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 8015A

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

 Printed in U. S. of America 7CE569

ALIGNMENT INSTRUCTIONS

CAUTION: Use isolation transformer or observe polarity when connecting test equipment.
Maintain line voltage at 120V AC. Allow a 15-minute warm-up period.
Adjustments made with 13.8-volt DC input.
Connect low sides of test equipment to ground unless specified otherwise.
Connect 50-ohm dummy load or antenna before keying transmitter.
Suggested Alignment Tools: GC ELECTRONICS:
L101,L301,L302,L304,L307,L308,L402,L403,L404,
T101,T102,T103,T104,T301,T302 5009

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP10.	Ch. 19 Delta Tune - Midrange		Check for 10.240MHz
Input of DC meter to TP11.	Ch. 1	L402	Adjust for 1.50 volts.
Input of oscilloscope to TP1.	Ch. 19	L403, L404	Adjust for maximum.
Input of frequency counter to TP12.	Ch. 19, Xmit		Check for 10.695MHz.
Input of frequency counter to TP15.	Ch. 1		Check for 16.270MHz. Repeat for all channels. (Channel frequency -10.695MHz = frequency on counter)

RECEIVER ALIGNMENT

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
Set generator output low enough to prevent AGC limiting.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP13. 455kHz, 1000Hz @ 30% modulation.	Ch. 13	T104, T103, T102	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 13 Delta Tune - Midrange RF Gain - Max	T101, L101	Adjust for maximum output. Repeat above steps if necessary.

RECEIVER ADJUSTMENTS

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

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 200uV.	Ch. 19, Delta Tune -Midrange RF Gain Max.	R135	SQUELCH RANGE Set squelch control R133 fully clockwise. Adjust R135 so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	R137	S METER Adjust for 9 on S scale of meter.

TRANSMITTER ALIGNMENT

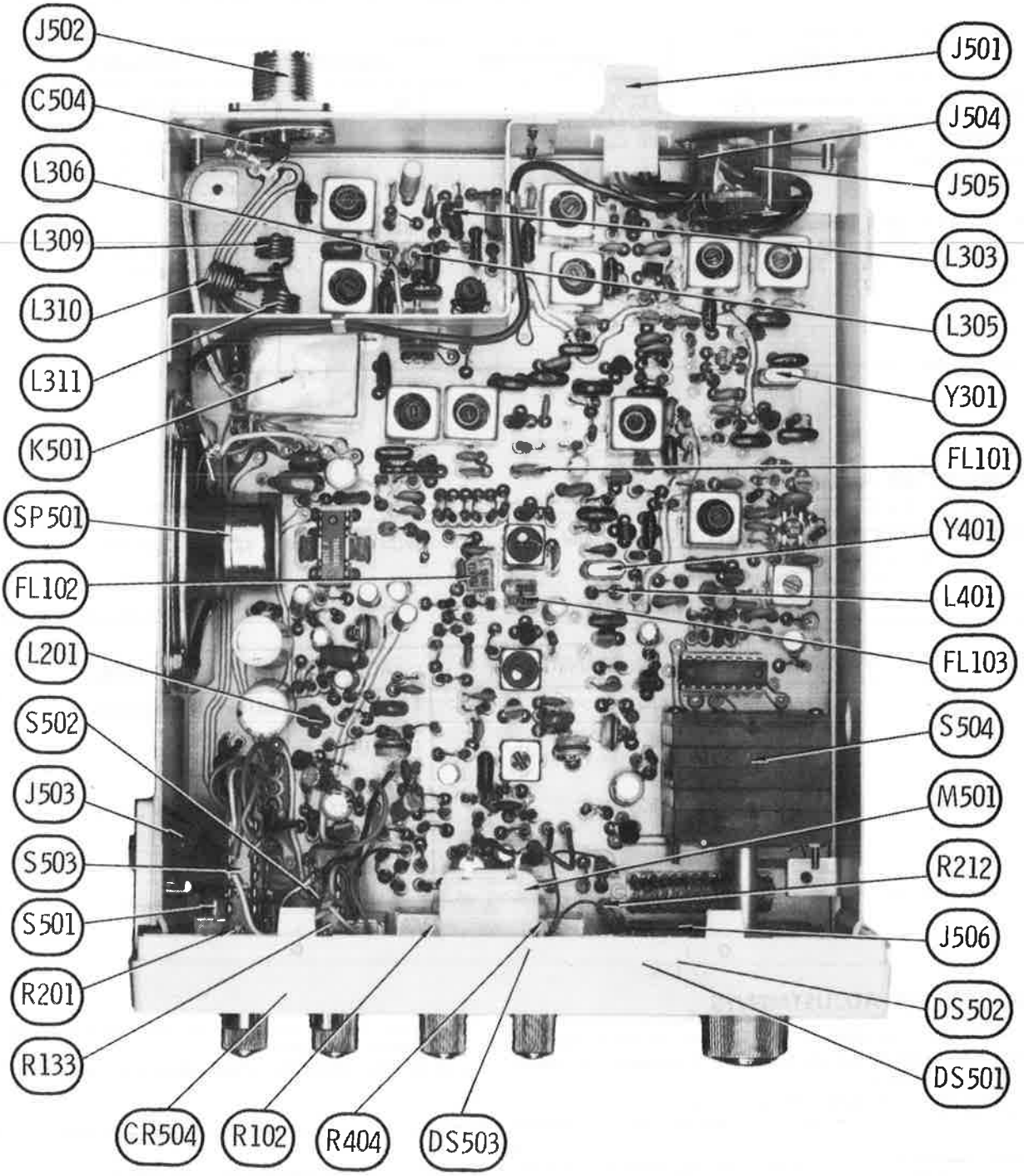
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.
NOTE: Be sure to check transmit frequency and power on all active channels after alignment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
	Ch. 19	L301,T301, L302,T302, L304,L307, L308	Adjust for maximum.
	Ch. 19	L308,L307	Adjust for 4 watts maximum.

