

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 KCB-4030

MANUFACTURER'S SPECIFICATIONS

GENERAL

Circuitry	23 Transistors, 4ICs 20 Diodes
Frequency Control	PLL (Phase Lock Loop) Frequency synthesizing system
Channels	40 channels all installed
Mode of Operation	AM
Power Source Voltage Range	11.5–14.5V DC
Speaker	3" dynamic 8 ohm
Microphone	Dynamic 500 ohm
Power Source	DC 12.6 volts

RECEIVER SECTION

Receiving System	Dual conversion system
Sensitivity	0.7 μ V for 10 dB S/N
Selectivity	More than 45 dB down at $\pm$ 10 KHz
Delta Tune	About $\pm$ 1 KHz
Spurious Rejection	–45 dB
Audio Output Power	3.0 watts at 8 ohm
Squelch Range	0.7 μ V to 300 μ V
IF	1st 10.695 MHz 2nd 455 KHz

TRANSMITTER SECTION

Modulation System	High level class B, Power IC
RF Output Power (at 13.8 V)	4 watts (F.C.C. maximum)
Frequency Tolerance	$\pm$ 0.005%
Spurious Rejection	–60 dB

Courtesy of the Manufacturer

KRACO MODEL KCB-4030

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 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:

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, Delta Tune 0	CT1	Adjust for 10.240MHz $\pm$ 50Hz.
Input of Oscilloscope to TP2.	Ch. 19	T1	Adjust for maximum.
Input of DC meter to TP8.	Ch. 1	L1	Adjust for 3.60V $\pm$.1V.
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. Check 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 Squelch Min RF Gain Max ANL/NB ANL	T10, T9, T8	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19 Delta Tune 0 Squelch Min RF Gain Max AN/NB ANL	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.

TEST EQUIPMENT	TRANSCEIVER	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 ANL/NB ANL	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 Delta Tune 0 RF Gain Max ANL/NB ANL	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	TRANSCEIVER	ADJUST	REMARKS
	Ch. 19	L5, T3, T4, L7, L11, L12	Adjust for maximum.
	Ch. 19	L7	Adjust for 3.8 watts.

TRANSMITTER ADJUSTMENTS

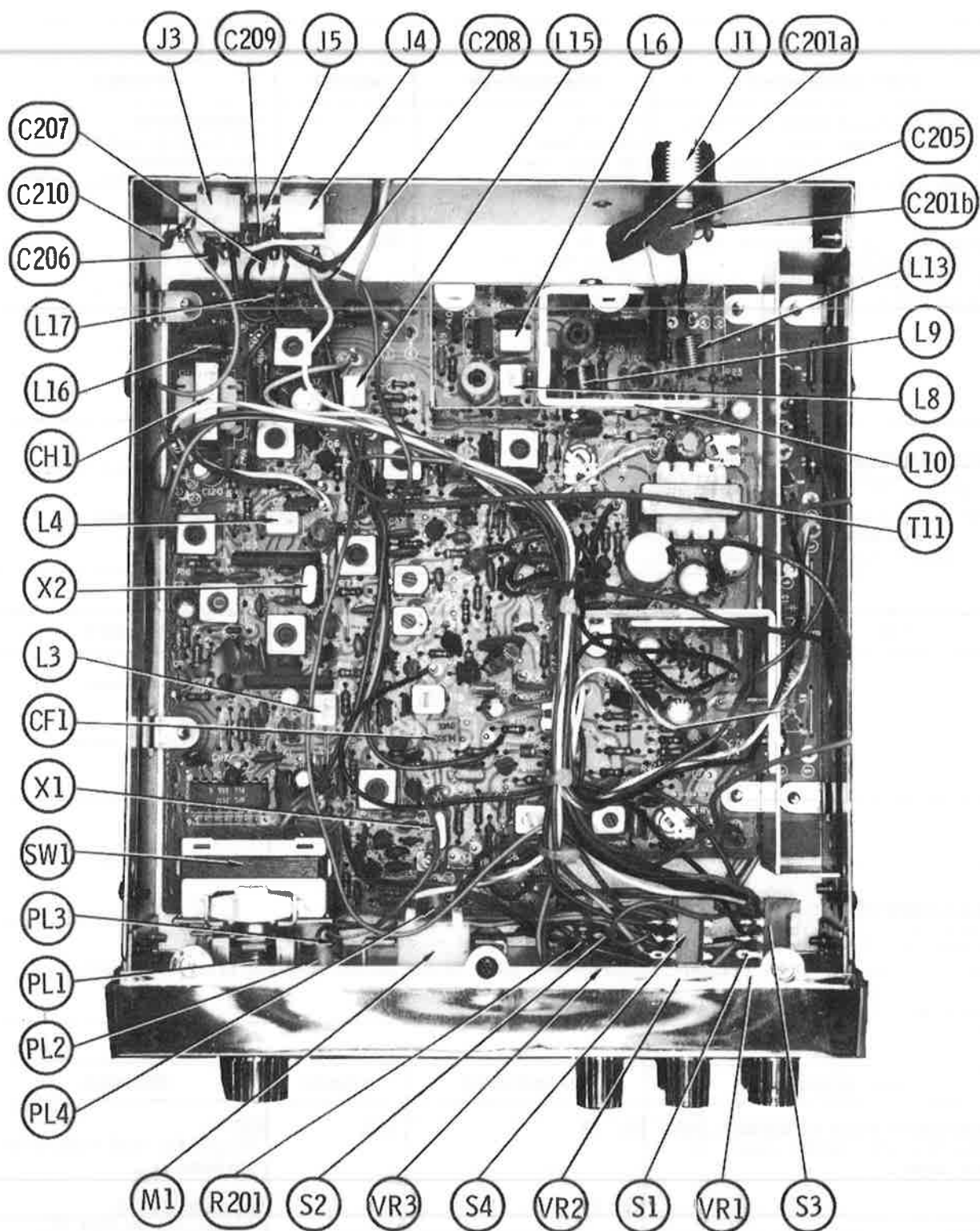
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.

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

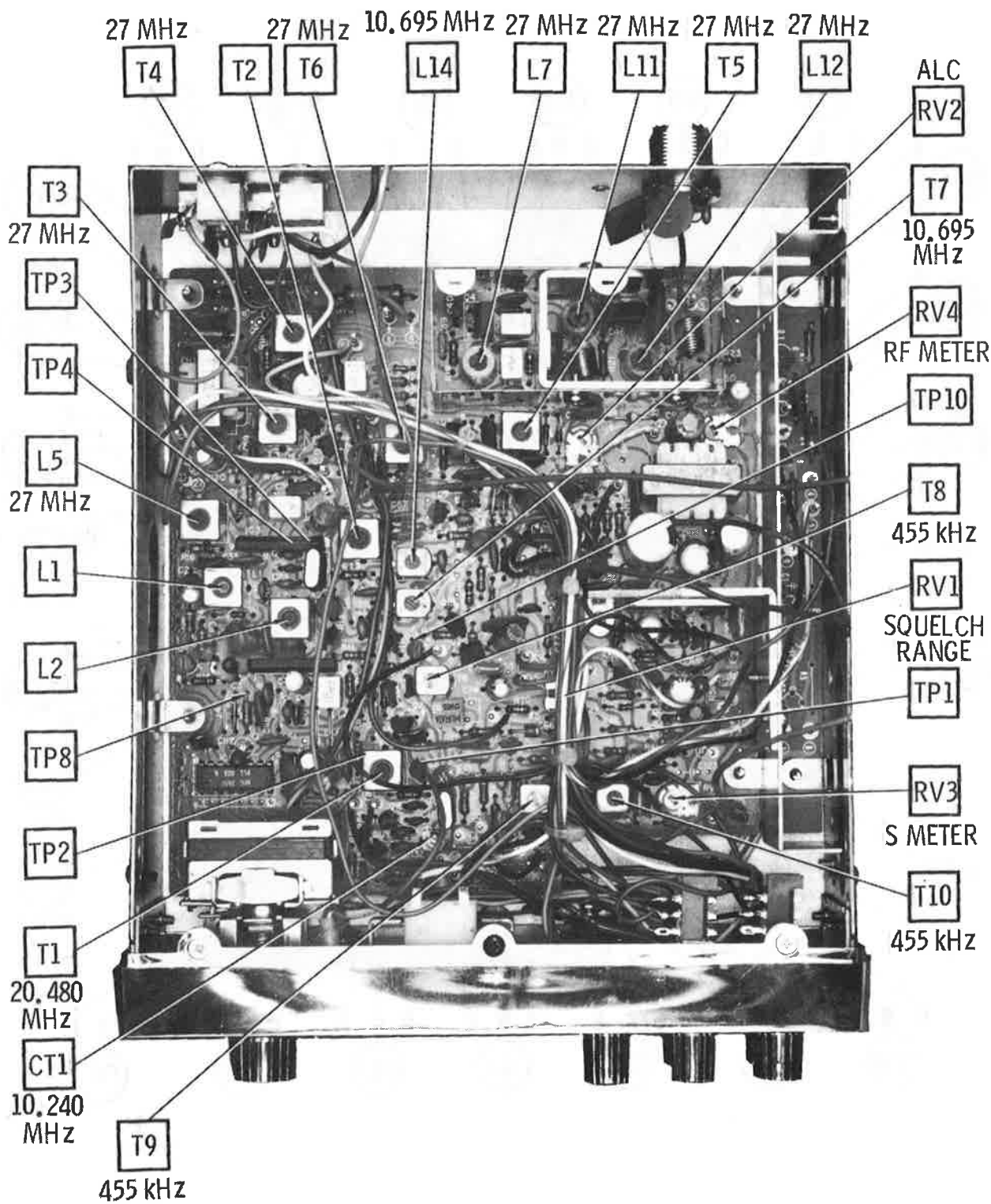
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 20mV, 1000Hz signal at mic input.	Ch. 19	RV2	ALC Adjust for 100% modulation maximum.
	Ch. 19	RV4	RF PANEL METER Adjust RV4 so that RF Panel meter agrees with RF wattmeter.

