



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

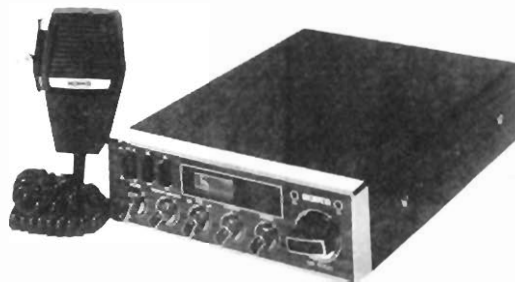
NOTE

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 SB-510D

MANUFACTURER'S SPECIFICATIONS

GENERAL

Channels:	40 AM, 40 LSB, 40 USB
Frequency Range:	26.965 to 27.405 MHz
Frequency Control:	Phase Lock Loop(PLL) synthesizer
Frequency Tolerance:	0.005%
Operating Temperature Range:	-20° C to +50° C
Microphone:	Plug-in type: dynamic
Input Voltage:	13.8V DC nom. (positive or negative ground)
Size:	200mm x 60mm x 290mm
Weight:	6 Pounds (2.8 Kg)
Antenna Connector:	S0239
Semiconductors:	45 transistors, 7 FET, 7 IC, 57 Diodes.
Meter:	Illuminated; indicates relative RF output and received signal strength.

TRANSMITTER

Power output:	4 watts (AM), 12 watts REP (SSB)
Frequency Response:	300 - 2500 Hz
Output Impedance:	50 ohms unbalanced
Output Indicator:	TX indicator

RECEIVER

Sensitivity:	less than 0.5 μ V for 10 dB (S+N) /N
Selectivity:	AM 65 dB (10 KHz), SSB 65 dB (10 KHz)
Image Rejection:	50 dB
Adjacent-Channel Rejection:	60 dB
I.F. Frequency :	7.8 MHz
Squelch:	Adjustable; threshold less than 1 μ V
Clarifier Range:	$\pm$ 1250 Hz
Audio output power:	3.5 watts into 8 ohms
Frequency Response:	350 to 2500 Hz
Distortion:	less than 10% at 3.5 watts output:
Built-in Speaker:	8 ohms, round

PA SYSTEM

Output power:	3.5 watts into external speaker
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Courtesy of the Manufacturer

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

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ROBYN MODEL SB-510D

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:
L1 thru L5, L7, L8, L16, L17, L24, L37, L39 .. 9440
L27, L30, L32 5009
CT1 thru CT6 5000

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP10.	Ch. 19, AM Clarifier Midrange		Check for 10.240MHz.
Input of frequency counter thru 47pF to TP11.	Ch. 19, AM Clarifier Midrange	CT6	Adjust for 11.2850MHz.
	Ch. 19, USB Clarifier Midrange	CT4	Adjust for 11.2858MHz.
	Ch. 19, LSB Clarifier Midrange	CT5	Adjust for 11.2842MHz.
Input of RF VTVM to TP6.	Ch. 19, AM Clarifier Midrange	L24	Adjust for maximum RF voltage.
Input of DC meter to TP7.	Ch. 1, AM Clarifier Midrange	L17	Adjust for 2.0 volts.
Input of RF VTVM to TP8.	Ch. 19, AM Clarifier Midrange	L16	Adjust for maximum RF voltage.
Input of frequency counter to TP8.	Ch. 1, AM Clarifier Midrange		Check for 34.7650MHz. Check all channels. (Channel frequency + 7.8MHz = frequency on counter.)
	Ch. 1, USB Clarifier Midrange		Check for 34.7675MHz. Check all channels. (Channel frequency + 7.8025MHz = frequency on counter.)
	Ch. 1, LSB Clarifier Midrange		Check for 34.7625MHz. Check all channels. (Channel frequency + 7.7975MHz = frequency on counter.)
Input of frequency counter to TP8.	Ch. 19, LSB, XMT	VR9	Adjust for 34.9825MHz.
Input of frequency counter to TP9.	Ch. 19, USB	CT2	Adjust for 7.8025MHz.
	Ch. 19, LSB	CT3	Adjust for 7.7975MHz.

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.

AM

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .001uF to TP12. 7.8MHz, 1000Hz @ 30% modulation.	Ch. 19, AM Squelch MIN Clarifier Midrange NB Off Local Off	L8, L7, L5	Adjust for maximum output.

RECEIVER ALIGNMENT (Continued)

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19, AM Squelch MIN Clarifier Midrange NB Off Local Off	L4, L3	Adjust for maximum output. If necessary, readjust L5, L7 and L8.
Output of signal generator thru .01uF to antenna jack. 24.1MHz, no modulation. Input of RF VTVM to TP5.	Ch. 19, AM NB On	L1, L2	Adjust for maximum RF voltage.

RECEIVER ALIGNMENT

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

SSB

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output 1uV.	Ch. 19, USB Squelch MIN Clarifier Midrange NB Off Local Off	CT1	Adjust CT1 for maximum audio.

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 60uV.	Ch. 19, AM Volume Max Squelch MIN Clarifier Midrange NB Off Local On	VR2	RF GAIN Adjust VR2 for .5 watts audio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 5uV.	Ch. 19, AM Volume Max Squelch MIN Clarifier Midrange NB Off Local Off	VR5	AM RX GAIN Adjust VR5 for 1 watt audio.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 2000uV.	Ch. 19, AM Local Off Clarifier Midrange NB Off	VR3	SQUELCH RANGE Set squelch control VR404 fully clockwise. Adjust VR3 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19, AM Clarifier Midrange NB Off Squelch MIN Local Off	VR1	SIGNAL METER Adjust VR1 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.

SSB

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Inject a 1000Hz, 20mV signal at mic input.	Ch. 19, USB	L39,L37, L32,L30	Adjust for maximum.
	Ch. 19, USB	CT7	Adjust for 12 watts maximum.

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.

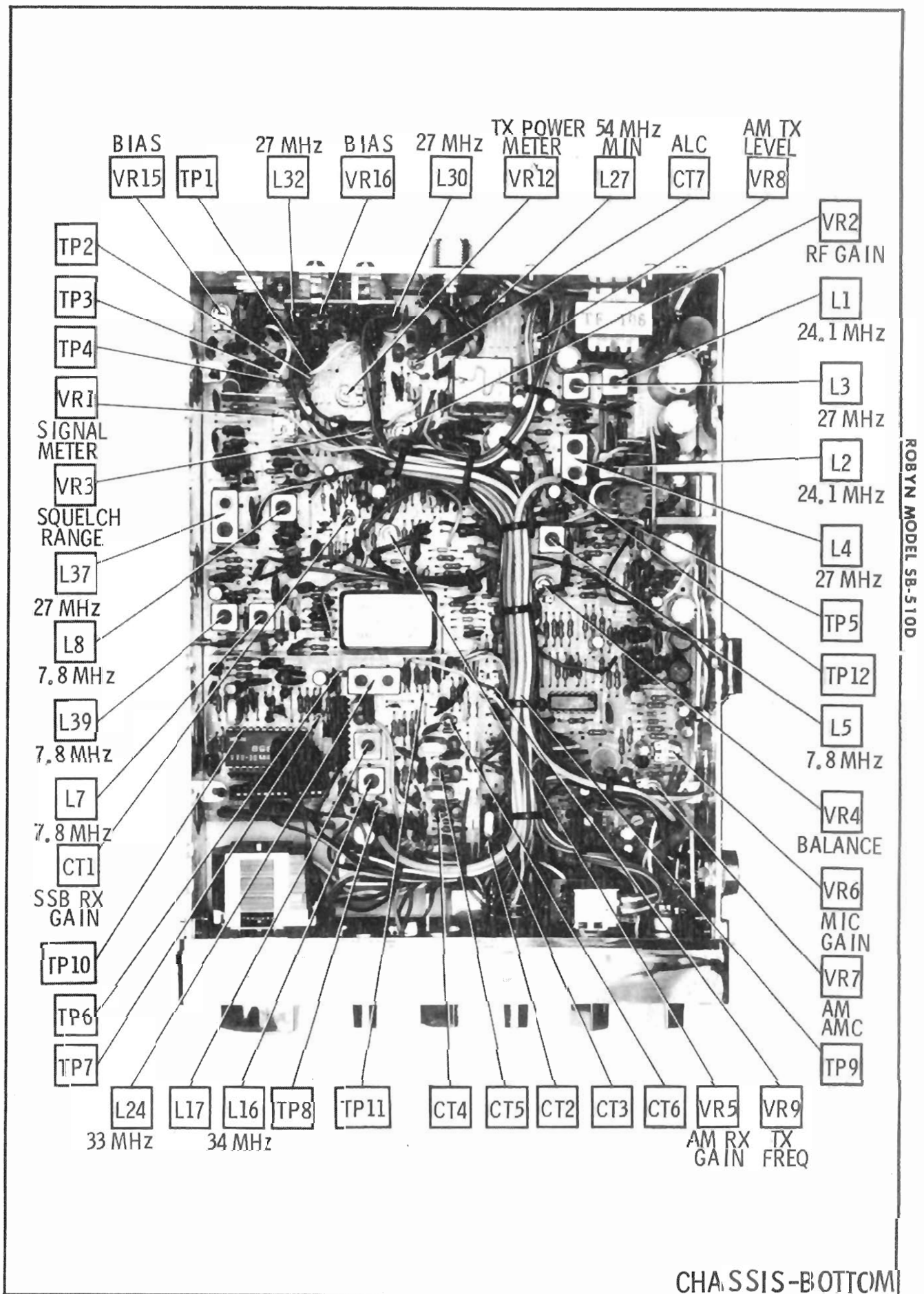
AM

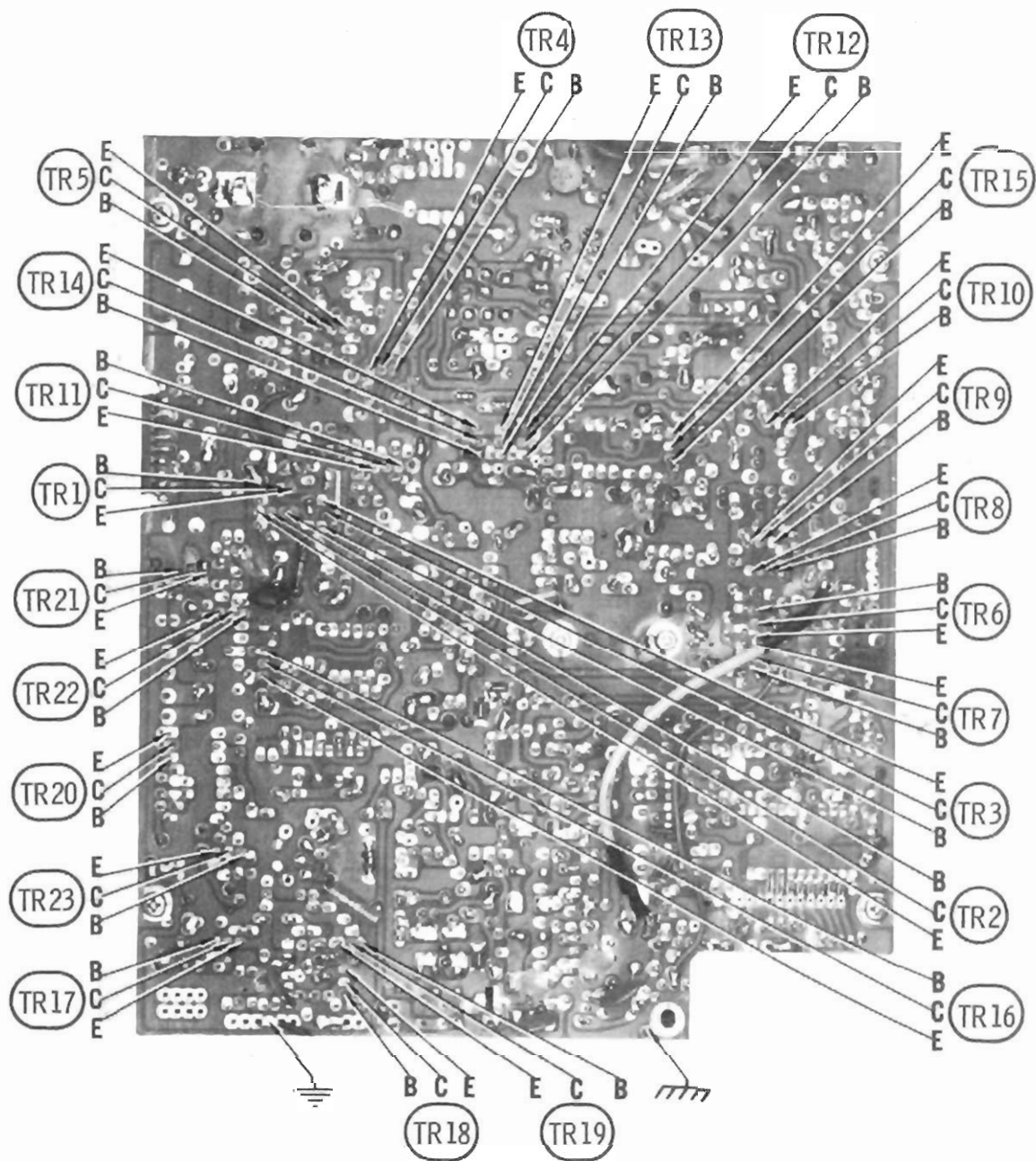
TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
Tunable field strength meter set at 54MHz.	Ch. 19, AM	L27	Adjust for MINIMUM signal.

TRANSMITTER ADJUSTMENTS

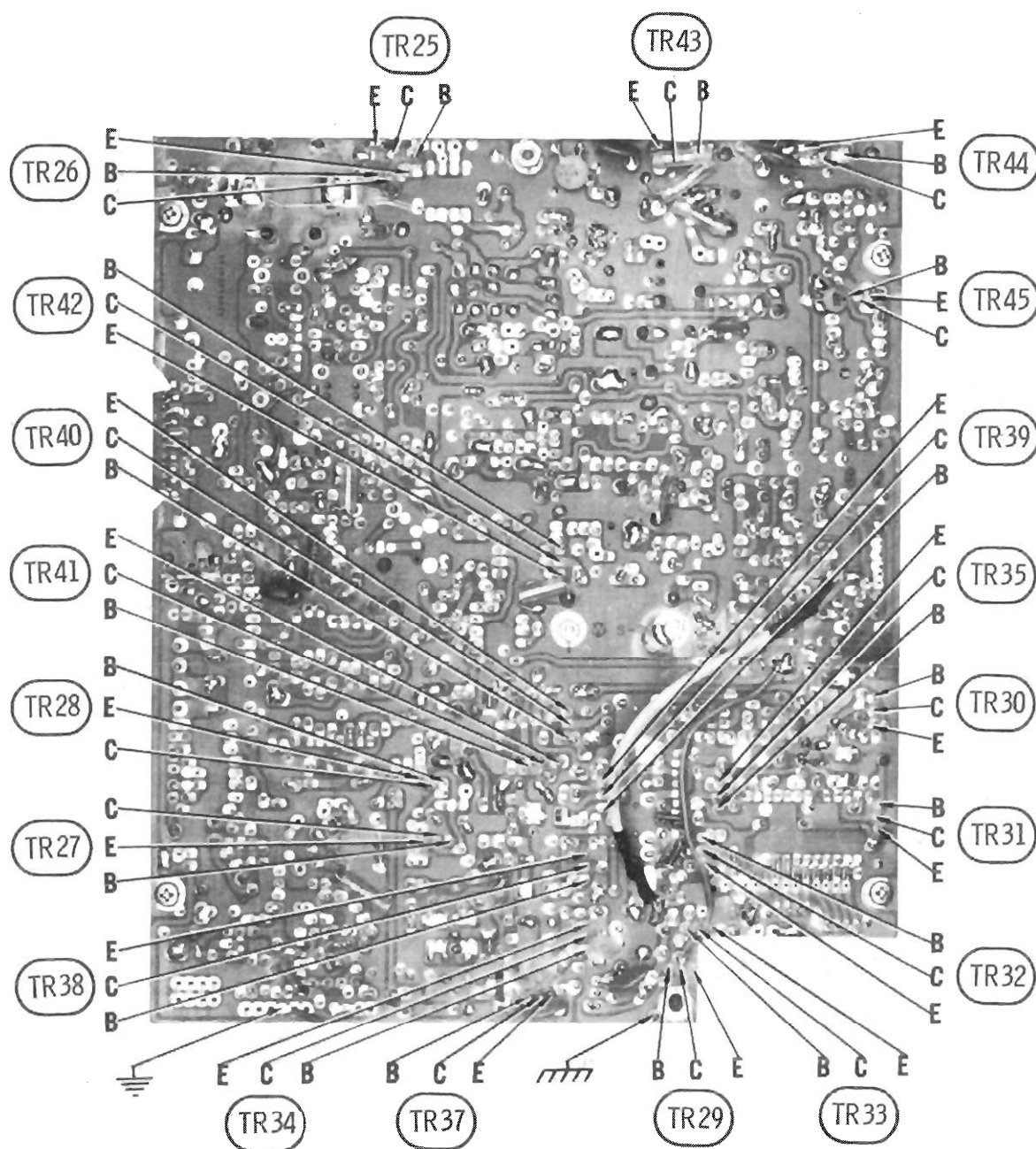
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
 NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
 See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCIVER	ADJUST	REMARKS
DC current meter to TP3 and TP4. No modulation.	Ch. 19, USB	VR15	EIAS Adjust VR15 for 60mA.
DC current meter to TP1 and TP2. No modulation.	Ch. 19, USB	VR16	EIAS Adjust VR16 for 30mA.
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector. No modulation.	Ch. 19, AM	VR8	AM TX LEVEL Adjust VR8 for 4 watts.
	Ch. 19, USB	VR4	BALANCE Adjust for MINIMUM RF.
Inject a 1000Hz, 1mV signal at mic input.	Ch. 19, USB	VR6	MIC GAIN Adjust VR6 for 12 watts RF. (CT7 must be properly adjusted.)
Modulation meter to antenna jack. Inject a 1000Hz, 10mV signal at mic input.	Ch. 19, AM	VR7	AM AMC Adjust VR7 for 100% modulation maximum.
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.	Ch. 19, AM	VR12	TX POWER METER Adjust VR12 so that TX power meter agrees with RF wattmeter.