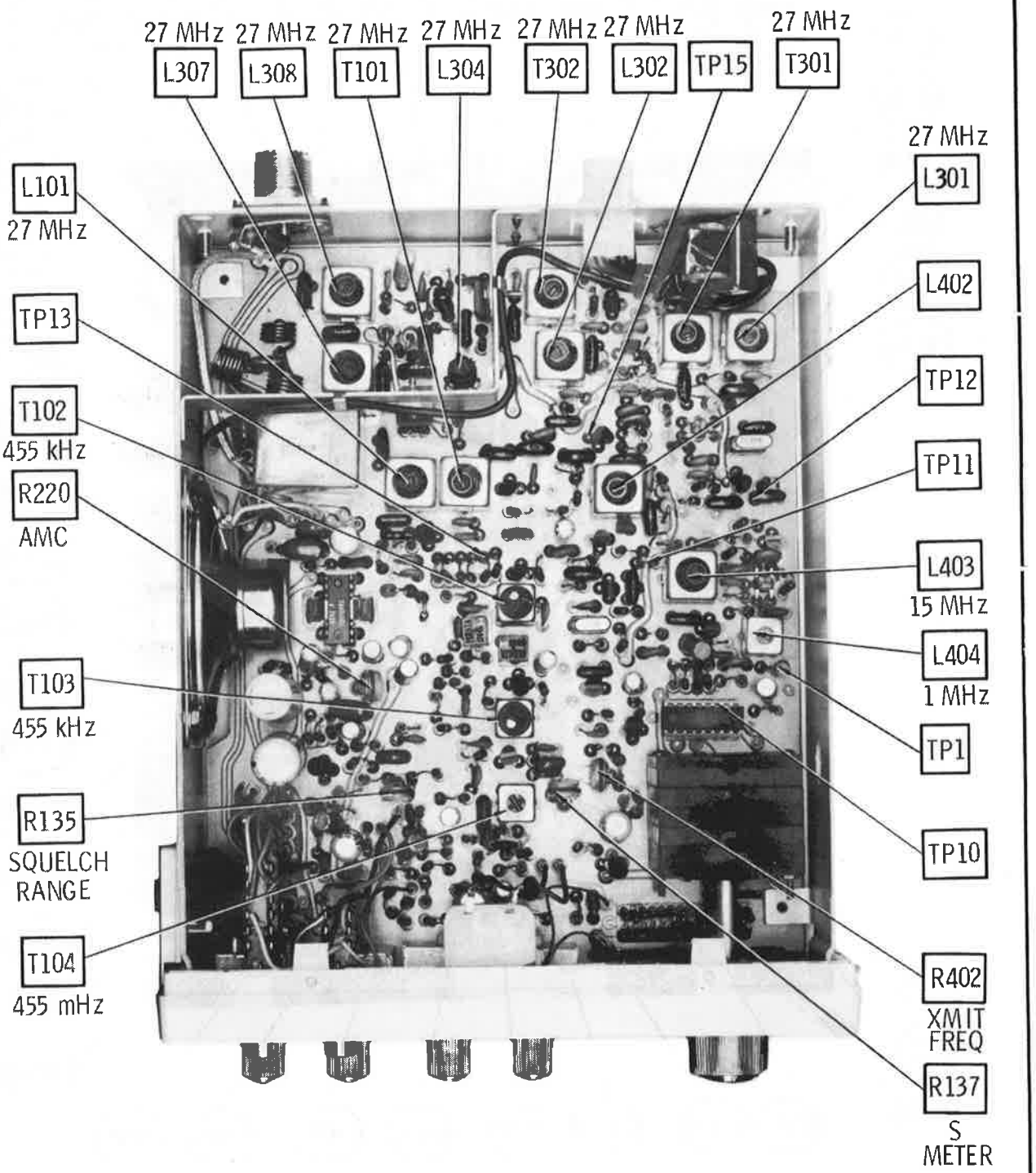
TRANSMITTER ADJUSTMENTS

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

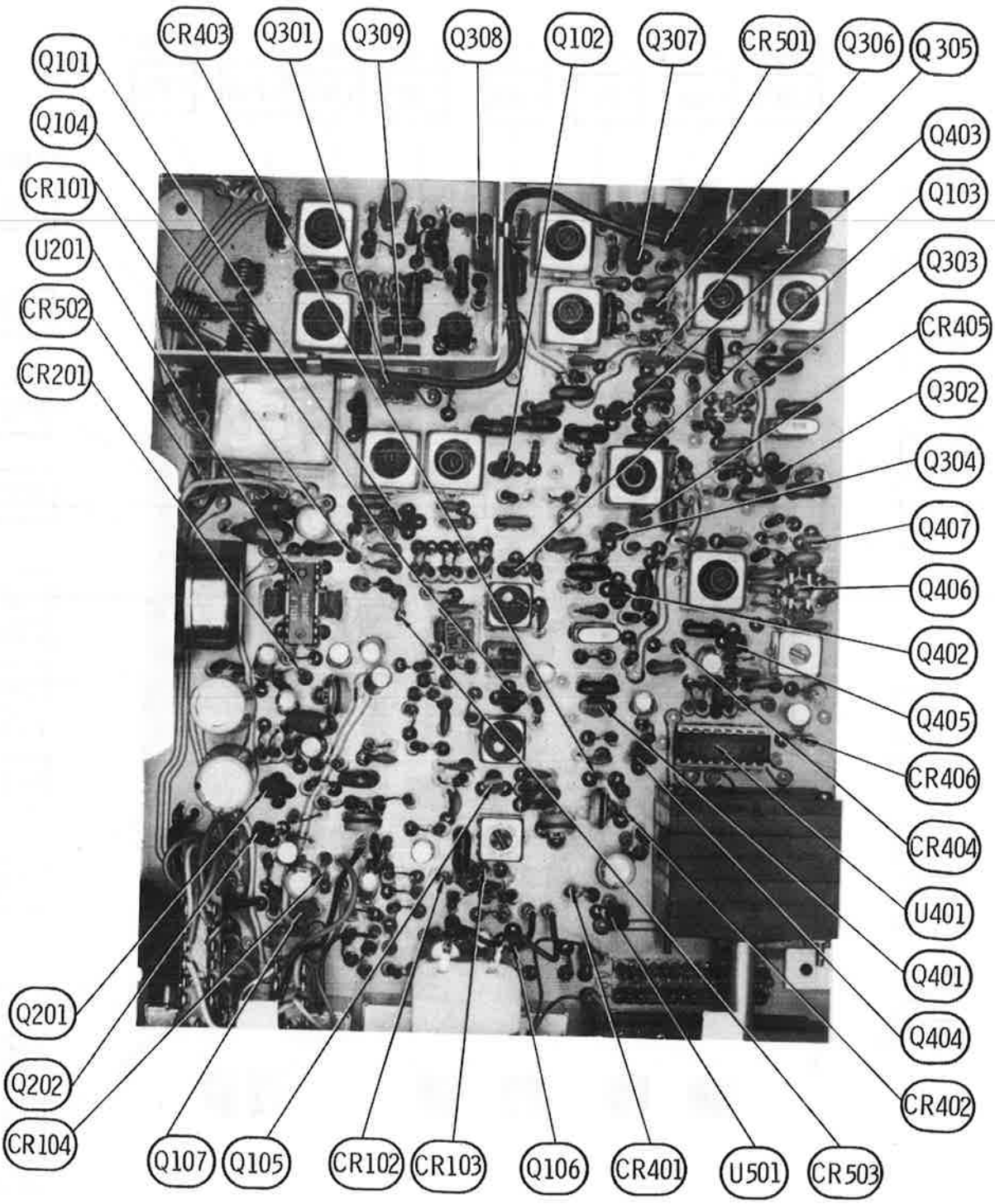
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Modulation meter to antenna jack. Inject a 1000Hz, .1-volt signal at Mic input.	Ch. 19	R220	AMC Adjust R220 for 90% modulation.
Input of frequency counter loosely coupled to antenna jack.	Ch. 19	R402	XMIT FREQ Adjust for 27.185MHz.


