



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 1-640

ALIGNMENT INSTRUCTIONS

Suggested Alignment Tools:

GC ELECTRONICS

T2, T3 #5000, #8290

ALL other tunable coils and transformers . . . #9440

ROYCE MODEL 1-640

SYNTHESIZER

INDICATOR	CHANNEL	ADJUST	FREQUENCY	REMARKS
Frequency Counter	1	CT4	23.330MHz	Set CLARIFIER to center of range. Connect counter to junction of C125 and C141, low side to ground. MODE SWITCH to any mode.
	5	CT5	23.380MHz	
	9	CT6	23.430MHz	
	13	CT7	23.480MHz	
	17	CT8	23.530MHz	
	21	CT9	23.580MHz	Set MODE SWITCH to USB. Connect counter to TP1 and TP5.
	1	CT10	14.910MHz	
	2	CT11	14.920MHz	
	3	CT12	14.930MHz	
	4	CT13	14.950MHz	Set MODE SWITCH to LSB. Connect counter to TP1 and TP5.
	1	CT14	14.907MHz	
	2	CT15	14.917MHz	
	3	CT16	14.927MHz	
	4	CT17	14.947MHz	
Oscilloscope (Response to 40MHz)	13	T11 T12 T13 T14 T15	38MHz	Connect scope between TP4 and TP5. Adjust for maximum.
Frequency Counter	13	L5	23.4814MHz	Set CLARIFIER fully clockwise. MODE SWITCH to USB. Connect counter to junction of C125 and C141, low side to ground.
			23.4786MHz	Set CLARIFIER fully counterclockwise. Check for this frequency.

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

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RECEIVER

Connect an AC VTVM or AF Wattmeter across speaker voice coil.
Adjustments made with 120-volt AC input to power supply.
Adjust volume control to obtain suitable reading.

SIGNAL GENERATOR	GEN FREQ	CHANNEL	ADJUST	REMARKS
High side thru .01uF to base of TR3, low side to ground.	455KHz, 1000Hz @ 30% modulation	Any	T2,T3	Set MODE Switch to AM. Set generator output to maintain 1 volt across Speaker Voice Coil. Adjust for maximum.
High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz @30% modulation, output 1uV	13	T4,T5 T6,T7, T1	Set MODE Switch to AM. Adjust for maximum.
High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz @ 30% modulation, output 1uV	13	T8,T9, T10	Set MODE Switch to LSB. Adjust for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF Wattmeter across speaker voice coil.
These adjustments made with 120-volt ac input to power supply.
Adjust volume control to obtain a suitable reading.

SIGNAL GENERATOR	GEN FREQ	CHANNEL	ADJUST	REMARKS
SQUELCH RANGE High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz @ 30% modulation, output AM-10,000uV, SSB-10uV.	13	VR4 (AM) VR3 (SSB)	Set squelch control fully clockwise. Adjust so that squelch just breaks.
"S" METER High side thru .01uF to antenna jack, low side to ground.	27.115MHz, 1000Hz @ 30% modulation, output 100uV	13	VR1 (AM) VR2 (SSB)	MODE Switch to AM. Adjust for "S" 9 reading on panel meter. MODE Switch to SSB, Adjust for "S" 9 reading on panel meter.

TRANSMITTER

Connect an RF Wattmeter of 50-ohm, 25-watt dummy load to antenna connector.
Adjustments made with 120-volt AC input to power supply.

AM

INDICATOR	ADJUST	REMARKS
MIXER, BUFFER, DRIVER, FINAL RF Wattmeter	T16,T17, T18,T19, T20,L7, L13	Mode Switch to AM. Channel selector ot CH 13. Key transmitter. Adjust for maximum.
TVI TRAP TV (Ch. 2)	L15	Mode switch to AM. Key transmitter. Adjust for MINIMUM interference on TV.
FINAL INPUT POWER Remove jumper at TP3 and connect 0-1000 DC milliammeter.	L12	Adjust for 5 watts (Max.).

TRANSMITTER

Connect an RF Wattmeter or 50-ohm, 25-watt dummy load to antenna connector.
Adjustments made with 120-volt AC input to power supply.

SSB

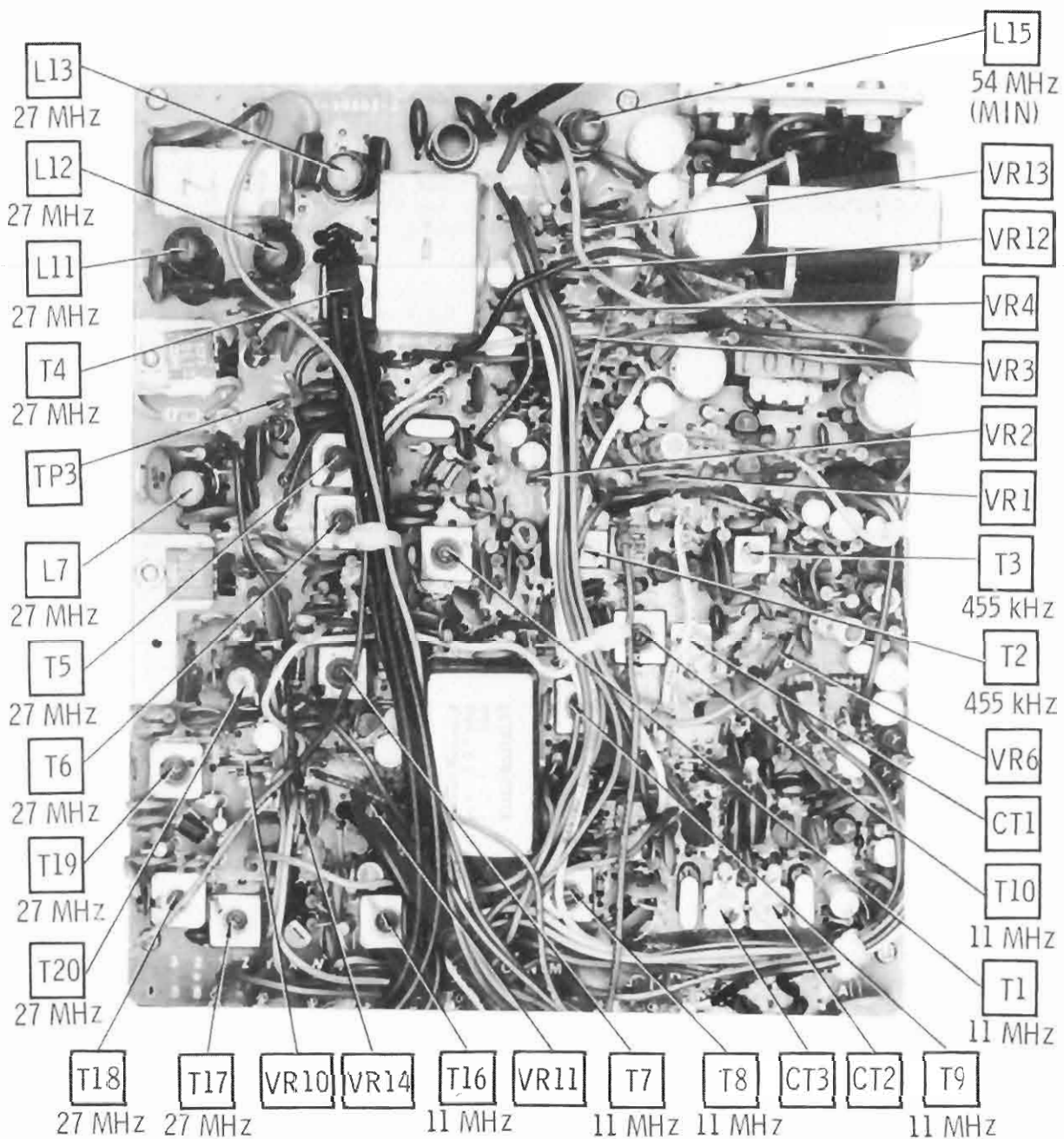
INDICATOR	ADJUST	REMARKS
USB CARRIER OSC. Connect frequency counter from base of TR23 to ground.	CT3	Set mode switch to USB. Adjust for 11.275MHz.
LSB CARRIER OSC. Connect frequency counter from base of TR23 to ground.	CT2	Set mode switch to LSB. Adjust for 11.272MHz.
CARRIER BALANCE Connect oscilloscope from junction of D25 and D28 to ground.	VR6 CT17	Short mic input. Set mode switch to LSB or USB. Key transmitter and adjust for MINIMUM on scope (less than .05 V p-p)
FINAL BIAS Remove jumper at TP3 and connect a 0-25 DC milliammeter.	VR11	Short mic input. Key transmitter. Adjust bias for 4 mA. Reconnect jumper.
FINAL OUTPUT POWER RF Wattmeter	L11	Connect two-tone generator to mic input. Key transmitter. Adjust for less than 12 watts P.E.P. Note: After SSB transmitter alignment is completed, check AM mode for maximum 5 watts DC input to final. Readjust L12 if necessary.

ROYCE MODEL 1-640

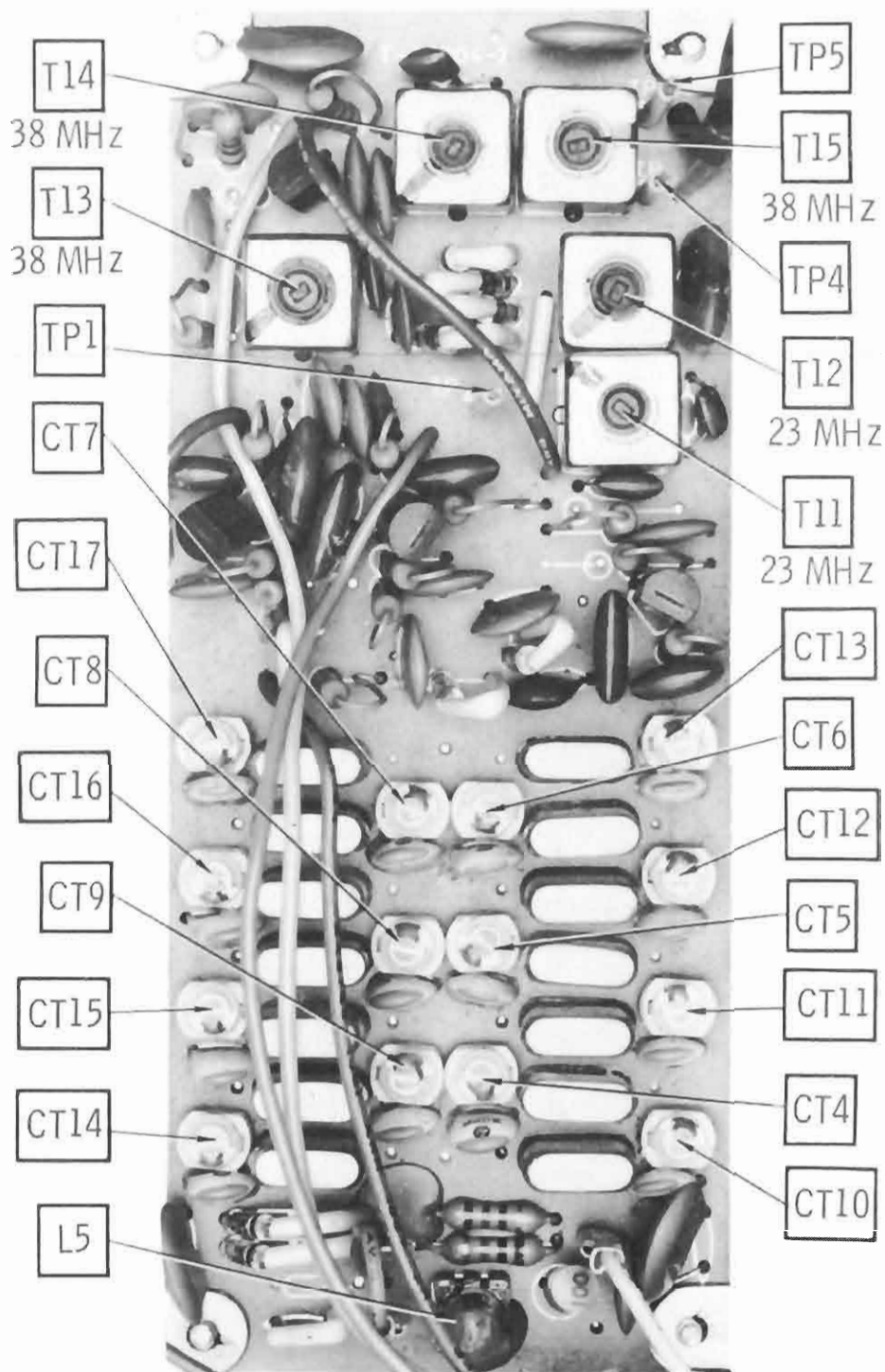
TRANSMITTER ADJUSTMENTS

Connect an RF Wattmeter or 50-ohm, 25-watt dummy load to antenna connector.
Adjustments made with 120-volt AC input to power supply.

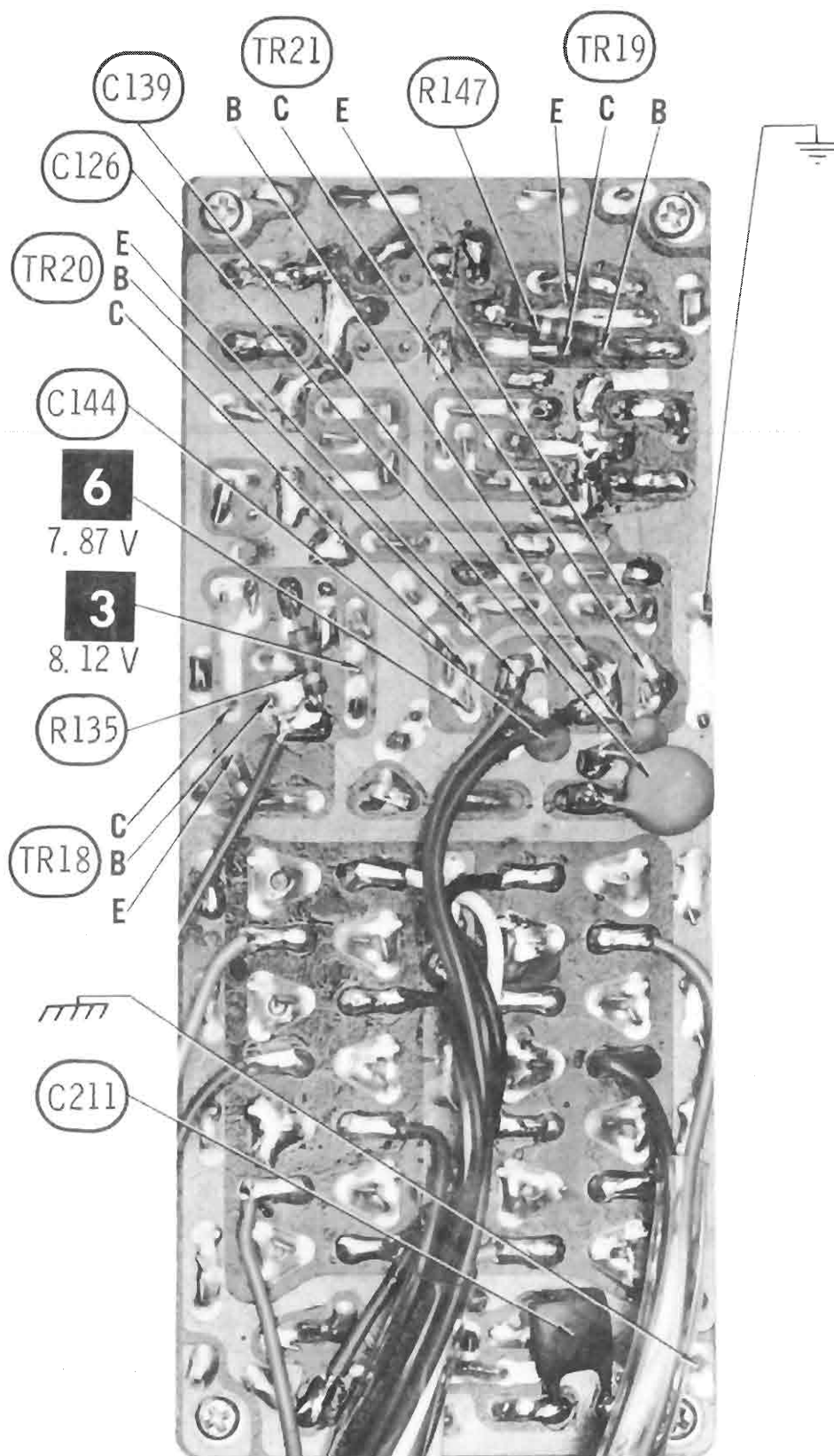
INDICATOR	ADJUST	REMARKS
VOLTAGE REGULATOR DC Voltmeter connected to emitter of TR41 and ground.	VR15	Adjust VR15 for 14 VDC at emitter. Key transmitter. Voltage should not vary.
ACL RF Wattmeter connected to antenna jack.	VR13	Set mode switch to LSB. Inject a 1000Hz 150mV audio signal at mic input. Key transmitter. Adjust for 8 watts.
AMC Modulation Meter connected to antenna antenna jack	VR10	Set mode switch to AM. Inject a 1000Hz 15mV audio signal at mic input. Key transmitter. Adjust for 100% modulation maximum.
RF PANEL METER RF Wattmeter	VR12	Set mode switch to AM. Key transmitter. Adjust so that panel RF meter needle is at left edge of Red Scale.
SWR SENSOR LEVEL 0-2A DC Meter	VR14	Insert meter at TP3. Set MODE Switch to LSB, Connect a 150 ohm non-inductive 5-watt resistor from antenna jack to ground, simulating a 3:1 SWR. Key transmitter. Adjust so that SCR triggers with normal modulation. There should be no current at TP3 under these conditions.
SWR CAL. RANGE	VR19	MODE Switch to AM. Key transmitter. Set VR18 3/4 clockwise. Adjust for full scale deflection of calibration panel meter.