KRACO MODEL KCB-4030

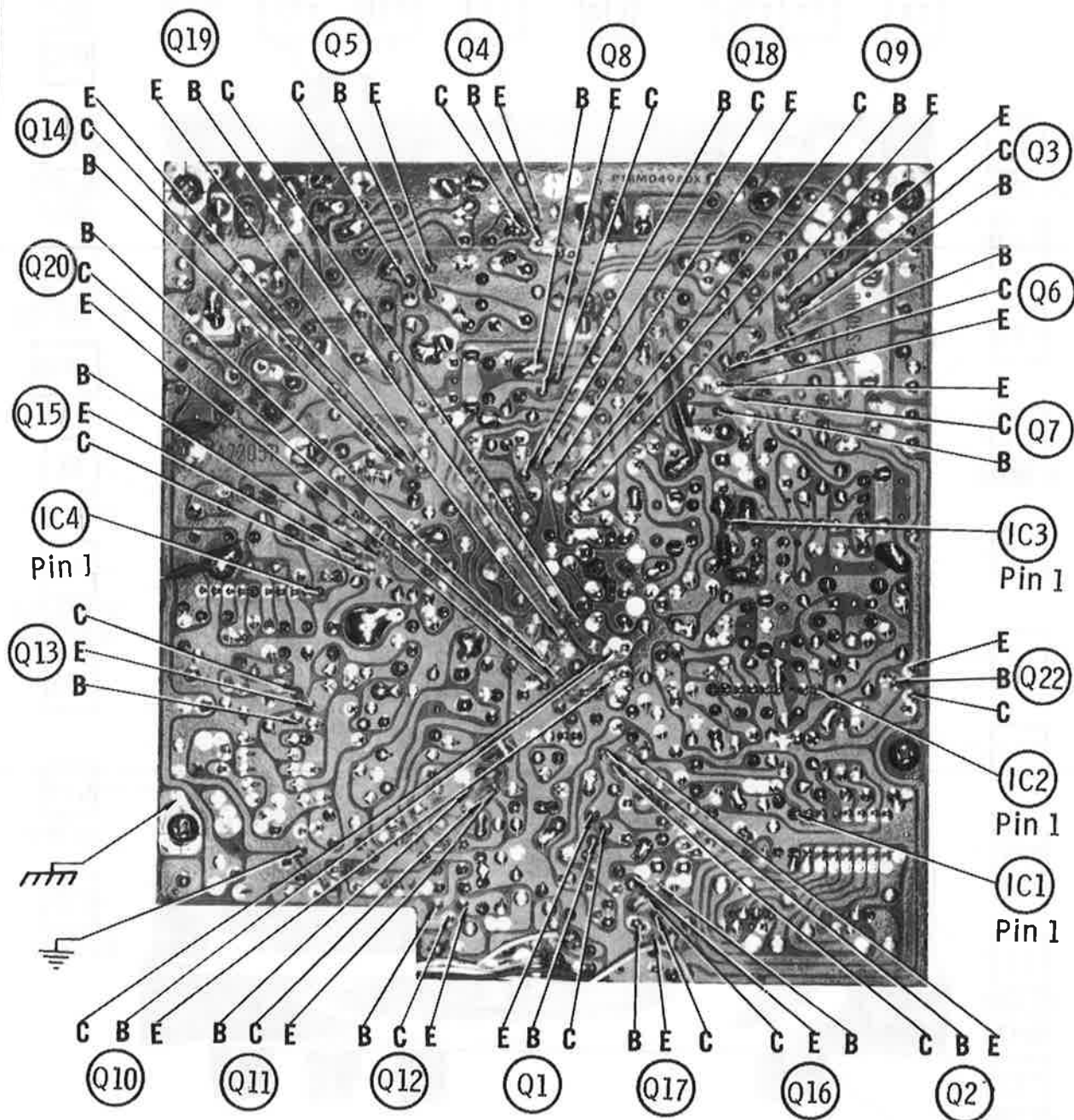


CHASSIS-BOTTOM

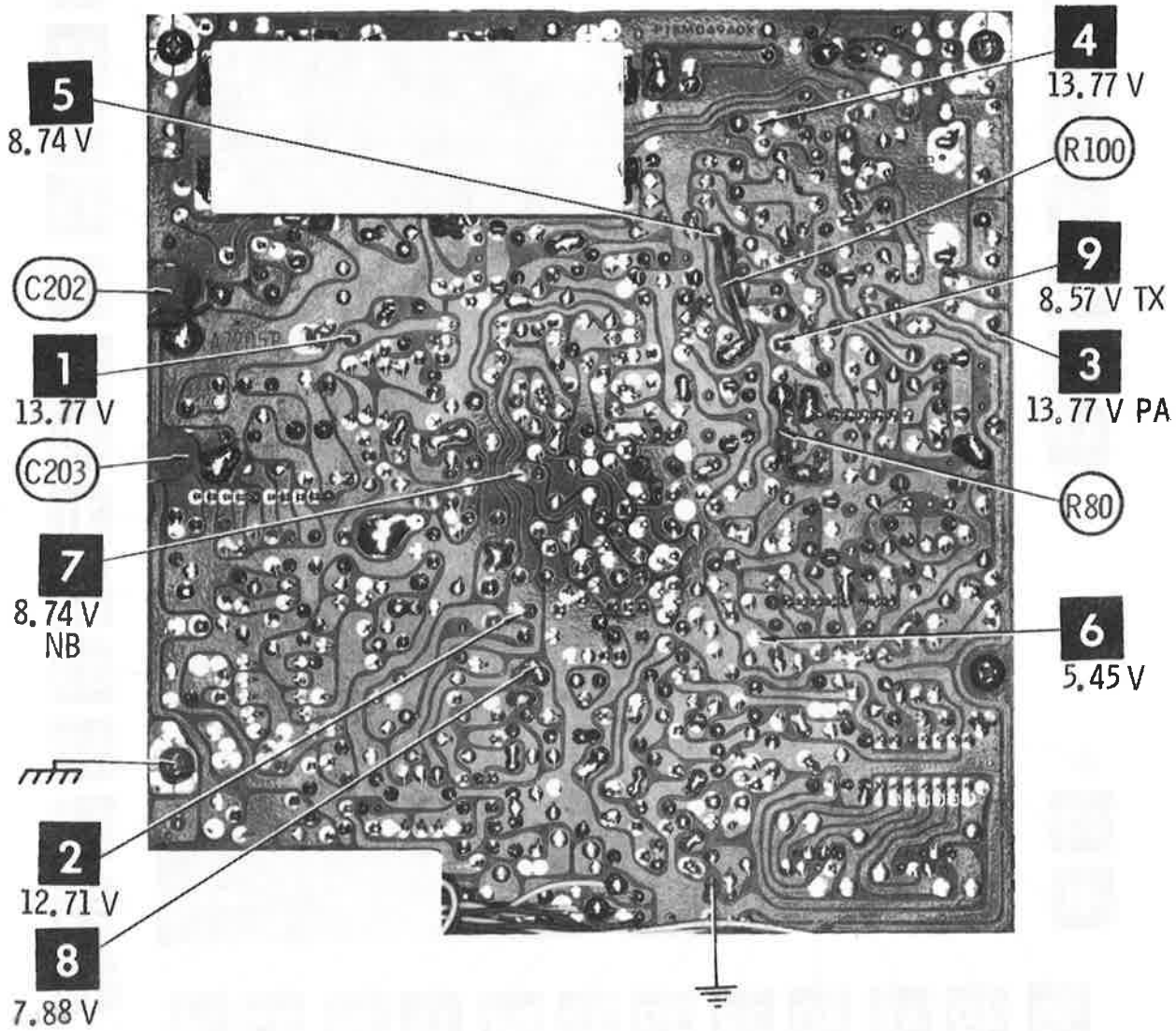


KRACO MODEL KCB-4030

CHASSIS-BOTTOM

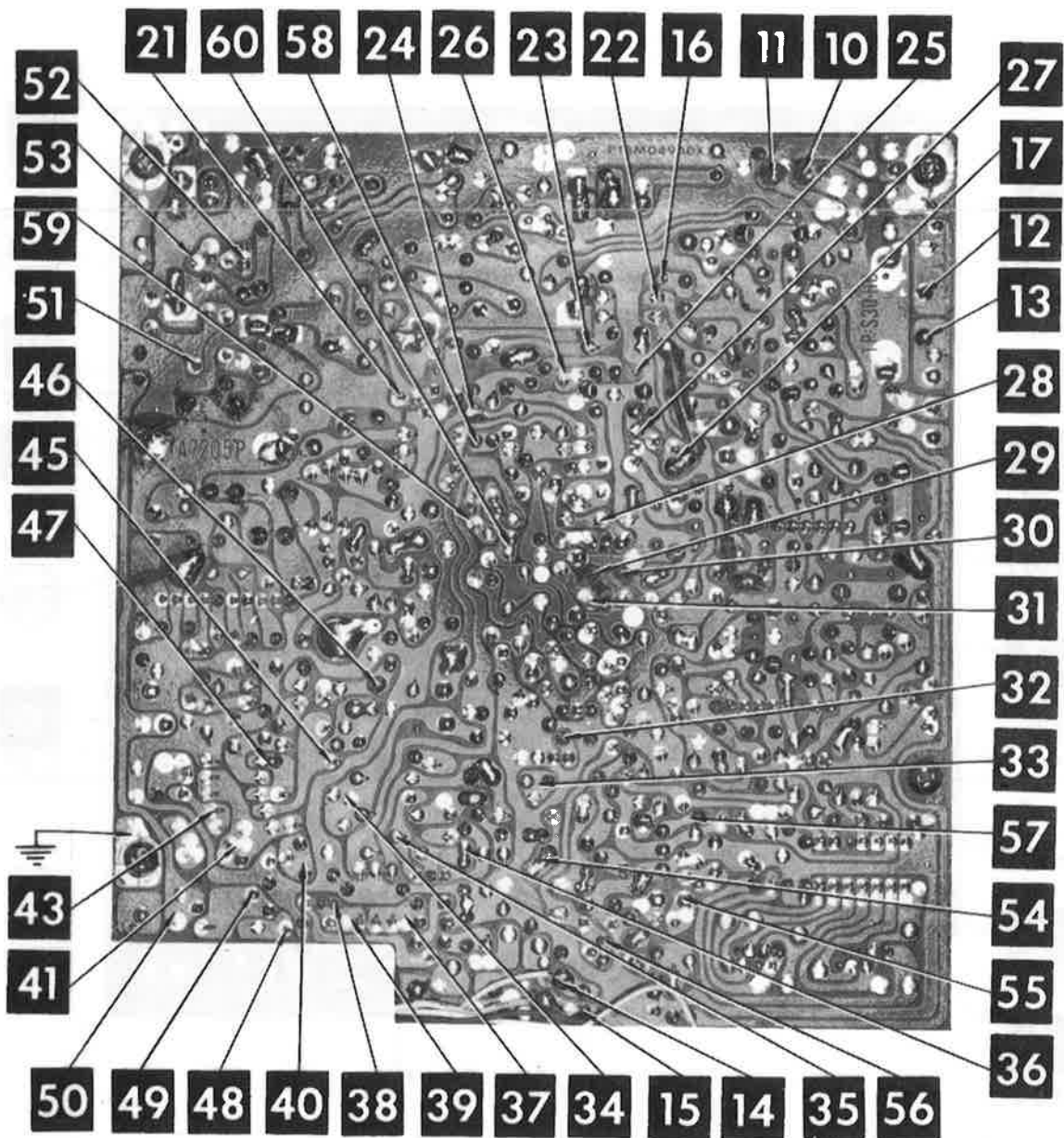


MAIN BOARD