J502
C504
L306
L309
L310
L311
K501
SP501
FL102
L201
S502
J503
S503
S501
R201
R133
CR504
R102
R404
DS503
J501
J504
J505
L303
L305
Y301
FL101
Y401
L401
FL103
S504
M501
R212
J506
DS502
DS501

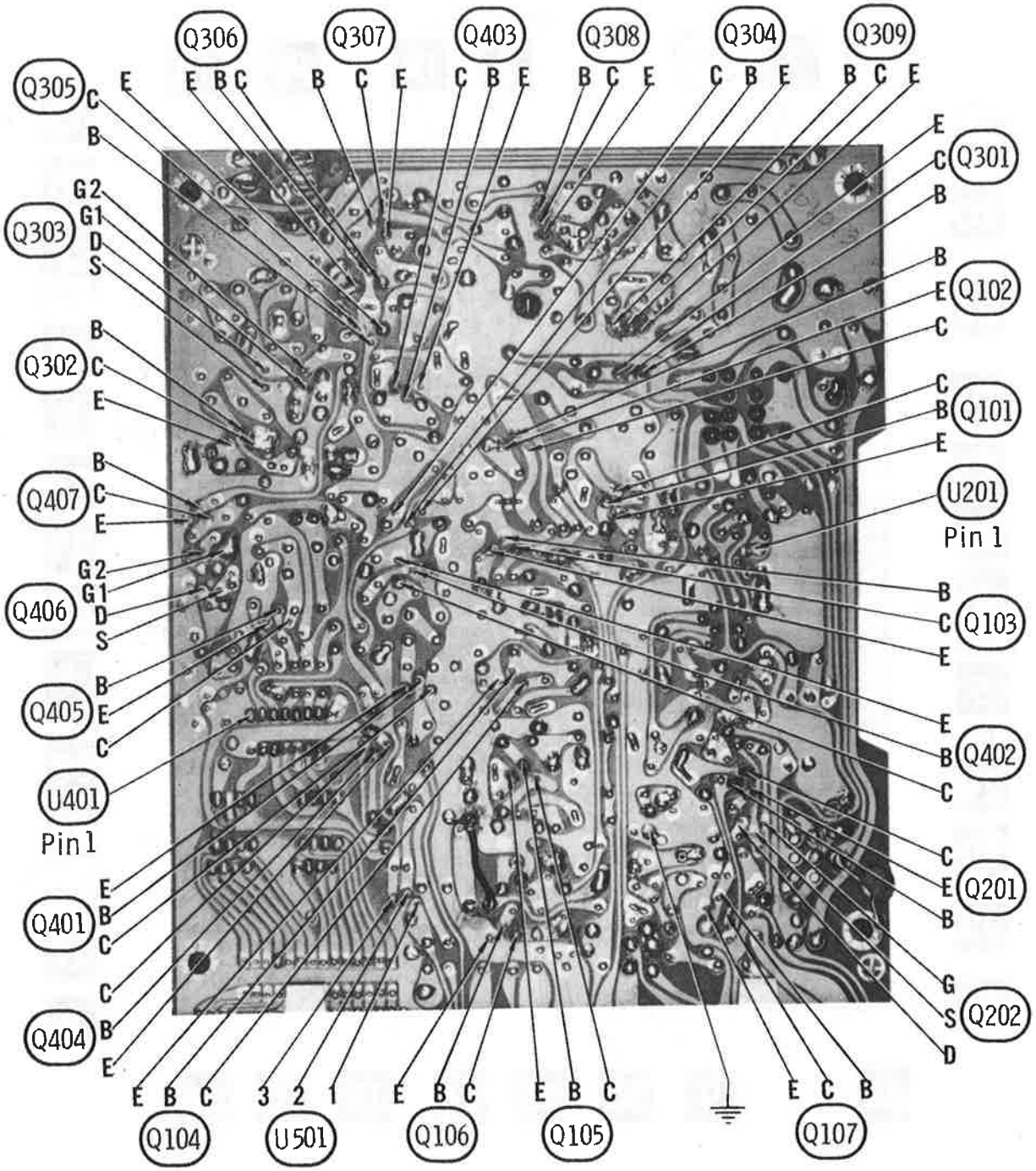
CHASSIS-TOP


27 MHz
L307
27 MHz
L308
27 MHz
T101
27 MHz
L304
27 MHz
T302
27 MHz
L302
TP15
27 MHz
T301
27 MHz
L301
L101
27 MHz
TP13
T102
455 kHz
R220
AMC
L402
TP12
TP11
L403
15 MHz
L404
1 MHz
TP1
T103
455 kHz
R135
SQUELCH
RANGE
T104
455 mHz
TP10
R402
XMIT
FREQ
R137
S
METER