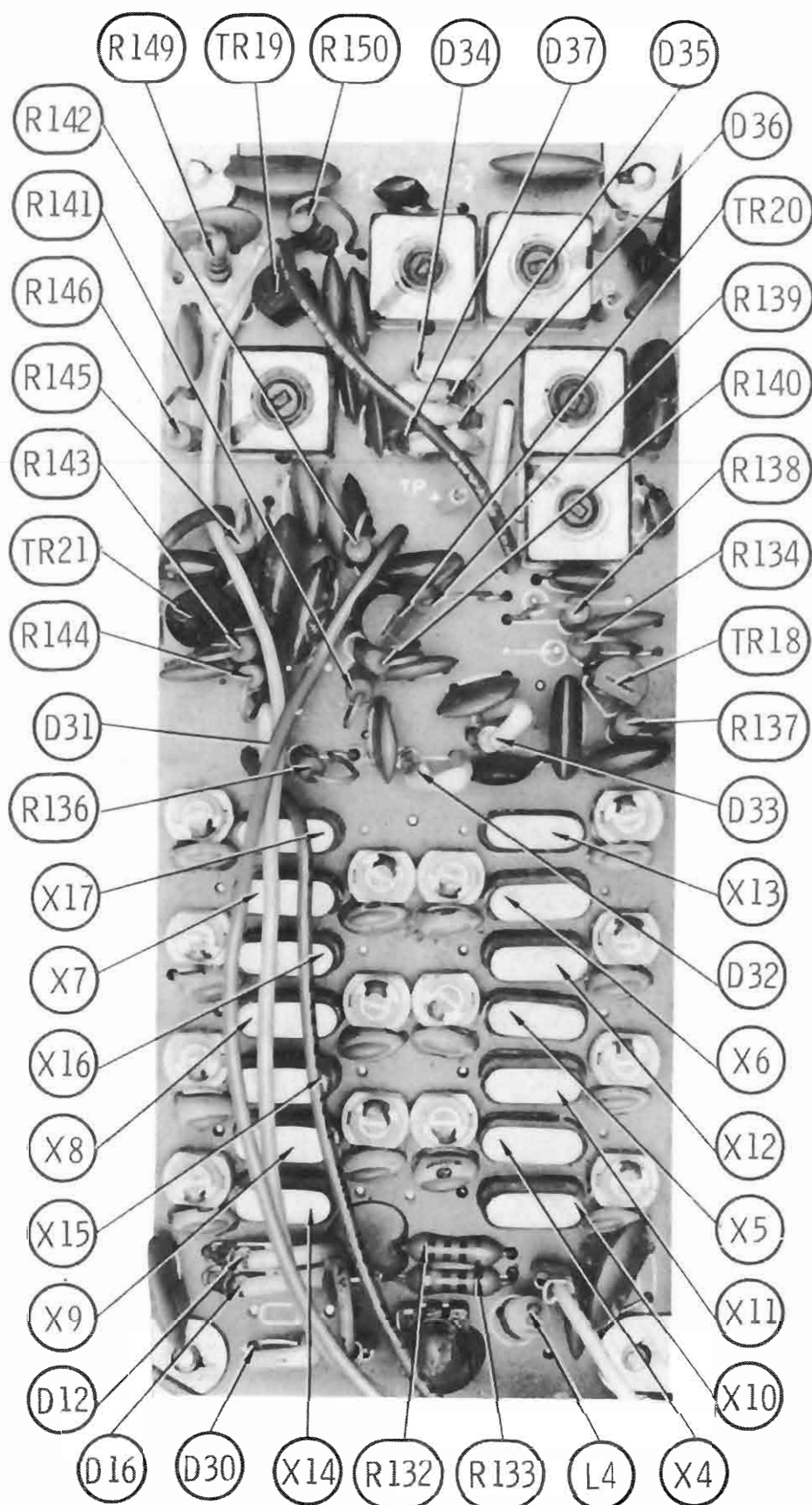
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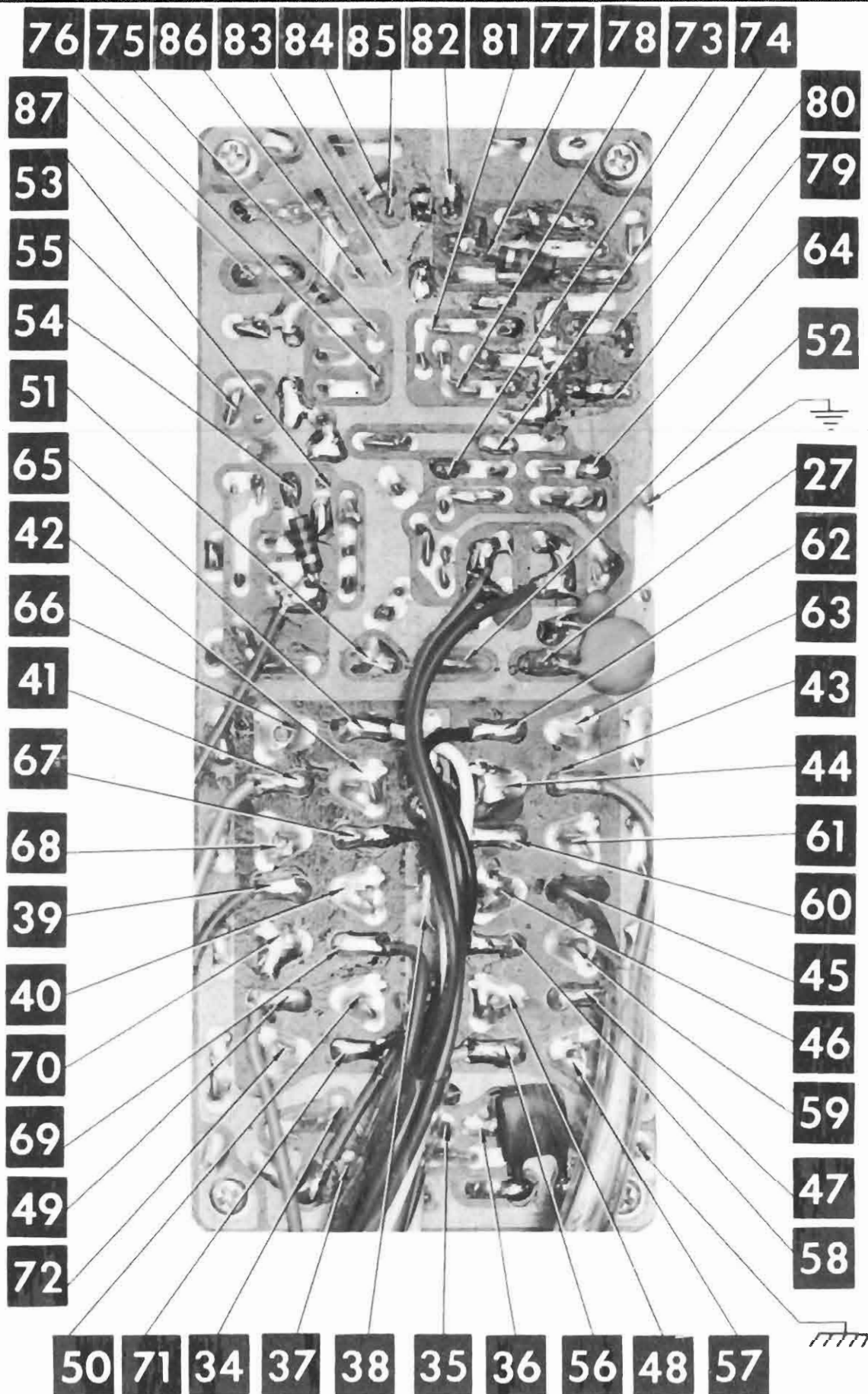
SYNTHESIZER BOARD



SYNTHESIZER BOARD

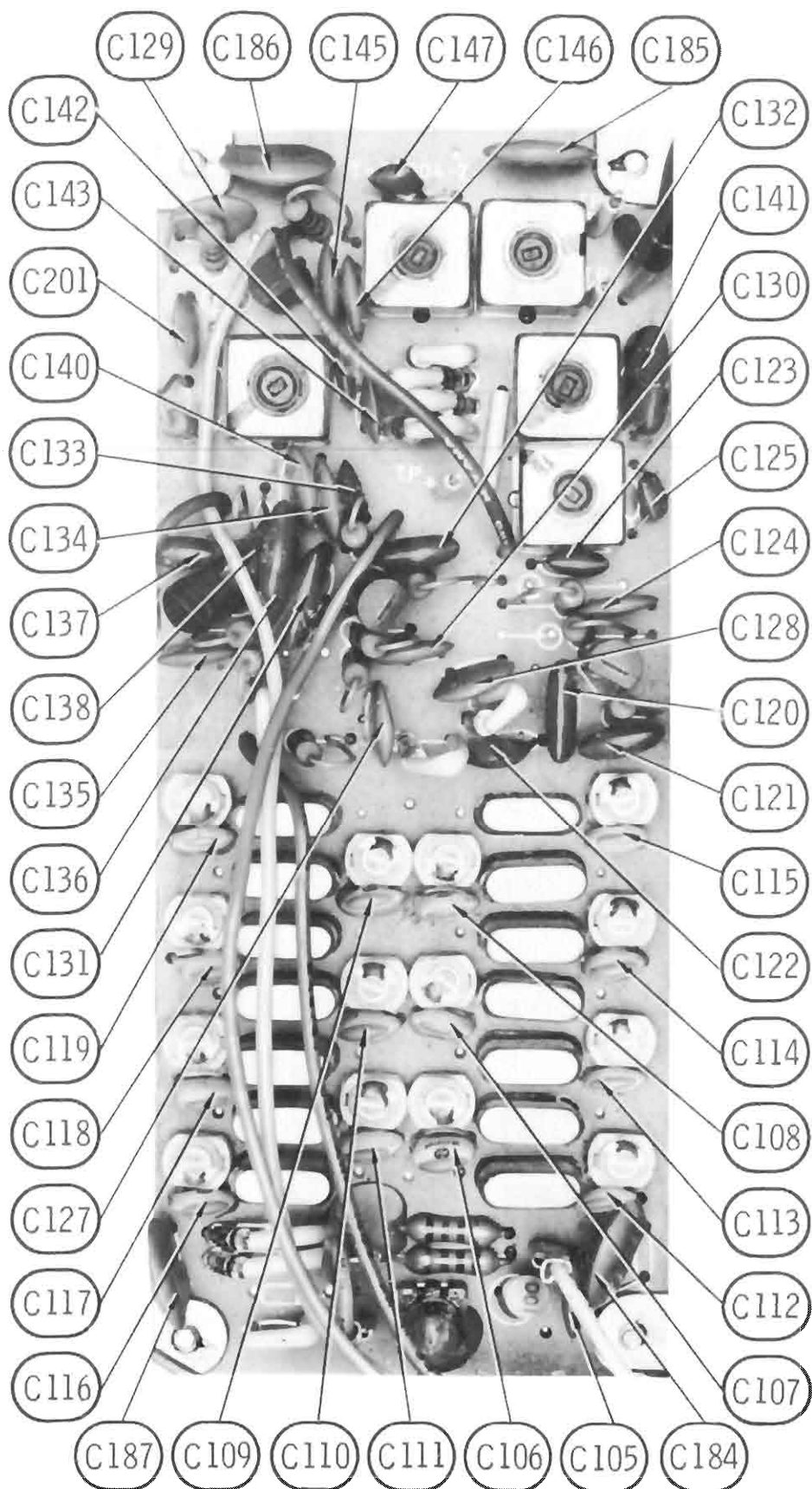


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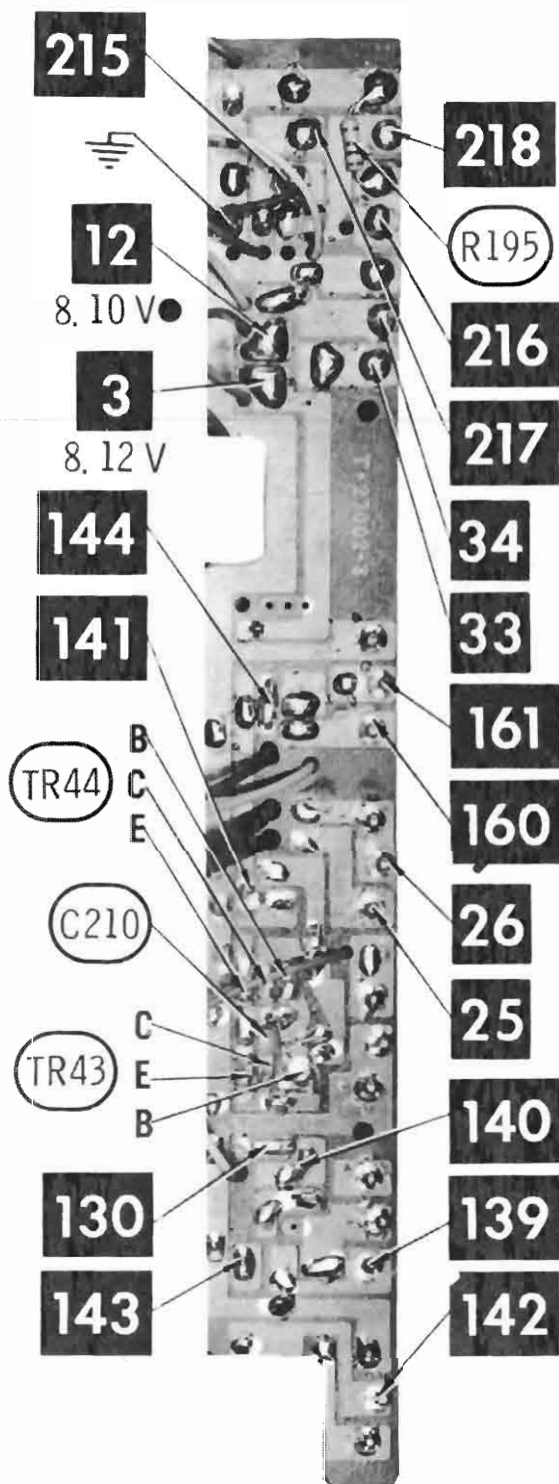


SYNTHESIZER BOARD

A Howard W. Sams CIRCUITRACE® Photo

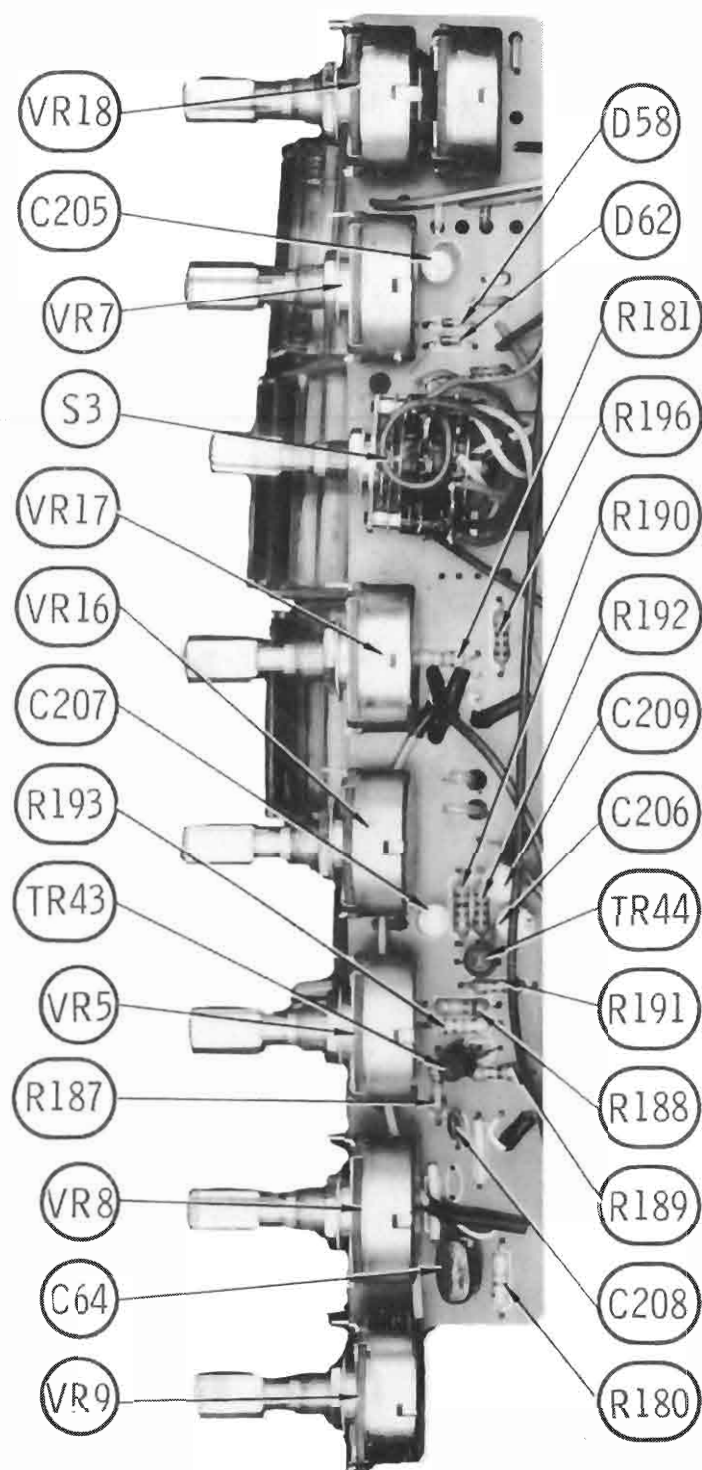


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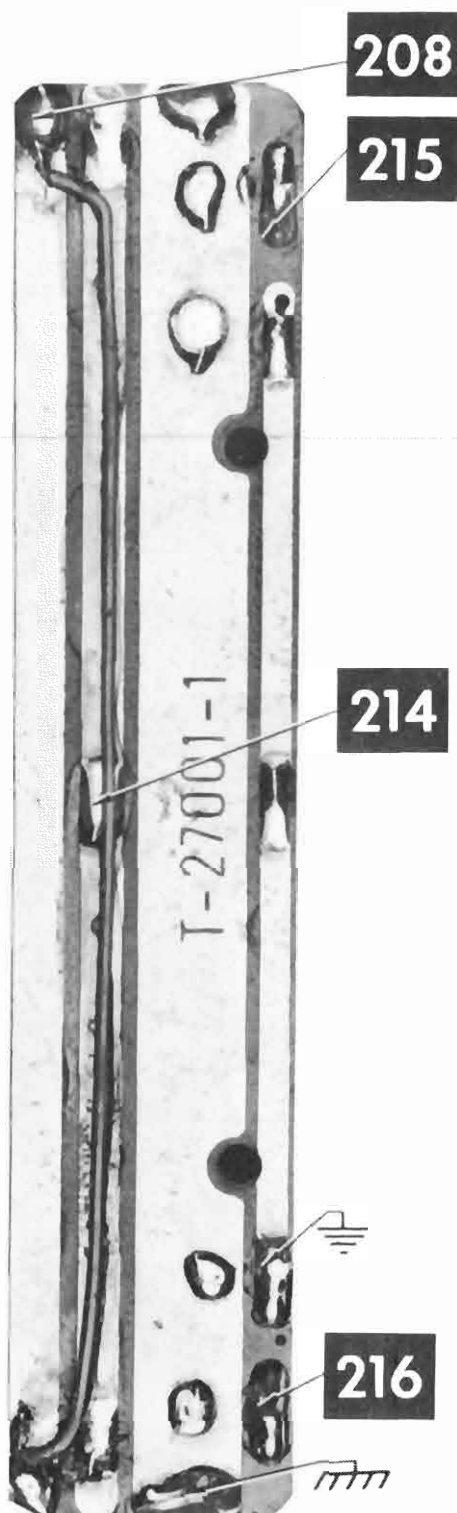


