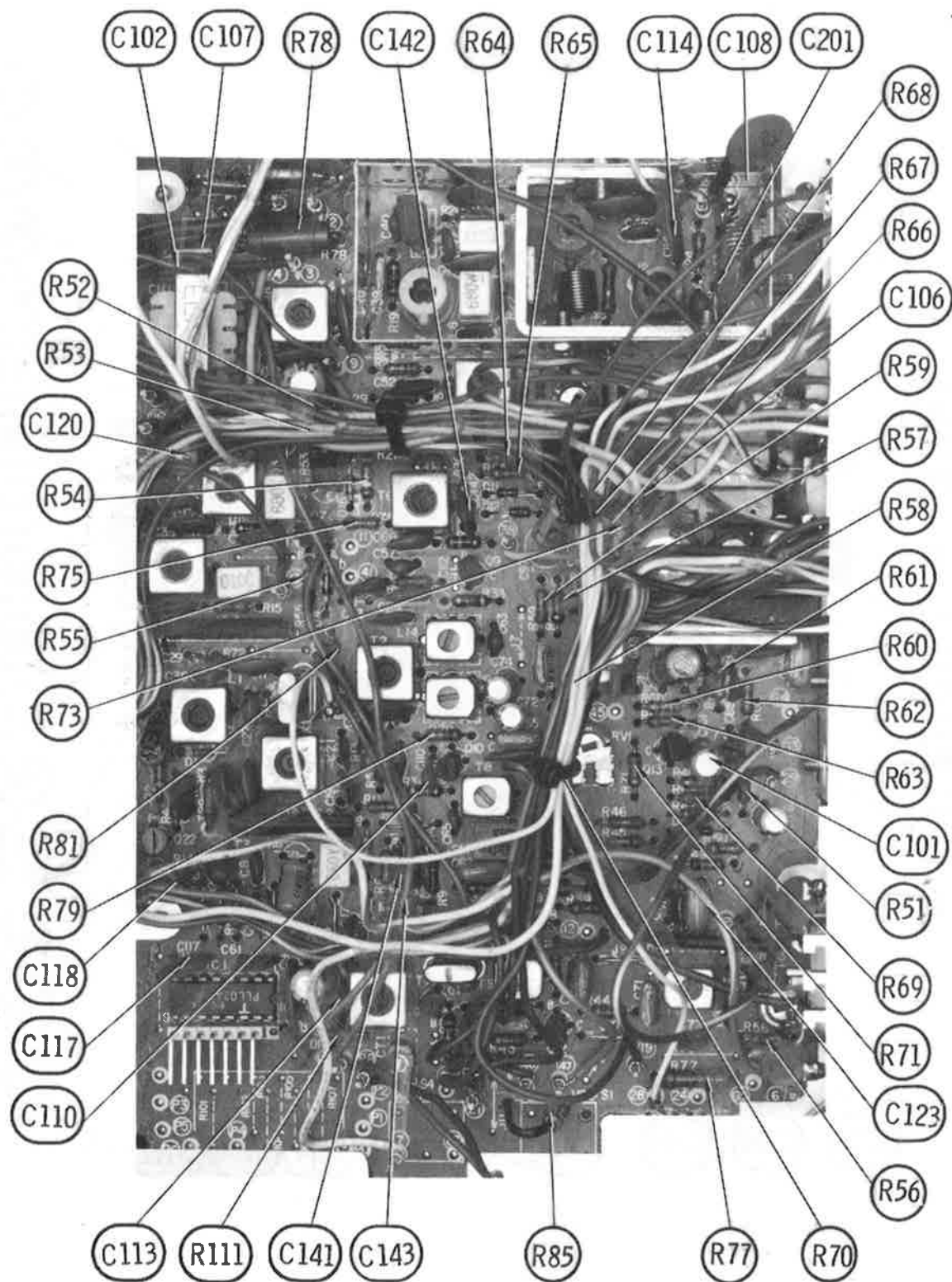
MAIN BOARD



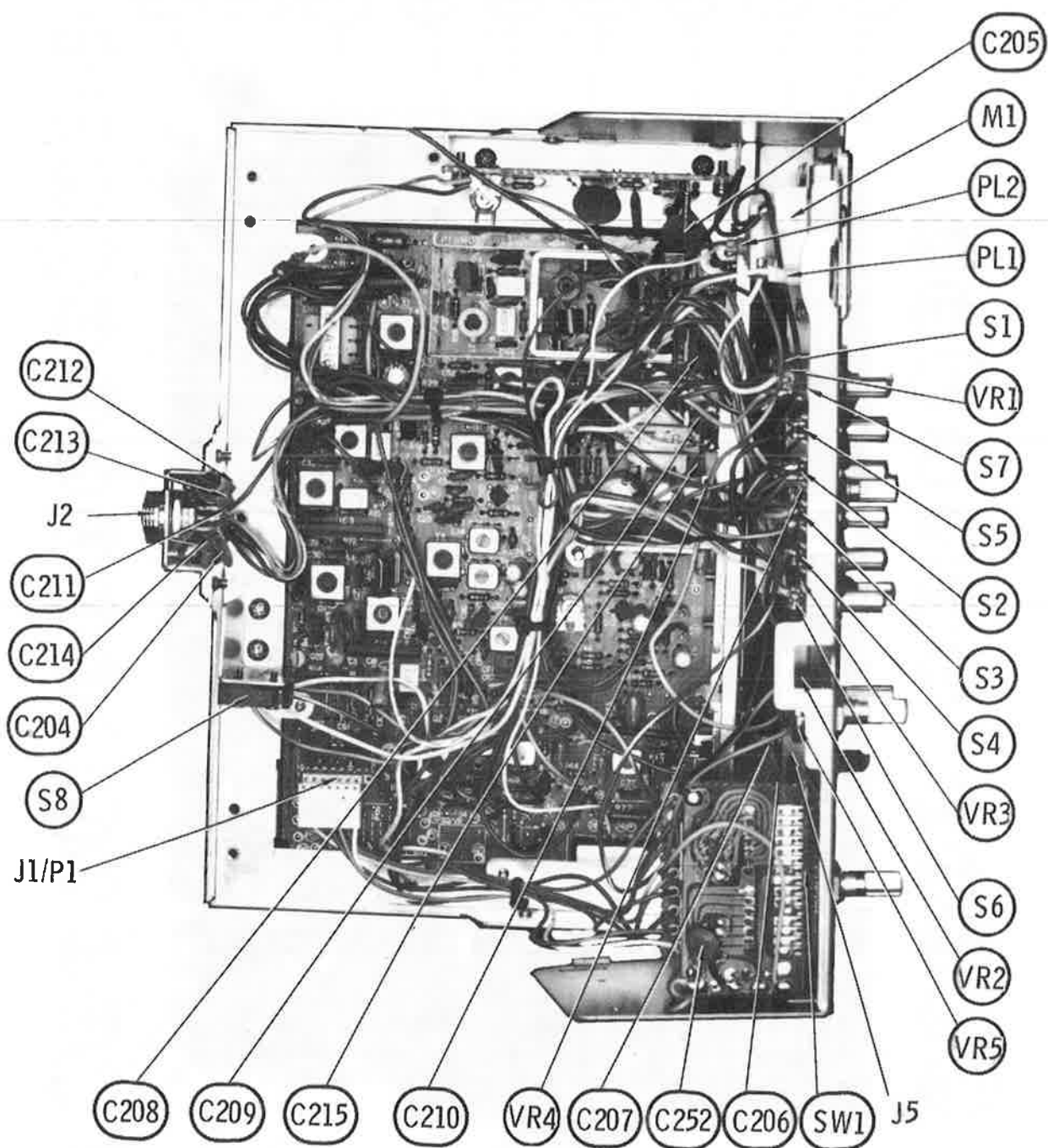
MAIN BOARD



