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 1010002, MADISON

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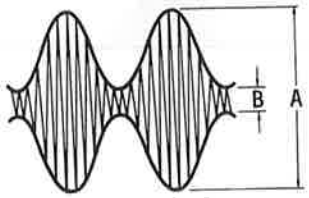
ALIGNMENT INSTRUCTIONS

Adjust RT301 for 13.8 volts DC at TP12.
Connect low sides of test equipment to ground unless specified otherwise.
Connect 50-ohm dummy load or antenna before keying transmitter.
Connect microphone.

Suggested Alignment Tools:	GC ELECTRONICS:
L1, L2 L4 thru L10, L12, L14, L19 thru L23, L30, L31, L45 thru L48	9440
L3, L13, L15	5000, 5009 8276, 8728, 8728A
L36, L38	5009, 8728, 8728A
CT1, CT2	5000, 8276



Modulation Ratio = $\frac{A - B}{A + B}$ x 100 (%)

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP13 (IC1 Pin 8).	Ch. 19		Check for 10.240MHz.
Input of oscilloscope to TP10.	Ch. 19, AM	L21	Adjust for maximum RF.
Input of DC meter to TP9.	Ch. 40, AM	L19	Adjust for 5.00 volts. Check for approximately 3.40 volts on Channel 1.
Input of oscilloscope to TP1.	Ch. 19, AM	L20	Adjust for maximum RF.
Input of frequency counter to TP1.	Ch. 1, AM	L23	Adjust for 34.7650MHz ±20Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP1.	Ch. 1, USB	CT1	Adjust for 34.7665MHz ±20Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP1.	Ch. 1, LSB	L22	Adjust for 34.7635MHz ±20Hz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP10	Ch. 1, AM		Check for .790MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to TP15 (FET1 gate 1).	Ch. 19, AM		Check for 7.3450MHz.
Input of frequency counter to TP3.	Ch. 19, USB	CT2	Adjust for 7.8015MHz +5Hz, -0Hz.
Input of frequency counter to TP3.	Ch. 19, LSB	L30	Adjust for 7.7985MHz +0Hz, -5Hz.
Input of frequency counter to TP14 (IC3 Pin 3).	Ch. 19, AM XMT	L31	Disconnect TP7 and TP8. Adjust for 7.8000MHz ±5Hz.
Input of frequency counter to antenna input.	Ch. 19, AM XMT	VR5	Adjust for 27.185MHz.

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. Preset controls as follows, unless otherwise noted: RF Gain Maximum, Clarifier Midrange, Squelch MINIMUM, NB/ANL Off, Ch. 9 Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP16 (TR15 Emitter). 7.8MHz, no modulation.	Ch. 19, USB	L14,L12,L10, L9,L8,L7	Adjust for maximum output.
Output of signal generator thru .01uF to TP15 (FET1 gate 1). 455kHz,1000Hz @ 30% modulation.	Ch. 19, AM	L15,L13,L3	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation.	Ch. 19, AM	L6,L5,L4	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation. Input of oscilloscope to TP17 (D2 Cathode).	Ch. 19, AM	L1,L2	Set generator for 10db signal to noise plus noise ratio of receiver. Inject a 100pps, 1uSec, pu pulse width signal at antenna input. Switch Noise Blanker to On and adjust for maximum pulse amplitude.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication. Preset controls as follows, unless otherwise noted: RF Gain Maximum, Clarifier Midrange, Squelch MINIMUM, NB/ANL Off, Ch. 9 Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation. Output 1000uV.	Ch. 19, AM Squelch Maximum	VR3	SQUELCH RANGE Adjust so that squelch just breaks.
Output of signal generator thru .01uF to antenna input. 27.185MHz,1000Hz @ 30% modulation. Output 100uV.	Ch. 19, AM	VR1	AM SIGNAL METER Adjust for 9 on Signal scale of meter.
Output of signal generator thru .01uF to antenna jack. 27.186MHz, no modulation. Output 100uV.	Ch. 19, USB	VR2	SSB SIGNAL METER Adjust for 9 on Signal scale of meter.

TRANSMITTER ALIGNMENT

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

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input.	Ch. 19, AM	L47,L48,L46, L45,L38	Adjust for maximum RF output.
Input of spectrum analyzer or harmonic meter to antenna input.	Ch. 19, AM	L36	Adjust for MINIMUM at 54MHz (2nd harmonic).

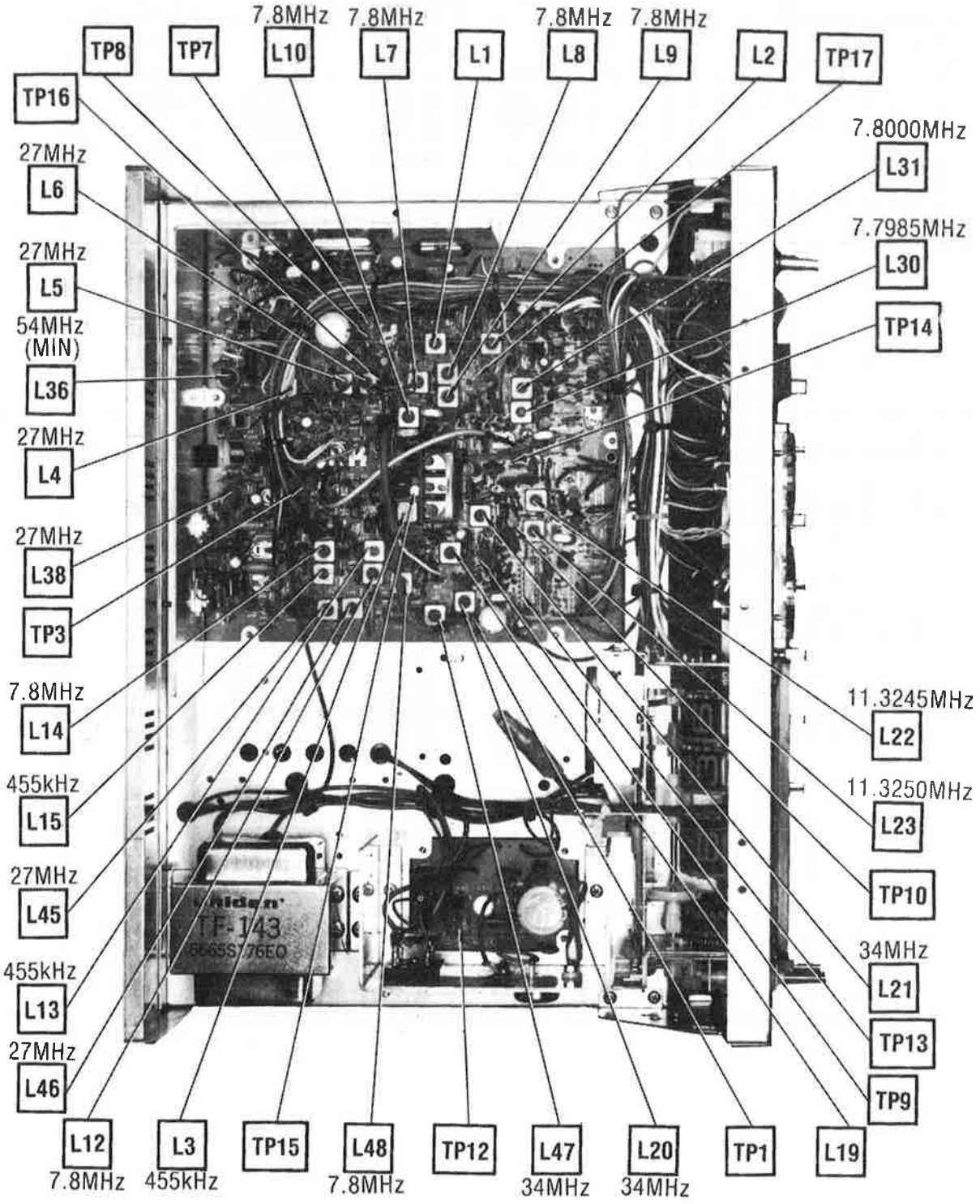
TRANSMITTER ADJUSTMENTS

Connect a 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.

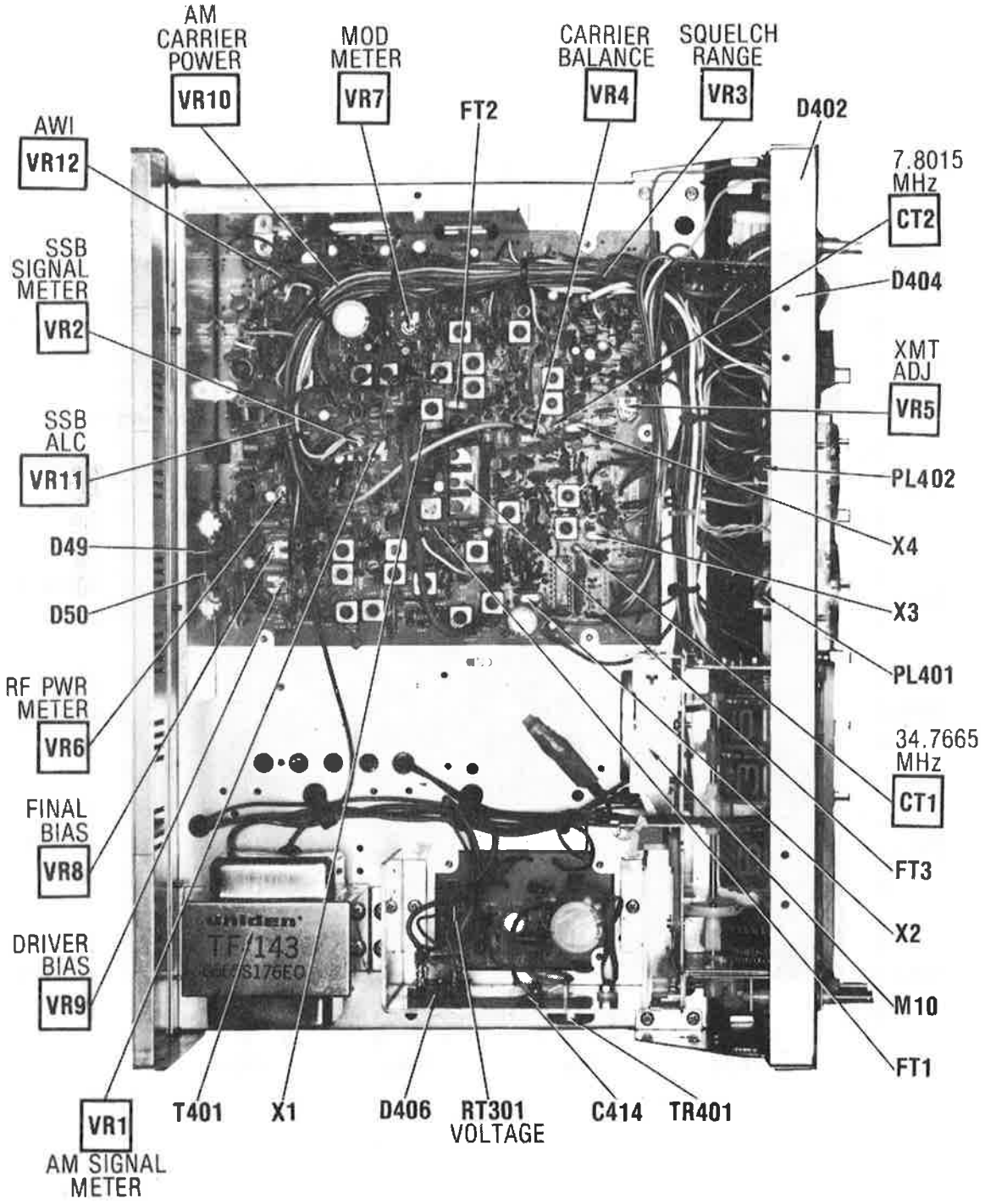
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input. No modulation.	Ch. 19, USB Mike Gain MINIMUM	VR4	CARRIER BALANCE Adjust for MINIMUM RF output.
Input of RF wattmeter to antenna input. Insert a 0-500mA DC meter at TP8. No modulation.	Ch. 19, USB Mike Gain MINIMUM	VR9	DRIVER BIAS Adjust for 25mA.
Input of RF wattmeter to antenna input. Insert a 0-500mA DC meter at TP7. No modulation.	Ch. 19, USB Mike Gain MINIMUM	VR8	FINAL BIAS Adjust for 50mA.
Input of RF wattmeter to antenna input. Inject a two tone, 500mV signal at Mic input.	Ch. 19 USB Mike Gain Maximum	VR11	SSB ALC Adjust for 11.0 watts PEP RF output maximum.
Input of RF wattmeter to antenna input.	Ch. 19, AM Mike Gain MINIMUM	VR10	AM CARRIER POWER Adjust for 4.0 watts RF output maximum.
Input of RF wattmeter to antenna input.	Ch. 19, AM	VR6	RF PWR METER Adjust so that RF PWR Meter agrees with RF wattmeter.
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz signal at Mic input with enough output to produce 100% modulation. See Figure 1.	Ch. 19, AM Mike Gain Maximum SWR-RF/MOD MOD	VR7	MOD METER Adjust for 100% on MOD scale of meter.
Connect a 150 ohm non-inductive resistor to antenna input.	Ch. 19, AM	VR12	AWI Adjust so that AWI indicator just comes on.

TRUTH CHART

CHANNEL	1 = 8.00 Volts 0 = 0 to .50 Volts PROGRAM DIVIDER IC1 PINS 10	11	12	13	14	15	16	AM REC SYNTH OUTPUT IN MHz AT @ TP1	USB REC SYNTH OUTPUT IN MHz AT @ TP1	LSB REC SYNTH OUTPUT IN MHz AT @ TP1	DIVIDER INPUT IN MHz AT TP10
1	1	0	0	1	1	1	1	34.7650	34.7665	34.7635	.790
2	1	0	1	0	0	0	0	34.7750	34.7765	34.7735	.800
3	1	0	1	0	0	0	1	34.7850	34.7865	34.7835	.810
4	1	0	1	0	0	1	1	34.8050	34.8065	34.8035	.830
5	1	0	1	0	1	0	0	34.8150	34.8165	34.8135	.840
6	1	0	1	0	1	0	1	34.8250	34.8265	34.8235	.850
7	1	0	1	0	1	1	0	34.8350	34.8365	34.8335	.860
8	1	0	1	1	0	0	0	34.8550	34.8565	34.8535	.880
9	1	0	1	1	0	0	1	34.8650	34.8665	34.8635	.890
10	1	0	1	1	0	1	0	34.8750	34.8765	34.8735	.900
11	1	0	1	1	0	1	1	34.8850	34.8865	34.8835	.910
12	1	0	1	1	1	0	1	34.9050	34.9065	34.9035	.930
13	1	0	1	1	1	1	0	34.9150	34.9165	34.9135	.940
14	1	0	1	1	1	1	1	34.9250	34.9265	34.9235	.950
15	1	1	0	0	0	0	0	34.9350	34.9365	34.9335	.960
16	1	1	0	0	0	1	0	34.9550	34.9565	34.9535	.980
17	1	1	0	0	0	1	1	34.9650	34.9665	34.9635	.990
18	1	1	0	0	1	0	0	34.9750	34.9765	34.9735	1.000
19	1	1	0	0	1	0	1	34.9850	34.9865	34.9835	1.010
20	1	1	0	0	1	1	1	35.0050	35.0065	35.0035	1.030
21	1	1	0	1	0	0	0	35.0150	35.0165	35.0135	1.040
22	1	1	0	1	0	0	1	35.0250	35.0265	35.0235	1.050
23	1	1	0	1	1	0	0	35.0550	35.0565	35.0535	1.080
24	1	1	0	1	0	1	0	35.0350	35.0365	35.0335	1.060
25	1	1	0	1	0	1	1	35.0450	35.0465	35.0435	1.070
26	1	1	0	1	1	0	1	35.0650	35.0665	35.0635	1.090
27	1	1	0	1	1	1	0	35.0750	35.0765	35.0735	1.100
28	1	1	0	1	1	1	1	35.0850	35.0865	35.0835	1.110
29	1	1	1	0	0	0	0	35.0950	35.0965	35.0935	1.120
30	1	1	1	0	0	0	1	35.1050	35.1065	35.1035	1.130
31	1	1	1	0	0	1	0	35.1150	35.1165	35.1135	1.140
32	1	1	1	0	0	1	1	35.1250	35.1265	35.1235	1.150
33	1	1	1	0	1	0	0	35.1350	35.1365	35.1335	1.160
34	1	1	1	0	1	0	1	35.1450	35.1465	35.1435	1.170
35	1	1	1	0	1	1	0	35.1550	35.1565	35.1535	1.180
36	1	1	1	0	1	1	1	35.1650	35.1665	35.1635	1.190
37	1	1	1	1	0	0	0	35.1750	35.1765	35.1735	1.200
38	1	1	1	1	0	0	1	35.1850	35.1865	35.1835	1.210
39	1	1	1	1	0	1	0	35.1950	35.1965	35.1935	1.220
40	1	1	1	1	0	1	1	35.2050	35.2065	35.2035	1.230


TP8
TP7
7.8MHz
L10
7.8MHz
L7
L1
7.8MHz
L8
7.8MHz
L9
L2
TP17
TP16
27MHz
L6
7.8000MHz
L31
27MHz
L5
7.7985MHz
L30
54MHz
(MIN)
L36
TP14
27MHz
L4
27MHz
L38
TP3
7.8MHz
L14
11.3245MHz
L22
455kHz
L15
11.3250MHz
L23
27MHz
L45
TP10
34MHz
L21
455kHz
L13
TP13
27MHz
L46
TP9
L12
7.8MHz
L3
455kHz
TP15
L48
7.8MHz
TP12
L47
34MHz
L20
34MHz
TP1
L19

CHASSIS-TOP


AM CARRIER POWER
VR10
MOD METER
VR7
FT2
CARRIER BALANCE
VR4
SQUELCH RANGE
VR3
D402
AWI
VR12
7.8015 MHz
CT2
SSB SIGNAL METER
VR2
D404
XMT ADJ
VR5
SSB ALC
VR11
PL402
D49
X4
D50
X3
PL401
RF PWR METER
VR6
34.7665 MHz
CT1
FINAL BIAS
VR8
FT3
X2
DRIVER BIAS
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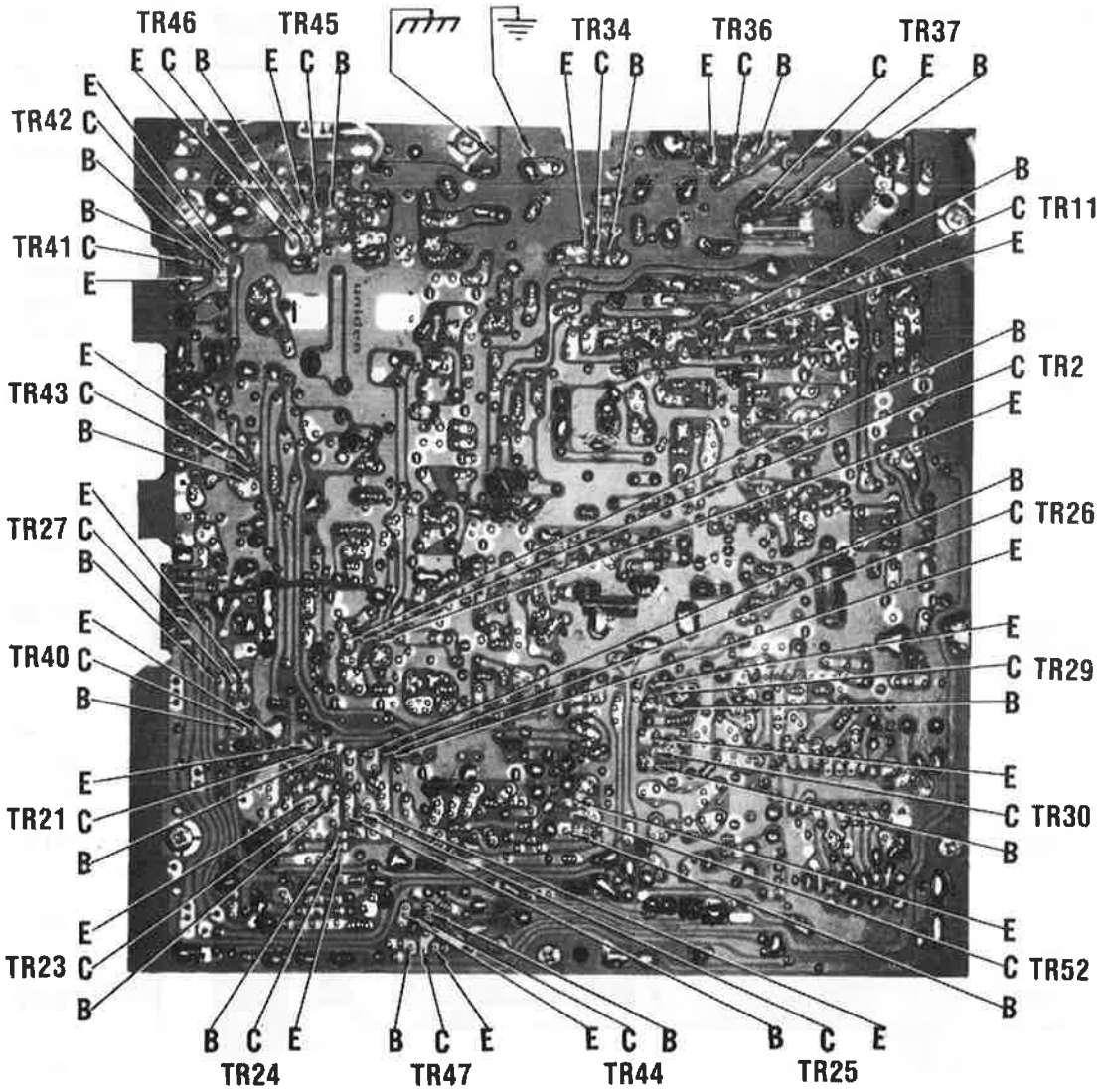
X1
D406
RT301 VOLTAGE
C414
TR401