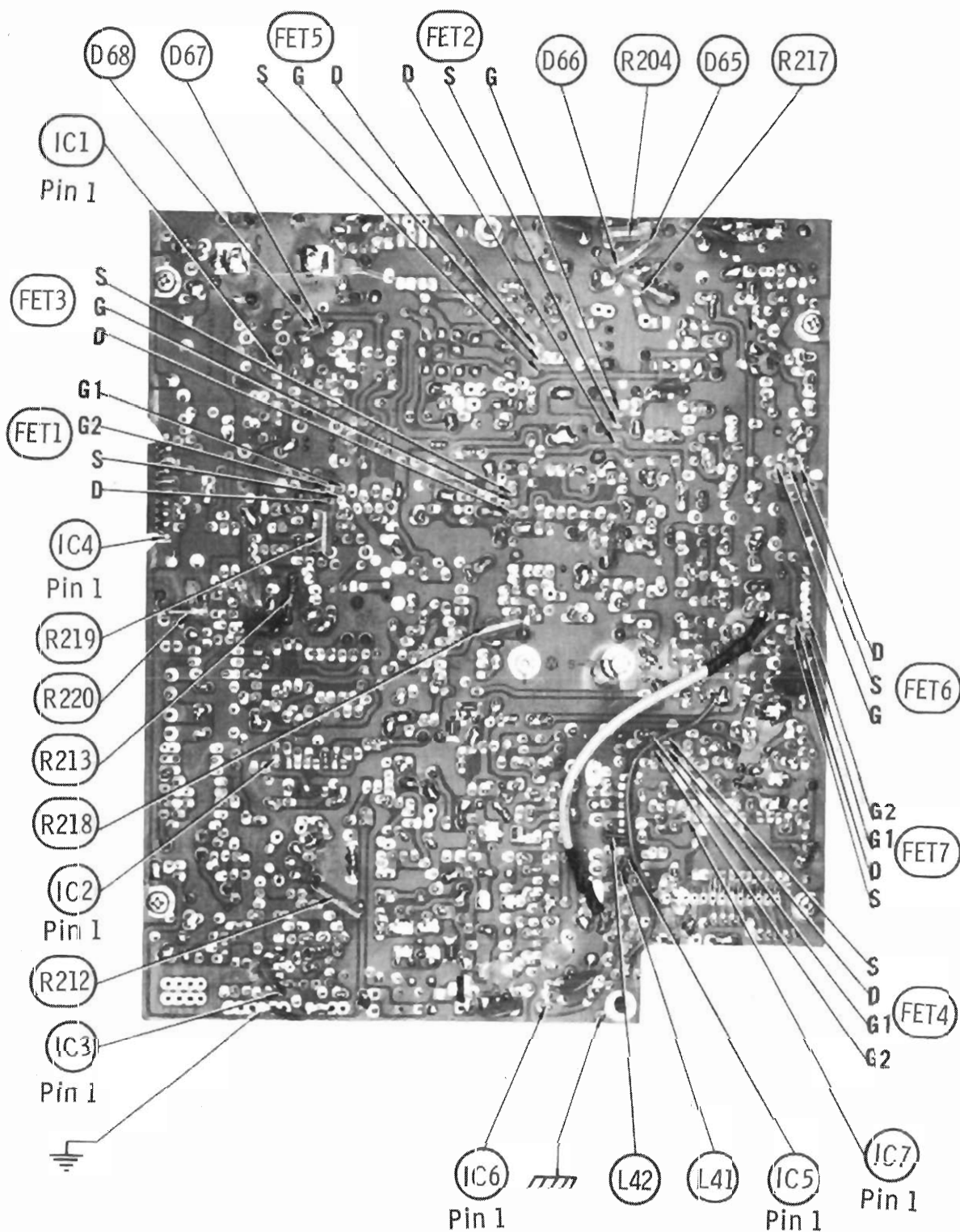




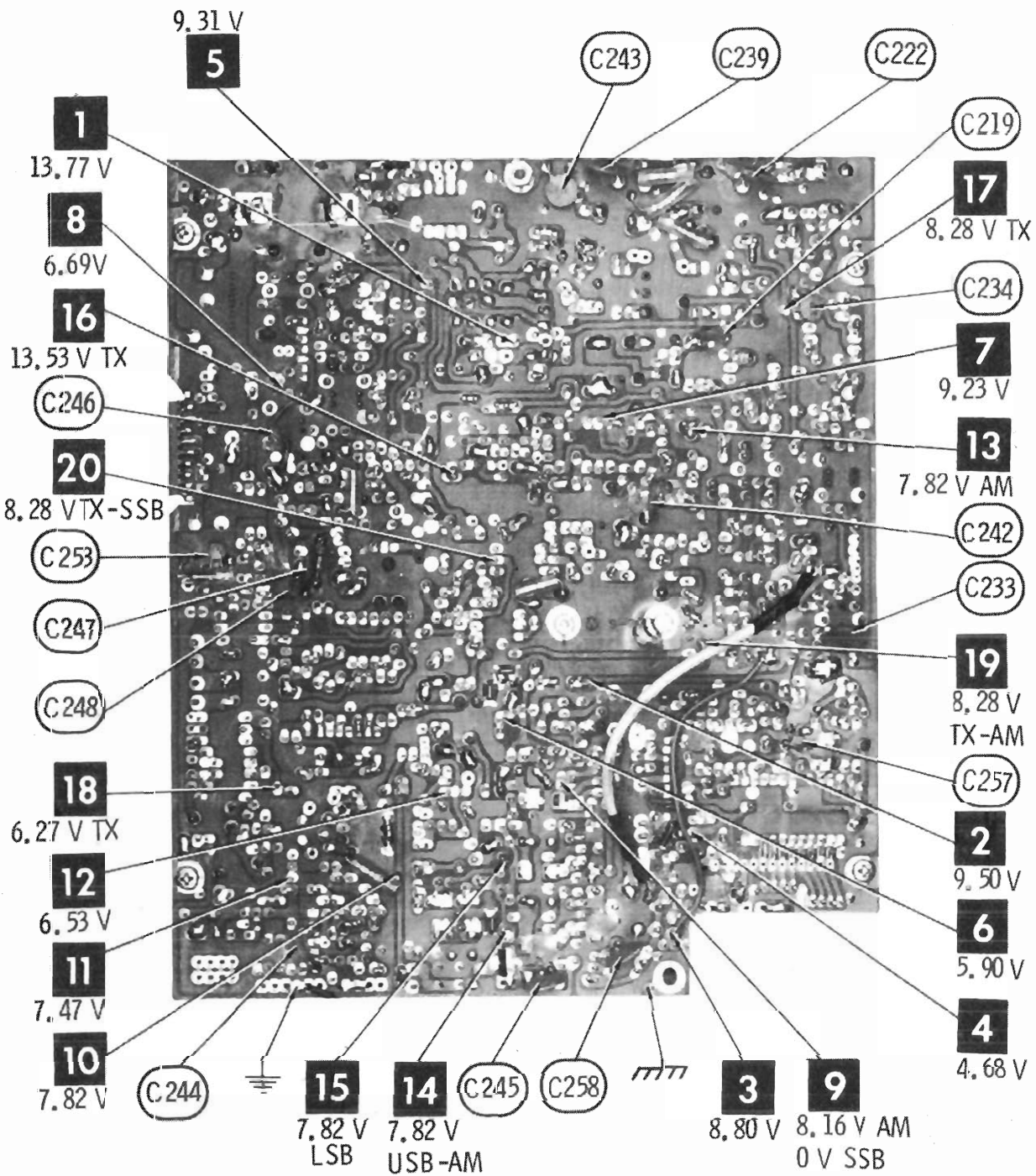
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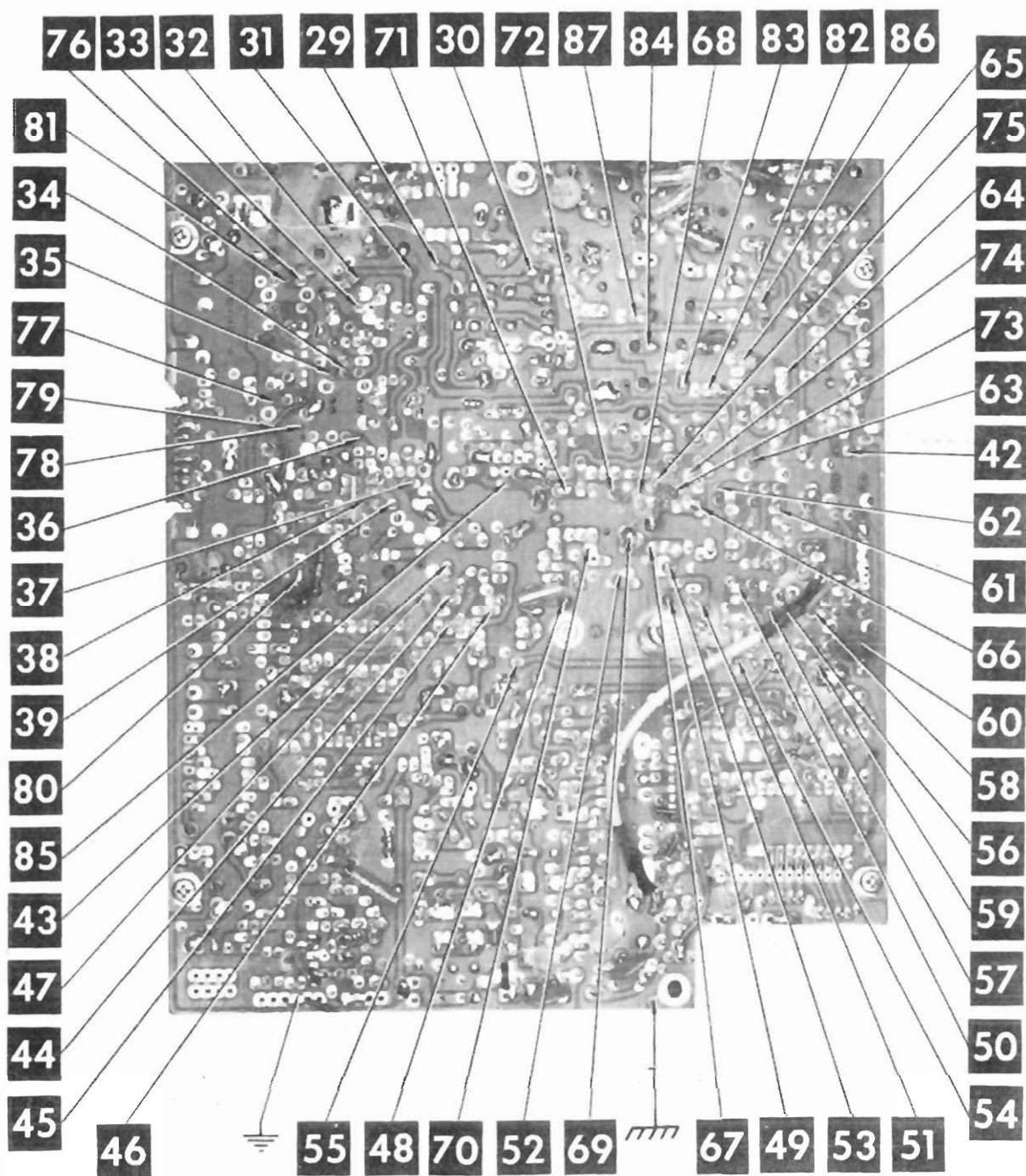
MAIN BOARD



MAIN BOARD

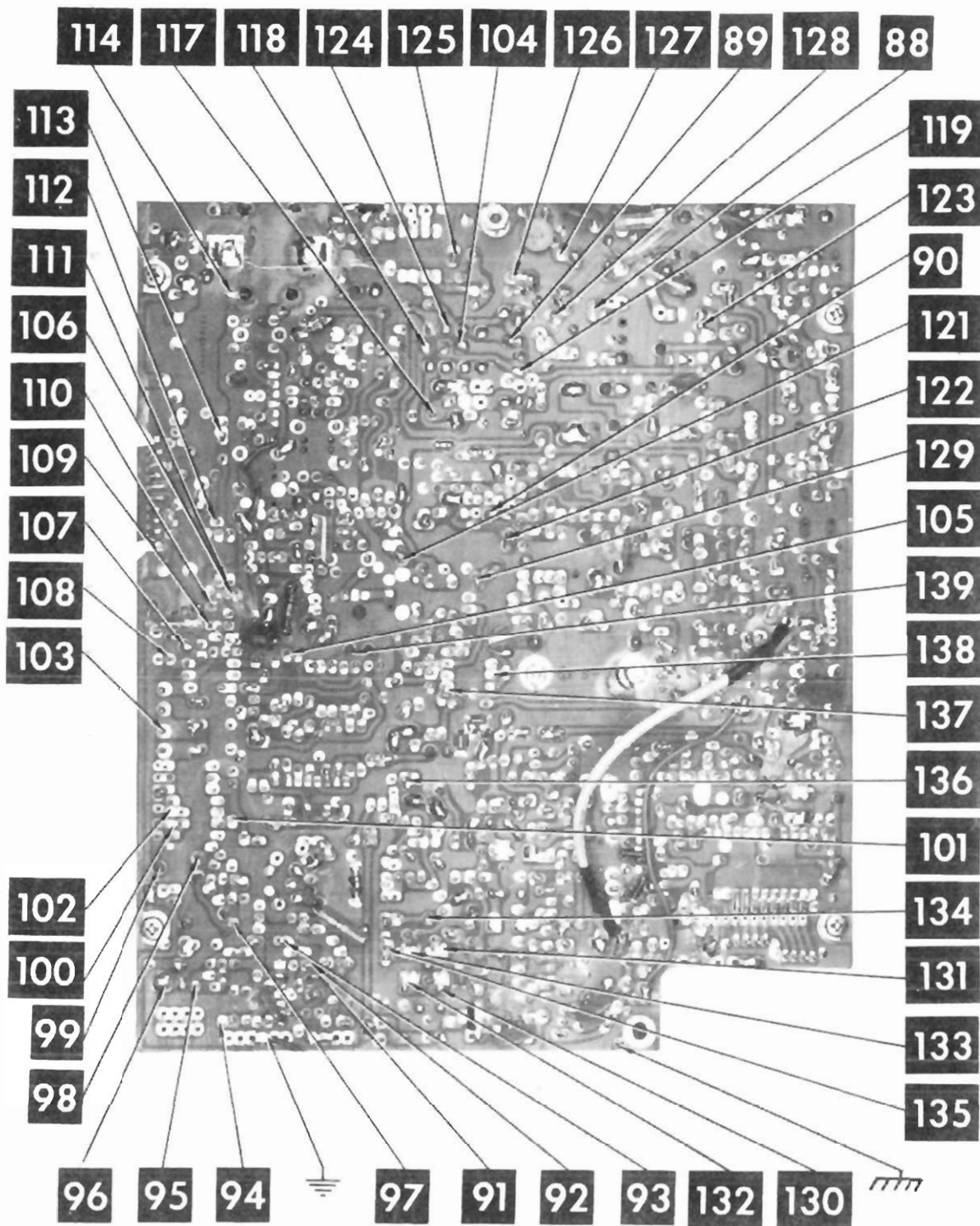


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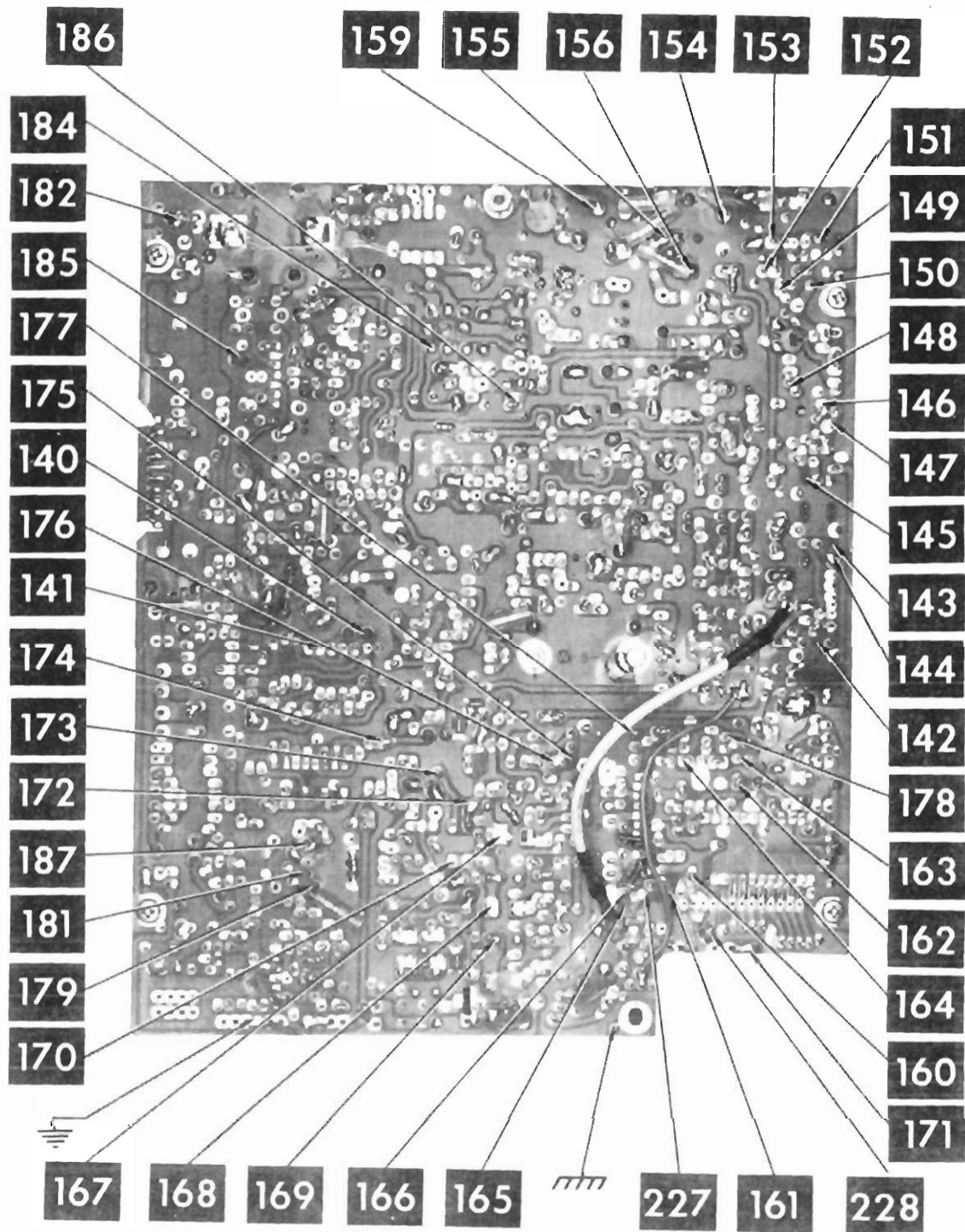