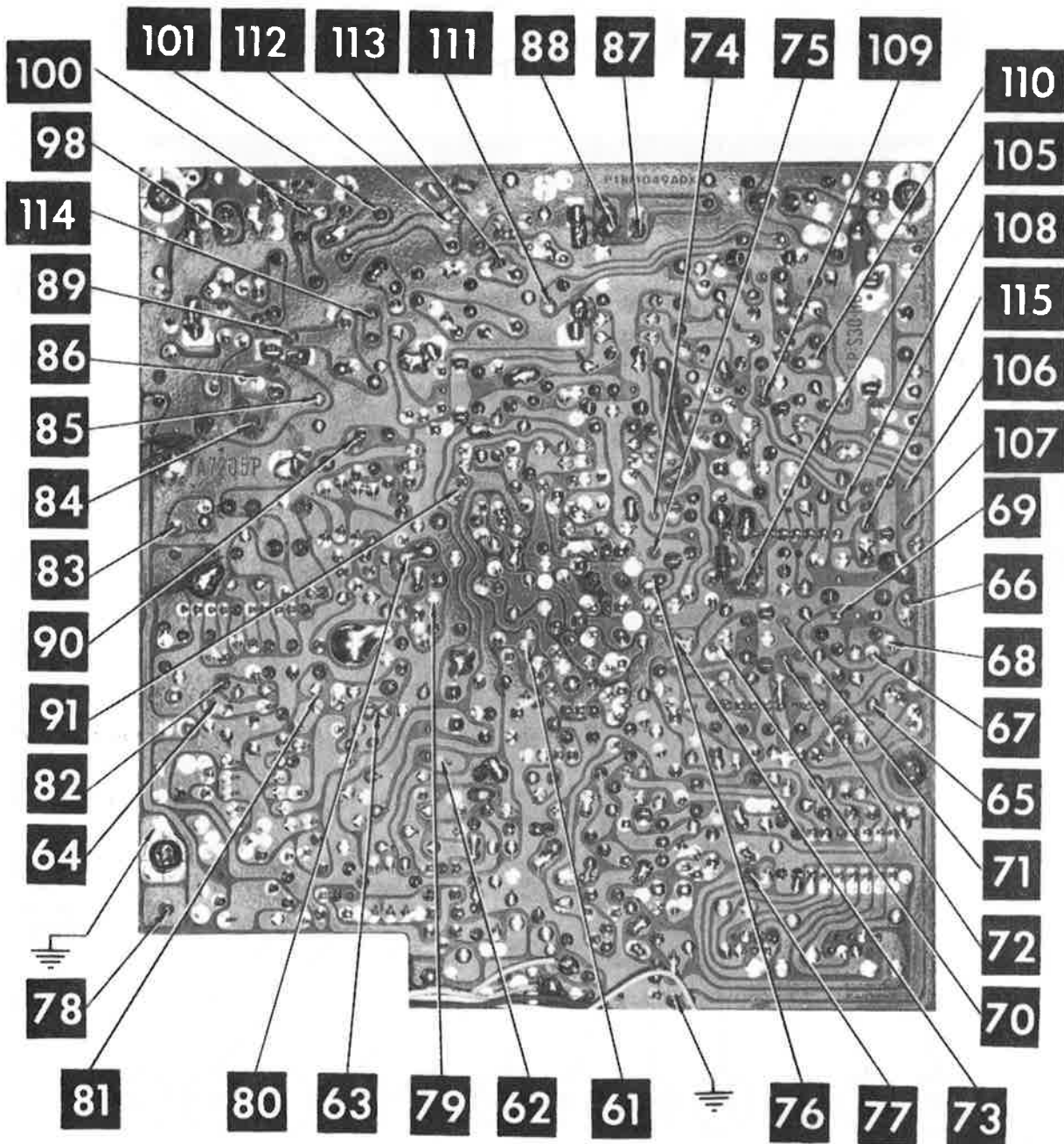


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MAIN BOARD

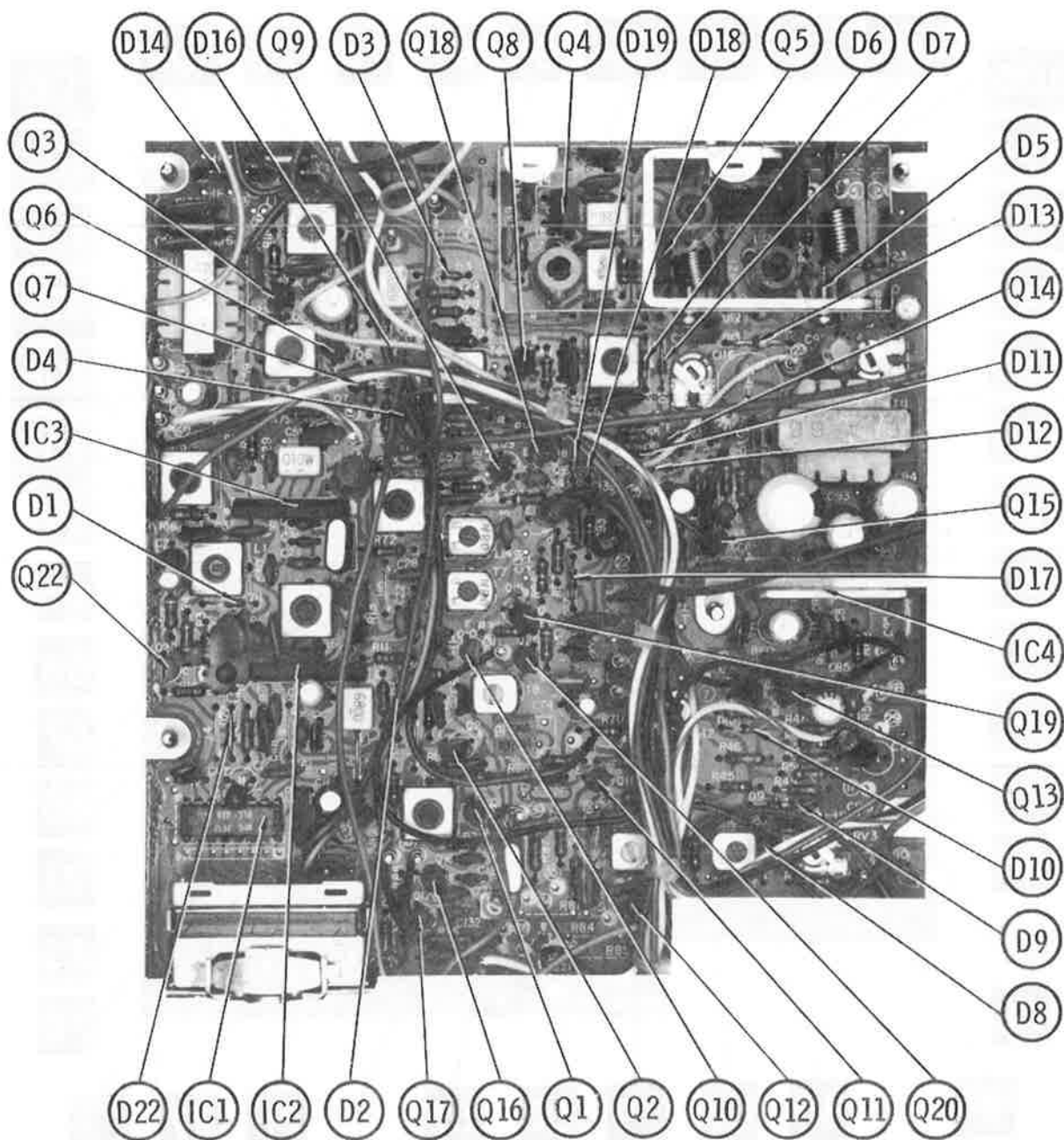


MAIN BOARD

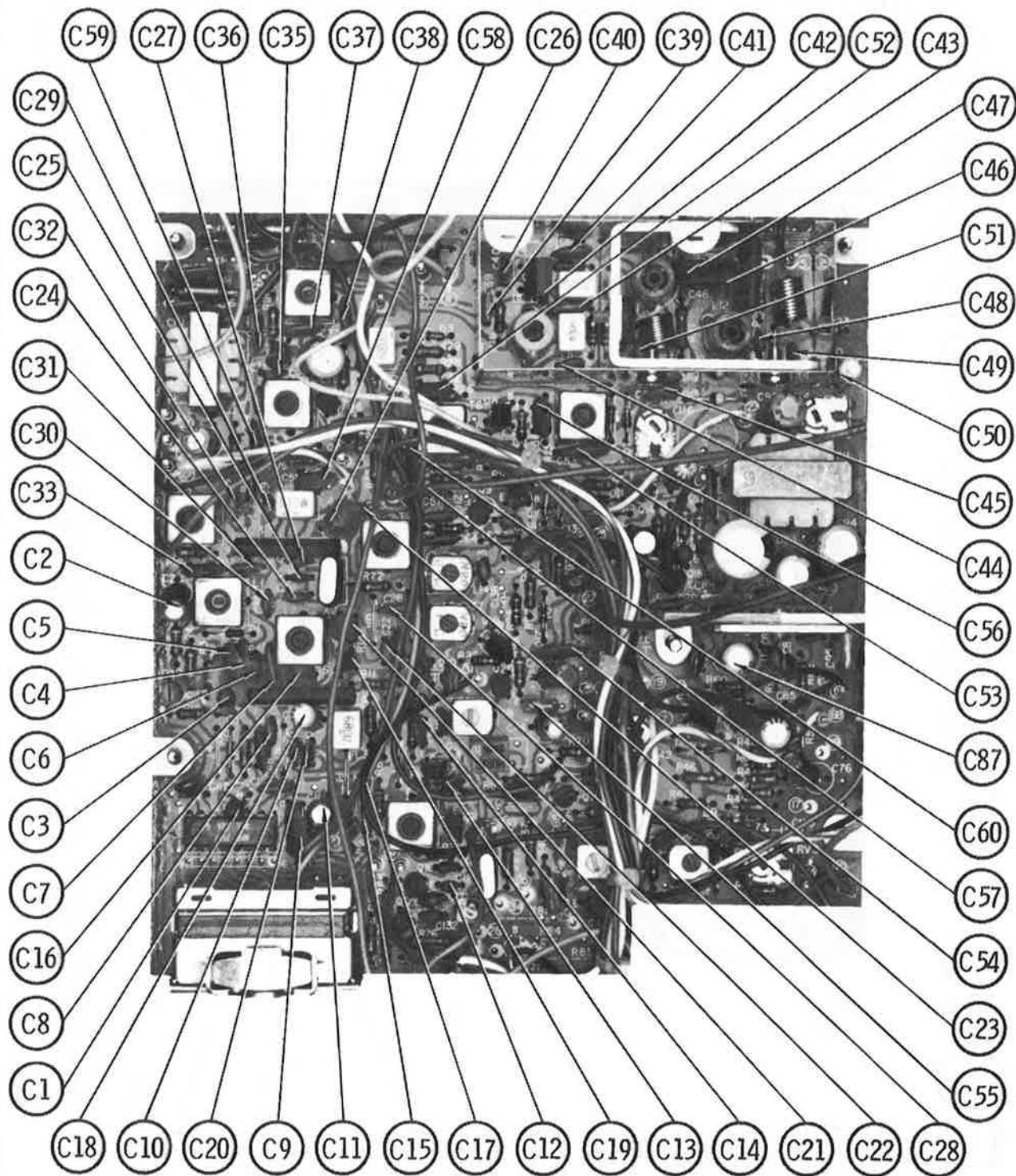