CHASSIS-TOP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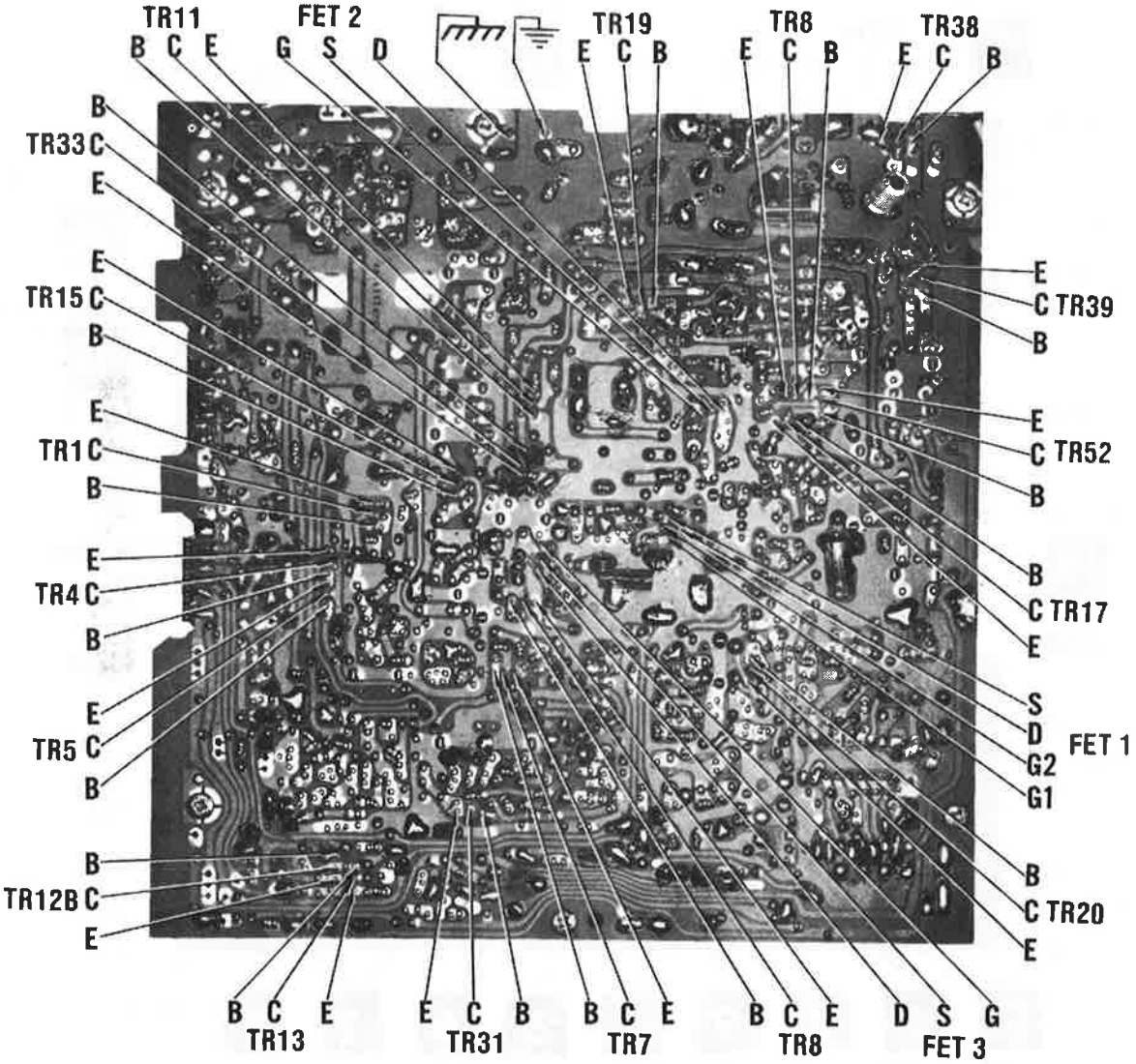
E C B
TR45
E C B
TR34
E C B
TR36
E C B
TR37
C E B
TR42 E C B
TR41 B C E
TR43 E C B
TR27 E C B
TR40 E C B
TR21 E C B
TR23 E C B
B C TR11 E
B C TR2 E
B C TR26 E
E C TR29 B
E C TR30 B
E C TR52 B
B C E
TR24
B C E
TR47
E C B
TR44
B C E
TR25

MAIN BOARD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B C E
FET 2
G S D
TR19
E C B
TR8
E C B
TR38
E C B
B
TR33 C
E
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TR15 C
B
E
TR1 C
B
E
TR4 C
B
E
TR5 C
B
B
TR12B C
E
E
C TR39
B
E
C TR52
B
B
C TR17
E
S
D
G2
G1
FET 1
B
C TR20
E
B C E
TR13
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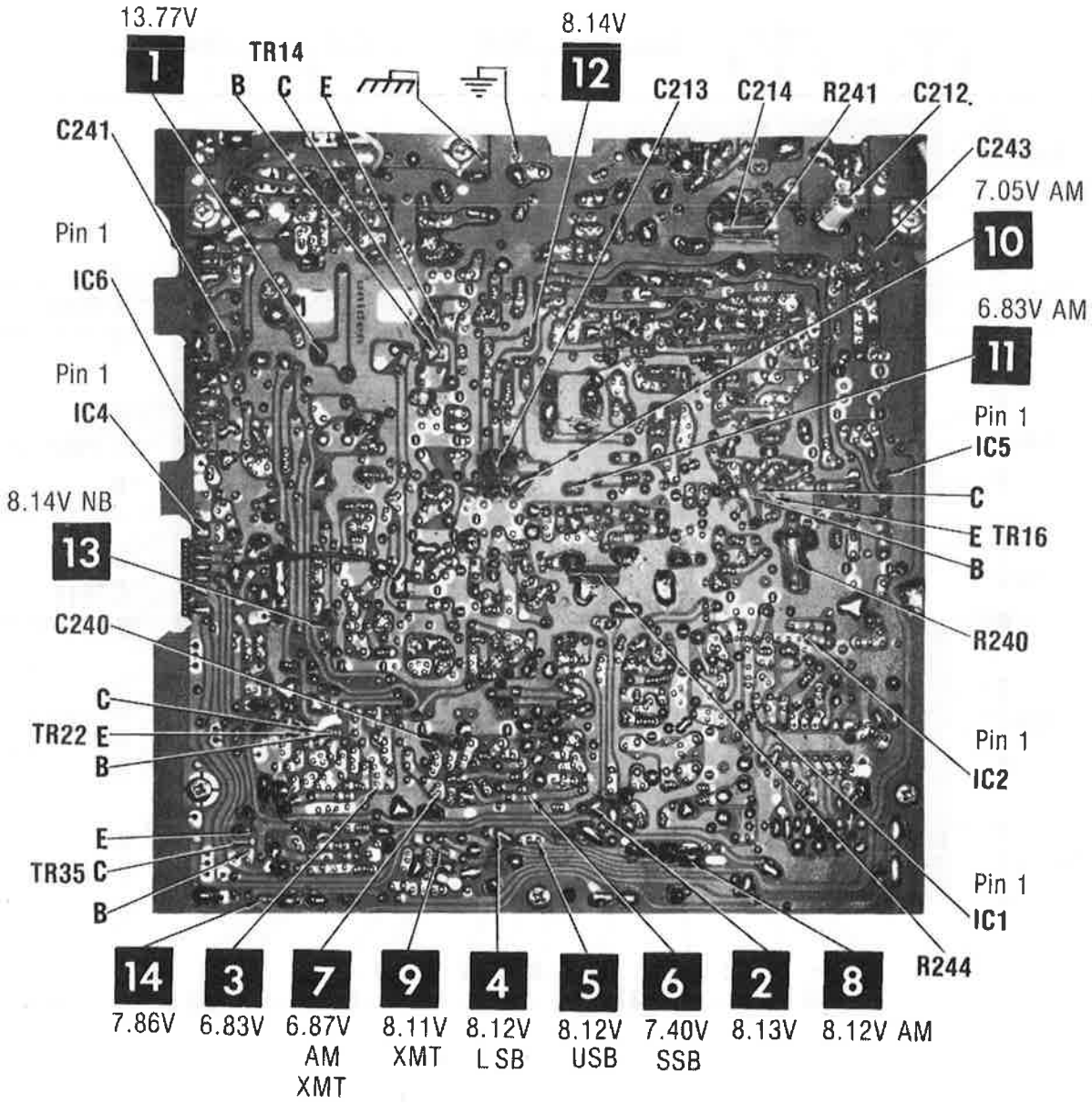
TR31
B C E
TR7
B C E
TR8
D S G
FET 3

MAIN BOARD


13.77V
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TR14
B C E
8.14V
12
C213
C214
R241
C212
C241
C243
7.05V AM
10
Pin 1
IC6
6.83V AM
11
Pin 1
IC4
Pin 1
IC5
C
E TR16
B
8.14V NB
13
C240
R240
C
TR22 E
B
Pin 1
IC2
E
TR35 C
B
Pin 1
IC1
R244
14
3
7
9
4
5
6
2
8
7.86V
6.83V
6.87V AM XMT
8.11V XMT
8.12V LSB
8.12V USB
7.40V SSB
8.13V
8.12V AM

MAIN BOARD

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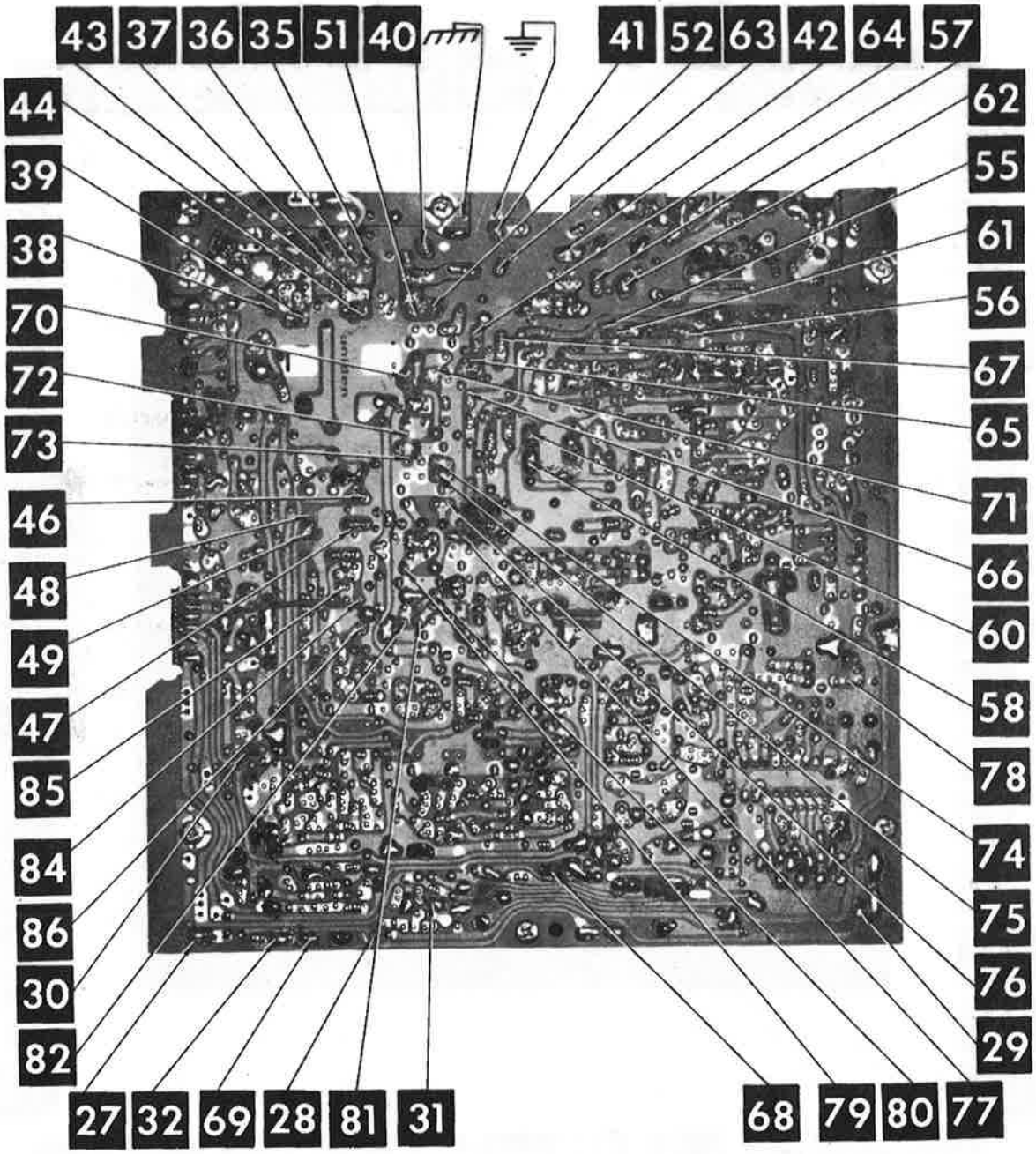

PRESIDENT MODEL 1010002, MADISON

MAIN BOARD

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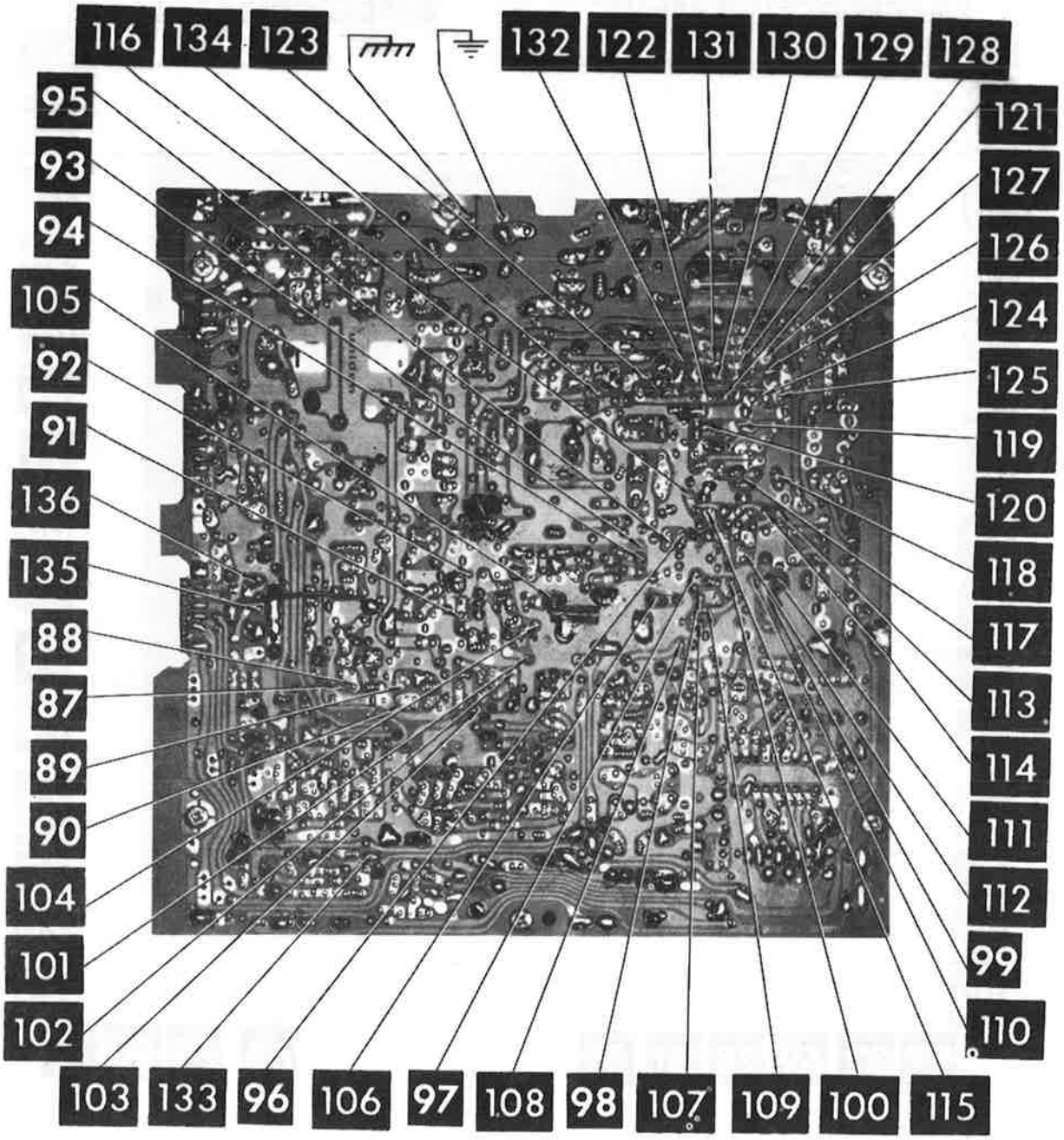

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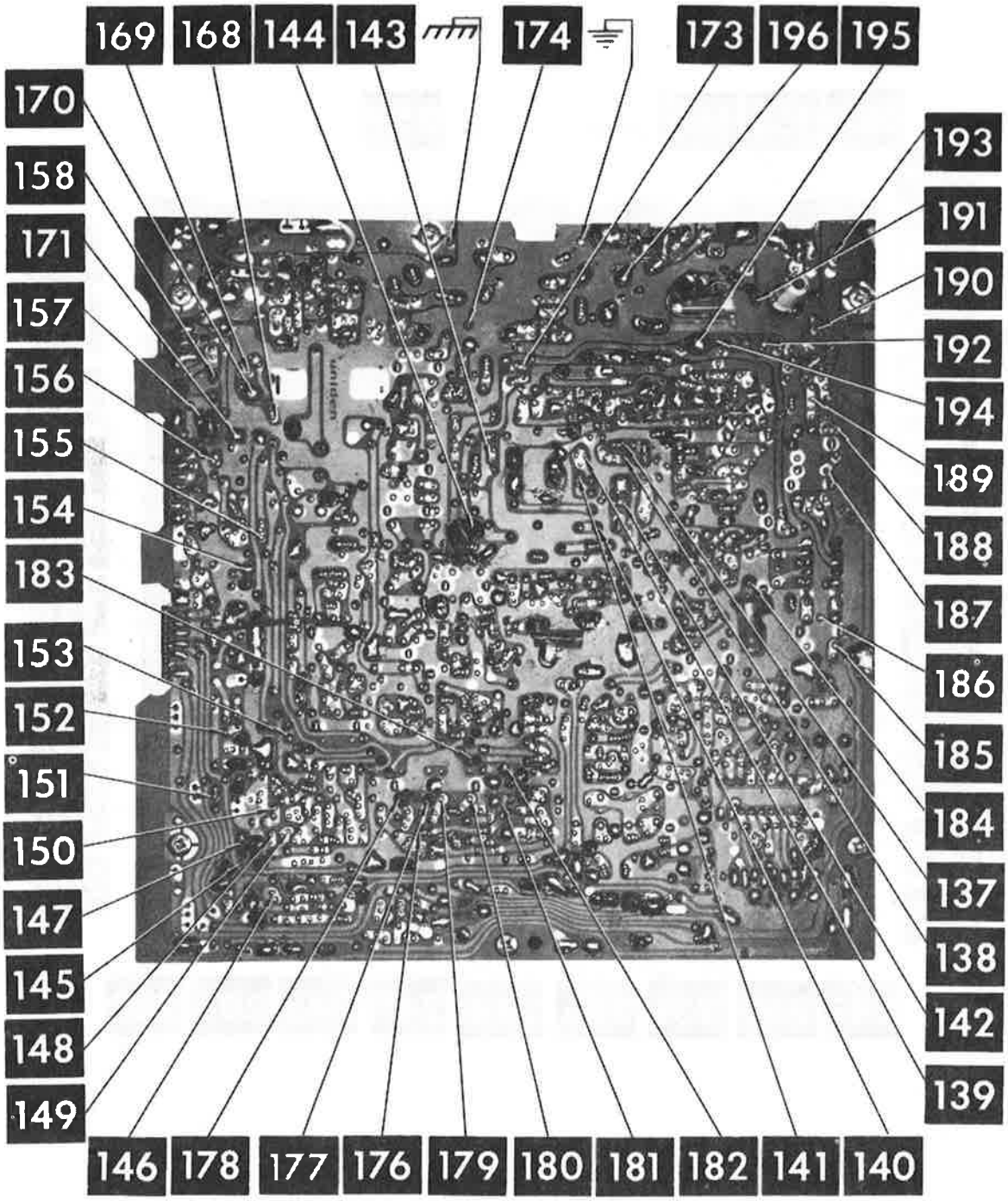
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MAIN BOARD

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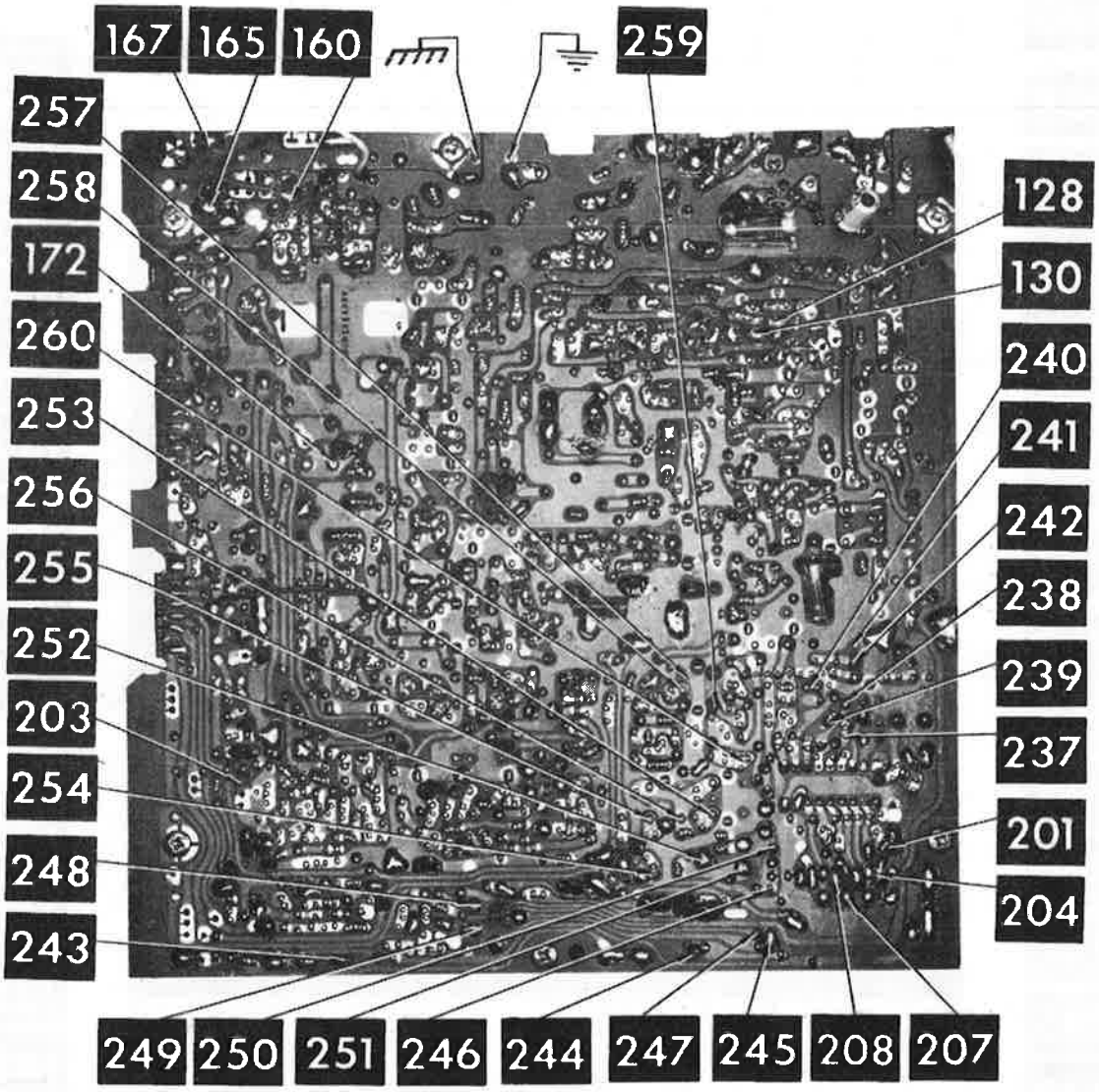