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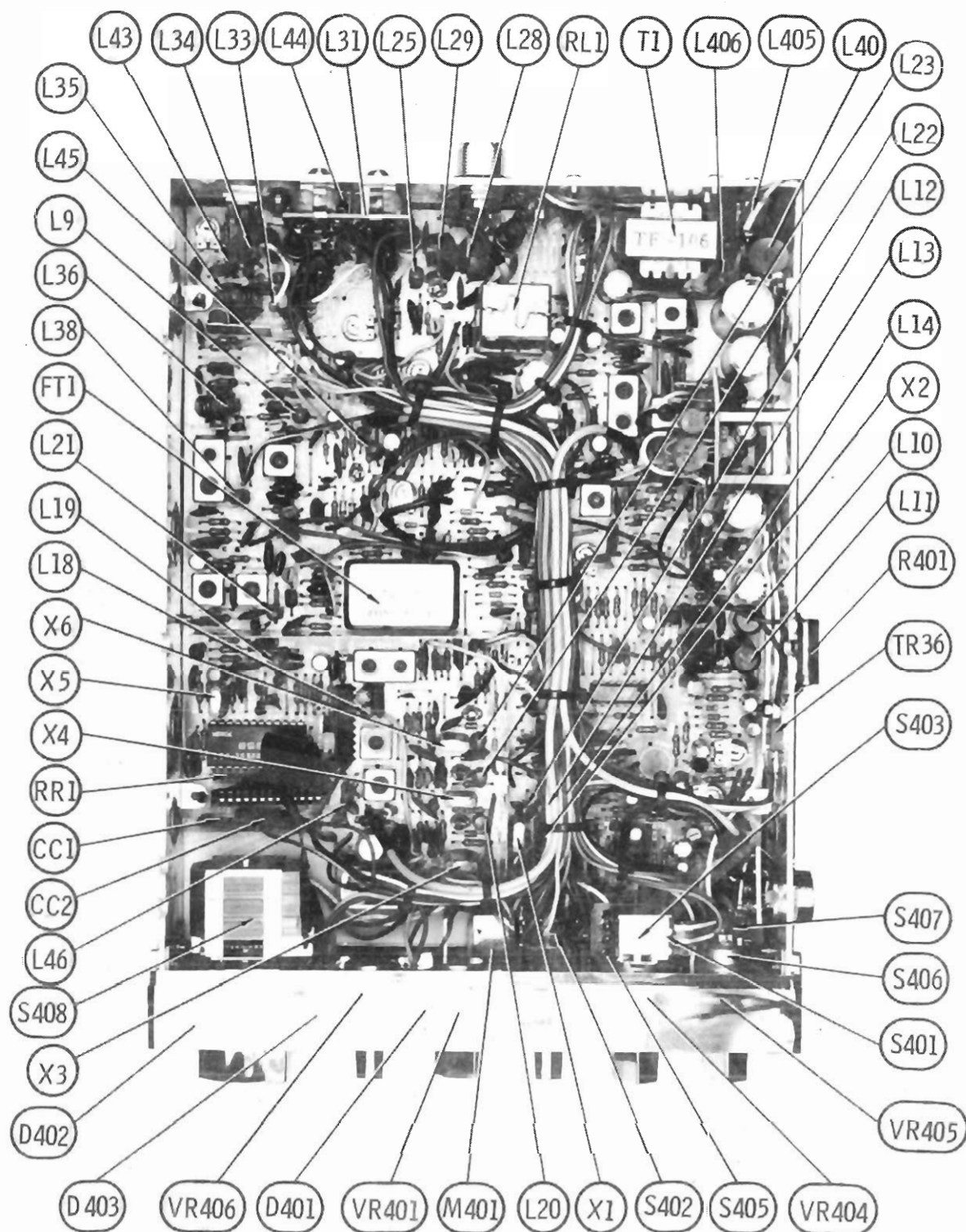
ROBYN MODEL SB-510D



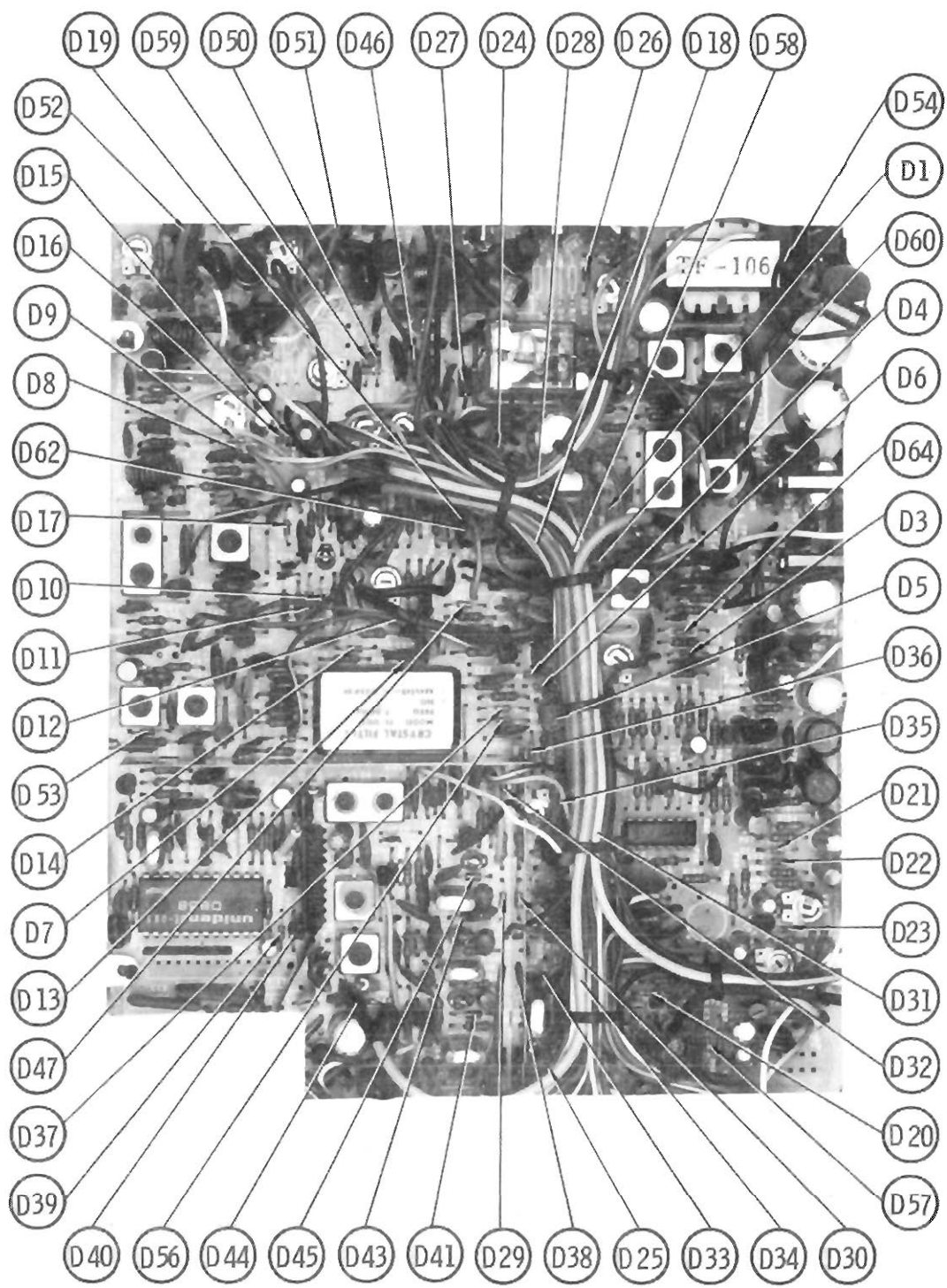
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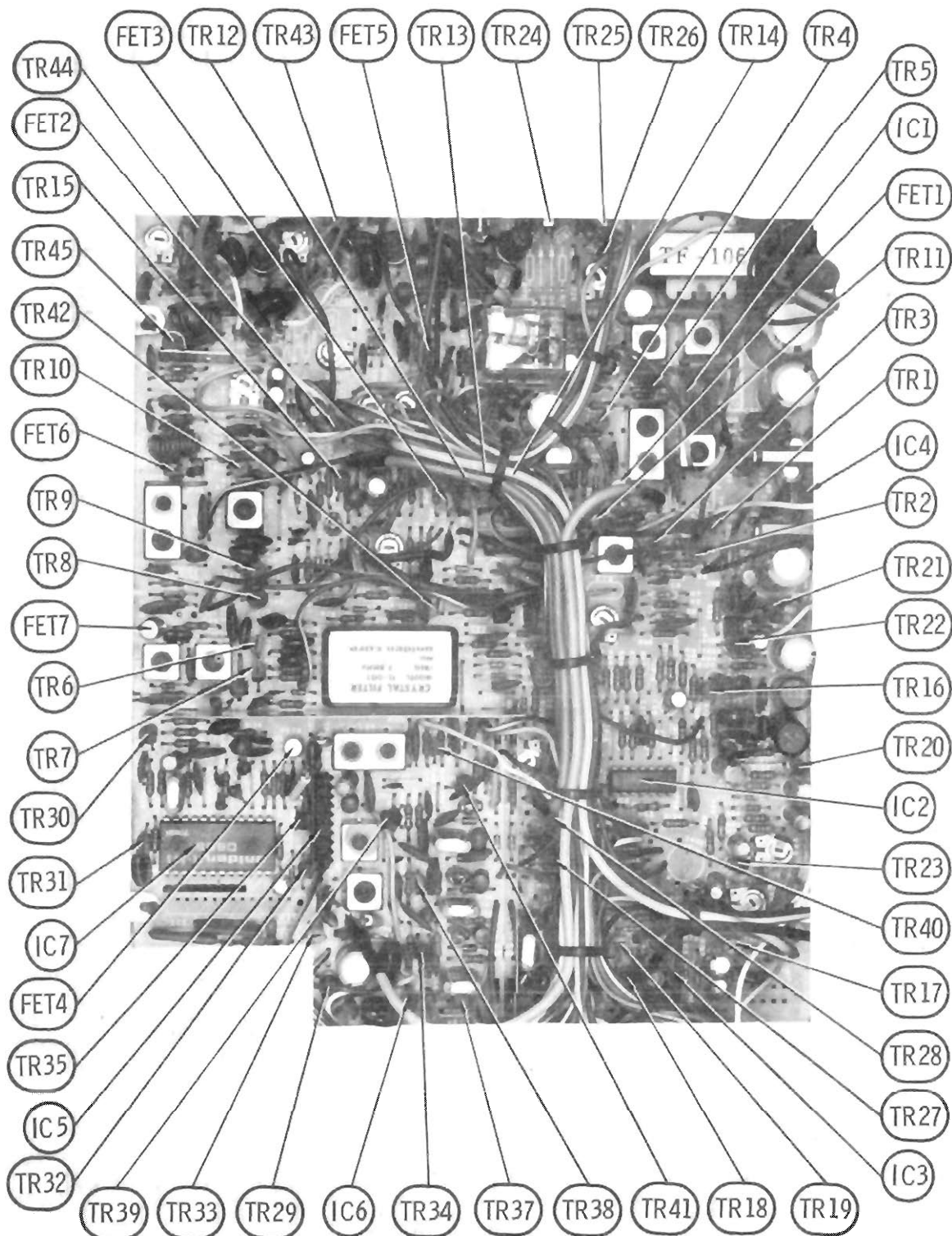
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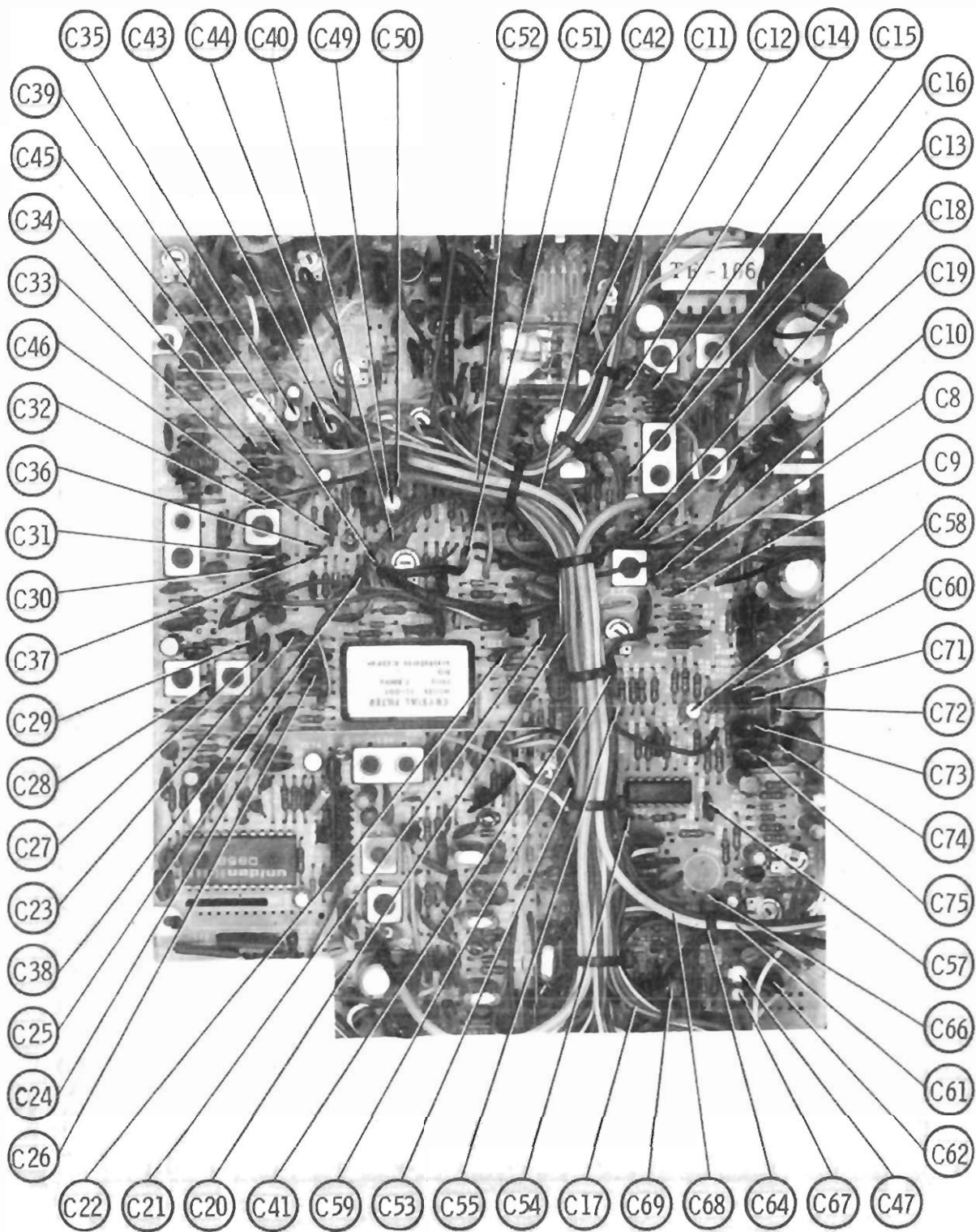
CHASSIS-BOTTOM



