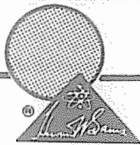


CB-131
M



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

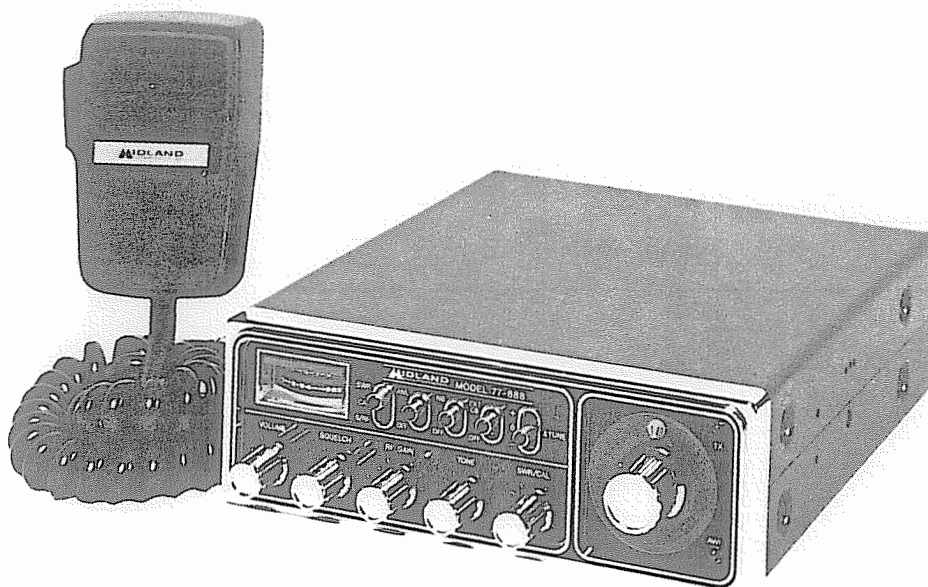
Repair or adjustment of transmitter circuits must be under supervision of a person with first-or second-class radiotelephone license.

(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.



MIDLAND MODEL 77-888

MODEL 77-888

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

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Printed in U. S. of America

7CE532

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.

Suggested Alignment Tools:

GC ELECTRONICS:

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

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP1.	Ch. 19	CT1	Adjust for 10.240MHz.
Input of RF VTVM to TP2.	Ch. 19	T1	Adjust for maximum.
Input of DC meter to TP8.	Ch. 19	L1	Adjust for 2.8 volts.
Input of frequency counter to TP3.	Ch. 19, Xmit		Check for 10.695MHz.
Input of RF VTVM to TP4.	Ch. 19	L2, T2	Adjust for maximum.
Input of frequency counter to TP4.	Ch. 1		Check for 37.660MHz. Repeat for all channels. (Channel frequency 10.695MHz = frequency on counter)

RECEIVER ALIGNMENT

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

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP10. 455kHz, 1000Hz @ 30% modulation.	Ch. 19, Delta Tune - 0 RF Gain - Max	T10, T9, T8	Adjust for maximum output.
Output of signal generator thru .01uF to TP11. 10.695MHz, 1000Hz @ 30% modulation.	Ch. 19	T7, L14	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T6, T5	Adjust for maximum output. Repeat above steps if necessary.

RECEIVER ADJUSTMENTS

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

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 1000uV.	Ch. 19, Delta Tune - 0 RF Gain - Max.	RV1	SQUELCH RANGE Set squelch control vR2 fully clockwise. Adjust RV1 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	RV3	S METER Adjust RV3 for 9 on S scale of meter.

TRANSMITTER ALIGNMENT

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

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

See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
	Ch. 19	L5, T3, T4, L7, L11, L12	Adjust for maximum.
	Ch. 19	L12	Adjust for 4 watts maximum.

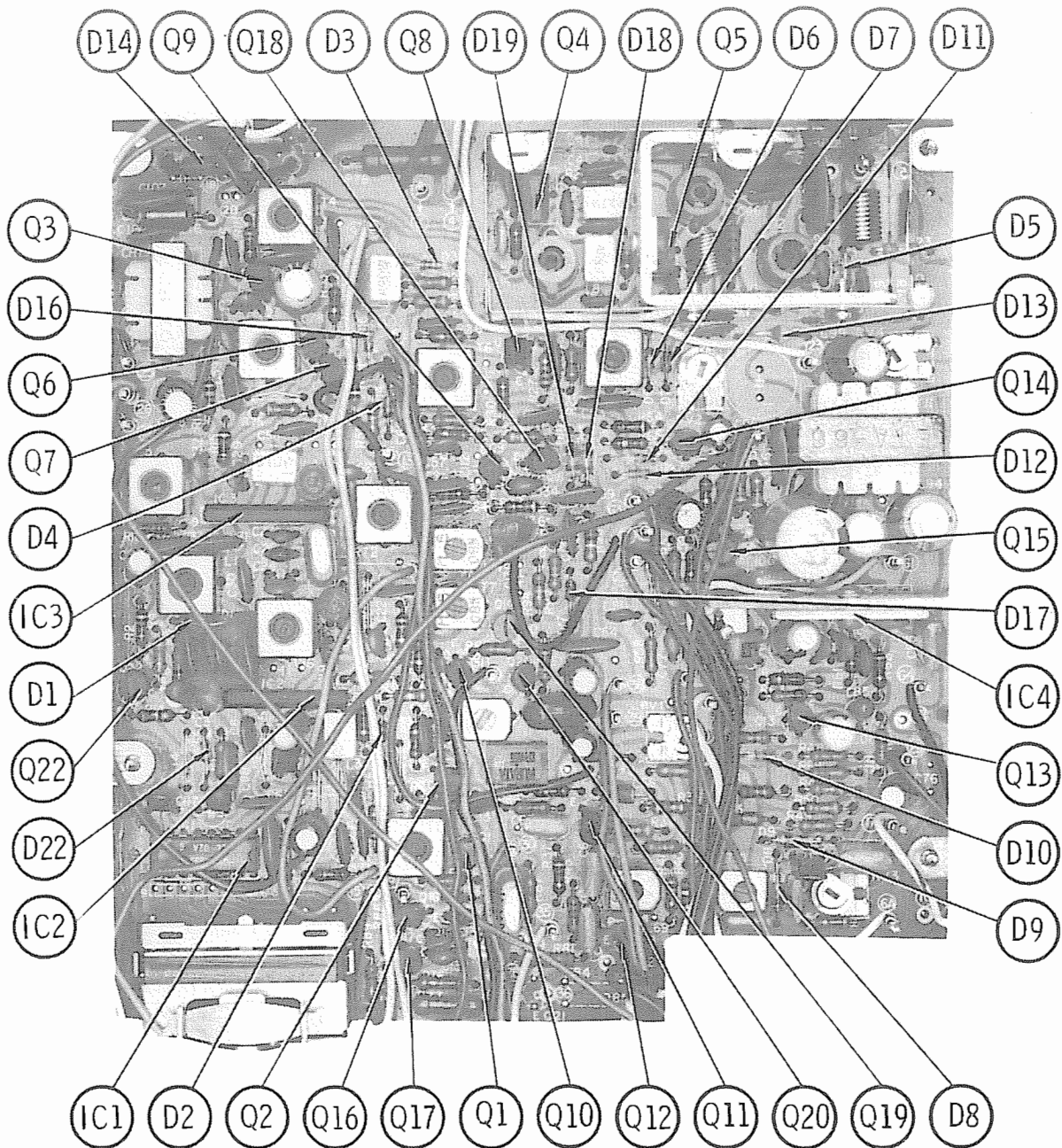
TRANSMITTER ADJUSTMENTS

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

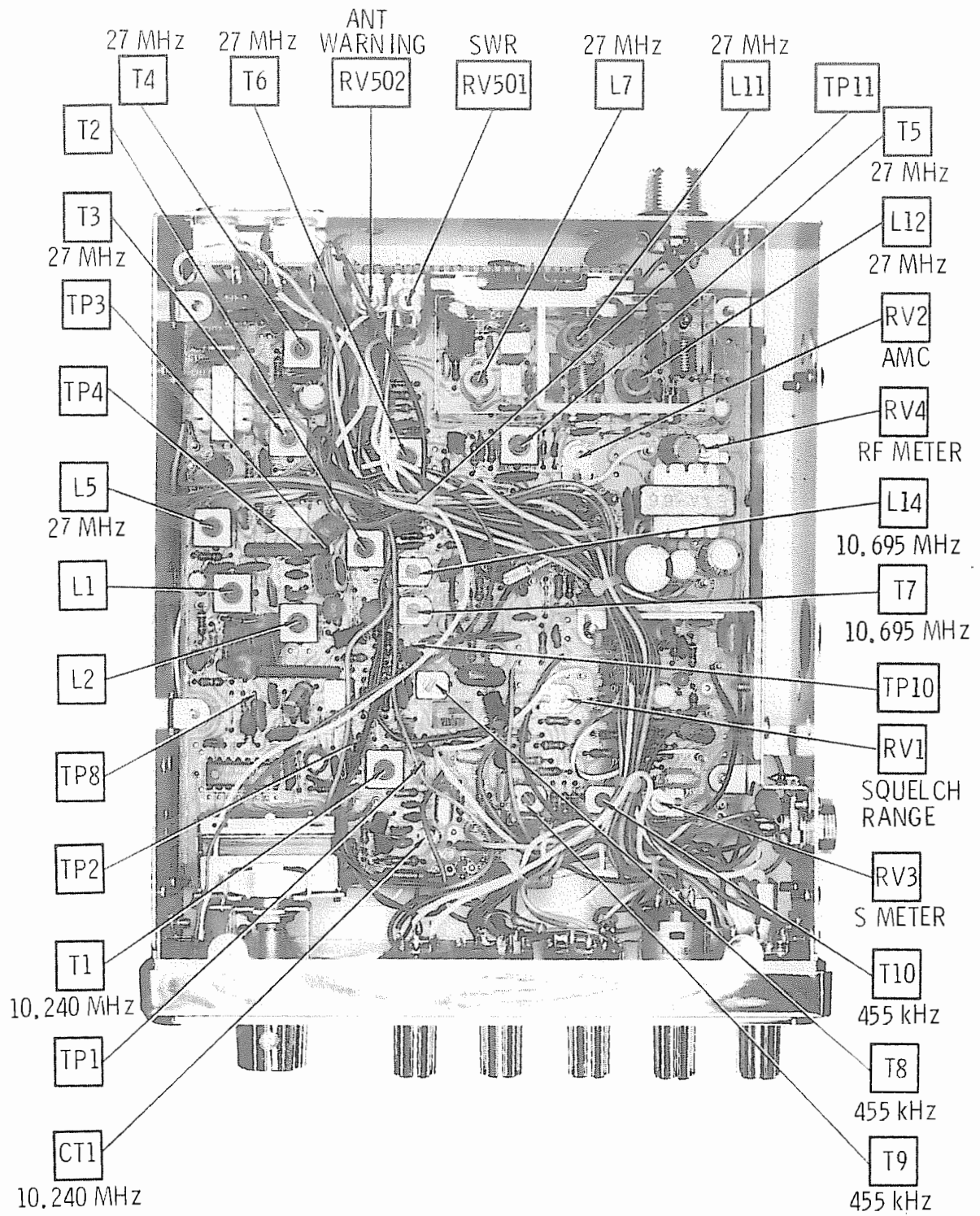
NOE: Be sure to check transmit frequency and power on all active channels after adjustments of transmitter.