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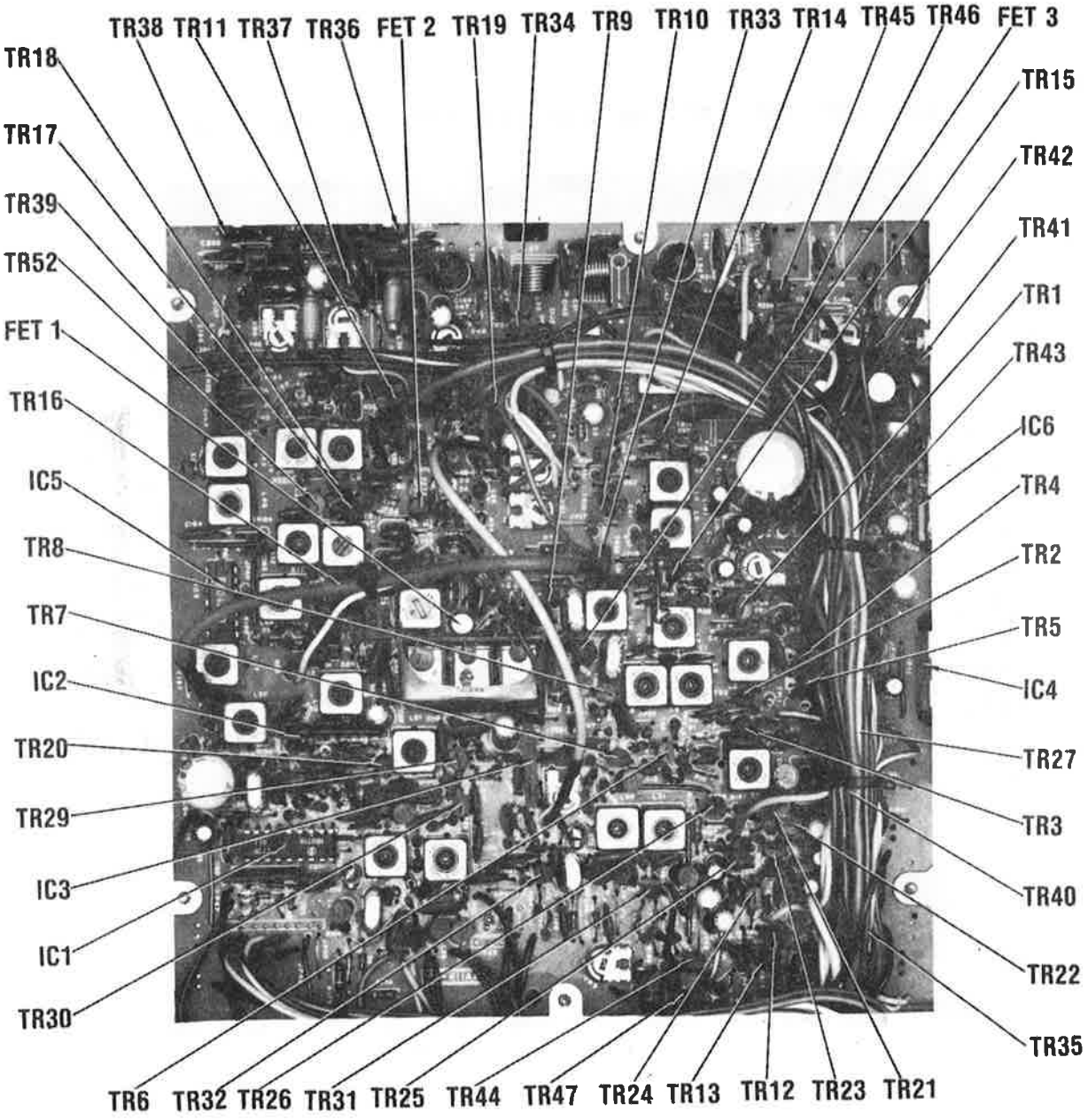
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TR11
TR37
TR36
FET 2
TR19
TR34
TR9
TR10
TR33
TR14
TR45
TR46
FET 3
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TR15
TR17
TR42
TR39
TR41
TR52
TR1
FET 1
TR43
TR16
IC6
IC5
TR4
TR8
TR2
TR7
TR5
IC2
IC4
TR20
TR27
TR29
TR3
IC3
TR40
IC1
TR22
TR30
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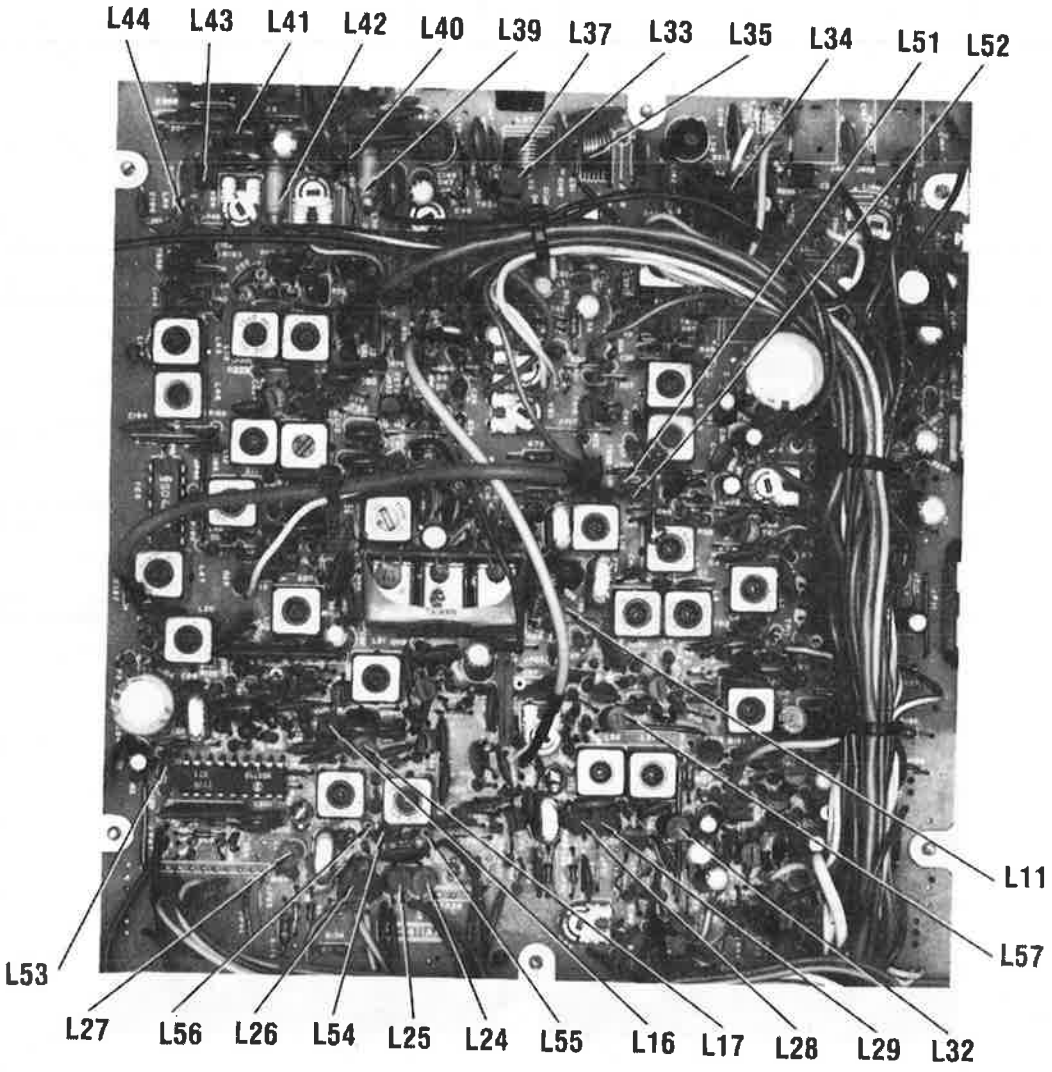
TR23
TR21

MAIN BOARD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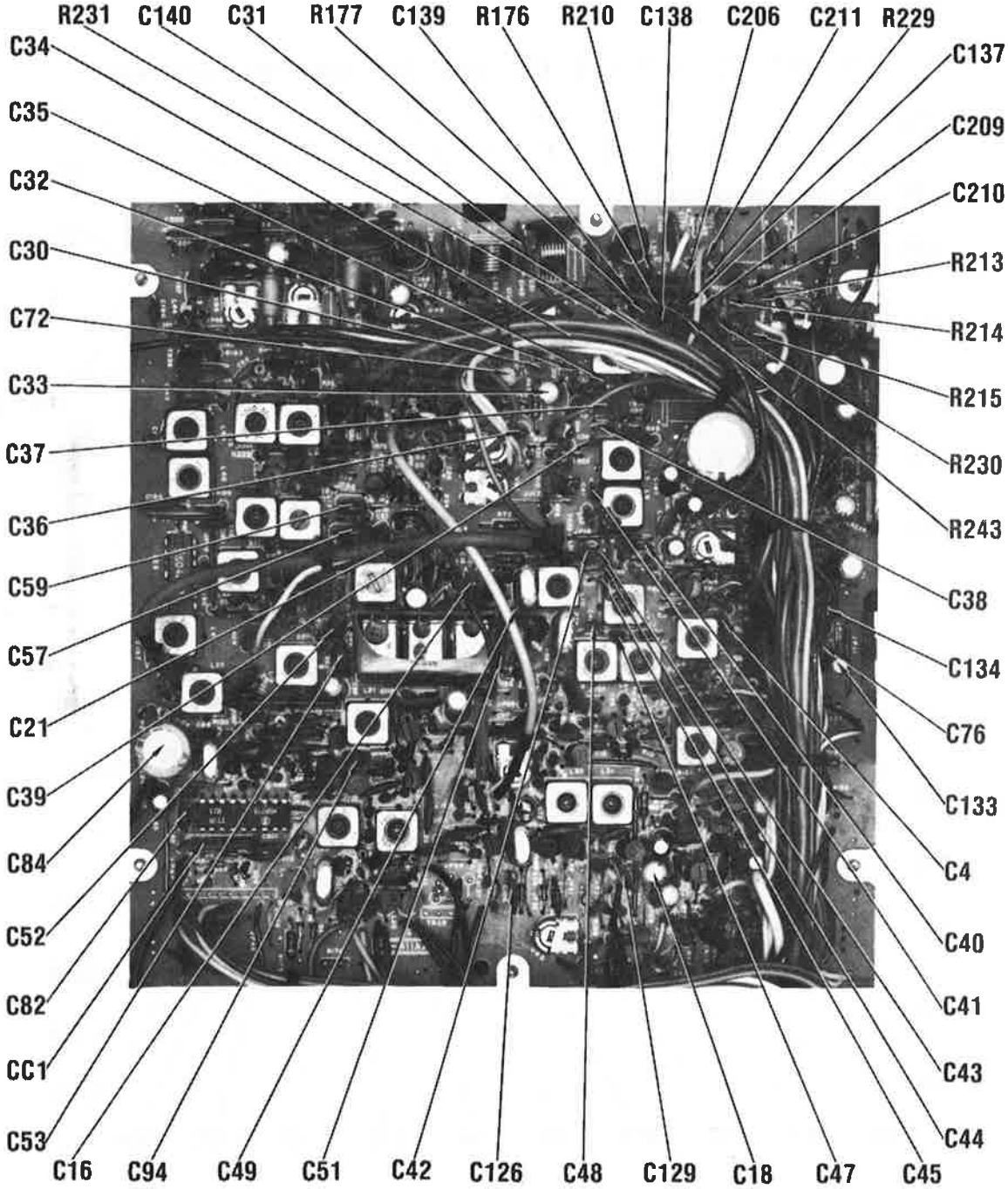
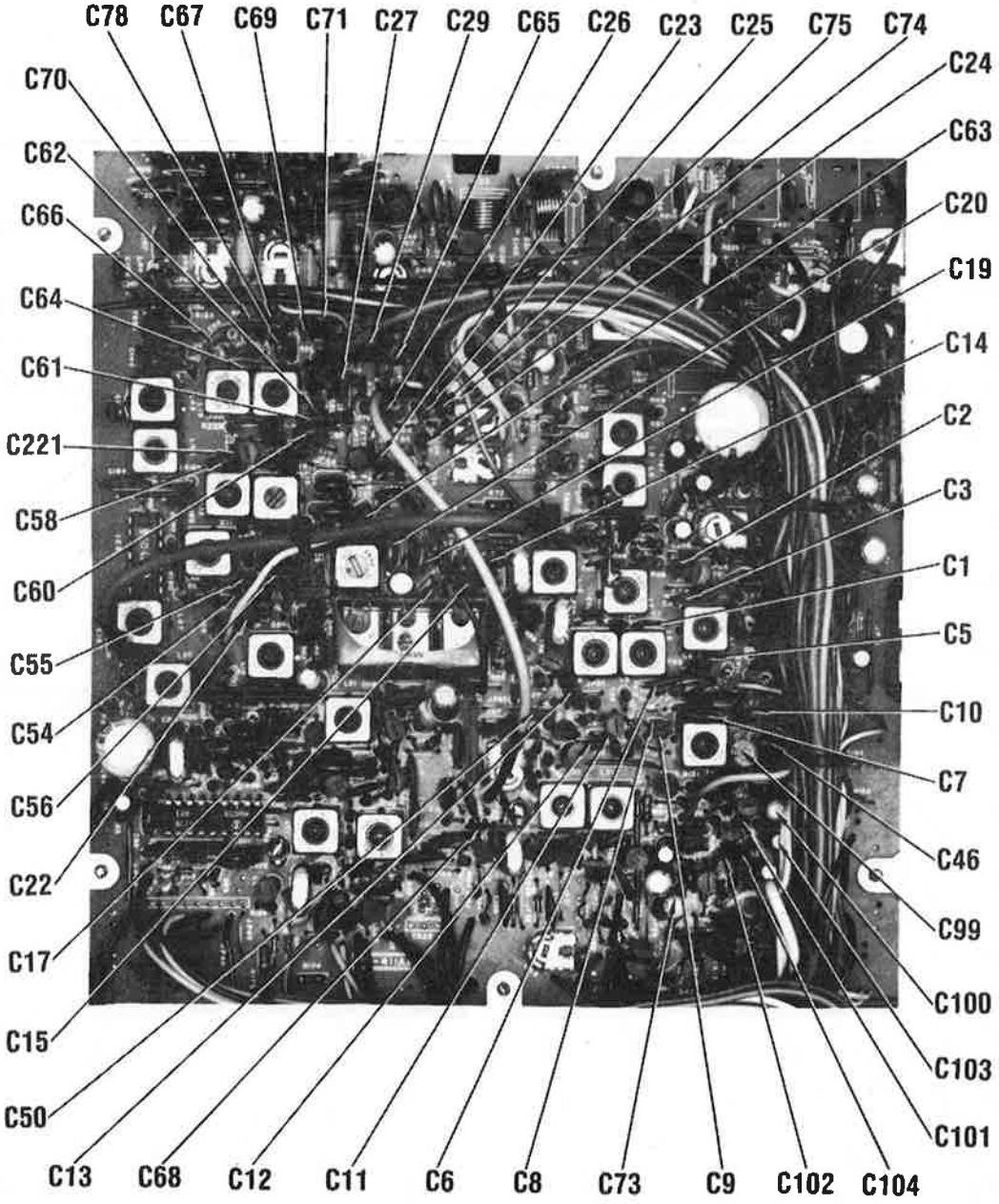
L29
L32

MAIN BOARD


R231
C140
C31
R177
C139
R176
R210
C138
C206
C211
R229
C34
C35
C32
C30
C72
C33
C37
C36
C59
C57
C21
C39
C84
C52
C82
CC1
C53
C16
C94
C49
C51
C42
C126
C48
C129
C18
C47
C45
C44
C43
C41
C40
C4
C133
C76
C134
C38
R243
R230
R215
R214
R213
C210
C209
C137

MA IN BOARD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C69
C71
C27
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C65
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C74
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C14
C2
C3
C1
C5
C10
C7
C46
C99
C100
C103
C101
C104
C102
C9
C73
C8
C6
C11
C12
C68
C13
C50
C15
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C56
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C60
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C221
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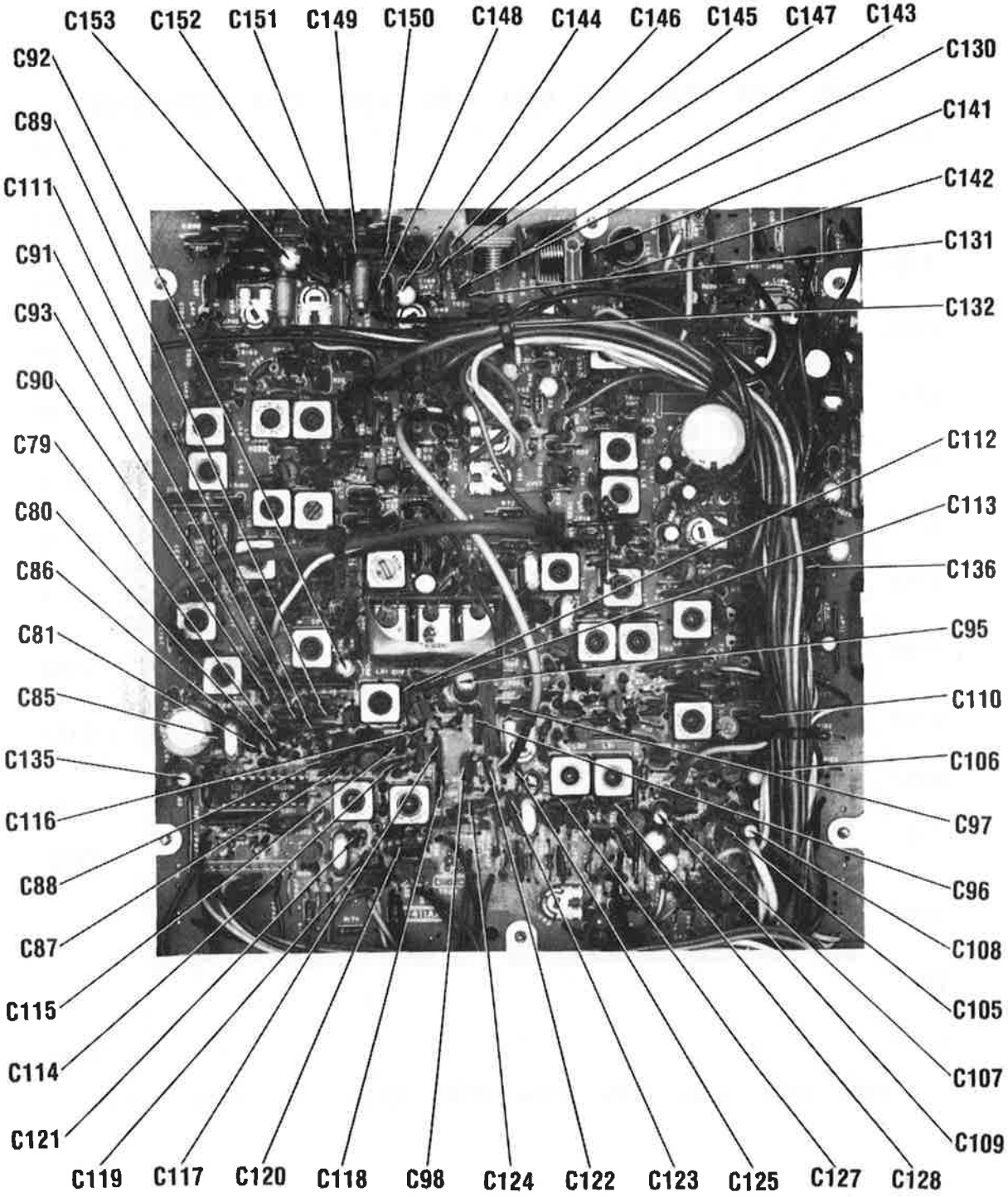
C62
C70

MAIN BOARD


C153
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C151
C149
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C148
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C92
C130
C89
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C142
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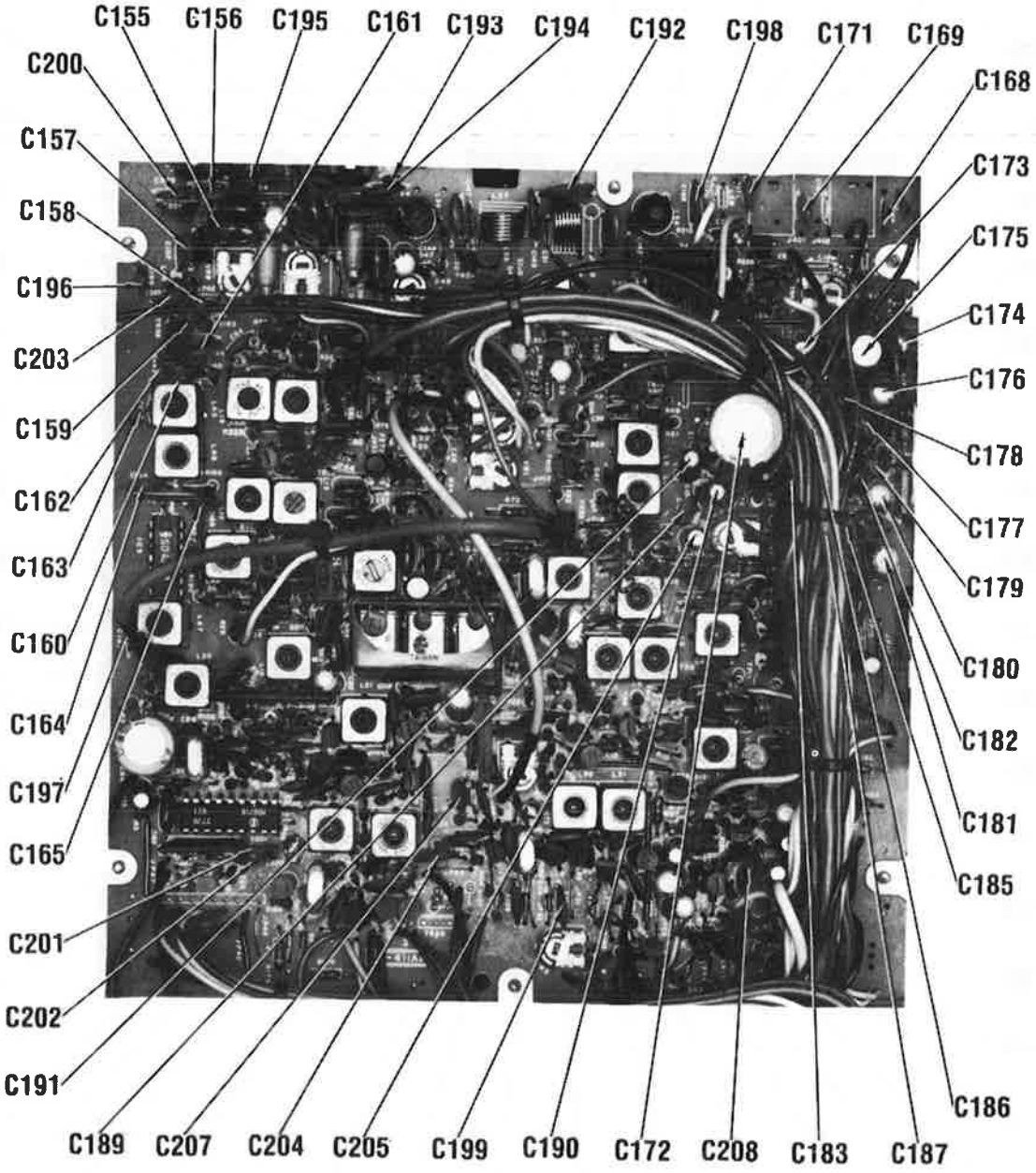
C112
C80
C113
C86
C136
C81
C95
C85
C110
C135
C106
C116
C97
C88
C96
C87
C108
C115
C105
C114
C107
C121
C109
C119
C117
C120
C118
C98
C124
C122
C123
C125
C127
C128