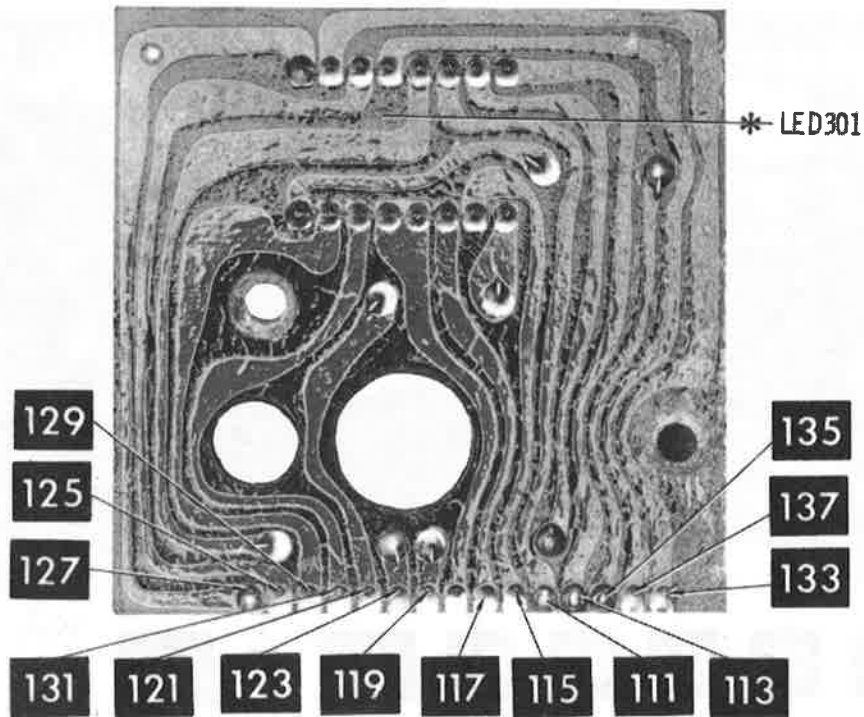
MAIN BOARD



MAIN BOARD

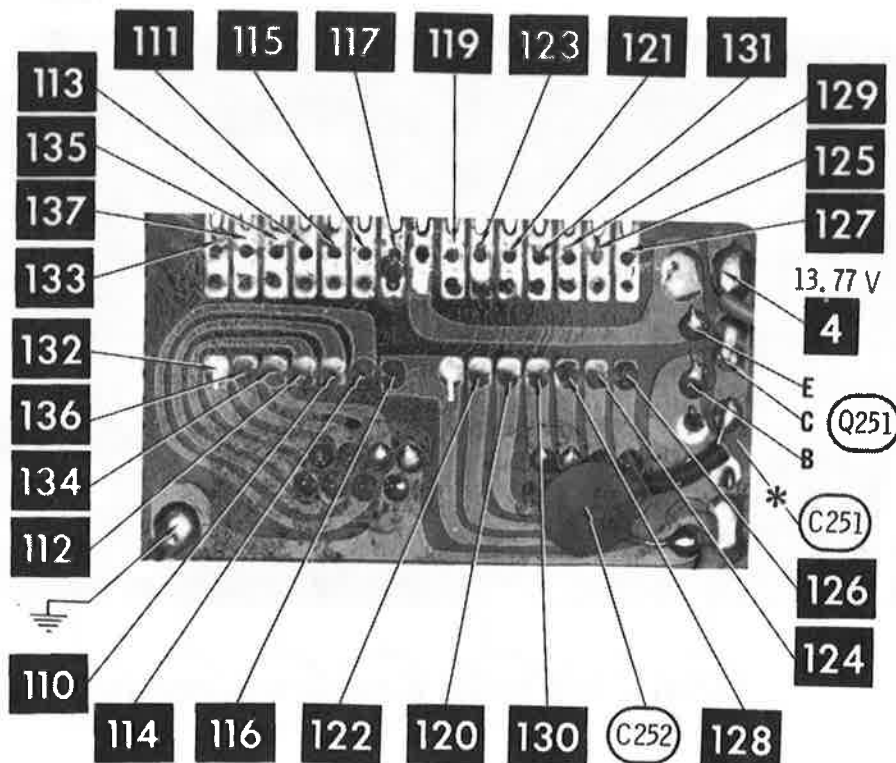


CHASSIS-TOP