See page 4 for channel frequencies.

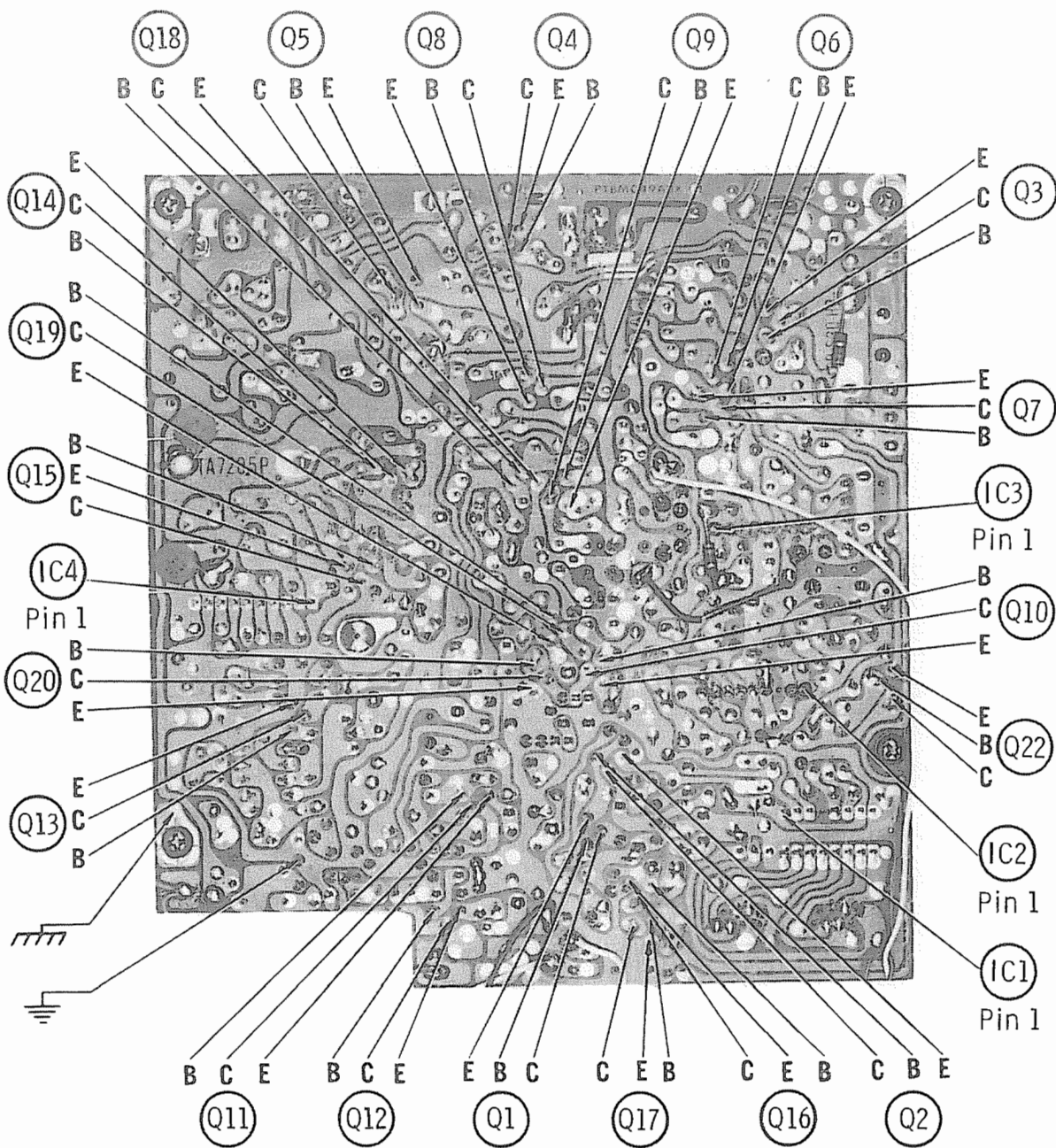
TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 100mV, 1000Hz signal at Mic input.	Ch. 19	RV2	ALC Adjust for 95% modulation.
	Ch. 19	RV4	RF PANEL METER Adjust for 3/4 reading on RF scale of meter.
Connect a 150-ohm noninductive resistor to antenna jack.	Ch. 19	RV502	ANT. WARNING (AWI) Adjust RV502 so antenna warning indicator lights.
SWR meter to antenna jack.	Ch. 19	RV501	SWR METER Adjust RV501 so that SWR METER agrees with external meter.