CHASSIS-TOP

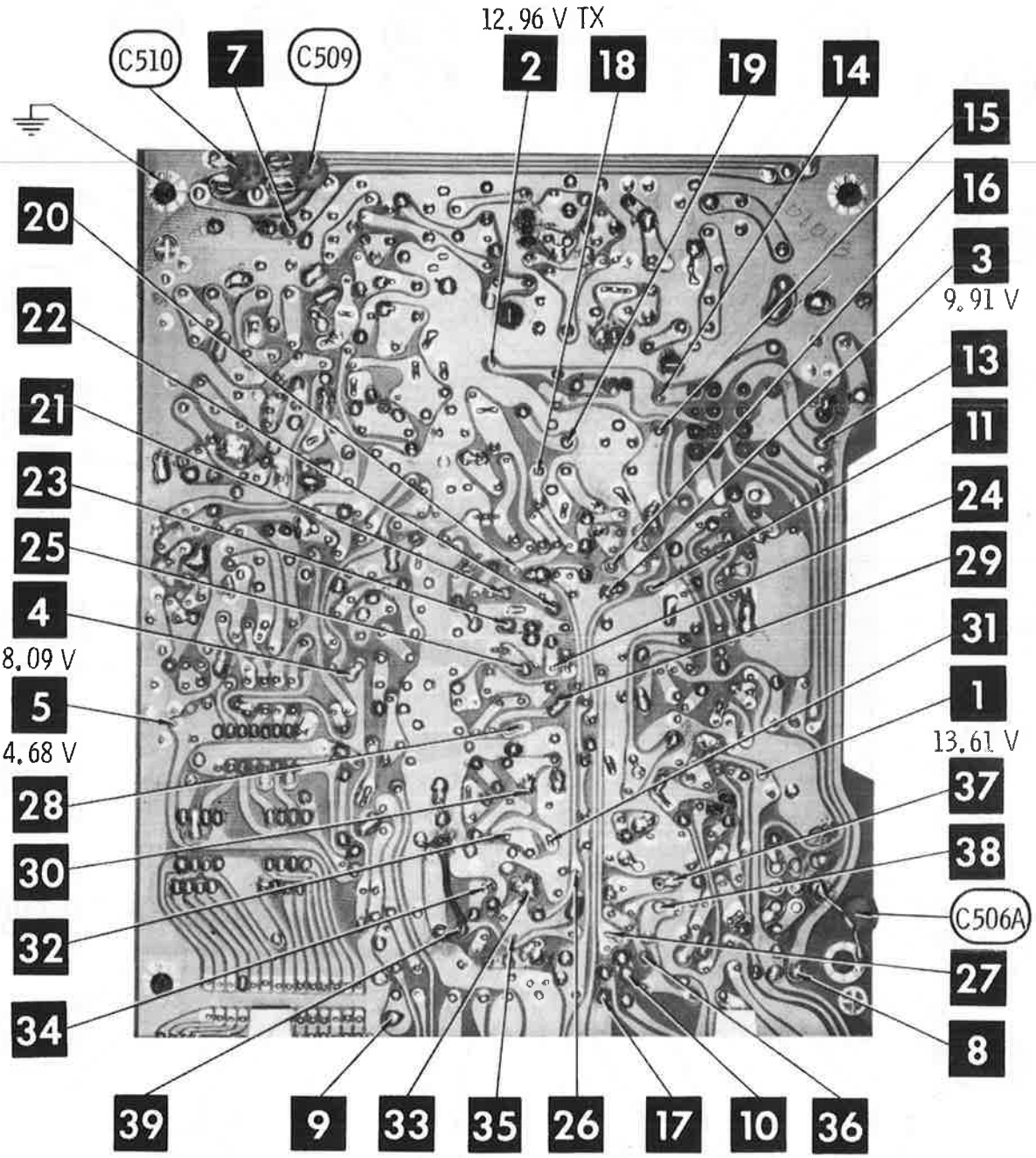

CR403
Q301
Q309
Q308
Q102
Q307
CR501
Q306
Q305
Q101
Q104
CR101
U201
CR502
CR201
Q403
Q103
Q303
CR405
Q302
Q304
Q407
Q406
Q402
Q405
CR406
CR404
U401
Q401
Q404
CR402
Q201
Q202
CR104
Q107
Q105
CR102
CR103
Q106
CR401
U501
CR503

