

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.



PRESIDENT MODEL GRANT

MODEL Grant

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

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7CF520

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:
 L27,L30,L32.....5009
 L1 thru L8,L16,L17,L24,L37,L39.....9440
 CT1 thru CT7.....5000

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of RF VTVM to TP6.	Ch. 1 AM Clarifier-Midrange AM	L24	Adjust for maximum.
Input of DC meter to TP7.	Ch. 1	L17	Adjust for 2.0 volts.
Input of RF VTVM to TP8.	Ch. 19	L16	Adjust for maximum.
Input of frequency counter to TP8	Ch. 19	CT6	Adjust for 34.9850MHz +20Hz.
Input of frequency counter to TP8.	Ch. 19, USB	CT4	Adjust for 34.9875MHz +20Hz.
Input of frequency counter to TP8.	Ch. 19, LSB	CT5	Adjust for 34.9825MHz +20Hz.
Input of frequency counter to TP8.	Ch. 19, LSB, Xmit	VR9	Adjust for 34.9825MHz +20Hz.
Input of frequency counter to TP9.	Ch. 19, USB, Xmit	CT2	Adjust for 7.8025MHz +5Hz -0Hz.
Input of frequency counter to TP9.	Ch. 19, LSB, Xmit	CT3	Adjust for 7.7975 +0Hz -5Hz.

RECEIVER ALIGNMENT

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

SSB

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output .25uV.	Ch. 19 USB RF Gain - Max Clarifier - Midrange Volume - Max	L8,L7,L6,L5, L4,L3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output .25uV.	Ch. 19	CT1	Adjust for .5 watts audio.

RECEIVER ALIGNMENT

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

AM

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 23.5MHz, no modulation. Output 200uV. Input of RF VTVM to TP5.	Ch. 19 AM RF Gain - Max NB - On	L1,L2	Adjust for maximum.

RECEIVER ADJUSTMENTS

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

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output 250uV.	Ch. 19 USB RF Gain - Max Volume - Max	VR2	SSB AGC Adjust VR2 for .5 volts audio.
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output 100uV.		VR1	S METER Adjust for 9 on S scale of meter.
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output 500uV.		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 .5uV.	Ch. 19, AM	VR5	AM AGC Adjust VR5 for .5 watts audio.

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	TRANSCEIVER	ADJUST	REMARKS
Output of 2 tone generator to Mike input. 500Hz and 2400Hz at .5 volts.	Ch. 19, USB Mike Gain - Max	L39, L37, L32, L30	Adjust for maximum.
Output of 2 tone generator to Mike input. 500Hz and 2400Hz at .5 volts.	Ch. 19, LSB	CT7	Adjust CT7 for 11.5 watts.

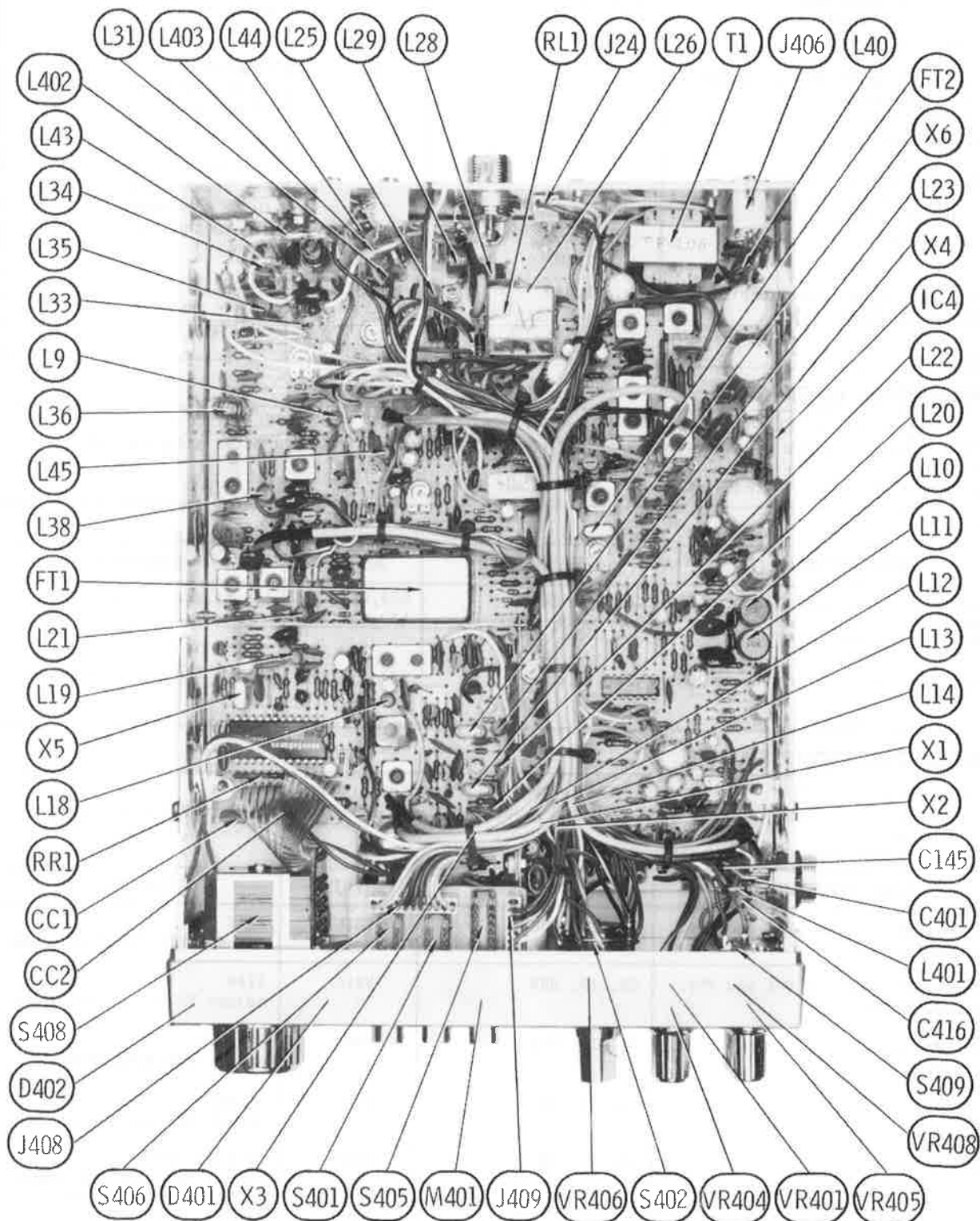
TRANSMITTER ADJUSTMENTS

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

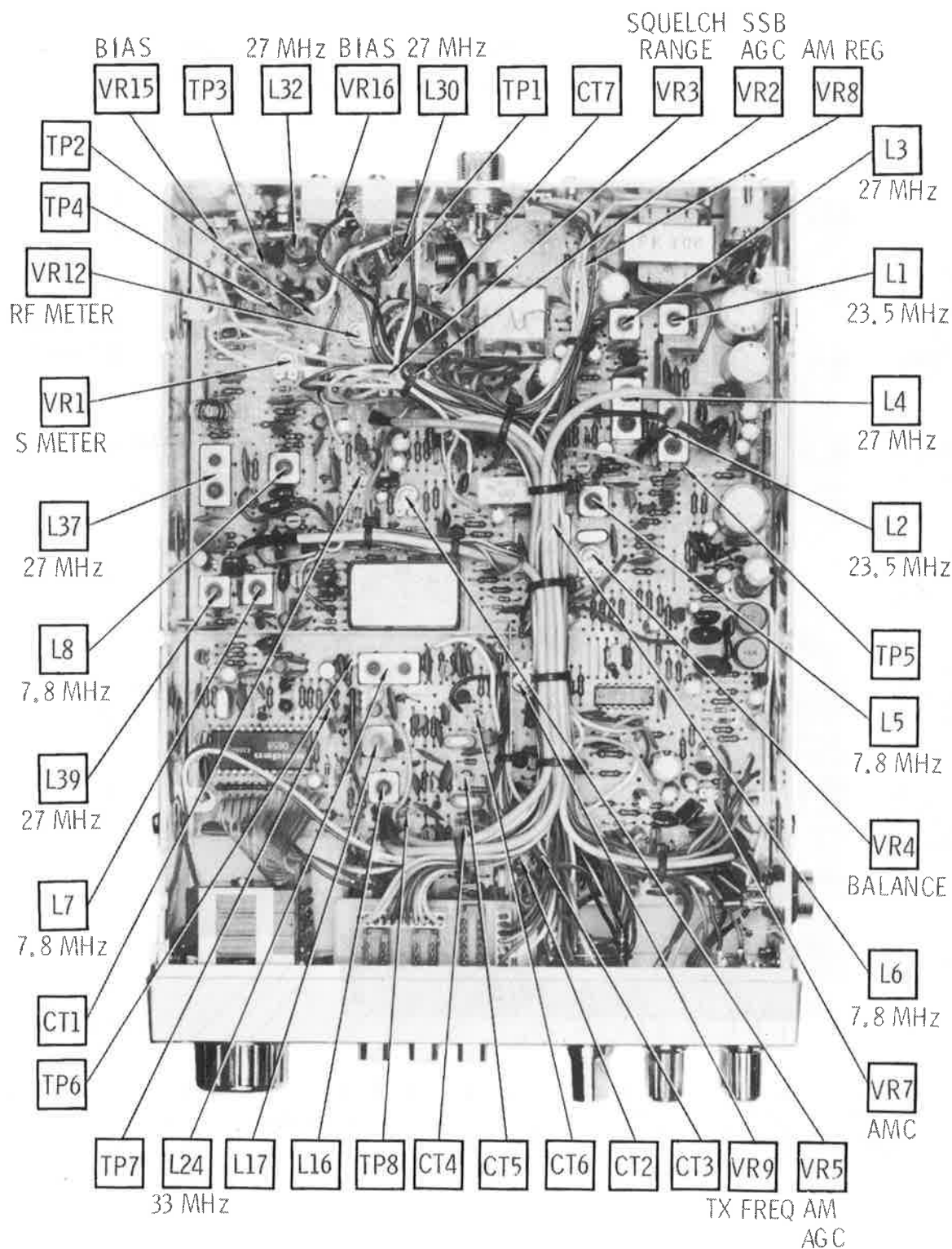
NOTE: Be sure to check transmit frequency and power on all active channels after adjustment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
DC current meter to TP3 and TP4. No modulation.	Ch. 19, USB	VR15	BIAS Adjust VR15 for 40mA $\pm$ 10mA.
DC current meter of TP1 and TP2. No modulation.	Ch. 19, USB	VR16	BIAS Adjust VR16 for 70mA $\pm$ 10mA.
No modulation.	Ch. 19, USB	VR4	BALANCE Adjust for MINIMUM RF.
No modulation.	Ch. 19, AM	VR8	AM REG Adjust VR8 for 3.8 watts.
No modulation.	Ch. 19, AM	VR12	RF PANEL METER Adjust VR12 for 3.8 watts on RF scale of meter.
Inject a 1000Hz signal at MIC input. Modulation meter to antenna jack.	Ch. 19, AM AMC - Max	VR7	AM AMC Adjust signal for 50% modulation. Increase signal 630 times. Adjust VR7 for 95% modulation.