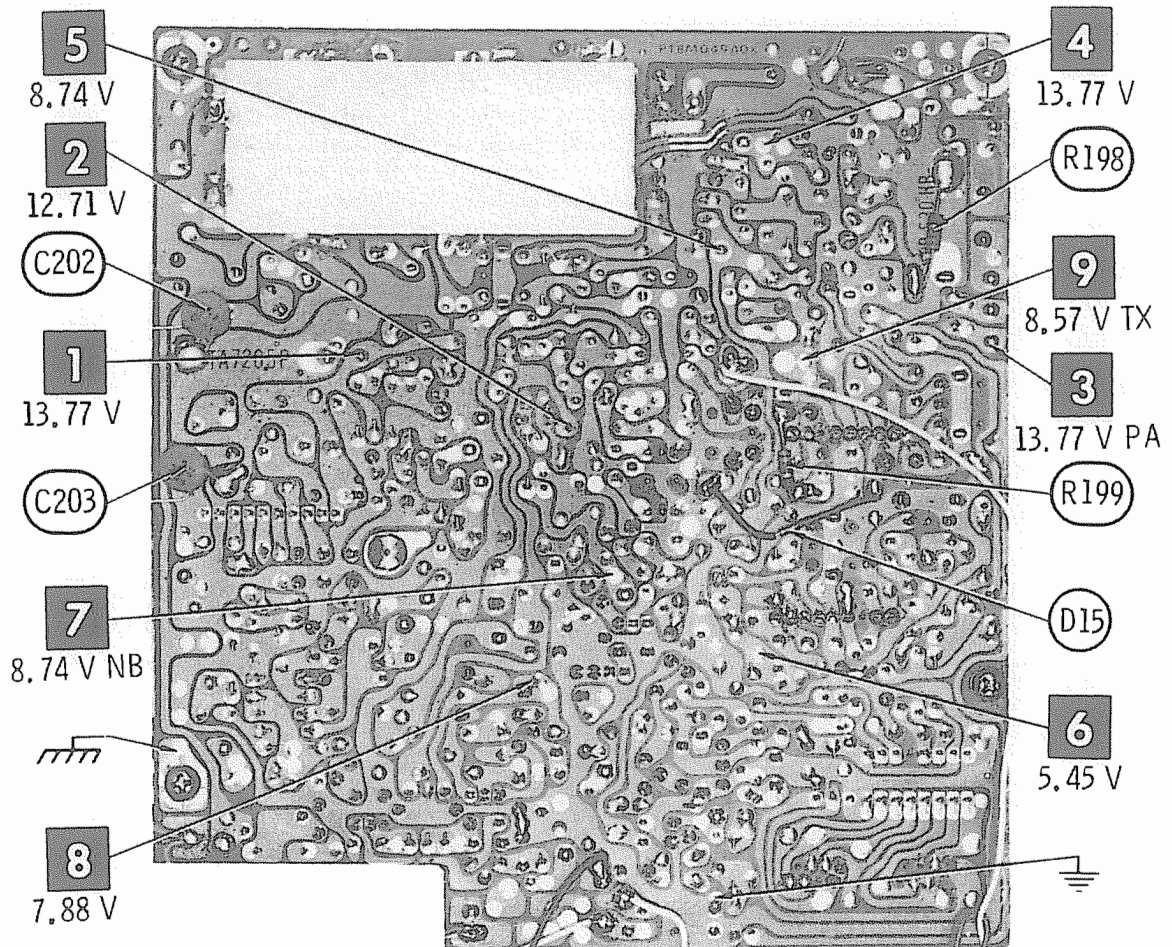
MAIN BOARD



CHASSIS BOTTOM

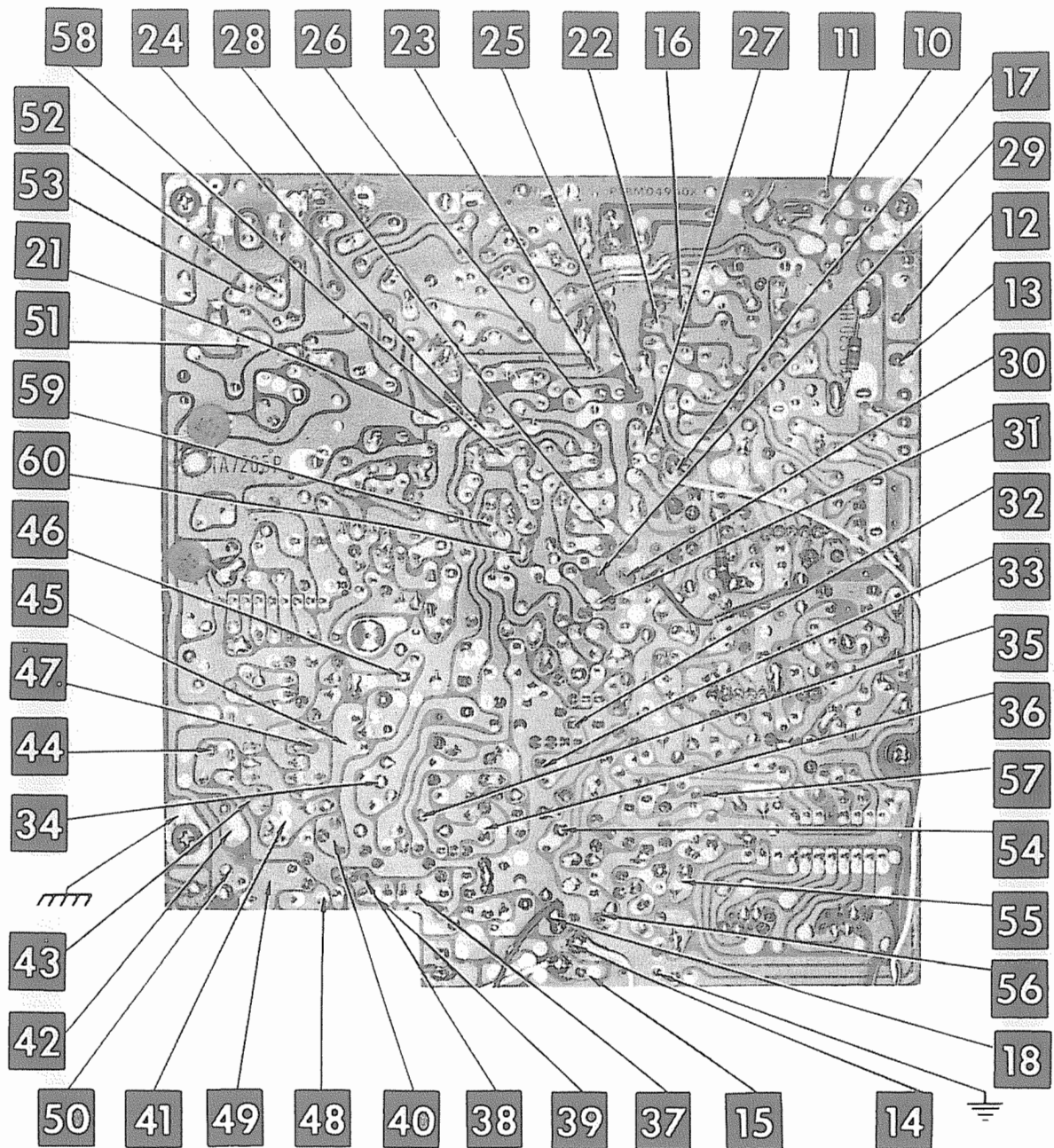


MAIN BOARD

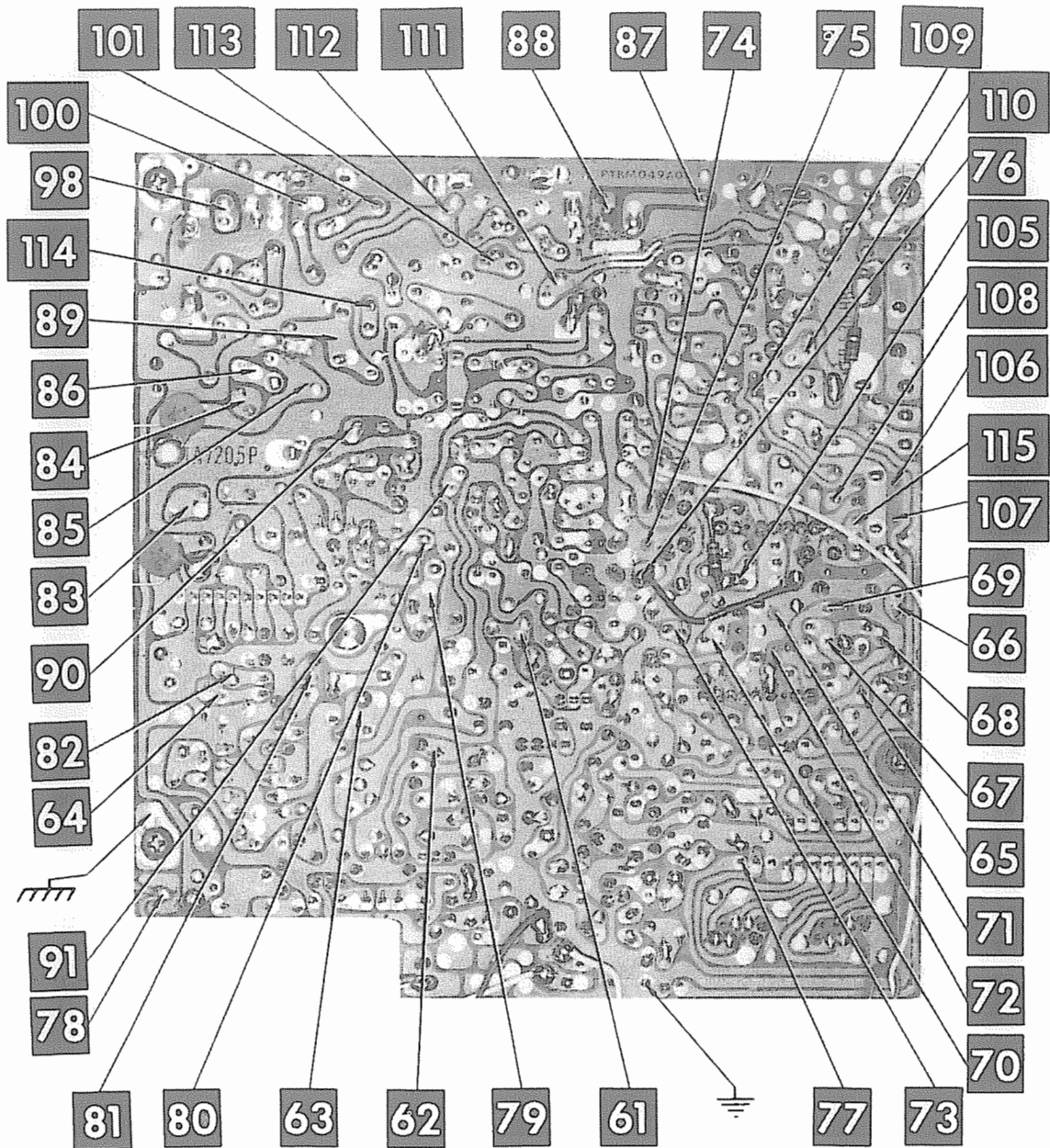


MIDLAND MODEL 77-883

MAIN BOARD

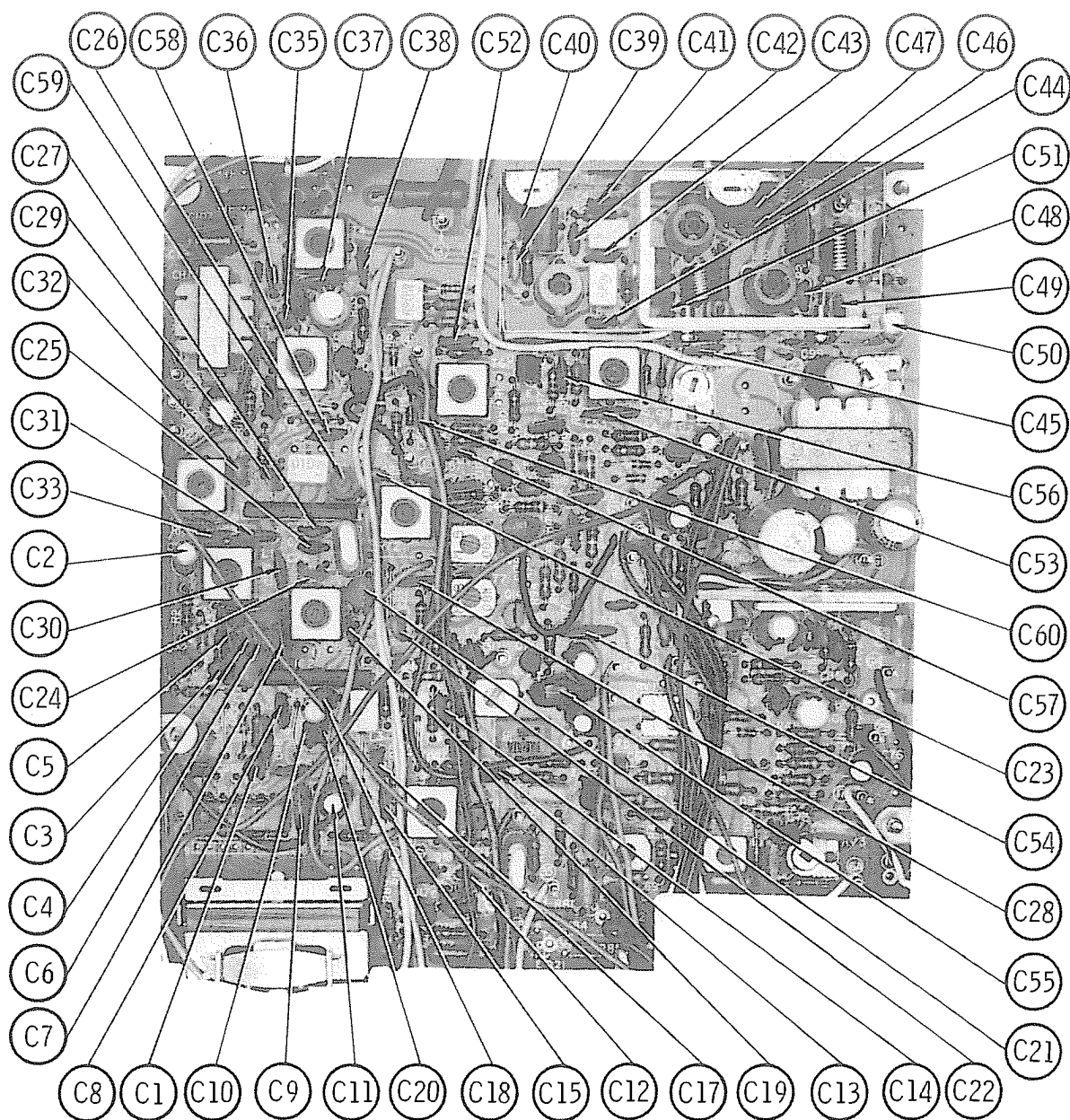


MAIN BOARD