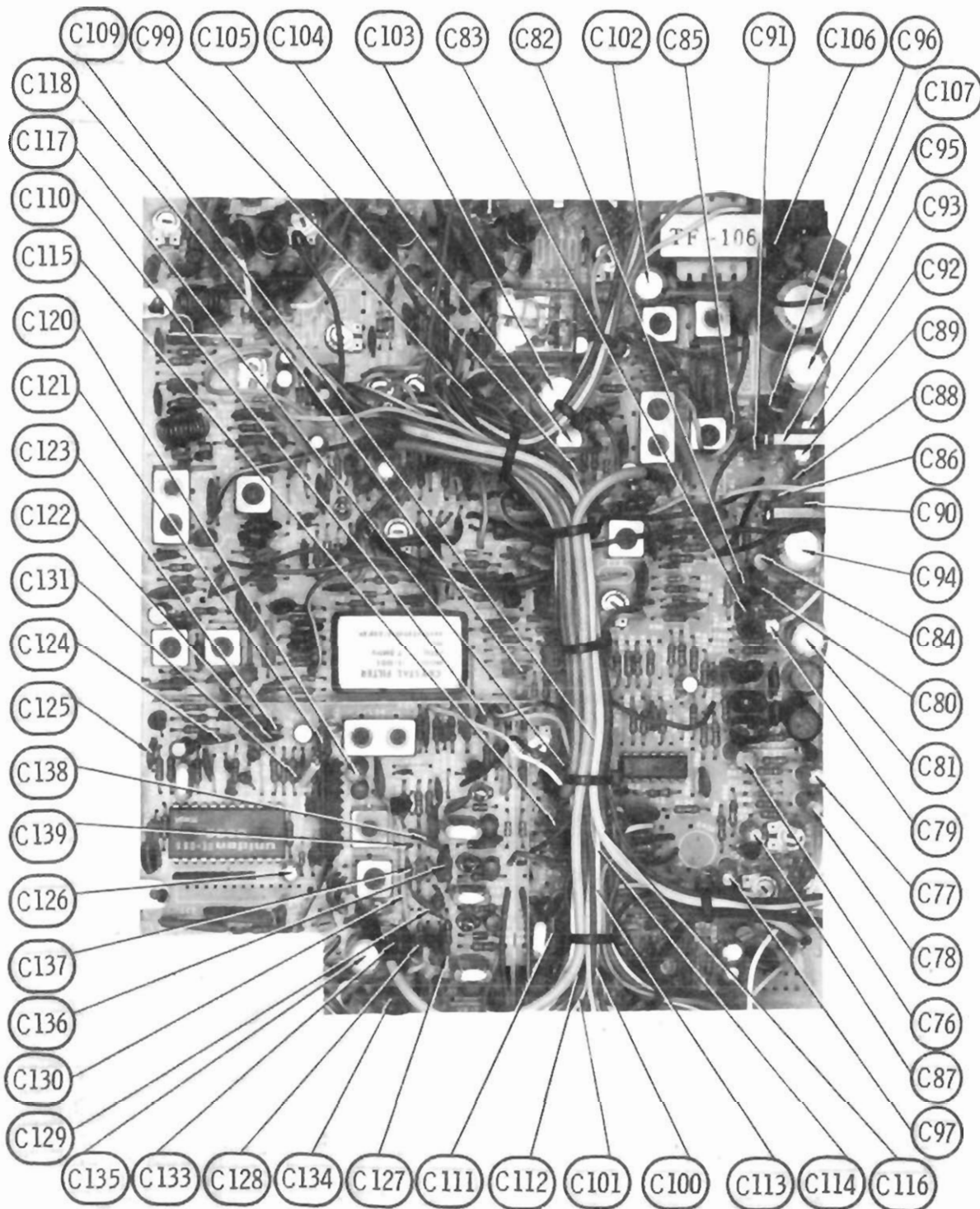
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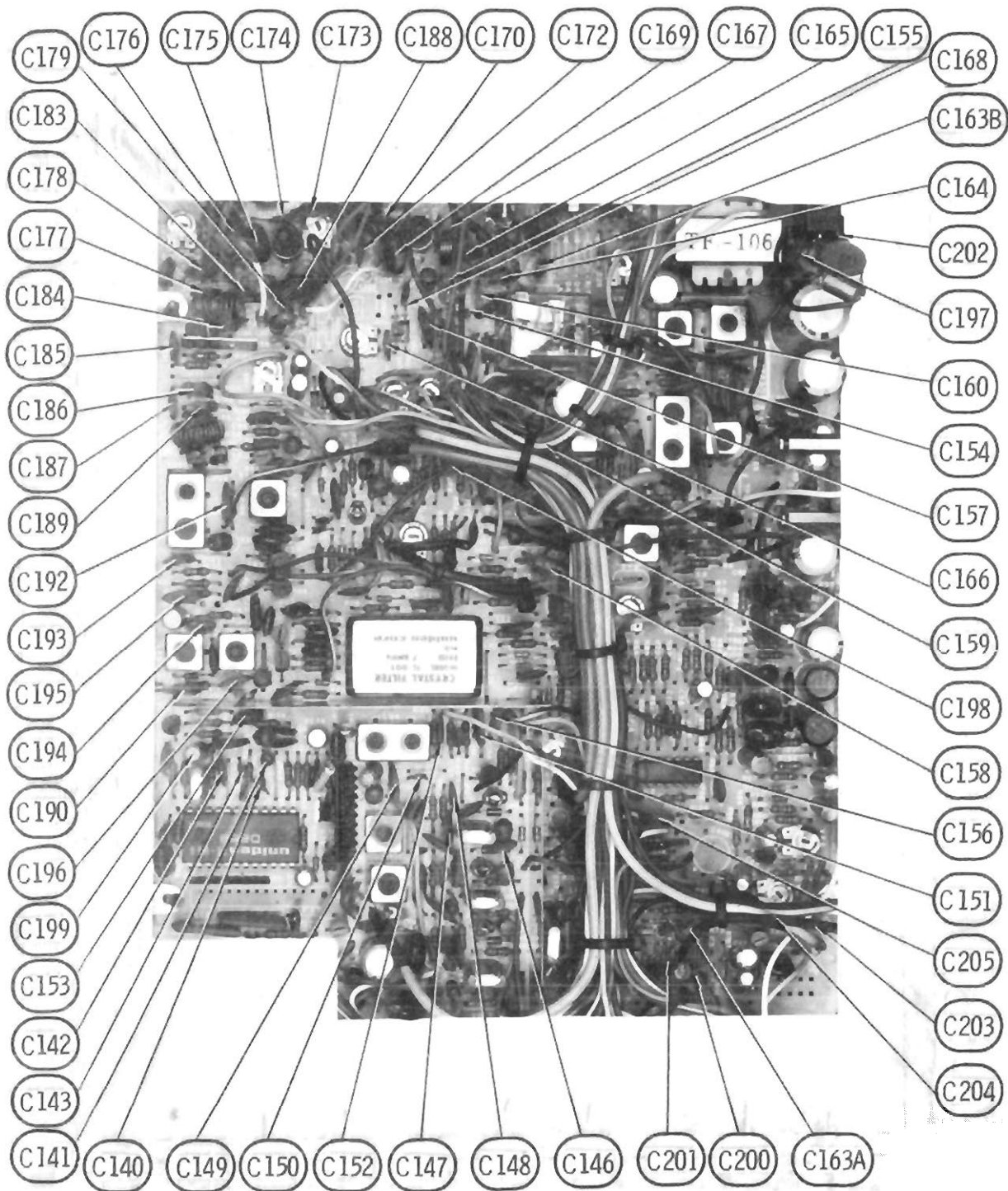
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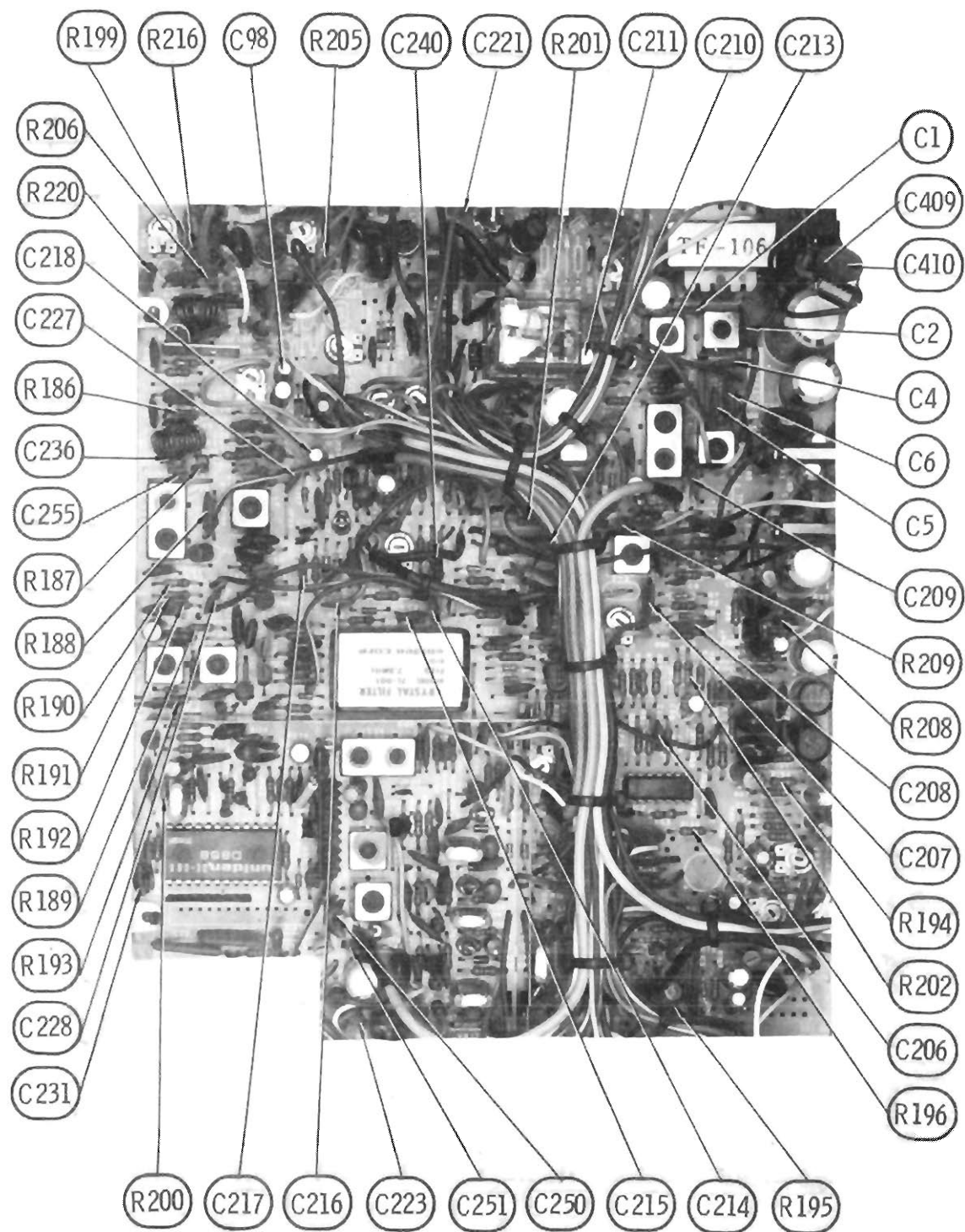
MAIN BOARD



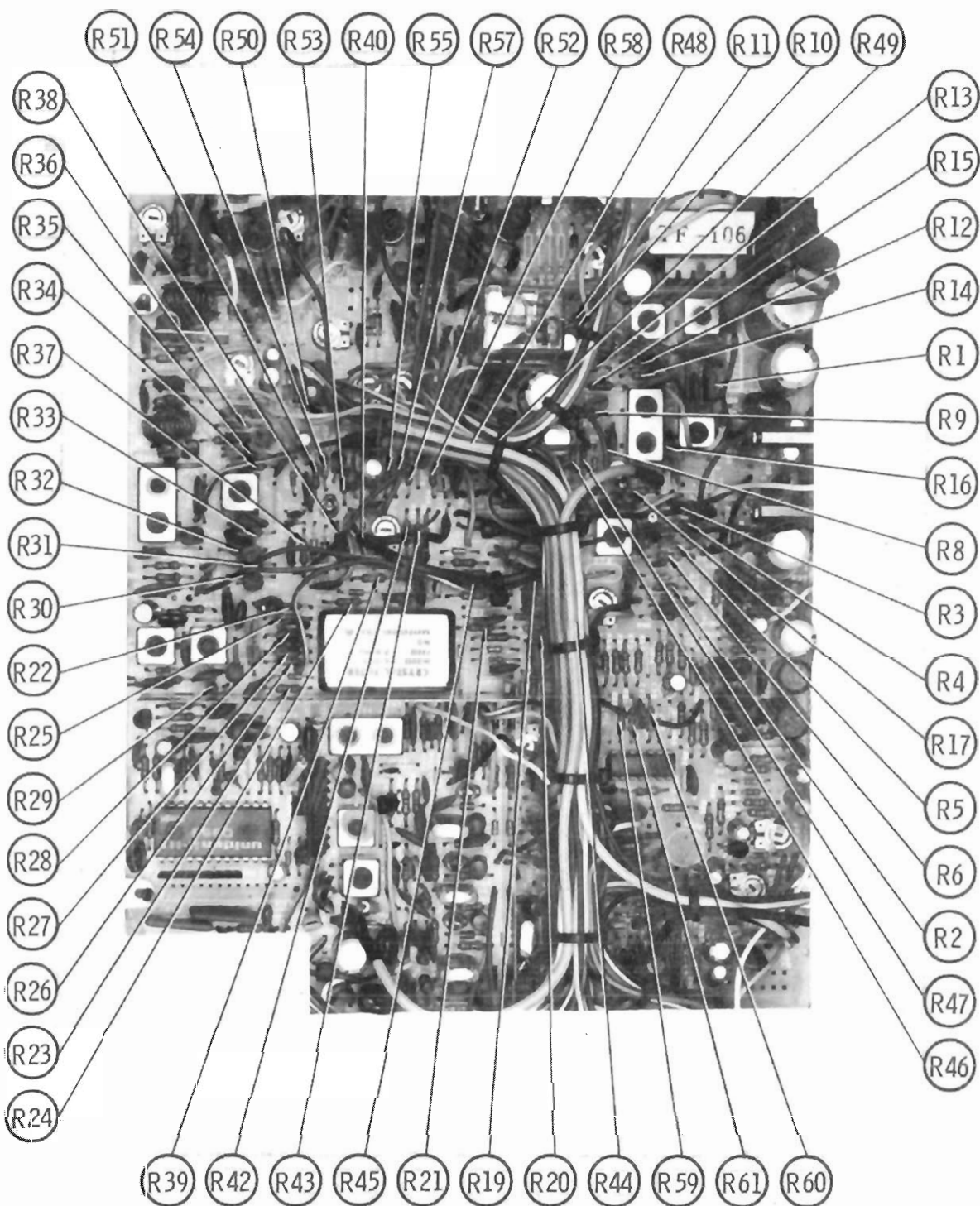
MAIN BOARD



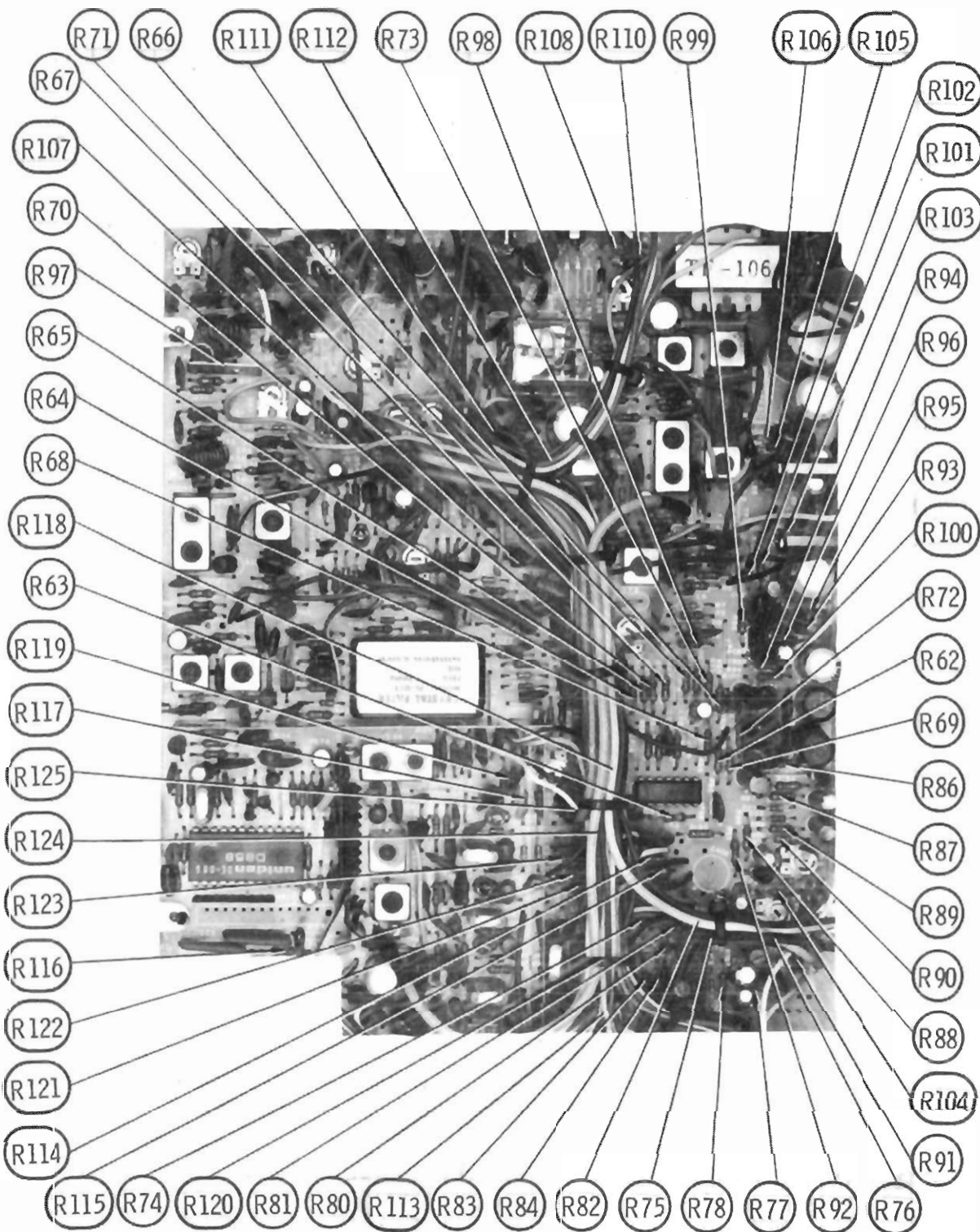
MAIN BOARD



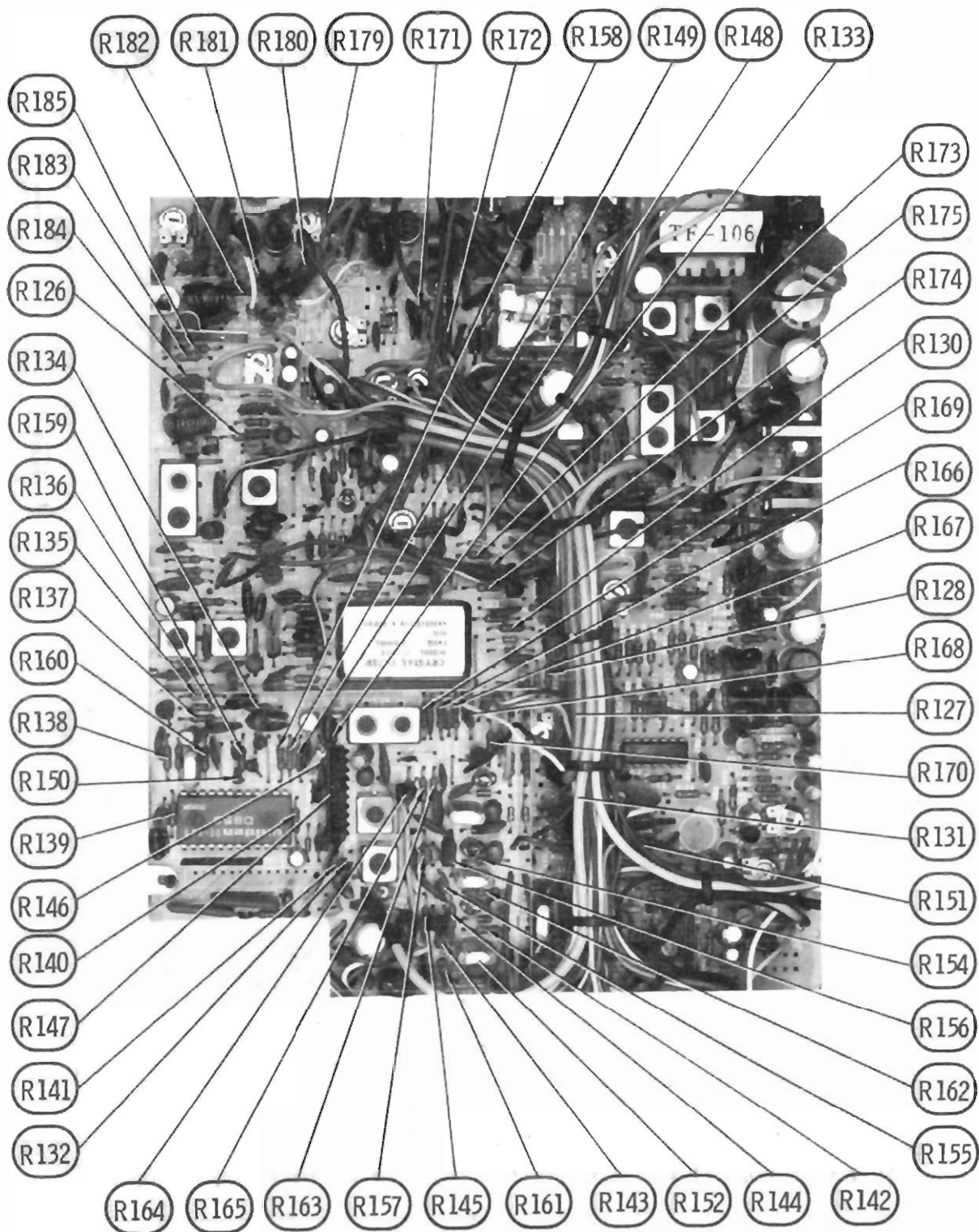
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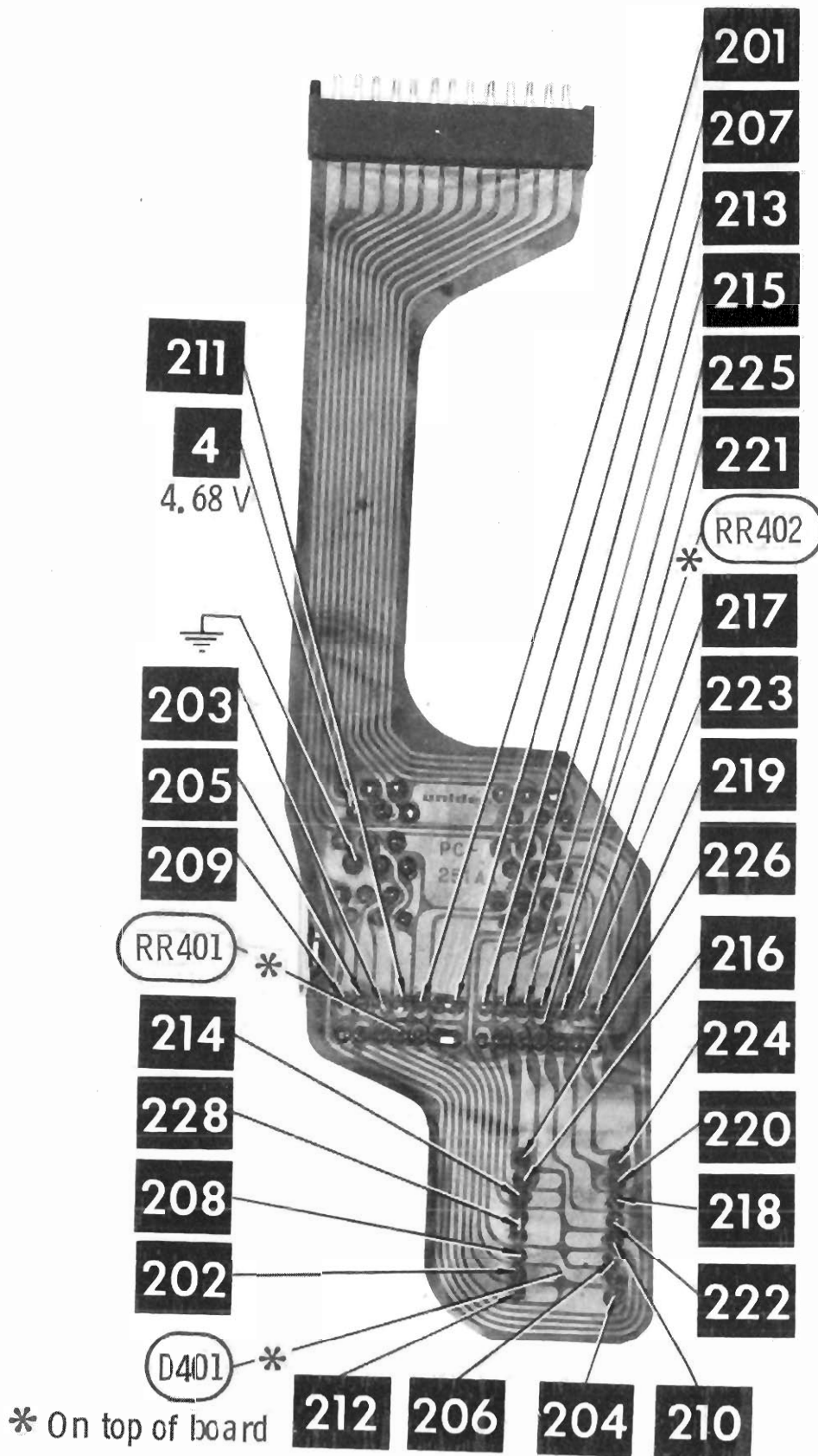
MAIN BOARD