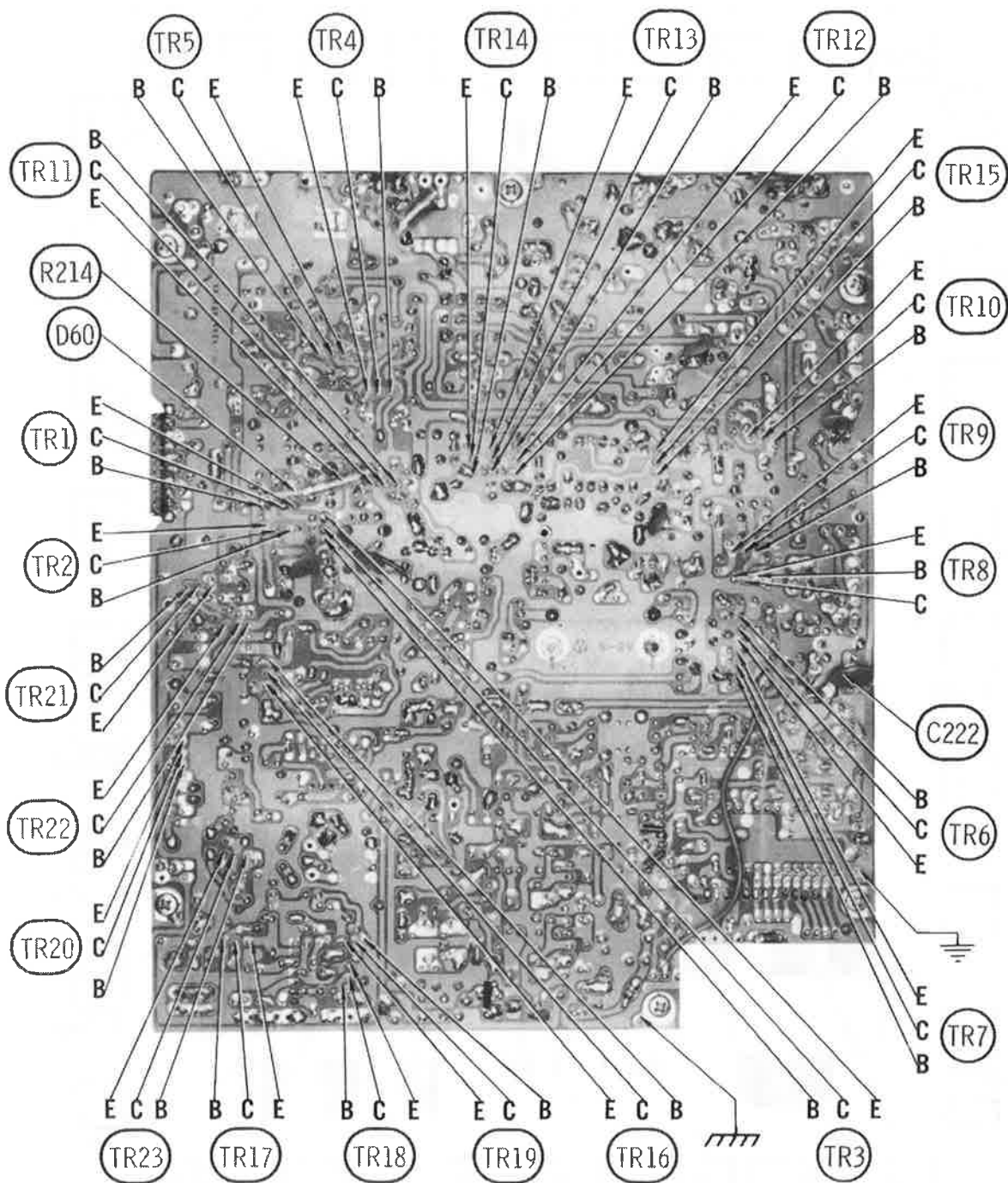
PRESIDENT MODEL GRANT



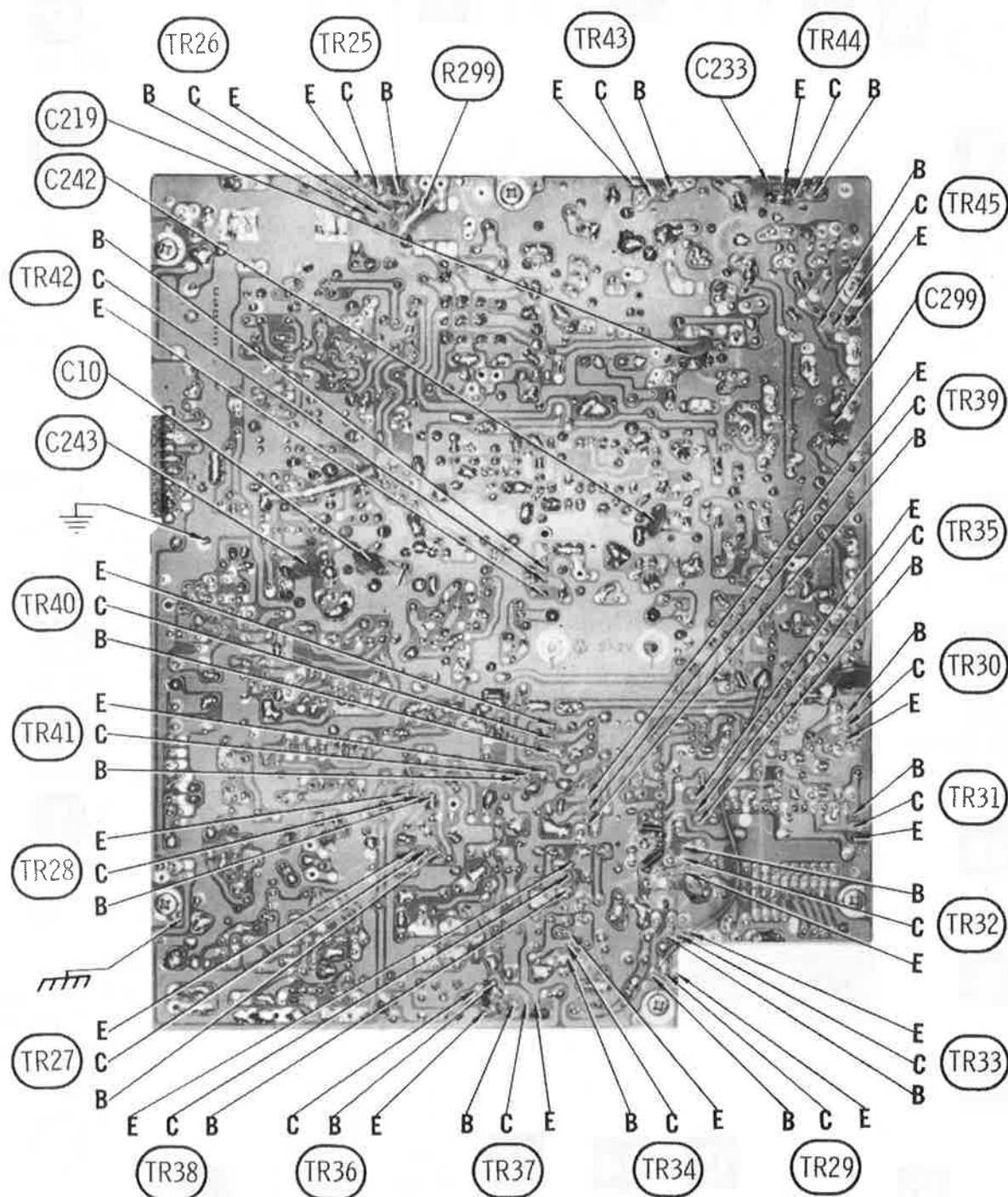
CHASSIS-BOTTOM



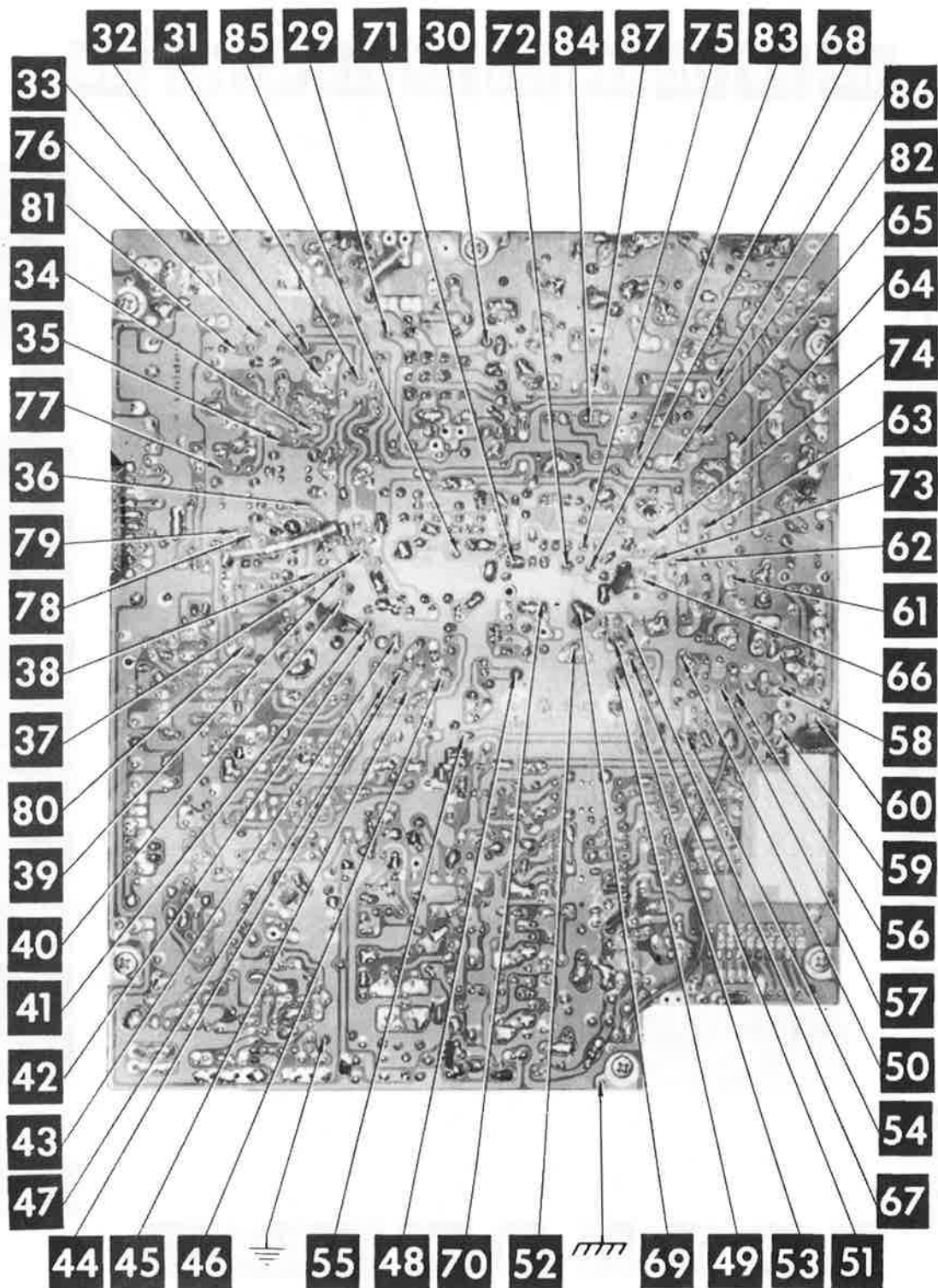
CHASSIS-BOTTOM



MAIN BOARD

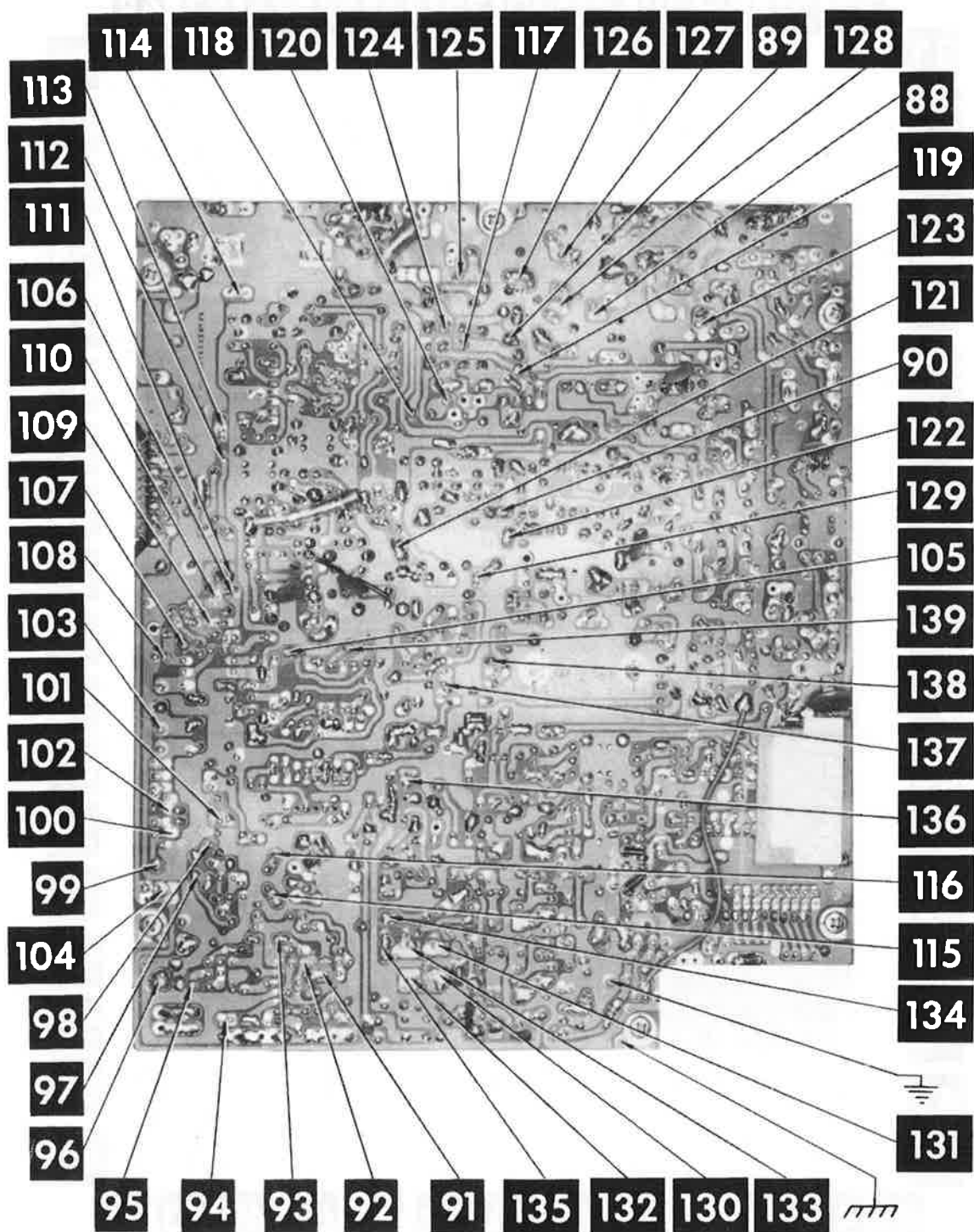


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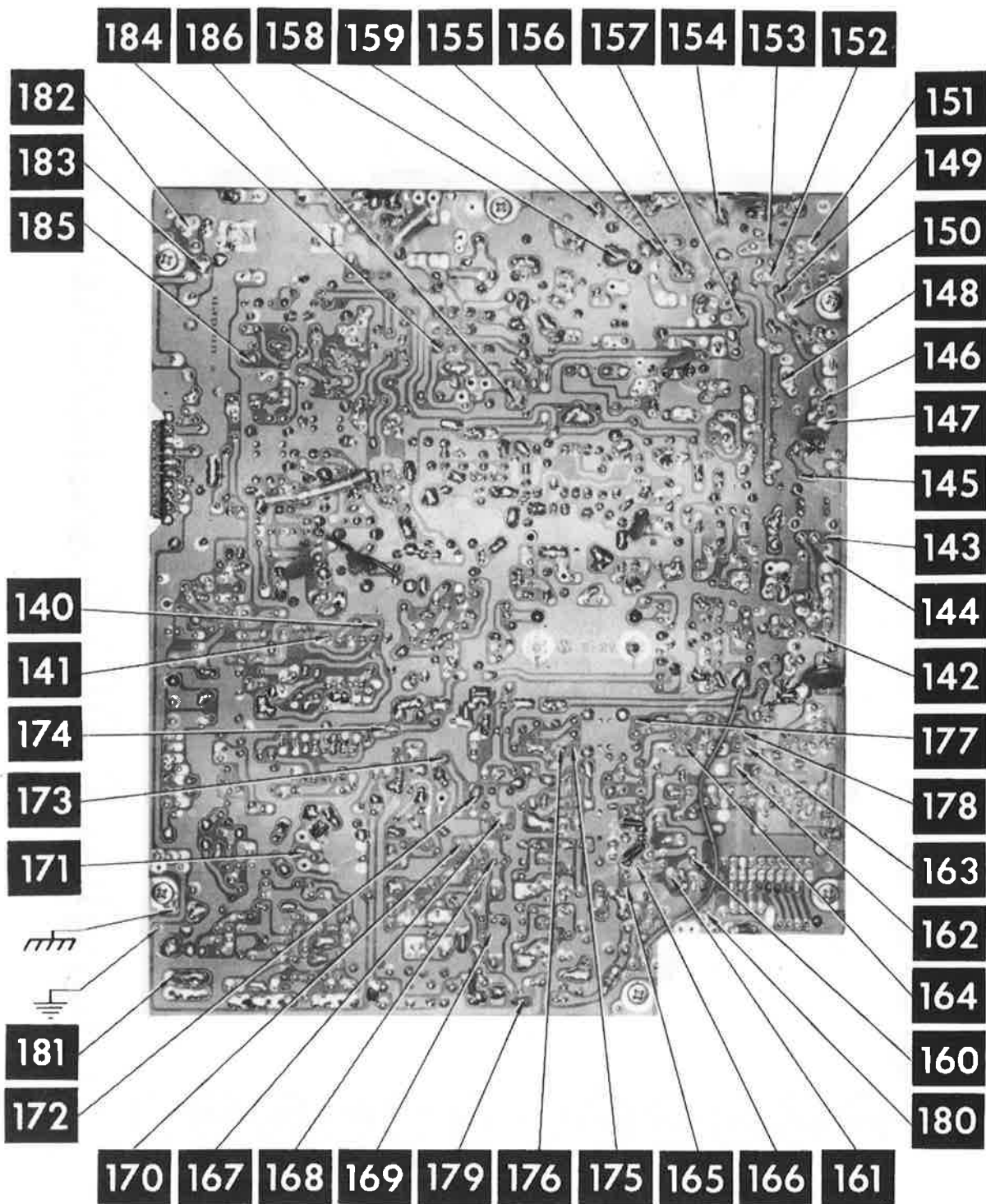
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MAIN BOARD