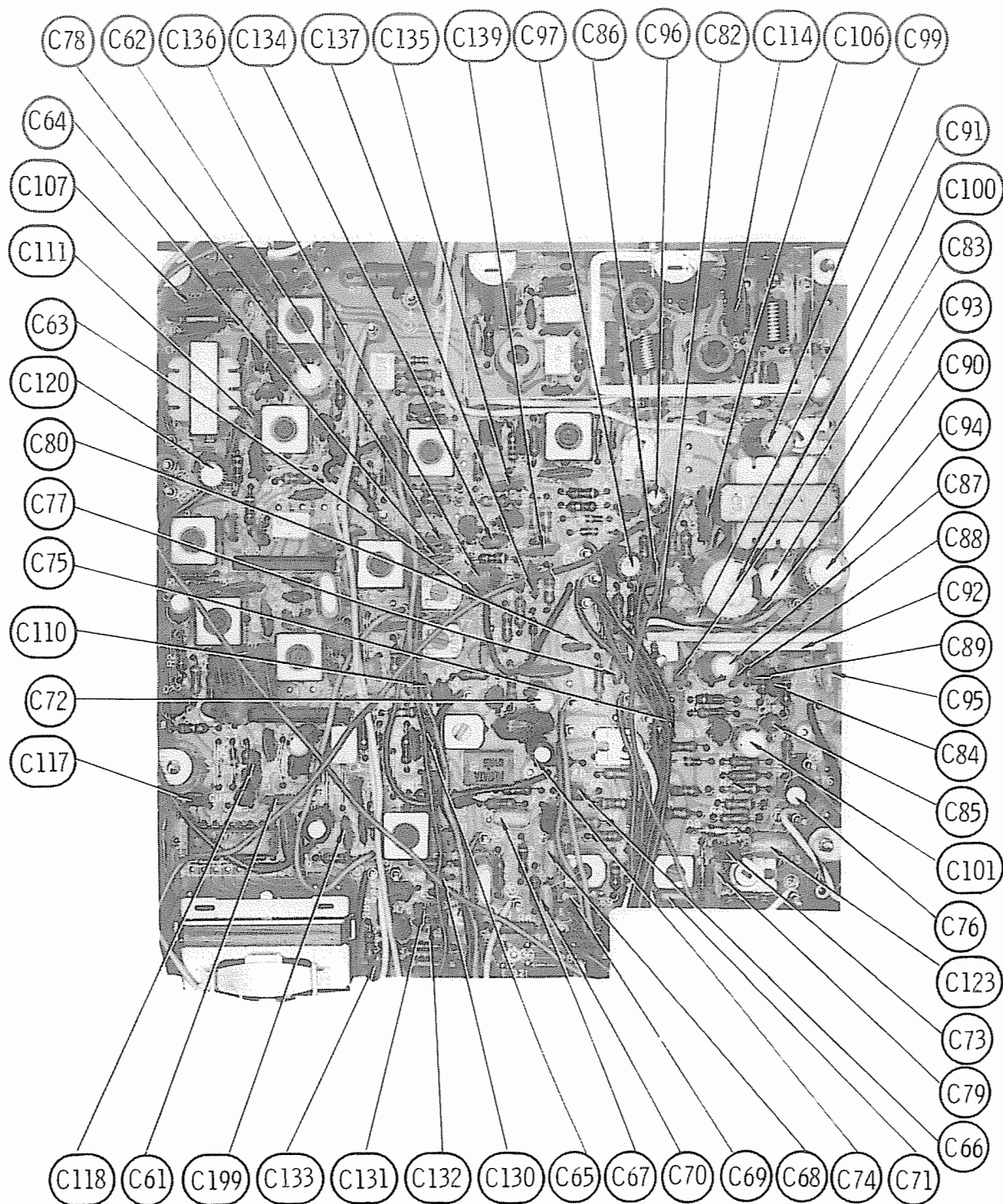


MIDLAND MODEL 77-888

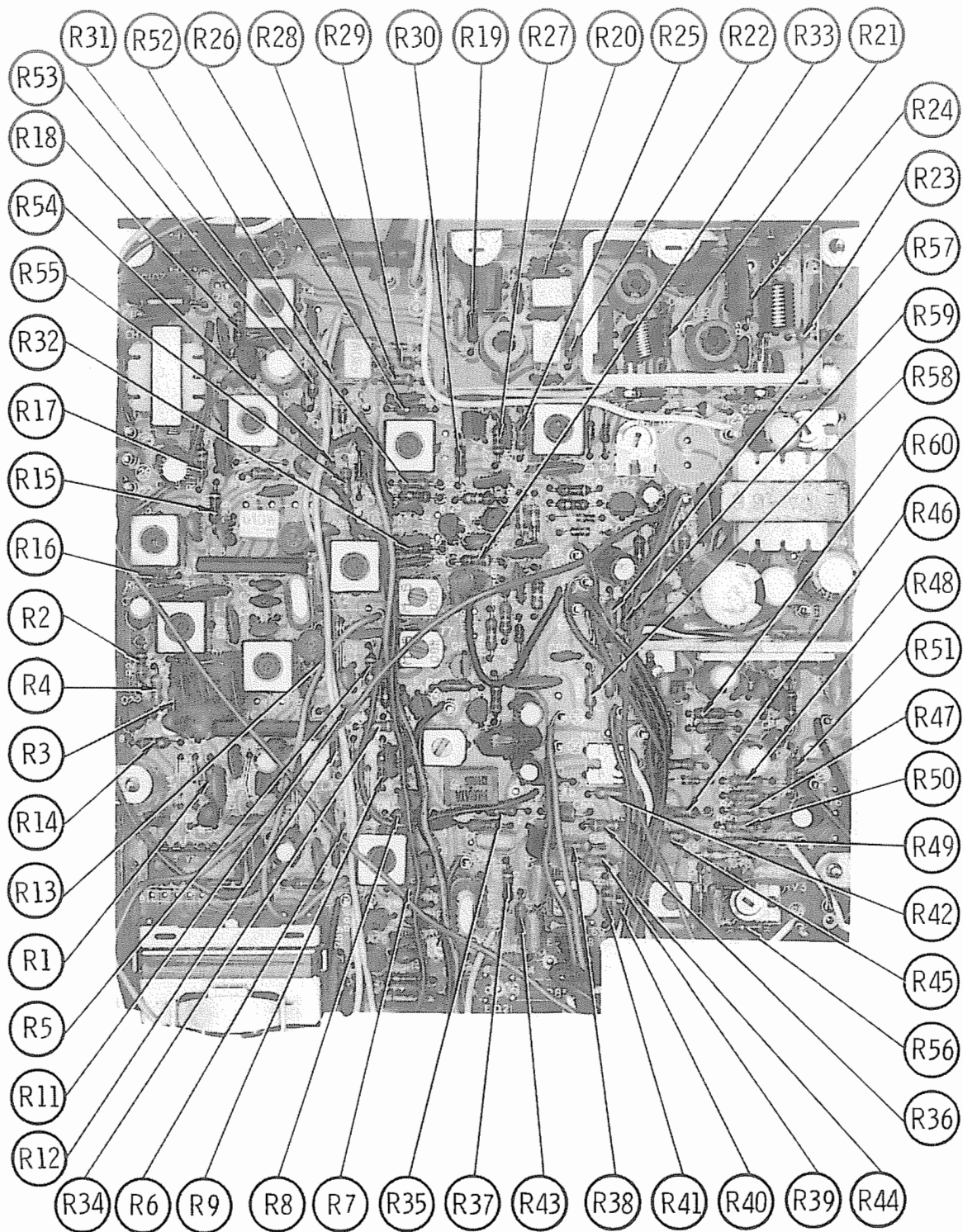
MAIN BOARD



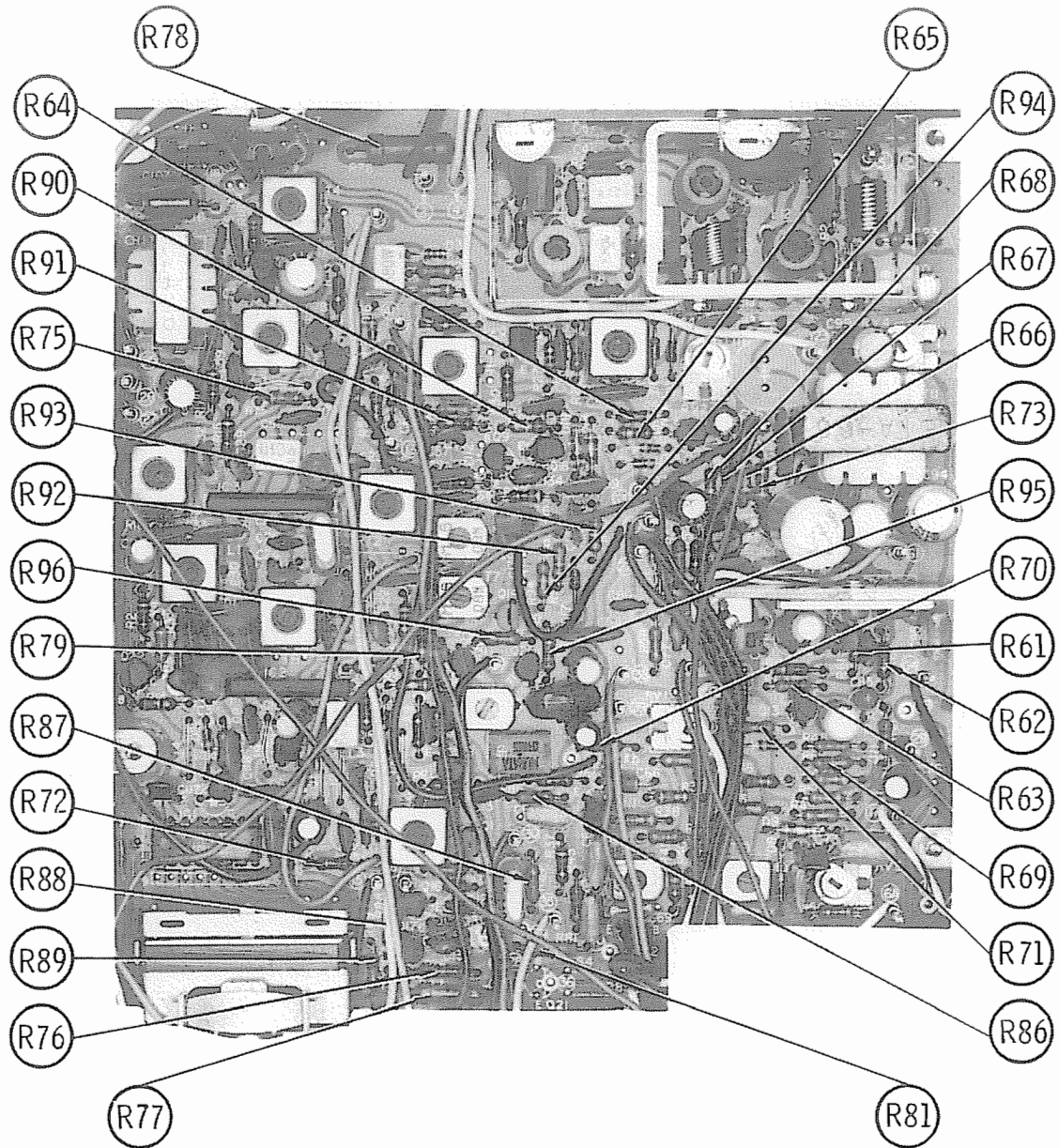
MAIN BOARD



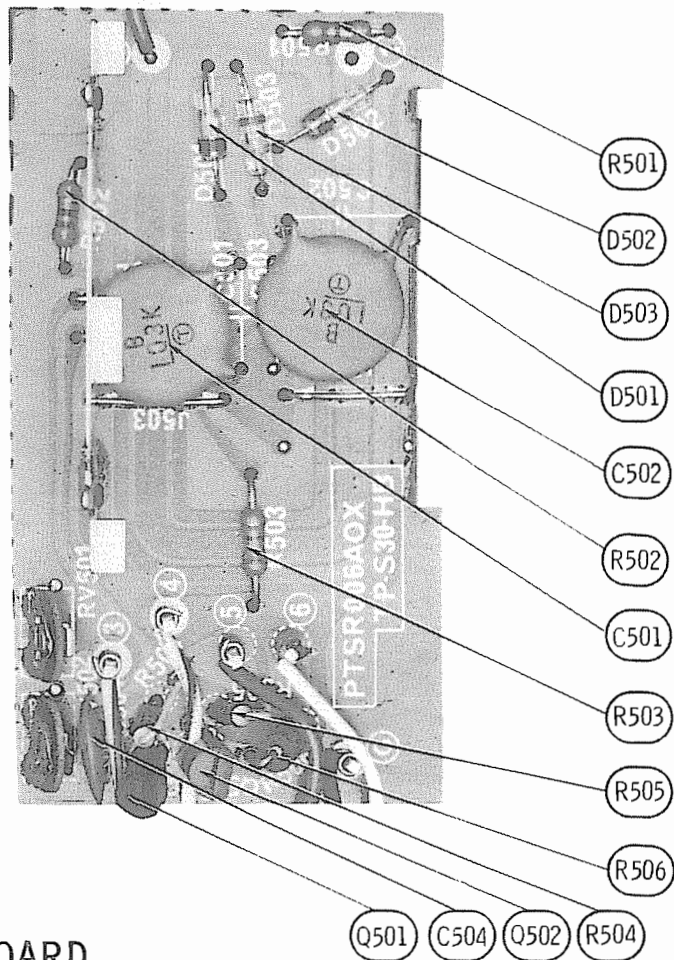
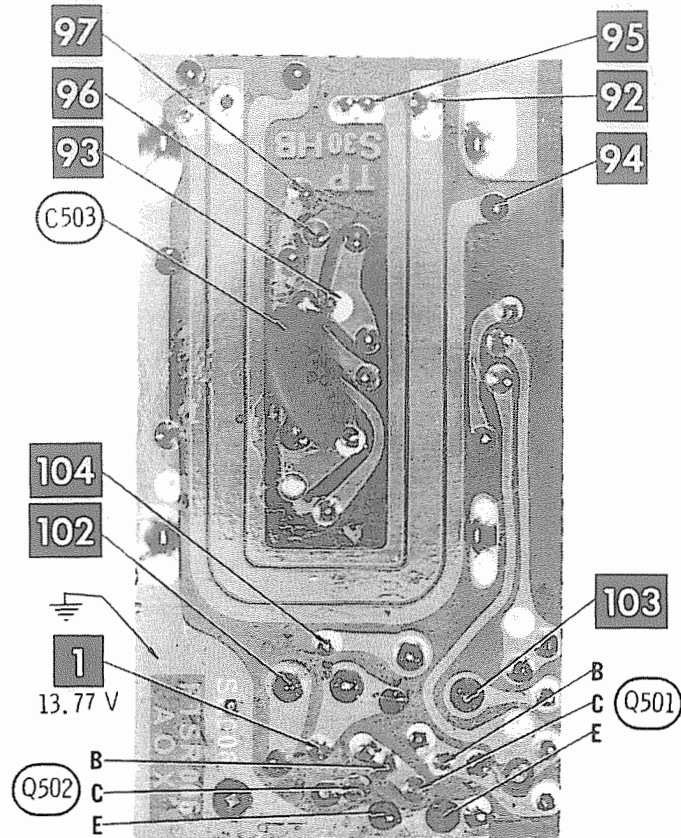
MAIN BOARD