● TRANSMIT

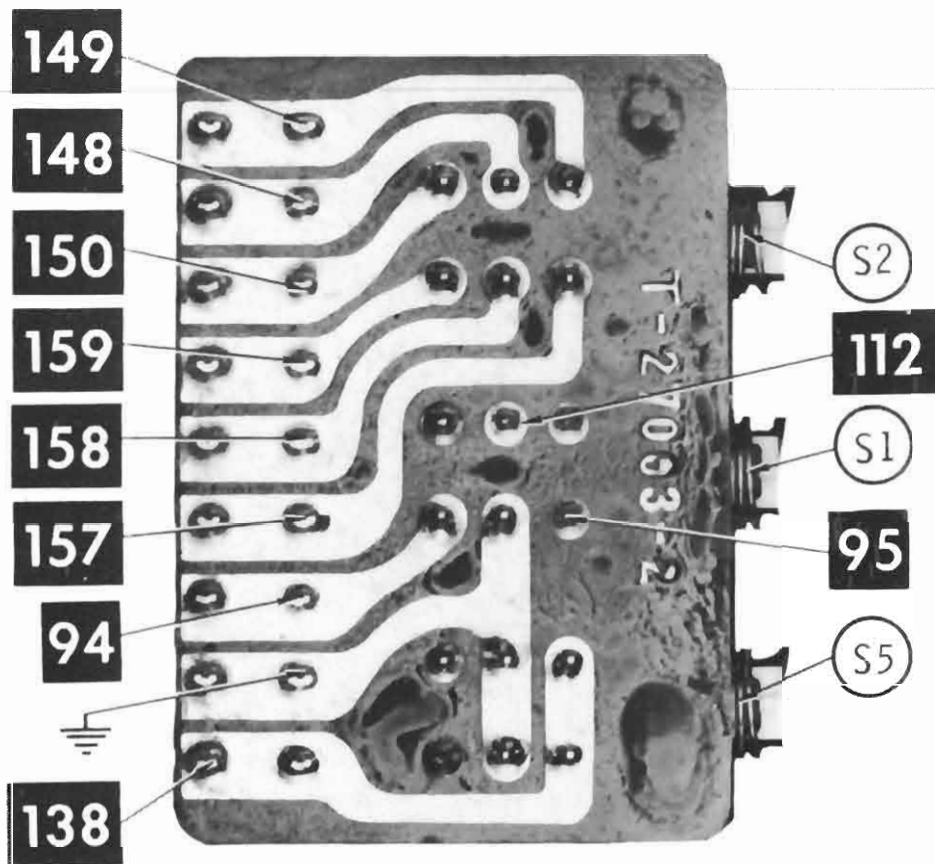
PREAMP BOARD



PREAMP BOARD

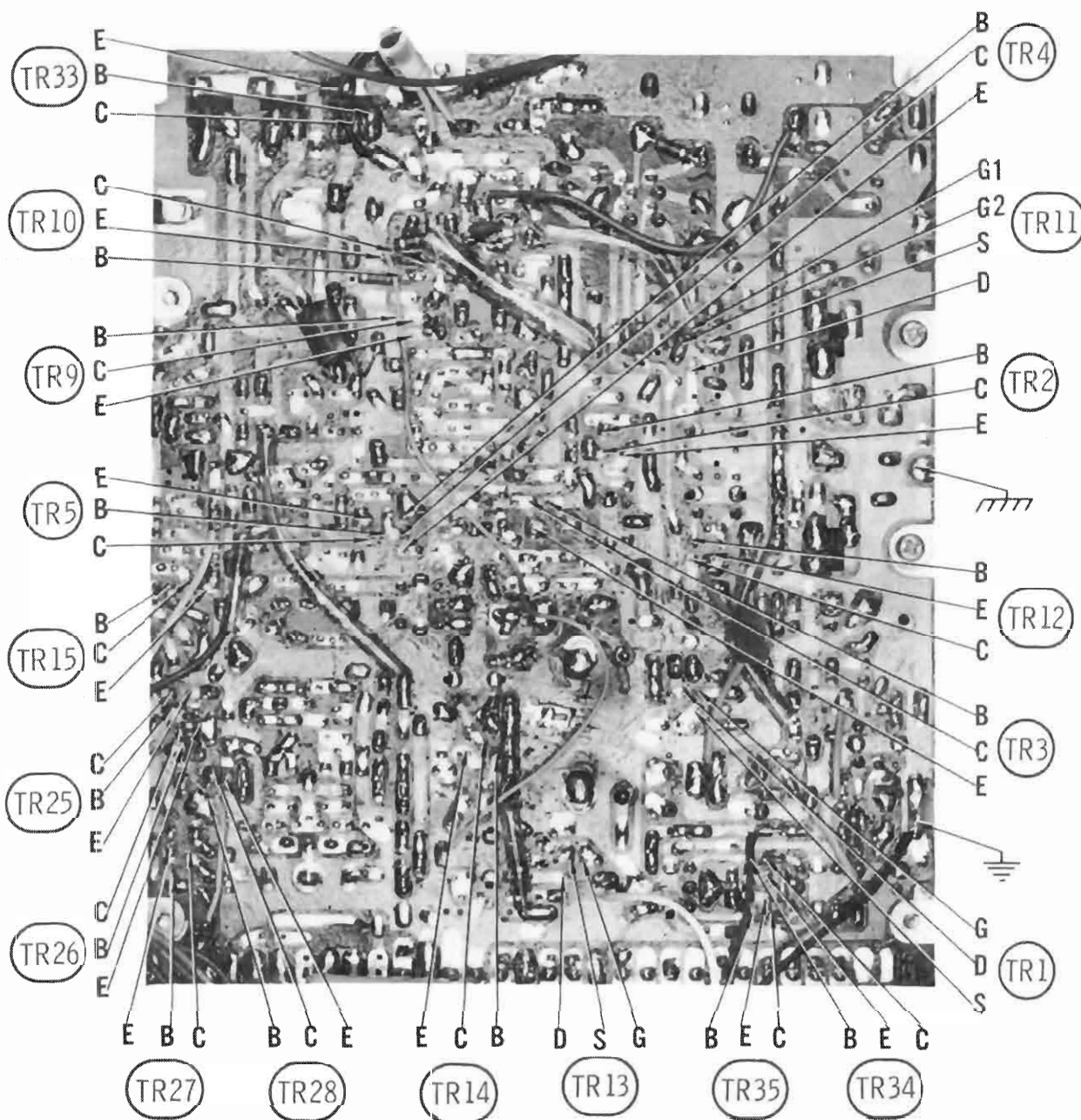


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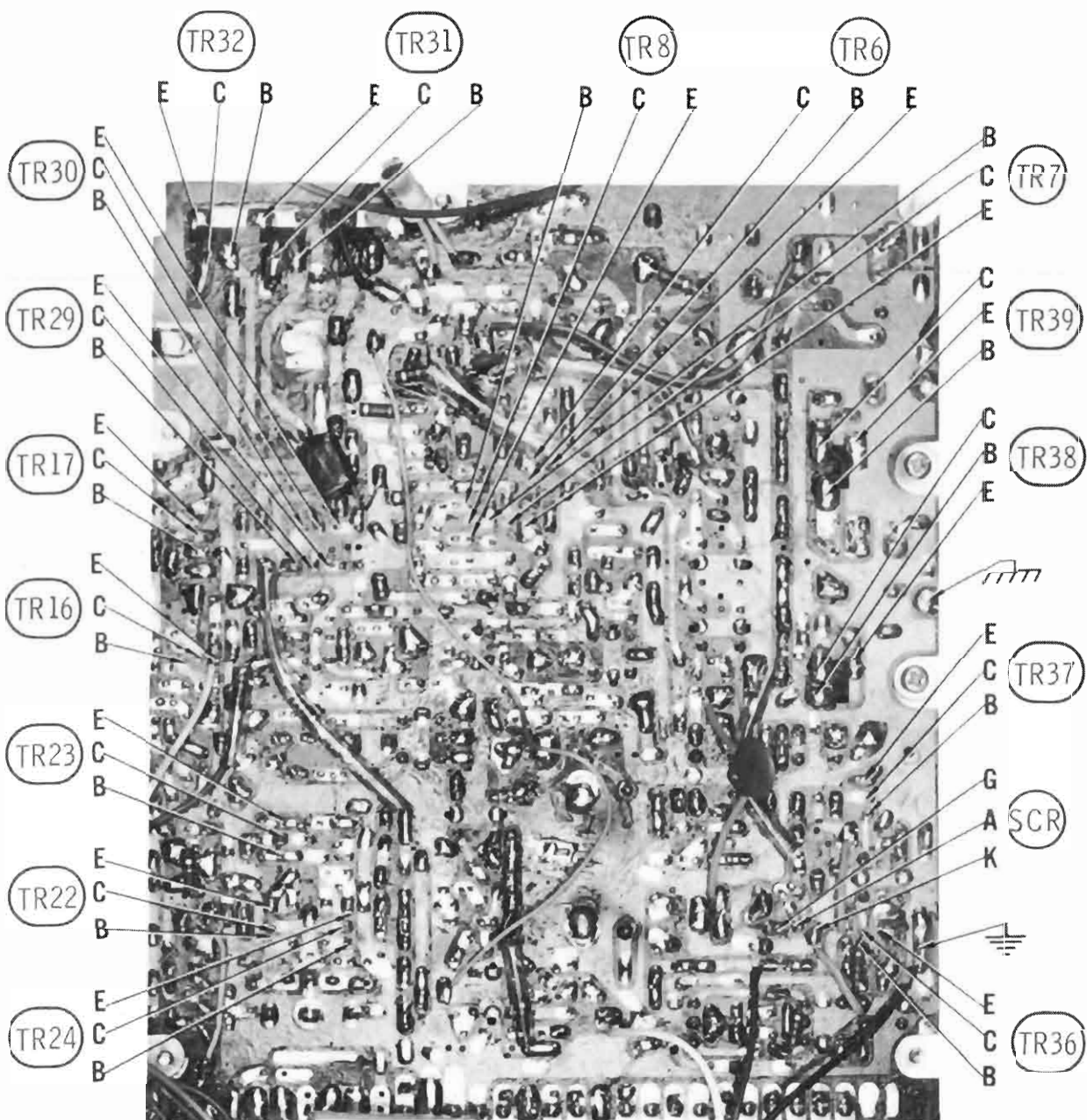


ROYCE MODEL 1-640

SWITCH BOARD

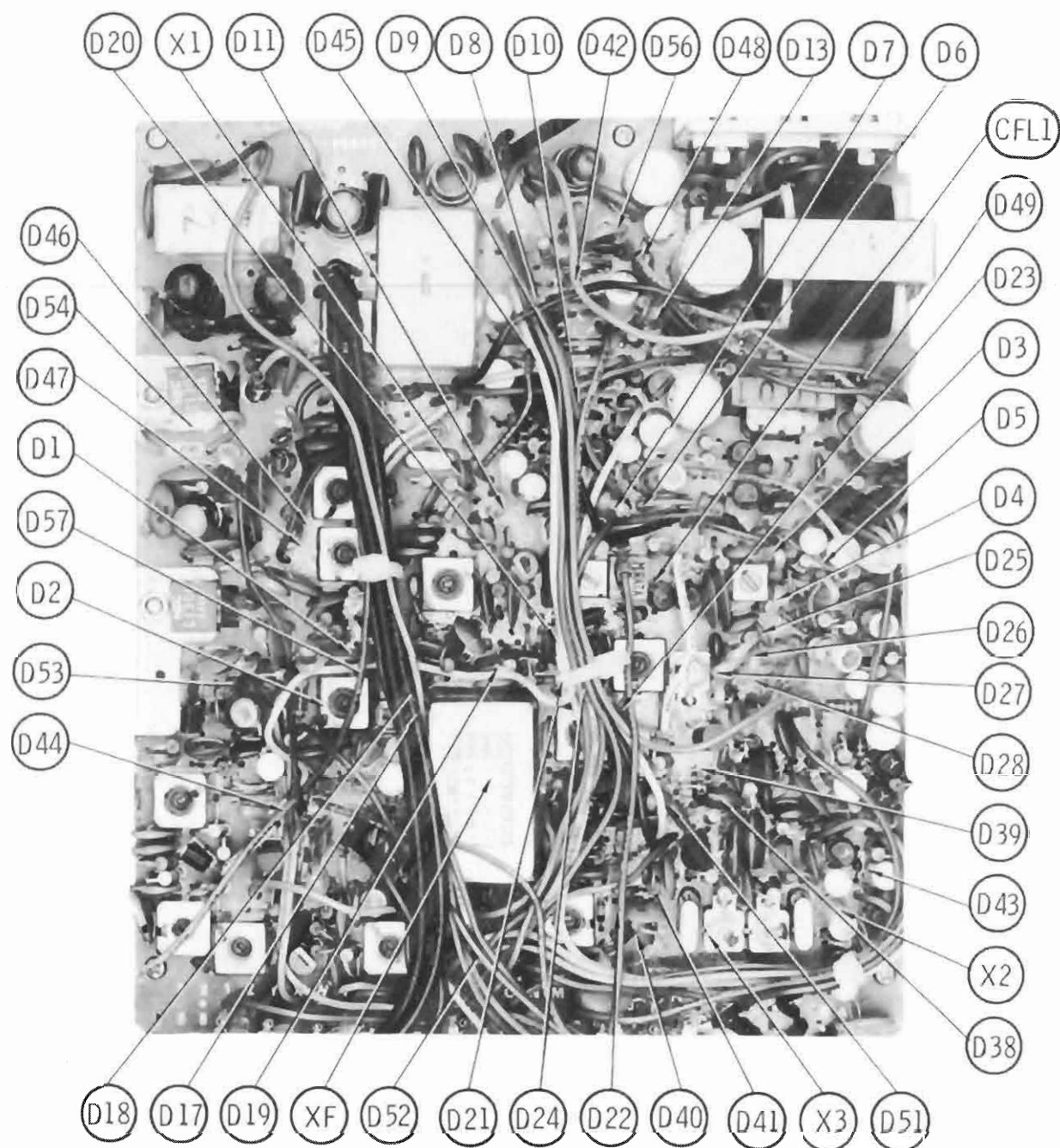


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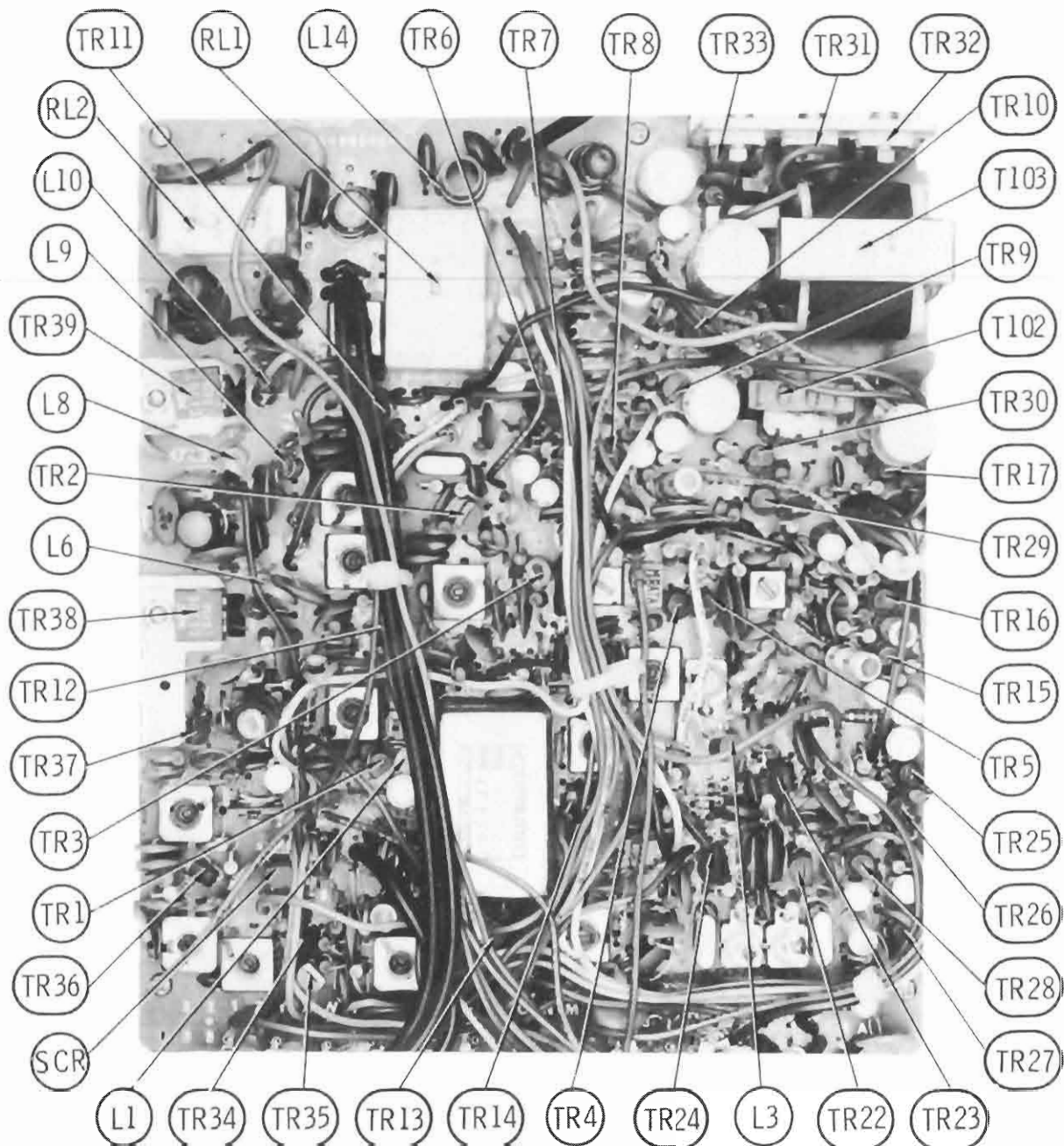