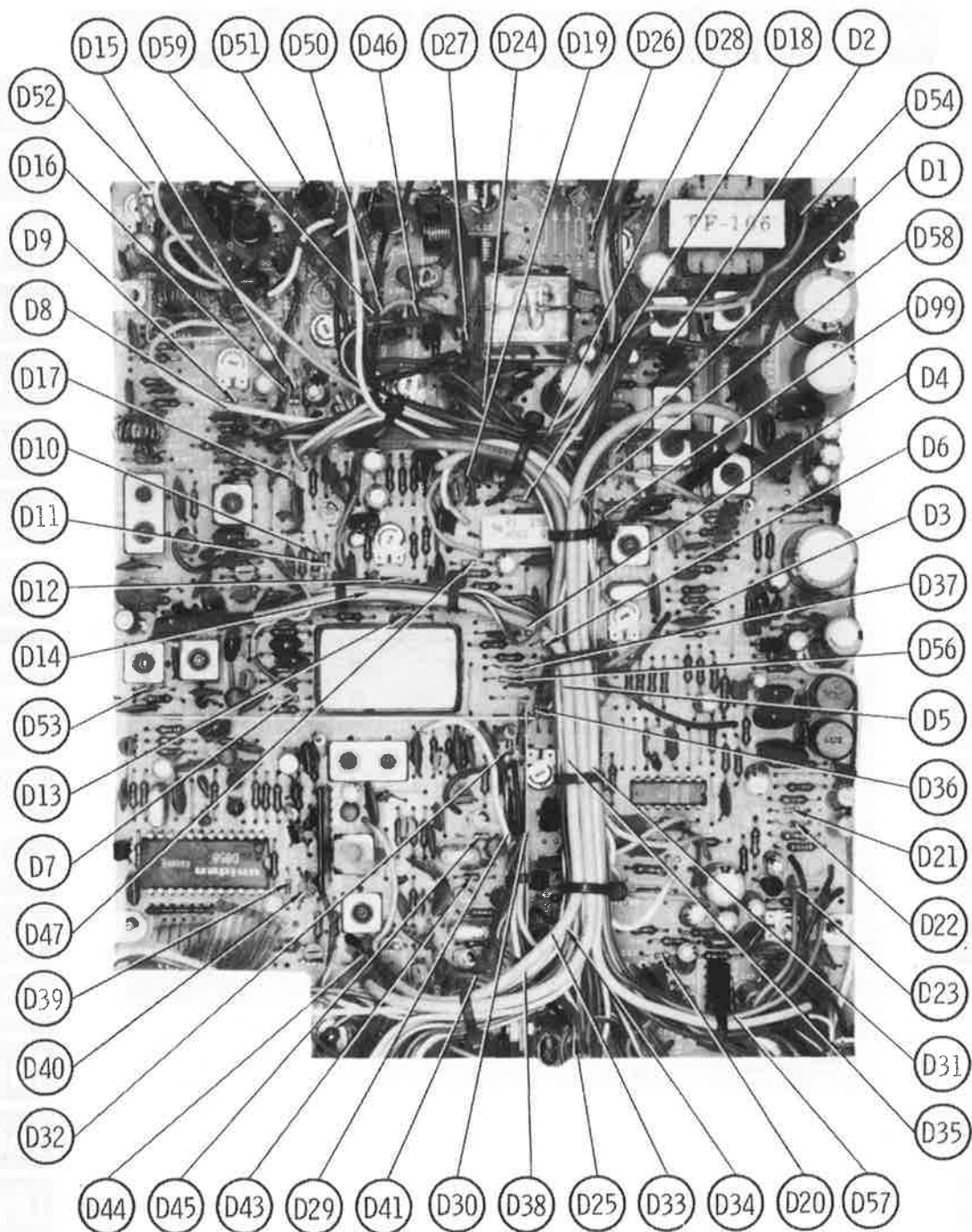


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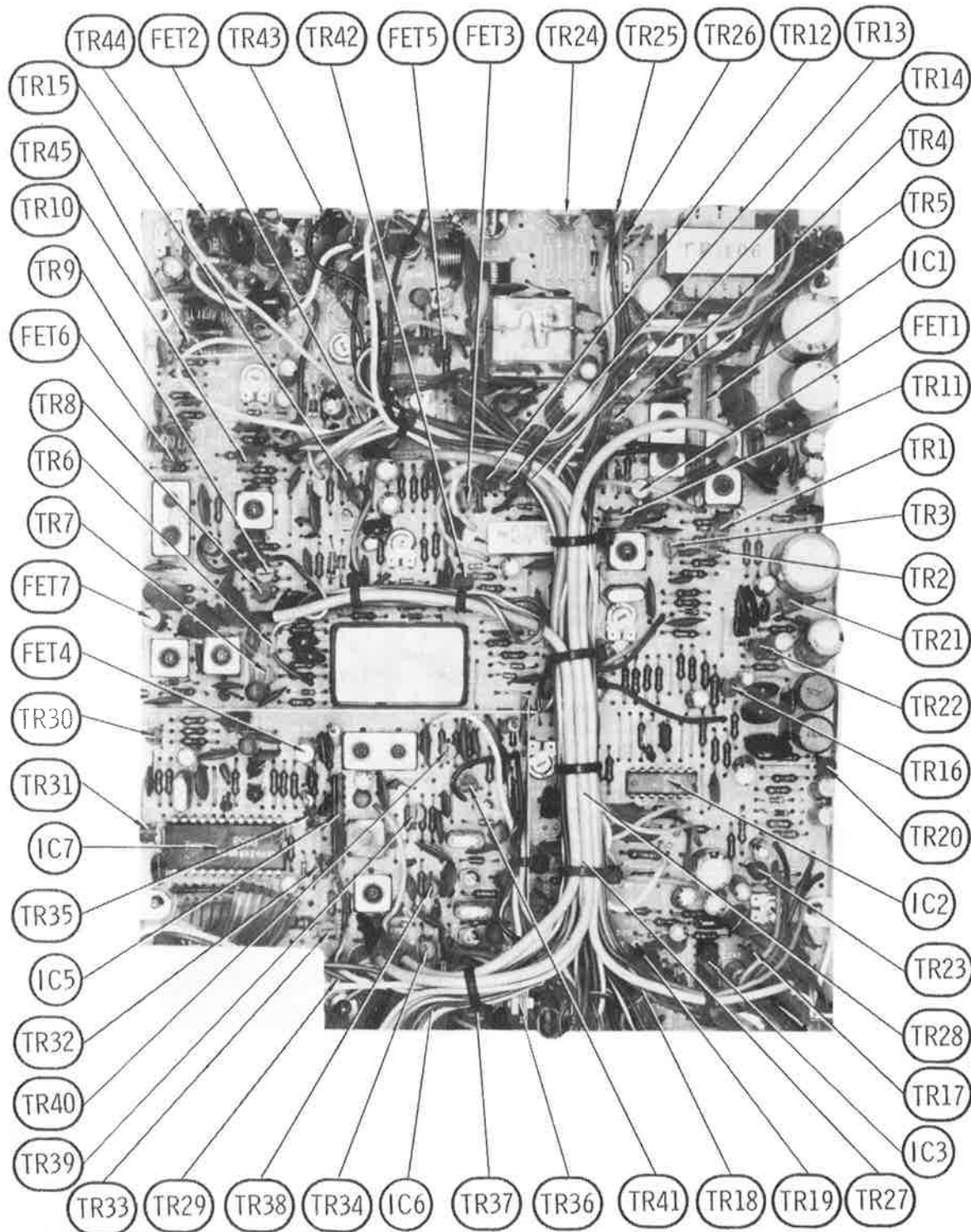
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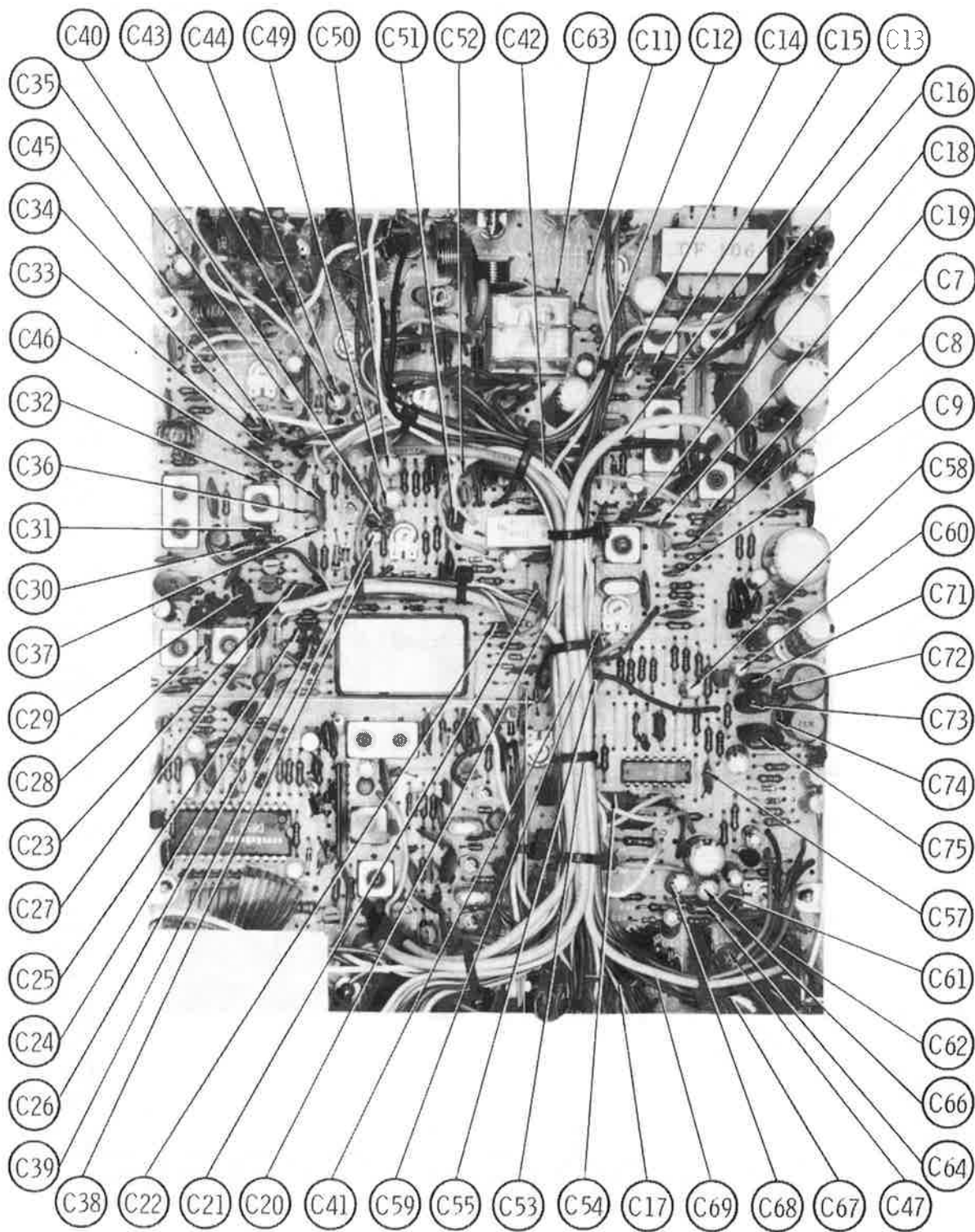
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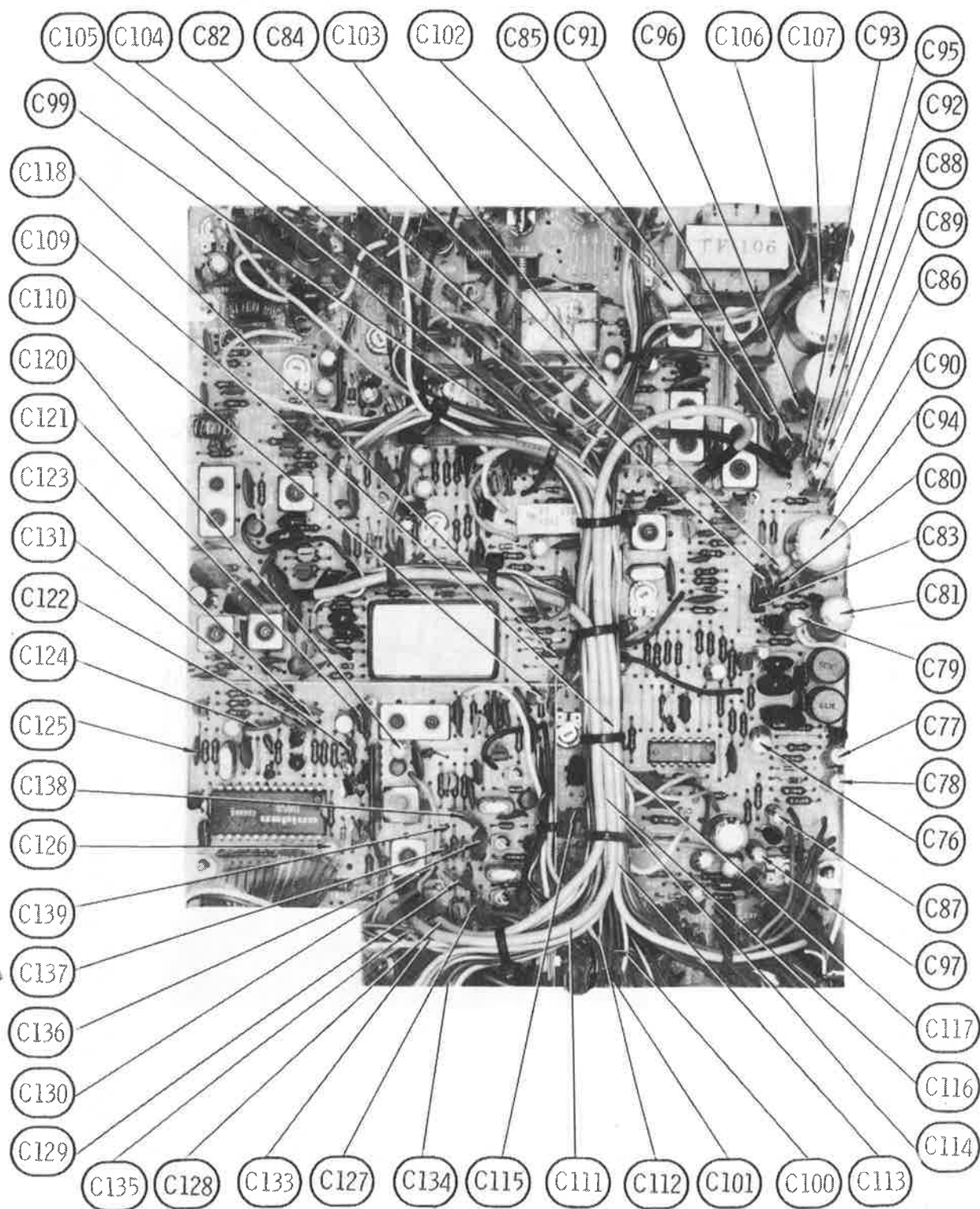