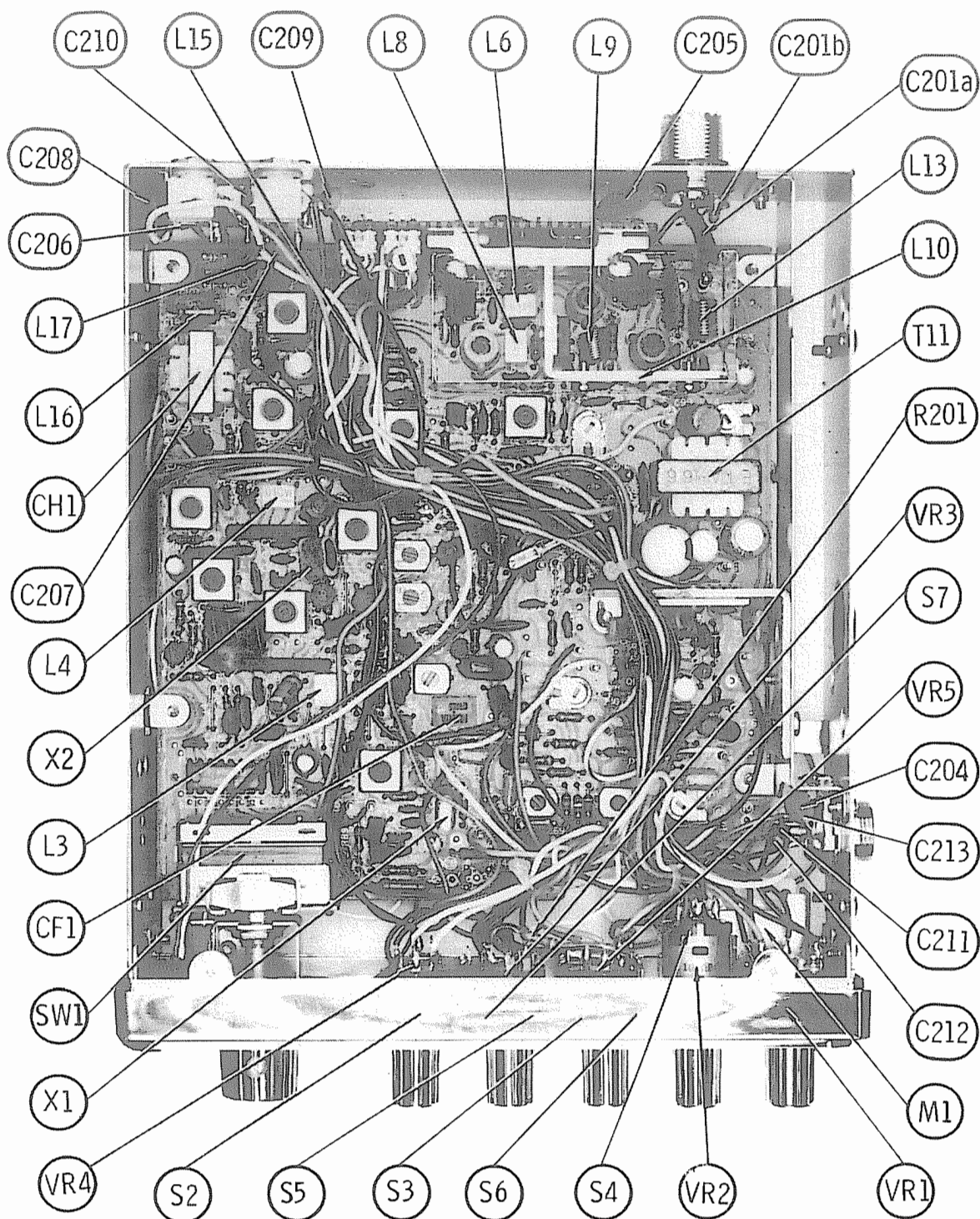
MAIN BOARD



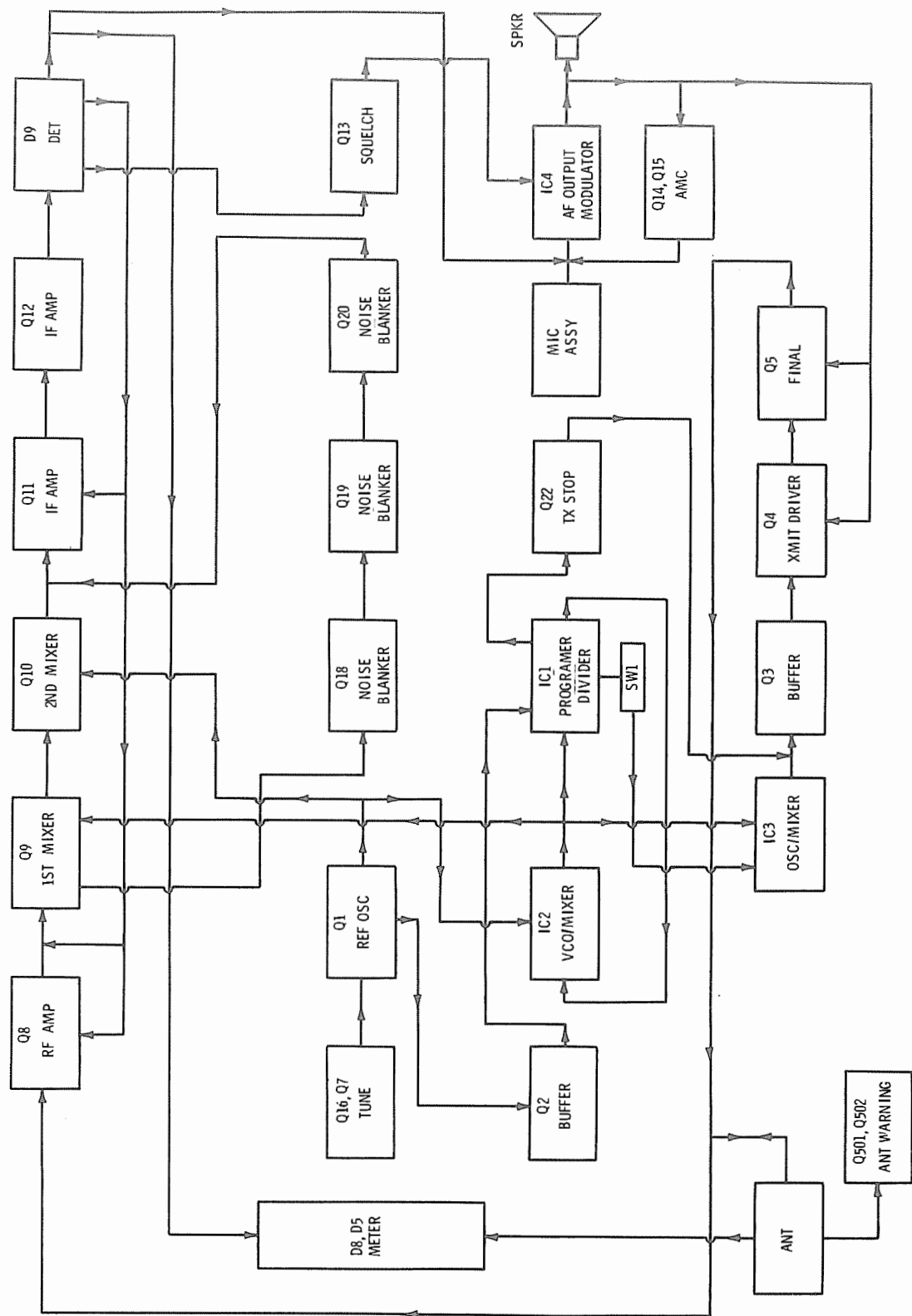
MAIN BOARD



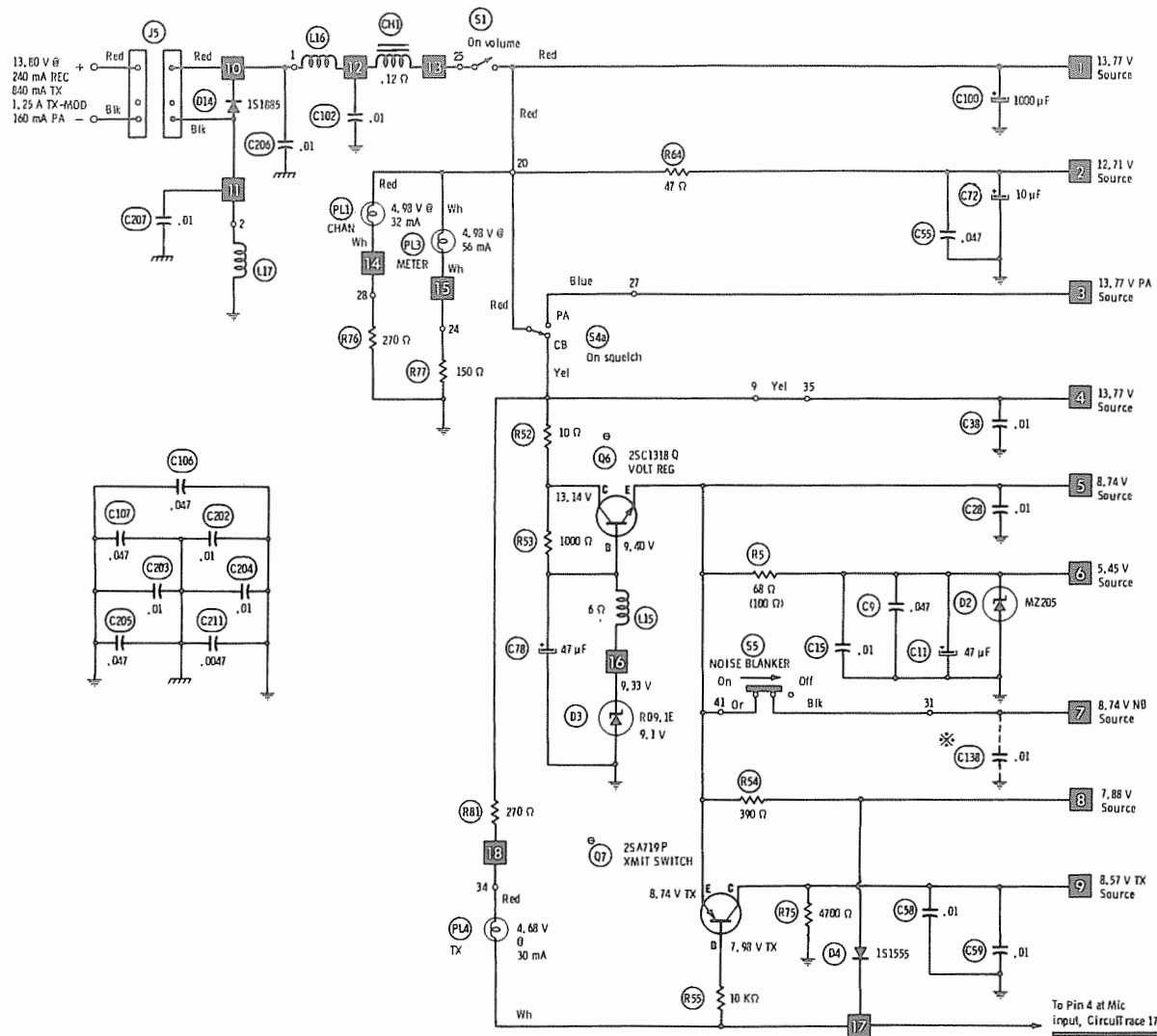
ANT. WARNING BOARD



CHASSIS BOTTOM



BLOCK DIAGRAM



—*— Circuitry not used in some versions

--- Circuitry used in some versions

⊖ See parts list

✱ Nominal value

 Ground

mm Chassis

Measurements with switching as shown unless noted:

Supply voltage maintained as shown at input.