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MAIN BOARD

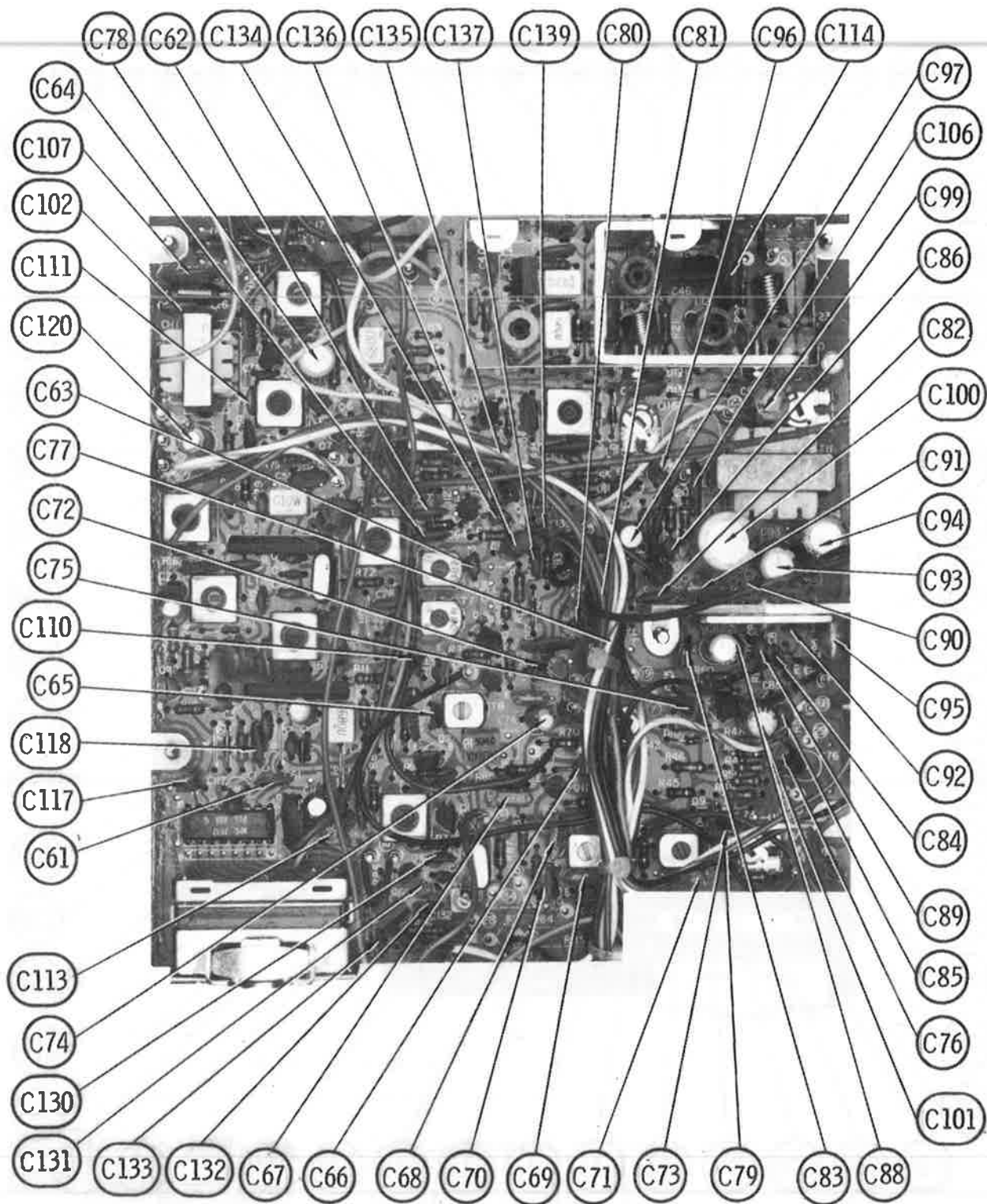


MAIN BOARD

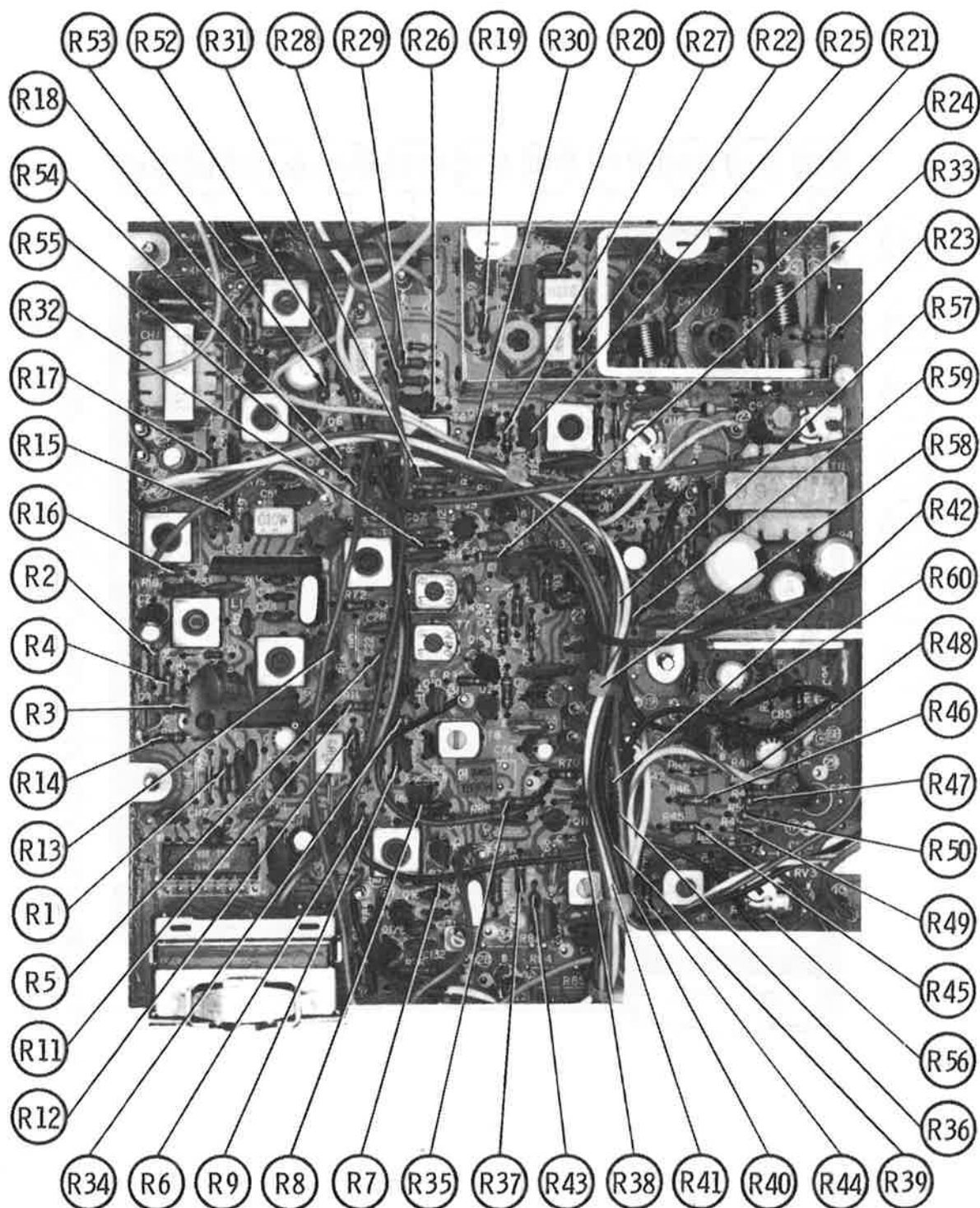


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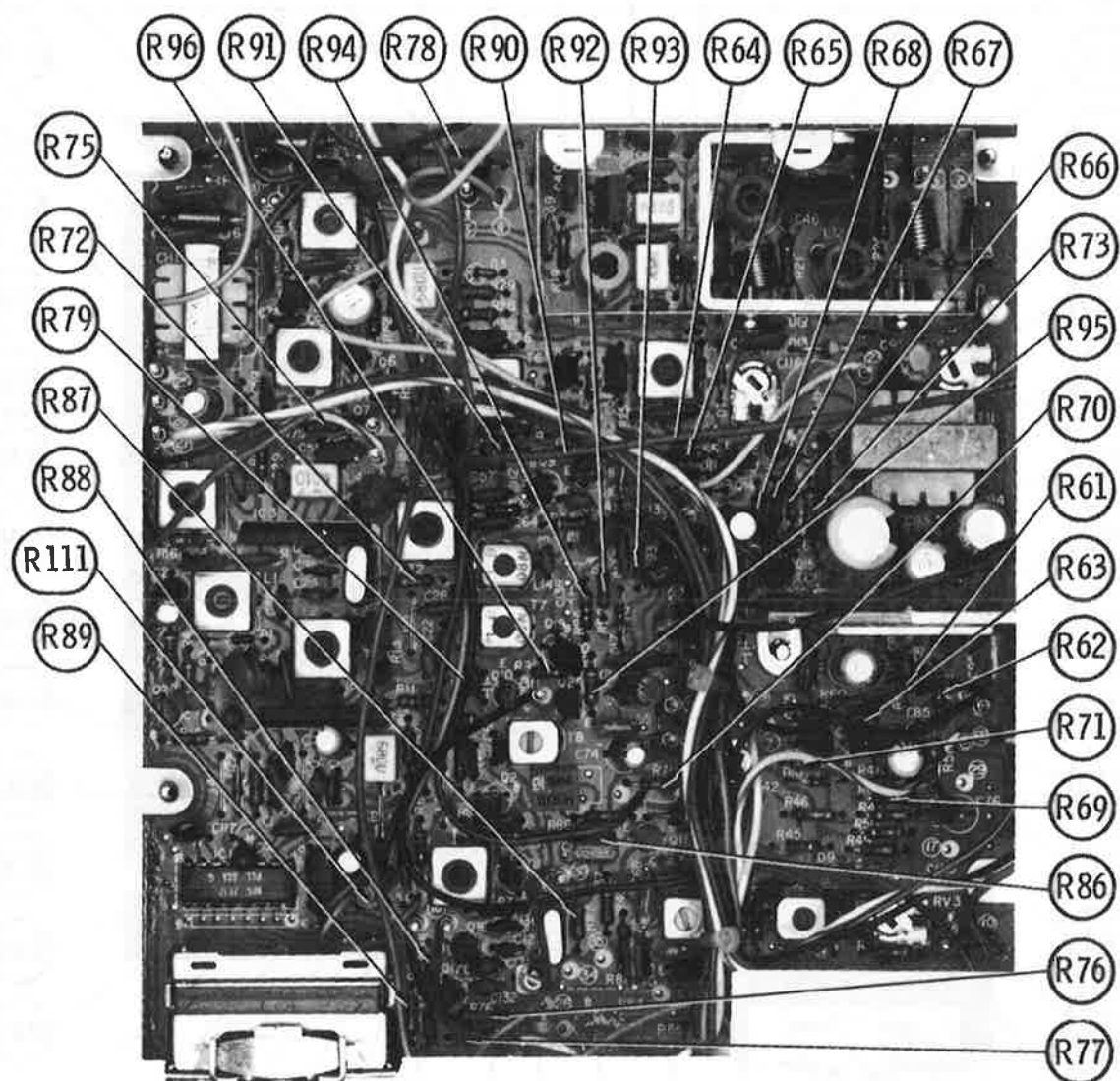