MAIN BOARD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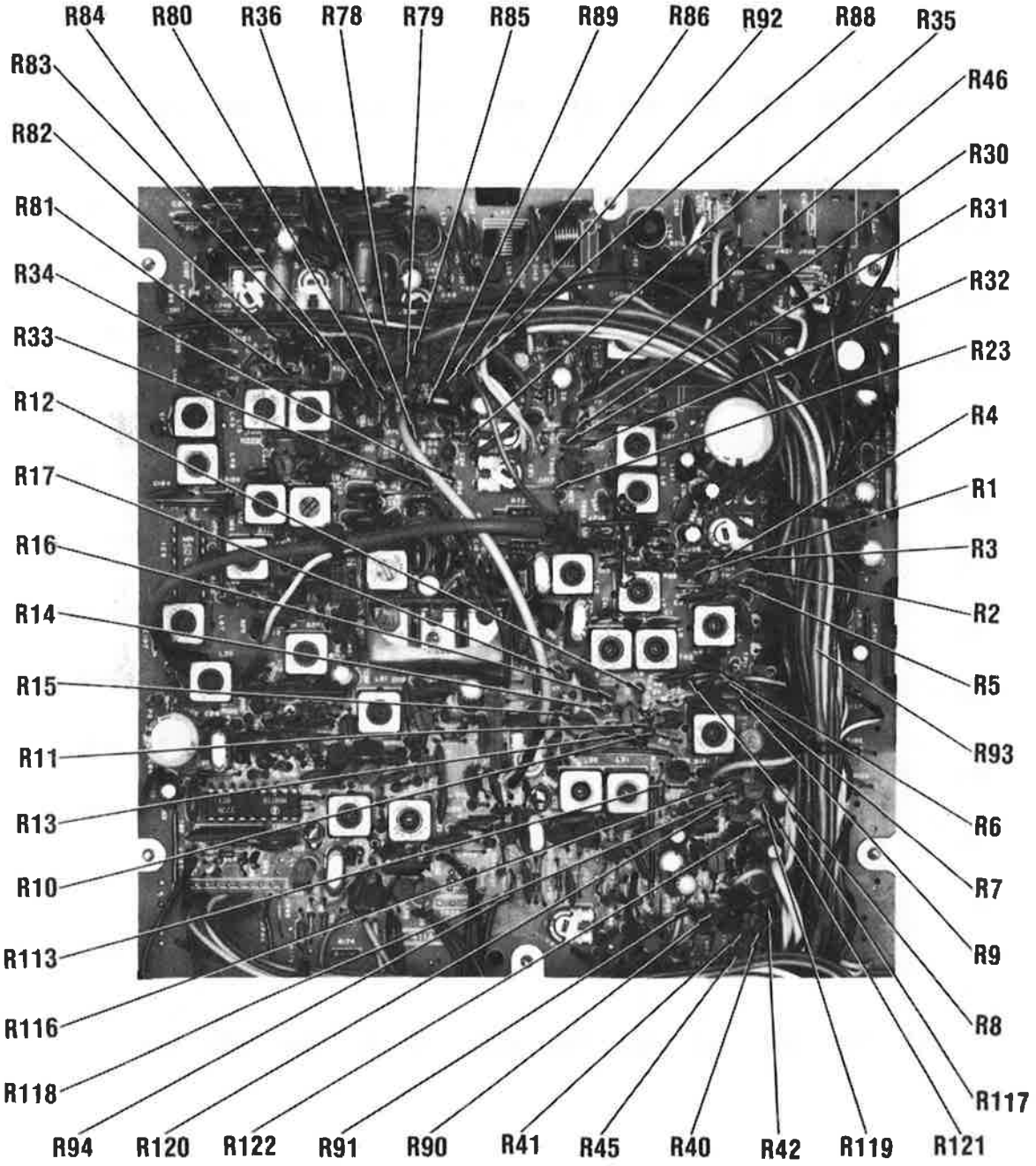
C187

MAIN BOARD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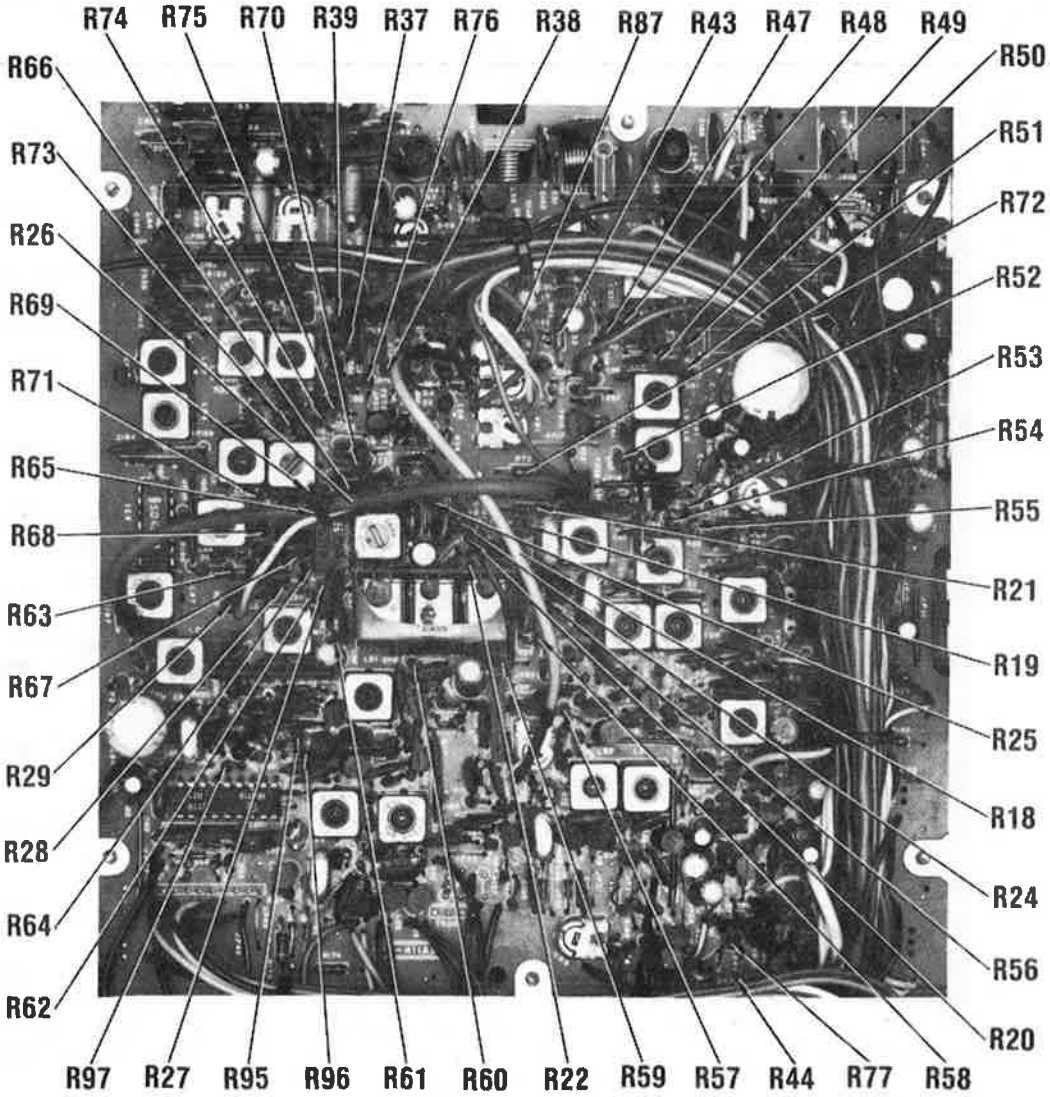
R121

MAIN BOARD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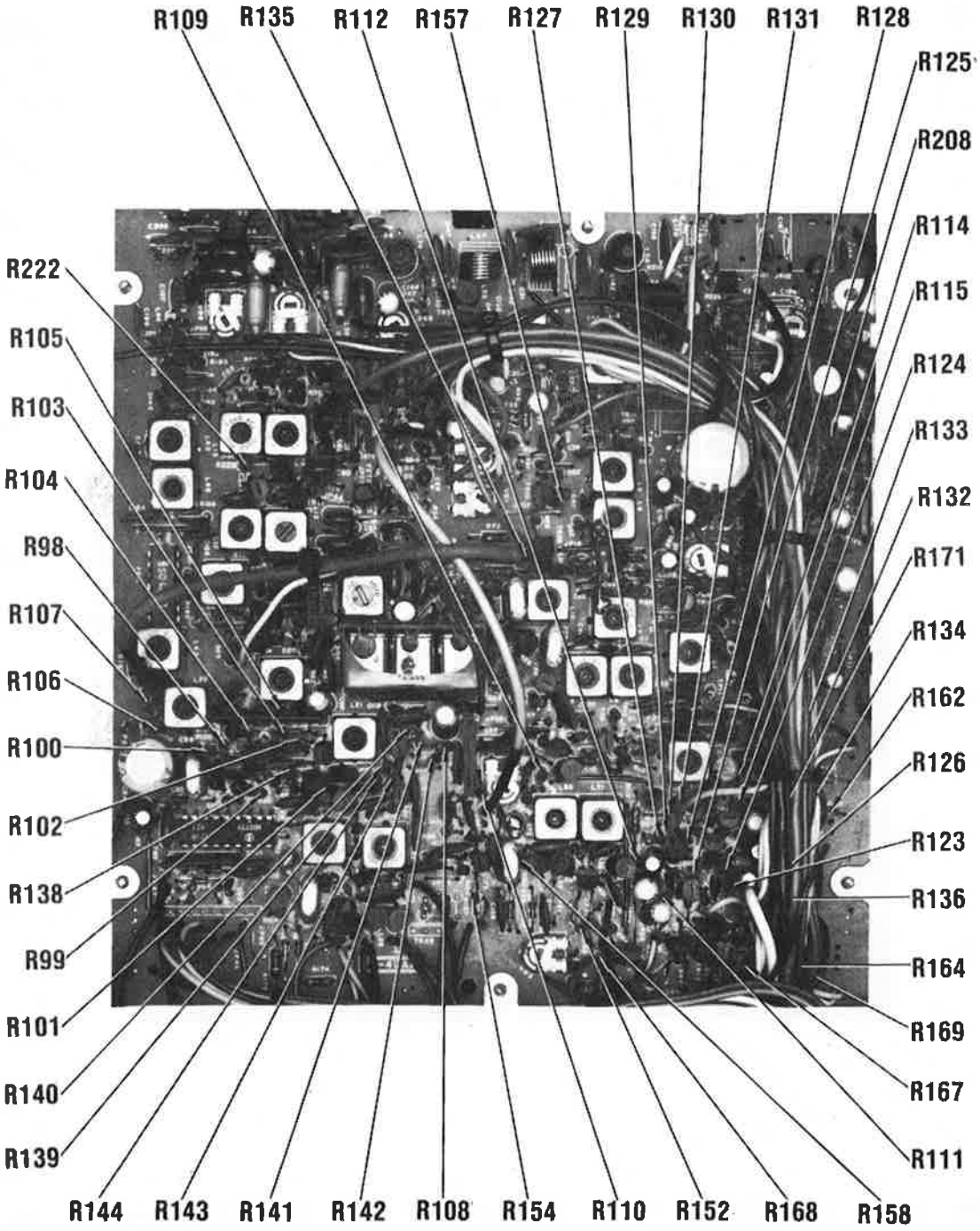
MAIN BOARD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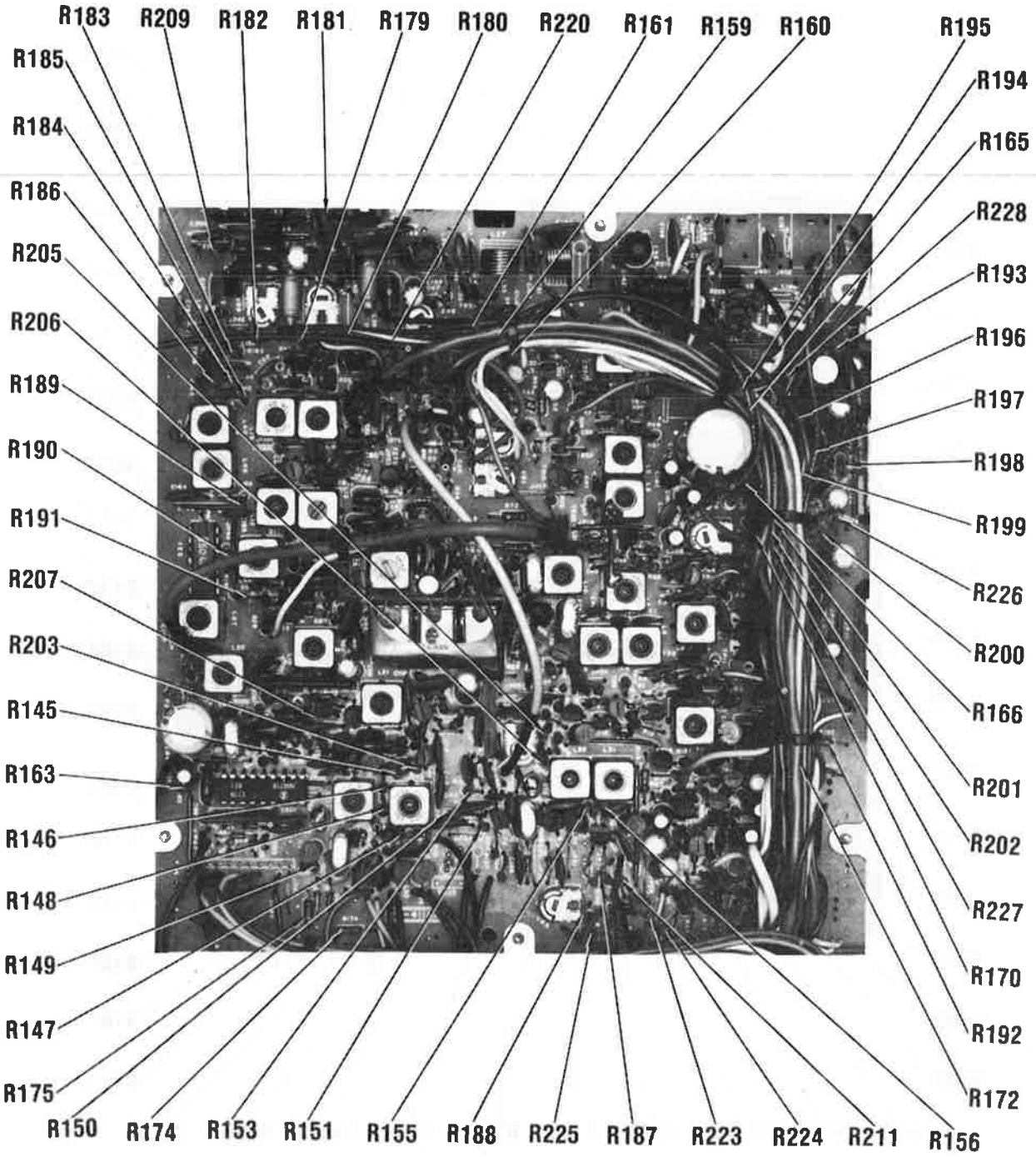
R222

MAIN BOARD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R155
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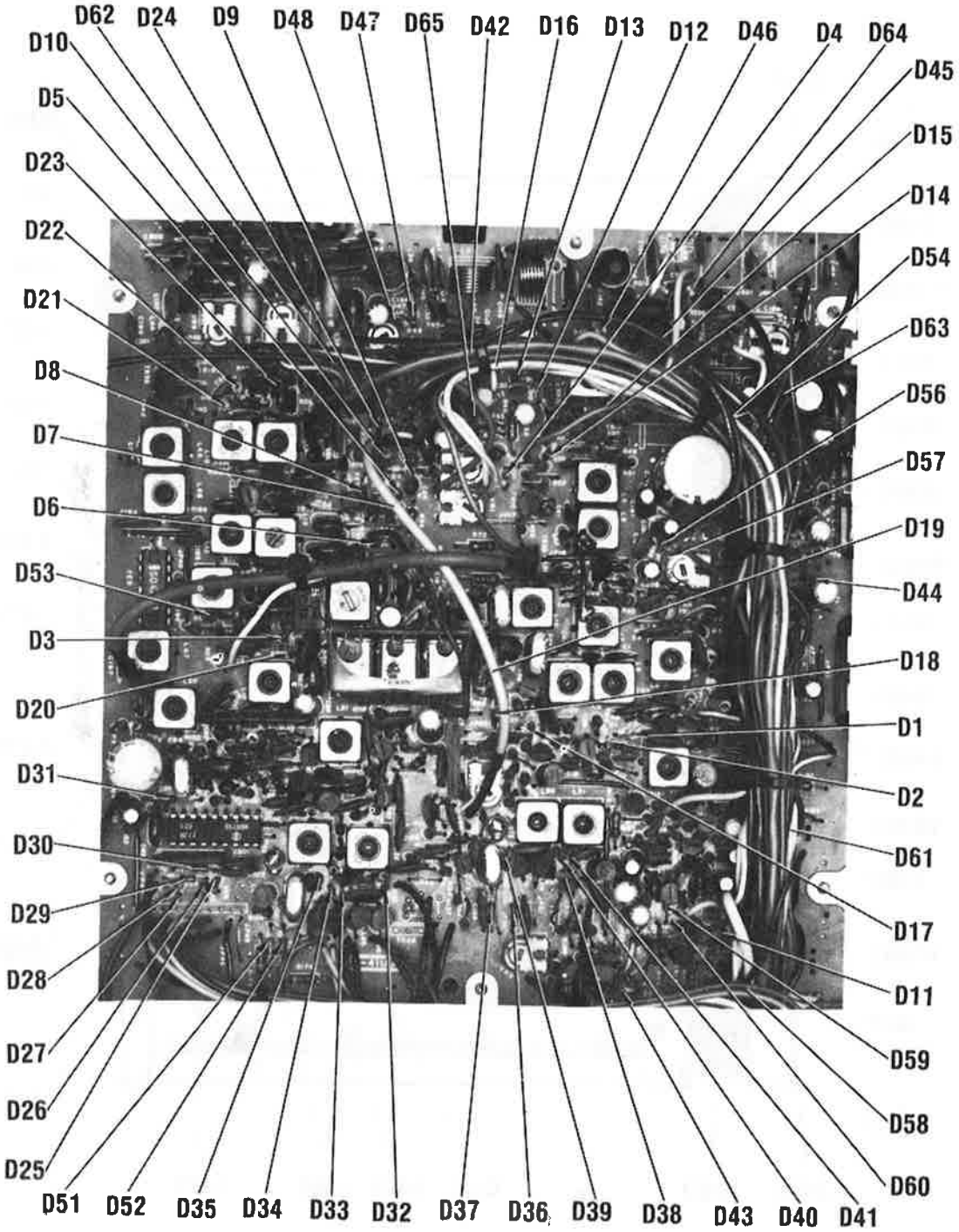
R223
R224
R211
R156

MAIN BOARD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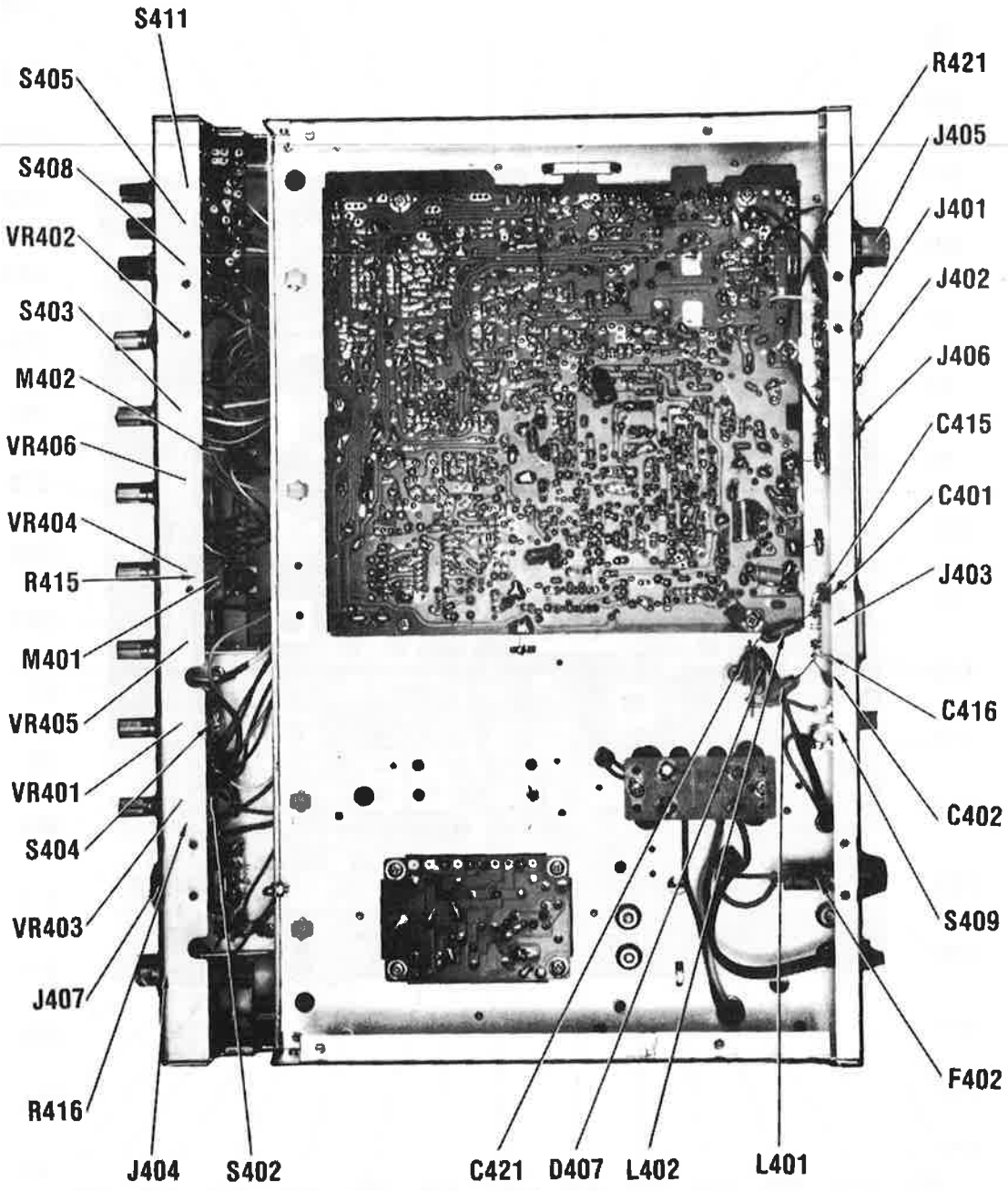
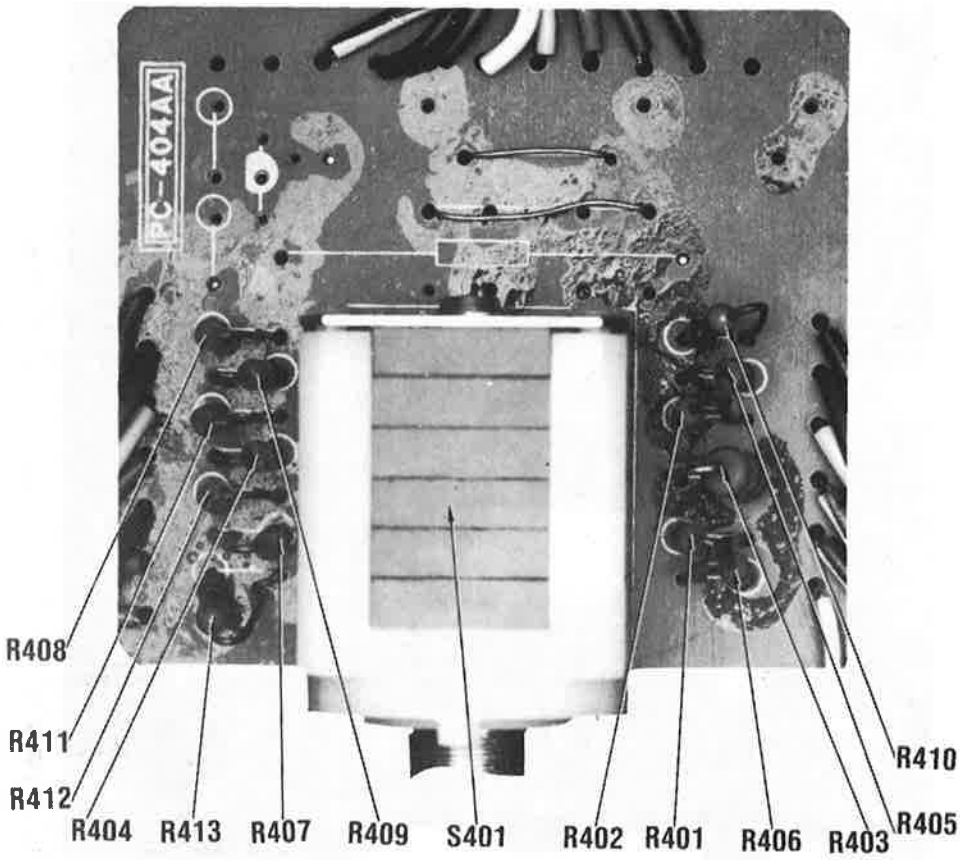
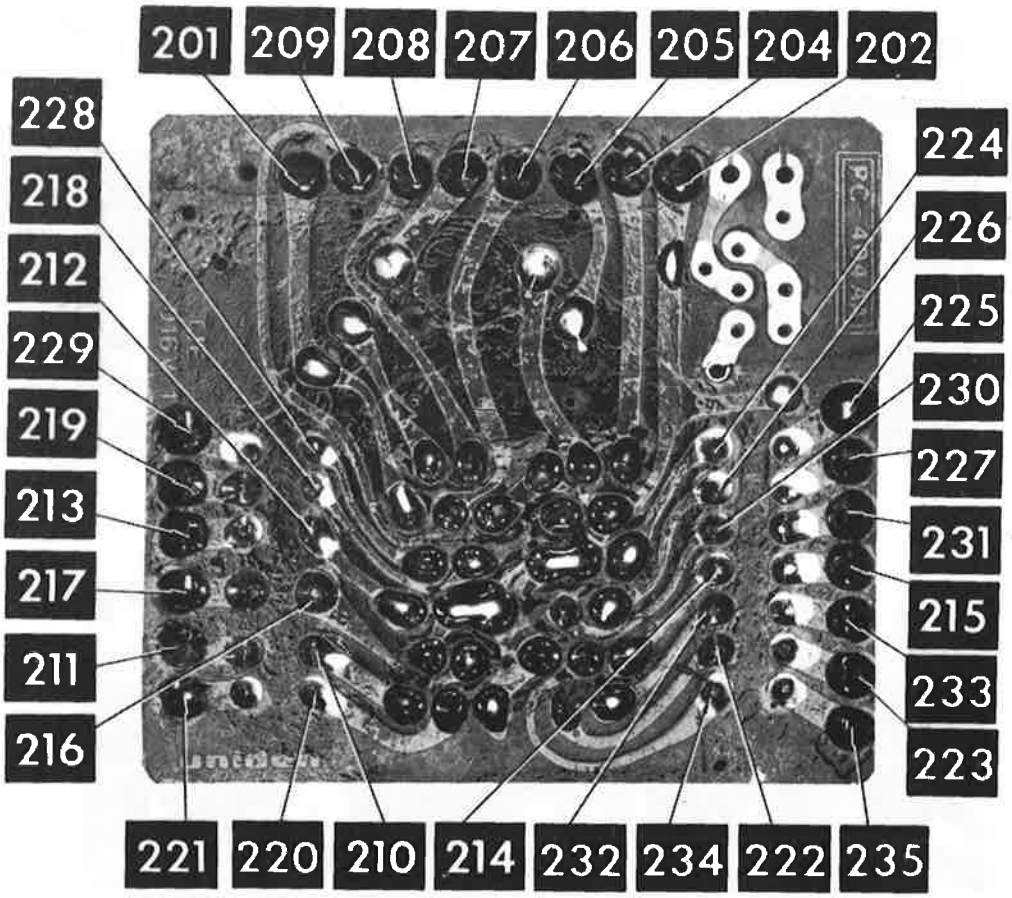
D41