Voltages measured with digital meter, no signal.

Controls adjusted for normal operation.

Arrow at control indicates direction of advance.

Terminal identification may not be found on unit.

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

Value in () used in some versions.

A PHOTOFAC T STANDARD NOTATION SCHEMATIC

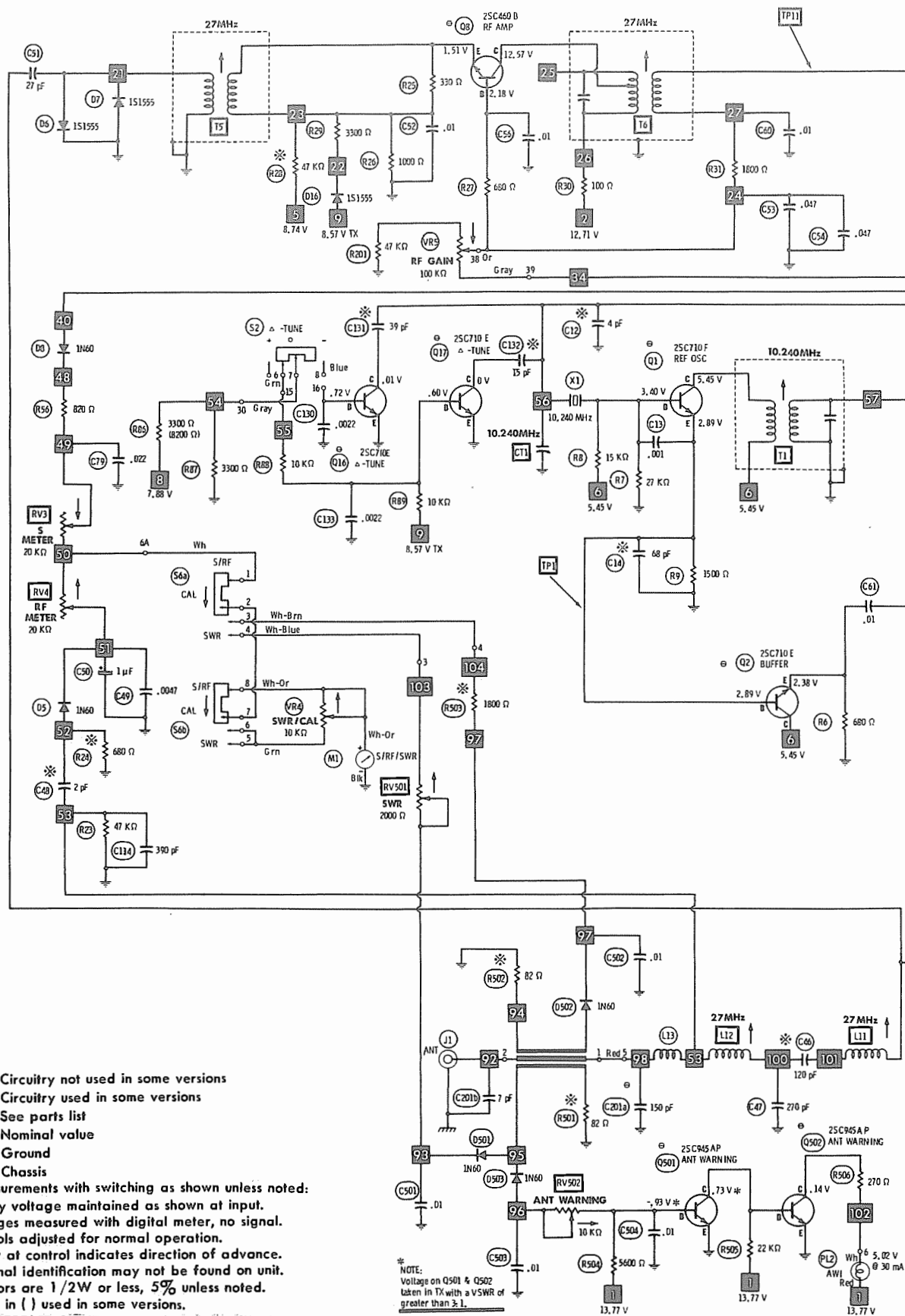
WITH **CIRCUITRACE[®]**

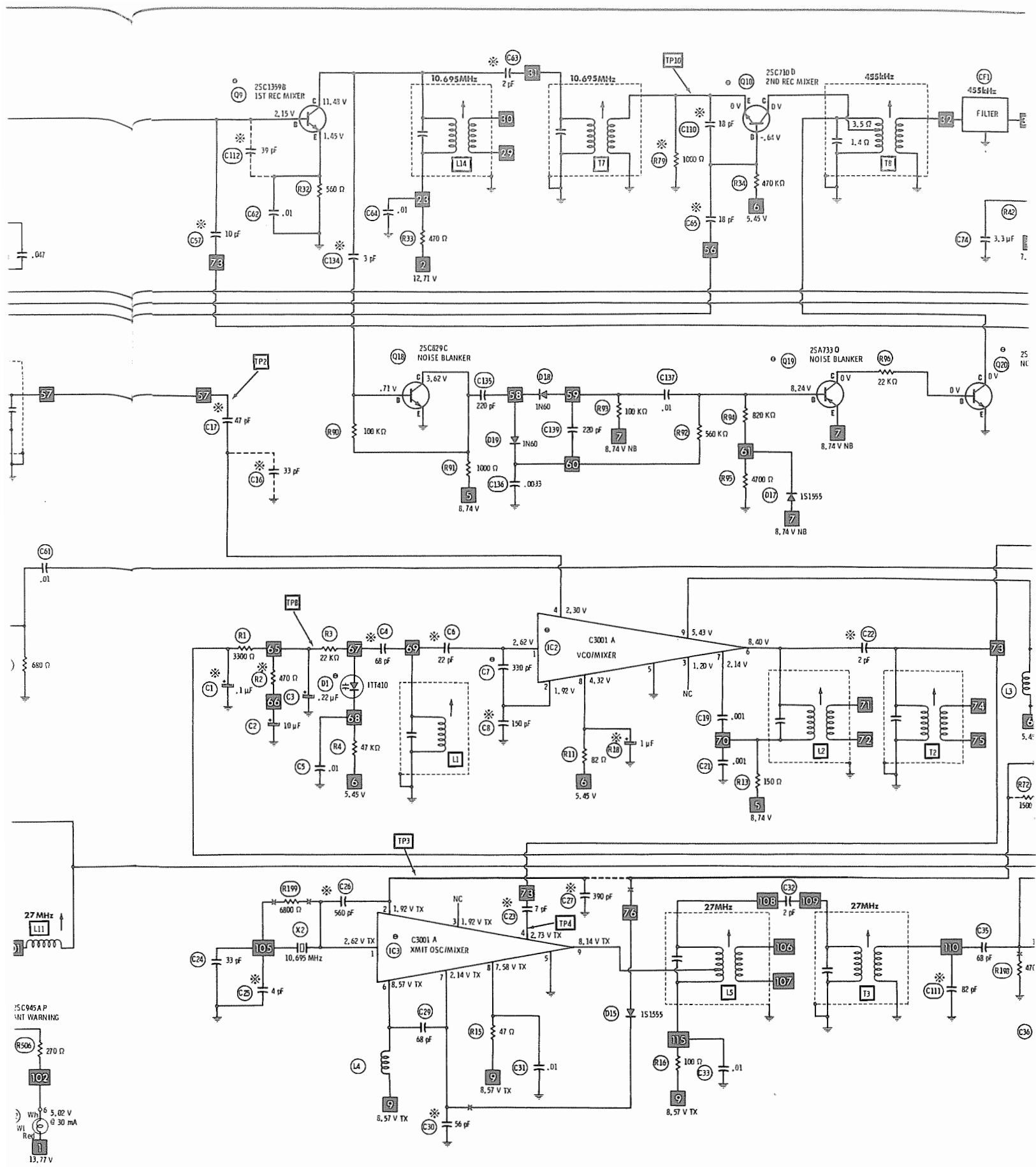
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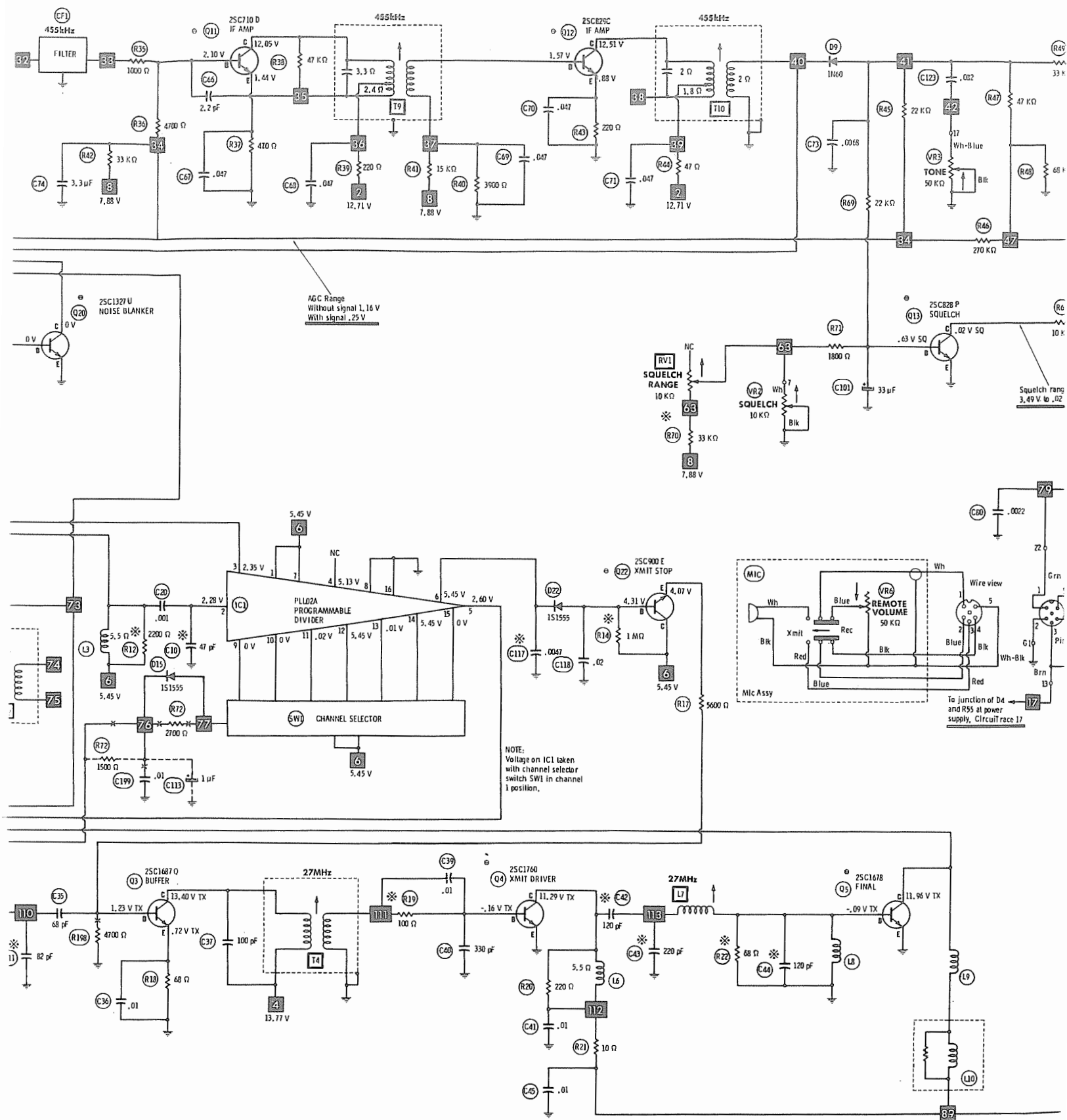
Transistor Terminal Guide