ROYCE MODEL 1-640

MAIN BOARD



MAIN BOARD

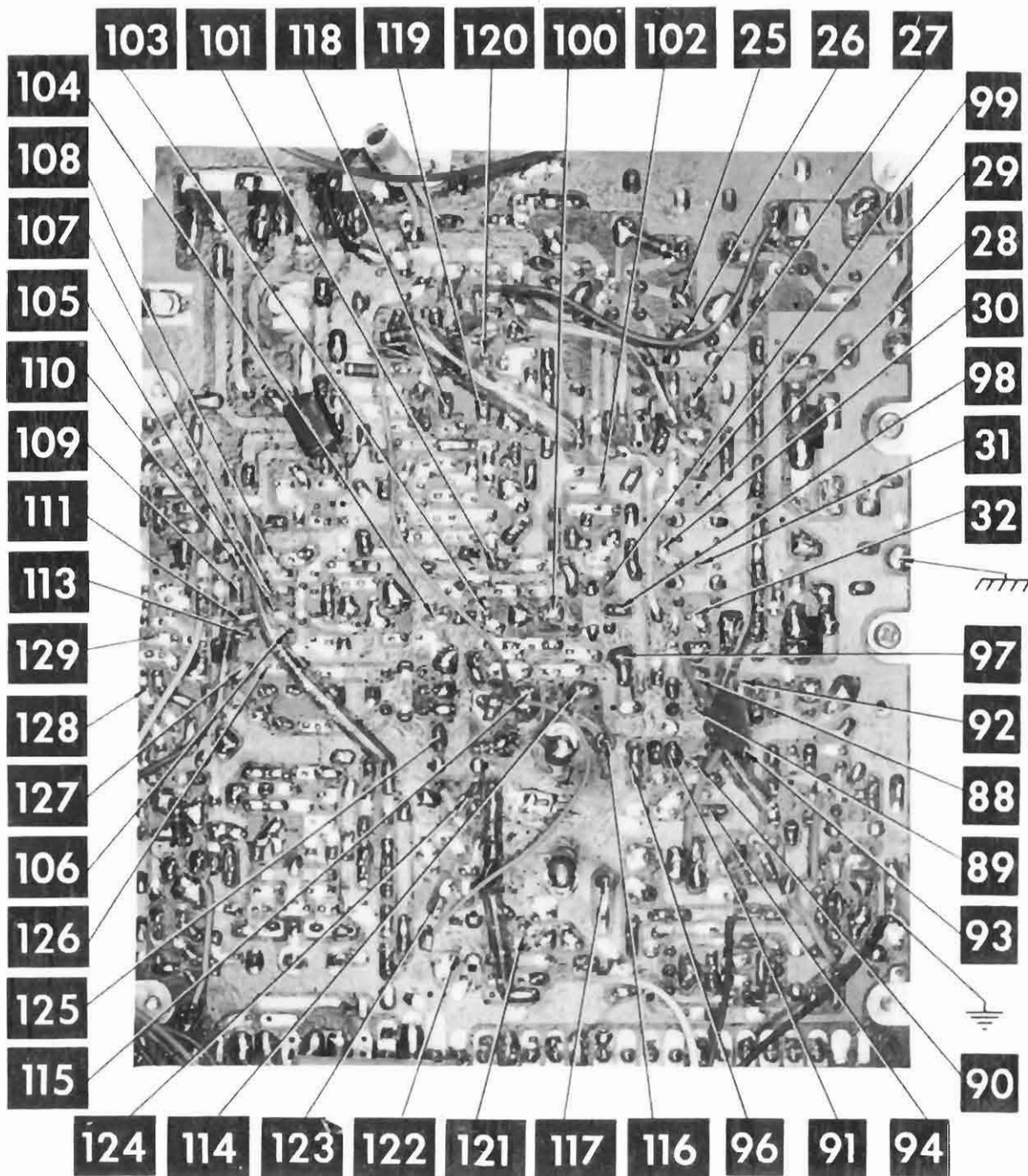


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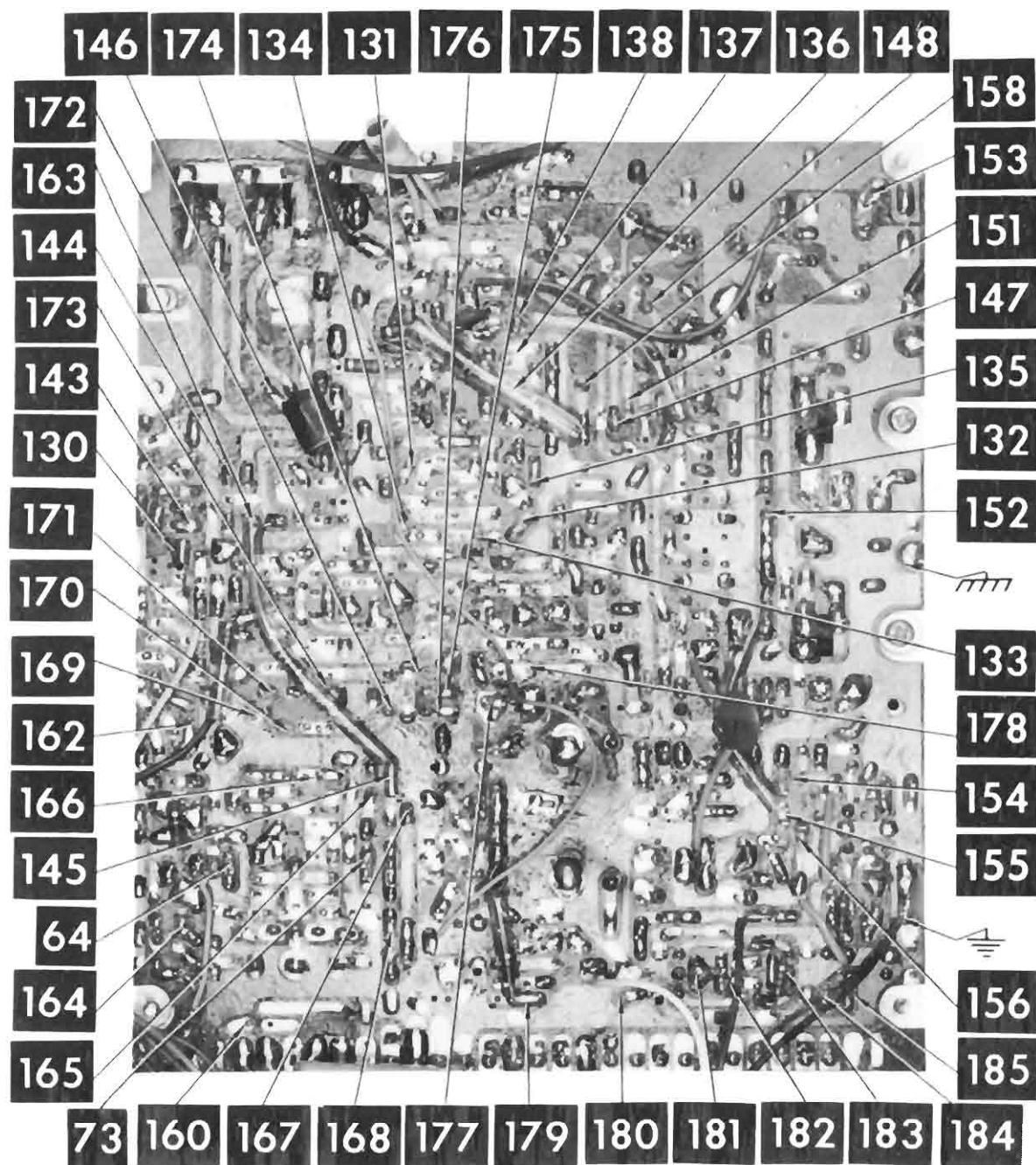


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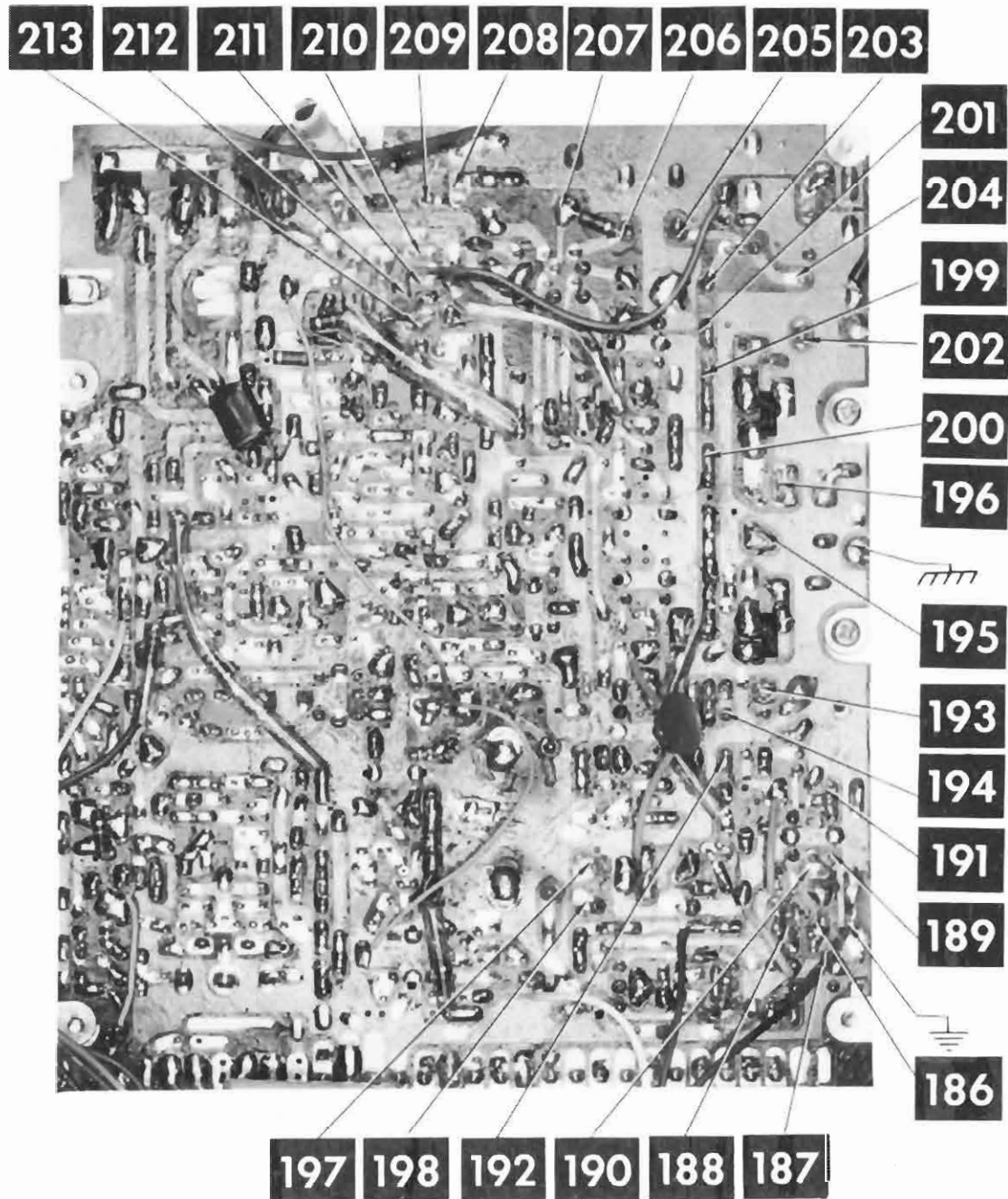
ROYCE MODEL 1-640



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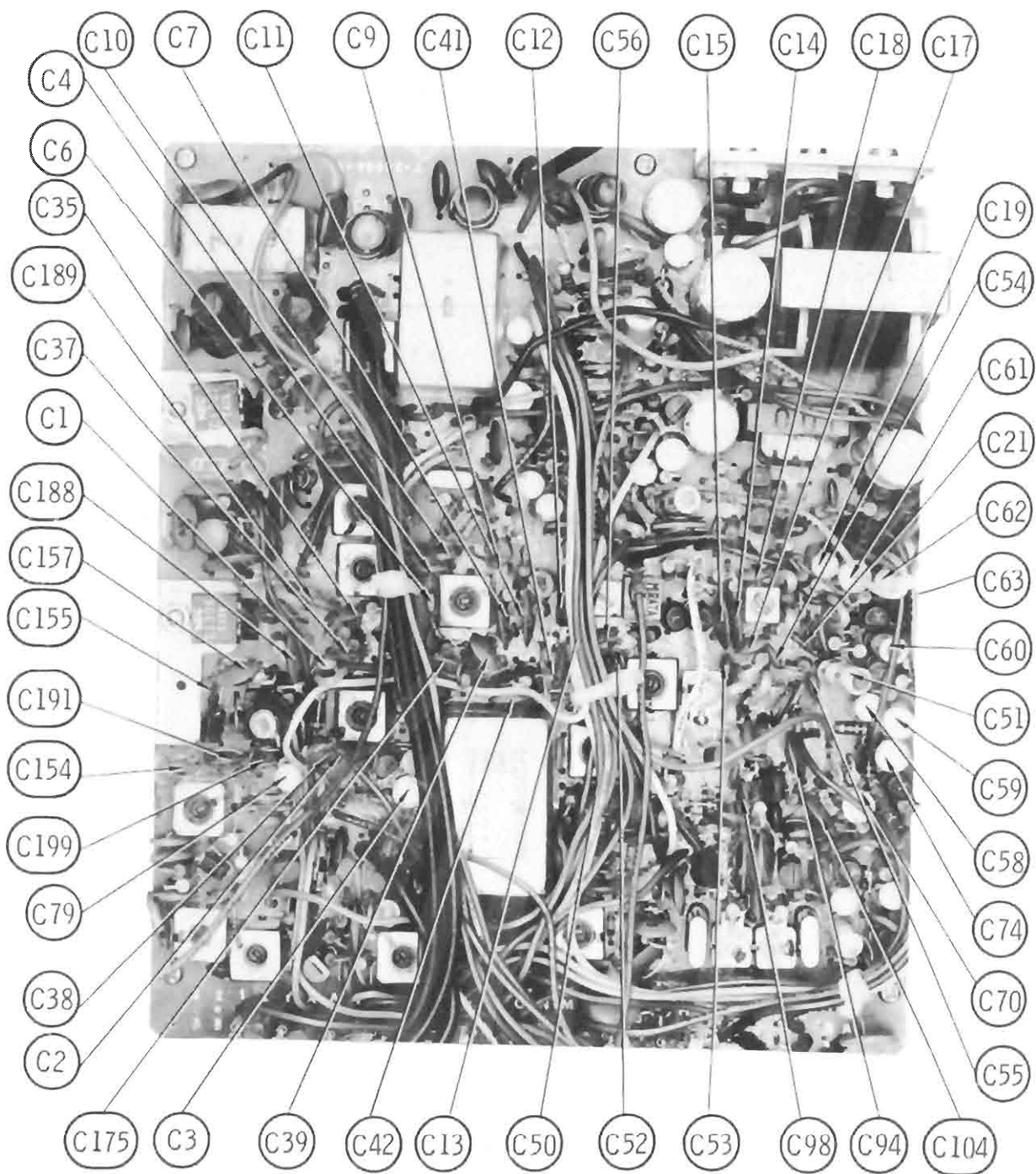


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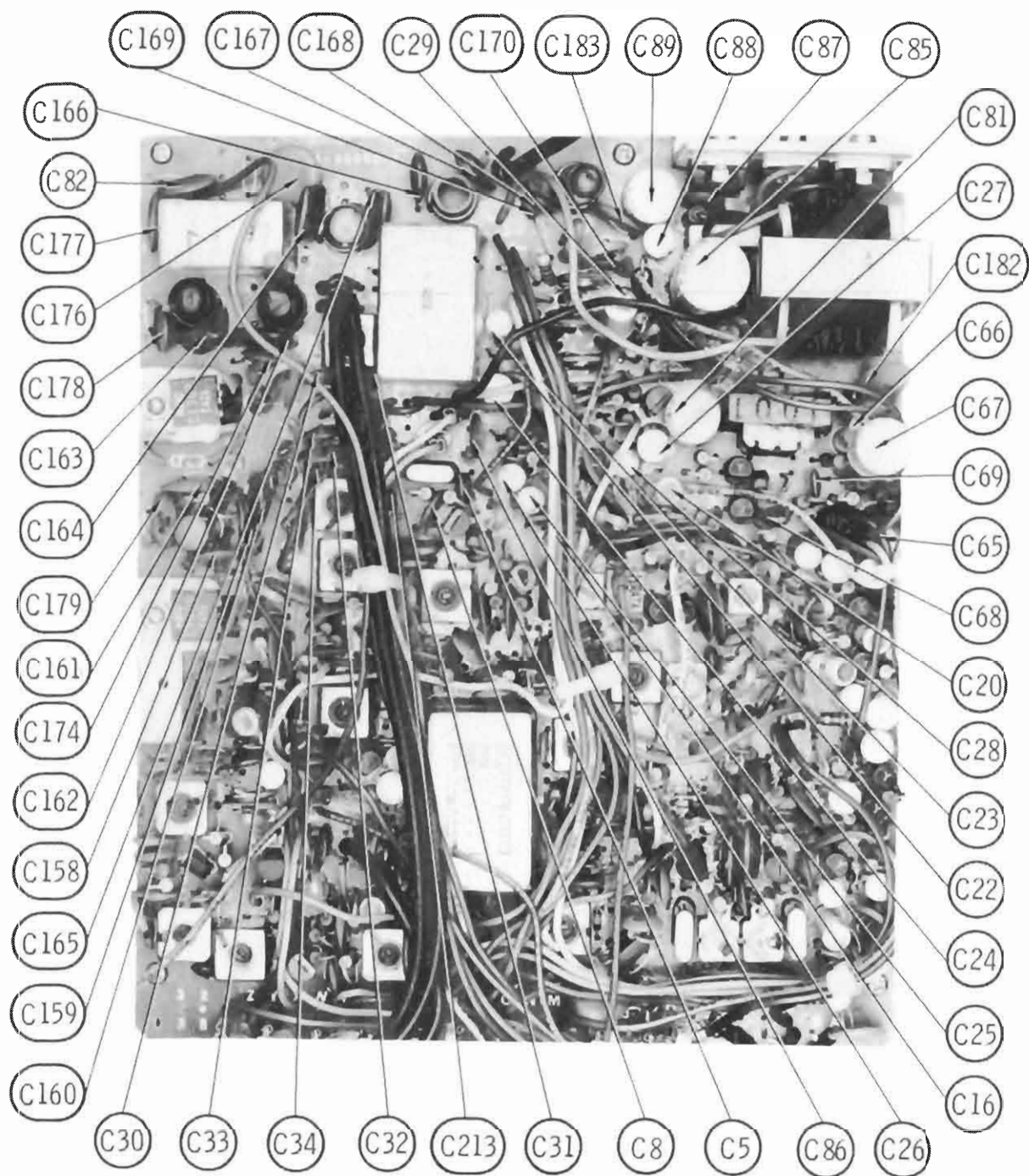