MAIN BOARD

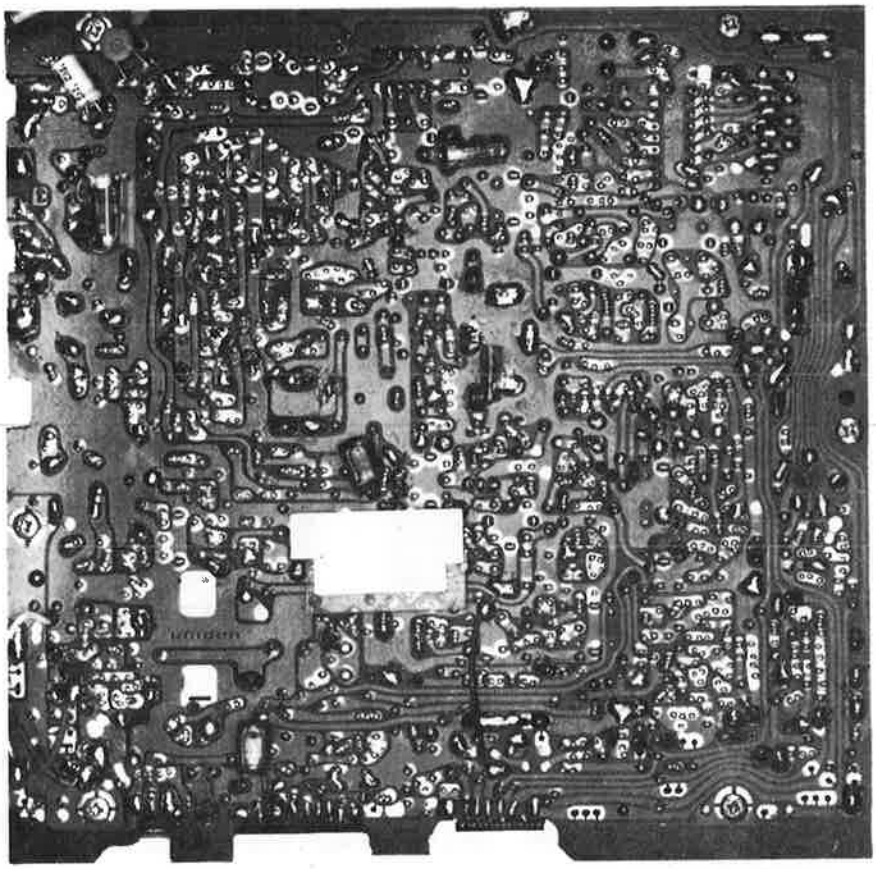


CHASSIS-BOTTOM



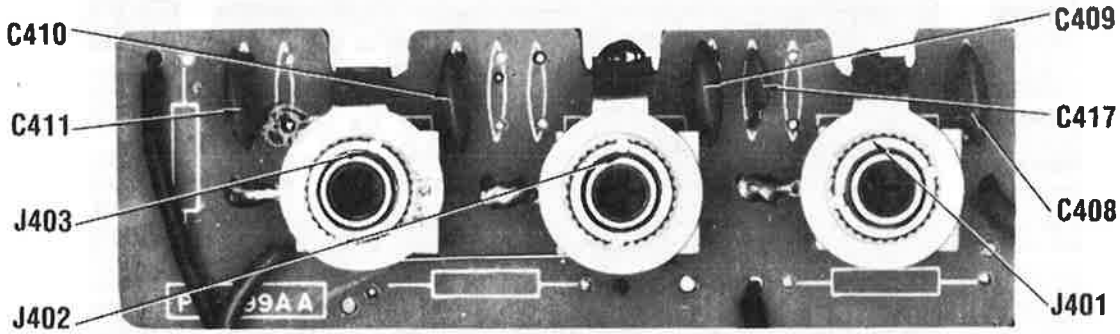


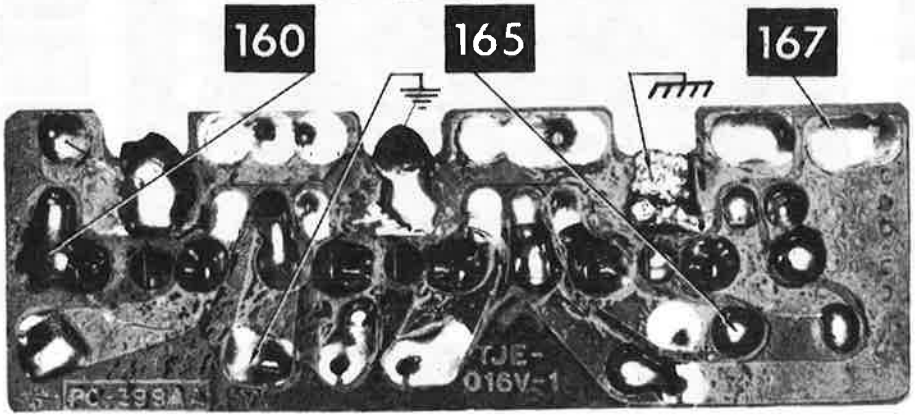
CHANNEL SWITCH BOARD



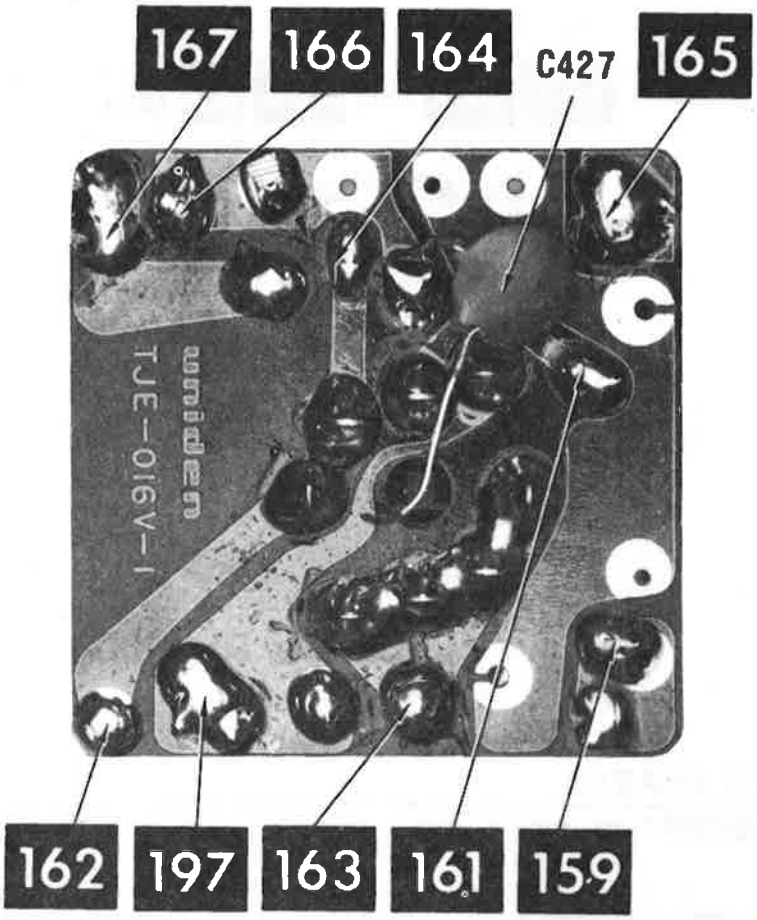
SHIELD LOCATION

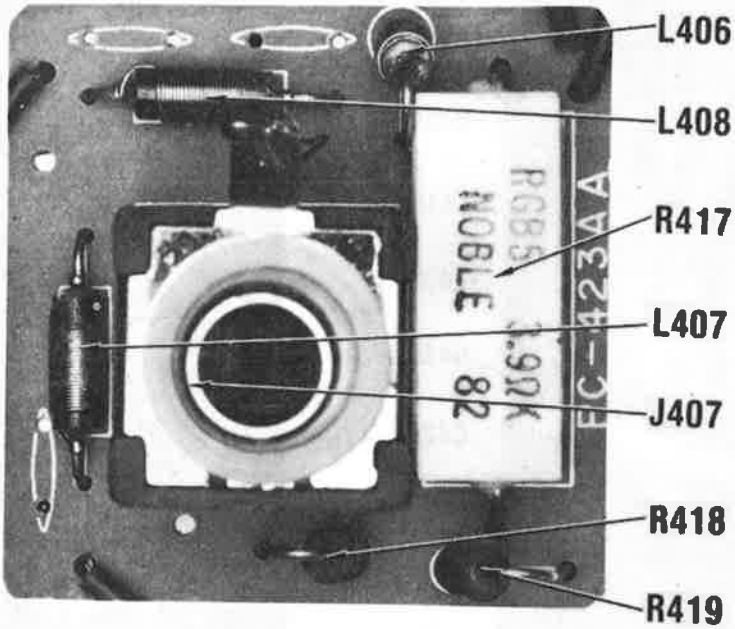
A Howard W. Sams CIRCUITRACE® Photo





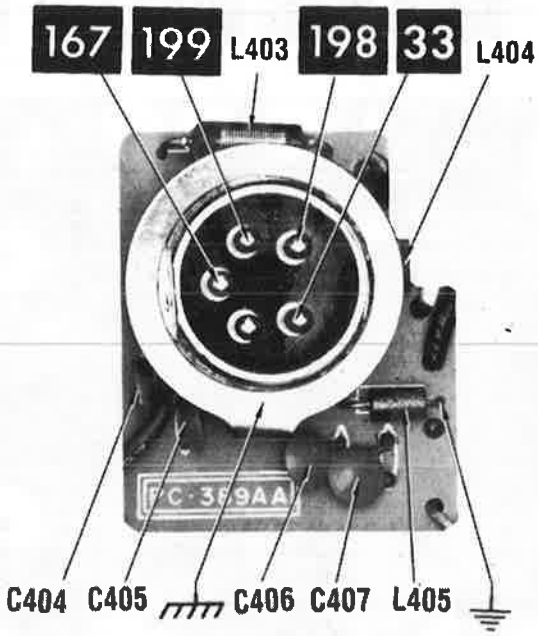
EXTERNAL SPEAKER BOARD





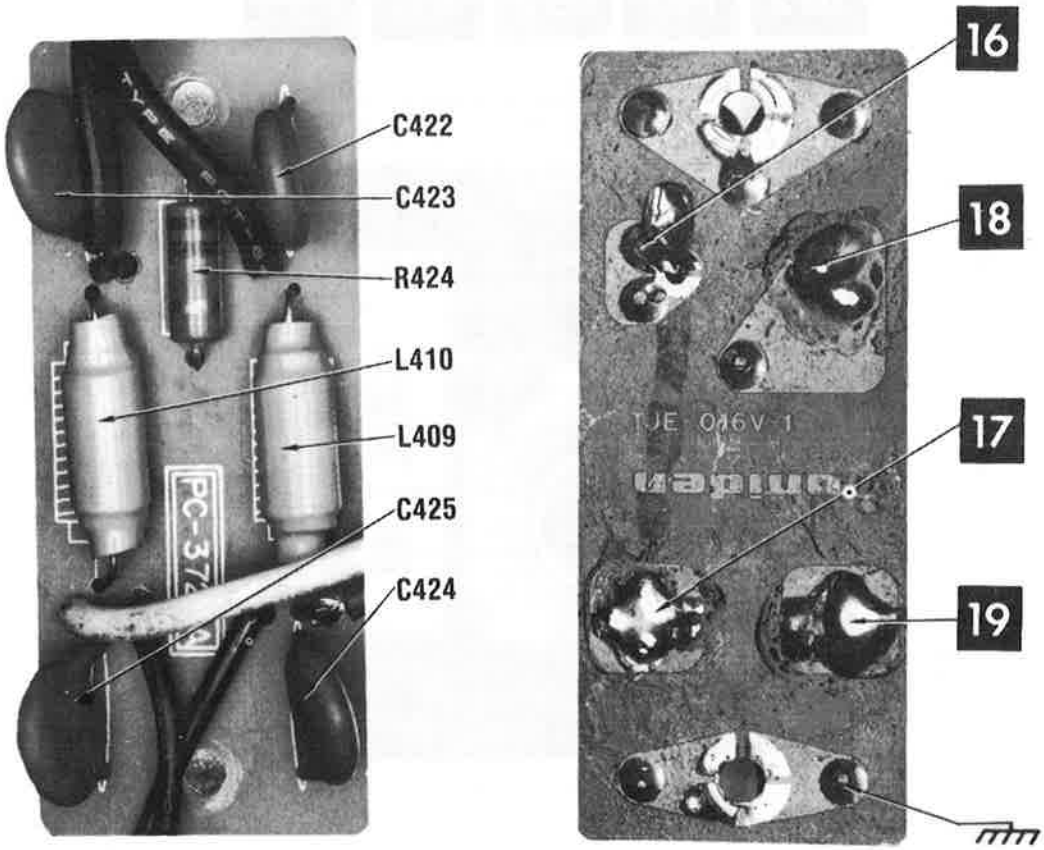
PHONE JACK BOARD

A Howard W. Sams CIRCUITRACE® Photo



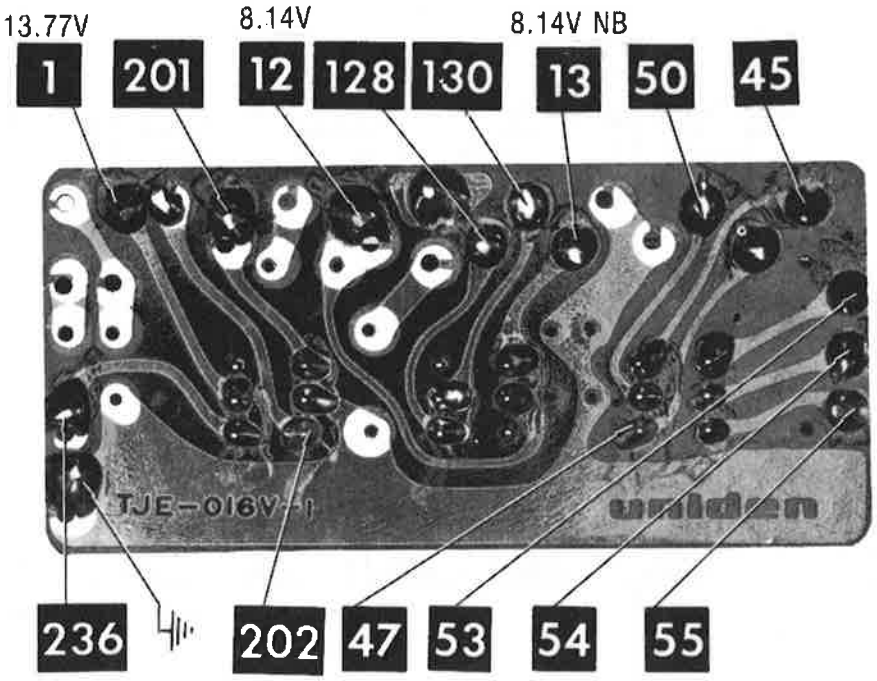
MIC CONNECTOR BOARD

A Howard W. Sams CIRCUITRACE® Photo



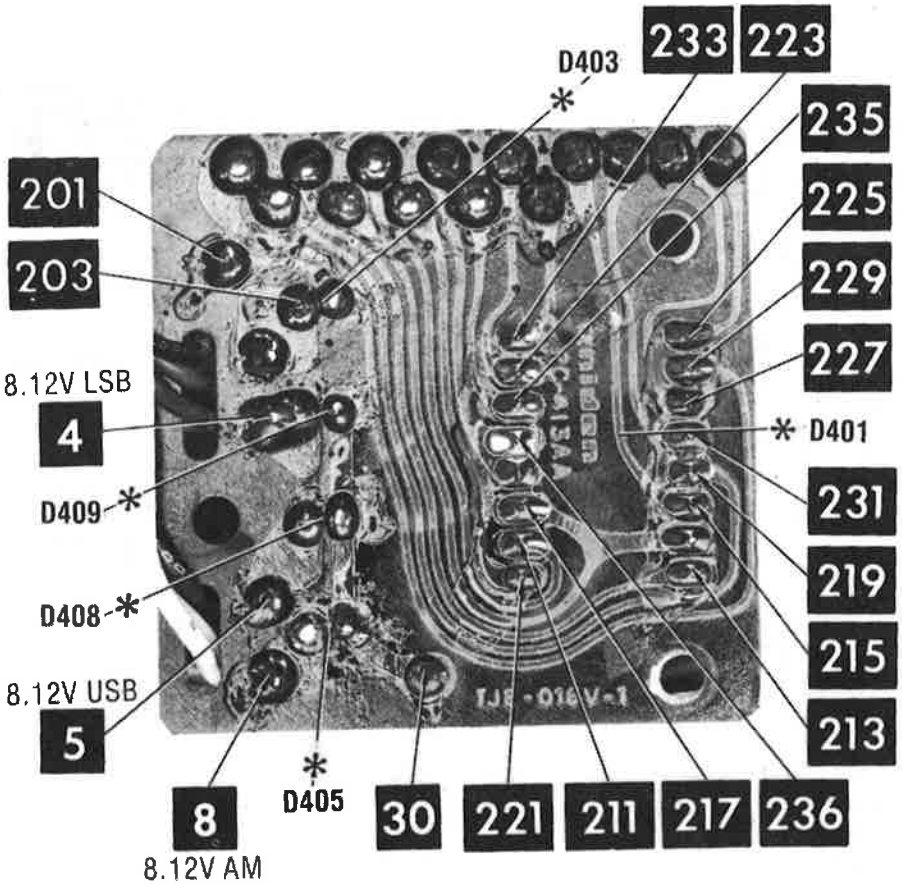
AC INPUT BOARD

A Howard W. Sams CIRCUITRACE® Photo



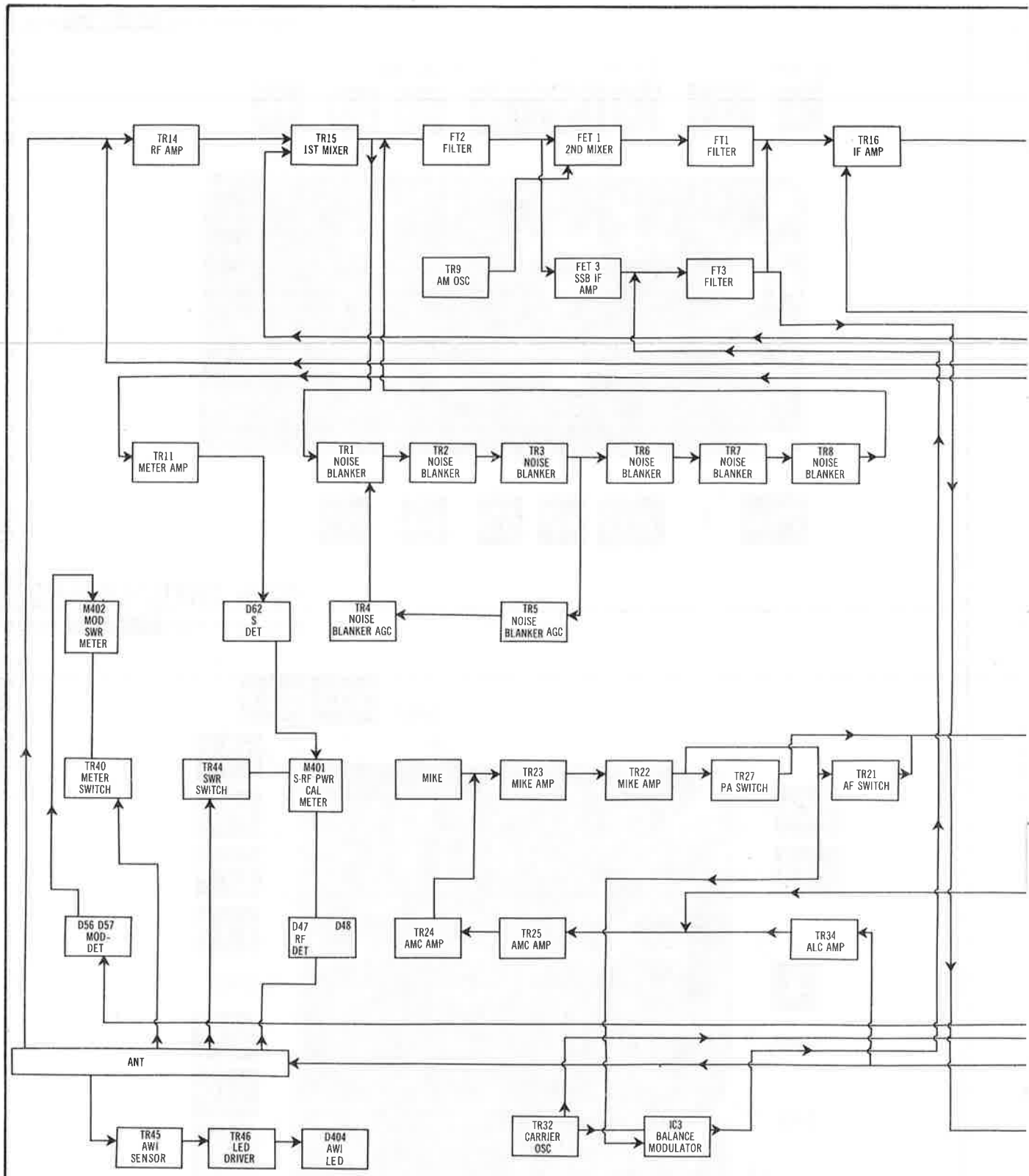
PUSH SWITCH BOARD

A Howard W. Sams CIRCUITRACE® Photo

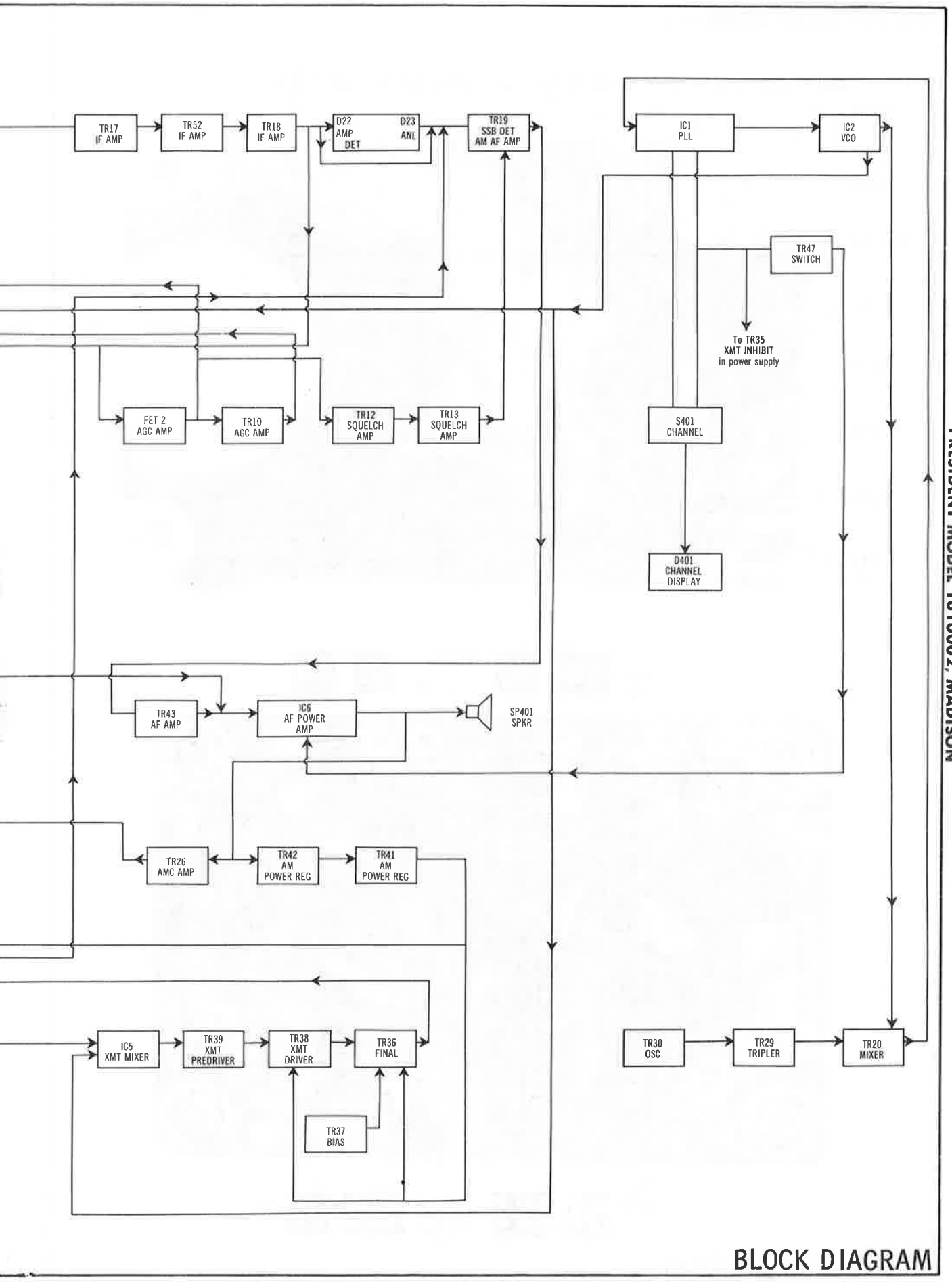


*Located on top of board

CHANNEL LED BOARD

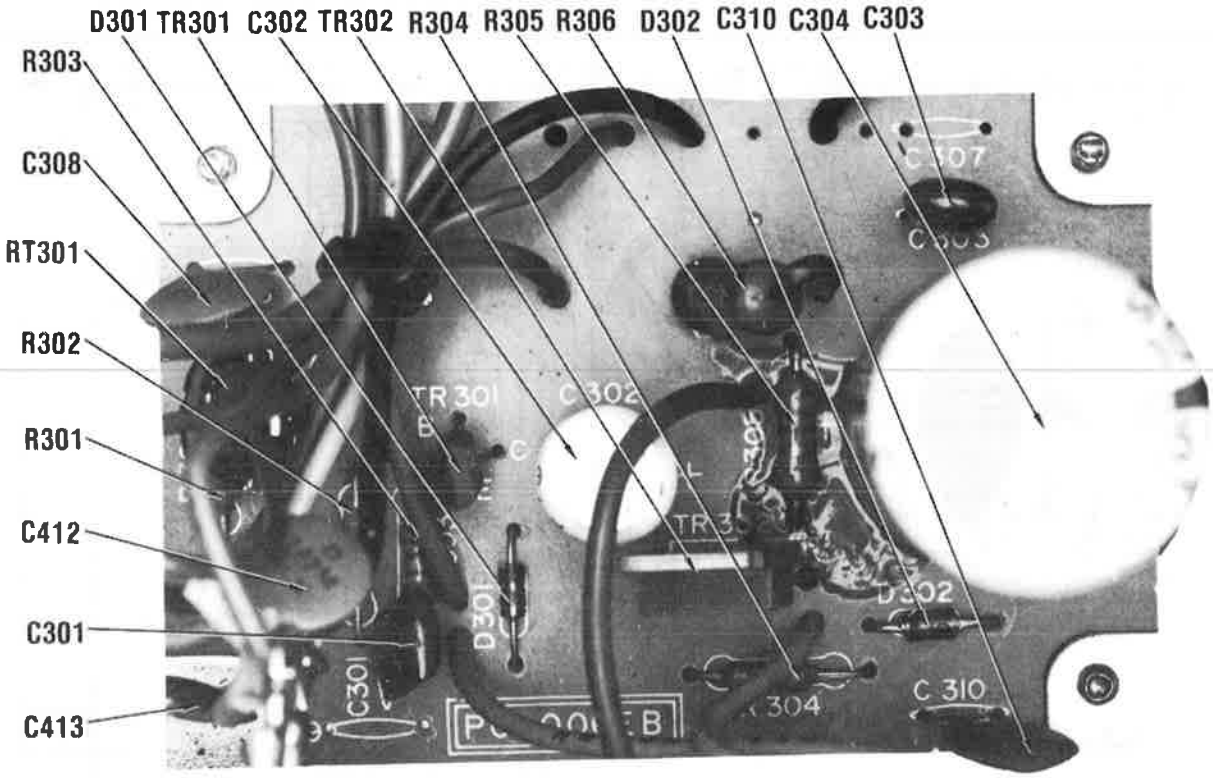


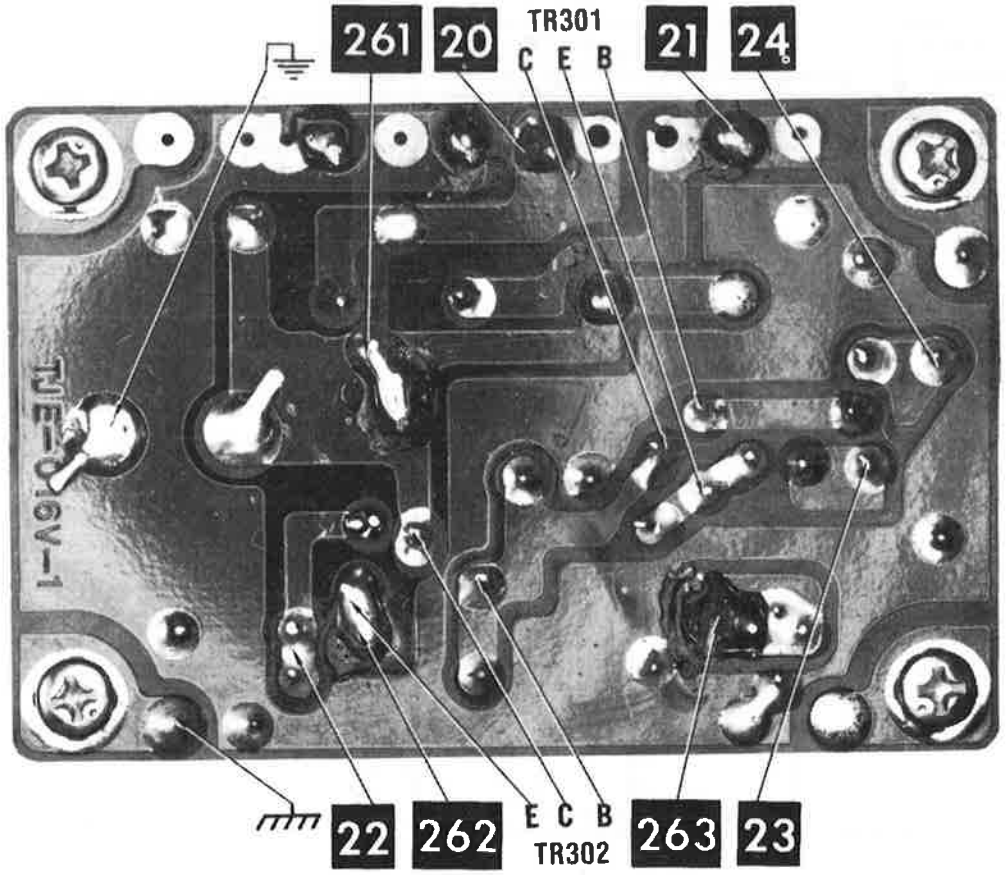
BLOCK DIAGRAM



BLOCK DIAGRAM

A Howard W. Sams CIRCUITRACE® Photo





POWER SUPPLY BOARD

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire (available in 5 colors) BELDEN No. 8523
Shielded Hook-up Wire (spiral wrapped) . . . . . BELDEN No. 8421
(braided) . . . . . BELDEN No. 8401
Speaker Cable (available in 4 colors) . . . . . BELDEN No. 8782
Bonding Strap . . . . . BELDEN No. 8672
AC Power Cord . . . . . (6') BELDEN No. 17106
(9') BELDEN No. 17109

Coiled Microphone Cable
3-conductor (1 shielded) 23AWG BELDEN No. 9471 (5')
BELDEN No. 8497 (6')
BELDEN No. 9472 (7-1/2')
28AWG BELDEN No. 9466 (6')
31AWG BELDEN No. 9468 (10')
4-conductor (unshielded) 23AWG BELDEN No. 8415 (6')
5-conductor (1 shielded) 28AWG BELDEN No. 9467 (6')
BELDEN No. 9465 (7-1/2')

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. 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	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D2	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D3	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D4	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D5	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D6	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D8	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