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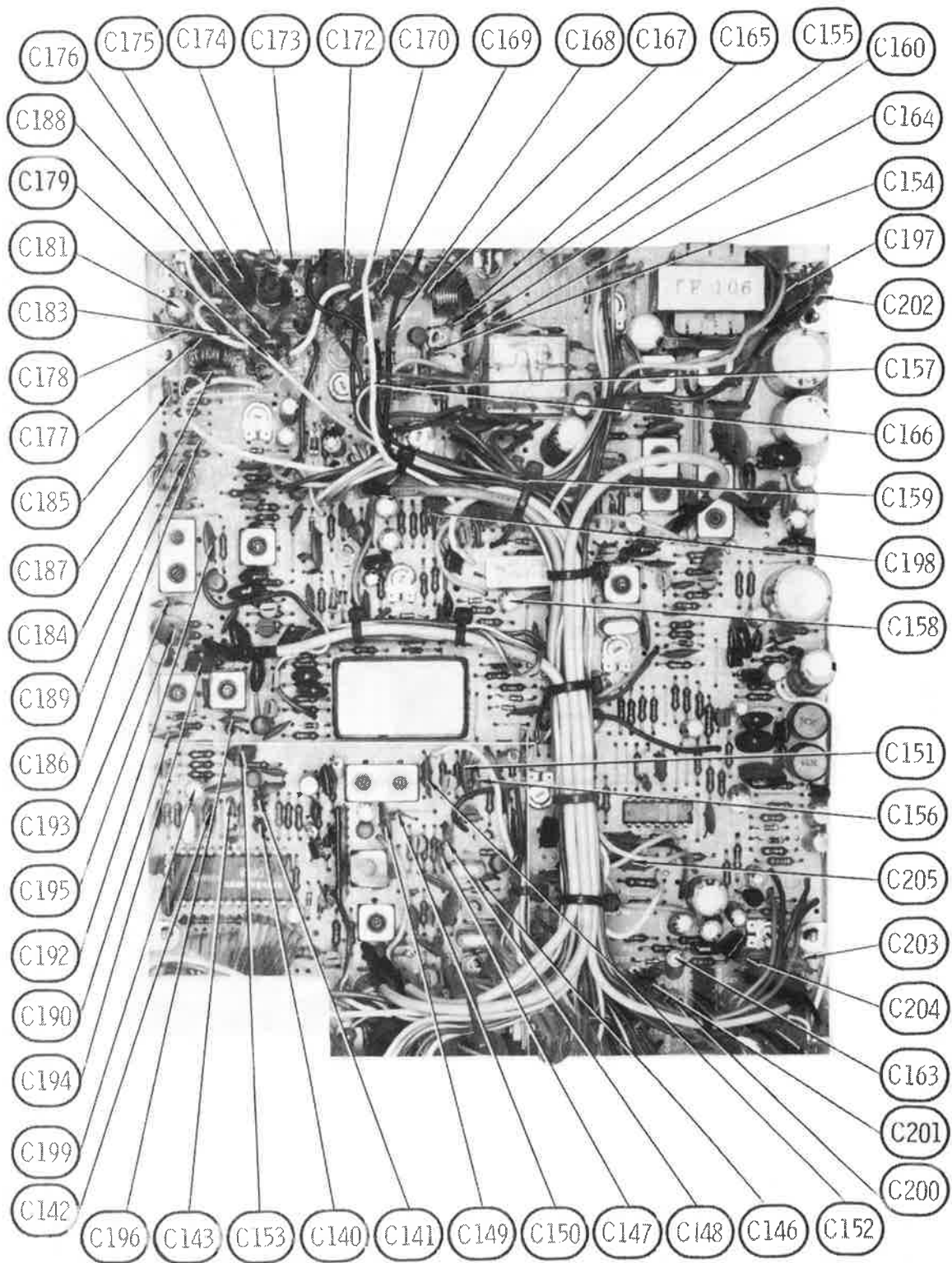
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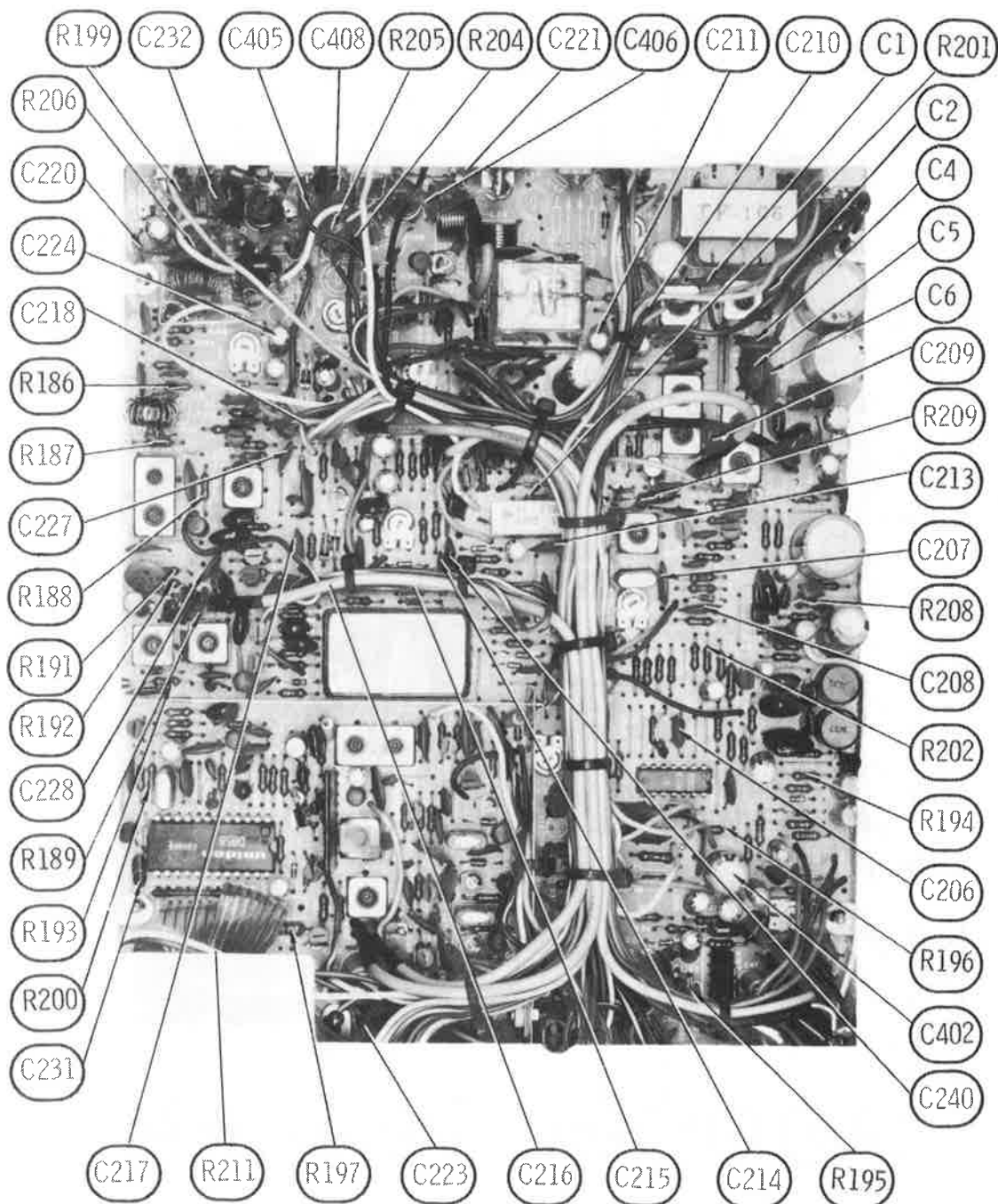
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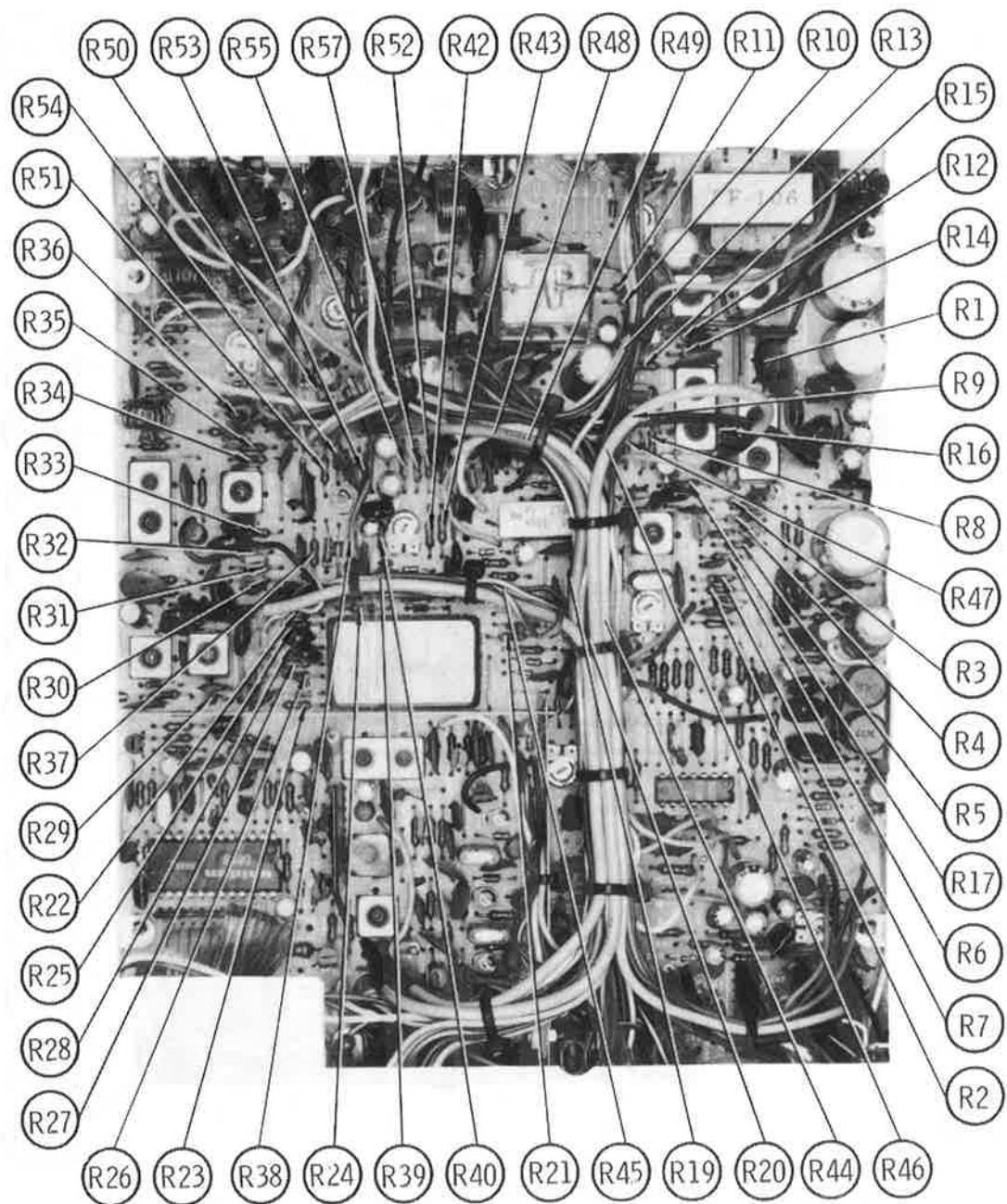
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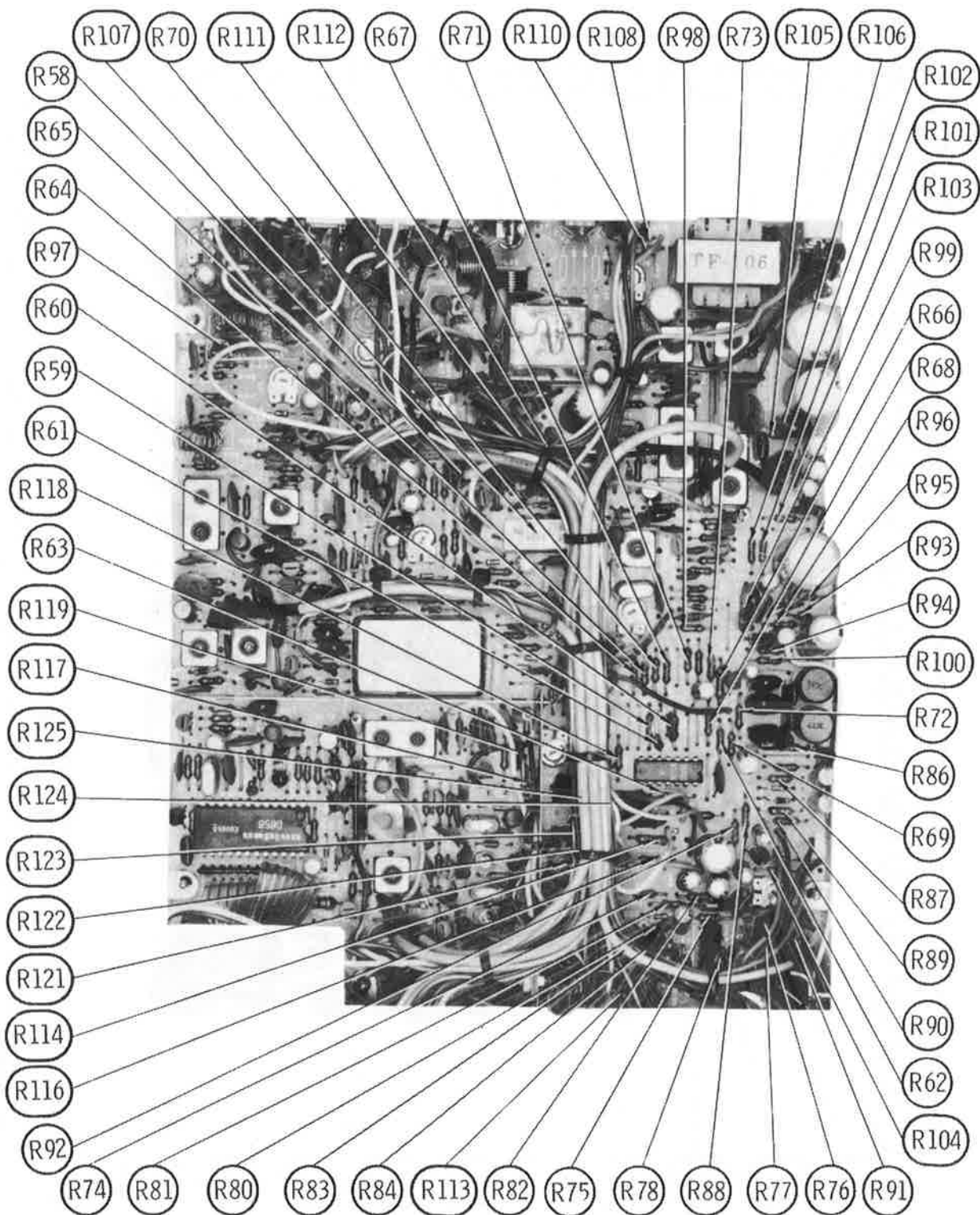