ROYCE MODEL 1-640

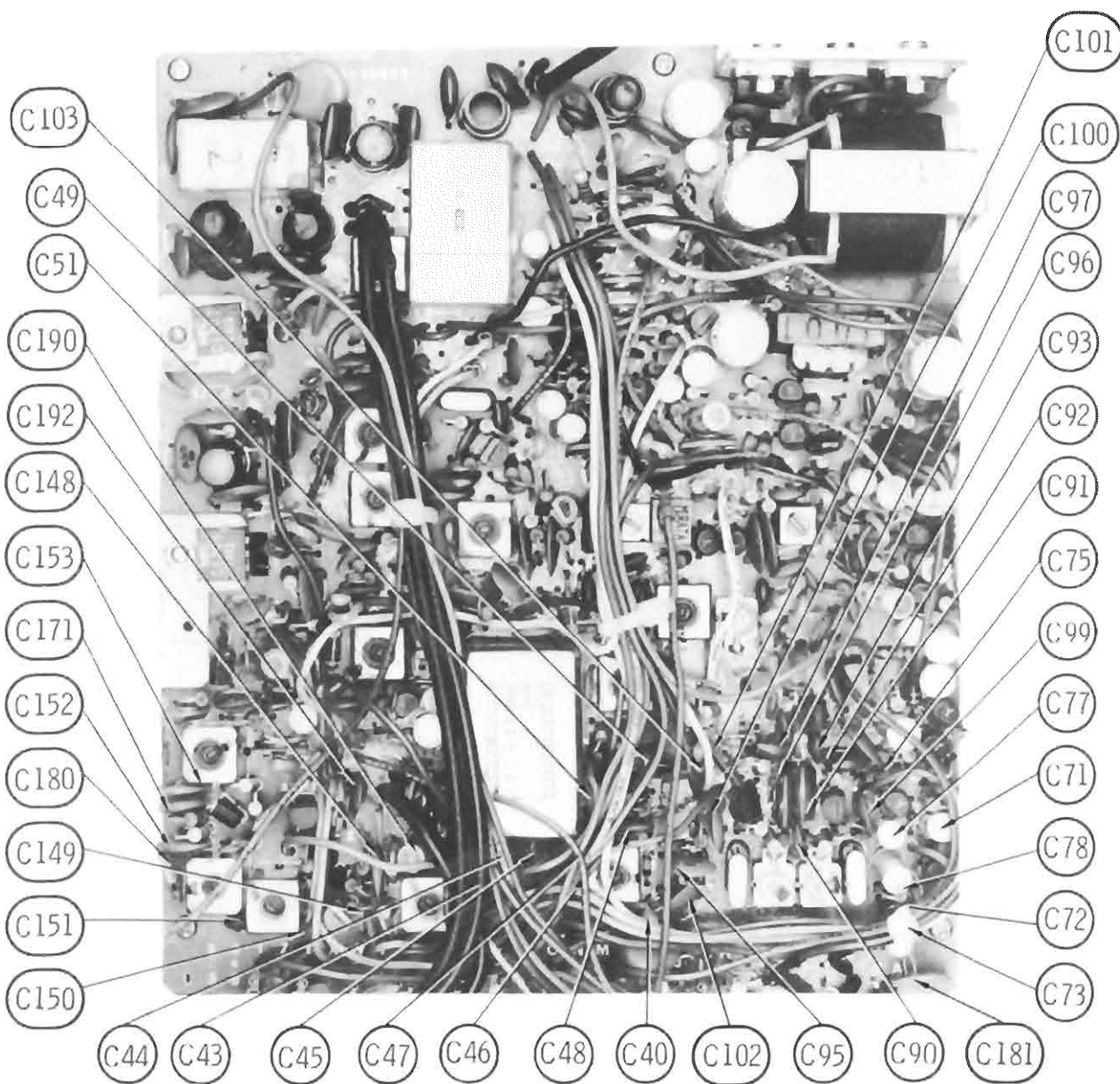
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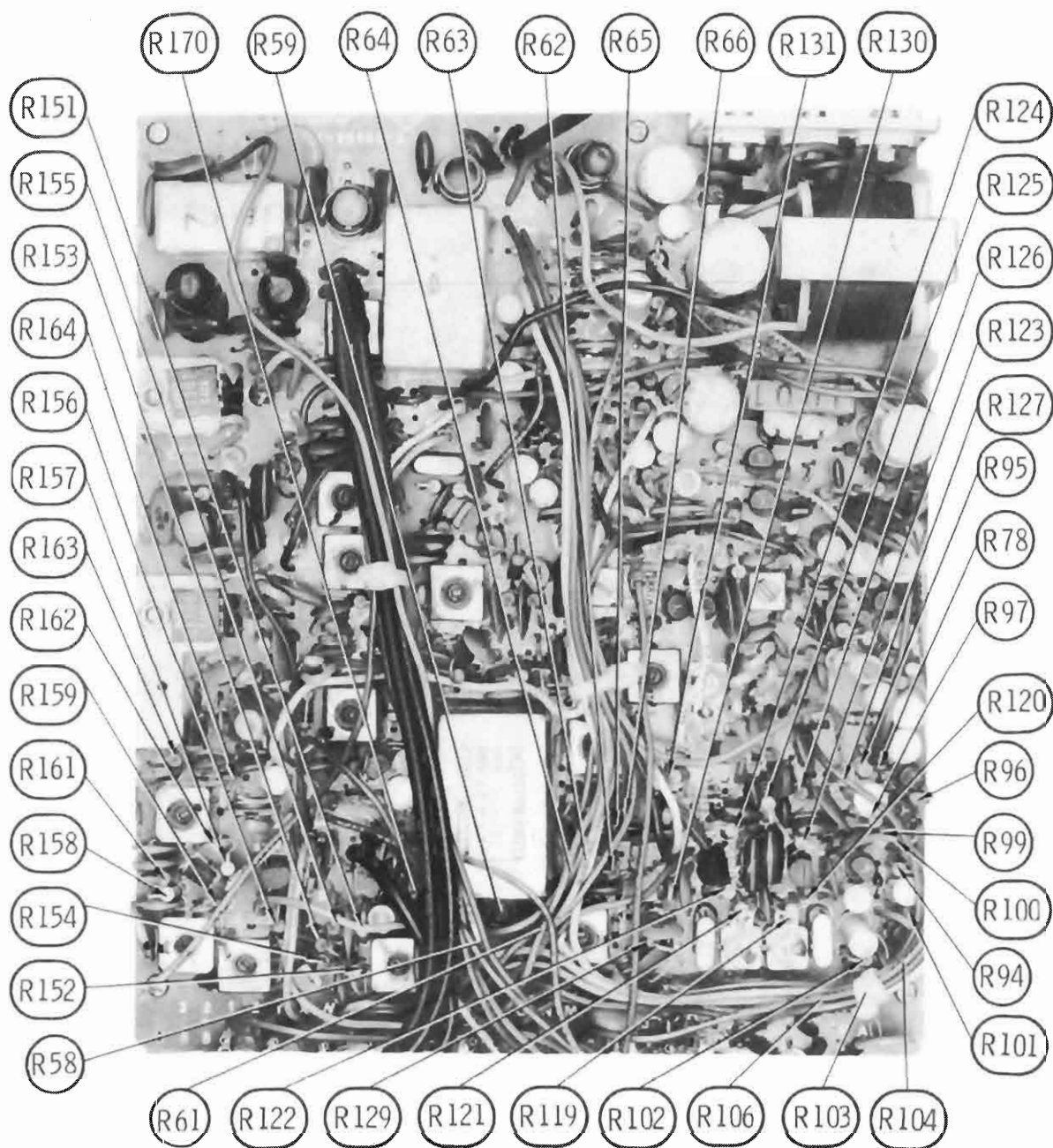
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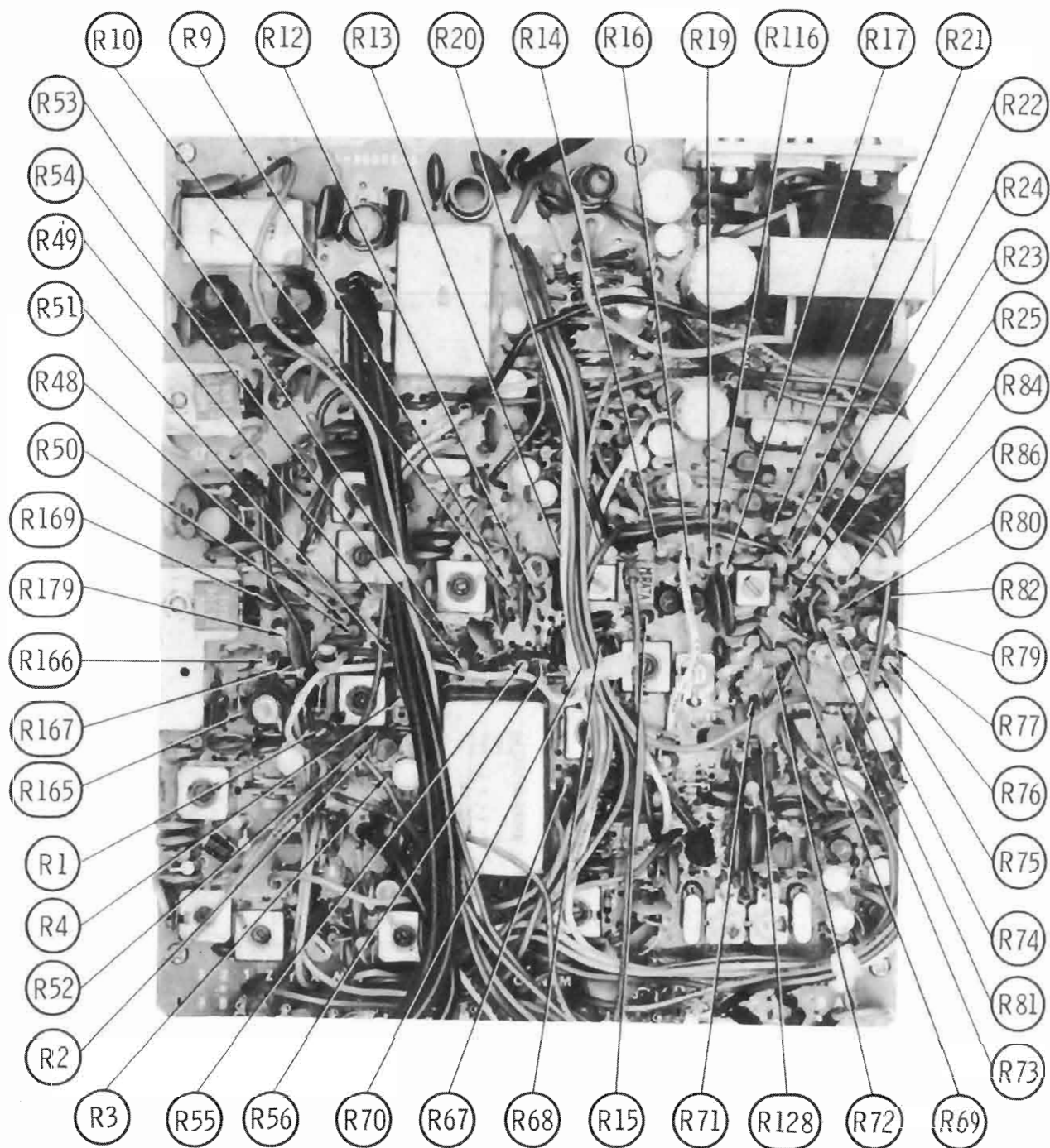
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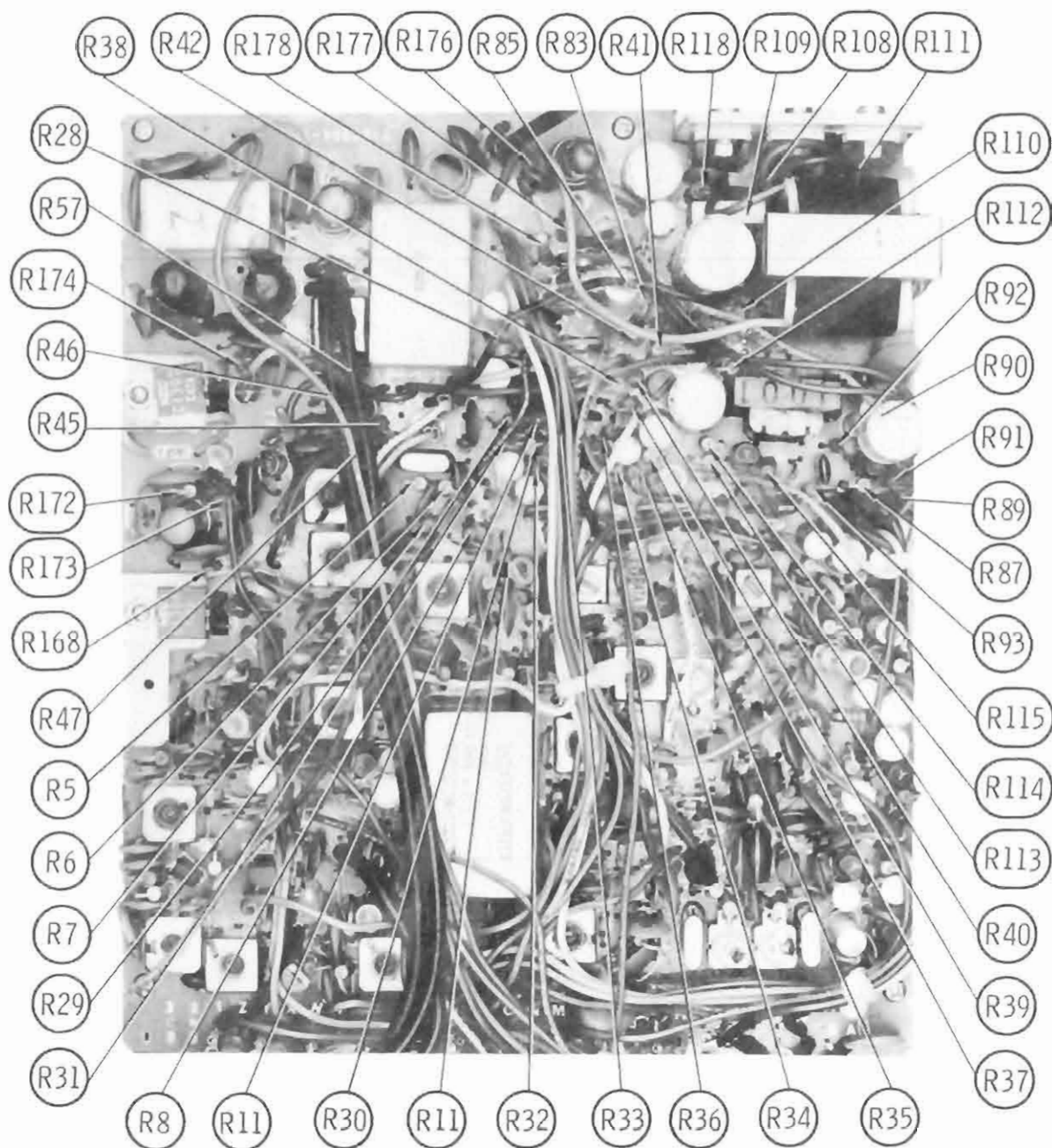
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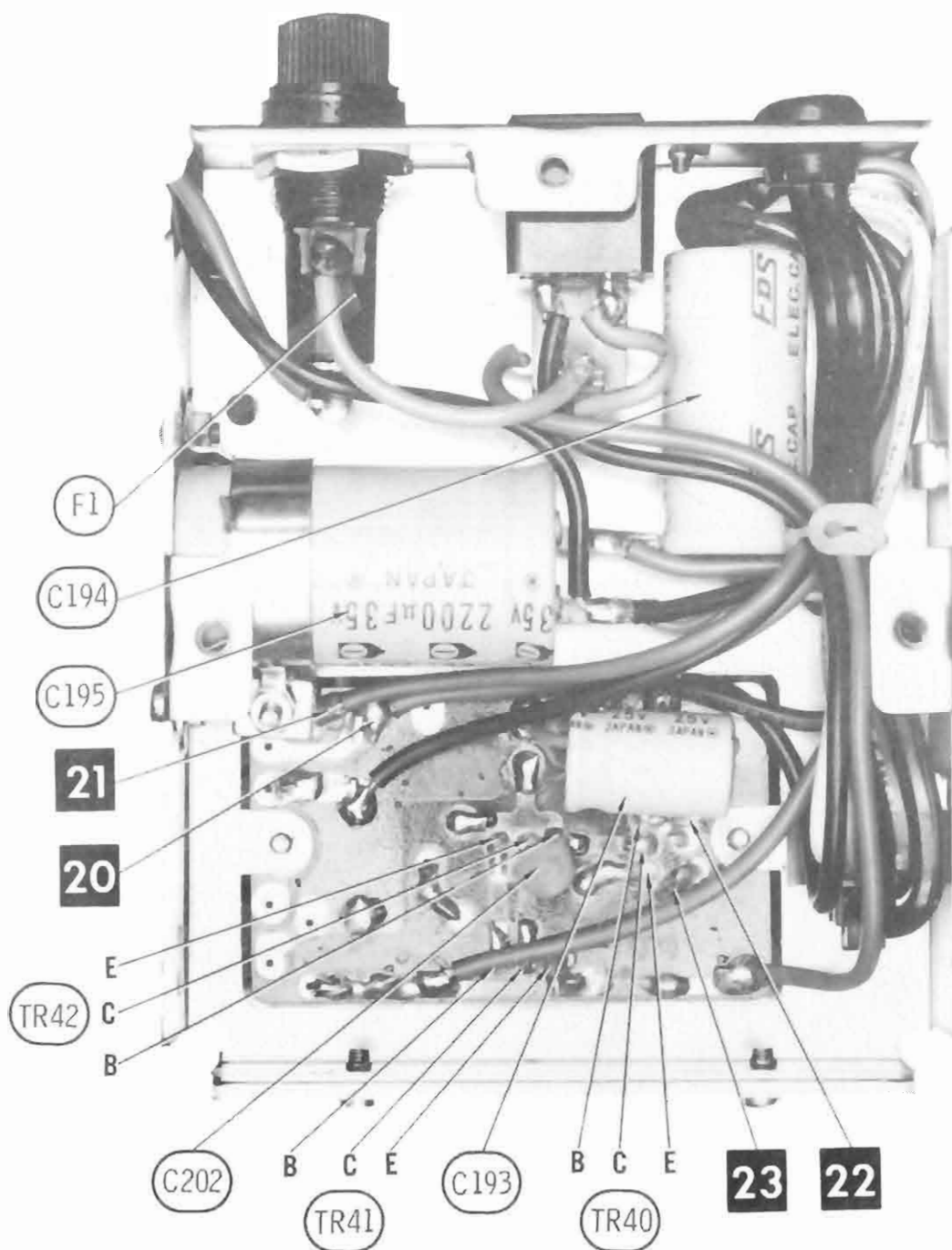
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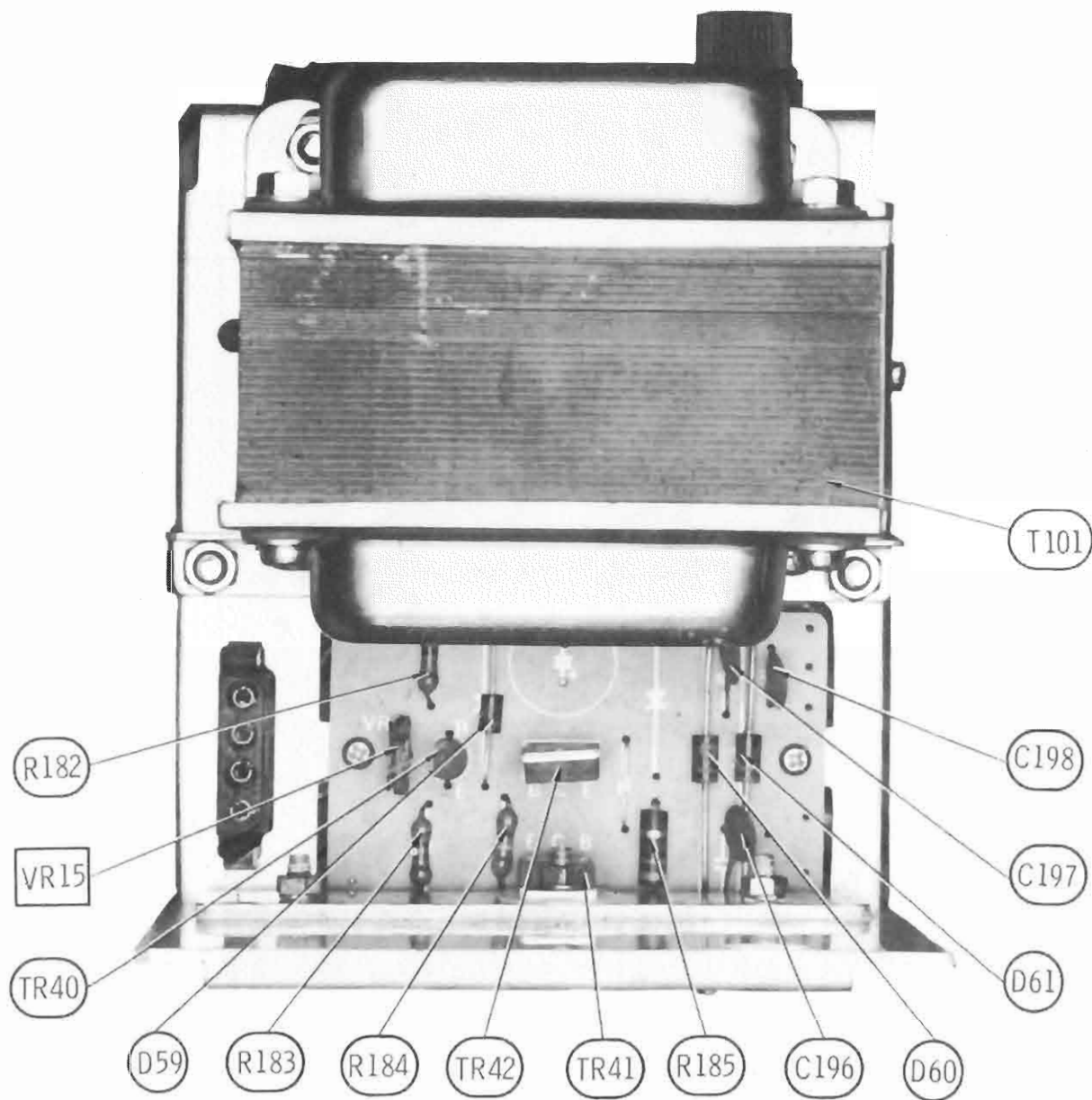
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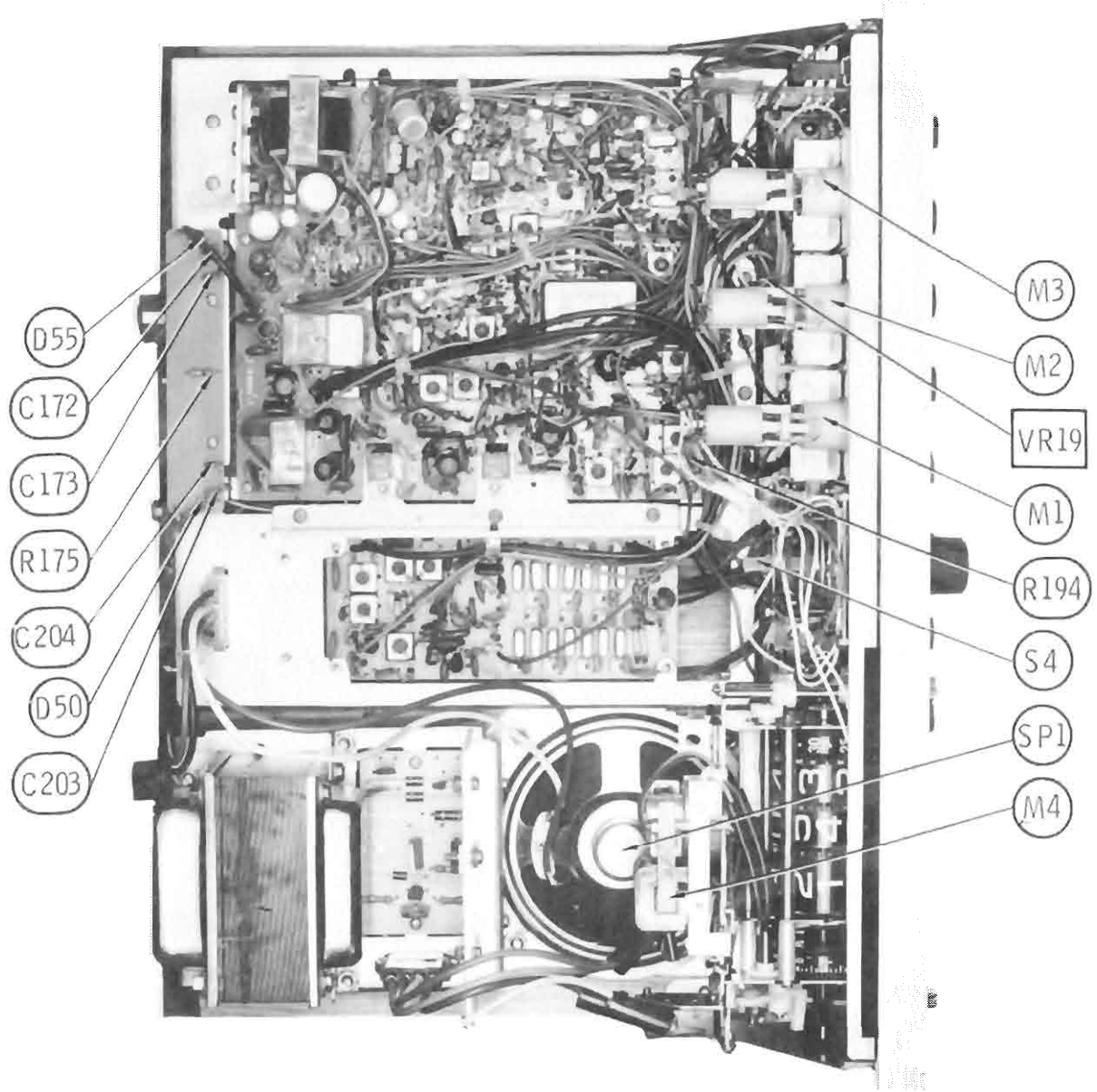
MAIN BOARD