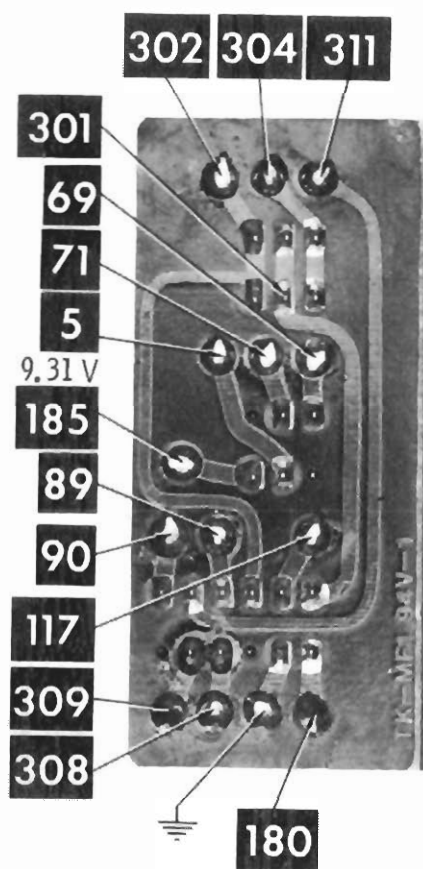
MAIN BOARD



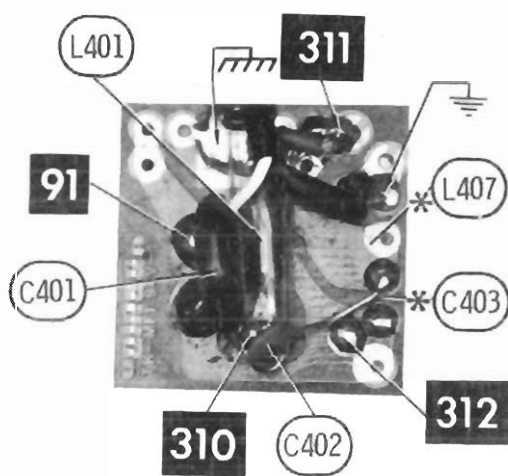
MAIN BOARD



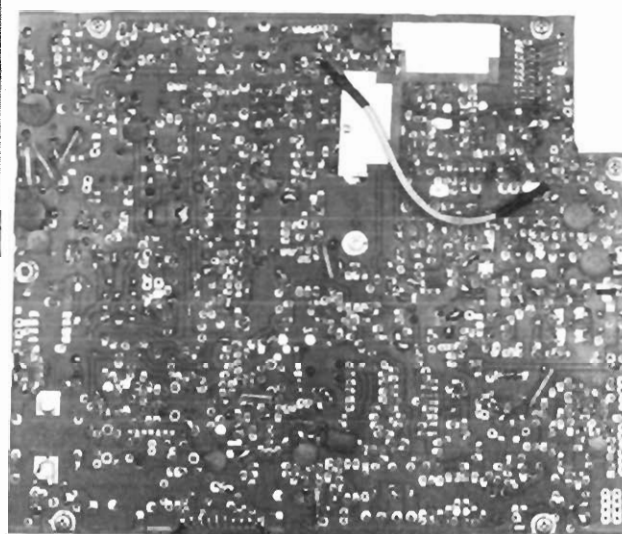
CH. SELECTOR LED BOARD



SWITCH BOARD

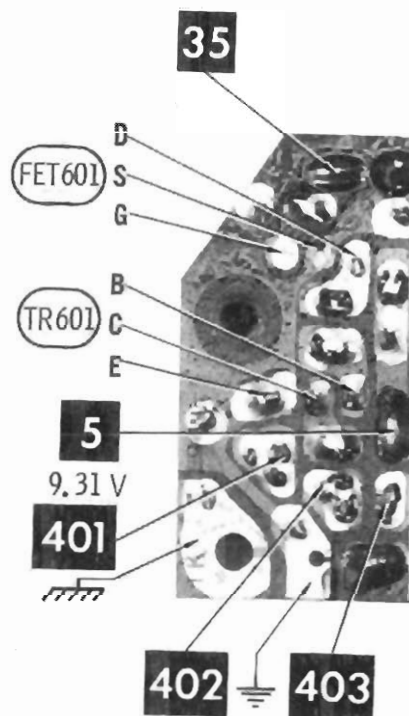
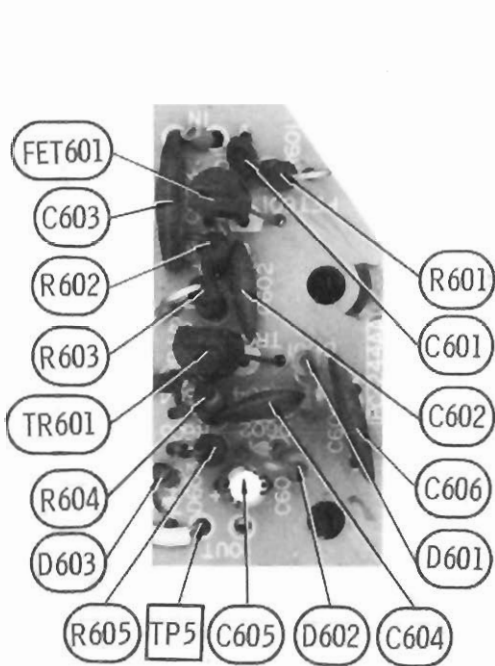


* On top of board



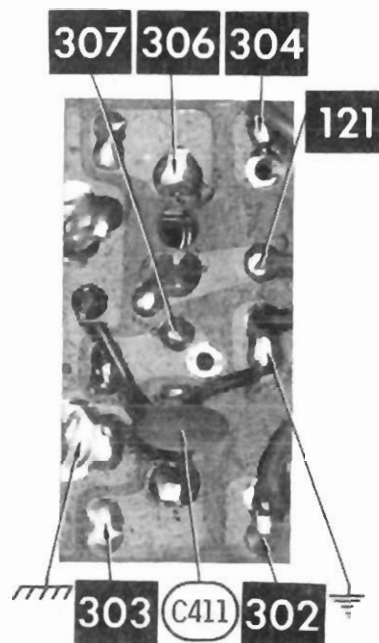
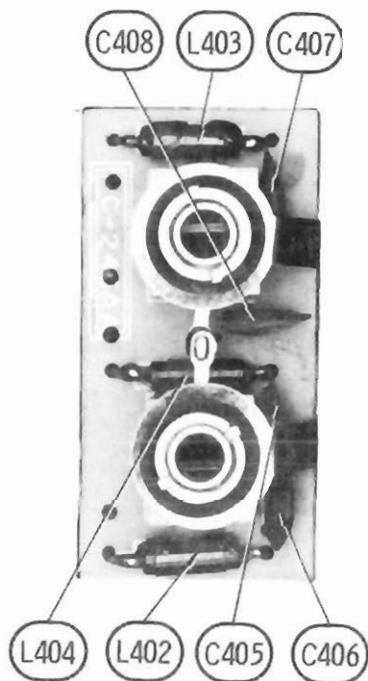
MIC BOARD

SHIELD LOCATION

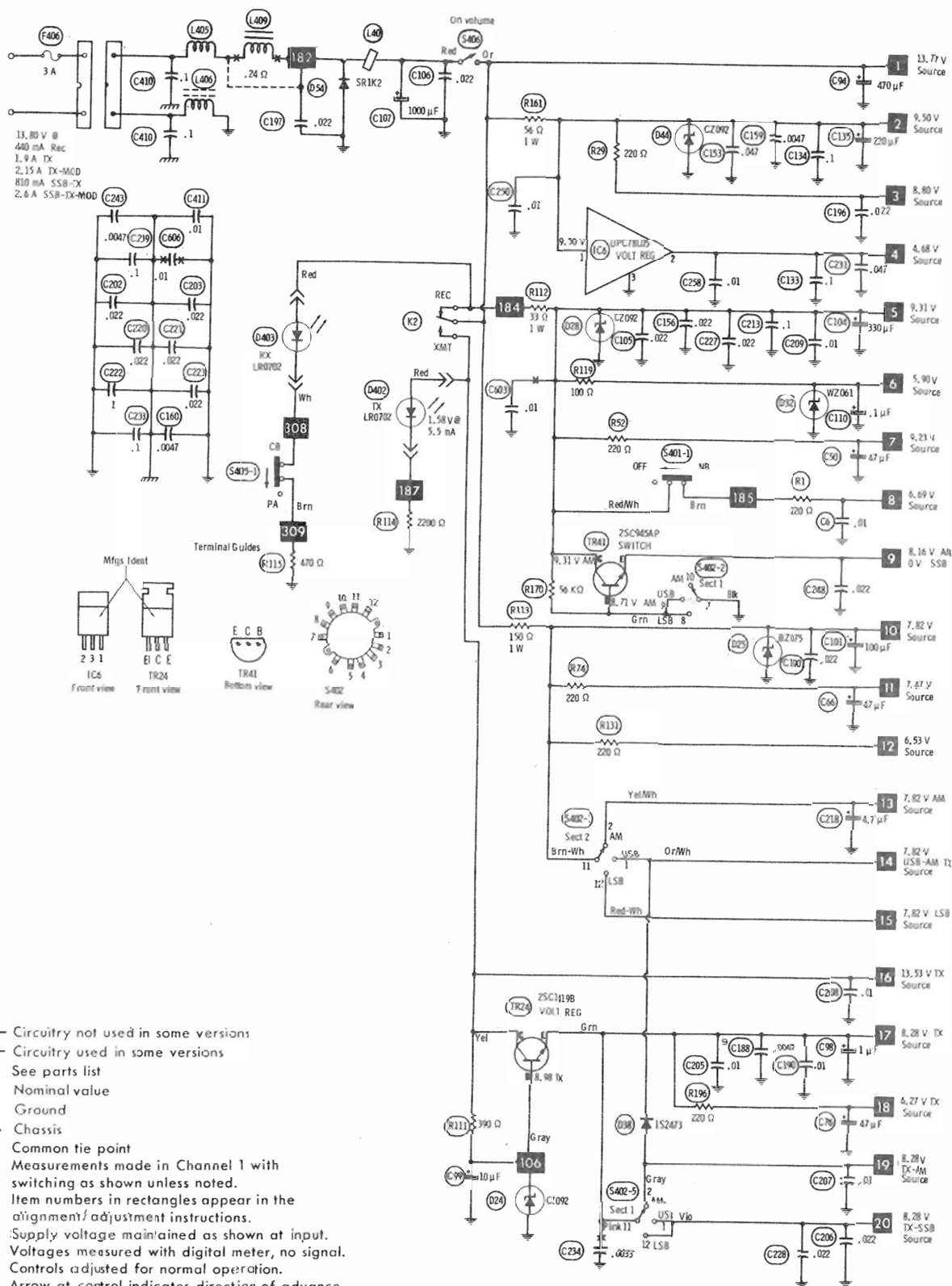


ROBYN MODEL SB-510D

NOISE BLANKER BOARD



JACK BOARD

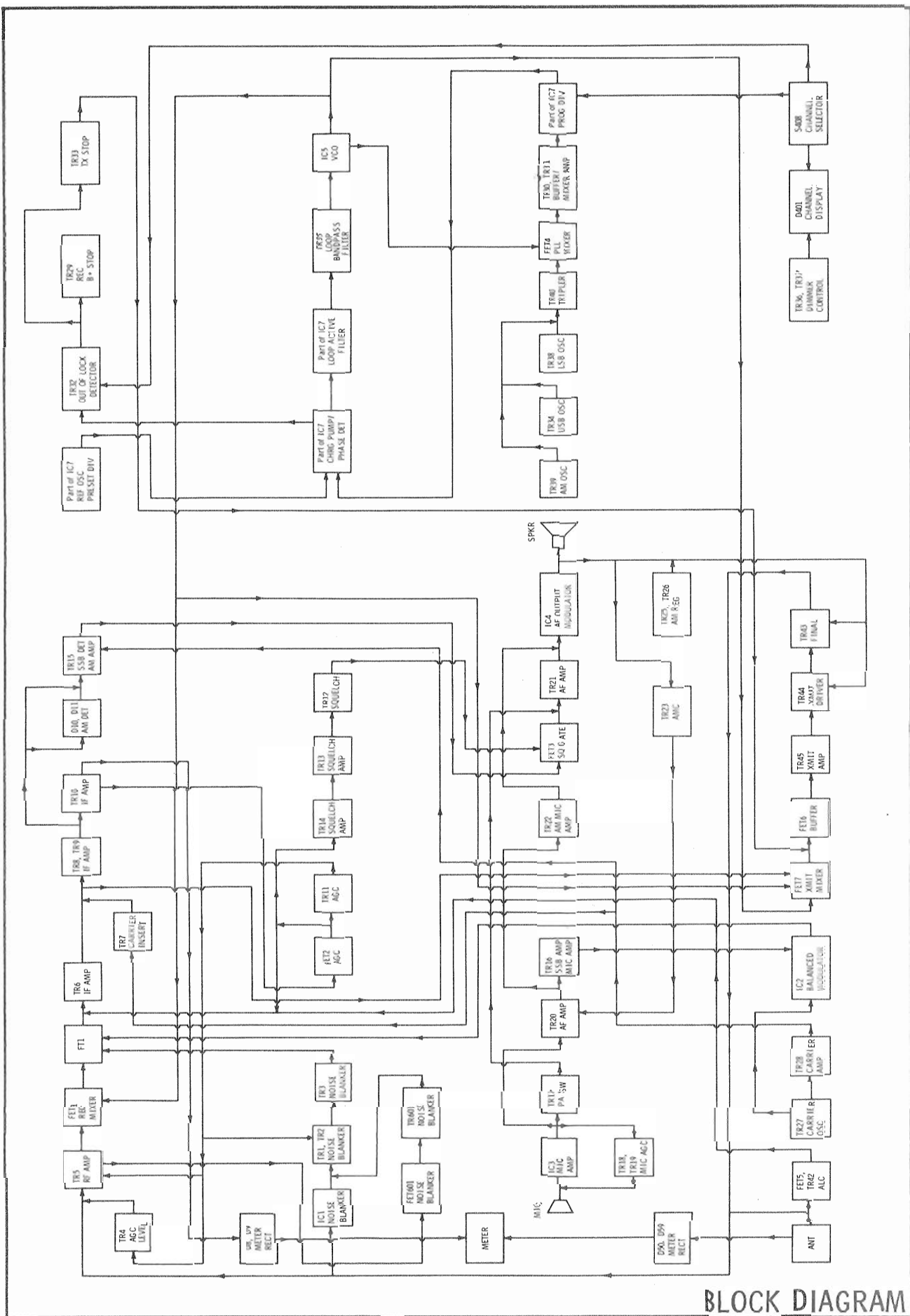


- Circuitry not used in some versions
 - - - Circuitry used in some versions
 - ⊕ See parts list
 - ⊗ Nominal value
 - ⊥ Ground
 - Chassis
 - Common tie point
- Measurements made in Channel 1 with switching as shown unless noted.
Item numbers in rectangles appear in the alignment/adjustment instructions.
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.