MAIN BOARD



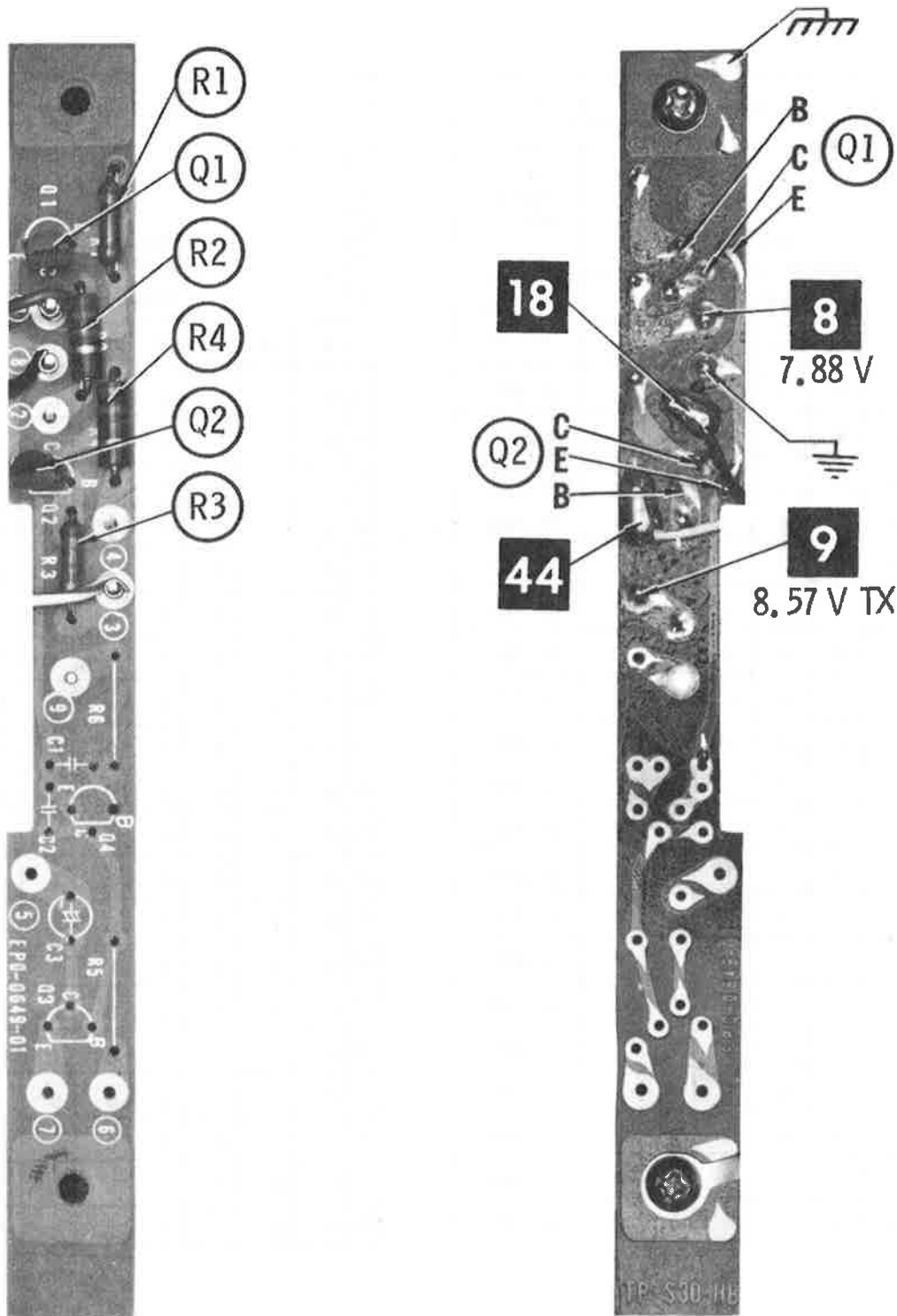
MAIN BOARD



MAIN BOARD



MAIN BOARD



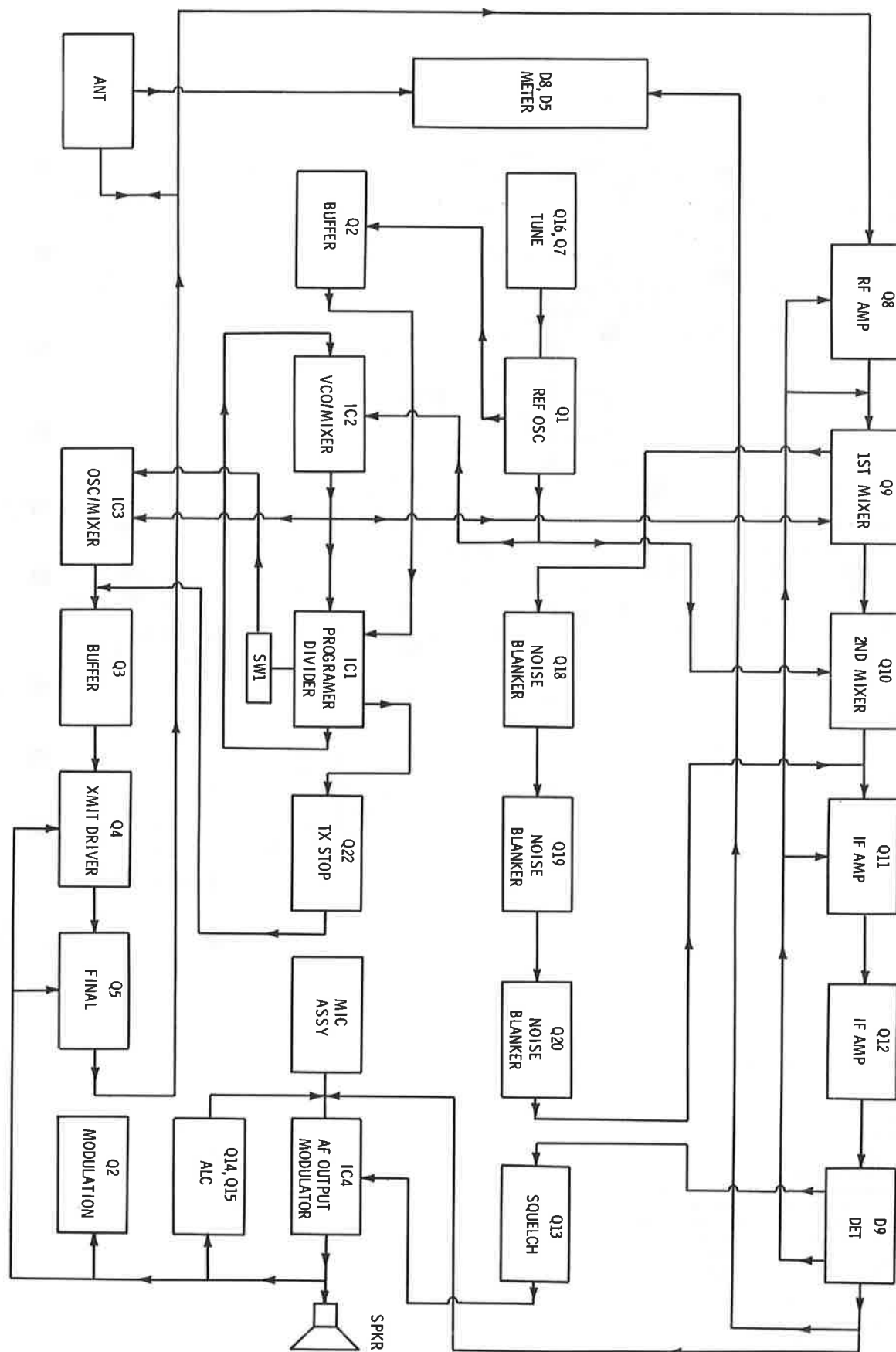
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LAMP CONTROL BOARD