AC POWER SUPPLY BOARD



AC POWER SUPPLY BOARD



CHASSIS-TOP

PARTS LIST AND DESCRIPTION

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

WIRING DATA

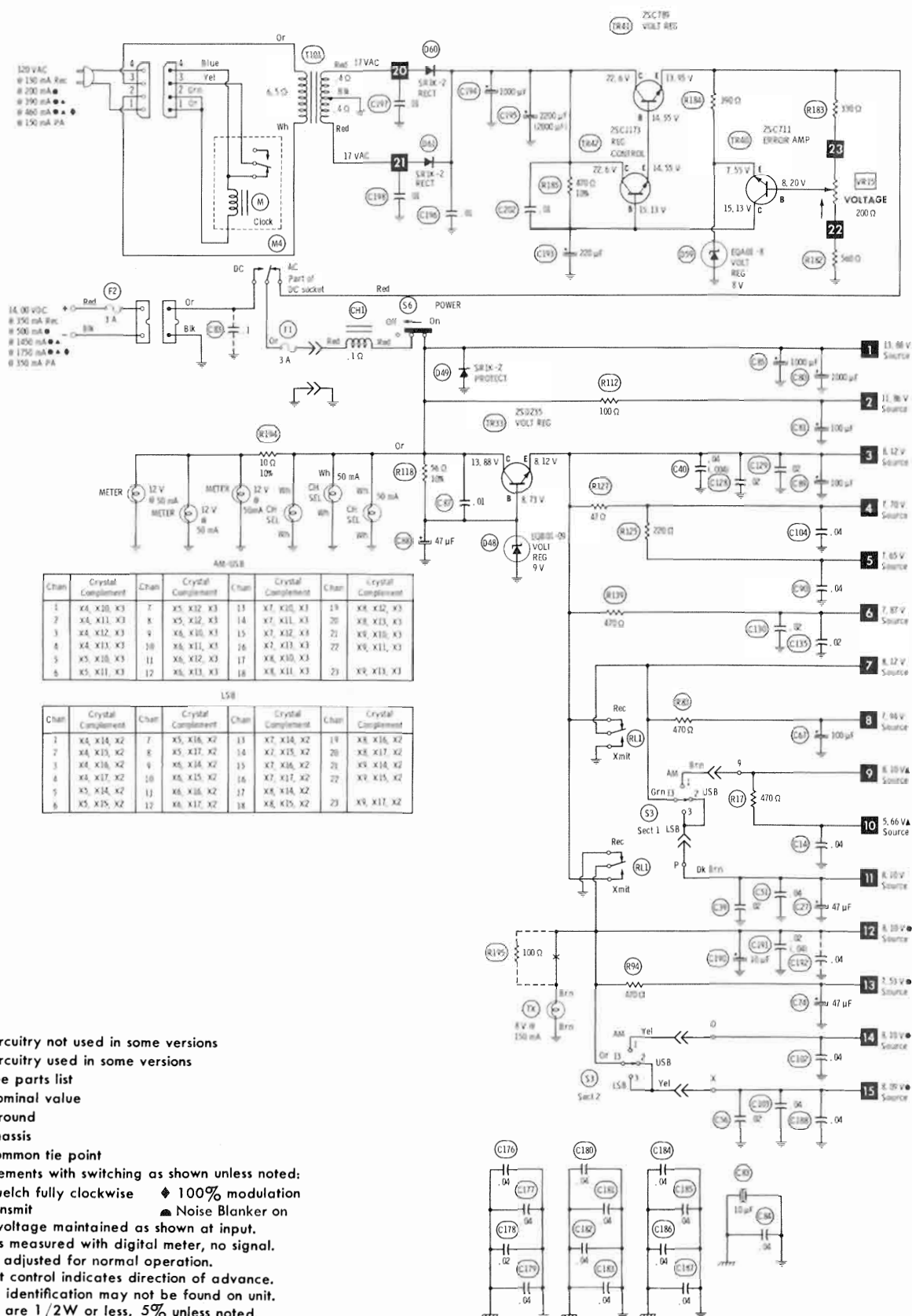
General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors
Power Cord, 2-Wire	Use BELDEN No. 17106 (Plastic) or 17126 (Rubber) -6 feet 17109 (Plastic) or 17129 (Rubber) -9 feet
Shielded Antenna Lead	Use BELDEN No. 8214 Lowest-loss (RG-8/U Type) 8237 Low-loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable	Use BELDEN No. 8497 3-Conductor (1 shielded for Press-to-Talk) Neoprene 8491 4-Conductor (2 shielded, 2 unshielded) Neoprene

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D2	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D3	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D4	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D5	1S2075 7.5V Zener		GEZD-7.5	Z1207	PTC504	HEPZ0410	RE 111	SK3059	RT-239	ECG138
D6	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D7	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D8	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D9	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D10	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D11	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D12	1S352		GE-90	D201	PTC206	HEPR2503	RE 195	SK3126	RT-262	ECG109
D13	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D14	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D15	1S1588		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D16	1S352		GE-90	D201	PTC206	HEPR2503	RE 195	SK3126	RT-262	ECG109
D17	1S1588		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D18	1S1588		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D19	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D20	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D21	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D22	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D23	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D24	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D25	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D26	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D27	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D28	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D29	SRIK-2		GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D30	ITT-410		GE-90	D201	PTC206	HEPR2503	RE 195	SK3126	RT-262	ECG109
D31	KB262		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D32	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D33	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D34	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D35	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D36	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D37	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D38	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D39	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D40	1S1588		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D41	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D42	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D43	KB262		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D44			GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D45	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D46	SRIK-2		GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D47	SRIK-2		GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D48	EQB01-09 9V Zener		GEZD-9.1	Z1209	PTC505	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D49	SRIK-2		GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D50	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D51	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D52	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D53	SV-9		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D54	SV-9		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D55	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D56	1N60		1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D57	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D58	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
D59	EQA01-08 8V Zener		GEZD-8.2	Z1208	ZB8.2	HEPZ0411	RE 112	SK3136	RT-257	ECG5072
D60	SRIK-2		GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116
D61	SRIK-2		GE-504A	8D4	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116

(CONTINUED ON PAGE 118)

ROYCE MODEL 1-640



— Circuitry not used in some versions

--- Circuitry used in some versions

⊙ See parts list

⊛ Nominal value

⊜ Ground

⊞ Chassis

⊟ Common tie point

Measurements with switching as shown unless noted:

■ Squelch fully clockwise ◆ 100% modulation

● Transmit ▲ Noise Blanker on

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.

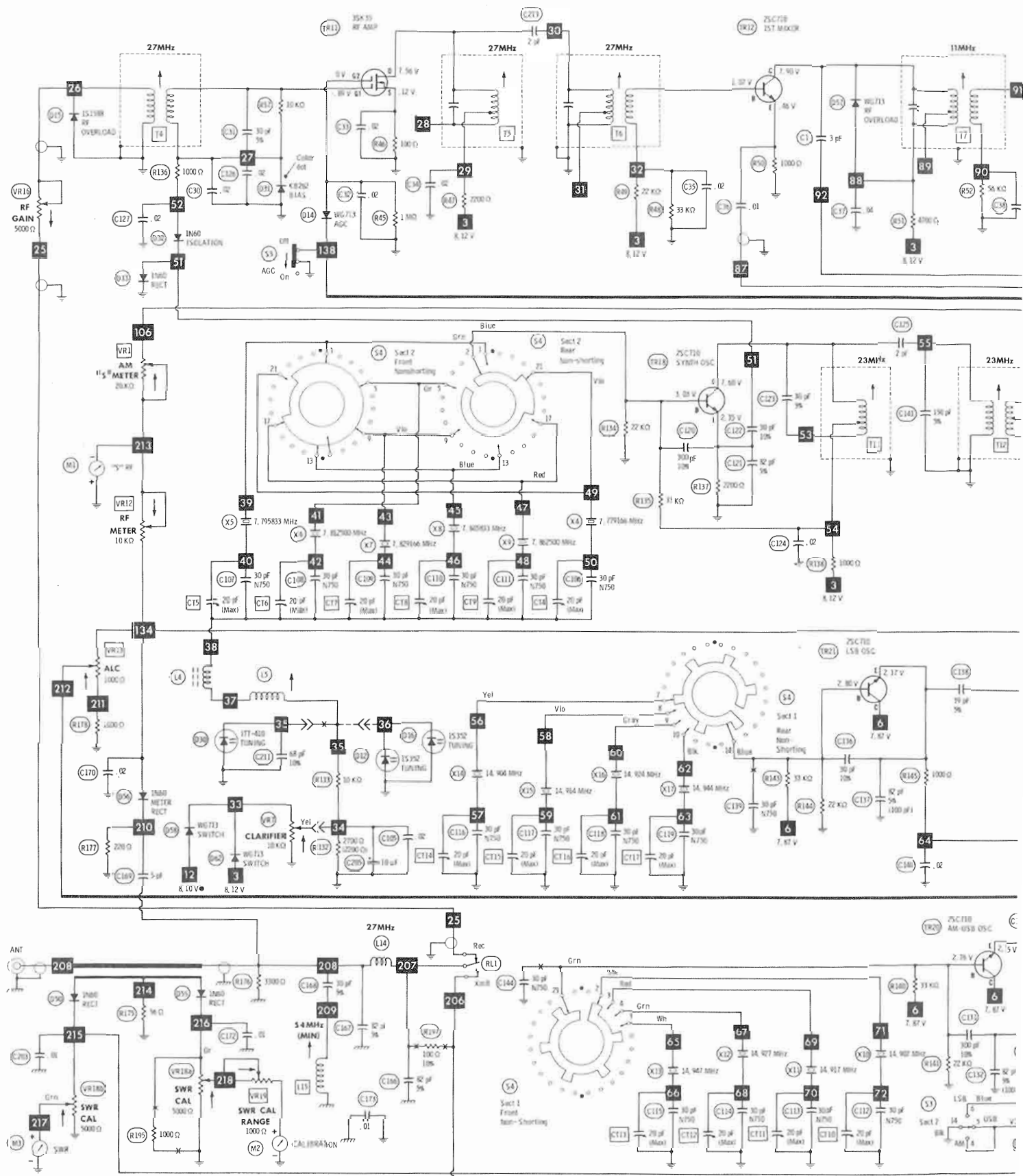
Resistors are 1/2W or less, 5% unless noted.