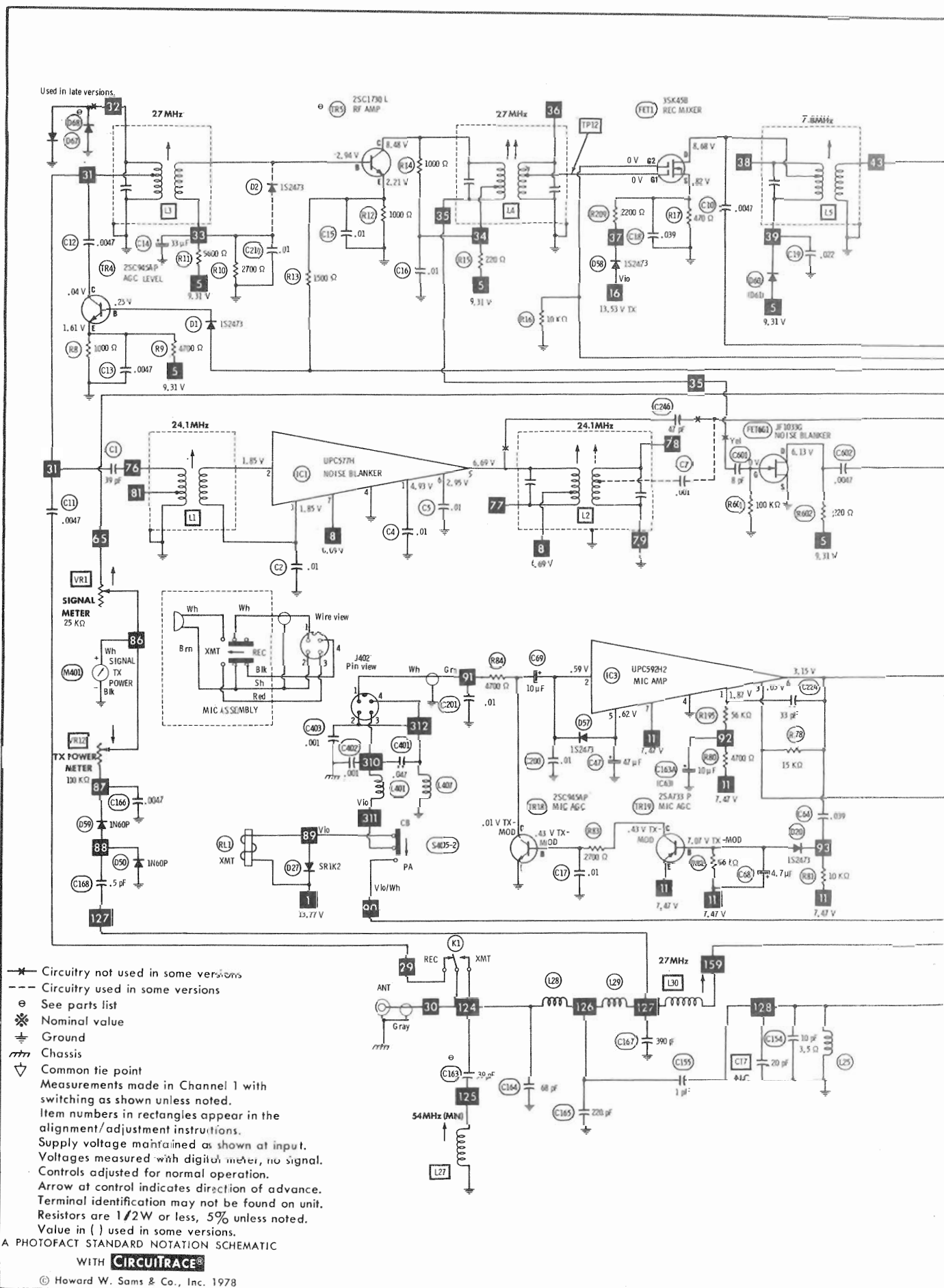
A PHOTOFACT STANDARD NOTATION SCHEMATIC

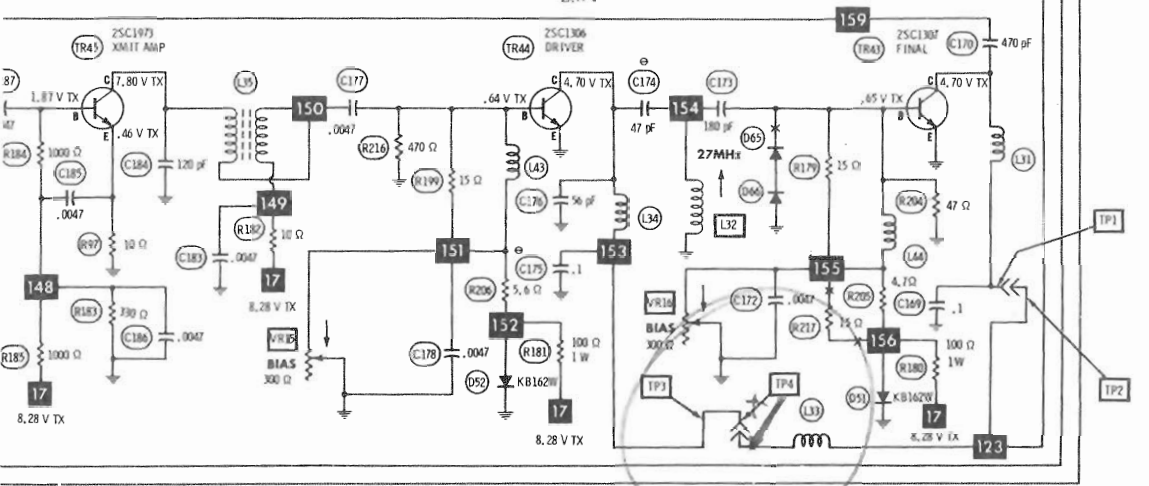
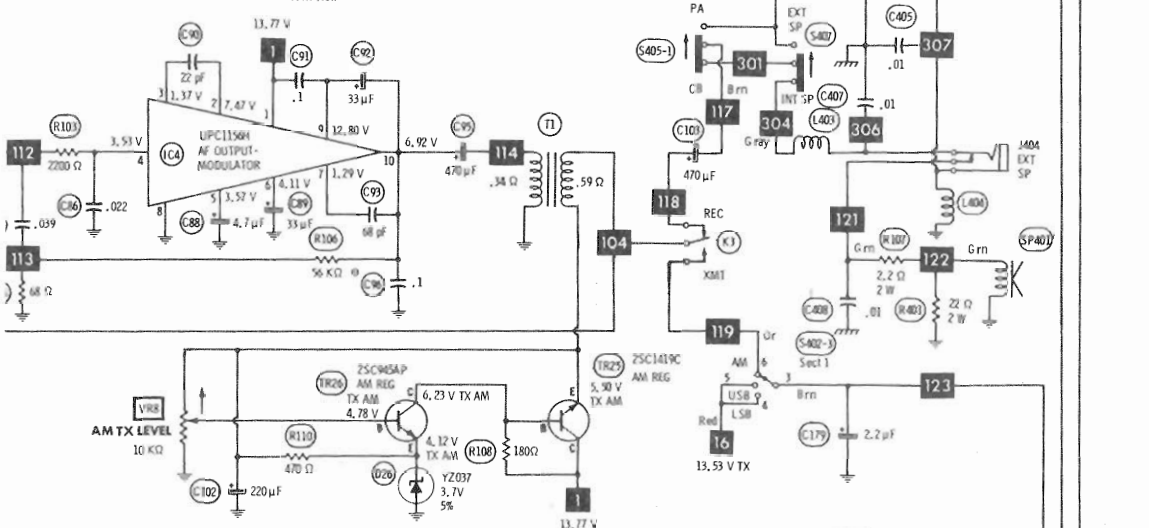
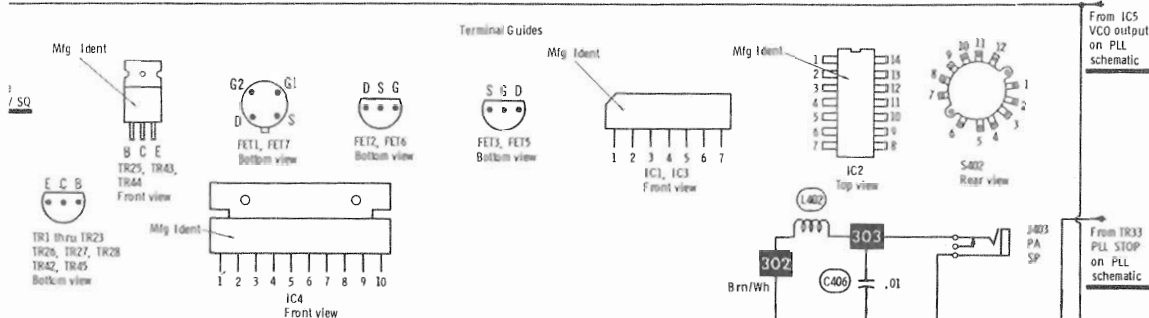
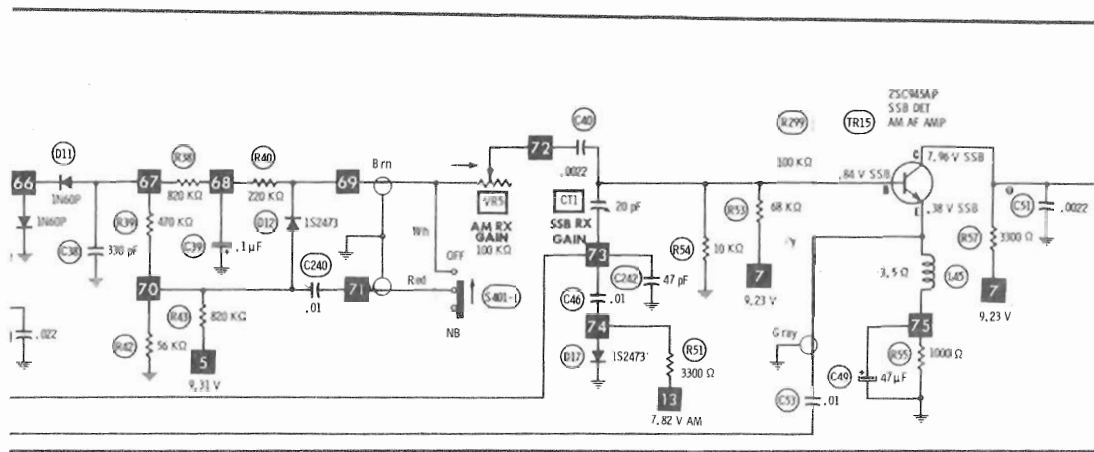
WITH **CircuitTrace**

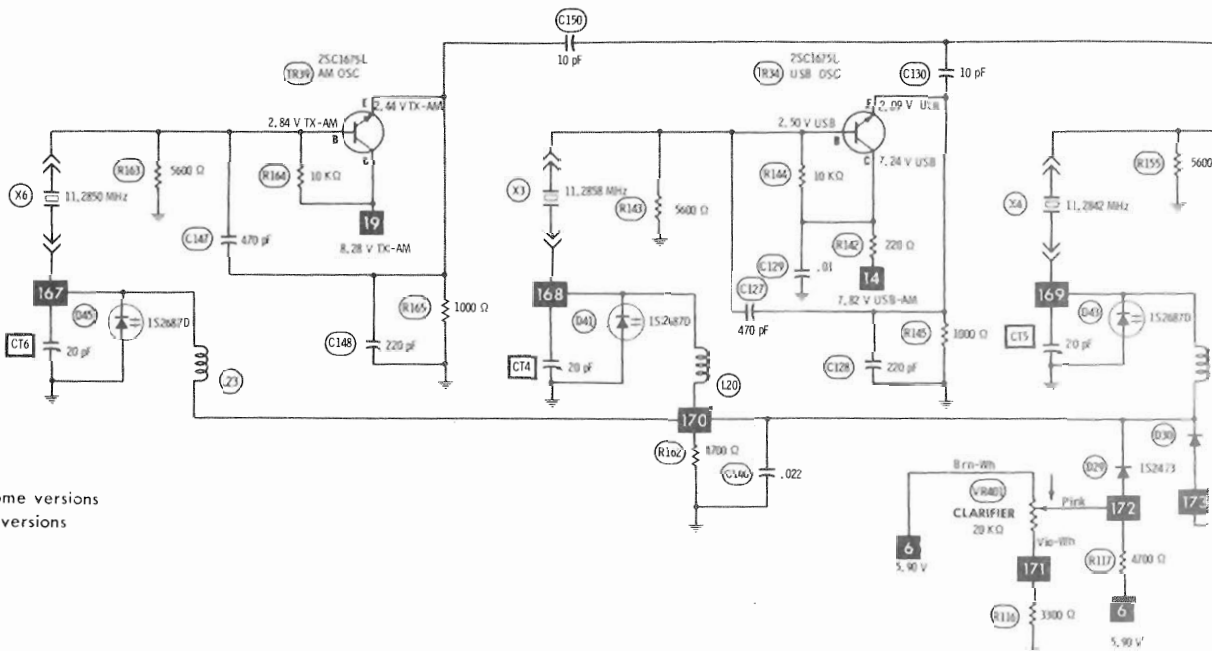
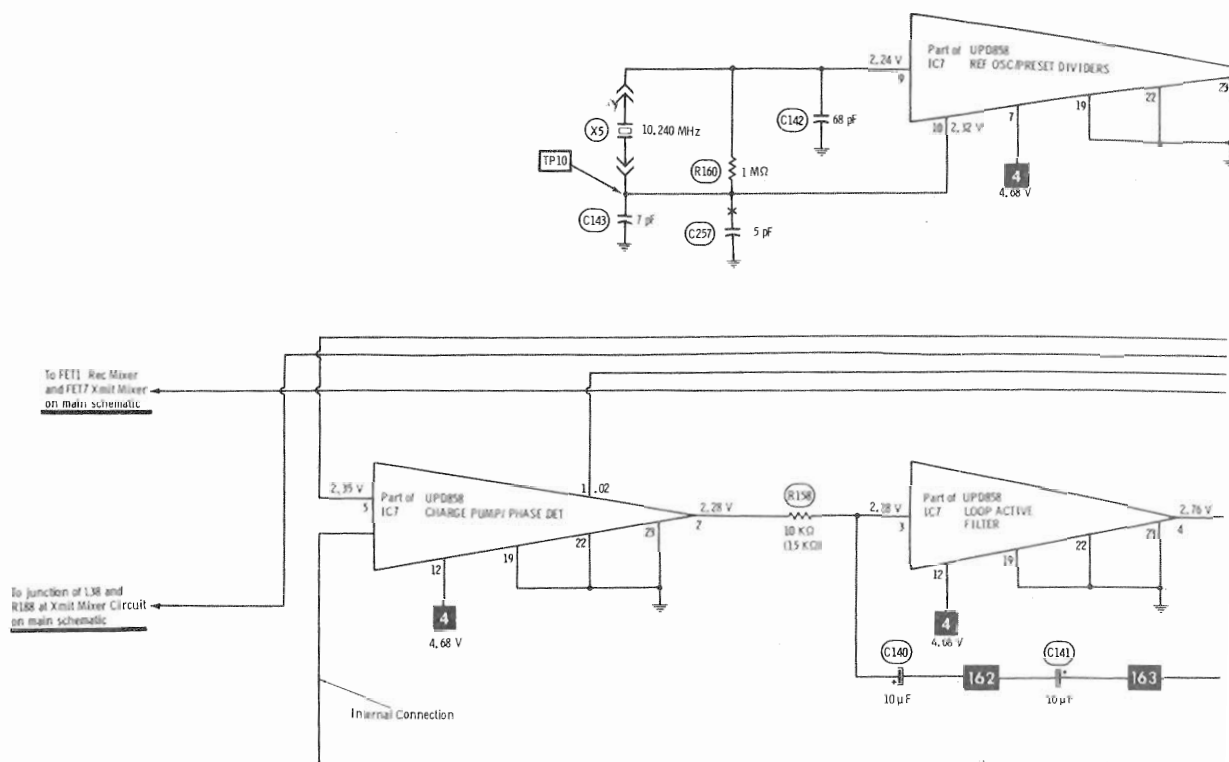
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BLOCK DIAGRAM







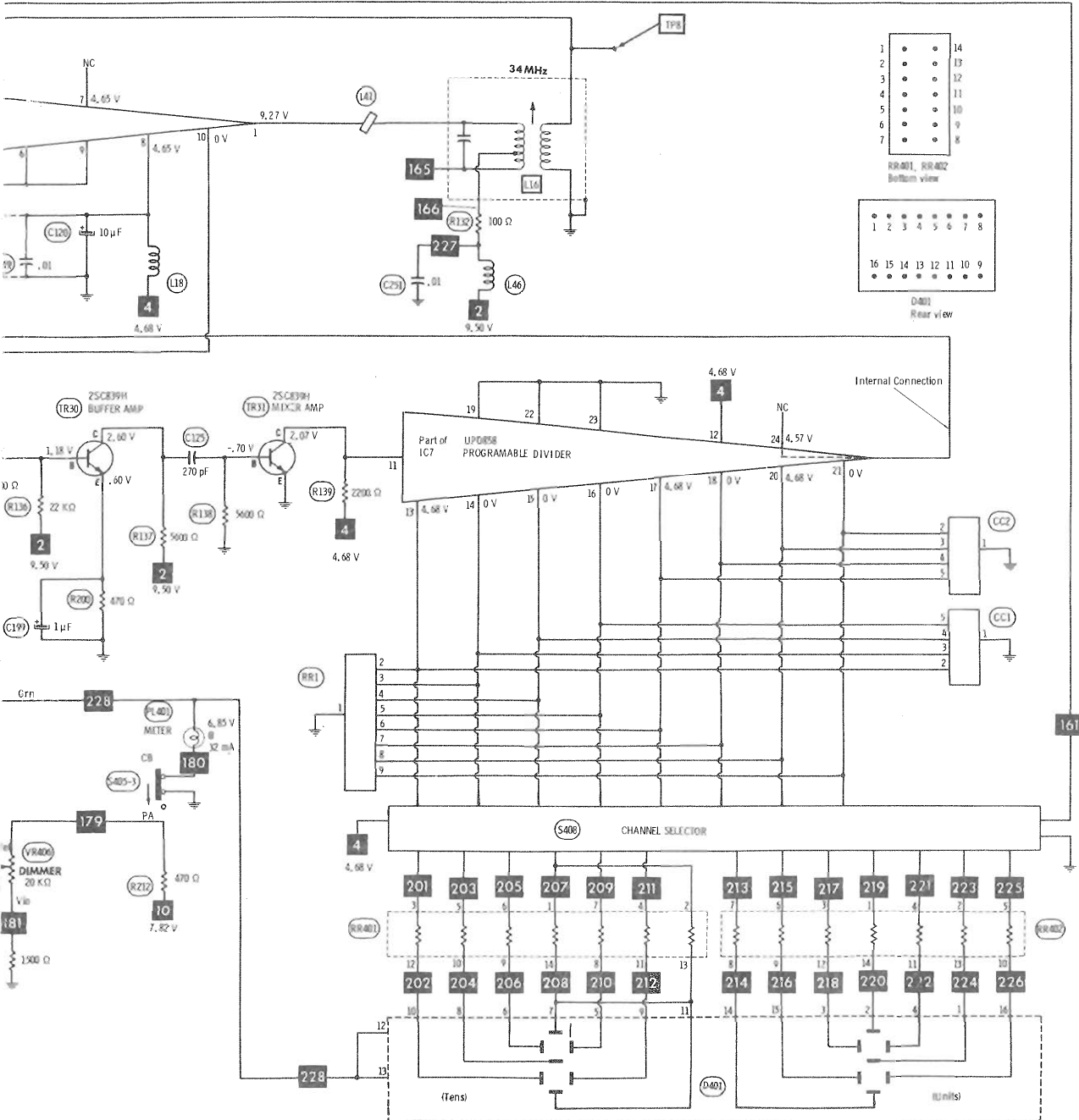
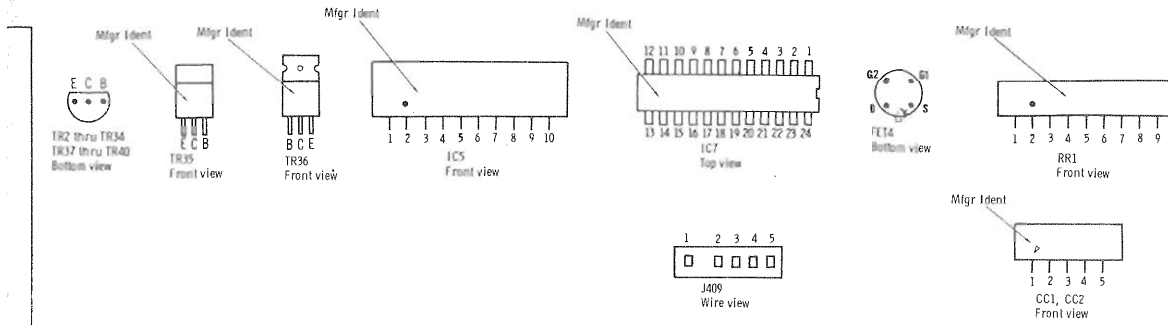
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 Terminal identification may not be found on unit.
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 Value in () used in some versions.