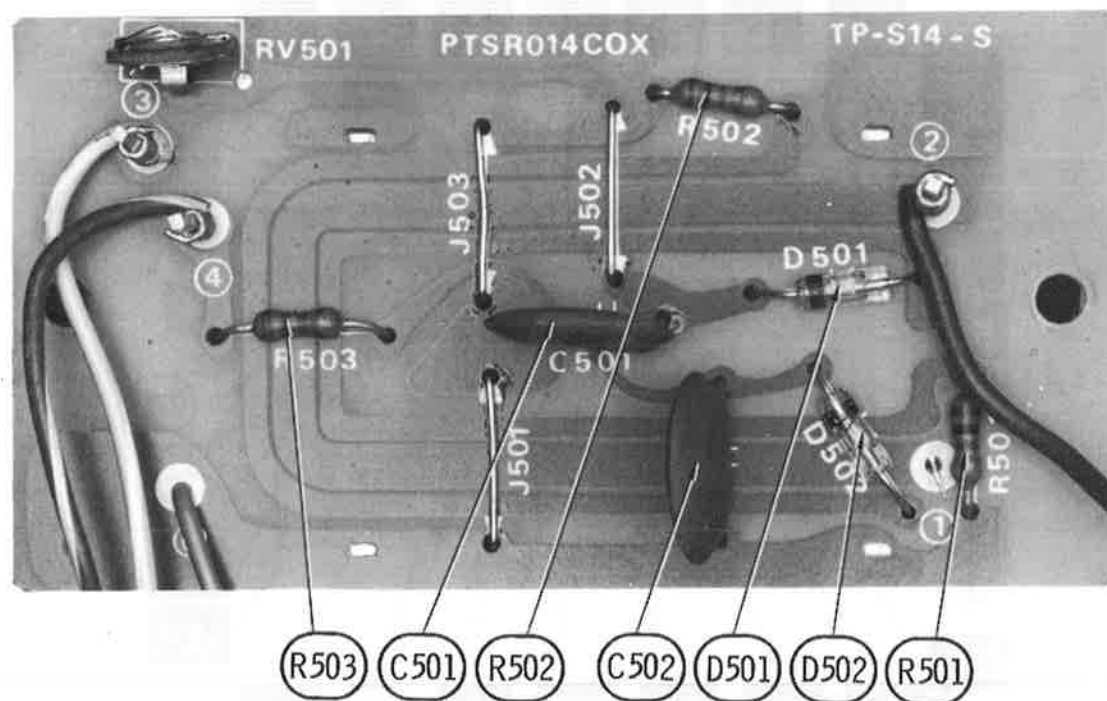
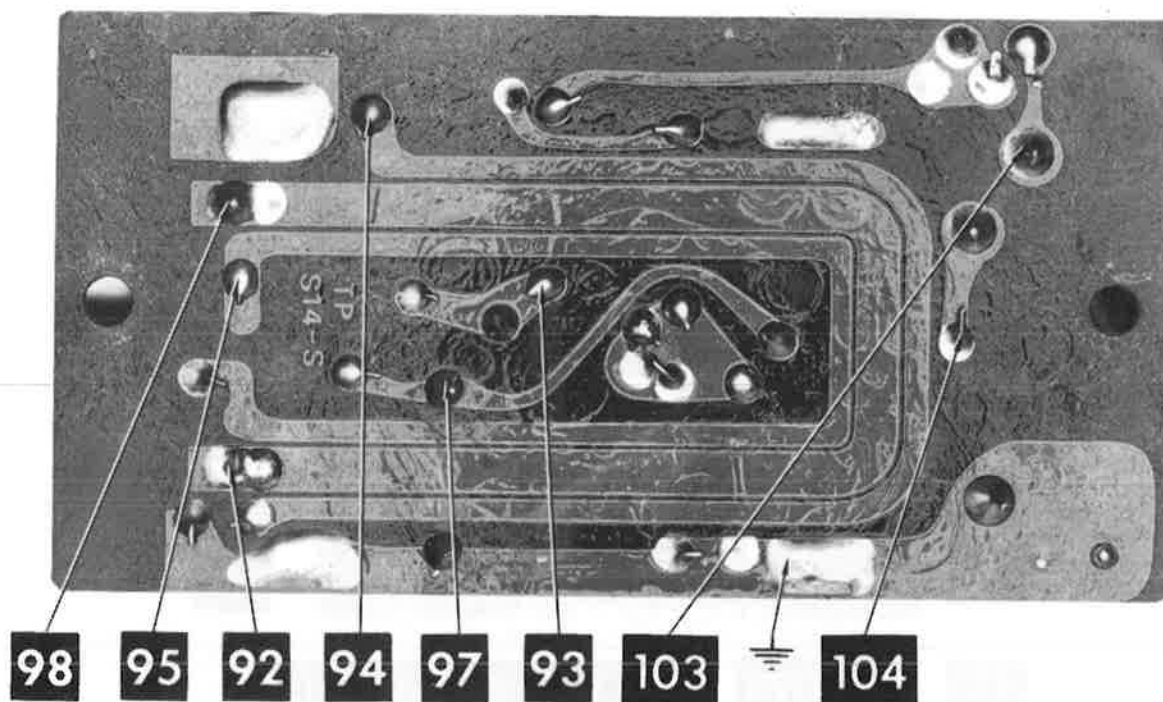
* Component located on other side of board