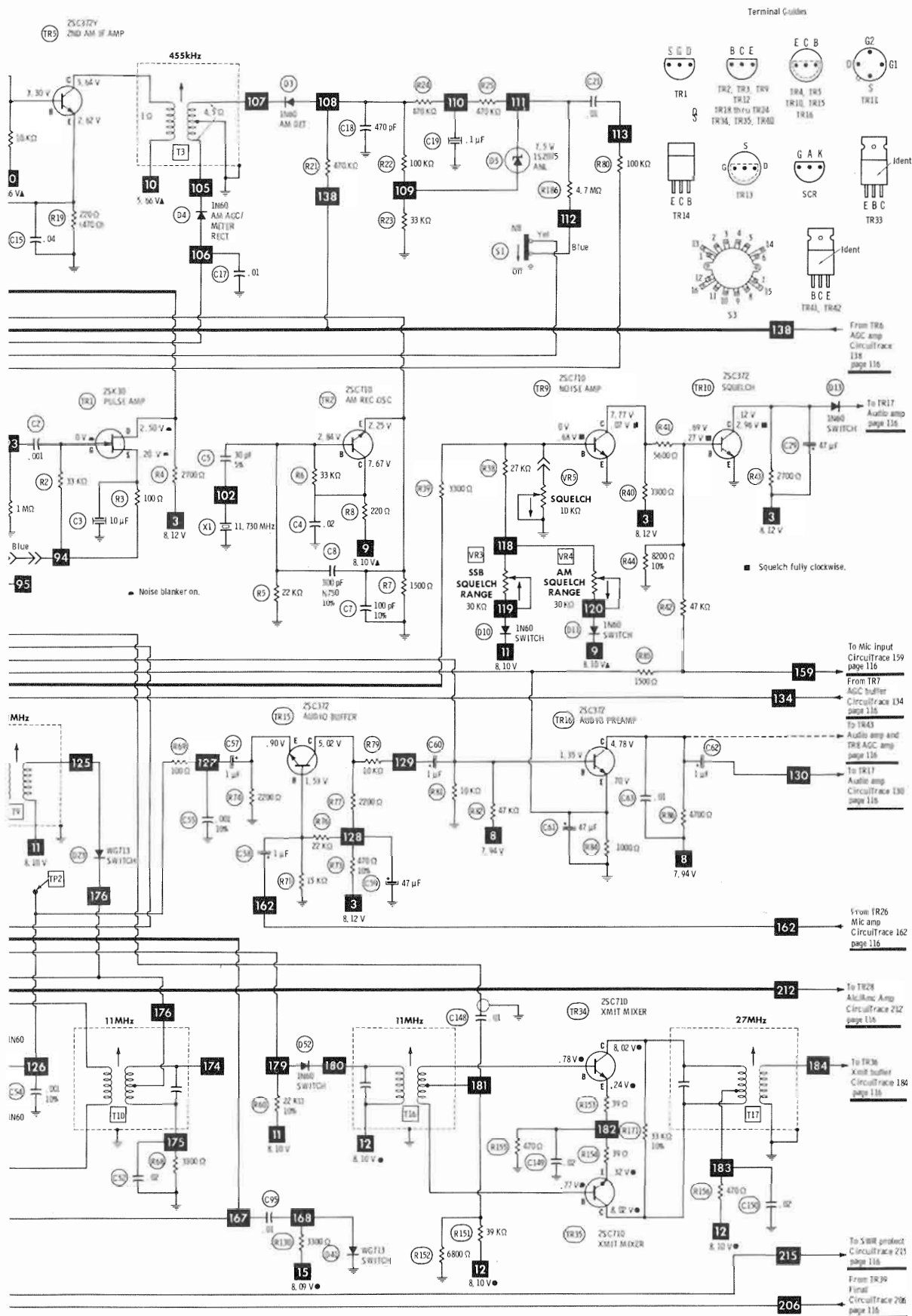
Value in () used in some versions.

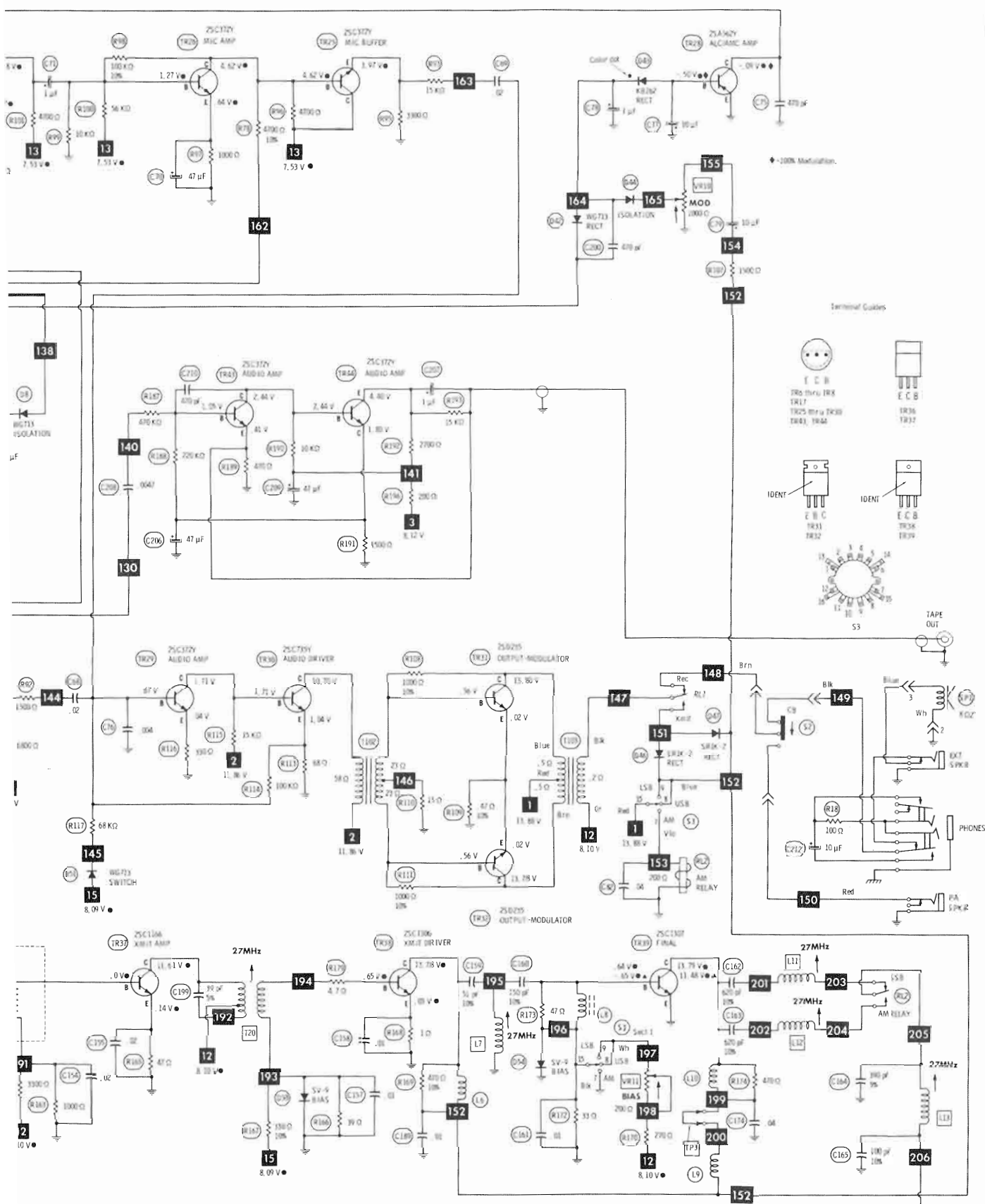
A PHOTOFACT STANDARD NOTATION SCHEMATIC

WITH CIRCUITRACE

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ROYCE MODEL 1-640

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.	INTERNATIONAL RECTIFIER PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D62	WG713		GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
SCR	SFOR2B41									ECG5402
TR1	2SK30		GE-FET-1	FE-100	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133
TR2	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR3	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR4	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR5	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR6	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR7	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR8	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR9	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR10	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR11	3SK35		GE-FET-4		PTC181	HEPF2004	RE 13	SK3018	RT-105	ECG123A
TR12	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR13	2SK19GR		GE-FET-2	FE-100	PTC152	HEPF0021	RE 45	SK3116	RT-175	ECG132
TR14	2SC535		GE-20	(IR)2SC633A	PTC132	HEPS0016	RE 9	SK3016	RT-108	ECG229
TR15	2SC372		GE-20	(IR)2SC372	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR16	2SC372		GE-20	(IR)2SC372	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR17	2SC732GR		GE-20	TR-21	PTC123	HEPS0024	RE 13	SK3122	RT-100	ECG199
TR18	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR19	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR20	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR21	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR22	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR23	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR24	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR25	2SC372Y		GE-20	(IR)2SC458B	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR26	2SC372Y		GE-20	(IR)2SC458B	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR27	2SC372Y		GE-20	(IR)2SC458B	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR28	2SA562Y		GE-22	TR-20	PTC103	HEPS0019	RE 26	SK3025	RT-126	ECG290
TR29	2SC372Y		GE-20	(IR)2SC458B	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR30	2SC735Y		GE-63	TR-24	PTC123	HEPS0014	RE 78	SK3124	RT-172	ECG289
TR31	2SD235	(1)	GE-66	TR-92	PTC167	HEPS0000	RE 21	SK3054	RT-197	ECG152
TR32	2SD235	(1)	GE-66	TR-92	PTC167	HEPS0000	RE 21	SK3054	RT-197	ECG152
TR33	2SD235	(1)	GE-66	TR-92	PTC167	HEPS0000	RE 21	SK3054	RT-197	ECG152
TR34	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR35	2SC710		GE-20	(IR)2SC710	PTC121	HEPS0016	RE 13	SK3018	RT-105	ECG123A
TR36	2SC535		GE-20	(IR)2SC633A	PTC132	HEPS0016	RE 9	SK3016	RT-108	ECG229
TR37	2SC1166		GE-18	TR-63	PTC143	HEPS0026	RE 23	SK3024	RT-110	ECG154
TR38	2SC1306	(2)	GE-215	TR-55	PTC186		RE 194		RT-197	ECG236
TR39	2SC1307	(3)	GE-216		PTC186		RE 194		RT-197	ECG236
TR40	2SC711		GE-62	(IR)2SC644	PTC139	HEPS0025	RE 13	SK3018	RT-102	ECG123A
TR41	2SC789	(4)	GE-66	TR-76	PTC137		RE 21	SK3054	RT-153	ECG152
TR42	2SC1173	(5)	GE-66	TR-55	PTC110	HEPS0010	RE 21	SK3054	RT-197	ECG236
TR43	2SC372Y		GE-20	(IR)2SC458B	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A
TR44	2SC372Y		GE-20	(IR)2SC458B	PTC121	HEPS0015	RE 13	SK3018	RT-105	ECG123A

- (1) Rating 1.5 watts @ 3 amps.
(2) Rating 12 watts @ 3 amps.
(3) Rating 25 watts @ 4 amps.
(4) Rating 30 watts @ 4 amps.
(5) Rating 10 watts @ 3 amps.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA					
		MFR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C3	10 16V NP		CTA-7555	EN50-106	WNP10-50	TCN5010A	TVAN-1304.1
C16	1 50V NP		CTA-7425	EN50-105	WNP1-50	TCN501A	TVAN-1560
C19	1 50V NP						
C20	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C22	4.7 16V		RME-A-J-005	EP30-5	PC5-50	VTT47A50	EV-1319
C23	1 50V NP						
C24	47 6.3V		RME-C-B-050	EP6-50	PC50-10	VTT47A6	EV-1326
C25	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C26	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C27	47 16V		RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C38	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C29	47 10V		RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C51	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C57	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C58	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C59	47 10V		RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C60	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C61	47 6.3V		RME-C-B-050	EP6-50	PC50-10	VTT47A6	EV-1026
C62	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C65	1 50V NP						
C66	10 16V		RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C67	100 16V		RME-E-E-100	EP15-100	PC100-16	VTT100F16	EV-1230
C70	47 6.3V		RME-C-B-050	EP6-50	PC50-10	VTT47A6	EV-1026

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

ITEM No.	RATING	REPLACEMENT DATA					
		MFGR. PART No.	ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C71	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C73	.1 50V NP						
C74	47 10V		RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C77	10 16V		RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C78	1 16V		RME-A-J-001	EP15-1	PC1-50	TT15X1	EV-1315
C79	10 16V		RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
V80	1000 16V		RME-N-E-1000	EP15-1000	PC1000-16	VTT1000L16	EV-1260
C81	100 16V		RME-E-E-100	EP15-100	PC100-16	VTT100F16	EV-1230
C83	10 16V NP		CTA-7555	EN50-106	WNP10-50	TCN5010A	TVAN-1304.1
C85	1000 16V		RME-N-E-1000	EP15-1000	PC1000-16	VTT1000L16	EV-1260
C88	47 10V		RME-E-E-050	EP15-50	PC50-16	VTT47D16	EV-1226
C89	100 16V		ME-M050	EA150-50	WER50-150	MTV500J100	TVA-1343
C190	10 16V		RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C193	220 25V		RME-K-G-250	EP30-250	PC250-25	VTT220H25	EV-1340
C194	100 25V		RME-P-G-1000	EP30-1000	WER1000-25	VTT1000M25	EV-1360
C195	2200 35V		ME-2-B-050	EA6-50	WER50-25	MTA50D6	TVA-1100
C205	10 16V		RME-B-G-010	EP15-10	PC10-25	VTT10A25	EV-1222
C206	47 6.3V		RME-C-B-050	EP6-50	PC50-10	VTT47A6	EV-1026
C207	1 16V			RME-A-J-001	EP15-1	PC1-50	TT15X1
C209	47 10V			RME-E-E-050	EP15-50	PC50-16	VTT47D16
C210	10 10V			RME-A-D-010	EP15-10	PC10-25	VTT10A25

ROYCE MODEL 1-640

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	3		CCT0-3R3	DTZ-3R3	NP03P3	CN0533	10TCC-V33
C2	.002		CCD-202			3P220	10TS-D20
C4	.02		CCD-203	DC-203		MAG5012	2SS-S20
C5	30 5%		DM10-300J	CPR-30J	CD6ED300J03	SX430	
C6	2		CCT0-2R2	DTZ-2R2	NP02P2	CN0522	10TCC-V22
C7	100 10%		DM10-100J	CPR-100J	CD19FD100J03	SX310	424MC1000J501
C8	300 10% N750		CCTN-301				10TCU-T30
C9	10		CCT0-100	DTZ-10	NP010	CN0410	10TCC-Q10
C10	.04		CCD-403			GP140	5GA-S40
C11	.04		CCD-403			GP140	5GA-S40
C12	.001 10%		DM19-102J	CPR-1000J	CD19FD102J03	SX210	424ME1001J501
C13	.04		CCD-403			GP140	5GA-S40
C14	.04		CCD-403			GP140	5GA-S40
C15	.04		CCD-403			GP140	5GA-S40
C17	.01		CCD-103				10TS-S10
C18	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C21	.001		1MDF-1-102	CPJ-102	DPMS6D1	EWFA210	1PB-D10
C30	.02		CCD-203			GP120	5GA-S20
C31	30 5%		DM10-300J	CPR-30J	CD6ED300J03	SX430	
C32	.02		CCD-203			GP120	5GA-S20
C33	.02		CCD-203			GP120	5GA-S20
C34	.02		CCD-203			GP120	5GA-S20
C35	.02		CCD-203			GP120	5GA-S20
C36	.02		CCD-203			GP120	5GA-S20
C37	.04		CCD-403			GP140	5GA-S40
C38	.02		CCD-203			GP120	5GA-S20
C39	.02		CCD-203			GP120	5GA-S20
C40	.04		CCD-403			GP140	5GA-S40
C41	.02		CCD-203			GP120	5GA-S20
C42	.02		CCD-203			GP120	5GA-S20