MAIN BOARD

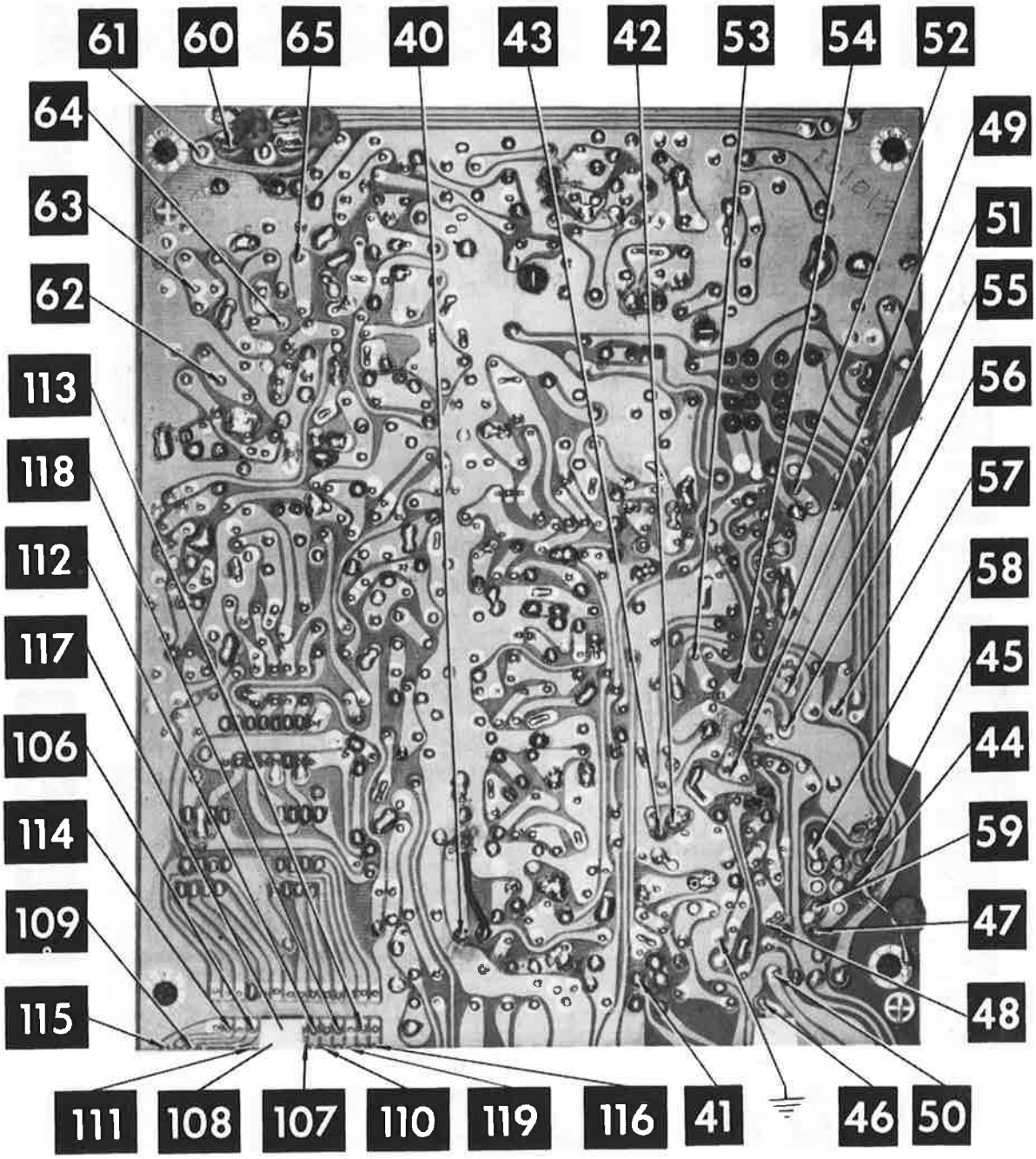

Q306
Q307
Q403
Q308
Q304
Q309
Q305
Q301
Q303
Q102
Q302
Q101
Q407
U201
Pin 1
Q406
Q103
Q405
Q402
U401
Pin 1
Q201
Q401
Q202
Q404
Q104
U501
Q106
Q105
Q107

MAIN BOARD

A Howard W. Sams CIRCUITRACE® Photo



MAIN BOARD


61
60
65
40
43
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53
54
52