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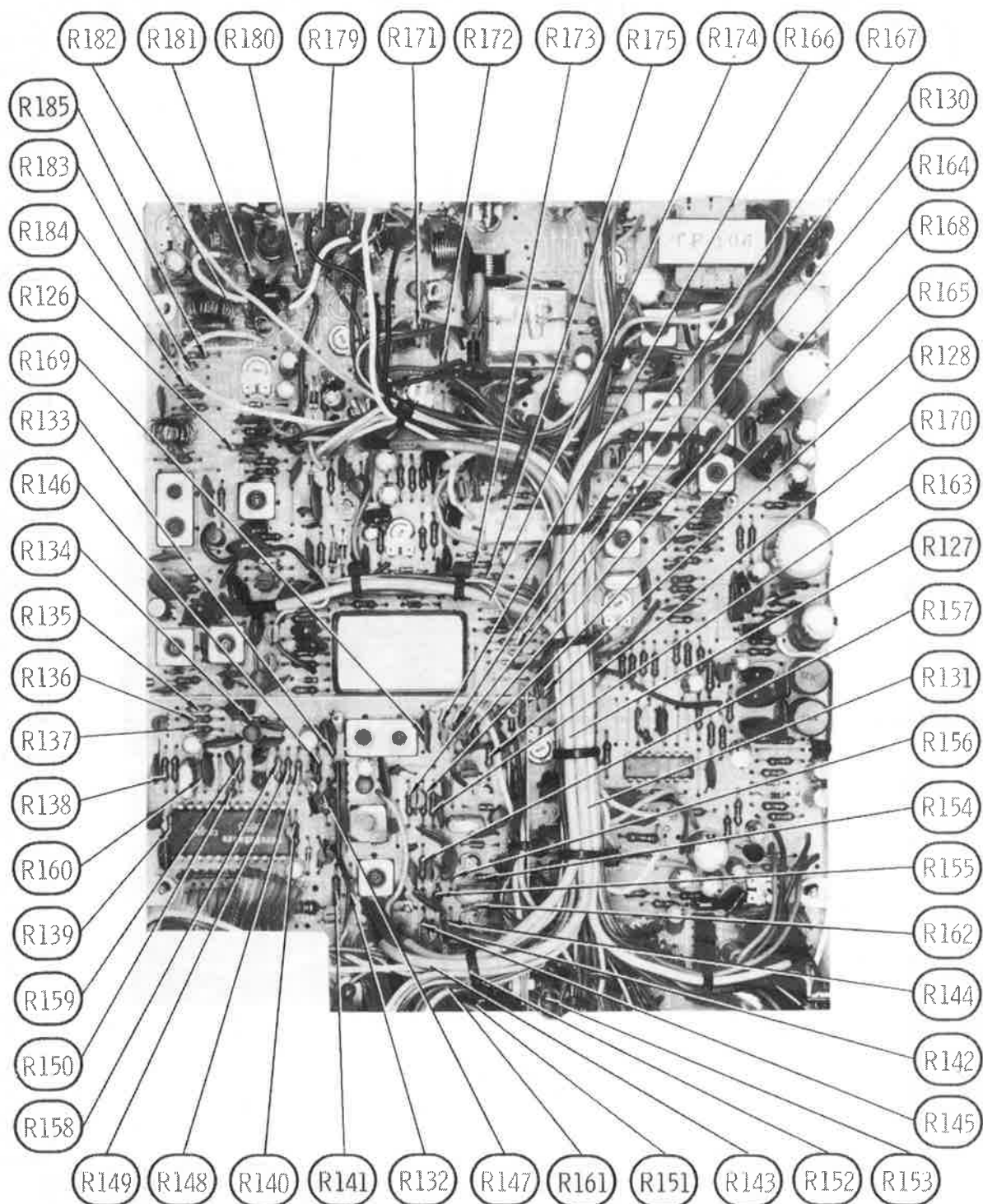
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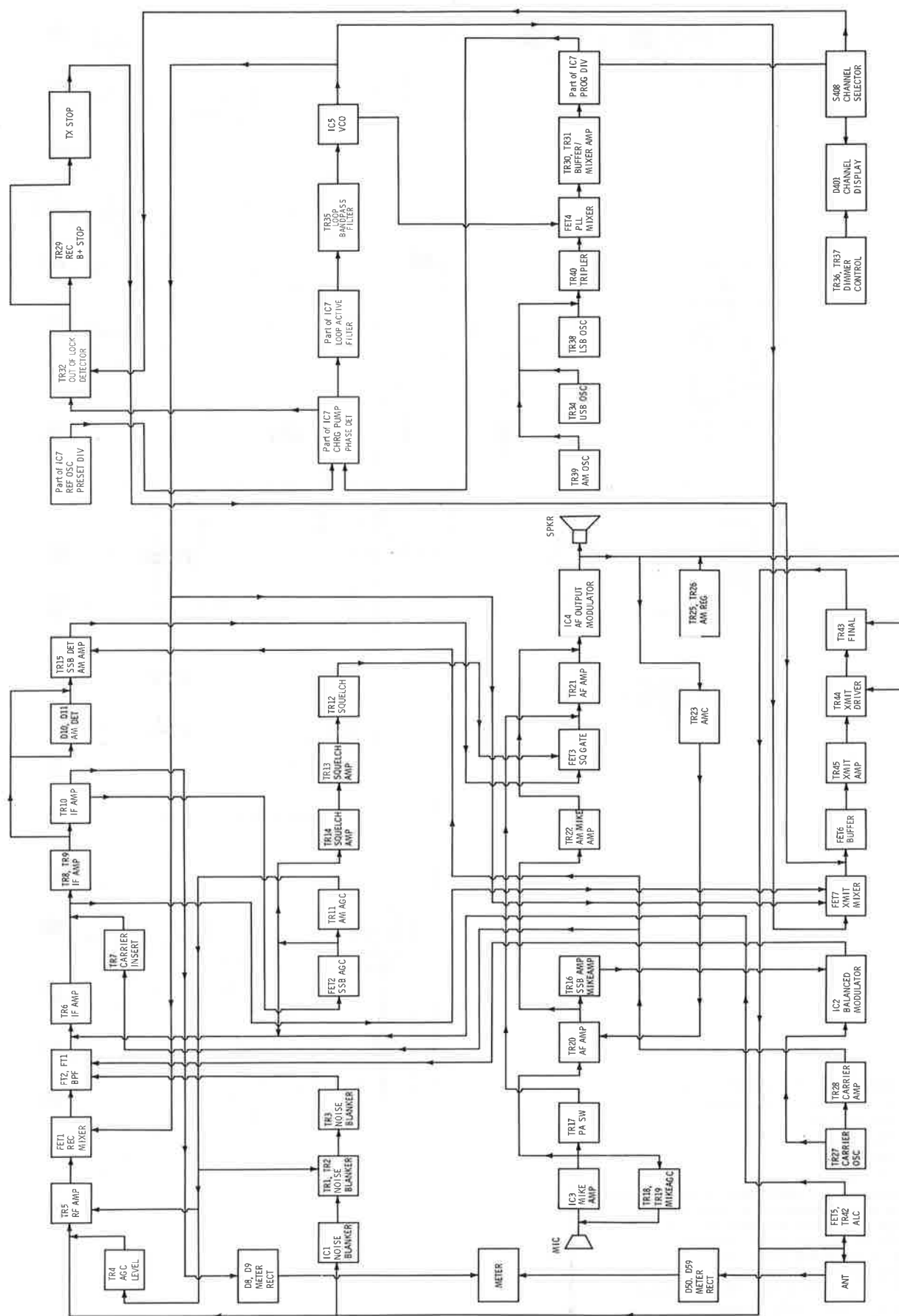
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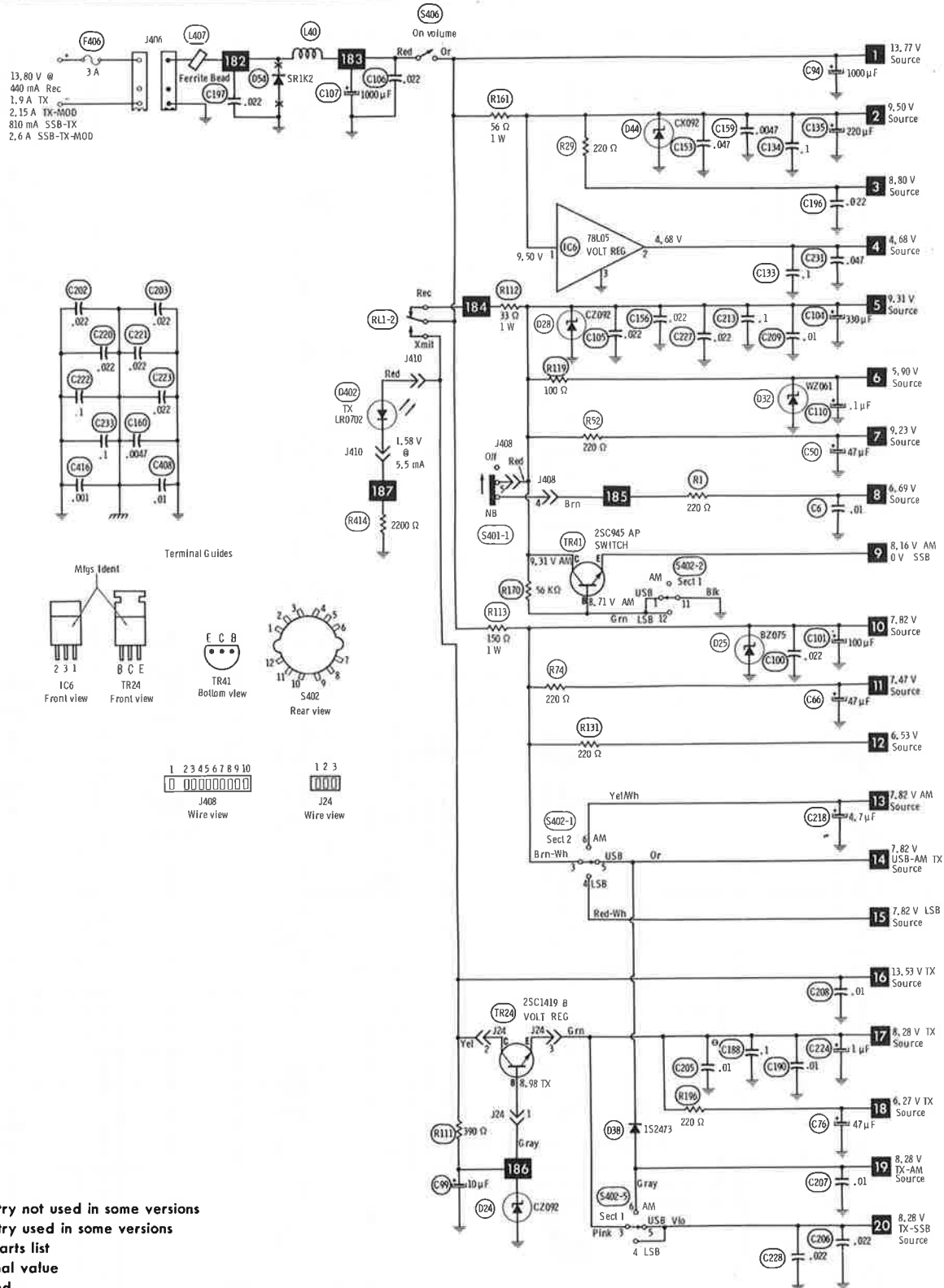