TRUTH CHART

1 = <u>5.45</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	IC1 PROGRAM DIVIDER							REC & XMIT VCO OUTPUT IN MHz AT TP4
	PINS							
	9	10	11	12	13	14	15	
	9	10	11	12	13	14	15	
1	1	0	0	1	0	1	0	37.660
2	1	0	0	1	0	0	1	37.670
3	1	0	0	1	0	0	0	37.680
4	1	0	0	0	1	1	0	37.700
5	1	0	0	0	1	0	1	37.710
6	1	0	0	0	1	0	0	37.720
7	1	0	0	0	0	1	1	37.730
8	1	0	0	0	0	0	1	37.750
9	1	0	0	0	0	0	0	37.760
10	0	1	1	1	1	1	1	37.770
11	0	1	1	1	1	1	0	37.780
12	0	1	1	1	1	0	0	37.800
13	0	1	1	1	0	1	1	37.810
14	0	1	1	1	0	1	0	37.820
15	0	1	1	1	0	0	1	37.830
16	0	1	1	0	1	1	1	37.850
17	0	1	1	0	1	1	0	37.860
18	0	1	1	0	1	0	1	37.870
19	0	1	1	0	1	0	0	37.880
20	0	1	1	0	0	1	0	37.900

1 = <u>5.45</u> Volts 0 = <u>0</u> Volts								
C H A N N E L	IC1 PROGRAM DIVIDER							REC & XMIT VCO OUTPUT IN MHz AT TP4
	PINS							
	9	10	11	12	13	14	15	
21	0	1	1	0	0	0	1	37.910
22	0	1	1	0	0	0	0	37.920
23	0	1	0	1	1	0	1	37.950
24	0	1	0	1	1	1	1	37.930
25	0	1	0	1	1	1	0	37.940
26	0	1	0	1	1	0	0	37.960
27	0	1	0	1	0	1	1	37.970
28	0	1	0	1	0	1	0	37.980
29	0	1	0	1	0	0	1	37.990
30	0	1	0	1	0	0	0	38.000
31	0	1	0	0	1	1	1	38.010
32	0	1	0	0	1	1	0	38.020
33	0	1	0	0	1	0	1	38.030
34	0	1	0	0	1	0	0	38.040
35	0	1	0	0	0	1	1	38.050
36	0	1	0	0	0	1	0	38.060
37	0	1	0	0	0	0	1	38.070
38	0	1	0	0	0	0	0	38.080
39	0	0	1	1	1	1	1	38.090
40	0	0	1	1	1	1	0	38.100



BLOCK DIAGRAM

PARTS LIST AND DESCRIPTION

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

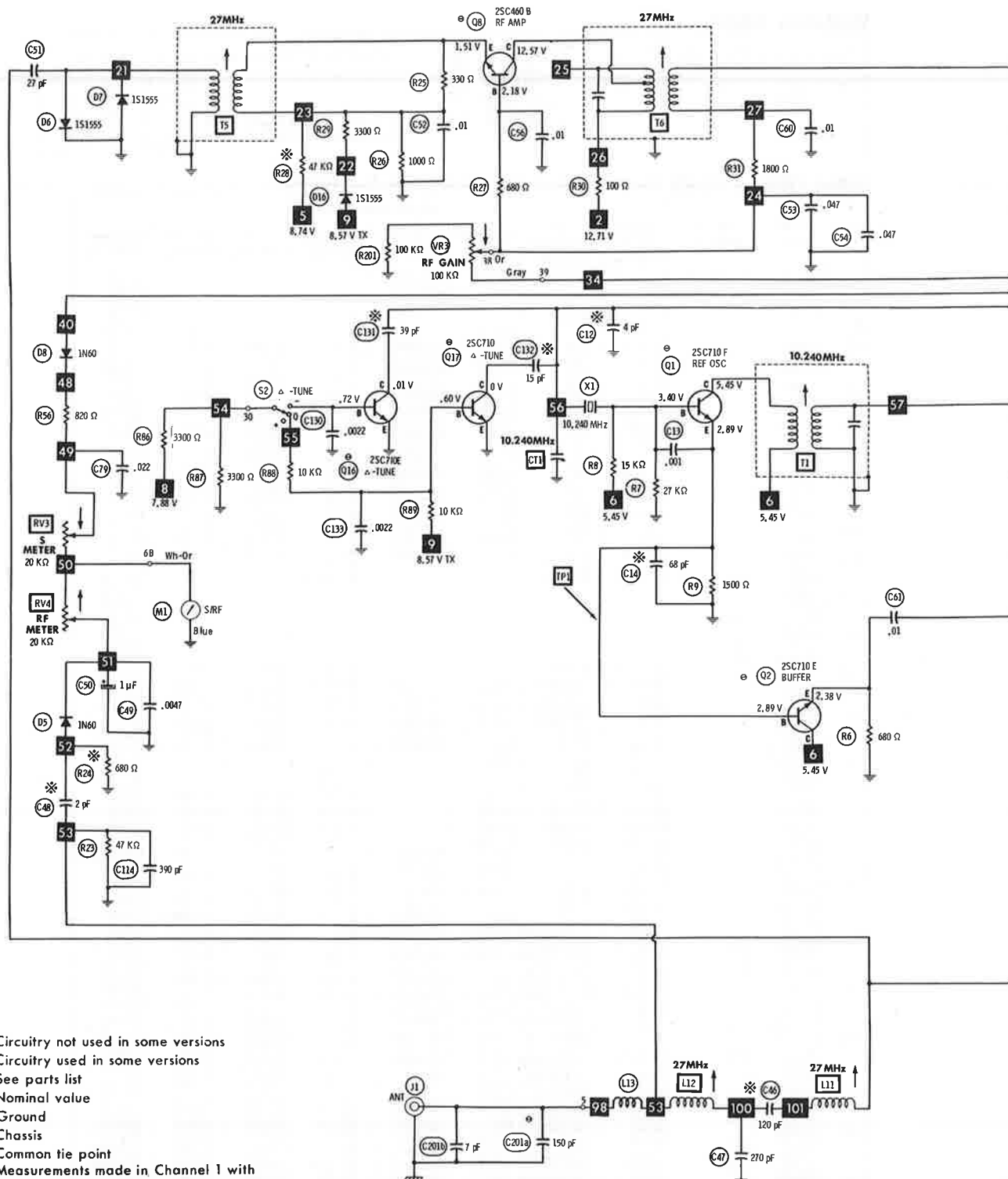
WIRING DATA

General-use Hook-up Wire (available in 5 colors)	BELDEN No. 8523	Coiled Microphone Cable	
Shielded Hook-up Wire (spiral wrapped)	BELDEN No. 8421	3-conductor (1 shielded)	23AWG BELDEN No. 9471 (5')
(braided)	BELDEN No. 8401		BELDEN No. 8497 (6')
Speaker Cable (available in 4 colors)	BELDEN No. 8782		BELDEN No. 9472 (7-1/2')
Bonding Strap	BELDEN No. 8672	28AWG BELDEN No. 9466 (6')	
AC Power Cord	(6') BELDEN No. 17106	31AWG BELDEN No. 9468 (10')	
	(9') BELDEN No. 17109	23AWG BELDEN No. 8415 (6')	
		5-conductor (unshielded)	28AWG BELDEN No. 9467 (6')
		5-conductor (1 shielded)	BELDEN No. 9465 (7-1/2')

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1TT410 BB122 MV201	(1)				HEPR2502 HEPR2502 HEPR2502				ECG612 ECG612 ECG612
D2	MZ205			WEP602			RE 105			ECG135
D3	RD9.1E		GEZD-9.1		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
C10	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	V06		GE-504A	5A6D	PTC202	HEPR0054	RE 49	SK3017A	RT-215	ECG116
D14	1S1885		GE-504A	5A4D	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
IC1	PLL02A PLL02	(1)		WEP2007 WEP2007			RE 360-1C RE 360-1C			ECG1167 ECG1167
IC2	C3001A C3001	(1)								ECG1192 ECG1192
IC3	TA7310P C3001A C3001	(1)								ECG1192 ECG1192 ECG1192
IC4	TA7205P TA7205F	(1)	GEIC-179 GE-211 *	WEP949 (IR)25C710	PTC780 PTC132	HEPS0016 *	RE 357-1C RE 13 *	SK3231 SK3018 *	TYCM-81 RT-308 *	ECG1155 ECG123A *
Q1	25C710F 25C710	(1)	GE-211 *	(IR)25C710	PTC132	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q2	25C710E 25C710	(1)	GE-211 *	(IR)25C710	PTC132	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q3	25C1687 25C1687Q	(1)	GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
Q4	25C1760 25C1846 25C2036	(12) (1) (1)	GE-20 *	TR-24 *	PTC121 *	HEPS0015 *	RE 13 *	SK3018 *	RT-107A *	ECG123A *
Q5	25C1678 25C1306 25C2075 25C1974	(13)	GE-276 GE-336 GE-336	WEP1014 WEP913 WEP771	PTC180		RE 224 RE 209 RE 209		RT-310	ECG306 ECG295 ECG306
Q6	25C1318Q 25C1318	(1)	GE-322 GE-215 GE-215	WEP1678 WEP1306 WEP1306	PTC186 PTC186 PTC186		RE 203 RE 203 RE 203	SK3197 SK3197 SK3197	RT-146 RT-146 RT-146	ECG235 ECG235 ECG235
Q7	25A719R 25A719 25A719P	(1)	GE-337 GE-210 *	WEP1306 TR-21 *	PTC186 PTC178	HEPS0015 *	RE 203 RE 17 *	SK3197 SK3122	RT-146 RT-302	ECG235 ECG128 *
Q8	25A719R 25A719 25A719P	(1)	GE-269 GE-269 GE-269	TR-28 *	PTC103 *	HEPS0019 *	RE 26 *	SK3114	RT-305	ECG290
Q9	25C710 25C1359C 25C1359 25C710	(1)	GE-82 *	TR-19	PTC127 *	HEPS0026	RE 211	SK3114	RT-126A *	ECG298
Q10	25C710 25C829 25C839	(1)	GE-61 *	(IR)25C460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
Q11	25C710 25C829 25C829B	(1)	GE-61 *	(IR)25C460B	PTC136 *	HEPS0014 *	RE 9	SK3018 *	RT-134	ECG107
Q12	25C829B 25C829C 25C829	(1)	GE-60 *	(IR)25C829B	PTC132 *	HEPS0016 *	RE 28 *	SK3018 *	RT-107	ECG161 *
Q13	25C710 25C829P 25C828 25C945 25C372	(1)	GE-211 *	(IR)25C710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q14	25A719Q 25A719 25A720 25A564	(1)	GE-212	(IR)25C380A	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
Q15	25C945L 25C945 25C900	(1)	GE-212	(IR)25C380A	PTC121 *	HEPS0014 *	RE 192	SK3038 *	RT-308	ECG199
Q16	25C710 25C829 25C839	(1)	GE-211 *	(IR)25C710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *
Q17	25C710 25C829 25C839	(1)	GE-211 *	(IR)25C710	PTC132 *	HEPS0016 *	RE 13 *	SK3018 *	RT-308 *	ECG123A *