LED BOARD

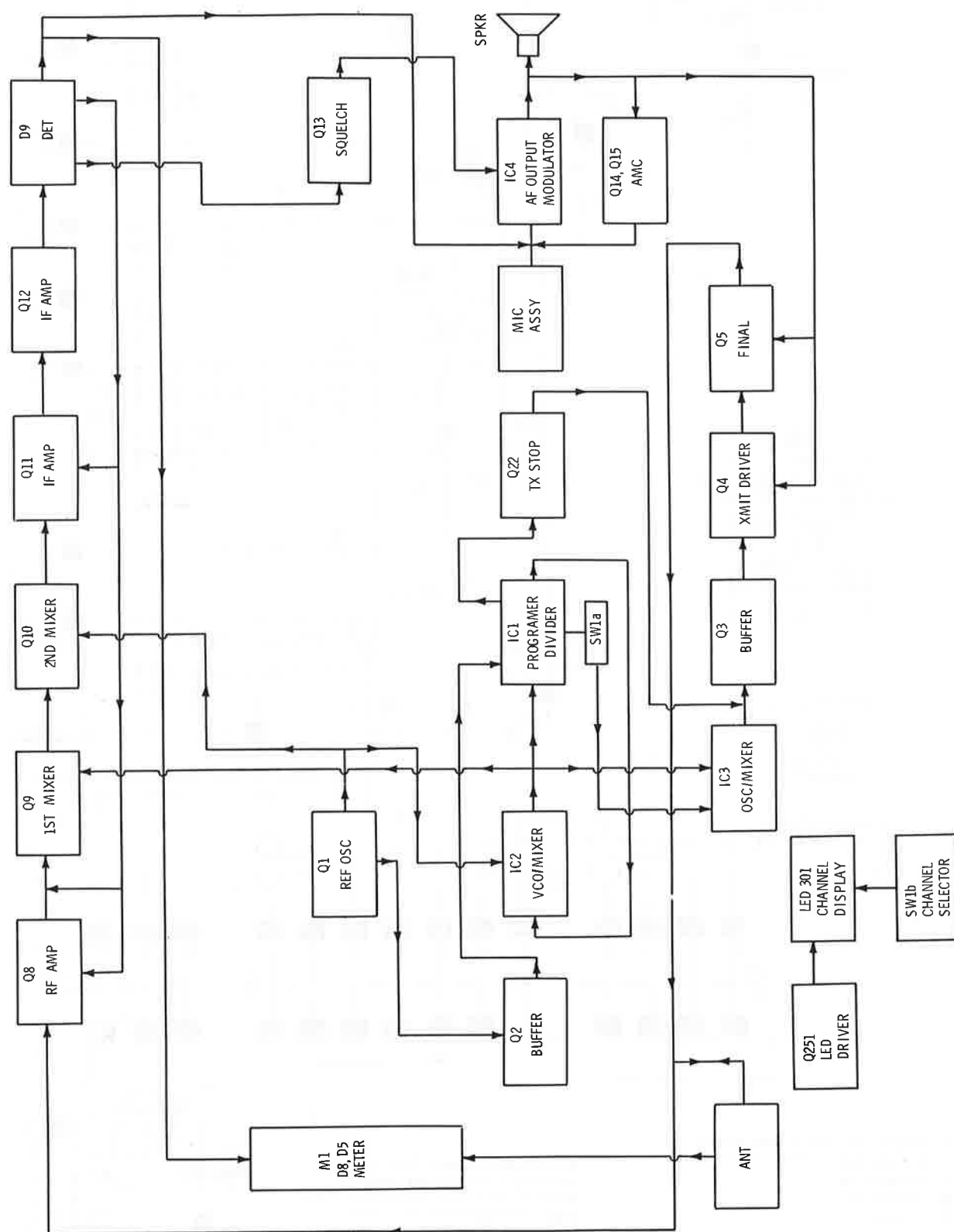


* Located on top of board

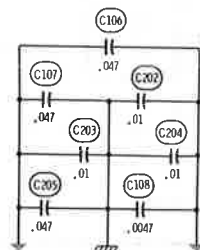
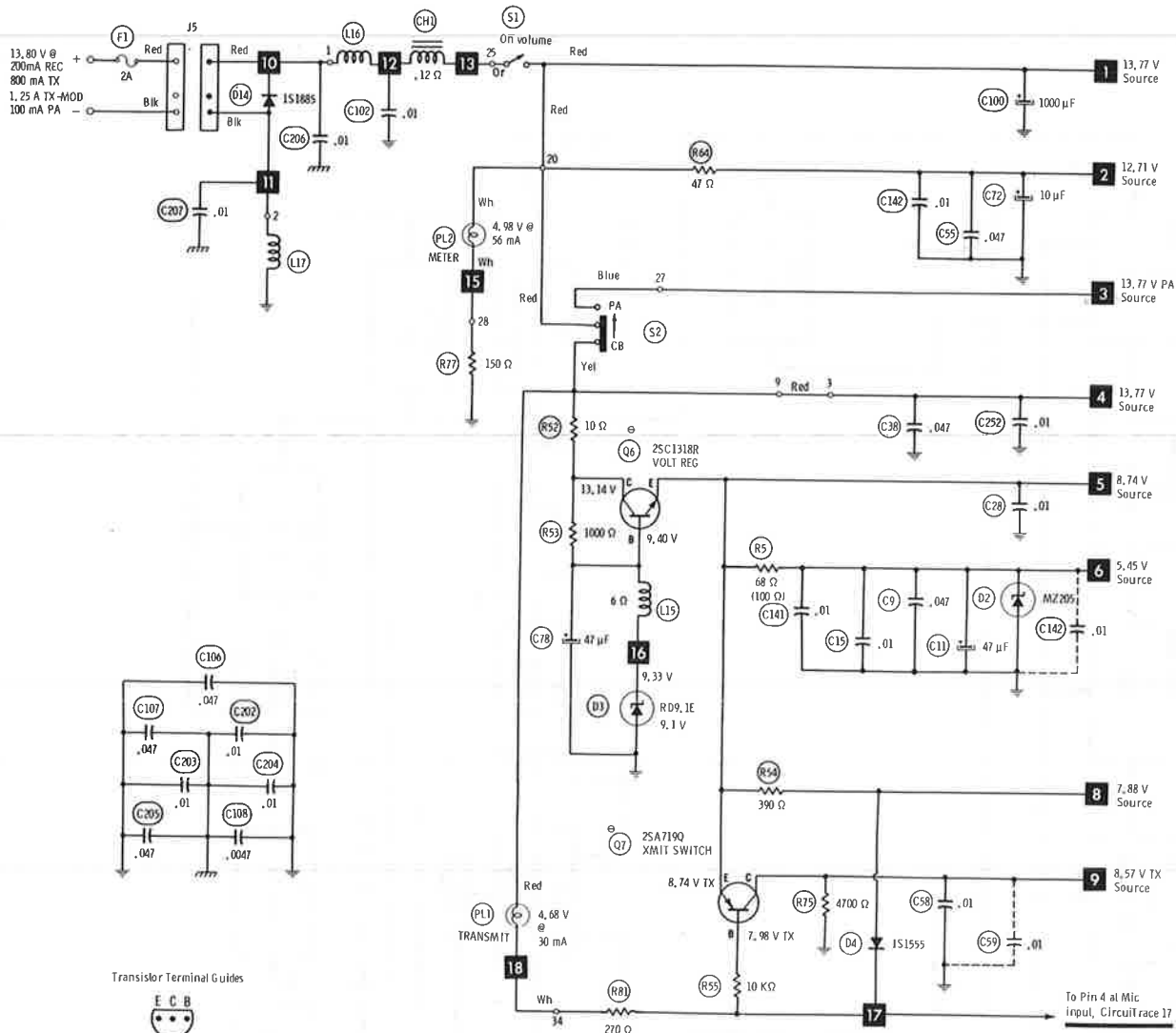
CH. SELECTOR BOARD



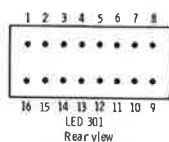
SWR BOARD



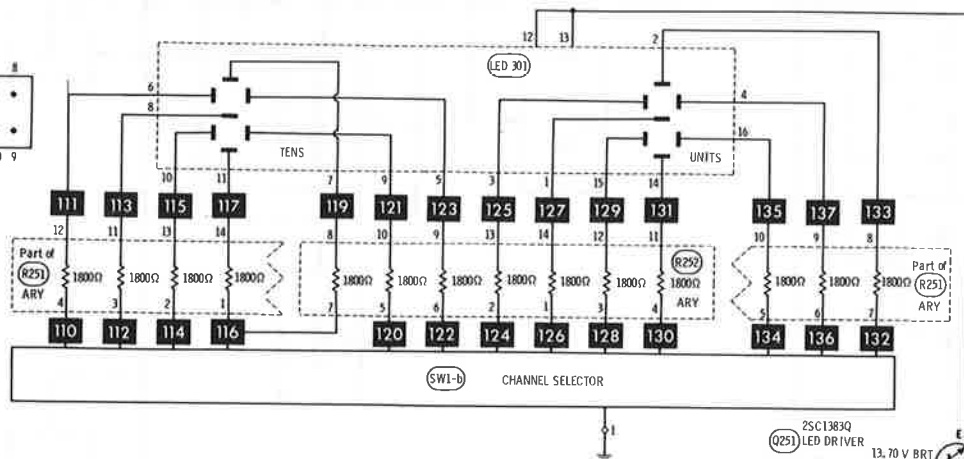
BLOCK DIAGRAM



Transistor Terminal Guides
Q6, Q7, Q251
Bottom view



LED 301
Rear view



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

A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITACE**

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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.