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49
63
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62
55
113
56
118
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117
45
106
44
114
59
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111
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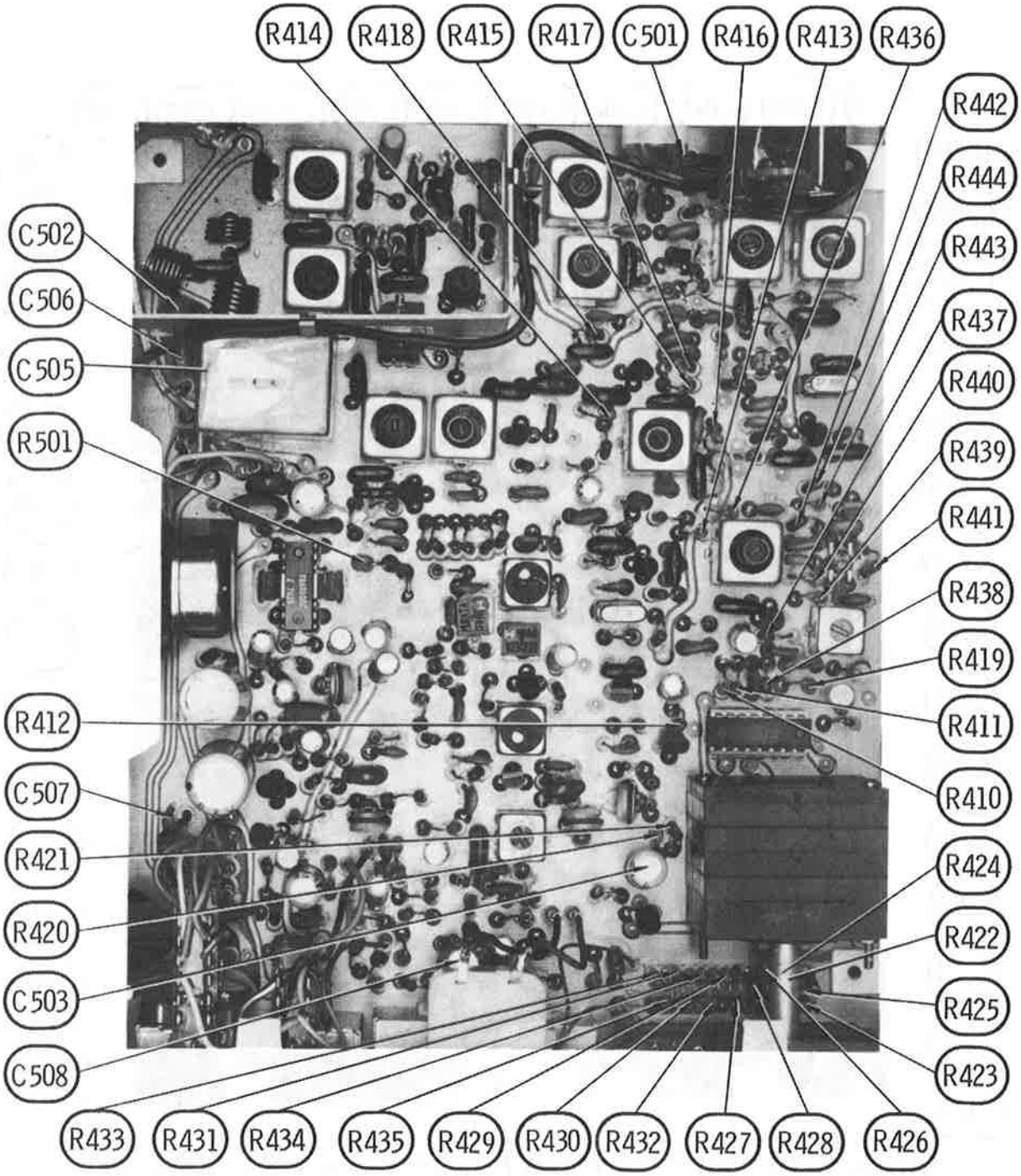
46
50