MAIN BOARD



MAIN BOARD





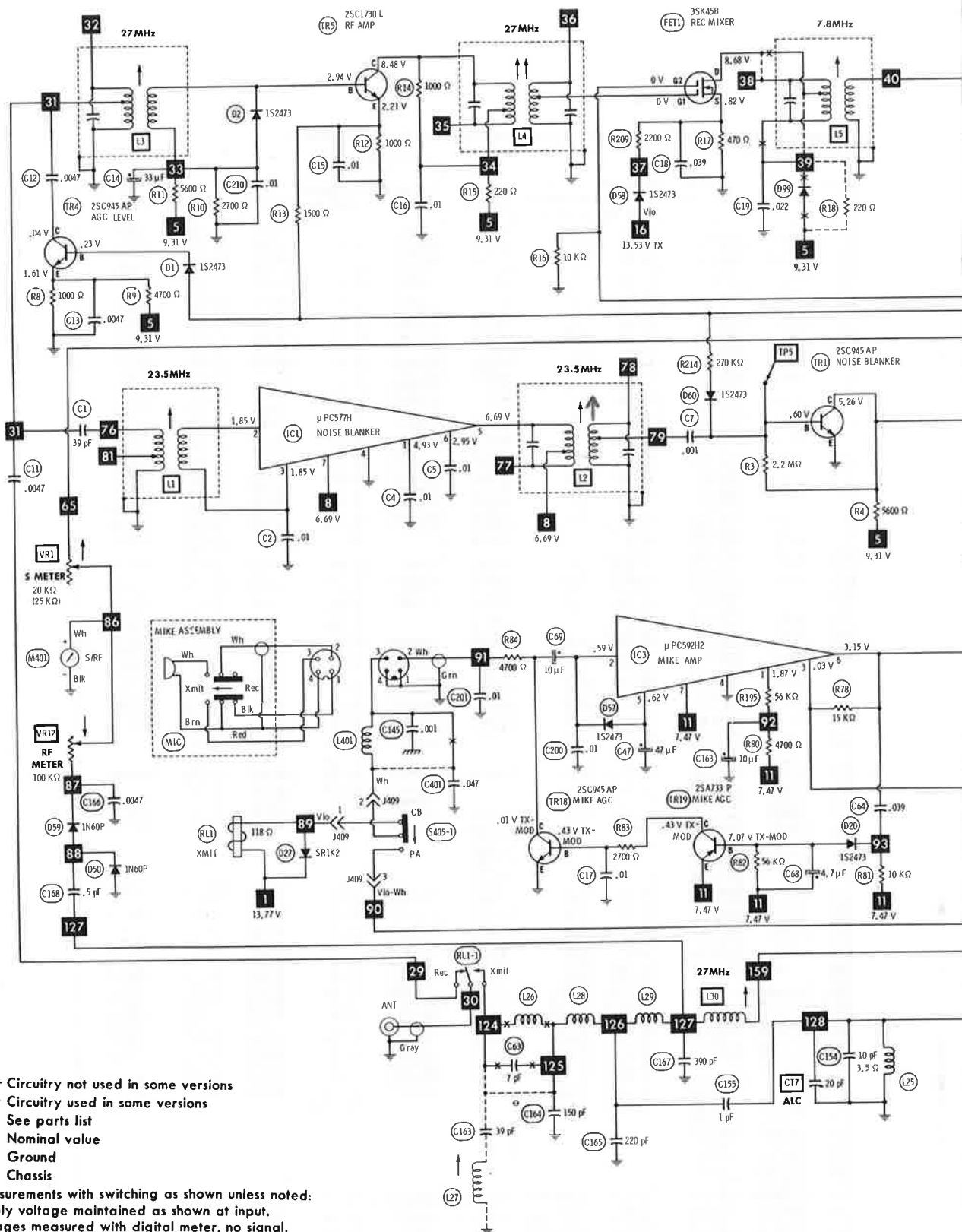
PARTS LIST AND DESCRIPTION

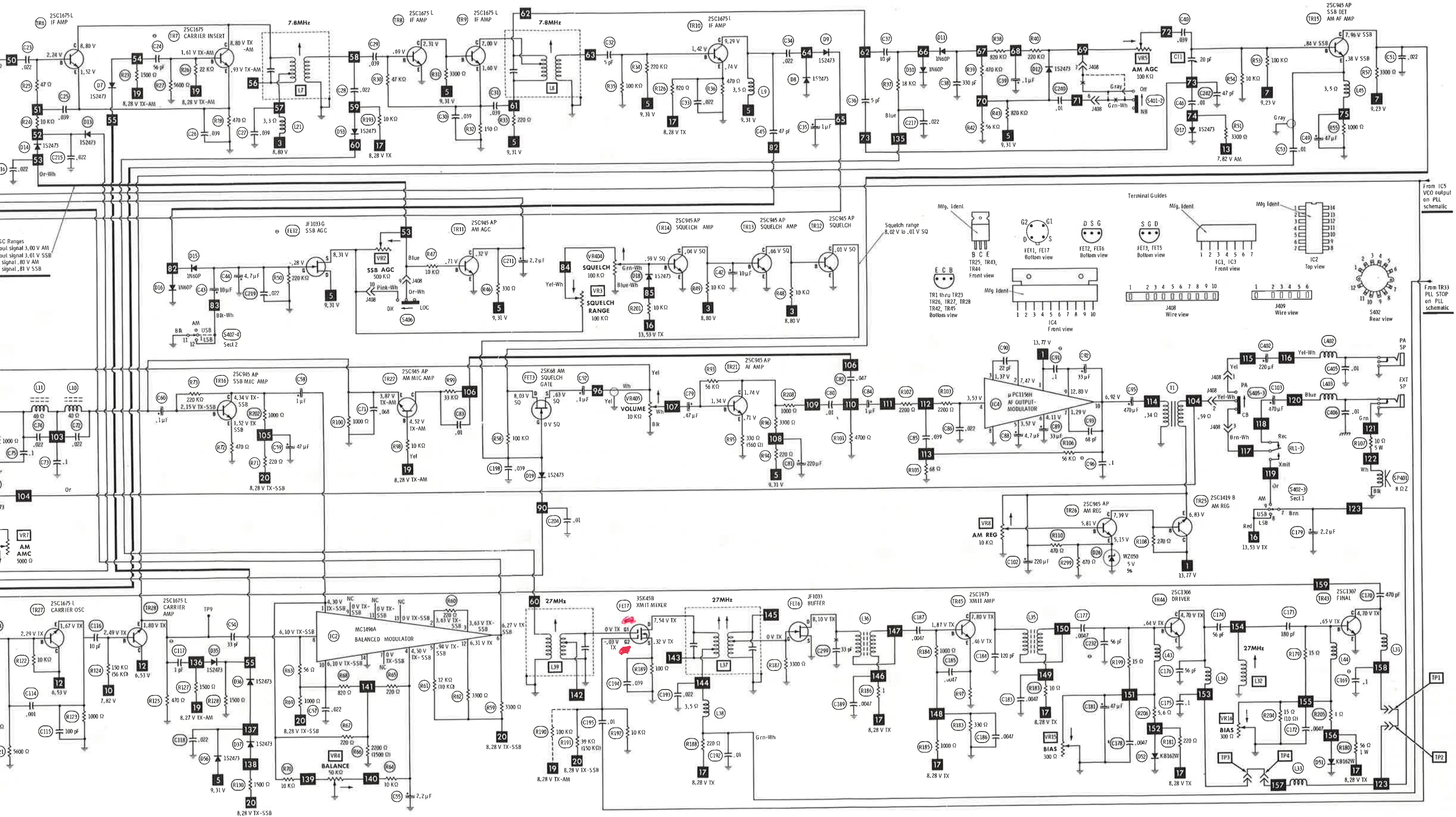
(When ordering parts, state Model, Part Number, and Description.)