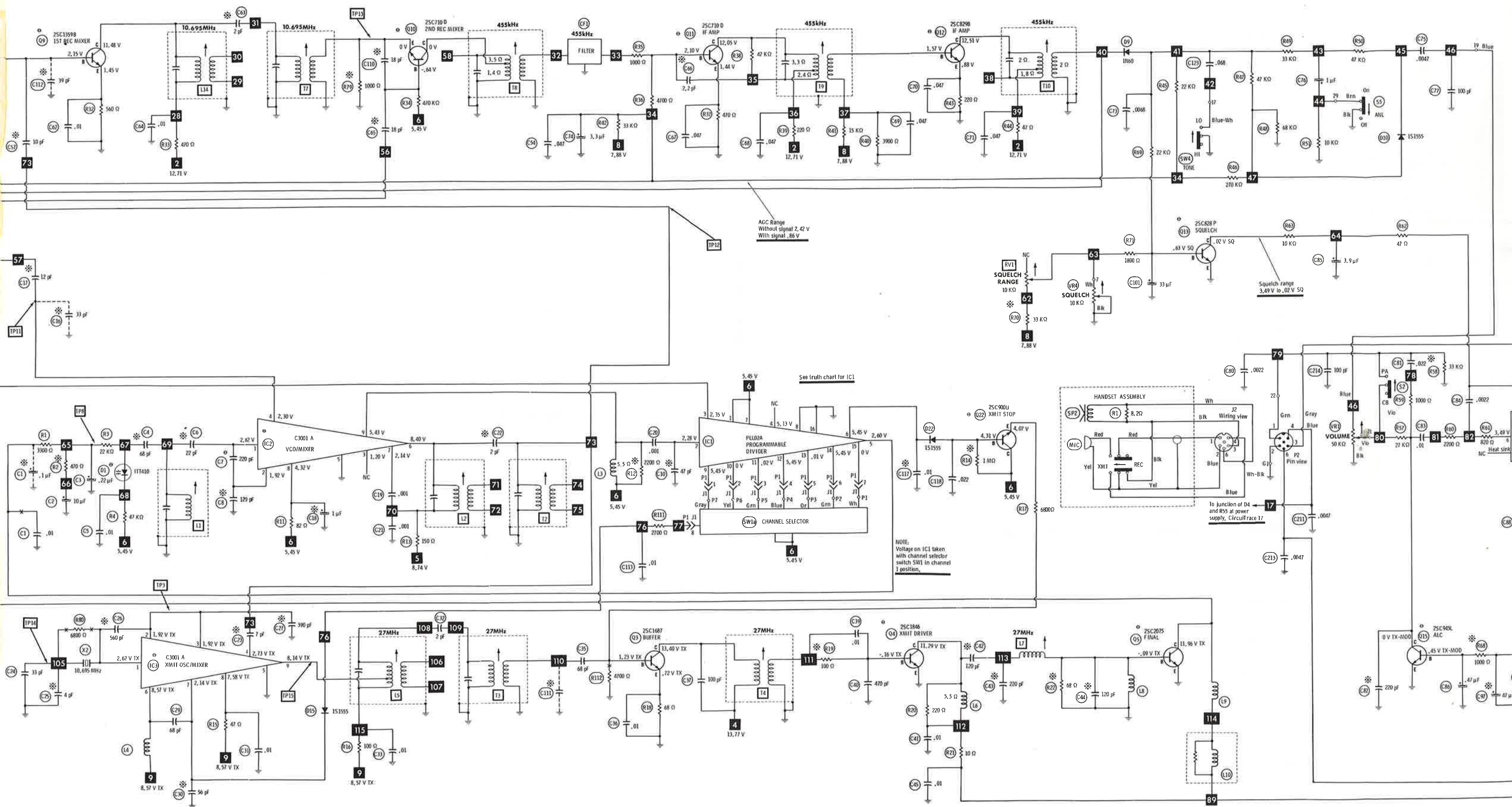
MIDLAND MODEL 77-963

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.
Q5	2SC1846Q	01-031846	GE-336	PTC904		REN 295	SK3253		ECG295	2SC496	WEP913	800-767
	2SC1846		GE-336	PTC904		REN 295	SK3253		ECG295	2SC496	WEP913	800-767
	2SC1760		GE-276	PTC180		REN 306	SK3197	RT-310	ECG306		WEP771	
	2SC2036		GE-336			REN 295	SK3518		ECG306	2SC1018	WEP771	
	2SC2075		GE-215	PTC186		REN 235	SK3197	RT-146	ECG235		WEP785	
Q6	2SC1306	01-031306	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC1678		GE-322	PTC186		REN 235	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC1974		GE-337	PTC186		REN 235	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC1318R	01-031318	GE-210*	PTC123	HEPS0015*	REN 128	SK3137	RT-302	ECG297		WEP59*	121-722
	2SC1318Q	01-031318	GE-210*	PTC123	HEPS0015*	REN 128	SK3137	RT-302	ECG297		WEP59*	121-722
Q7	2SC1318		GE-210*	PTC123	HEPS0015*	REN 128	SK3137	RT-302	ECG297		WEP59*	121-722
	2SA719Q	01-010719	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	2SA562	WEP911	121-879
	2SA719R	01-010719	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	2SA562	WEP911	121-879
	2SA720		GE-272	PTC103*	HEPS0019*	REN 298	SK3450	RT-305	ECG298		WEP915*	121-879*
	2SA719		GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	2SA562	WEP911	121-879
Q8	2SC1047C	01-031047	GE-60*	PTC132*	HEPS0016*	REN 229*	SK3018*	RT-107	ECG229*	2SC535	WEP63*	ZEN-109
	2SC1047B	01-031047	GE-60*	PTC132*	HEPS0016*	REN 229*	SK3018*	RT-107	ECG229*	2SC535	WEP63*	ZEN-109
	2SC1047		GE-60*	PTC132*	HEPS0016*	REN 229*	SK3018*	RT-107	ECG229*	2SC535	WEP63*	ZEN-109
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	2SC460	WEP460	121-722
	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q9	2SC1359C	01-031359	GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	2SC930	WEP66	121-29000
	2SC1359B	01-031359	GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	2SC930	WEP66	121-29000
	2SC1359		GE-212	PTC121*	HEPS0014*	REN 199	SK3122	RT-308	ECG229*	2SC930	WEP66	121-29000
	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC710D	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q10	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	2SC829	WEP829	121-29000*
	2SC710D	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	2SC829	WEP829	121-29000*
Q11	2SC710D	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	2SC829	WEP829	121-29000*
	2SC829B	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	2SC829	WEP829	121-29000*
	2SC829C	01-030829	GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	2SC829	WEP829	121-29000*
Q12	2SC829		GE-20*	PTC139*	HEPS0015*	REN 123A	SK3444	RT-308	ECG229*	2SC829	WEP829	121-29000*
	2SC710	01-030710	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
	2SC828P	01-030828	GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	2SC828	WEP828	ZEN-119
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	2SC828	WEP828	ZEN-119
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
Q13	2SC372		GE-61*	PTC121*	HEPS0015*	REN 199	SK3124	RT-308	ECG123A*	2SC372	WEP372	121-29000*
	2SA719Q	01-010719	GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	2SA562	WEP911	121-879
	2SA719		GE-269	PTC103*	HEPS0019*	REN 290	SK3114	RT-305	ECG290	2SA562	WEP911	121-879
	1T1410	05-200410		HEPR2502		REN 612			ECG612			ZEN-452
	BB122			HEPR2502		REN 612			ECG612			ZEN-452
Q14	MV201			HEPR2502		REN 612			ECG612			ZEN-452
	MZ205	05-480205	GEZD-5.0			REN 135			ECG135		WEP1103	103-290
	RD9.1E	05-540091	GEZD-9.1	ZM9.1B		REN 139	SK3060	RT-240	ECG5018	1N4739A	WEP1419	103-279-18
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1N60	05-170060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
Q15	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1N60	05-170060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
	1N60	05-170060	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q16	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q17	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q18	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q19	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q20	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q21	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
Q22	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177		WEP1062	
	1S1555	05-181555	GE-300	PTC214	HEPR0602</							