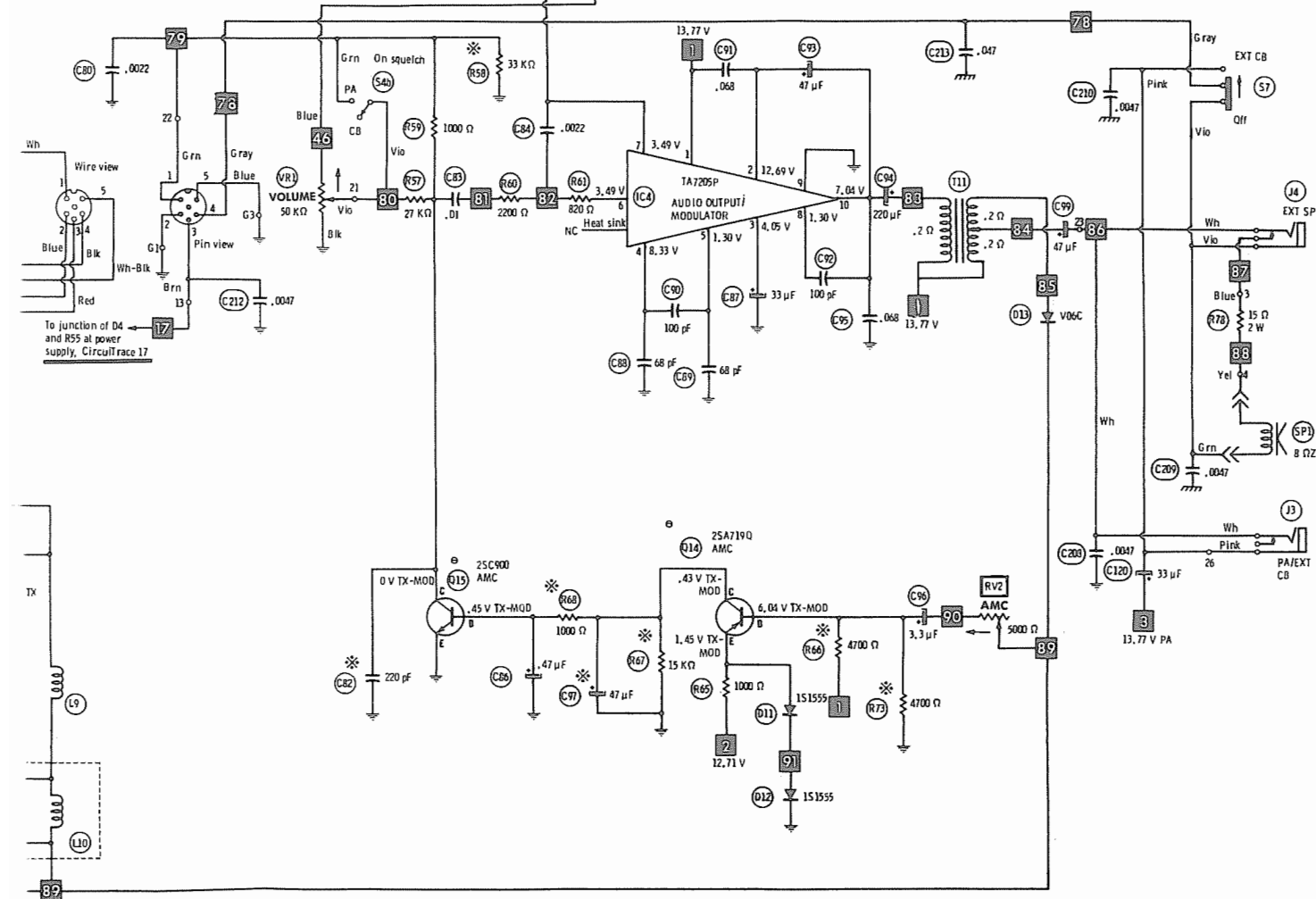


Q6, Q7
Bottom view









Terminal Guides



Q1, Q2, Q10
Q11, Q12, Q13
Bottom view



Q3
Bottom view



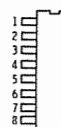
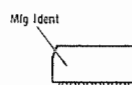
Q4
Empty view



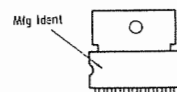

 E C B
 Q8
 Front view



Q9, Q13, Q14
Q15, Q16, Q18
Q19, Q20, Q22
Q501, Q502
Bottom view

IC1
Top. 11

No Ident



No Ident



14

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.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	ITT410		GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	ECG610
D2	MZ205			WEP602			RE 105			ECG135
D3	RD9.1E		GEZD-9.1	WEP104	ZB9.1B		RE 114		RT-240	ECG139A
D4	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D5	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D6	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D7	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D8	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D9	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D10	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D11	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D12	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D13	V06C		GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D14	1S1885		GE-504A	5A40	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D15	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D16	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D17	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D18	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D19	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D22	1S1555		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D501	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D502	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D503	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
IC1	PLLO2A									
IC2	C3001A									
IC3	TA7310P									
IC4	TA7205P		GEIC-179	WEP949	PTC780			SK3231	TVCM-81	ECG1155
Q1	2SC710E,0		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q2	2SC710E,D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q3	2SC1687Q		GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
Q4	2SC1760		GE-276	WEP918					RT-310	ECG306
	2SC1846		GE-336	WEP918			RE 209			ECG306
	(1)(11)									
	2SC2036									
	(1)									
Q5	2SC1678		GE-322	WEP1678	PTC186		RE 203	SK3197	RT-146	ECG235
	(12)									
	2SC1306		GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	(1)(13)									
	2SC1974(1)		GE-337	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	2SC2075(1)									
Q6	2SC1318Q,R		GE-210 *	TR-21 *	PTC178	HEPS0015 *	RE 17 *	SK3122	RT-302	ECG128 *
Q7	2SA719P,Q,R		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA720 (1)		GE-272	TR-20 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-103A *	ECG298
Q8	2SC460B		GE-61 *	(IR)2SC460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
	2SC710 (1)		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC1047B,C(1)		GE-60 *	(IR)2SC829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
Q9	2SC1359B,C		GE-212	(IR)2SC380A0	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
	2SC710 (1)		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q10	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829 (1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839 (1)		GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308	ECG123A *
Q11	2SC710D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829 (1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q12	2SC829C,B		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC710 (1)		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q13	2SC828P		GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
	2SC372 (1)		GE-61 *	(IR)2SC372	PTC121 *	HEPS0015 *	RE 13 *	SK3122	RT-308	ECG123A *
	2SC945 (1)		GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
Q14	2SA719Q		GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
	2SA720 (1)		GE-372	TR-20 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-103A *	ECG298
	2SA564 (1)		GE-65	(IR)2SA564A	PTC103 *	HEPS0019 *	RE 193	SK3114	RT-303	ECG234
Q15	2SC900F		GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
	2SC945P,Q(1)		GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
Q16	2SC710E,D		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829 (1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839 (1)		GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308	ECG123A *
Q17	2SC710E,0		GE-211 *	(IR)2SC710	PTC115	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
	2SC829 (1)		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
	2SC839 (1)		GE-61 *	(IR)2SC644	PTC132 *	HEPS0015 *	RE 13 *	SK3018 *	RT-308	ECG123A *
Q18	2SC829C		GE-20 *	(IR)2SC829B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *
Q19	2SA733Q,P		GE-48	TR-31	PTC103 *	HEPS0019 *	RE 26 *	SK3138	RT-303	ECG294
Q20	2SC1327U		GE-85 *	(IR)2SC945	PTC139 *	HEPS0024 *	RE 192	SK3124	RT-107A	ECG199
	2SC900 (1)		GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
Q22	2SC900E,V		GE-62	(IR)2SC644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
Q501	2SC945AP		GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	2SC828 (1)		GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
Q502	2SC945AP		GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	2SC828 (1)		GE-61 *	(IR)2SC828A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199

* Lead configuration may vary from original. (12) Rating, 10 WATTS @ 3.0 AMP
 (1) Used in some versions. (13) Rating, 12 WATTS @ 3.0 AMP
 (11) Rating, 1.2 WATTS @ 1.0 AMP

PARTS LIST

(When ordering p

ELECTROLY

ITEM No.	
C1	.1
C2	10
C3	.22
C11	4.7
C18	1 50
C50	1 50
C72	10
C74	3.3
C76	1 50
C78	47
C85	3.9
C86	.47
C87	33
C93	47
C94	220
C96	3.3
C97	47
C99	47
C100	1000
C101	33
C120	33

CAPACITO

ITEM No.	R
C4	68 M
C5	.01
C6	22 M
C7	330
	220
C8	150
	120
C9	.047
C10	47
C12	4 NPK
C13	.001
C14	68 M
C15	.01
C17	47 M
C19	.001
C20	.001
C21	.001
C22	2
C23	7
C24	33 N
C25	4 N
C26	560
C27	390
C28	.01
C29	68
C30	56 N
C31	.01
C32	2
C33	.01
C35	68
C36	.01
C37	100
C38	.01
C39	.01
C40	330
C41	.01
C42	120
C43	220
C44	120
C45	.01
C46	120
C47	270
C48	2
C49	.0047
C51	27
C52	.01
C53	.047
C54	.047
C55	.047
C56	.01
C57	10
C58	.01
C59	.01