KRACO MODEL KCB-4030

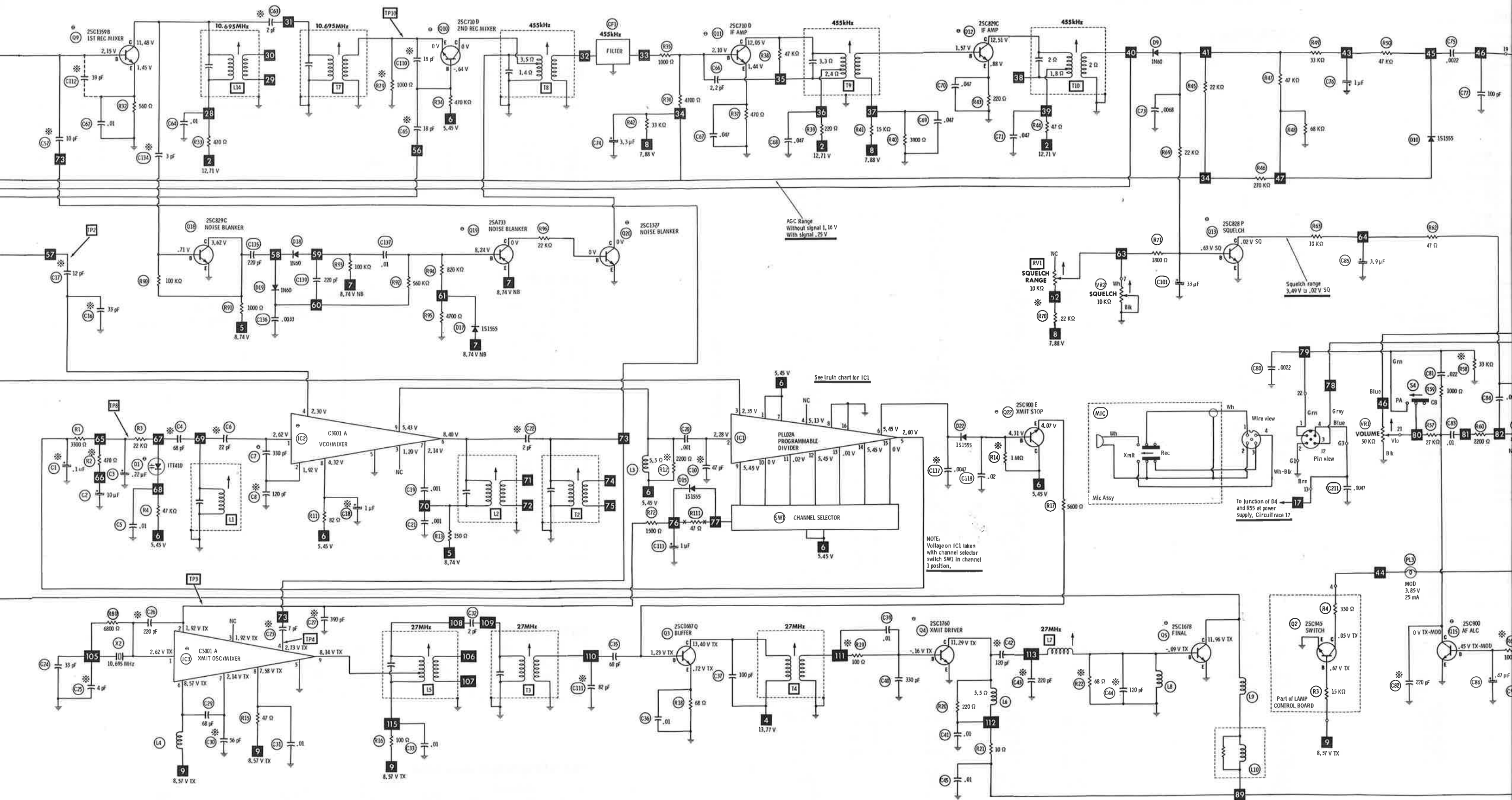


- ✖ Circuitry not used in some versions
 - Circuitry used in some versions
 - ⊕ See parts list
 - ✱ Nominal value
 - ⊥ Ground
 - Chassis
 - ▽ Common tie point
- Measurements made in Channel 1 with switching as shown unless noted.
 Item numbers in rectangles appear in the alignment/adjustment instructions.
 Supply voltage maintained as shown at input.
 Voltages measured with digital meter, no signal.
 Controls adjusted for normal operation.
 Arrow at control indicates direction of advance.
 Terminal identification may not be found on unit.
 Resistors are 1/2W or less, 5% unless noted.
 Value in () used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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

LAMP IDENTIFIERS			REPLACEMENT DATA								
ITEM No.	TYPE No.	MFGR. PART No.	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.	
Q18	25CB29C	(1)	GE-20 *	(IR)25CB29B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *	
Q19	25CB29		GE-20 *	(IR)25CB29B	PTC121 *	HEPS0015 *	RE 9 *	SK3122	RT-308	ECG229 *	
Q20	25A733	(1)	GE-48	TR-31	PTC103 *	HEPS0019 *	RE 26 *	SK3138	RT-303	ECG294	
	25C1327T		GE-85 *	(IR)25C945	PTC139 *	HEPS0024 *	RE 192	SK3124	RT-107A	ECG199	
Q22	25C1327	(1)	GE-85 *	(IR)25C945	PTC139 *	HEPS0024 *	RE 192	SK3124	RT-107A	ECG199	
	25C900		(1)	GE-62	(IR)25C644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199
	25C900E	(1)	GE-62	(IR)25C644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199	
	25C900		GE-62	(IR)25C644	PTC139 *	HEPS0015 *	RE 192	SK3124	RT-302	ECG199	
LAMP CONTROL BOARD											
Q1	25C945AP	QT-C0945ADA	GE-212	(IR)25C945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199	
	25C945AR,Q		(1)	GE-212	(IR)25C945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
Q2	25C945	QT-C0945ADA	GE-212	(IR)25C945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199	
	25CB28		(1)	GE-61 *	(IR)25CB28A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199
	25C945AP		(1)	GE-212	(IR)25C945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	25C945AR,Q		(1)	GE-212	(IR)25C945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
	25C945	(1)	GE-212	(IR)25C945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199	
	25CB28		(1)	GE-61 *	(IR)25CB28A	PTC121 *	HEPS0015 *	RE 192	SK3122	RT-302	ECG199

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFG. PART No.	CORNELL- DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	.1 10V			TDC104M050EL	QDT1-2	SD50-R109
C2	.10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C3	.22 10V			TDC224M050EL	QDT1-10	SD50-R229
C11	.47 10V		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		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			TDC475M010EL	QDT1-48	SD10-4R79
C86	.47 10V			TDC474M050EL	QDT1-19	SD50-R479
C87	33 6.3V		PC30-25	VTT33B10	QV1-61	EV-1125
C93	.47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
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 6.3V		PC30-25	VTT33B10	QV1-61	EV-1125
C113	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C120	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILLER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C4	68 N150				*		10TCP-Q68
C5	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C6	22 N150				*		10TCP-Q22
C7	220		DD-221		GP322		10TS-T22
C8	120		DTZ-120		CN0312		10TCC-T12
C9	.047		DC-503	MGP05	TA159	QC2-207	TG-S50
C10	47		DTZ-47	NP047	CN0447		10TCC-Q47
C12	4 N150				*		10TCP-V39
C13	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C14	68 N150				*		10TCP-Q68
C15	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C16	33		DTZ-33	NP033	CN0433		10TCC-Q33
C17	12 N150				*		10TCP-Q12
C19	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C20	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C21	.001			DPMS6D1	EWFA210	QF1-1	1PB-D10
C22	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C23	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C24	33 N150				*		10TCP-Q33
C25	4 N150				*		10TCP-V39
C26	220			CD15FD21J03	SX322	QW1-35	MWA-221
C27	390		DD-391	GP390	GP339		10TS-T39
C28	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C29	68		DD-680	GP68	GP468		10TS-Q68
C30	56		DD-560		GP456		10TS-Q56
C31	.01		DC-103	MGP01	TA110	QC2-141	TG-S10