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	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D9	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
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	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
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D12	MC301	2000-341	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
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	BA244		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D13	MC301	2000-341	GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	1S2186		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	BA243		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
	BA244		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D14	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
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	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
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	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D17	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
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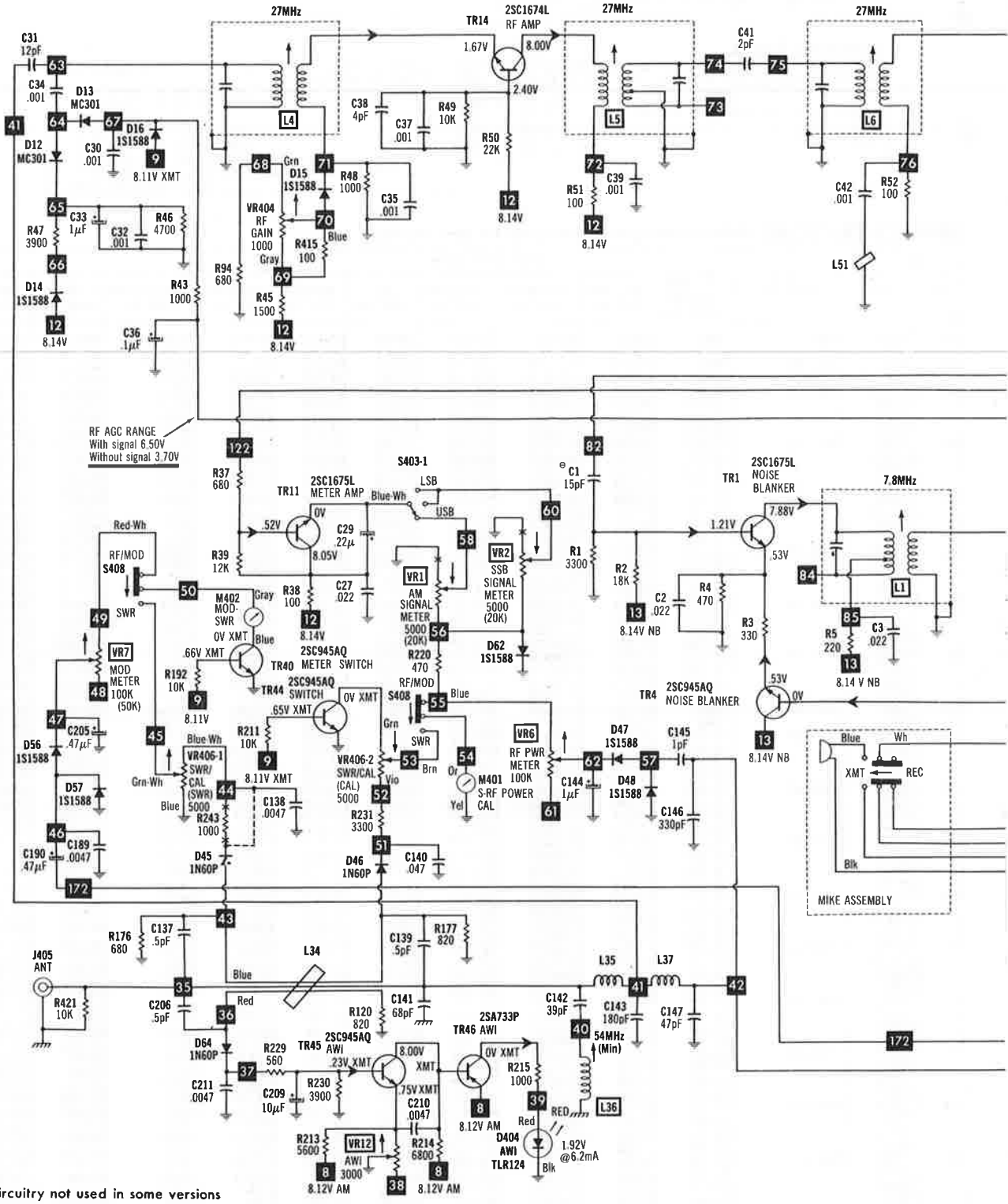
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D18	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D19	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D20	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D21	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D22	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D23	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D24	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131



- Circuitry not used in some versions
- Circuitry used in some versions
- See parts list
- Nominal value
- Ground
- Chassis
- Common tie point
- Signal path
- Voltage path

Measurements made in Channel 1 with switching as shown unless noted.
Item numbers in rectangles appear in the alignment/adjustment instructions.
Supply voltage maintained as shown at input.
Voltages measured with digital meter, no signal.
Controls adjusted for normal operation.
Arrow at control indicates direction of advance.
Terminal identification may not be found on unit.
Resistors are 1/2W or less, 5% unless noted.
Value in ( ) used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE®