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		PC10-25	VTT10B25	QV1-41	EV-1222
C2	10 16V			TDC224M050EL	QDT1-10	SD50-R229
C3	.22 10V			VTT47D16	QV1-73	EV-1226
C11	47 10V		PC50-16	VTT1A50	QV1-11	EV-1615
C18	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C50	1 50V		PC10-25	VTT10B25	QV1-41	EV-1222
C72	10 16V		PC5-50	VTT3R3A50	QV1-23	EV-1318
C74	3.3 25V		PC1-50	VTT1A50	QV1-11	EV-1615
C76	1 50V		PC50-16	VTT47D16	QV1-73	EV-1226
C78	47 16V			T1M395K025P0X	QDT1-46	SD50-3R99
C85	3.9 25V			TDC474M050EL	QDT1-19	SD50-R479
C86	.47 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C87	33 6.3V		PC50-16	VTT47D16	QV1-73	EV-1226
C93	47 16V		PC50-16	VTT3R3A50	QV1-23	EV-1318
C94	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C96	3.3 25V		PC5-50	VTT3R3A50	QV1-23	EV-1318
C97	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C99	47 25V		PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000 16V		PC1000-16	VTT1000L16	QV1-183	EV-1260
C101	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C120	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C1	.01		UK50-103		MAG5011		10TCP-Q68
C4	68 N150 10%		UK50-103		MAG5011		10TCP-Q22
C5	.01				*		10TCC-T12
C6	22 N150		DD-221		GP322		10TCC-Q47
C7	220 10%		DTZ-120		CN0312		10TCP-Q22
C8	120 10%		UK50-503		MAG5015		10TCC-T12
C9	.047		DTZ-47	NP047	CN0447		10TCC-Q47
C10	47				*		10TCP-Q22
C12	22 N150			DPMS6D1	EWFA1A210	QFT2-1	1FT-D10
C13	.001 10%				*		10TCP-Q68
C14	68 N150 10%		UK50-103		MAG5011		10TCC-Q33
C15	.01		DTZ-33	NP033	CN0433		10TCP-Q12
C16	33				*		10TCC-Q12
C17	12 N150			DPMS6D1	EWFA1A210	QFT2-1	1FT-D10
C19	.001 10%			DPMS6D1	EWFA1A210	QFT2-1	1FT-D10
C20	.001 10%			DPMS6D1	EWFA1A210	QFT2-1	1FT-D10
C21	.001 10%		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C22	2		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C23	7				*		10TCP-Q33
C24	33 N150 10%		DD-331	GP330	GP333		10TCP-V39
C25	4 N150		DD-391	GP390	GP339		10TS-T33
C26	330 10%		UK50-103		MAG5011		10TS-T39
C27	390		DD-680	GP68	GP468		10TS-Q68
C28	.01		DD-560		GP456		10TS-Q56
C29	68		UK50-103		MAG5011		10TCC-V22
C30	56		DTZ-2R2	NP02P2	CN0522		10TS-Q68
C31	.01		UK50-103		MAG5011		10TCP-T10
C32	2		DD-680	GP68	GP468		1FT-S10
C33	.01		UK50-103		MAG5011	QFT2-91	10TS-T47
C35	68		UK50-103		MAG5011		
C36	.01				*		
C37	100 N150 10%		UK50-503		MAG5015		
C38	.047			WMF1S1	EWFA1A110		
C39	.01 10%		DD-471	GP470	GP347		
C40	470				*		
C41	.01		UK50-103		MAG5011		10TCC-T12
C42	120 10%		DTZ-120		CN0312		10TS-T22
C43	220 10%		DD-221		GP322		10TCC-T12
C44	120 10%		UK50-103		CN0312		
C45	.01		DTZ-120		MAG5011		10TCC-T12
C46	120 10%		DD-271	GP270	GP327		10TS-T27
C48	270 10%		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C49	2		DD-472	GP4700	GP247		5GA-D47
C51	.0047				CN0427		10TCC-Q27
C52	.01		UK50-103		MAG5011		
C53	.047		UK50-503		MAG5015		
C54	.047		UK50-503		MAG5015		
C55	.047 10%				*		
C56	.01		UK50-103		MAG5011		10TCC-Q10
C57	10		DTZ-10	NP010	CN0410		
C58	.01		UK50-103		MAG5011		
C59	.01		UK50-103		MAG5011		
C60	.01		UK50-103		MAG5011		
C61	.01		UK50-103		MAG5011		
C62	.01		UK50-103		MAG5011		10TCC-V22
C63	2		DTZ-2R2	NP02P2	CN0522		
C64	.01		UK50-103		MAG5011		
C65	18 N150				*		10TCP-Q18
C66	2.2 10%		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C67	.047 10%			DPMS2S47	EWFA1A47	QFT2-171	1FT-S47
C68	.047 10%			DPMS2S47	EWFA1A47	QFT2-171	1FT-S47
C69	.047 10%			DPMS2S47	EWFA1A47	QFT2-171	1FT-S47
C70	.047 10%			DPMS2S47	EWFA1A47	QFT2-171	1FT-S47
C71	.047 10%			DPMS2S47	EWFA1A47	QFT2-171	1FT-S47
C73	.0068 10%			WMF1D68	EWFA1A268	QFT2-73	1FT-D68
C75	.0047 10%				M192P4729R8	QFT2-63	1FT-D47
C77	100 10%		DD-101	GP100	GP310		10TS-T10
C79	.022 10%			DPMS2S22	EWFA1A122	QFT2-127	1FT-S22
C80	.0022				GP222		10TS-D22