A PHOTOFACIT STANDARD NOTATION SCHEMATIC

WITH **CIRCUITRACE**

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Terminal Guides



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.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
D1	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D2	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D3	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D4	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D5	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D6	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D7	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D8	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D9	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D10	1N60P	DG1N60	1N60(7)	PTC206M(6)	HEPR9135(7)	RE 86(6)	SK3088(7)	RT-263(7)	ECG110(6)	1N60(7)	WEP134(7)	ZEN-430(7)
D11	1N60P	DG1N60										
D12	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D13	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D14	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D15	1N60P	DG1N60	1N60(7)	PTC206M(6)	HEPR9135(7)	RE 86(6)	SK3088(7)	RT-263(7)	ECG110(6)	1N60(7)	WEP134(7)	ZEN-430(7)
D16	1N60P	DG1N60										
D17	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D18	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D19	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D20	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D21	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D22	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D23	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D24	CZ092	DZ0921	GEZD-9.1	ZB9.1A	HEP20412	RE 114	SK3060	RT-240	ECG139	1N4739A	WEP1109	103-272
D25	BZ075	DZ0750	GEZD-7.5	ZB7.5B		RE 111		RT-239	ECG138A	1N4737A	WEP1107	ZEN-505
D26	YZ037-10	DZ0731	GEZD-3.6	ZB3.6B		RE 101		RT-234	ECG134A		WEP1151	
D27	SRIK2	DRZ2100	GE-504A	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116	1N4004	WEP156	212-61
D28	CZ092	DZ0921	GEZD-9.1	ZB9.1A	HEP20412	RE 114	SK3060	RT-240	ECG139	1N4739A	WEP1109	103-272
D29	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D30	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D31	WZ061	DZ0610	GEZD-6.2	ZB6.2B		RE 109		RT-237	ECG137A	1N4735A	WEP1154	
D32	WZ061	DZ0610	GEZD-6.2	ZB6.2B		RE 109		RT-237	ECG137A	1N4735A	WEP1154	
D33	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D34	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D35	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D36	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D37	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D38	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D39	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D40	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D41	1S2687D	DC2687			HEPR2502				ECG612			ZEN-452
D43	1S2687D	DC2687			HEPR2502				ECG612			ZEN-452
D44	CZ092	DZ0921	GEZD-9.1	ZB9.1A	HEP20412	RE 114	SK3060	RT-240	ECG139	1N4739A	WEP1109	103-272
D45	1S2687D	DC2687			HEPR2502				ECG612			ZEN-452
D46	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D47	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D50	1N60P	DG1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D51	MV1Y	DVM1Y		PTC301		RE 250			ECG601			
D52	MV1Y	DVM1Y		PTC301		RE 250			ECG601			
D53	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D54	SRIK2	DR2100	GE-504A	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116	1N4004	WEP156	212-61
D56	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D57	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D58	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D59	1N60P	DG1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D60	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D62	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D64	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D65	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D66	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D67	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D68	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
D601	1N60	DG1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D602	1N60	DG1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D603	1S2473	DS2473	GE-300	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG177	1N4148	WEP1062	
FET1	3SK45B	QFK45B	GE-FET-4	PTC182	HEPF2004	RE 199	SK3050	RT-181	ECG222		WEP905	121-826
FET2	3SK45	QFK45B	GE-FET-4	PTC182	HEPF2004	RE 199	SK3050	RT-181	ECG222		WEP905	121-826
FET3	JF1033G	QF1033	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312		WEP920	ZEN-123
FET4	2SK68AM	QF68AM	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312		WEP920	ZEN-123
FET5	2SK68AM	QF68AM	GE-FET-1	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133		WEP801	ZEN-123
FET6	2SK68	QF68AM	GE-FET-1	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133		WEP801	ZEN-123
FET7	3SK45B-09	QFK4509	GE-FET-4	PTC182	HEPF2004	RE 199	SK3050	RT-181	ECG222		WEP905	121-826
FET8	2SK68AM	QF68AM	GE-FET-1	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133		WEP801	ZEN-123
FET9	2SK68	QF68AM	GE-FET-1	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133		WEP801	ZEN-123
FET10	JF1033G	QF1033	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312		WEP920	ZEN-123
FET11	JF1033	QF1033	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312		WEP920	ZEN-123
FET12	3SK45B	QFK45B	GE-FET-4	PTC182	HEPF2004	RE 199	SK3050	RT-181	ECG222		WEP905	121-826
FET13	3SK45	QFK45B	GE-FET-4	PTC182	HEPF2004	RE 199	SK3050	RT-181	ECG222		WEP905	121-826
FET14	JF1033G	QF1033	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312		WEP920	ZEN-123
FET15	JF1033G	QF1033	GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312		WEP920	ZEN-123
IC1	UPC577A	NR577H	GEIC-140			RE 341-M			ECG1082		WEP939	
IC2	MC1496P	NB496A			HEPC6050G							
IC3	UPC592H2	NA92H2			HEPC6050G							
IC4	UPC1156H	NA156H							ECG1195			
IC5	UHC-055	NRC005							ECG1194			
IC6	78L05	NB8L05							ECG977			
IC7	UPC78L05	NB8L05							ECG977			
IC8	UPD858	NC858C							ECG1198			

ROBYN MODEL SB-510D

TRUTH CHART

1 = 4.75 Volts 0 = 0 Volts

C H A N N E L	IC7 PROGRAM DIVIDER 10MHz at IC7, pins 2 & 6 and 5.120MHz at IC7, pin 8 in AM/USB/LSB REC & XMIT.								AM REC VCO OUTPUT IN MHz AT TP8	USB REC & XMIT, AM XMIT VCO OUTPUT IN MHz AT TP8	LSB REC & XMIT VCO OUTPUT IN MHz AT TP8
	PINS										
	21	20	18	17	16	15	14	13			
1	0	1	0	1	0	0	0	1	34.765	34.7675	34.7625
2	0	1	0	1	0	0	1	0	34.775	34.7775	34.7725
3	0	1	0	1	0	0	1	1	34.785	34.7875	34.7825
4	0	1	0	1	0	1	0	1	34.805	34.8075	34.8025
5	0	1	0	1	0	1	1	0	34.815	34.8175	34.8125
6	0	1	0	1	0	1	1	1	34.825	34.8275	34.8225
7	0	1	0	1	1	0	0	0	34.835	34.8375	34.8325
8	1	0	0	0	0	0	0	0	34.855	34.8575	34.8525
9	1	0	0	0	0	0	0	1	34.865	34.8675	34.8625
10	1	0	0	0	0	0	1	0	34.875	34.8775	34.8725
11	1	0	0	0	0	0	1	1	34.885	34.8875	34.8825
12	1	0	0	0	0	1	0	1	34.905	34.9075	34.9025
13	1	0	0	0	0	1	1	0	34.915	34.9175	34.9125
14	1	0	0	0	0	1	1	1	34.925	34.9275	34.9225
15	1	0	0	0	1	0	0	0	34.935	34.9375	34.9325
16	1	0	0	1	0	0	0	0	34.955	34.9575	34.9525
17	1	0	0	1	0	0	0	1	34.965	34.9675	34.9625
18	1	0	0	1	0	0	1	0	34.975	34.9775	34.9725
19	1	0	0	1	0	0	1	1	34.985	34.9875	34.9825
20	1	0	0	1	0	1	0	1	35.005	35.0075	35.0025

TRUTH CHART

1 = 4.75 Volts 0 = 0 Volts

C H A N N E L	IC7 PROGRAM DIVIDER 10MHz at IC7, pins 2 & 6 and 5.120MHz at IC7, pin 8 in AM/USB/LSB REC & XMIT.								AM REC VCO OUTPUT IN MHz AT TP8	USB REC & XMIT, AM XMIT VCO OUTPUT IN MHz AT TP8	LSB REC & XMIT VCO OUTPUT IN MHz AT TP8
	PINS										
	21	20	18	17	16	15	14	13			
21	1	0	0	1	0	1	1	0	35.015	35.0175	35.0125
22	1	0	0	1	0	1	1	1	35.025	35.0275	35.0225
23	1	0	1	0	0	0	0	0	35.055	35.0575	35.0525
24	1	0	0	1	1	0	0	0	35.035	35.0375	35.0325
25	1	0	0	1	1	0	0	1	35.045	35.0475	35.0425
26	1	0	1	0	0	0	0	1	35.065	35.0675	35.0625
27	1	0	1	0	0	0	1	0	35.075	35.0775	35.0725
28	1	0	1	0	0	0	1	1	35.085	35.0875	35.0825
29	1	0	1	0	0	1	0	0	35.095	35.0975	35.0925
30	1	0	1	0	0	1	0	1	35.105	35.1075	35.1025
31	1	0	1	0	0	1	1	0	35.115	35.1175	35.1125
32	1	0	1	0	0	1	1	1	35.125	35.1275	35.1225
33	1	0	1	0	1	0	0	0	35.135	35.1375	35.1325
34	1	0	1	0	1	0	0	1	35.145	35.1475	35.1425
35	1	0	1	1	0	0	0	0	35.155	35.1575	35.1525
36	1	0	1	1	0	0	0	1	35.165	35.1675	35.1625
37	1	0	1	1	0	0	1	0	35.175	35.1775	35.1725
38	1	0	1	1	0	0	1	1	35.185	35.1875	35.1825
39	1	0	1	1	0	1	0	0	35.195	35.1975	35.1925
40	1	0	1	1	0	1	0	1	35.205	35.2075	35.2025

ROBYN MODEL SB-510D

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SEMICONDUCTORS (Select replacement transistor for best results)(cont)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
TR1	UPD858C	NC858C	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG1198	2SC945	WEP1945	121-29000
TR2	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR3	2SA733P	QTA733	GE-48	PTC144*	HEPS0012*	RE 18*	SK3025*	RT-115*	ECG129*	2SC945	WEP60*	121-29000
TR4	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR5	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR6	2SC1730L	QSI730	GE-17*	PTC136*	HEPS0025*	RE 9	SK3018*	RT-107A	ECG107	2SC945	WEP535	121-881
TR7	2SC1675L	QSI675	GE-213	PTC139*	HEPS0025*	RE 13*	SK3124	RT-308	ECG229*	2SC945	WEP956*	ZEN-127
TR8	2SC1675K2	QSI675	GE-213	PTC139*	HEPS0025*	RE 13*	SK3124	RT-308	ECG229*	2SC945	WEP956*	ZEN-127
TR9	2SC1675L	QSI675	GE-213	PTC139*	HEPS0025*	RE 13*	SK3124	RT-308	ECG229*	2SC945	WEP956*	ZEN-127
TR10	2SC1675K2	QSI675	GE-213	PTC139*	HEPS0025*	RE 13*	SK3124	RT-308	ECG229*	2SC945	WEP956*	ZEN-127
TR11	2SC839H	QSC839	GE-61*	PTC132*	HEPS0015*	RE 13*	SK3018*	RT-308	ECG123A*	2SC839	WEP736*	ZEN-120
TR12	2SC839H	QSC839	GE-61*	PTC132*	HEPS0015*	RE 13*	SK3018*	RT-308	ECG123A*	2SC839	WEP736*	ZEN-120
TR13	2SC839H	QSC839	GE-61*	PTC132*	HEPS0015*	RE 13*	SK3018*	RT-308	ECG123A*	2SC839	WEP736*	ZEN-120
TR14	2SC839H	QSC839	GE-61*	PTC132*	HEPS0015*	RE 13*	SK3018*	RT-308	ECG123A*	2SC839	WEP736*	ZEN-120
TR15	2SC839H	QSC839	GE-61*	PTC132*	HEPS0015*	RE 13*	SK3018*	RT-308	ECG123A*	2SC839	WEP736*	ZEN-120
TR16	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR17	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR18	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR19	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR20	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR21	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR22	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR23	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR24	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR25	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR26	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR27	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR28	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR29	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR30	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR31	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR32	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR33	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR34	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR35	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR36	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR37	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR38	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR39	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000
TR40	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-29000

PARTS LIST AND DESCRIPTION (CONTINUED)

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

SEMICONDUCTORS (Select replacement transistor for best results)(cont)

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
TR41	2SC945AP	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR42	2SC945	QSC945	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR43	2SC1307(10)	QSI307	GE-212	PTC121*	HEPS0015*	RE 192	SK3124	RT-107A	ECG199	2SC945	WEP1945	121-Z9000
TR44	2SC1307-1	QSI307	GE-216	PTC186		RE 201	SK3197	RT-158	ECG236		WEP840	
TR45	2SC1306(11)	QSI306	GE-216	PTC186		RE 201	SK3197	RT-158	ECG236		WEP840	
TR46	2SC1973	QSI973	GE-215	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
TR601	2SC1675L	QSI675	GE-335				SK3250		ECG315		WEP922	
			GE-213	PTC139*	HEPS0025*	RE 13*	SK3124	RT-308	ECG229*		WEP956*	ZEN-127

* Lead configuration may vary from original.
 (6) Matched pair.
 (7) Two required - select matched pair.

(9) 20 W @ 2 AMP.
 (10) 12 W @ 3 AMP.
 (11) 25 W @ 8 AMP.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C14	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C35	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C39	.1 35V			TDC104M050EL	QDT1-2	SD50-R109
C42	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C43	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C44	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C47	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C49	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C50	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C52	1 25V			TDC105M035EL		SD35-19
	.1 16V			TDC104M050EL	QDT1-2	SD50-R109
C55	2.2 50V		PC2-100	VTT2R2A50	QV1-19	EV-1517
C58	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C59	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C60	.1 35V			TDC104M050EL	QDT1-2	SD50-R109
C66	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C67	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C68	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C69	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C76	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C77	.47 50V		PC1-50	VTT47A63	QV1-3	EV-1610
C78	.47 50V		PC1-50	VTT47A63	QV1-3	EV-1610
C79	.47 50V		PC1-50	VTT47A63	QV1-3	EV-1610
C81	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C84	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C87	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C88	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C89	33 16V		PC30-25	VTT33B25	QV1-63	EV-1325
C92	33 16V		PC30-25	VTT33B25	QV1-63	EV-1325
C94	470 16V		PC500-16	VTT470K16	QV1-151	EV-1250
	1000 10V		PC1000-16	VTT1000L10	QV1-179	EV-1160
C95	470 16V		PC500-16	VTT470K16	QV1-151	EV-1250
C97	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C98	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C99	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C101	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C102	220 10V		PC250-10	VTT220F10	QV1-115	EV-1140
C103	470 10V		PC500-16	VTT470K16	QV1-149	EV-1150
C104	330 10V		WBR300-35	VTT330G10	QV1-137	EV-1145
C107	1000 10V		PC1000-16	VTT1000L10	QV1-179	EV-1160
C110	.1 35V			TDC104M050EL	QDT1-2	SD50-R109
C120	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C126	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C135	220 10V		PC250-10	VTT220F10	QV1-115	EV-1140
C140	10 6.3V			TDC106M025FL	QDT1-64	SD25-109
C141	10 6.3V			TDC106M025FL	QDT1-64	SD25-109
C158	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C163A	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C179	2.2 25V			TDC225M035FL		SD35-2R29
C199	1 25V		PC1-50	VTT1A50	QV1-9	EV-1315
C211	2.2 50V		PC2-100	VTT2R2A50	QV1-19	EV-1517
C218	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C605	.1 16V			TDC104M050EL	QDT1-2	SD50-R109

ROBYN MODEL SB-510D

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C1	39 NPO 5% 50V				CN0439		10TCC-Q39
C2	.01 10% 50V		UK50-103		MAG5011		
C4	.01 10% 50V		UK50-103		MAG5011		
C5	.01 10% 50V		UK50-103		MAG5011		
C6	.01 10% 50V		UK50-103		MAG5011		
C7	.001 50V		DD-102		GP210		10TS-D10
C8	100 50V		DD-101	GP100	GP310		10TS-T10
C9	.001 50V		DD-102		GP210		10TS-D10
C10	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C11	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C12	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C13	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C15	.01 10% 50V		UK50-103		MAG5011		