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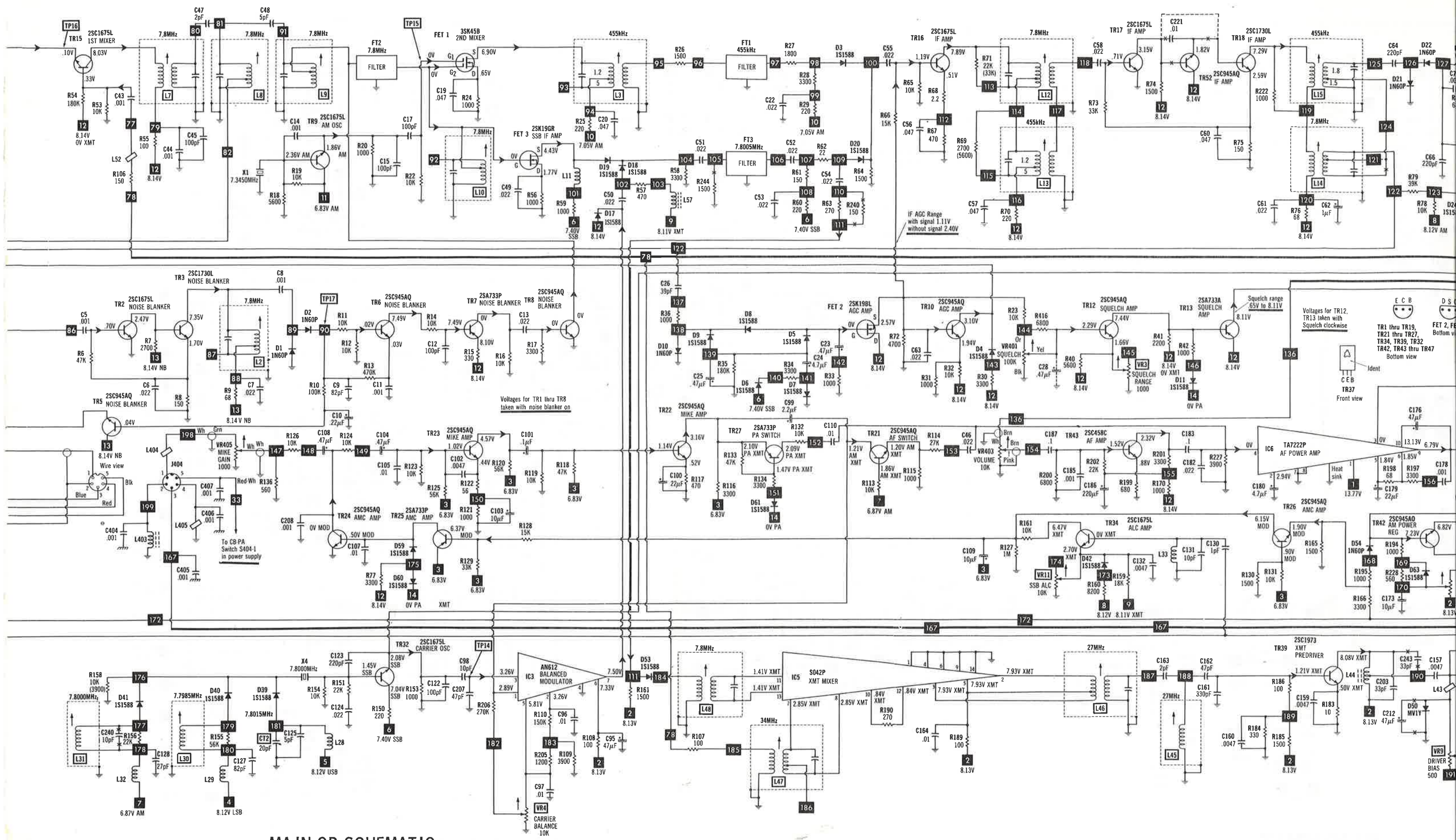
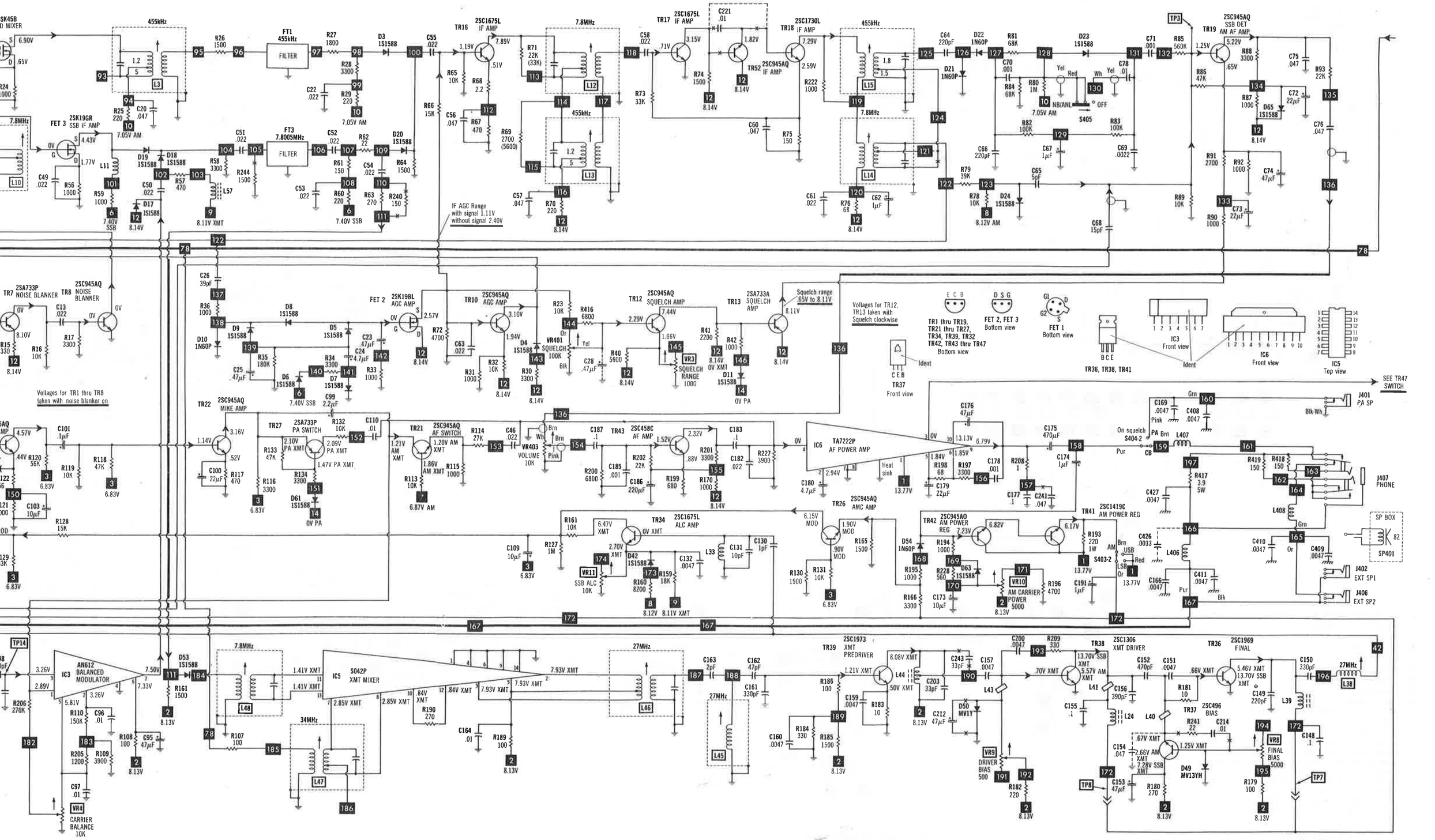
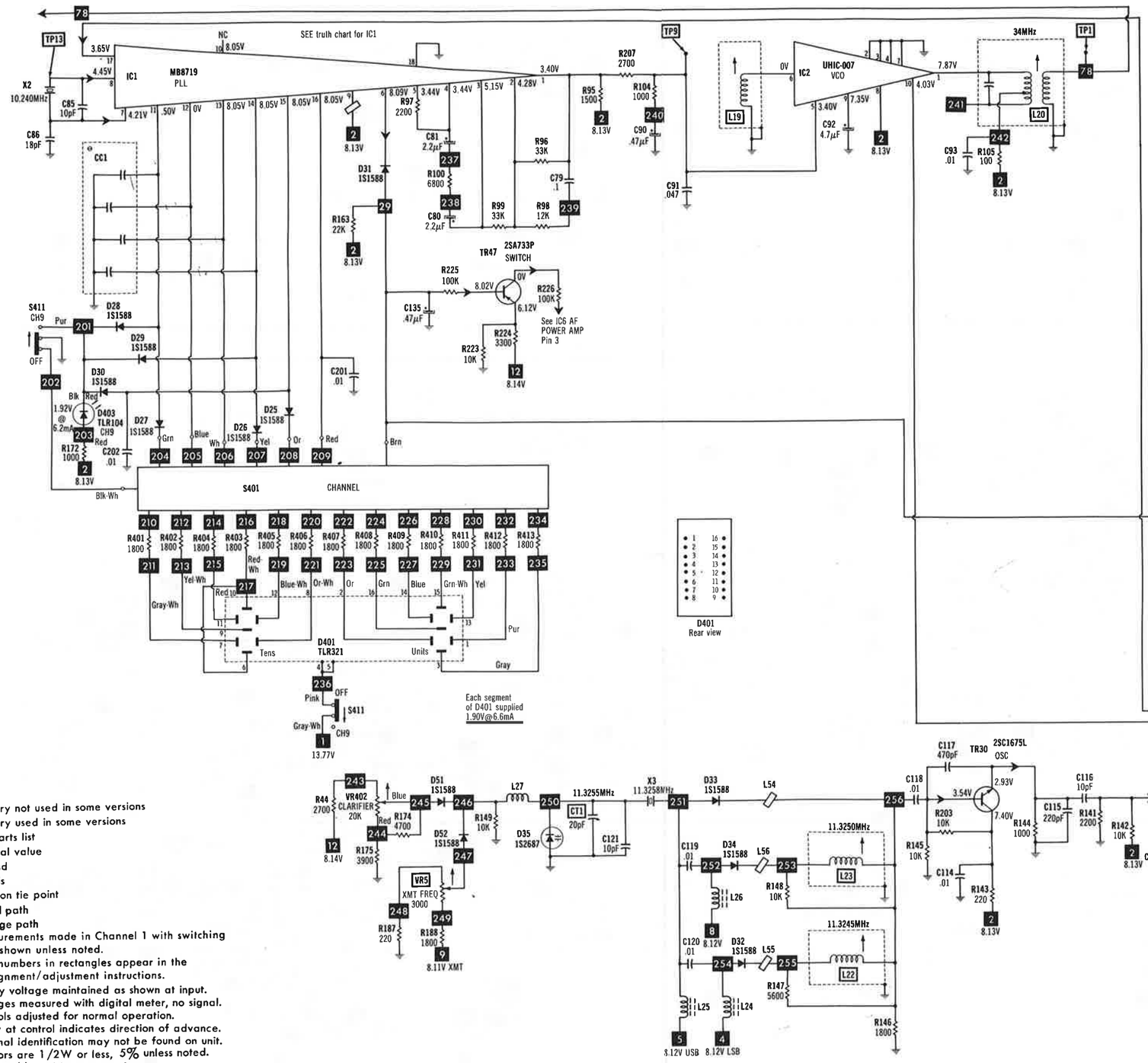
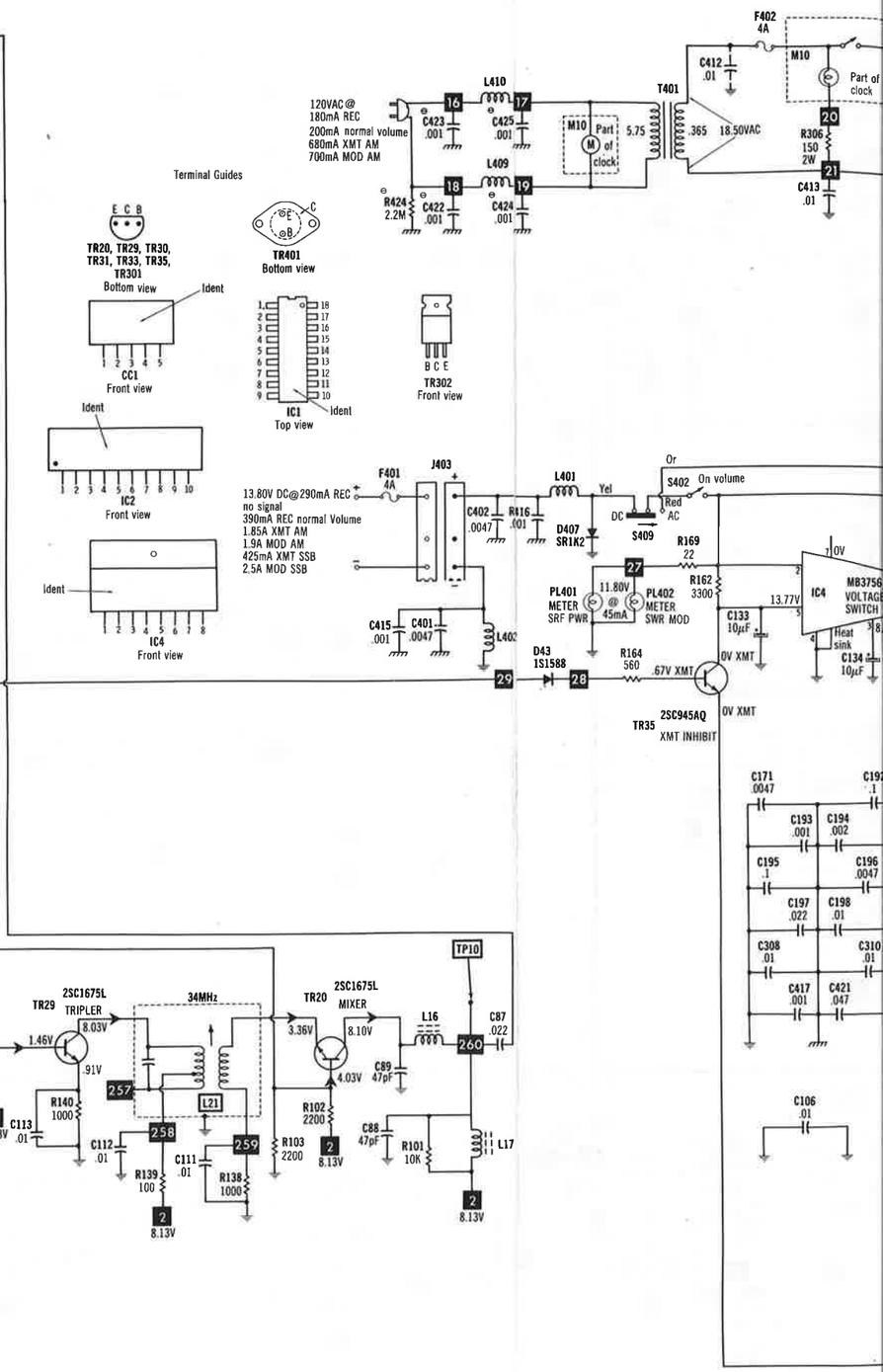


MAIN CB SCHEMATIC



PRESIDENT MODEL 1010002, MADISON





- Circuitry not used in some versions
- Circuitry used in some versions
- See parts list
- Nominal value
- Ground
- Chassis
- Common tie point
- Signal path
- Voltage path

Measurements made in Channel 1 with switching as shown unless noted.
Item numbers in rectangles appear in the alignment/adjustment instructions.
Supply voltage maintained as shown at input.
Voltages measured with digital meter, no signal.
Controls adjusted for normal operation.
Arrow at control indicates direction of advance.
Terminal identification may not be found on unit.
Resistors are 1/2W or less, 5% unless noted.
Value in ( ) used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE®

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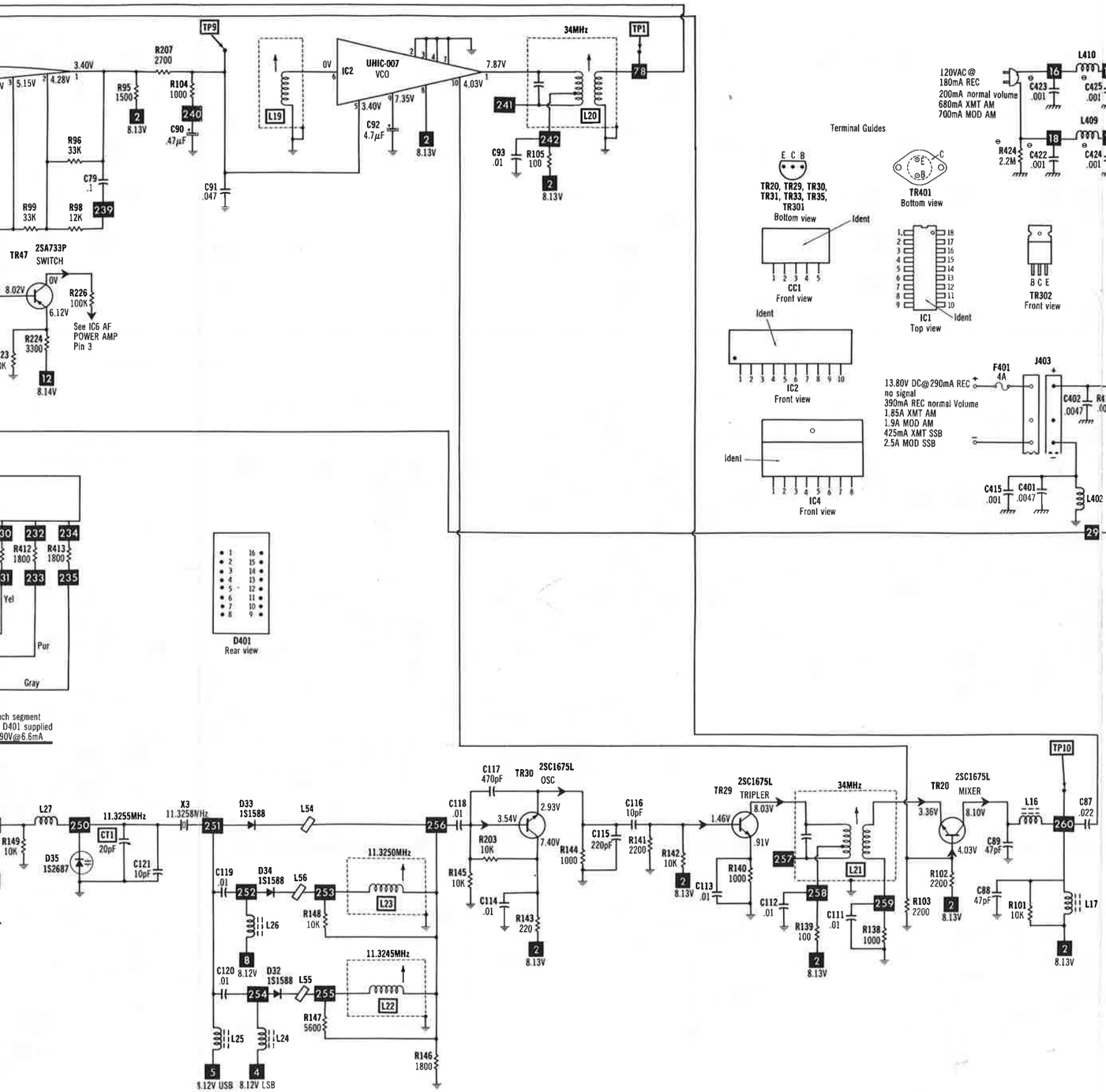
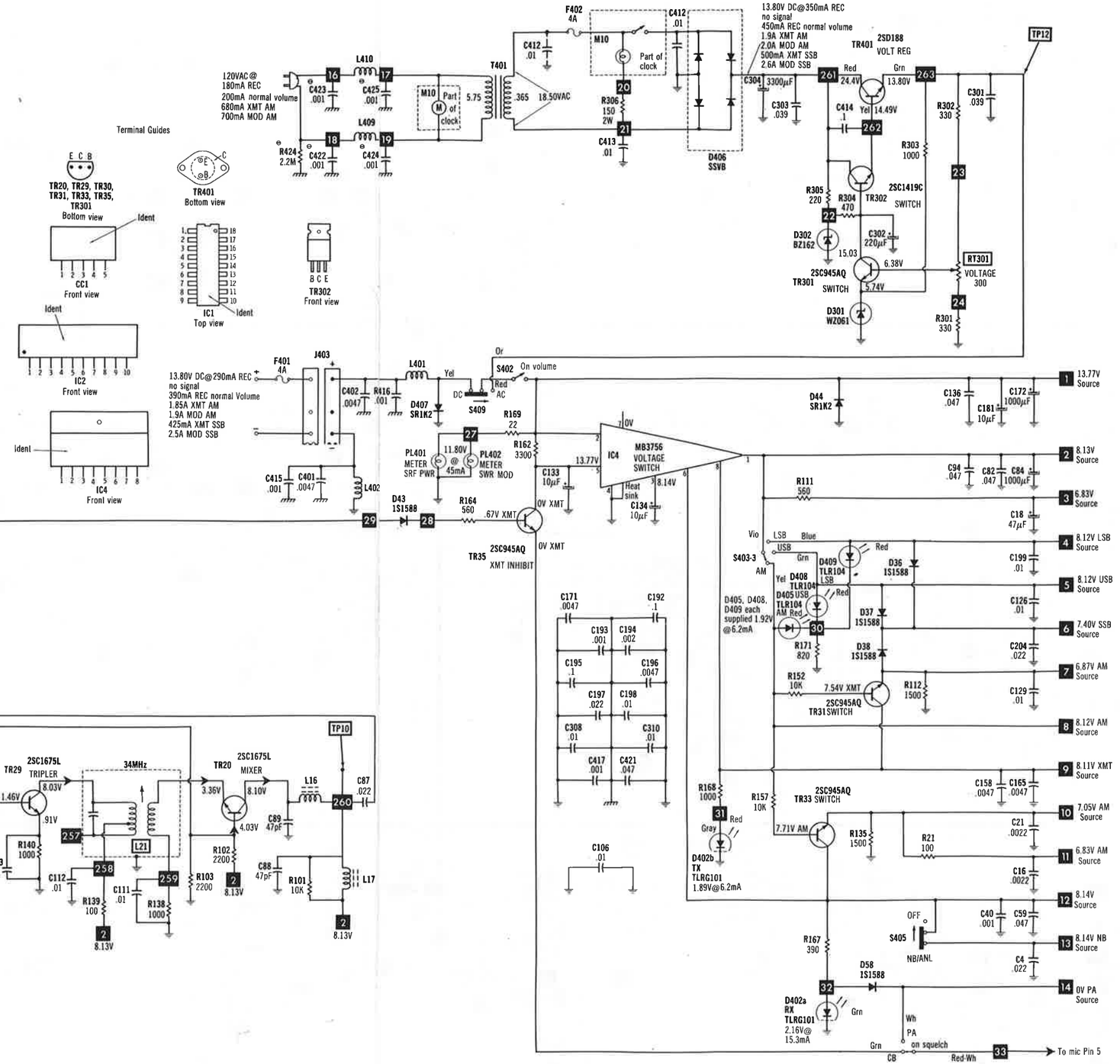
PLL SCHEMATIC

POWER SUP



PLL SCHEMATIC



POWER SUPPLY SCHEMATIC

PRESIDENT MODEL 1010002, MADISON

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.	MFGR. 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.
D25	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D26	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D27	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D28	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D29	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D30	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D31	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D32	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D33	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D34	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D35	1S2687				HEPR2502	REN 612			ECG612			103-176
	1S2687D	2000-323			HEPR2502	REN 612			ECG612			103-176
	1S2686				HEPR2502	REN 612			ECG612			103-176
D36	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D37	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D38	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D39	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D40	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D41	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D42	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D43	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D44	SR1K-2	2000-320	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	10D-1		GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
D45	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D46	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D47	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D48	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D49	MV13YH	2000-342		PTC302					ECG605			
D50	MV1Y	2000-339		PTC301		REN 601	SK3463		ECG601			
D51	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D52	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131

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.	MFGR. 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.
D53	1S158B	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D54	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D56	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D57	1S158B	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D58	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D59	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D60	1S158B	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D61	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D62	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D63	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D64	1N60P	2000-318	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
	1N60		1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	TM109/**	WEP134	103-Z9001
D65	1S1588	2000-332	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2473		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S2472		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
	1S953		GE-300	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG177	TM177	WEP1062	103-131
D301	WZ-061		GEZD-6.2	ZB6.2B		REN 137	SK3058	RT-237	ECG137A	TM137/**	WEP1154	103-Z9008
D302	BZ-162		GEZD-16	ZB16B		REN 5075	SK3751	RT-246	ECG5075A	TM5075/**	WEP1160	103-Z9013
D406	S5VB-10	2000-330	GEBR-206						ECG5313		WEP1044	
	S10VB-10		GEBR-206						ECG5313		WEP1044	
D407	SR1K-2		GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	10D-1		GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
FET1	3SK45B	2000-102	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
	3SK45		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
	3SK40		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
	3SK41		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
	3N201		GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	TM222	WEP905	121-826
FET2	2SK19BL	2000-105	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2SK19		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	JF1033		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2NJ233B		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2SK33		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2SK55		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
FET3	2SK19GR	2000-108	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	JF1033		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2NJ233B		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2SK33		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
	2SK55		GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312		121-756
IC1	MBB719	2000-030										
IC2	UHIC007	2000-029										
IC3	AN612	2000-031										
IC4	MB3756	2000-033										
IC5	S042P	2000-034										
IC6	TA7222P	2000-032										
TR1	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR2	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR3	2SC1730L	2000-214	GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*

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.	MFGR. 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.
TR4	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR5	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR6	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR7	2SA733P	2000-218	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-Z9003
	2SA564		GE-65	PTC103*	HEPS0019	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR8	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR9	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR10	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR11	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR12	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR13	2SA733P	2000-218	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-Z9003
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR14	2SC1674L	2000-240	GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
	2SC1342		GE-61*	PTC132	HEPS0014*	REN 229*	SK3018*	RT-108A*	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1856		GE-86	PTC121	HEPS0010	REN 123A	SK3018	RT-107	ECG123A	TM123A	WEP56	121-522
	2SC710		GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	TM123A*/**	WEP710	121-Z9000A
	2SC930		GE-60*	PTC132*	HEPS0016*	REN 229	SK3018	RT-308	ECG229*	TM229*/**	WEP956*	121-Z9021*
TR15	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR16	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR17	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR18	2SC1730L	2000-214	GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522

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.	MFGR. 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.
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
TR19	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR20	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR21	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR22	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR23	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR24	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR25	2SA733P	2000-218	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-Z9003
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR26	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR27	2SA733P	2000-218	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-Z9003
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR29	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR30	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR31	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR32	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*
TR33	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR34	2SC1675L	2000-213	GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1675		GE-213	PTC132*	HEPS0025*	REN 123A*	SK3122	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-522
	2SC839		GE-61*	PTC132*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP736*	121-Z9000A*
	2SC1674		GE-61	PTC132*	HEPS0010*	REN 107	SK3246	RT-308	ECG229*	TM229*	WEP956*	121-Z9021
	2SC1730		GE-17*	PTC136*	HEPS0025*	REN 107	SK3018*	RT-107A	ECG316*	TM316*	WEP535	121-972*

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

ITEM No.	TYPE No.	MFGR. 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.
TR35	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR36	2SC1969		GE-216	PTC186		REN 236	SK3197	RT-158	ECG236	TM236	WEP840	121-Z9040
	2SC1969B	2000-242	GE-216	PTC186		REN 236	SK3197	RT-158	ECG236	TM236	WEP840	121-Z9040
TR37	2SC496		GE-57	PTC163	HEPS5000	REN 295	SK3253	RT-162	ECG295	TM295/**	WEP880	121-880
	2SC496-0	2000-241	GE-57	PTC163	HEPS5000	REN 295	SK3253	RT-162	ECG295	TM295/**	WEP880	121-880
	2SC1846		GE-336	PTC904		REN 295	SK3253		ECG295	TM295	WEP913	121-880
	2SD471		GE-268	PTC144*	HEPS3001*	REN 289	SK3124	RT-114*	ECG289	TM289	WEP910	121-773
TR38	2SC1306	2000-211	GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235/**	WEP785	121-Z9039
	2SC2020		GE-329	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-Z9039
	2SC2184		GE-329	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-Z9039
	2SC2166		GE-215	PTC186		REN 235	SK3197	RT-146	ECG235	TM235	WEP785	121-Z9039
TR39	2SC1973	2000-215	GE-335				SK3250		ECG315	TM315	WEP922	921-1008
TR40	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR41	2SC1419C	2000-216	GE-66	PTC167	HEPS5027	REN 152	SK3054	RT-197	ECG152	TM152	WEP745	121-987-02
	2SC1419		GE-66	PTC167	HEPS5027	REN 152	SK3054	RT-197	ECG152	TM152	WEP745	121-987-02
	2SD325		GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	TM186/**	WEP751	121-Z9008
	2SC1096		GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-Z9008
	2SD235		GE-66	PTC154	HEPS3061	REN 152	SK3054	RT-197	ECG152	TM152/**	WEP745	121-987-02
TR42	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR43	2SC458C	2000-203	GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC945		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR44	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR45	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR46	2SA733P	2000-218	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-Z9003
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR47	2SA733P	2000-218	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA733		GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP916	121-952
	2SA495		GE-221*	PTC103*	HEPS0013*	REN 159*	SK3114	RT-303	ECG159*	TM159*/**	WEP495	121-Z9003
	2SA564		GE-65	PTC103*	HEPS0019*	REN 234	SK3114	RT-303	ECG234	TM234	WEP564	121-879
TR301	2SC945AQ	2000-235	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC945A		GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
	2SC458		GE-210*	PTC121*	HEPS0009*	REN 123A*	SK3122	RT-187	ECG289	TM289/**	WEP458	121-773
	2SC372		GE-61*	PTC121*	HEPS0015*	REN 123A*	SK3444	RT-308	ECG123A*	TM123A*/**	WEP372	121-Z9000A*
	2SC900		GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
	2SC828		GE-61*	PTC139*	HEPS0015*	REN 199	SK3444	RT-302	ECG199	TM199/**	WEP828	121-972
	2SC1740		GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*	TM123A*	WEP736*	121-Z9000A*
TR302	2SC1419C	2000-216	GE-66	PTC167	HEPS5027	REN 152	SK3054	RT-197	ECG152	TM152	WEP745	121-987-02
	2SC1419		GE-66	PTC167	HEPS5027	REN 152	SK3054	RT-197	ECG152	TM152	WEP745	121-987-02
	2SD325		GE-28	PTC110	HEPS5027	REN 186	SK3197	RT-197	ECG186	TM186/**	WEP751	121-Z9008
	2SC1096		GE-28	PTC110	HEPS3041	REN 186	SK3197	RT-166	ECG186A	TM186A/**	WEP1096	121-Z9008
	2SD235		GE-66	PTC154	HEPS3061	REN 152	SK3054	RT-197	ECG152	TM152/**	WEP745	121-987-02
TR401	2SD188		GE-75	PTC118	HEPS7004	REN 130	SK3027	RT-131	ECG130	TM130	WEP704	121-Z9011
	2SD188M	2000-252	GE-75	PTC118	HEPS7004	REN 130	SK3027	RT-131	ECG130	TM130	WEP704	121-Z9011
	2SC1618		GE-14	PTC140	HEPS7004	REN 130	SK3027	RT-131	ECG130	TM130	WEP704	121-Z9011
	2SC1777		GE-14	PTC129A	HEPS7004	REN 130	SK3027	RT-131	ECG130	TM130	WEP704	121-Z9011

* Lead configuration may vary from original.
/** Also available as exact type replacement.