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	.1 10V			TOC104M050EL	QDT1-2	S050-R109
C2	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C3	.22 10V			TOC224M050EL	QDT1-10	SD50-R229
C11	4.7 10V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C18	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C50	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C72	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C74	3.3 25V		PC5-50	VTT3R3A50	QV1-23	EV-1318
C76	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C78	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C85	3.9 10V			TDC335M015FL	QDT1-41	SD15-3R39
C86	.47 10V			TDC474M050EL	QDT1-19	SD50-R479
C87	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C93	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C94	220 10V		PC250-10	VTT220F10	QV1-115	EV-1140
C96	3.3 25V		PC5-50	VTT3R3A50	QV1-23	EV-1318
C97	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C99	47 25V		PC50-25	VTT47E25	QV1-75	EV-1326
C100	1000 16V		PC1000-16	VTT1000L16	QV1-183	EV-1260
C101	33 6.3V		PC30-25	VTT33B10	QV1-61	EV-1125
C120	33 16V		PC30-25	VTT33025	QV1-63	EV-1325

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C4	68 N150 10%		UK16-103		* MAG1611		10TCP-Q68
C5	.01				*		HY-420
C6	22 N150 10%						10TCP-Q22
C7	330 10%		DD-331	GP330	GP333		10TS-T33
	220 10%	(1)	DD-221		GP322		10TS-T22
C8	150 10%		DTZ-150		CN0315		10TCC-T15
	120 10%	(1)	DTZ-120		CN0312		10TCC-T12
C9	.047		UK25-503		MAG2515		HY-735
C10	47		DTZ-47	NP047	CN0447		10TCC-Q47
C12	4 NPO		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C13	.001 10% 50V			OPMS6D1	EWFA210	QF1-1	1PB-010
C14	68 N150 10%				*		10TCP-Q68
C15	.01		UK16-103		MAG1611		HY-420
C17	47 N150 10%				*		10TCP-Q47
C19	.001 10% 50V			DPMS6D1	EWFA210	QF1-1	1PB-010
C20	.001 10% 50V			DPMS6D1	EWFA210	QF1-1	1PB-010
C21	.001			C019FD102J03	SX210		MWC-102
C22	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C23	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C24	33 N150 10%				*		10TCP-Q33
C25	4 NPO		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C26	560 10%			C019FD561J03	SX356		MWC-561
C27	390		DD-391	GP390	GP339		10TS-T39
C28	.01		UK16-103		MAG1611		HY-420
C29	68		DTZ-68	NP068	CN0468		10TCC-Q68
C30	56 N150 10%				*		10TCP-Q56
C31	.01		UK16-103		MAG1611		HY-420
C32	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C33	.01		UK16-103		MAG1611		HY-420
C35	68		DTZ-68	NP068	CN0468		10TCC-Q68
C36	.01		UK16-103		MAG1611		HY-420
C37	100 N150 10%				*		10TCP-Q10
C38	.01		UK16-103		MAG1611		HY-420
C39	.01 10% 50V			WMF1S1	EWFA110	QF1-91	1PB-S10
C40	330 10%		DD-331	GP330	GP333		10TS-T33
C41	.01		UK16-103		MAG1611		HY-420
C42	120 10%		DTZ-120		CN0312		10TCC-T12
C43	220 10%		DTZ-220				10TCC-T22
C44	120 10%		DTZ-120		CN0312		10TCC-T12
C45	.01		UK16-103		MAG1611		HY-420
C46	120 10%		DTZ-120		CN0312		10TCC-T12
C47	270 10%			CD15FD271J03	SX327	QW1-37	MWB-271
C48	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C49	.0047		DD-472	GP4700	GP247		5GA-D47
C51	27				CN0427		10TCC-Q27
C52	.01		UK16-103		MAG1611		HY-420
C53	.047		UK25-503		MAG2515		HY-735
C54	.047		UK25-503		MAG2515		HY-735
C55	.047 10%			DPMS2S47	EWFA1A17	QF1-171	1PB-S47
C56	.01		UK16-103		MAG1611		HY-420
C57	10		DTZ-10	NP010	CN0410		10TCC-Q10
C58	.01		UK16-103		MAG1611		HY-420
C59	.01		UK16-103		MAG1611		HY-420

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		
C60	.01	(1)	UK16-103	NP02P2	MAG1611	QF1-171	HY-420		
C61	.01		UK16-103		MAG1611		HY-420		
C62	.01		UK16-103		MAG1611		HY-420		
C63	2		DTZ-2R2		CN0522		10TCC-V22		
C64	.01		UK16-103		MAG1611		HY-420		
C65	18 N150 10%		DTZ-2R2		*		10TCP-Q18		
C66	2.2				CN0522		10TCC-V22		
C67	.047 10% 50V				NP02P2		QF1-171	1PB-S47	
C68	.047 10% 50V				OPMS2S47		QF1-171	1PB-S47	
C69	.047 10% 50V				DPMS2S47		QF1-171	1PB-S47	
C70	.047 10% 50V				DPMS2S47		QF1-171	1PB-S47	
C71	.04 10% 50V				OPMS2S47		QF1-171	1PB-S47	
C73	.0068 10% 50V				WMF1D68		QF1-73	1PB-D68	
C75	.0022 5% 50V				DTZ-100		M192P2229R8	192P2229R8	
C77	100 10%		CN0310	10TCC-T10					
C79	.022 10% 50V		M192P2239R8	192P2239R8					
C80	.0022		GP222	10TS-D22					
C82	220		GP322	10TS-T22					
C83	.01 10% 50V		QF1-91	1PB-S10					
C84	.0022		GP222	10TS-D22					
C88	68		DTZ-68	CN0468	10TCC-Q68				
C89	68		DTZ-68	CN0468	10TCC-Q68				
C90	100		DTZ-100	CN0310	10TCC-T10				
C91	.068 10% 50V		DTZ-100	NP0100	QF1-195	1PB-S68			
C92	100 10%		DTZ-100	NP0100	QF1-195	10TCC-T10			
C95	.068 10% 50V		DTZ-100	WMF1S68	QF1-195	1PB-S68			
C106	.047		UK25-503	MAG2515	HY-735				
C107	.047		UK25-503	MAG2515	HY-735				
C110	18 N150		DTZ-82		*	10TCP-Q82			
C111	82 10%				CN0482	10TCC-Q82			
C112	39				CN0439	10TCC-Q39			
C114	390				GP339	10TS-T39			
C117	.0047 10% 50V				M192P4729R8	192P4729R8			
C118	.02		UK50-223	MAG5012	QC2-107	192P8239R8			
C123	.082 10% 50V		M192P8239R8	10TS-D22					
C130	.0022		GP222	10TCP-Q39					
C131	39 N150 10%		*	10TCC-Q15					
C132	15 N150		*	10TS-D22					
C133	.0022		GP222	10TCC-V33					
C134	3		DTZ-3R3	CN0533		10TCC-T22			
C135	220 10%		DTZ-220	GP233		5GA-D33			
C136	.0033		DD-332	MAG1611		HY-420			
C137	.01		UK16-103	MAG1611		10TCC-T22			
C139	220 10%		DTZ-220	MAG1611		HY-420			
C199	.01		UK16-103	MAG1611		10TCC-T15			
C201a	150 10%		DTZ-150	CN0315		10TCC-V68			
C201b	7		DTZ-6R8	CN0568		HY-420			
C202	.01		UK16-103	MAG1611		HY-420			
C203	.01		UK16-103	MAG1611	HY-420				
C204	.01		UK16-103	MAG1611	HY-420				
C205	.047		UK25-503	MAG2515	HY-735				
C206	.01		UK16-103	MAG1611	HY-420				
C207	.01		UK16-103	MAG1611	HY-420				
C208	.0047		DD-472	GP247	5GA-D47				
C209	.0047		DD-472	GP247	5GA-D47				
C210	.0047		DD-472	GP247	5GA-D47				
C211	.0047		DD-472	GP247	5GA-D47				
C212	.0047		DD-472	GP247	5GA-D47				
C213	.047		UK25-503	MAG2515	HY-735				
C501	.01		UK16-103	MAG1611	HY-420				
C502	.01		UK16-103	MAG1611	HY-420				
C503	.01		UK16-103	MAG1611	HY-420				
C504	.01		UK16-103	MAG1611	HY-420				
CT1		13-123069	UK16-103	MAG1611	HY-420				

*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	13-164132	T-10K (3)	C-103 (3)	MTC14L4	U201R1038
RV2	AMC	5000	13-164146				
RV3	S Meter	20K	13-164134				
RV4	RF Meter	20K	13-164134				
RV501	SWR	2000	77-164001				
RV502	Antenna Warning	10K	77-164002				
VR1	Volume/Power Switch	50K	13-160138				
VR2	Squelch/PA Switch	10K	77-166001				
VR3	Tone	50K	13-165041				
VR4	SWR/CAL	10K	13-165042				
VR5	RF Gain	100K	13-165044				
VR6	Remote Volume	50K					

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

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 Input	77-176001	10MB003M68LT		
L2	VCO	13-090405			
L3	RF Choke	13-178210			
L4	RF Choke	77-176002			
L5	Harm Suppressor (27MHz)	77-176003			
L6	RF Choke	13-176564			
L17	Xmit Driver (27MHz)	13-176508			
L8	RF Choke	13-178210			
L9	RF Choke	13-176567			
L10	RF Choke	13-176565			
L11	Final Amp (27MHz)	13-176509			
L12	Antenna Match (27MHz)	13-176510			
L13	RF Choke	77-176004			
L14	Rec Mixer (10.695MHz)	13-176615			
L15	RF Choke	13-178210	1DDB002S60E3 10MB005S69C3 10CB001M68JV 10CP005M67G9 ETR03336903 ETR033469C3 ET1012269G3		
L16	RF Choke	13-178209			
L17	RF Choke	13-178209			
T1	REF Osc (10.240MHz)	77-094001			
T2	VCO	71-094002			
T3	Xmit Osc (27MHz)	13-094232			
T4	Xmit Buffer (27MHz)	13-094233			
T5	Rec Antenna (27MHz)	13-094234			
T6	Rec RF (27MHz)	77-094003			
T7	Rec Mixer (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	1.28 A	.12	.48mH	13-178208 ELA-16 (1)	TR523		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T11	2	1 8 2 .5	13-096200 ETA-66 (1)	TR723		(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	3 5/8" PM 8 Ohms	13-060117	3A0528R	

MIDLAND MODEL 77-888

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFR. PART No.	CTS KNIGHTS PART No.	CHANNEL	ITEM No.	CRYSTAL FREQUENCY IN MHz	MFR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X1	10.240	77-128001	CA60W10240	Ref Osc	X2	10.695	77-128002		Xmit Osc

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFR. 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	13-038099										

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Ceramic Filter	77-179001	455kHz
J1	Jack	13-159220	Antenna
J3	Jack	13-153-168	PA/EXT CB
J4	Jack	13-153-168	Ext Speaker
J5	Jack	13-159-235	Power
M1	Meter	77-200001	S/R/F/SWR
PL1	Lamp	13-201076	Channel Indicator
PL2	Lamp	13-201078	AWI
PL3	Lamp		Meter
PL4	Lamp	13-201077	TX
SW1	Switch	77-180001	Channel Select
S1	Switch		Power (Part of Volume Control)
S2	Switch	13-183234	Delta Tune
S3	Switch	13-183236	ANL
S4	Switch		PA/CB (Part of Squelch Control)
S5	Switch	13-183236	NB
S6	Switch	13-183234	S/R/F/SWR-Cal
S7	Switch	13-183236	EXT CB

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Top	77-010001	Escutcheon	77-0110001
Cabinet, Bottom	77-013001	Knob, Control	13-110198
Panel, Front	13-010327	Knob, Channel Selector	13-115141

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	BELOEN 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')