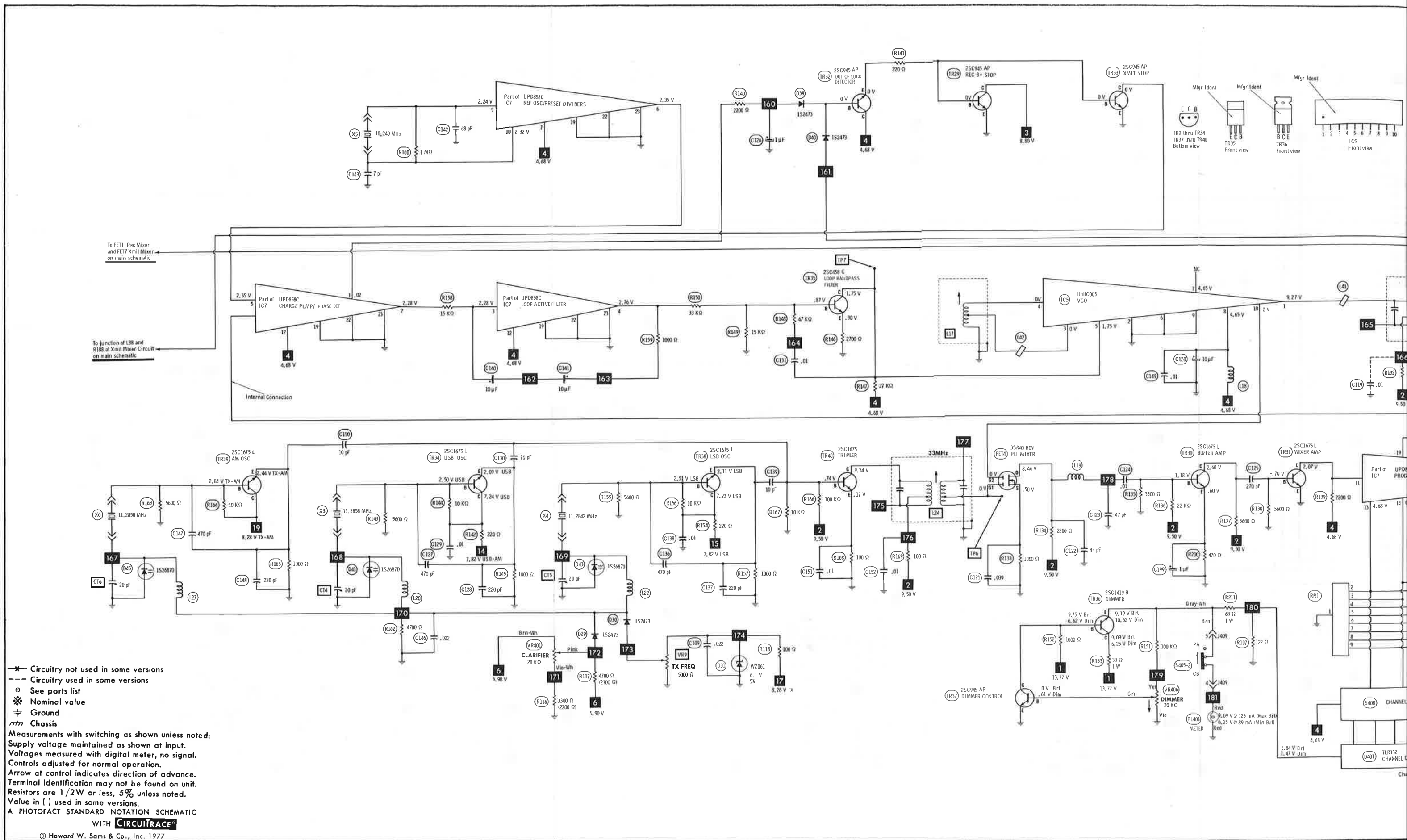
SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFG. PART No.	REPLACEMENT DATA							
			GENERAL ELECTRIC PART No.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
D1	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D2	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D3	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D4	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D5	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D6	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D7	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D8	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D9	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D10	1N60P	2000-318	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D11	1N60P	2000-318	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D12	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D13	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D14	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D15	1N60P	2000-318	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D16	1N60P	2000-318	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D17	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D18	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D19	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D20	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D21	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D22	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D23	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D24	CZ092	2000-305	GEZD-9.1	Z1209	ZB9.1A	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D25	BZ075	2000-325	GEZD-7.5		ZB7.5B		RE 111		RT-239	ECG138
D26	WZ050	2000-321	GEZD-5.1						RT-235	
D27	SR1K2	2000-320	GE-504A	5A4D	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116
D28	CZ092	2000-305	GEZD-9.1	Z1209	ZB9.1A	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D29	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D30	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D31	WZ061	2000-324	GEZD-6.2		ZB6.2B		RE 109		RT-237	ECG137
D32	WZ061	2000-322	GEZD-6.2		ZB6.2B		RE 109		RT-237	ECG137
D33	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D34	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D35	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D36	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D37	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D38	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D39	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D40	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D41	1S2687D	2000-323	GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	
D43	1S2687D	2000-323	GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	
D44	CZ092	2000-305	GEZD-9.1	Z1209	ZB9.1A	HEPZ0412	RE 114	SK3060	RT-240	ECG139
D45	1S2687D	2000-323	GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	
D46	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D47	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D50	1N60P	2000-318	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D51	KB162W	2000-318			PTC301					
D52	DF019(1)	2000-318			PTC301					
D53	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D54	SR1K2(1)	2000-320	GE-504A	5A4D	PTC201	HEPRO052	RE 49	SK3030	RT-213	ECG116
D56	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D57	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D58	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D59	1N60P	2000-318	1N60	1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109
D60	1S2473	2000-317	GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
D99			GE-300	D200	PTC214	HEPRO602	RE 52	SK3100	RT-218	ECG519
FET1	3SK45B	2000-102	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
FET2	JF1033G		GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312
FET3	JF1033(1)	2000-105	GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312
FET4	2SK68AM	2000-104	GE-FET-1	FE-100	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133
FET5	3SK45B09	2000-103	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
FET6	2SK68AM	2000-104	GE-FET-1	FE-100	PTC151	HEPF0010	RE 46	SK3112	RT-176	ECG133
FET7	JF1033G		GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312
FET8	JF1033(1)	2000-105	GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312
FET9	3SK45B	2000-102	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
IC1	MPC577H	2000-007	GEIC-140	WEP939			RE 341-M			ECG1082
IC2	MC1496A	2000-009								
IC3	UPC592H2	2000-006								
IC4	UPC1156H2	2000-005								
IC5	UH1C-005	2000-010								
IC6	UPC78L05	2000-008								ECG977
IC7	UPD858C	2000-001								
TR1	2SC945AP	2000-210	GE-212	(1R)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR2	2SA733P	2000-218	GE-65	TR-31	PTC103 *	HEPS5022 *	RE 26 *	SK3025 *	RT-303	ECG159 *
TR3	2SC945AP	2000-210	GE-212	(1R)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR4	2SC945AP	2000-210	GE-212	(1R)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR5	2SC1730L	2000-214	GE-17	TR-24	PTC136	HEPS0025	RE 9	SK3018	RT-107	ECG107
TR6	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *

PRESIDENT MODEL GRANT







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.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
TR7	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR8	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-307	ECG229 *
TR9	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR10	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR11	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR12	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR13	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR14	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR15	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR16	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR17	2SA733P	2000-218	GE-65	TR-31	PTC103 *	HEPS5022 *	RE 26 *	SK3025	RT-303	ECG159 *
TR18	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR19	2SA733P	2000-218	GE-65	TR-31	PTC103 *	HEPS5022 *	RE 26 *	SK3025	RT-303	ECG159 *
TR20	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR21	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR22	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR23	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR24	2SC1419B	2000-216(11)	GE-66	TR-76	PTC167	HEPS5027	RE 21	SK3054	RT-197	ECG152
TR25	2SC1419B	2000-216(11)	GE-66	TR-76	PTC167	HEPS5027	RE 21	SK3054	RT-197	ECG152
TR26	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR27	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR28	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR29	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR30	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR31	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR32	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR33	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR34	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR35	2SC458C	2000-203	GE-210 *	(IR)2SC458B	PTC121 *	HEPS0009 *	RE 13 *	SK3124	RT-187	ECG123A *
TR36	2SC1419B	2000-216(11)	GE-66	TR-76	PTC167	HEPS5027	RE 21	SK3054	RT-197	ECG152
TR37	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR38	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR39	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR40	2SC1675L	2000-213	GE-213	TR-33	PTC139 *	HEPS0025 *	RE 13 *	SK3124	RT-308	ECG229 *
TR41	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR42	2SC945AP	2000-210	GE-212	(IR)2SC945	PTC121 *	HEPS0015 *	RE 192	SK3124	RT-107A	ECG199
TR43	2SC1307	2000-212(12)	GE-216	WEP1307	PTC186		RE 201	SK3197	RT-158	ECG236
TR44	2SC1306	2000-211(13)	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
TR45	2SC1973	2000-215	GE-335	WEP922						ECG315

* Lead configuration may vary from original.

(1) Used in some versions.

(11) 20 WATTS @ 2.0A

(12) 25 WATTS @ 8.0A

(13) 12 WATTS @ 3.0A

PRESIDENT MODEL GRANT

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	1800-323	PC30-25	VTT33B10	QV1-61	EV-1125
C35	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C39	.1 16V	1800-501		TDC104M050EL	QDT1-2	S050-R109
C42	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C43	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C44	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C47	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C49	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C50	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C52	.1 16V	1800-501		TDC104M050EL	QDT1-2	S050-R109
C55	2.2 25V	1800-303	PC2-100	VTT2R2A50	QV1-19	EV-1517
C58	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C59	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C60	.1 16V	1800-501		TDC104M050EL	QDT1-2	S050-R109
C66	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C67	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C68	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C69	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C76	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C77	.47 50V	1800-301	PC1-50	VTT47A63	QV1-3	EV-1610
C78	.47 50V	1800-301	PC1-50	VTT47A63	QV1-3	EV-1610
C79	.47 50V	1800-301	PC1-50	VTT47A63	QV1-3	EV-1610
C81	220 16V	1800-314	PC250-25	VTT220H16	QV1-117	EV-1240
C84	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C87	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C88	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C89	33 16V	1800-307	PC30-25	VTT33D25	QV1-63	EV-1325
C92	33 16V	1800-307	PC30-25	VTT33D25	QV1-63	EV-1325
C94	1000 16V	1800-328	PC1000-16	VTT1000L16	QV1-183	EV-1260
C95	470 16V	1800-309	PC500-16	VTT470K16	QV1-151	EV-1250
C97	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C99	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C101	100 10V	1800-310	PC100-10	VTT100E10	QV1-93	EV-1130
C102	220 16V	1800-314	PC250-25	VTT220H16	QV1-117	EV-1240

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C103	470 10V	1800-327	PC500-16	VTT470K16	QV1-149	EV-1150
C104	330 10V	1800-326	WBR300-35	VTT330G10	QV1-131	EV-1145
C107	1000 16V	1800-328	PC1000-16	VTT1000L16	QV1-183	EV-1260
C111	.1 16V	1800-501		TDC104M050EL	QDT1-2	SD50-R109
C120	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C126	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C135	220 16V	1800-314	PC250-25	VTT220H16	QV1-117	EV-1240
C140	10 6.3	1800-602		TDC106M025FL	QDT1-64	SD25-109
C141	10 6.3	1800-602		TDC106M025FL	QDT1-64	SD25-109
C158	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C163	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C179	2.2 25V	1800-603		TDC225M035FL		SD35-2R29
C181	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C199	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C211	2.2 25V	1800-303	PC2-100	VTT2R2A50	QV1-19	EV-1517
C218	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C224	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C402	220 16V	1800-314	PC250-25	VTT220H16	QV1-117	EV-1240

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%	1800-063			CN0439		10TCC-Q39
C2	.01 10%	1800-078	UK50-103		MAG5011		
C4	.01 10%	1800-078	UK50-103		MAG5011		
C5	.01 10%	1800-078	UK50-103		MAG5011		
C6	.01 10%	1800-078	UK50-103		MAG5011		
C7	.001		DD-1026	GP1000	GP210	QC2-81	56A-D10
C8	100		DD-101	GP100	GP310		10TS-T10
C9	.0022 10%				GP222		10TS-D22
C10	.0047 10%		DD-472	GP4700	GP247		56A-D47
C11	.0047 10%		DD-472	GP4700	GP247		56A-D47
C12	.0047 10%		DD-472	GP4700	GP247		56A-D47
C13	.0047 10%		DD-472	GP4700	GP247		56A-D47
C15	.01 10%	1800-078	UK50-103		MAG5011		
C16	.01 10%	1800-078	UK50-103		MAG5011		
C17	.01 10% 50V			WMF1S1	EWFA1110	QF1-91	1PB-S10
C18	.039	1800-409			M192P3939R8		192P3939R8
C19	.022	1800-079	UK25-223				HY-725
C20	.022	1800-079	UK25-223				HY-725
C21	.022	1800-079	UK25-223				HY-725
C22	.022	1800-079	UK25-223				HY-725
C23	.022	1800-408			M192P2239R8		192P2239R8
C24	56 NPO 5%	1800-065			CN0456		10TCC-Q56
	.001	(1)					
C25	.039	1800-409			M192P3939R8		192P3939R8
C26	.039	1800-409			M192P3939R8		192P3939R8
C27	.039	1800-409			M192P3939R8		192P3939R8
C28	.022	1800-079	UK25-223				HY-725
C29	.039	1800-409			M192P3939R8		192P3939R8
C30	.039	1800-409			M192P3939R8		192P3939R8
C31	.039	1800-409			M192P3939R8		192P3939R8
C32	5 NPO		DTZ-4R7	NPO4P7	CN0547		10TCC-V47
C33	.022	1800-079	UK25-223				HY-725
C34	.022	1800-079	UK25-223				HY-725
C36	5 NPO		DTZ-4R7	NPO4P7	CN0547		10TCC-V47
C37	10 NPO		DTZ-10	NPO10	CN0410		10TCC-Q10
C38	330 N750 10%		DTN-330	N330	CN7333		10TCU-T33
C40	.039	1800-409			M192P3939R8		192P3939R8
C41	.022	1800-079	UK25-223				HY-725
C45	47 NPO 5%		DTZ-47	NPO47	CN0447		10TCC-Q47
C46	.01 10%	1800-078	UK50-103		MAG5011		
C51	.022	1800-408			M192P2239R8		192P2239R8
C53	.01 10%	1800-078	UK50-103		MAG5011		
C54	33 NPO 5%		DTZ-33	NPO33	CN0433		10TCC-Q33
C57	.022	1800-079	UK25-223				HY-725
C61	.047 10%			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C62	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C63	7 NPO		DTZ-6R8	NPO6P8	CN0568		10TCC-V68
C64	.039	1800-409			M192P3939R8		192P3939R8
C71	.068			WMF1S68	EWFA1A168	QF1-195	1PB-S68
C72	.022	1800-408			M192P2239R8		192P2239R8
C73	.1			WMF05P1	EWFO5010		431P1049R5
C74	.022	1800-408			M192P2239R8		192P2239R8
C75	.1 10%			WMF05P1	EWFO5010		431P1049R5
C80	.01 50V			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C82	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C83	.01 50V			WMF1S1	EWFA1A110	QF1-91	1PB-S10
C85	.039	1800-409			M192P3939R8		192P3939R8
C86	.022	1800-408			M192P2239R8		192P2239R8
C90	22 NPO 5%		DTZ-22	NPO22	CN0422		10TCC-Q22
C91	.1			WMF05P1	EWFO5010		431P1049R5
C93	68 NPO 5%		DTZ-68	NPO68	CN0468		10TCC-Q68
C96	.1			WMF05P1	EWFO5010		431P1049R5
C100	.022	1800-079	UK25-223				HY-725
C105	.022	1800-079	UK25-223				HY-725
C106	.022	1800-079	UK25-223				HY-725
C109	.022	1800-079	UK25-223				HY-725
C111	18 NPO 5%	1800-060			CN0418		10TCC-Q18
C112	18 NPO 5%	1800-060			CN0418		10TCC-Q18
C113	.001		DD-102G	GP1000	GP210	QC2-81	56A-D10
C114	.001		DD-102G	GP1000	GP210	QC2-81	56A-D10