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
C16	.01 10% 50V	(1)	UK50-103	WMF1S1	MAG5011	QFT2-91	1FT-S10
C17	.01 50V			DPMS6S39	EWFA1110		1FT-S35
C18	.039 10% 50V			MGP025	M192P3939R8	QFT2-159	TG-S25
C19	.022 50V		DC-253	TA125	TA125		TG-S25
C20	.022 50V		DC-253	MGP025	TA125	QFT2-127	TG-S25
C21	.022 50V		DC-253	MGP025	TA125		1FT-S22
C22	.022 50V		DC-253	MGP025	TA125	QFT2-159	10TCC-Q54
C23	.022 50V			DPMS2S22	M192P2239R8		10TS-D10
C24	56 NPO 5% 50V		DD-102		CN0456	QFT2-159	1FT-S39
	.001 50V				GP210		1FT-S39
C25	.039 10% 50V	(1)		DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C26	.039 10% 50V			DPMS6S39	M192P3939R8		1FT-S39
C27	.039 10% 50V			DPMS6S39	M192P3939R8	QFT2-159	TG-S25
C28	.022 50V		DC-253	MGP025	TA125		1FT-S39
C29	.039 10% 50V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C30	.039 10% 50V			DPMS6S39	M192P3939R8		1FT-S39
C31	.039 10% 50V			DPMS6S39	M192P3939R8	QFT2-159	10TCC-V47
C32	5 NPO 50V		DTZ-4R7	NP04P7	CN0547		TG-S25
C33	.022 50V		DC-253	MGP025	TA125	QFT2-159	10TCC-V47
C34	.022 50V		DC-253	MGP025	TA125		TG-S25
C36	5 NPO 50V	(1)	DTZ-4R7	NP04P7	CN0547	QFT2-27	10TCC-Q47
C37	10 NPO 50V		DTZ-10	NP010	CN0410		1FT-D22
C38	330 10% 50V		DD-331	GP330	GP333	QFT2-159	1FT-S39
C40	.0022 10% 50V			DPMS6D22	M192P2229R8		TG-S25
	.039 50V			DPMS6S39	M192P3939R8	QFT2-159	10TCC-Q47
	.022 50V		DC-253	MGP025	TA125		1FT-S39
C41	.022 50V		DTZ-47	NP047	CN0447	TG-S25	
C45	47 5% 50V		UK50-133		MAG5011	QFT2-27	1FT-D22
C51	.0022 10% 50V			DPMS6D22	M192P2229R8		1FT-S22
	.02 50V		(1)		DPMS2S2	PVC212	QFT2-127
C53	.01 10% 50V	UK50-133		MAG5011	CN0422	10TCC-Q33	
C54	22 NPO 50V	(1)	DTZ-22	NP022	CN0433	QFT2-171	TG-S25
	33 50V		DTZ-33	NP033	CN0433		1FT-S47
C57	.022 50V		DC-253	MGP025	TA125	QFT2-171	1FT-S47
C61	.047 50V			DPMS2S47	EWFA1A147		1FT-S39
C62	.047 50V			DPMS2S47	EWFA1A147	QFT2-159	1PB-S68
C64	.039 10% 50V			DPMS6S39	M192P3939R8		1FT-S22
C71	.068 50V			WMF1S68	EWFA1A168	QFT2-215	1FT-P10
C72	.022 50V			DPMS2S22	M192P2239R8		1FT-S22
C73	.1 50V			WMF05P1	EWFO5010	QFT2-127	1FT-S22
C74	.022 50V			DPMS2S22	M192P2239R8		1FT-P10
C75	.1 50V	(1)		WMF05P1	EWFO5010	QFT2-215	1FT-P10
C80	.01 50V			WMF1S1	EWFA1110		1FT-S10
C82	.047 50V			DPMS2S47	EWFA1A147	QFT2-171	1FT-S47
C83	.01 50V			WMF1S1	EWFA1110		1FT-S10
C85	.039 50V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C86	.022 50V			DPMS2S22	M192P2239R8		1FT-S22
C90	22 5% 10V		DTZ-22	NP022	CN0422	QFT2-127	10TCC-Q22
C91	.1 50V			WMF05P1	EWFO5010		1FT-P10
C93	68 NPO 5% 50V		DTZ-68	NP068	CN0468	QFT2-215	10TCC-Q58
C96	.1 50V			WMF05P1	EWFO5010		1FT-P10
C100	.022 50V	(1)	DC-253	MGP025	TA125	QFT2-215	TG-S25
C105	.022 50V		DC-253	MGP025	TA125		TG-S25
C106	.022 50V		DC-253	MGP025	TA125	QFT2-215	TG-S25
C109	.022 50V		DC-253	MGP025	TA125		TG-S25
C111	18 5% 50V				CN0418	QFT2-215	10TCC-Q18
C112	18 5% 50V				CN0418		10TCC-Q18
C113	.001 50V		DD-102		GP210	QFT2-215	10TS-D19
C114	.001 50V		DD-102		GP210		10TS-D19
C115	100 NPO 10% 50V		DTZ-100	NP0100	CN0310	QFT2-215	10TCC-T10
C116	10 NPO 50V		DTZ-10	NP010	CN0410		10TCC-Q10
C117	1 NPO 50V	(1)	DC-253	MGP025	CN0510	QFT2-159	10TCC-V10
C118	.022 50V			DPMS6S39	M192P3939R8		TG-S25
C121	.039 10% 50V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C122	47 5% 50V		DTZ-47	NP047	CN0447		10TCC-Q47
C123	47 5% 50V		DTZ-47	NP047	CN0447	10TCC-Q47	
C124	.01 10% 50V		UK50-103		MAG5011	QFT2-91	10TS-T27
C125	270 50V		DD-271	GP270	GP327		10TS-T47
C127	470 50V		DD-471	GP470	GP347	QFT2-91	10TS-T22
C128	220 50V		DD-221		GP322		10TCC-Q10
C129	.1 10% 50V		UK50-103		MAG5011	QFT2-215	1FT-S10
C130	10 NPO 50V	DTZ-10	NP010	CN0410	1FT-P10		
C131	.01 50V	(1)		WMF1S1	EWFA1110	QFT2-91	1FT-S10
C133	.1 50V			WMF05P1	EWFO5010		1FT-P10
C134	.1 50V			WMF05P1	EWFO5010	QFT2-215	1FT-P10
C136	470 50V		DD-471	GP470	GP347		10TS-T47
C137	220 50V		DD-221		GP322	QFT2-215	10TS-T22
C138	.01 10% 50V		UK50-103		MAG5011		10TCC-Q10
C139	10 NPO 50V		DTZ-10	NP010	CN0410	QFT2-215	10TCC-Q68
C142	68 NPO 5% 50V		DTZ-68	NP068	CN0468		10TCC-V68
C143	7 NPO 50V		DTZ-68B	NP068B	CN0568	QFT2-215	TG-S25
C146	.022 50V		DC-253	MGP025	TA125		10TS-T47
C147	470 50V	DD-471	GP470	GP347	QFT2-215	10TS-T22	
C148	220 50V	DD-221		GP322		10TCC-Q10	
C149	.01 10% 50V	UK50-03		MAG5011	QFT2-171	1FT-S47	
C150	10 NPO 50V	DTZ-10	NP010	CN0410		10TCC-Q10	
C151	.01 10% 50V	UK50-03		MAG5011	QFT2-171	10TCC-Q10	
C152	.01 10% 50V	UK50-103		MAG5011		10TCC-V10	
C153	.047 50V	(1)		DPMS2S47	EWFA1A147	QFT2-159	1FT-S39
C154	10 NPO 50V		DTZ-10	NP010	CN0410		1FT-S39
C155	1 NPO 50V			MGP025	TA125	QFT2-159	5GA-D47
C156	.022 50V		DC-253	DPMS6S39	M192P3939R8		10TCC-Q39
C157	.039 10% 50V			GP4700	GP247	QFT2-159	10TS-Q68
C159	.0047 10% 50V		DD-472	GP4700	GP247		10TS-T15
C160	.0047 10% 50V		DD-472	GP4700	GP247	QFT2-159	10TS-T22
C163B	39 NPO 5% 50V		DD-680	GP68	CN0439		5GA-D47
C164	68 5% 50V		DD-151		GP468		
	150 50V		DD-221		GP311		
C165	220 5% 10V	DD-221		GP322			
C166	.0047 10% 50V	DD-472	GP4700	GP247			

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
C167	390 10% 50V		DD-391	GP390	GP339		10TS-T39
C168	.5 50V		UK12-474		MAG12047		HY-380
C169	.1 50V			WMF05P1	EWFO5010	QFT2-215	1FT-P10
C170	470 N750 50V		DD-471	GP470	GP347		10TS-T47
C172	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C173	180 10% 50V		DD-181		GP318		10TS-T18
C174	47 5% 50V		DTZ-47	NP047	CN0447		10TCC-Q47
	56 50V	(1)	DD-560		GP456		10TS-Q56
C175	.1 50V			WMF05P1	EWFO5010	QFT2-215	1FT-P10
C176	56 NPO 5% 50V		DD-560		GP456		10TS-Q56
C177	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C178	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C183	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C184	120 NPO 10% 50V		DTZ-120		CN0312		10TCC-T12
C185	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C186	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C187	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C188	.1 50V			WMF05P1	EWFO5010	QFT2-215	1FT-P10
	.047 50V	(1)		DPMS2S47	EWFI1A147	QFT2-171	1FT-S47
C188	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
	.047 50V	(1)			MAG5015		
C19C	.01 10% 50V		UK50-503		MAG5011		
C192	.01 10% 50V		UK50-103		MAG5011		
C193	.022 50V		DC-253	MGP025	TA125		TG-S25
C194	.039 10% 50V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C195	.01 10% 50V		UK50-103		MAG5011		
C196	.022 50V		DC-253	MGP025	TA125		TG-S25
C197	.022 50V		DC-253	MGP025	TA125		TG-S25
C198	.039 10% 50V			DPMS6S39	M192P3939R8	QFT2-151	1FT-S39
C200	.01 50V			WMF1S1	EWFI1A110	QFT2-91	1FT-S10
C201	.01 50V			WMF1S1	EWFI1A110	QFT2-91	1FT-S10
C202	.022 50V		DC-253	MGP025	TA125		TG-S25
C203	.022 50V		DC-253	MGP025	TA125		TG-S25
C204	.01 10% 50V		UK50-103		MAG5011		
C205	.01 10% 50V		UK50-103		MAG5011		
C206	.022 50V		DC-253	MGP025	TA125		TG-S25
C207	.01 10% 50V		UK50-103		MAG5011		
C208	.01 10% 50V		UK50-103		MAG5011		
C209	.01 10% 50V		UK50-103		MAG5011		
C210	.01 50V			WMF1S1	EWFI1A110	QFT2-91	1FT-S10
C213	.1 50V		CK-104		MAG5001		
C214	.01 10% 50V		UK50-103		MAG5011		
C215	.022 50V		DC-253	MGP025	TA125		TG-S25
C216	.022 50V		DC-253	MGP025	TA125		TG-S25
C217	.022 50V		DC-253	MGP025	TA125		TG-S25
C219	.022 50V		DC-253	MGP025	TA125		TG-S25
C220	.022 50V		DC-253	MGP025	TA125		TG-S25
C221	.022 50V		DC-253	MGP025	TA125		TG-S25
C222	.1 50V		CK-104		MAG5001		
C223	.022 50V		DC-253	MGP025	TA125		TG-S25
C227	.022 50V		DC-253	MGP025	TA125		TG-S25
C228	.022 50V		DC-253	MGP025	TA125		TG-S25
C231	.047 50V			DPMS2S47	EWFI1A147	QFT2-171	1FT-S47
C233	.1 50V		CK-104		MAG5001		
C234	.0033 50V		DD-332	GP330C	GP233	QC2-107	5GA-Q33
C236	33 NPO 50V		DTZ-33	NP033	CN0433		10TCC-Q33
C239	.1 50V		CK-104		MAG5001		
C240	.01 50V			WMF1S1	EWFI1A110	QFT2-91	1FT-S10
C242	47 5% 50V		DTZ-47	NP047	CN0447		10TCC-Q47
C243	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C244	33 5% 50V		DTZ-33	NP033	CN0433		10TCC-Q33
C245	.01 10% 50V		UK50-103		MAG5011		
C246	47 5% 50V		DTZ-47	NP047	CN0447		10TCC-Q47
C247	330 50V		DD-331	GP330	GP333	QFT2-159	10TS-T33
C248	.039 10% 50V			DPMS6S39	M192P3939R8		1FT-S39
C249	.01 50V		UK50-103		MAG5011		
C250	.01 50V		UK50-103		MAG5011		
C251	.01 50V		UK50-103		MAG5011		
C253	.001 50V		DD-102		GP210		10TS-D10
C254	.001 50V		DD-102		GP210		10TS-D10
C257	5 50V		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C258	.01 10% 50V		UK50-103		MAG5011		
C401	.047 50V	(2) NN0111		DPMS2S47	EWFI1A147	QFT2-171	1FT-S47
C402	.001 50V	(2) NN0111	DD-102		GP210		10TS-D10
C403	.001 50V		DD-102		GP210		10TS-D10
C405	.01 50V		UK50-103		MAG5011		
C406	.01 50V		UK50-103		MAG5011		
C407	.01 50V		UK50-103		MAG5011		
C408	.01 50V		UK50-103		MAG5011		
C409	.1 50V		CK-104		MAG5001		
C410	.1 50V		CK-104		MAG5001		
C411	.01 50V		UK50-103		MAG5011		
C601	8 NPO 50V		DTZ-10	NP010	CN0410		10TCC-Q10
C602	.0047 10% 50V		DD-472	GP4700	GP247		5GA-D47
C603	.01 10% 50V		UK50-103		MAG5011		
C604	39 10% 50V				CN0439		10TCC-Q39
C606	.01 10% 50V		UK50-103		MAG5011		
CC1							
CC2							
CT1	20						
CT2	20						
CT3	20						
CT4	20						
CT5	20						
CT6	20						
CT7	20						

(2) Consists of four .01 capacitors.

(1) Used in some versions.

ROBYN MODEL SB-510D

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	RESISTANCE	REPLACEMENT DATA				TRW PART No.
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	
VR1	Signal Meter	25K	RS2533				U260R253B
VR2	RF Gain	100K	RS1043				U260R104B
VR3	Squelch Range	100K	RS1043				U260R104B
VR4	Balance	50K	RS5033				U260R504B
VR5	AM RX Gain	100K	RS1043				U260R104B
VR6	Mic Gain	20K	RS2033				U260R253B
VR7	AM AMC	5000	RS5023				U260R502B
VR8	AM TX Level	10K	RS1033				U260R103B
VR9	TX Frequency	5000	RS5023				U260R502B
VR12	TX Power Meter	100K	RS1043				U260R104B
VR15	Bias	300	RS3013				U260R501B
VR16	Bias	300	RS3013				U260R501B
VR401	Clarifier	20K	510049(5)				
VR404	Squelch/Local Switch	100K	510021				
VR405	Volume/Power Switch	100K	510022				
VR406	Dimmer	5000	510020(5)				

(5) Number on unit.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.			WORKMAN PART No.	MFGR. PART No.
RR1	Resistor Network		(1) NN4278	RR402	Resistor Network		(2) NN6817
RR401	Resistor Network		(2) NN6817				

(1) Consists of eight 4700-ohm resistors.

(2) Consists of seven 680-ohm resistors.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Input Blanker (24.1MHz)	LL0050	LA0297215	CBS740-T	
L2	Noise Blanker (24.1MHz)	LL0054	LA0506734		
L3	Rec. Antenna (27MHz)	LL0053	LA1527135		
L4	Rec. RF (27MHz)	LL0055	LA1567225		
L5	IF (7.8MHz)	LL0057	LA1797135		
L7	IF (7.8MHz)	LL0051	LA038	CBS512-7TC	
L8	IF (7.8MHz)	LL0052	LA0966934	CBS511-7TC	
L9	RF Choke (470uH)	LL0072			
L10	RF Choke (56mH)	LL0073			
L11	RF Choke (68mH)	LL0074			
L12	RF Choke (470uH)	LL0072			
L13	RF Choke (470uH)	LL0072			
L14	RF Choke (470uH)	LL0072			
L16	VCO	LL0060	LA1957135		
L17	VCO	LL0059	LA191723N		
L18	RF Choke (470uH)	LL0072			
L19	RF Choke (100uH)	LL0071			
L20	RF Choke (470uH)	LL0072			
L21	RF Choke (470uH)	LL0072			
L22	RF Choke (470uH)	LL0072			
L23	RF Choke (470uH)	LL0072			
L24	Tripler IF	LL0058	LA1907225		
L25	RF Choke (470uH)	LL0072			
L27	TVI Trap	LL0061			
L28	P1 Filter	LL0069			
L29	P1 Filter	LL0069			
L30	Final (27MHz)	LL0062			
L31	RF Choke	LL0064			
L32	Xmit Driver (27MHz)	LL0061			
L33	RF Choke	LL0064			
L34	RF Choke	LL0064			
L35	Xmit Amp	LL0066			

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)(cont)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L36	Xmit Buffer	LL0066	LA1577235 LA0387125	CBS512-7TC	
L37	Xmit Mixer (27MHz)	LL0056			
L38	RF Choke (470uH)	LL0072			
L39	Xmit Mixer (27MHz)	LL0051			
L43	RF Choke (1uH)	LL0070			
L44	RF Choke (1uH)	LL0070			
L45	RF Choke (470uH)	LL0072			
L46	RF Choke	LL0072			
L401	RF Choke	LL0065			
L402	RF Choke	LL0065			
L403	RF Choke	LL0065			
L404	RF Choke	LL0065			
L405	RF Choke	LL0067			
L406	Line Choke	LL0063			
L407	RF Choke	LL0078			

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.	
L409	2.45A	.235	2.82mH	510074			

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	.7	1	510054			

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP401	3 1/2" PM, 8 Ohms	110019	3C328U	

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	
F406	3A Quick Acting	510026	510078	AGC3	HDJ	312002	150145	FG3-2	

ROBYN MODEL SB-510D

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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	510037	18-032	18-034	18-010	18-092	1	2	3	NC	NC	4

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
D401	LED	DNR321	Channel Display
D402	LED	DLR702	TX
D403	LED	DP6103	RX
FT1	Filter	510024	7.8MHz
J402	Jack	110030	Microphone
J403	Jack	110018	PA Speaker
J404	Jack	110018	External Speaker
K1	Switch		Part of Relay (RL1)
K2	Switch		Part of Relay (RL1)
K3	Switch		Part of Relay (RL1)
L40	Ferrite Bead	LL0063	
L41	Ferrite Bead	LL0068	
L42	Ferrite Bead	LL0068	
M401	Meter	510034	Signal/TX Power
PL401	Lamp	510010	Meter (6.85V @ 32mA)
RL1	Relay	510040	Xmt/Rec
S401	Switch	(1)	Noise Blanker
S402	Switch	510049	AM-USB-L3B
S403	Switch	510021	Distant/Local (Part of Squelch Control)
S405	Switch	(1)	CB/PA
S406	Switch	510022	Power (Part of Volume Control)
S407	Switch	(1)	Speaker (Internal-External)
S408	Switch	510048	Channel Selector
X1	Crystal	XA8025	7.8025MHz
X2	Crystal	XA7975	7.7975MHz
X3	Crystal	XE2858	11.2858MHz
X4	Crystal	XE2842	11.2842MHz
X5	Crystal	XD2400	10.240MHz
X6	Crystal	XE2850	11.2850MHz
	Printed Circuit Board	510071	External Speaker Jack (PC-243AA)
	Printed Circuit Board	510002	Flexible (PC-251AA)
	Printed Circuit Board	510006	Switch (PC-239AA)
	Printed Circuit Board	510005	Noise Blanker (PC-244AA)
	Printed Circuit Board	510003	Main (PC-176AD)
	DC Power Cord	110038	

(1) Part of Switch Assembly #510050

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

ITEM	PART No.	ITEM	PART No.
Cover, Bottom	510016	Microphone Holder	510038
Cover, Top	510015	Knob, Channel Selector	510029
Escutcheon	510025	Knob, Control	510030
Mounting Bracket	510009		

WIRING DATA

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