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
C81	.022 10%		DD-221	DPMS2S22	EWFA1A122	QFT2-127	1FT-S22
C82	220 10%				GP322		10TS-T22
C83	.01 10%				EWFA1A110	QFT2-91	1FT-S10
C84	.0022				GP222		10TS-D22
C88	68		DD-680	GP68	GP468		10TS-Q68
C89	68		DD-680	GP68	GP468		10TS-Q68
C90	100 10%		DD-101	GP100	GP310		10TS-T10
C91	.068 10%			WMF1S68	EWFA1A68		
C92	220 10%		DD-221		GP322		10TS-T22
C95	.068 10%			WMF1S68	EWFA1A68		
C102	.01		UK50-103		MAG5011		
C106	.047		UK50-503		MAG5015		
C107	.047		UK50-503		MAG5015		
C108	.047		UK50-503		MAG5015		
C110	18				CN0418		10TCC-Q18
C112	39						
C113	.01		UK50-103		MAG5011		
C114	390 10%		DD-391	GP390	GP339		10TS-T39
C117	.01		UK50-103		MAG5011		
C118	.022		DC-253	MGP025	TA125		TG-S25
C123	.068 10%			WMF1S68	EWFA1A68		
C141	.01		UK50-103		MAG5011		
C142	.01		UK50-103		MAG5011		
C143	100 10%		DD-101	GP100	GP310		10TS-T10
C201	150 10%		DD-151		GP315		10TS-T15
C202	.01		UK50-103		MAG5011		
C203	.01		UK50-103		MAG5011		
C204	.01		UK50-103		MAG5011		
C205	.047		UK50-503		MAG5015		
C206	.01		UK50-103		MAG5011		
C207	.01		UK50-103		MAG5011		
C208	.0047		DD-472	GP4700	GP247		5GA-D47
C209	.0047		DD-472	GP4700	GP247		5GA-D47
C210	.0047		DD-472	GP4700	GP247		5GA-D47
C211	.0047		DD-472	GP4700	GP247		5GA-D47
C212	.0047		DD-472	GP4700	GP247		5GA-D47
C213	.0047		DD-472	GP4700	GP247		5GA-D47
C214	100 10%		DD-101	GP100	GP310		10TS-T10
C215	.0047		DD-472	GP4700	GP247		5GA-D47
C251	.01		UK50-103		MAG5011		
C252	.01		UK50-103		MAG5011		
C501	.01 10%		CW15C103K				10TS-S10
C502	.01 10%		CW15C103K				10TS-S10
CT1	20	13-123069					

*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	10K	13-164132			
RV2	AF ALC	5000	13-164146	T-10K (3)	MTC14L1 (3)	U260R103B
RV3	S Meter	20K	13-164134			U260R502B
RV4	Power Meter	20K	13-164134			U260R253B
RV501	SWR Meter	10K	77-164008			U260R253B
VR1	Volume/Power Switch	50K	77-160001			U260R103B
VR2	SWR/CAL	10K	77-160007			
VR3	RF Gain	100K	77-160006			
VR4	Squelch	10K	77-160007			
VR5	Dimmer	20K	77-160008			

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

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.
R251	Resistor Network		77-140005 (1)	R252	Resistor Network	77-140005 (1)	

(1) Consists of seven 1.8K resistors.

PARTS LIST AND D

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

COILS (RF-IF)

ITEM No.	FUNCTION
L1	VCO
L2	Mixer (PLL) (38MHz)
L3	RF Choke (68uH)
L4	RF Choke (1uH)
L5	XMT Mixer (27MHz)
L6	RF Choke (2.2uH)
L7	XMT Driver (27MHz)
L8	RF Choke (68uH)
L9	RF Choke (55uH)
L10	RF Choke (1uH)
L11	Final (27MHz)
L12	P1 Filter (27MHz)
L13	Antenna Matching (.40)
L14	Rec Mixer (10.7MHz)
L15	RF Choke (68uH)
L16	RF Choke (.75uH)
L17	RF Choke (.75uH)
L18	RF Choke (.75uH)
T1	Ref Osc (10.240MHz)
T2	Mixer (PLL)
T3	XMT Mixer (27MHz)
T4	XMT Buffer (27MHz)
T5	Rec Antenna (27MHz)
T6	RF Amp (27MHz)
T7	Rec Mixer (10.7MHz)
T8	Rec Mixer (455kHz)
T9	IF Amp (455kHz)
T10	IF Amp (455kHz)

FILTER CHOKE

ITEM No.	RATINGS		IN (C)
	CURRENT (Measured)	DC RES.	
CH1	1.25A	.116	

TRANSFORMER (A

ITEM No.	IMPEDANCE		
	PRI.	SEC.	
T11	32	1 8 2 128	

SPEAKER

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PARTS LIST AND DESCRIPTION (CONTINUED)
(When ordering parts, state Model, Part Number, and Description.)

SPRAGUE PART No.	
Q-LINE	GENERAL LINE
QV1-41	EV-1222
QDT1-10	SD50-R229
QV1-73	EV-1226
QV1-11	EV-1615
QV1-11	EV-1615
QV1-41	EV-1222
QV1-23	EV-1318
QV1-11	EV-1615
QV1-73	EV-1226
QDT1-46	SD50-3R99
QDT1-19	SD50-R479
QV1-61	EV-1125
QV1-73	EV-1226
QV1-117	EV-1240
QV1-23	EV-1318
QV1-73	EV-1226
QV1-75	EV-1326
QV1-183	EV-1260
QV1-61	EV-1125
QV1-63	EV-1325

SPRAGUE PART No.	
Q-LINE	GENERAL LINE
QFT2-1	10TCP-Q68
	10TCP-Q22
	10TS-T22
	10TCC-T12
	10TCC-Q47
	10TCP-Q22
	1FT-D10
	10TCP-Q68
	10TCC-Q33
	10TCP-Q12
QFT2-1	1FT-D10
QFT2-1	1FT-D10
QFT2-1	1FT-D10
QFT2-91	10TCC-V22
	10TCC-V68
	10TCP-Q33
	10TCP-V39
	10TS-T33
	10TS-T39
	10TS-Q68
	10TS-Q66
	10TCC-V22
	10TS-Q68
QFT2-171	10TCP-T10
	1FT-S10
	10TS-T47
	10TCC-T12
	10TS-T22
	10TCC-T12
	10TCC-T12
	10TCC-T12
	10TCC-T12
	10TCC-T12
QFT2-127	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47
	1FT-S47