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS(cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C43	.02		CCD-203			GP120	5GA-S20
C44	.01		CCD-103				10TS-S10
C45	.04		CCD-403			GP140	5GA-S40
C46	2		CCTO-2R2	DTZ-2R2	NP02P2	CN0522	10TCC-V22
C47	.02		CCD-203			GP120	5GA-S20
C48	.001		CCD-102	DD-102	GP1000	GP210	2SS-D10
C49	.02		CCD-203			GP120	5GA-S20
C50	.02		CCD-203			GP120	5GA-S20
C51	.04		CCD-403			GP140	5GA-S40
C52	.02		CCD-203			GP120	5GA-S20
C53	10		DM10-100J		CD6CD100D03		
C54	.001 10%		CCD-102	DD-102		GP210	10TS-D10
C55	.001 10%		CCD-102	DD-102		GP210	10TS-D10
C56	.02		CCD-203			GP120	5GA-S20
C63	.01		CCD-103				10TS-S10
C64	.1		1MDF-3-104		DPMS2P1	EWFI1A010	1PB-P10
C68	.02		1MDF-1-203	CPJ-203	DPMS2S2	PVC212	2PS-S20
C69	.02		1MDF-1-203	CPJ-203	DPMS2S2	PVC212	2PS-S20
C72	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C75	470		CCD-471	DD-471	GP470	GP347	10TS-T47
C76	.004		6DP-1-392	CPR-3900J	DPMS6D39	PVC6239	5PS-D39
C82	.04		CCD-403			GP140	5GA-S40
C84	.04		CCD-403			GP140	5GA-S40
C86	.02		CCD-203			GP120	5GA-S20
C87	.02		CCD-203			GP120	5GA-S20
C90	.02		CCD-403			GP140	5GA-S40
C91	300 10%		DM15-301J	CPR-300J	CD15FD301J03	SX330	424ME3000J501
C92	68 10%		DM15-301J	CPR-300J	CD15FD301J03	SX330	424ME3000J501
C93	10%		DM10-680J	CPR-68J	CD6ED680J03	SX468	424MC680J501
C94	.01		CCD-103				10TS-S10
C95	.01		CCD-103				10TS-S10
C96	300 10%		DM15-301J	CPR-300J	CD15FD301J03	SX330	424ME3000J501
C97	68 5%		DM10-680J	CPR-68J	CD6ED680J03	SX468	424MC680J501
C98	39 5%		DM10-390J	CPR-39J	CD6ED390J03	SX439	
C99	.02		CCD-203			GP120	5GA-S20
C100	.02		CCD-203			GP120	5GA-S20
C101	.04		CCD-403			GP140	5GA-S40
C102	.04		CCD-403			GP140	5GA-S40
C103	.04		CCD-403			GP140	5GA-S40
C104	.04		CCD-403			GP140	5GA-S40
C105	.02		CCD-203			GP120	5GA-S20
C106	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C107	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C108	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C109	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C110	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C111	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C112	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C113	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C114	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C115	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C116	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C117	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C118	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C119	30 N750		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C120	300 10%		DM15-301J	CPR-300J	CD15FD301J03	SX330	424ME3000J501
C121	82 5%		DM10-820J	CPR-82J	CD10ED820J03	SX482	424MC820J501
C122	30 10%		DM10-300J	CPR-30J	CD6ED300J03	SX430	
C123	30 5%		CCTO-300				10TCC-Q30
C124	.02		CCD-203			GP120	5GA-S20
C125	2		CCTO-2R2	DTZ-2R2	NP02P2	CN0522	10TCC-V22
C126	.02		CCD-203			GP120	5GA-S20
C127	.02		CCD-203			GP120	5GA-S20
C128	.02		CCD-203			GP120	5GA-S20
C129	.02		CCD-203			GP120	5GA-S20
C130	.02		CCD-203			GP120	5GA-S20
C131	300 10%		DM15-301J	CPR-300J	CD15FD301J03	SX330	424ME3000J501
C132	82 5%		DM10-820J	CPR-82J	CD10ED820J03	SX482	424MC820J501
C133	39 5%		DM10-390J	CPR-39J	CD6ED390J03	SX439	
C134	.02		CCD-203			GP120	5GA-S20
C135	.02		CCD-203			GP120	5GA-S20
C136	300 10%		DM15-301J	CPR-300J	CD15FD301J03	SX330	424ME3000J501
C137	82 5%		DM10-820J	CPR-82J	CD10ED820J03	SX482	424MC820J501
C138	39 5%		DM10-390J	CPR-39J	CD6ED390J03	SX439	
C139	30 N750 10%		CCTN-330	DTN-33	N33	CN7433	10TCU-Q33
C140	.02		CCD-203			GP120	5GA-S20
C141	150 5%		DM10-151J	CPR-150J	CD7FD151J03	SX315	424MC1500J501
C142	150 N750 10%			DTN-150	N150	CN7315	10TCU-T15

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
C143	150 N750 10%			DTN-150	N150	CN7315	10TCU-T15
C144	30 N750			DTN-33	N33	CN7433	10TCU-Q33
C145	.02		CCTN-330			GP120	5GA-S20
C146	.02		CCD-203			GP120	5GA-S20
C147	5		CCD-203		CD6CD050003		
C148	.01		DM10-0500				10TS-S10
C149	.02		CCD-103			GP120	5GA-S20
C150	.02		CCD-203			GP120	5GA-S20
C151	15		CCD-203		CD6CD150J03		
C152	.02		DM10-150J			GP120	5GA-S20
C153	.02		CCD-203			GP120	5GA-S20
C154	.02		CCD-203			GP120	5GA-S20
C155	.02		CCD-203			GP120	5GA-S20
C157	.01		CCD-203			GP120	10TS-S10
C158	.01		CCD-103				10TS-S10
C159	51 10%		DM10-510J		CD6ED510J03		424MC510J501
C160	150 10%		DM10-151J	CPR-150J	CD7FD151J03	SX315	424MC150QJ501
C161	.01		CCD-103				10TS-S10
C162	620 10%		DM19-621J	CPR-620J	CD19FD621J03	SX362	424ME620QJ501
C163	620 10%		DM19-621J	CPR-620J	CD19FD621J03	SX362	424ME620QJ501
C164	390 5%		DM15-391J	CPR-390J	CD15FD391J03	SX339	424ME390QJ501
C165	100 10%		DM10-101J	CPR-100J	CD10FD101J03	SX310	424MC100QJ501
C166	82 5%		DM10-820J	CPR-82J	CD10ED820J03	SX482	424MC82RQJ501
C167	82 5%		DM10-820J	CPR-82J	CD10ED820J03	SX482	424MC82RQJ501
C168	30 5%		DM10-300J	CPR-30J	CD6ED300J03	SX430	
C169	5		CCTO-050				10TCC-V50
C170	.02		CCD-203			GP120	5GA-S20
C171	.02		CCD-203			GP120	5GA-S20
C172	.01		CCD-103				10TS-S10
C173	.01		CCD-103				10TS-S10
C174	.04		CCD-403			GP140	5GA-S40
C175	.01		CCD-103	DC-103	GP10000	MAG5011	2SS-S10
C176	.04		CCD-403			GP140	5GA-S40
C177	.04		CCD-403			GP140	5GA-S40
C178	.04		CCD-403			GP140	5GA-S40
C179	.04		CCD-403			GP140	5GA-S40
C180	.04		CCD-403			GP140	5GA-S40
C181	.04		CCD-403			GP140	5GA-S40
C182	.04		CCD-403			GP140	5GA-S40
C183	.04		CCD-403			GP140	5GA-S40
C184	.04		CCD-403			GP140	5GA-S40
C185	.04		CCD-403			GP140	5GA-S40
C186	.04		CCD-403			GP140	5GA-S40
C187	.04		CCD-403			GP140	5GA-S40
C188	.04		CCD-403			GP140	5GA-S40
C189	.01		CCD-103			GP140	5GA-S40
C191	.02		CCD-203			GP120	10TS-S10
C192	.02		CCD-203			GP120	5GA-S20
C196	.01		CCD-103				5GA-S20
C197	.01		CCD-103				10TS-S10
C198	.01		CCD-103				10TS-S10
C199	39 5%		CCD-103				10TS-S10
C200	470		DM10-390J	CPR-39J	CD6ED390J03	SX439	10TS-T47
C201	200 N750 10%		CCD-471	DD-471	GP470	GP347	10TCU-T20
C202	.01			DTN-200			10TS-S10
C203	.01		CCD-103				10TS-S10
C204	.01		CCD-103				10TS-S10
C208	.0047		1MDF-1-472	CPJ-472	DPMS6147	EWFA47	1PB-D47
C211	68 10%		DM10-680J	CPR-68J	CD6ED680J03	SX468	424MC68RQJ501
C213	2		CCTO-2R2	DTZ-2R2	NP02P2	CN0522	10TCC-V22
CT1	20						
CT2	50						
CT3	50						
CT4	20						
CT5	20						
CT6	20						
CT7	20						
CT8	20						
CT9	20						
CT10	20						
CT11	20						

ROYCE MODEL 1-640

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			ARCO PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.
CT12	20						
CT13	20						
CT14	20						
CT15	20						
CT16	20						
CT17	20						

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR1	AM "S" Meter	20K		T-20K (2) or TSV-25K (2)	C-253 (2)	MTC24L1 (2)	X201R253B (2)
VR2	SSB "S" Meter	2000		TSV-2.5K or T-2500	C-252	MTC252L1	X201R252B
VR3	SSB Squelch Range	30K		TSV-50K (2) or T-50K (2)	C-503 (2)	MTC54L1 (2)	X201R503B (2)
VR4	AM Squelch Range	30K		TSV-50K (2) or T-50K (2)	C-503 (2)	MTC54L1 (2)	X201R503B (2)
VR5	Squelch	10K		F1-10K (1), SSK100	A47-10K-S (1), KSS-3 or [NP-10K-S (1), UP-C-400]	RU14L, SL36, SL3250 or [UA14L (1), SK1000] or U20 (1)	BU2 (1), CF9, SS1, EC1
VR6	Carrier Balance	2000		T-200 (2) or TSV-25 (2)		MTC22L1 (2)	X201R251B (2)
VR7	Clarifier	10K		F1-10K (1), SSK100	A47-10K-S (1), KSS-3 or [NP-10K-S (1), UP-C-400]	RU14L, SL36, SL3250 or [UA14L (1), SK1000] or U20 (1)	BU2 (1), CF9, SS1, EC1
VR8	Tone	5000		F1-5000 (1), SSK100	A47-5000-S (1), KSS-3 or [NP-5000-S (1), UP-C-400]	RU53L, SL36, SK3250 or [UA53L (1), SK1000] or U14 (1)	BU2 (1), CF8, SS1, EC1
VR9	Volume	10K		F2-10K (1), SSK100	A47-10K-Z (1), KSS-3 or [NP-10K-Z (1), UP-C-400]	RU14A, SL36, SK3250 or [UA14A (1), SK1000] or U18 (1)	BU2 (1), CF61, SS1, EC1
VR10	Modulation	1000		TSV-1K (2) or T-1000 (2)	C-102 (2)	MTC13L1 (2)	X201R102B (2)
VR11	Bias	200		T-200 (2) or TSV-250 (2)		MTC22L1 (2)	X201R251B (2)
VR12	RF Meter	10K		TSV-10K (2) or T-10K (2)	C-103 (2)	MTC14L1 (2)	X201R103B (2)
VR13	ALC	1000		TSV-1K (2) or T-1000 (2)	C-102 (2)	MTC13L1 (2)	X201R102B (2)
VR14	Sensor Level	1000		TSV-1K (2) or T-1000 (2)	C-102 (2)	MTC13L1 (2)	X201R102B (2)
VR15	Voltage	200		T-200 or TSV-250		MTC22L1	X201R251B

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
VR16	RF Gain	5000		F1-5000 (1), SSK100	A47-5000-S (1), KSS-3 or [NP-5000-S (1), UP-C-400]	RU53L,SL36, SK3250 or [UA53L (1),SK1000] or U14 (1)	BU2 (1),CF8, SS1,DC1
VR17	PA Volume	10K		F2-10K (1), SSK100	A47-100K-Z (1), KSS-3 or [NP-10K-Z (1), UP-C-400]	RU14A,SL36, SK3250 or [UA14A (1),SK1000] or U18 (1)	BU2 (1),CF61, SS1,DC1
VR18a	SWR Cal.	5000		F1-5000 (1),	NP-5000-S (1)	P53L,3038 (1),	RU2 (1),CF3,
b	SWR Cal.	5000		R1-5000, SSK100,CPL2	NR-5000-S, UP-C-400,DC2	3038 (1), RU53L,CS3500	CR4,SS1,SS7A,
VR19	SWR Range	1000		TSV-1K (2) or T-1000 (2)	C-102 (2)	HTC13L1 (2)	X201R102B (2)

(1) Enlarge mounting hole.

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

ROYCE MODEL 1-640

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke				
L3	Carrier Buffer				
L4	RF Choke				
L5	RF Choke				
L6	Xmit-Driver				
L7	Driver Output (27MHz)				
L8	RF Choke		8R2		
L9	RF Choke				
L10	RF Choke				
L11	Final Out (27MHz)				
L12	Final Out (27MHz)				
L13	Pi Filter (27MHz)				
L14	Antenna (27MHz)				
L15	TWT Trap (54MHz)				
T1	11MHz IF (11MHz)		KAC6184		
T2	Rec. IF Input (455kHz)				
T3	Rec. IF Output (455kHz)				
T4	Rec. Antenna (27MHz)		ETC20'06		
T5	Rec. IF (27MHz)		ETC20'07		
T6	Rec. IF (27MHz)		ETC20'07		
T7	Rec. Mixer (27MHz)		ETC15062		
T8	SSR IF Input (11MHz)		KAC6184		
T9	SSE IF Interstage (11MHz)		KAC6184		
T10	SSE IF Output (11MHz)		ETC15064		
T11	Synth. Osc. (23MHz)				
T12	Synth. Osc. (23MHz)				
T13	Synth. Buffer (38MHz)		ETC20111		
T14	Synth. Buffer Out (38MHz)		ETC20112		
T15	Synth Buffer Out (38MHz)		ETC20112		
T16	Xmit Mixer (11MHz)		ETC20104		
T17	Xmit Mixer (27MHz)				
T18	Xmit Buffer Input (27MHz)				
T19	Xmit Buffer Out (27MHz)		ETC20123		
T20	Xmit Amp Out (27MHz)				

PARTS LIST AND DESCRIPTION (CONTINUED)

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

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
CH1	1750mA	.1	.8mH				

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T101	120V AC @ 460mA AC	34V AC @ 2300mA AC				

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T102	1.6	1		1001 (1)			(1) Number of unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T103	32	8				

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.	
SP1	3 1/2 PM 8 ohm			

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	HOLDER
SP	3 Amp Fast Acting			AGC3	HKP	312003	342015AL

ROYCE MODEL 1-640

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X1	11.730		AKD32W11.730	AM REC OSC.
X2	11.272		AKD32W11.272	Used in LSB
X3	11.275		AKD32W11.275	Used in AM/USB
X4	7.779166		AKB90W7.779166	1,2,3,4
X5	7.795833		AKB90W7.795833	5,6,7,8
X6	7.812500		AKB90W7.812500	9,10,11,12
X7	7.829166		AKB90W7.829166	13,14,15,16
X8	7.845833		AKB90W7.845833	17,18,19,20
X9	7.862500		AKB90W7.862500	21,22,23

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X10	14.907		AKA90W14.907	1,5,9,13,17,21
X11	14.917		AKA90W14.917	2,6,10,14,18,22
X12	14.927		AKA90W14.927	3,7,11,15,19,23
X13	14.947		AKA90W14.947	4,8,12,16,20,23
X14	14.904		AKA90W14.904	1,5,9,13,17,21
X15	14.914		AKA90W14.914	2,6,10,14,18,22
X16	14.924		AKA90W14.924	3,7,11,15,19
X17	14.944		AKA90W14.944	4,8,12,16,20,23

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CFU	Ceramic Filter		455kHz
XF	Ceramic Filter		11.2735MHz (XF-309)
M1	Meter		SRF
M2	Meter		SWR
M3	Meter		Calibration
M4	Clock		
RL	Relay		Xmit/Rec
RL2	Relay		AM
S1	Switch		NB
S2	Switch		PA-CB
S3	Switch		AM-USB-LSB
S4	Switch		Channel Selector
S5	Switch		AGC
S6	Switch		Power (On-Off)

THIS INDEX LISTS ALL RADIOS APPEARING IN
"CITIZENS BAND MANUALS" AND "PHOTOFACT CB RADIO SERIES"

AIRCRAFT	VOL.	CHANNEL MASTER	VOL.	DEMCO	VOL.	GLOBE (CONT.)	VOL.	JCPenney (CONT.)	VOL.
JE321E	15	6423	40	CH-300	11	CB-200	2	981-6200	51
23-02	38	7553	9	Chalet, DMT-110	14	Globe Master 65-220	6	981-6240	
		6554	13	Ravelle	11	X-90 (Pocketphone)	1	(981-3445)	74
AIRLINE				Ravelle 23	15	65-228		985-6050 (Pinto 23)	27
GAS-587	4	CITI-FONE		Satellite CB-1A	7	(President VIII)	7	985-6055 (Pinto Jr.)	30
				Satellite Deluxe	19			985-6060 (Pinto-23B)	28
ALLIED				Satellite M-10A,		GONSET		JOHNSON	
A-2507 (17B6790X)	20	CD-5/6/-5/12	1	R-101A, T-110A,		G-11-3303/04/-05,		Messenger II (242-162/	
A-2530 (17B6825X)	19	CD-5A/6, CD-5A/12	9	VW-12-120	7	G-12 (3316), (3329)	1	-163, 250-180/-811)	5
A-2533 (17B6440X)	22	CD-6/6, CD-6/12	3	Travelier (Series B)	8	G-14 (3430), (3433)	3	Messenger III	8
A-2543 (17-9801S)	21	CD11/6, CD11/12	12	DEWALD		G-15 (3428), (3429)	4	Messenger III	
A-2544 (17B9802S)	23	SS	9	TR-6/-12/910	2			(242-143) (Rev.)	30
A-2545 (17B9803S)	18	99/6, 99/12	12	DUO COM		HALLICRAFTERS		Messenger 100	12
A-2559 (21B5559U)	34	CLARICON		100		BC-8	10	Messenger 102	
A-2561 (21B5561)	35	II (1103-01)	15	DYNASCAN		CB-1	1	(242-102)	32
A-2564 (17A6966U)	29	14-523	27	(See Cobra)		CB-3	3	Messenger 108	
A-2567 (17B6435X)	22	15-200	16	ECHO		CB-3A	5	(242-108)	50
A-2568 (17A6966U)	29	15-410	14	99'er		CB-4 (Littlefone)	3	Messenger 109	
A-2569 (17C6469U)	24	15-500	23	(See page 51)	49	CB-5A	5	(242-109)	26
		15-600	33	EICO		CB-5 Mark II, HA-14,		Messenger 110	
ALLSTATE				712	13	P-5-120	6	(242-0110)	19
832.62270	7	COBRA		740	4	CB-7	7	Messenger 120	
893.62910/11/21/31/41	6	CAM-88	9	760/61W/62/62W	2	CB-8	10	(242-0120)	41
		CAM-89	58	770/W	3	CB-9	8	Messenger 121	
AMPHENOL		V	13	771W, 772W	4	CB-10	9	(242-0121)	40
C-75	12	6	34	777	7	CB-12	11	Messenger 122	
80	22	19	75	779	9	CB-14/-17	12	(242-0122)	45
600, 625	11	20	49	779A	17	CB-19	13	Messenger 123	
650	13	21	51	7923 (Nova 23)	18	CB-20	14	(242-0123A & B)	24
675	14	23, PAC-V	16			CB-21	20	Messenger 123	
725	15	24	26			CB-24	22	(242-123) (Rev.)	
750	19	25	33			PS-20	20	-C/-D/-E/-F/-G	42
777	18	27	23					Messenger 123A	
APELCO		28, PAC-24	43					(242-0123)	47
AR-9	1	28A	72					Messenger 124	
AR-10	7	29	56					(242-124)	28
		85	77					Messenger 124-M	
ARKAY		98	23					(242-0134)	39
SQ-9/-9W	2	130	44					Messenger 125	
ARVIN		131	45					(242-125)	28
20Y33-19 (1.45501)	27	132 (EP & LP)	54					Messenger 130	
20Y55-19 (1.45601)	29	132A	73					(242-0130)	63
		135 (EP & LP)	54					Messenger 132	69
AUTOMATIC		138	57					Messenger 223	
MCE-6510	25	139	59					(242-223)	23
MCR-6450	17	880	47					Messenger 250	
PCR-6452	22	CONCORD						(242-0250)	60
PCR-6452	25	TG-132B	12					Messenger 250A/B (Rev)	