(11) ±5% Tol.
(12) No information available.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFGR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C10	.22 35V			TDC224M050EL	QDT1-10	SD50-R229
C18	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C23	.47 35V			TDC474M050EL	QDT1-19	SD50-R479
C24	4.7 10V			TDC475M010EL	QDT1-48	SD10-4R79
C25	.47 50V	1800-611		TDC474M050EL	QDT1-19	SD50-R479
C28	.47					
C29	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C33	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C36	.1 35V			TDC104M050EL	QDT1-2	SD50-R109
C62	1 25V	1800-606		TDC105M035EL		SD35-19
C67	1 25V	1800-606		TDC105M035EL		SD35-19
C72	22 10V	1800-331	PC25-25	VTT22B16	QV1-55	EV-1224
C73	22 10V	1800-331	PC25-25	VTT22B16	QV1-55	EV-1224
C74	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C80	2.2 25V	1800-603		TDC225M035FL		SD35-2R29
C81	2.2 25V	1800-603		TDC225M035FL		SD35-2R29
C84	1000 10V	1800-332	PC1000-16	VTT1000L10	QV1-179	EV-1160
C90	.47 35V			TDC474M050EL	QDT1-19	SD50-R479
C92	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C95	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C99	2.2 50V		PC2-100	VTT2R2A50	QV1-19	EV-1517
C100	22 10V	1800-331	PC25-25	VTT22B16	QV1-55	EV-1224
C101	.1 35V			TDC104M050EL	QDT1-2	SD50-R109
C103	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C104	.47 35V			TDC474M050EL	QDT1-19	SD50-R479
C108	.47 50V	1800-301	PC1-50	VTTR47A63	QV1-3	EV-1610
C109	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C133	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C134	10 16V	1800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C135	.47 50V	1800-301	PC1-50	VTTR47A63	QV1-3	EV-1610
C144	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C153	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C172	1000 25V	1800-333	WBR1000-25*	VTT1000M25	QV1-185	EV-1360
C173	10 16V	800-306	PC10-25	VTT10B25	QV1-41	EV-1222
C174	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C175	470 10V		PC500-16	VTT470K16	QV1-149	EV-1150
C176	47 10V	1800-324	PC50-16	VTT47D16	QV1-73	EV-1226
C179	22 6V	1800-610		TDC226M015FL	QDT1-82	SD15-229
C180	4.7 25V	1800-304	PC5-50	VTT4R7B50	QV1-27	EV-1319
C181	10 25V	1800-330	PC10-25	VTT10B25	QV1-43	EV-1322
C186	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C190	.47 50V	1800-301	PC1-50	VTTR47A63	QV1-3	EV-1610
C191	1 50V	1800-302	PC1-50	VTT1A50	QV1-11	EV-1615
C205	.47 50V	1800-301	PC1-50	VTTR47A63	QV1-3	EV-1610
C209	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C212	47 10V		PC50-16	VTT47D16	QV1-73	EV-1226
C302	220 16V	1800-314	PC250-25	VTT220H16	QV1-117	EV-1240
C304	3300 35V	1800-336				

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C1	15 NPO 5%		DTZ-15	NP015	CN0415		10TCC-Q15
C2	.022 50V		DC-253	MGP025	TA125		TG-S25
C3	.022 50V		DC-253	MGP025	TA125		TG-S25
C4	.022 50V		DC-253	MGP025	TA125		TG-S25
C5	.001 50V		DD-102		GP210		10TS-D10
C6	.022 50V		DC-253	MGP025	TA125		TG-S25
C7	.022 50V		DC-253	MGP025	TA125		TG-S25
C8	.001 50V		DD-102		GP210		10TS-D10
C9	82 N750 5%				CN7482		10TCU-Q82
C11	.001 50V		DD-102		GP210		10TS-D10
C12	100 N750 10%		DTN-100	N100	CN7310		10TCU-T10
C13	.022 50V		DC-253	MGP025	TA125		TG-S25
C14	.001 50V		DD-102		GP210		10TS-D10
C15	100 N750 10%		DTN-100	N100	CN7310		10TCU-T10
C16	.022 50V		DC-253	MGP025	TA125		TG-S25
C17	100 N750 10%		DTN-100	N100	CN7310		10TCU-T10
C19	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C20	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C21	.022 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C22	.022 50V		DC-253	MGP025	TA125		TG-S25
C26	39 NPO 5%				CN0439		10TCC-Q39
C27	.022 50V		DC-253	MGP025	TA125		TG-S25
C30	.001 50V		DD-102		GP210		10TS-D10
C31	12 NPO				CN0412		10TCC-Q12
C32	.001 50V		DD-102		GP210		10TS-D10
C34	.001 50V		DD-102		GP210		10TS-D10
C35	.001 50V		DD-102		GP210		10TS-D10
C37	.001 50V		DD-102		GP210		10TS-D10
C38	4 NPO		DTZ-4R7	NP04P7	CN0547		10TCC-V47
C39	.001 50V		DD-102		GP210		10TS-D10
C40	.001		DD-102		GP210		10TS-D10
C41	2 NPO		DTZ-2R2	NP02P2	CN0522	10TCC-V22	
C42	.001 50V		DD-102		GP210		10TS-D10
C43	.001 50V		DD-102		GP210		10TS-D10
C44	.001 50V		DD-102		GP210		10TS-D10
C45	100 N750 10%		DTN-100	N100	CN7310		10TCU-T10
C46	.022			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C47	2 NPO		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C48	5 NPO						10TCC-V50
C49	.022 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C50	.022 50V		DC-253	MGP025	TA125		TG-S25
C51	.022 50V		DC-253	MGP025	TA125		TG-S25
C52	.022 50V		DC-253	MGP025	TA125		TG-S25

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C53	.022 50V		DC-253	MGP025	TA125		TG-S25
C54	.022 50V		DC-253	MGP025	TA125		TG-S25
C55	.022 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C56	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C57	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C58	.022 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C59	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C60	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C61	.022		UK25-223				HY-725
C63	.022 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C64	220 N750 10%		DTN-220	N220	CN7322		10TCU-T22
C65	.001 50V		DD-102		GP210		10TS-D10
C66	220 N750 10%		DTN-220	N220	CN7322		10TCU-T22
C68	15 NPO 5%		DTZ-15	NP015	CN0415		10TCC-Q15
C69	.0022 50V			DPMS6D22	M192P2229R8	QFT2-27	1FT-D22
C70	.001 50V			DPMS6D1	EWF1A210	QFT2-1	1FT-D10
C71	.001 50V			DPMS6D1	EWF1A210	QFT2-1	1FT-D10
C75	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C76	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C78	.01 50V			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C79	.1 50V			WMF05P1	EWF05010	QFT2-215	1FT-P10
C82	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C85	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C86	18 NPO				CN0418		10TCC-Q18
C87	.022 50V		DC-253	MGP025	TA125		TG-S25
C88	47 NPO 5%		DTZ-47	NP047	CN0447		10TCC-Q47
C89	47 NPO 5%		DTZ-47	NP047	CN0447		10TCC-Q47
C91	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C93	.01 50V		UK50-103		MAG5011		
C94	.047			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C96	.01 50V		UK50-103		MAG5011		
C97	.01 50V		UK50-103		MAG5011		
C98	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C102	.0047 50V			WMF1D47	M192P4729R8	QFT2-63	1FT-D47
C105	.01 50V			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C106	.01		UK50-103		MAG5011		
C107	.01 50V			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C110	.01 50V			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C111	.01 50V		UK50-103		MAG5011		
C112	.01 50V		UK50-103		MAG5011		
C113	.01 50V		UK50-103		MAG5011		
C114	.01 50V		UK50-103		MAG5011		
C115	220 50V		DD-221		GP322		10TS-T22
C116	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C117	470 50V		DD-471	GP470	GP347		10TS-T47
C118	.01 50V		UK50-103		MAG5011		
C119	.01 50V		UK50-103		MAG5011		
C120	.01 50V		UK50-103		MAG5011		
C121	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C122	100 N220 5%	1800-009			*		10TCR-T10
C123	220 N750 10%		DTN-220	N220	CN7322		10TCU-T22
C124	.022 50V		DC-253	MGP025	TA125		TG-S25
C125	5 NPO	1800-095					10TCC-V50
C126	.01 50V		UK50-103		MAG5011		
C127	82 NPO 5%		DTZ-82	NP082	CN0482		10TCC-Q82
C128	27 NPO 5%				CN0427		10TCC-Q27
C129	.01 50V		UK50-103		MAG5011		
C130	1 NPO				CN0510		10TCC-V10
C131	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C132	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C136	.047 50V			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C137	.5 NPO	1800-002					
C138	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C139	.5 NPO	1800-002					
C140	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C141	82 NPO 5%		DTZ-82	NP082	CN0482		10TCC-Q82
C142	39 NPO 5%				CN0439		10TCC-Q39
C143	180 N220 10%	1800-116			*		10TCR-T18
C145	1 NPO				CN0510		10TCC-V10
C146	390 N750 10%		DTN-390				10TCU-T39
C147	47 NPO 5%		DTZ-47	NP047	CN0447		10TCC-Q47
C148	.1 50V			WMF05P1	EWF05010	QFT2-215	1FT-P10
C149	220 N220 10%				*		10TCR-T22
C150	330 N750 10%		DTN-330	N330	CN7333		10TCU-T33
C151	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C152	470 N750 10%		DTN-470				10TCU-T47
C154	.047 50V						
C155	.1 50V 10%			WMF05P1	EWF05010	QFT2-215	1FT-P10
C156	220 N750 10%		DTN-220	N220	CN7322		10TCU-T22
C157	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C158	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C159	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C160	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C161	330 N750 10%		DTN-330	N330	CN7333		10TCU-T33
C162	47 NPO 10%		DTZ-47	NP047	CN0447		10TCC-Q47
C163	2 NPO		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C164	.01 50V		UK50-103		MAG5011		
C165	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C166	.0047						
C168	.0047		DD-472	GP4700	GP247		5GA-D47
C169	.0047		DD-472	GP4700	GP247		5GA-D47
C171	.0047		DD-472	GP4700	GP247		5GA-D47
C177	.1 50V			WMF05P1	EWF05010	QFT2-215	1FT-P10
C178	.001 50V			DPMS6D1	EWF1A210	QFT2-1	1FT-D10
C182	.022 50V			DPMS2S22	M192P2239R8	QFT2-127	1FT-S22
C183	.1 50V			WMF05P1	EWF05010	QFT2-215	1FT-P10
C185	.001 50V			DPMS6D1	EWF1A210	QFT2-1	1FT-D10
C187	.1 50V			WMF05P1	EWF05010	QFT2-215	1FT-D10
C189	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C192	.1 50V		CK-104		MAG5001		
C193	.001		DD-102		GP210		10TS-D10
C194	.022 50V		DC-253	MGP025	TA125		TG-S25

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C195	.1 50V		CK-104		MAG5001		
C196	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C197	.022		DC-253	MGP025	TA125		TG-S25
C198	.01 50V		UK50-103		MAG5011		
C199	.01 50V		UK50-103		MAG5011		
C200	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C201	.01 50V		UK50-103		MAG5011		
C202	.01 50V		UK50-103		MAG5011		
C203	47 NPO 10%		DTZ-47	NP047	CN0447		10TCC-Q47
C204	.022 50V		DC-253	MGP025	TA125		TG-S25
C206	.5 NPO	1800-002					
C207	47 NPO 5%		DTZ-47	NP047	CN0447		10TCC-Q47
C208	.001		DD-102		GP210		10TS-D10
C210	.0047		DD-472	GP4700	GP247		5GA-D47
C211	.0047		DD-472	GP4700	GP247		5GA-D47
C213	.047			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C214	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C221	.001		DD-102		GP210		10TS-D10
C240	10 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C241	.047			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C243	33 NPO 5%		DTZ-33	NP033	CN0433		10TCC-Q33
C301	.039			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C303	.039			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39
C308	.01 50V		UK50-103		MAG5011		
C310	.01 50V		UK50-103		MAG5011		
C401	.0047		DD-472	GP4700	GP247		5GA-D47
C402	.0047		DD-472	GP4700	GP247		5GA-D47
C404	.001 50V		DD-102		GP210		10TS-D10
C405	.001 50V		DD-102		GP210		10TS-D10
C406	.001 50V		DD-102		GP210		10TS-D10
C407	.001 50V		DD-102		GP210		10TS-D10
C408	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C409	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C410	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C411	.0047 50V		DD-472	GP4700	GP247		5GA-D47
C412	.01 50V		UK50-103		MAG5011		
C413	.01 50V		UK50-103		MAG5011		
C414	.1 50V		CK-104		MAG5001		
C415	.001 50V		DD-102		GP210		10TS-D10
C416	.001 50V		DD-102		GP210		10TS-D10
C417	.001 50V		DD-102		GP210		10TS-D10
C421	.047 50V		UK25-503		MAG2515		HY-735
C422	.001 125V		DD-102		GP210		10TS-D10
C423	.001 125V		DD-102		GP210		10TS-D10
C424	.001 125V		DD-102		GP210		10TS-D10
C425	.001 125V		DD-102		GP210		10TS-D10
C426	.0033						
C427	.0047		DD-472	GP4700	GP247		5GA-D47
CC1		1800-103					
CT1	20	1800-203					
CT2	20	1800-203					

*Not normally in distributor's stock. Available thru distributor on order to manufacturer.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA			
			MFGR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
RT301	Voltage	300	1900-221	T-300	MTC52L1	X201R501B
VR1	AM Signal Meter	5000	1900-201			U260R502B
	AM Signal Meter	20K	1900-204(6)			U260R253B
VR2	SSB Signal Meter	5000	1900-201			U260R502B
	SSB Signal Meter	20K	1900-204(6)			U260R253B
VR3	Squelch Range	1000	1900-220			U260R102B
VR4	Carrier Balance	10K	1900-203			U260R103B
VR5	XMT Adjust	3000	1900-215			U260R502B
VR6	RF PWR Meter	100K	1900-211			U260R104B
VR7	MOD Meter	100K	1900-211			U260R104B
	MOD Meter	50K	1900-202(6)			U260R503B
VR8	Final Bias	5000	1900-201			U260R502B
VR9	Driver Bias	500	1900-205			U260R501B
VR10	AM Carrier Power	5000	1900-201			U260R502B
VR11	SSB ALC	10K	1900-203			U260R103B
VR12	AWI	3000	1900-215			U260R502B
VR401	Squelch/CB-PA Switch/CB-PA Switch	100K	1900-139			
VR402	Clarifier	20K	1900-126			
VR403	Volume/On-Off Switch	10K	1900-137			
VR404	RF Gain	1000	1900-124			
VR405	MIKE Gain	1000	1900-138			
VR406-1	SWR/CAL	5000	1900-116			
VR406-2	SWR/CAL	5000	(18)			

(6) Alternate part, may be used in some versions.
(18) Includes VR406-1 and VR406-2.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.
R417	3.9 Ohms 5W		1900-378

ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFGR. PART No.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	Noise Blanker Input (7.8MHz)	2200-022	LA-038	CBS512-7TC	
L2	Noise Blanker Input (7.8MHz)	2200-029	LA-179		
L3	IF (455kHz)	2200-002	LA-163		
L4	Antenna (27MHz)	2200-071	LA-261		
L5	RF Amp (27MHz)	2200-070	LA-260		
L6	RF Amp (27MHz)	2200-069	LA-259		
L7	Mixer (7.8MHz)	2200-068	LA-258		
L8	Mixer (7.8MHz)	2200-067	LA-257		
L9	Mixer (7.8MHz)	2200-098	LA-268		
L10	Mixer (7.8MHz)	2200-099	LA-269		
L11	Choke (100uH)	2200-202	LZ-012		
L12	IF Amp (7.8MHz)	2200-501	LA-270		
L13	IF (455kHz)	2200-502	LA-272		
L14	IF Amp (7.8MHz)	2200-503	LA-271		
L15	IF Amp (455kHz)	2200-094	LA-264		
L16	Choke (100uH)	2200-202	LZ-012		
L17	Choke (470uH)	2200-040	LZ-012		
L19	VCO	2200-072	LA-216		
L20	VCO Buffer (37MHz)	2200-055	LA-195		
L21	Tripler (34MHz)	2200-074	LA-256		
L22	Frequency Adjust	2200-093	LA-273		
L23	Frequency Adjust	2200-097	LA-267		
L24	Choke (470uH)	2200-040	LZ-012		
L25	Choke (470uH)	2200-040	LZ-012		
L26	Choke (470uH)	2200-040	LZ-012		
L27	Choke (470uH)	2200-040	LZ-012		
L28	Choke (470uH)	2200-040	LZ-012		
L29	Choke (470uH)	2200-040	LZ-012		
L30	Frequency Adjust (7.7985MHz)	2200-096	LA-266		
L31	Frequency Adjust(7.8MHz)	2200-095	LA-265		
L32	Choke (470uH)	2200-040	LZ-012		
L33	Choke (100uH)	2200-202	LZ-012		
L35	Choke	2200-038	LE-051		
L36	TVI Trap (54MHz)	2200-034	LC-019	CB305	
L37	Loading Final	2200-038	LE-051		
L38	Final (27MHz)	2200-034	LC-019	CB305	
L39	Choke	2200-080	LD-098		
L42	Choke	2200-080	LD-098		
L44	Choke	2200-061	LD-096		
L45	XMT (27MHz)	2200-079	LA-254		
L46	XMT Mixer (27MHz)	2200-078	LA-220		
L47	Mixer VCO (37MHz)	2200-028	LA-160		
L48	Balanced Modulator (7.8MHz)	2200-077	LA-219		
L57	Choke				
L401	Choke	2200-035	LD-013		
L402	Choke	2200-035	LD-013		
L403	Choke	2200-059	LD-089		
L406	Choke	2200-059	LD-089		
L407	Choke	2200-059	LD-089		
L408	Choke	2200-059	LD-089		
L409	Choke				
L410	Choke				

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T401	120V AC @ 700mA AC	18.50V AC @ 2.55A AC	2600-010 TF-143(1)			(1) Number on unit.

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.	
SP401	4" PM 8 Ohms	3100-001	4A1Z8	

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
F401	4A Quick Acting			(4) AGC	HRK	312004	150145	
F402	4A Quick Acting		1100-816	(4) AGC	HTA	312004	442-006A	

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	3200-004	18-032	18-034	18-010		1	2	5	3	NC	4

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
D401	LED	2000-306	Numerical Readout (TLR-321)
D402a	LED	2000-343	Receive TLRG101 (2.16 @ 15.3mA)
D402b	LED	2000-343	Transmit TLRG101 (1.89V @ 6.2mA)
D403	LED	2000-349	CH 9 TLR104 (1.92V @ 6.2mA)
D404	LED	2000-330	AWI TLR124
FT1	Filter	2200-302	Ceramic (455kHz) FL-050
FT2	Filter	2200-310	Crystal (7.8MHz) FL-046
FT3	Filter	2200-311	Crystal (7.8MHz) FL-067
J401	Jack	1100-001	Miniature Phone (JK-010)
J402	Jack	1100-001	Miniature Phone (JK-010)
J403	Jack	1100-003	DC Power Connector (JK-052)
J404	Jack	1100-023	Microphone Connector (5 Pin)
J405	Jack	1100-002	Antenna Connector (JK-068)
J406	Jack	1200-004	EXT. Speaker Plug Assembly
J407	Jack	1100-009	Headphone (JK-005)
L34	Ferrite Bead	2200-109	Core for SWR (LD-104)
L40	Ferrite Bead	2200-052	(LD-087)
L41	Ferrite Bead	2200-108	(LD-101)
L43	Ferrite Bead	2200-052	(LD-087)
L51	Ferrite Bead	2200-103	(LD-077)
L52	Ferrite Bead	2200-103	(LD-077)
L53	Ferrite Bead	2200-103	(LD-077)
L54	Ferrite Bead		
L55	Ferrite Bead		
L56	Ferrite Bead		
L404	Ferrite Bead	2200-103	(LD-077)
L405	Ferrite Bead	2200-103	(LD-077)
M10	Motor		Part of Clock
M401	Meter	2900-005	S/RF MT-125
M402	Meter	2900-007	Modulation/SWR (MT-140)
PL401	Lamp	2500-003	Power (11.80V @ 45mA) S/RF
PL402	Lamp	2500-003	SWR/Modulation (11.80V @ 45mA)
S401	Switch	3000-120	Channel Selector
S402	Switch		Power On/Off (Part of Volume Control)
S403	Switch	3000-111	Mode Selector (AM/LSB/USB)
S404	Switch		PA/CB (Part of Squelch Control)
S405	Switch	3000-008	NB/ANL
S408	Switch	3000-008	RF/Modulation, SWR
S409	Switch	3000-112	AC/DC
S411	Switch	3000-008	CH 9
X1	Crystal	2100-014	7.345MHz (QX-093)
X2	Crystal	2100-001	10.240MHz (QX-077)
X3	Crystal	2100-015	11.3250MHz (QX-086)
X4	Crystal	2100-016	7.8MHz (QX-092)
	Cord	2700-001	DC Power
	Cord	2700-002	AC Power
	PCB	3500-051	Channel LED
	PCB	3500-050	Channel Switch
	PCB	3500-042	DC Power Supply
	PCB	3500-052	EXT. Speaker
	PCB	3500-029	Microphone
	PCB	3500-044	Phone Jack
	PCB	3500-028	Push-Switch
	Clock	3600-001	

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

ITEM	PART No.
Knob, Bar Style	1300-005
Knob, Channel Selector	1300-004
Knob, Clock Time Set	1300-015
Knob, Control (Round)	1300-002
Knob, Inside Clock	1300-014
Control Plate, Metal	1700-510

ITEM	PART No.
Knob, Outside Clock	1300-013
Front Panel, Plain	3300-518
Knob, Push-Switch	1300-003
Spring Insert, Channel Selector Knob	1100-305
Spring Insert, Inside Clock Knob	1100-307
Top Cover	3300-125