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
C81	.022 10%		DD-221	DPMS2S22	EWFA1A22	QFT2-127	1FT-S22
C82	220 10%				GP322		10TS-T22
C83	.01 10%				EWFA1A110	QFT2-91	1FT-S10
C84	.0022				GP222		10TS-D22
C88	68		DD-680	GP68	GP468		10TS-Q68
C89	68		DD-680	GP68	GP468		10TS-Q68
C90	100 10%		DD-101	GP100	GP310		10TS-T10
C91	.068 10%			WMF1S68	EWFA1A68		
C92	220 10%		DD-221	WMF1S68	GP322		10TS-T22
C95	.068 10%				EWFA1A68		
C102	.01		UK50-103		MAG5011		
C106	.047		UK50-503		MAG5015		
C107	.047		UK50-503		MAG5015		
C108	.047		UK50-503		MAG5015		
C110	18				CN0418		
C112	39						10TCC-Q18
C113	.01		UK50-103		MAG5011		
C114	390 10%		DD-391	GP390	GP339		10TS-T39
C117	.01		UK50-103		MAG5011		
C118	.022		DC-253	MGPO25	TA125		TG-S25
C123	.068 10%			WMF1S68	EWFA1A68		
C141	.01		UK50-103		MAG5011		
C142	.01		UK50-103		MAG5011		
C143	100 10%		DD-101	GP100	MAG5011		10TS-T10
C201	150 10%		DD-151		GP310		10TS-T15
C202	.01		UK50-103		GP315		
C203	.01		UK50-103		MAG5011		
C204	.01		UK50-103		MAG5011		
C205	.047		UK50-503		MAG5011		
C206	.01		UK50-103		MAG5015		
C207	.01		UK50-103		MAG5011		
C208	.0047		DD-472	GP4700	GP247		5GA-D47
C209	.0047		DD-472	GP4700	GP247		5GA-D47
C210	.0047		DD-472	GP4700	GP247		5GA-D47
C211	.0047		DD-472	GP4700	GP247		5GA-D47
C212	.0047		DD-472	GP4700	GP247		5GA-D47
C213	.0047		DD-472	GP4700	GP247		5GA-D47
C214	100 10%		DD-101	GP100	GP247		5GA-D47
C215	.0047		DD-472	GP4700	GP310		10TS-T10
C251	.01		UK50-103		GP247		5GA-D47
C252	.01		UK50-103		MAG5011		
C501	.01 10%		UK50-103		MAG5011		
C502	.01 10%		CW15C103K		MAG5011		10TS-S10
CT1	20	13-123069	CW15C103K				10TS-S10

*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	10K	13-164132	T-10K (3)	MTC14L1 (3)	U260R103B
RV2	AF ALC	5000	13-164146			U260R502B
RV3	S Meter	20K	13-164134			U260R253B
RV4	Power Meter	20K	13-164134			U260R253B
RV501	SWR Meter	10K	77-164008			U260R103B
VR1	Volume/Power Switch	50K	77-160001			
VR2	SWR/CAL	10K	77-160007			
VR3	RF Gain	100K	77-160006			
VR4	Squelch	10K	77-160007			
VR5	Dimmer	20K	77-160008			

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

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.
R251	Resistor Network		77-140005 (1)	R252	Resistor Network	77-140005 (1)	

(1) Consists of seven 1.8K 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	77-176001	100D003S6DM9		
L2	Mixer (PLL) (38MHz)	13-090405	10MB003SY0		
L3	RF Choke (68uH)	13-178210			
L4	RF Choke (1uH)	77-178007			
L5	XMT Mixer (27MHz)	77-176034	10CB002M72K7		
L6	RF Choke (2.2uH)	13-176564			
L7	XMT Driver (27MHz)	13-176508			
L8	RF Choke (68uH)	13-178210			
L9	RF Choke (55uH)	13-176567			
L10	RF Choke (1uH)	13-176565			
L11	Final (27MHz)	13-176509			
L12	Pi Filter (27MHz)	13-176510			
L13	Antenna Matching (.40uH)	77-178002			
L14	Rec Mixer (10.7MHz)	77-090007	07MB008M6813		
L15	RF Choke (68uH)	13-178210			
L16	RF Choke (.75uH)	13-178209			
L17	RF Choke (.75uH)	13-178209			
L18	RF Choke (.75uH)	13-178209			
T1	Ref Osc (10.240MHz)	77-176010	10DB002S60ET		
T2	Mixer (PLL)	77-176011	10MB005S6007		
T3	XMT Mixer (27MHz)	13-176580	10CB001SW2		
T4	XMT Buffer (27MHz)	13-176581	10CP005SXT		
T5	Rec Antenna (27MHz)	13-176511	ETR03336NC3		
T6	RF Amp (27MHz)	77-176035	ETR003471F3		
T7	Rec Mixer (10.7MHz)	77-090007	07MB008M6813		
T8	Rec Mixer (455kHz)	77-090004	ET1012260AT		
T9	IF Amp (455kHz)	77-090005	ET1012360AT		
T10	IF Amp (455kHz)	77-090006	ET101296DN3		

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	1.25A	.116	.48mH	13-178208 ELA-16(1)	TR523		(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	32	1 8 2 128	77-096006 ETA-66(1)	TR723	MCB-16	(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFR. PART No.	QUAM PART No.	
SP1	3" PM 8 Ohms	77-020010	30A05Z8R	

MIDLAND MODEL 77-963

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			AGC-2	HDJ	312002	150145	F62-2

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	77-038009										

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Filter	77-179001	455kHz
J1	Jack	77-159024	Antenna
J2	Jack	13-159001	Mic
J3	Jack	13-153081	PA/EXT CB
J4	Jack	13-153081	External Speaker
J6	Jack	77-159022	Printed Circuit Board Connector 7 Pin
LED301	LED Display	77-202003	Channel Readout
M1	Meter	77-200005	Power/Swr
P6	Plug	77-159023	Printed Circuit Board Connector 7 Pin
PL1	Lamp	13-201078	TX Indicator
PL2	Lamp	77-201003	Meter
S1	Switch		Power (Part of Volume Control)
S2	Switch	13-183236	PA/CB
S3	Switch	13-183236	EXT CB
S4	Switch	13-183236	Tone HI/LO
S5	Switch	13-183236	ANL
S6	Switch	13-183236	Handset
S7	Switch	77-183004	SWR/CAL/S/RF
S8	Switch	77-183003	SP/HANDSET (Actuated by Handset)
SW1	Switch	77-180010	Channel Selector
X1	Crystal	77-128011	10.240MHz
S2	Crystal	77-128012	10.695MHz
	Printed Circuit Board	77-075019	Channel Select Switch (Bottom)
	Printed Circuit Board	77-075018	Channel Select Switch (Top)
	Printed Circuit Board	77-075017	LED
	Printed Circuit Board	77-075016	SWR

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

ITEM	PART No.	ITEM	PART No.
Case, Top	77-010027	Knob, Control	13-110204
Case, Top Plate (Control Panel)	77-010026	Escutcheon	77-158040
Knob, Channel Selector	77-115015		

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')