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

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	
C32	2	(1)	DTZ-2R2	NPO2P2	CN0522		10TCC-V22	
C33	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C35	68		DD-680	GP68	GP468		10TS-Q68	
C36	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C37	100 N150				*		10TCP-T10	
C38	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C39	.01			WMF1S1	EWFI1A110	QF1-91	1PB-S10	
C40	330			DD-331	GP333		10TS-T33	
C41	.01			DC-103	TA110	QC2-141	TG-S10	
C42	120			DTZ-120	CN0312		10TCC-T12	
C43	220			DD-221	GP322		10TS-T22	
C44	120			DTZ-120	CN0312		10TCC-T12	
C45	.01			DC-103	TA110	QC2-141	TG-S10	
C46	120			DTZ-120	CN0312		10TCC-T12	
C47	270				CD15FD271J03	SX327	QW1-37	
C48	2			DTZ-2R2	NPO2P2	CN0522		MWB-271
C49	.0047			DD-472	GP4700	GP247		10TCC-V22
C51	27					CN0427		5GA-D47
C52	.01			DC-103	MGP01		QC2-141	10TCC-Q27
C53	.047			DC-503	MGP05	TA150	QC2-207	TG-S10
C54	.047			DC-503	MGP05	TA150	QC2-207	TG-S50
C55	.047				DPMS2S47	EWFI1A147	QF1-171	1PB-S47
C56	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C57	10			DTZ-10	NPO10	CN0410		10TCC-Q10
C58	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C59	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C60	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C61	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C62	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C63	2			DTZ-2R2	NPO2P2	CN0522		10TCC-V22
C64	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C65	18 N150					*		10TCP-Q18
C66	2.2			DTZ-2R2	NPO2P2	CN0522		10TCC-V22
C67	.047				DPMS2S47	EWFI1A147	QF1-171	1PB-S47
C68	.047				DPMS2S47	EWFI1A147	QF1-171	1PB-S47
C69	.047				DPMS2S47	EWFI1A147	QF1-171	1PB-S47
C70	.047				DPMS2S47	EWFI1A147	QF1-171	1PB-S47
C71	.047				DPMS2S47	EWFI1A147	QF1-171	1PB-S47
C73	.0068				WMF1D68	EWFI1A268	QF1-73	1PB-D68
C75	.0022				DPMS6D22	EWFI1A268		6PS-D22
C77	100		DD-101	GP100	GP310		10TS-T10	
C79	.022			DPMS2S22	EWFI1A122	QF1-127	1PB-S22	
C80	.0022		DD-222		GP222	QC2-97	5GA-D22	
C81	.022			DPMS2S22	EWFI1A122	QF1-127	1PB-S22	
C82	220		DD-221		GP322		10TS-T22	
C83	.01			WMF1S1	EWFI1A110	QF1-91	1PB-S10	
C84	.0022		DD-222		GP222	QC2-97	5GA-D22	
C88	68		DD-680	GP68	GP468		10TS-Q68	
C89	68		DD-680	GP68	GP468		10TS-Q68	
C90	100		DD-101	GP100	GP310		10TS-T10	
C91	.068			WMF1S68	EWFI1A168	QF1-195	1PB-S68	
C92	100</							

(1) Used in some versions.

(When ordering parts, state Model No.)

ITEM No.	FUNCTION
RV1	Squelch Range
RV2	ALC
RV3	S Meter
RV4	RF Meter
VR1	Volume/Switch
VR2	Squelch
VR3	RF Gain

(3) For horizontal mounting
PC Board.

ITEM No.	FUNCTION
L1	VCO
L2	VCO Mixer
L3	RF Choke
L4	RF Choke
L5	Xmit Mixer (27MHz)
L6	RF Choke
L7	Xmit Driver (27MHz)
L8	RF Choke
L9	RF Choke
L10	RF Choke
L11	Final (27MHz)
L12	Pi Filter (27MHz)
L13	RF Choke
L14	IF (10.695MHz)
L15	RF Choke
L16	RF Choke
L17	RF Choke
T1	Osc (10.240MHz)
T2	VCO Mixer
T3	Xmit Mixer (27MHz)
T4	Xmit Buffer (27MHz)
T5	Rec Antenna (27MHz)
T6	Rec RF (27MHz)
T7	IF (10.695MHz)
T8	IF (455kHz)
T9	IF (455kHz)
T10	IF (455kHz)

ITEM No.	RATINGS		
	CURRENT (Measured)	DC RES.	IN (0
CH1	1.5A	.116	

ITEM No.	IMPEDANCE	
	PRI.	SEC.
T11	2.88	1 2 8 13.52

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C32	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C33	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C35	68		DD-680	GP68	GP468		10TS-Q68
C36	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C37	100	N150			*		10TCP-T10
C38	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C39	.01			WMF1S1	EWFA110	QF1-91	1PB-S10
C40	330		DD-331	GP330	GP333		10TS-T33
C41	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C42	120		DTZ-120		CN0312		10TCC-T12
C43	220		DD-221		GP322		10TS-T22
C44	120		DTZ-120		CN0312		10TCC-T12
C45	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C46	120		DTZ-120		CN0312		10TCC-T12
C47	270			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		DC-103	MGP01	TA110	QC2-141	TG-S10
C53	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C54	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C55	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C56	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C57	10		DTZ-10	NP010	CN0410		10TCC-Q10
C58	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C59	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C60	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C61	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C62	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C63	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C64	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C65	18	N150			*		10TCP-Q18
C66	2.2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C67	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C68	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C69	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C70	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C71	.047			DPMS2S47	EWFA1A47	QF1-171	1PB-S47
C73	.0068			WMF1D68	EWFA268	QF1-73	1PB-D68
C75	.0022			DPMS6D22	EWFA222		6PS-D22
C77	100		DD-101	GP100	GP310		10TS-T10
C79	.022			DPMS2S22	EWFA1A22	QF1-127	1PB-S22
C80	.0022		DD-222		GP222	QC2-97	5GA-D22
C81	.022			DPMS2S22	EWFA1A22	QF1-127	1PB-S22
C82	220		DD-221		GP322		10TS-T22
C83	.01			WMF1S1	EWFA110	QF1-91	1PB-S10
C84	.0022		DD-222		GP222	QC2-97	5GA-D22
C88	68		DD-680	GP68	GP468		10TS-Q68
C89	68		DD-680	GP68	GP468		10TS-Q68
C90	100		DD-101	GP100	GP310		10TS-T10
C91	.068			WMF1S68	EWFA1A68	QF1-195	1PB-S68
C92	100		DD-101	GP100	GP310		10TS-T10
C95	.068			WMF1S68	EWFA1A68	QF1-195	1PB-S68
C102	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C106	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C107	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C110	18				CN0418		10TCC-Q18
C111	82		DD-820		GP482		10TS-Q82
C112	39				CN0439		10TCC-Q39
C114	390			CD15FD391J03	SX339	QW1-41	MWA-391
C117	.0047			WMF1D47	EWFA247	QF1-57	1PB-D47
C118	.022		DC-253		TA125		TG-S25
C130	.0022		DD-222	MGP025	GP222	QC2-97	5GA-D22
C131	39	N150			*		10TCP-Q39
C132	15	N150			*		10TCP-Q15
C133	.0022		DD-222		GP222	QC2-97	5GA-D22
C134	3		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C135	220		DD-221		GP322		10TS-T22
C136	.0033			CD19FD332J03	SX233		MWC-332
C137	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C138	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C139	220		DD-221		GP322		10TS-T22
C201a	180			CD15FD181J03	SX318	QW1-33	MWA-181
C201b	7		DTZ-6R8	NP06P8	CN0568		10TCC-V68
C202	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C203	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C204	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C205	.047		DC-503	MGP05	TA150	QC2-207	TG-S50
C206	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C207	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
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
CT1							

*Not normally in distributor's stock. Available thru distributor on order to manufacturer.
(1) Used in some versions.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFG. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
RV1	Squelch Range	10K		T-10K (3)	C-103 (3)	MTC14L1 (3)	U260R103B
RV2	ALC	5000					U260R502B
RV3	S Meter	20K					U260R253B
RV4	RF Meter	20K					U260R253B
VR1	Volume/Switch	50K	RV-NB503A11				
VR2	Squelch	10K	RV-NA103B03				
VR3	RF Gain	100K	RV-NA104B03				

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

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	VCO				
L2	VCO Mixer				
L3	RF Choke				
L4	RF Choke				
L5	Xmit Mixer (27MHz)				
L6	RF Choke				
L7	Xmit Driver (27MHz)				
L8	RF Choke				
L9	RF Choke				
L10	RF Choke				
L11	Final (27MHz)				
L12	Pi Filter (27MHz)				
L13	RF Choke				
L14	IF (10.695MHz)				
L15	RF Choke				
L16	RF Choke				
L17	RF Choke				
T1	Osc (10.240MHz)				
T2	VCO Mixer				
T3	Xmit Mixer (27MHz)				
T4	Xmit Buffer (27MHz)				
T5	Rec Antenna (27MHz)				
T6	Rec RF (27MHz)				
T7	IF (10.695MHz)				
T8	IF (455kHz)				
T9	IF (455kHz)				
T10	IF (455kHz)				

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFG. PART No.	THORDARSON PART No.	TRIAD PART No.	
CH1	1.5A	.116	.48mH	ELAT6 (1)	TR523		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFG. PART No.	THORDARSON PART No.	TRIAD PART No.	
T11	2.88	1 2 8 13.52	ETA-66 (1)	TR-723	MCB-16	(1) Number on unit.

KRACO MODEL KCB-4030

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP	3" PM 8 ohms	ZQ-A0770802	30A05Z8R	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA						
		PART No.		BUSS PART No.		LITTELFUSE PART No.		WORKMAN PART No.
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER	DEVICE
F1	2 Amp		AC-DD366EA	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	ZG-AAZ50103	18-032	18-034	18-010	18-092	1	2	4	3	NC	2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF1	Ceramic Filter		455kHz
J1	Jack	YJ-C02S009Z	Antenna
J2	Jack	YJ-Z04003Z	Microphone
J3	Jack	YJ-T03S003Z	PA/External CB
J4	Jack	YJ-T03S003Z	External Speaker
J5	Jack	YJ-B02S001U	Power
M1	Meter	ZM-J036N03	S/Rf
PL1	Lamp	ZP-A064101U	Channel (56mA @ 4.98V)
PL2	Lamp	ZP-A064103U	Rec (30mA @ 5.34V)
PL3	Lamp	ZP-A064103U	Mod (25mA @ 3.85V)
PL4	Lamp	ZP-A064101U	Meter (56mA @ 4.98V)
S1	Switch		Power (Part of Volume Control)
S2	Switch	SR-0303102E	(Delta Tune)
S3	Switch	SP-01AAX02A	ANL/NB
S4	Switch	SP-01AAX02A	CB/PA
SW1	Switch		Channel Selector
X1	Crystal		10.240MHz
X2	Crystal		10.695MHz
	Flex Cable		15 Conductor
	PC Board		Main (PTBM049A0X)

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

ITEM	PART No.	ITEM	PART No.
Channel Indicator Disc	VE-90XVC025	Cabinet Top	MU-775SX003
Knob, Channel Selector	AV-KNOB*018	Cabinet Bottom	MU-773SX001
Knob, Volume/Squelch/Delta Tune/Rf Gain	VN-276SP012	Mounting Bracket	MU-476B001
Knob, ANL-NB/CB-PA	VN-271SP001	Microphone Hanger	MZ-331SN001