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
C115	100 NPO 10%		DTZ-100	NP0100	CN0310		10TCC-T10
C116	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C117	1 NPO	1800-003			CN0510		10TCC-V10
	1.5	(1)					
C118	.022	1800-079	UK25-223				HY-725
C121	.039	1800-409			M192P3939R8		192P3939R8
C122	47 NPO 5%		DTZ-47	NP047	CN0447		10TCC-Q47
C123	47 NPO 5%		DTZ-47	NP047	CN0447		10TCC-Q47
C124	.01 10%	1800-078	UK50-103		MAG5011		
C125	270	1800-075	DTZ-270				10TCC-T27
C127	470		DD-471	GP470	GP347		10TS-T47
C128	220	1800-054	DTZ-220				10TCC-T22
C129	.01 10%	1800-078	UK50-103		MAG5011		
C130	10 NPO		DTZ-10	NP010	CN0410	QF1-91	10TCC-Q10
C131	.01 10% 50V			WMF1S1	EWFA1110		1PB-S10
C133	.1 10%			WMF05P1	EWFO5010		431P1049R5
C134	.1 10%			WMF05P1	EWFO5010		431P1049R5
C136	470			GP470	GP347		10TS-T47
C137	220	1800-054	DD-471				10TCC-T22
C138	.01 10%	1800-078	DTZ-220		MAG5011		
C139	10 NPO		UK50-103		CN0410		10TCC-Q10
C142	68 NPO 5%		DTZ-10	NP010	CN0468		10TCC-Q68
C143	7		DTZ-68	NP068	CN0568		10TCC-V68
C145	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C146	.022	1800-079	UK25-223				HY-725
C147	470		DD-471	GP470	GP347		10TS-T47
C148	220	1800-054	DTZ-220				10TCC-T22
C149	.01 10%	1800-078	UK50-103		MAG5011		
C150	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C151	.01 10%	1800-078	UK50-103		MAG5011		
C152	.01 10%	1800-078	UK50-103		MAG5011		
C153	.047			DPMS2S47	EWFA1A147	QF1-171	1PB-S47
C154	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C155	1 NPO	1800-003			CN0510		10TCC-V10
C156	.022	1800-079	UK25-223				HY-725
C157	.039	1800-409			M192P3939R8		192P3939R8
C159	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C160	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C164	150 NPO 10%		DTZ-150		CN0315		10TCC-T15
C165	220 NPO 10%	1800-070	DTZ-220				10TCC-T22
C166	.0047		DD-472	GP4700	GP247		5GA-D47
C167	390 N750	1800-072	DTN-390				10TCU-T39
C168	.5pF NPO	1800-022					
C169	.1			WMF05P1	EWFO5010		431P1049R5
	.047						
C170	470 N750 10%	1800-073	DTN-470				10TCU-T47
C172	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C173	180 NPO 10%	1800-069	DTZ-180				10TCC-T18
C174	56 NPO 5%	1800-065			CN0456		10TCC-Q56
C175	.1			WMF05P1	EWFO5010		431P1049R5
C176	56 NPO 5%	1800-065			CN0456		10TCC-Q56
C177	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C178	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C183	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C184	120 NPO 10%		DTZ-120		CN0312		10TCC-T12
C185	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C186	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C187	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C188	.1 10%			WMF05P1	EWFO5010		431P1049R5
C189	.0047 10%		DD-472	GP4700	GP247		5GA-D47
C190	.01 10%	1800-078	UK50-103		MAG5011		
C192	.01 10%	1800-078	UK50-103		MAG5011		
C193	.022	1800-079	UK25-223				HY-725
C194	.039	1800-409			M192P3939R8		192P3939R8
C195	.01 10%	1800-078	UK50-103		MAG5011		
C196	.022	1800-079	UK25-223				HY-725
C197	.022	1800-079	UK25-223				HY-725
C198	.039	1800-409			M192P3939R8		192P3939R8
C200	.01 10% 50V			WMF1S1	EWFA1110	QF1-91	1PB-S10
C201	.01 10% 50V			WMF1S1	EWFA1110		1PB-S10
C202	.022	1800-079	UK25-223				HY-725
C203	.022	1800-079	UK25-223				HY-725
C204	.01 10%	1800-078	UK50-103		MAG5011		
C205	.01 10%	1800-078	UK50-103		MAG5011		
C206	.022	1800-079	UK25-223				HY-725
C207	.01 10%	1800-078	UK50-103		MAG5011		
C208	.01 10%	1800-078	UK50-103		MAG5011		
C209	.01 10%	1800-078	UK50-103		MAG5011		
C210	.01 10% 50V			WMF1S1	EWFA1110	QF1-91	1PB-S10
C213	.1	1800-080	CK-104		MAG5001		
C214	.01 10%	1800-078	UK50-103		MAG5011		
C215	.022	1800-079	UK25-223				HY-725
C216	.022	1800-079	UK25-223				HY-725
C217	.022	1800-079	UK25-223				HY-725
C219	.022	1800-079	UK25-223				HY-725
C220	.022	1800-079	UK25-223				HY-725
C221	.022	1800-079	UK25-223				HY-725
C222	.1	1800-080	CK-104				
C223	.022	1800-079	UK25-223				HY-725
C227	.022	1800-079	UK25-223				HY-725
C228	.022	1800-079	UK25-223				HY-725

PRESIDENT MODEL GRANT

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
C231	.047 10%	1800-065	CK-104	DPHS2S47	EWF1A147 CN0456	QF1-171	1PB-S47 10TCC-Q56
C232	56 5% NPO 180						
C233	.1						
C240	.01 10% 50V	1800-080	DTZ-47 DD-472 DTZ-33	WMF1S1 NP047 GP4700 NP033 DPMS2S47	MAG5001 EWF1A110 CN0447 GP247 CN0433 EWF1A147 MAG5011 MAG5011 MAG5011 GP210	QF1-91	1PB-S10 10TCC-Q47 5GA-D47 10TCC-Q33 1PB-S47
C242	47 NPO 5%						
C243	.0047 10%						
C299	33 NPO 5%	1800-078	UK50-103 UK50-103 UK50-103 DD-102G	GP1000	MAG5011 MAG5011 MAG5011 GP210	QF1-171	1PB-S47
C401	.047						
C405	.01 10%						
C406	.01 10%	1800-078	DD-102G	GP1000	MAG5011 MAG5011 MAG5011 GP210	QC2-81	5GA-D10
C408	.01 10%	1800-078					
C416	.001	1800-103 (2)					
CC1	.01	1800-103 (2)	DD-102G	GP1000	MAG5011 MAG5011 MAG5011 GP210	QC2-81	5GA-D10
CC2	.01	1800-103 (2)					
CT1	20	1800-203					
CT2	20	1800-203	DD-102G	GP1000	MAG5011 MAG5011 MAG5011 GP210	QC2-81	5GA-D10
CT3	20	1800-203					
CT4	20	1800-203					
CT5	20	1800-203	DD-102G	GP1000	MAG5011 MAG5011 MAG5011 GP210	QC2-81	5GA-D10
CT6	20	1800-203					
CT7	20	1800-203					

(1) Used in some versions.

(2) Consists of four .01 capacitors.

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	S Meter	20K	1900-209 (6)				
VR2	S Meter	25K					
VR3	SSB AGC	500K					
VR4	Squelch Range	100K					
VR5	Balance	50K					
VR6	AM AGC	100K					
VR7	AMC	5000					
VR8	AM Reg	10K					
VR9	TX Freq.	5000					
VR12	RF Meter	100K					
VR15	Bias	300					
VR16	Bias	300					
VR401	Clarifier	20K					
VR404	Squelch	100K					
VR405	Volume/Switch	10K					
VR406	Dimmer	20K					
VR408	Mike Gain	20K					

(5) Number on unit.

(6) Alternate part, may be used in some versions.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
R107	10 5W	5W-SQ-10	1900-086	RR1	4700		1800-104 (1)

(1) Consists of seven 4700-ohm resistors.

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L401	RF CHOKE	2200-019	LD-046	} left out of P.F. * Left out of P.F. as they are info. to Part numbers, not Trade Name part numbers. We sent them to you for cross reference purpose only.	
L402	PF CHOKE	2200-019	LD-046		
L403	RF CHOKE	3200-019	LD-046		
* this whole section - L401 thru L403 was left out of the Parts List in CB-127-109 not just the Other Identification numbers!!					

FEB 20 1978

FEB 6 1978

CB-127-109

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PARTS LIST AND DESCRIPTION (CONTINUED)

(When ordering parts, state part number and description.)

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Noise Blanker Input (23.5MHz)	2200-001	LA-029	CB5740-T	
L2	Noise Blanker (23.5MHz)	2200-025	LA-155		
L3	Rec Antenna (27MHz)	2200-024	LA-152		
L4	Rec RF (27MHz)	2200-026	LA-156		
L5	Rec Mixer (7.8MHz)	2200-029	LA-179		
L6	Rec Mixer (7.8MHz)				
L7	Carrier Input (7.8MHz)	2200-022	LA-038	CB512-7TC	
L8	IF (7.8MHz)	2200-023	LA-096	CB511-7TC	
L9	RF Choke	2200-040			
L10	RF Choke	2200-041			
L11	PF Choke	2200-041			
L12	PF Choke	2200-040			
L13	PF Choke	2200-040			
L14	RF Choke	2200-040			
L16	VCO	2200-028	LA-160		
L17	VCO Adj.	2200-031	LA-191		
L18	RF Choke	2200-040			
L19	RF Choke	2200-202			
L20	RF Choke	2200-040			
L21	RF Choke	2200-040			
L22	RF Choke	2200-040			
L23	RF Choke	2200-040			
L24	Tripler IF (33MHz)	2200-030	LA-190		
L25	RF Choke	2200-040			
L26	RF Choke				
L27	TVI Trap	2200-032 (1)	LC-018	CB304	
L28	RF Choke	2200-038	LE-051		
L29	RF Choke	2200-038	LE-051	CB305	
L30	Ant Match (27MHz)	2200-034	LC-019		
L31	RF Choke	2200-036	LD-018	CB304	
L32	Driver (27MHz)	2200-032	LC-018		
L33	PF Choke	2200-036	LD-018		
L34	RF Choke	2200-036	LD-018		
L35	Xmit Amp	2200-037	LD-057		
L36	Buffer	2200-037	LD-057		
L37	Xmit Mixer (27MHz)	2200-027	LA-157		
L38	RF Choke	2200-040			
L39	Xmit Mixer Input (27MHz)	2200-022	LA-038	CB512-7TC	
L40	RF Choke	2200-035	LD-013		
L43	RF Choke	2200-039	LZ-001		
L44	RF Choke	2200-039	LZ-001		
L45	RF Choke	2200-040			

(1) Used in some versions.

L401 RF Choke 2200-018 LD-046
 L402 RF Choke 2200-018 LD-046
 L403 RF Choke 2200-018 LD-046

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T1	8	3.9	2200-003 TF-106 (1)			(1) Number on unit

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP401	3 5/8" PM 8 Ohms	3100-003	3A05Z8R	

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	2800-003		AGC3	HDJ	312003	150145	F63-2

PRESIDENT MODEL GRANT

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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
MIKE	3200-002	18-032	18-034	18-010	18-092	2	4	3	NC	NC	1

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL	ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
X1	7.8025	2100-004	CC150M7.8025	Carrier Osc	X4	11.2842	2100-006	CD170M11.2842	LSB Osc
X2	7.7975	2100-005	CC150M7.7975	Carrier Osc	X5	10.2400	2100-009		Ref Osc
X3	11.2858	2100-008	CD170M11.2858	USB Osc	X6	11.2850	2100-007	CD170M11.2850	AM Osc

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
D401	Led	2000-306	Channel Display
D402	Led	2000-307	TX Indicator
FT1	Filter	2100-001	7.8MHz
FT2	Filter	2100-001	7.8MHz
L41	Ferrite Bead	2200-103	
L42	Ferrite Bead	2200-103	
L407	Ferrite Bead	2200-101	
M401	Meter	2900-001	S/Rf
RL1	Relay	2400-001	Transmit
S401	Switch	3000-003	Off/NB
S402	Switch	3000-103	AM/USB/SSB
S405	Switch	3000-003	PA/CB
S406	Switch	3000-003	DX/Local
S408	Switch	3000-104	Channel Select
	Printed Circuit Board	3500-007	Main
	Printed Circuit Board	3500-008	Switch
	Printed Circuit Board	3500-009	Channel Switch (Flexible)

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

ITEM	PART No.	ITEM	PART No.
Cabinet, Upper	3300-105	Knob, Control	1300-002
Cabinet, Lower	3300-106	Knob, USB	1300-004
Panel, Front	3300-508	Push Button, Control	1300-003
Knob, Channel Selector	1300-001		

WIRING DATA

General-use Hook-up Wire	Use BELDEN No. 8530 (Solid) Available in 13 Colors
	8524 (Stranded) Available in 13 Colors
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