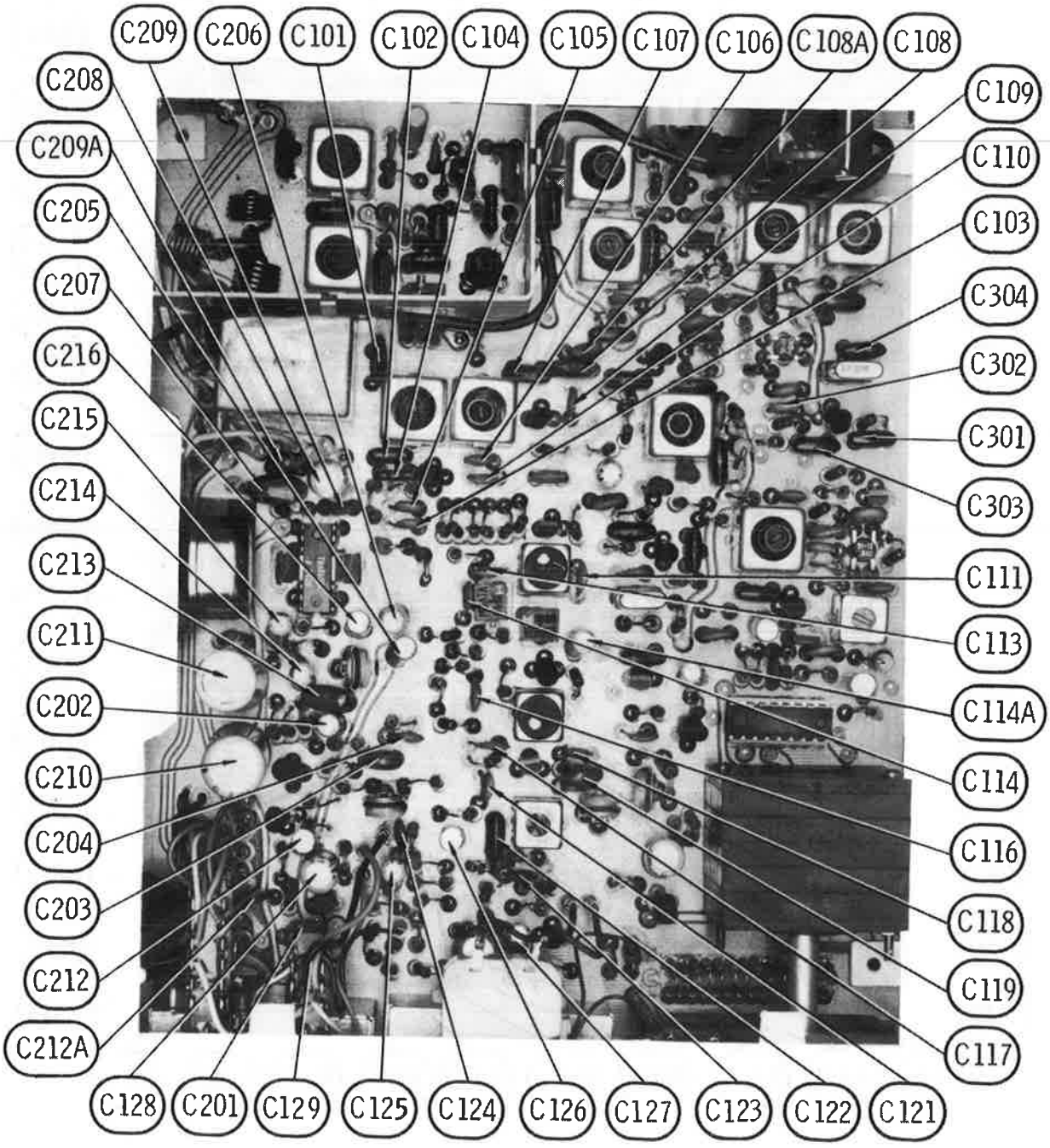
MAIN BOARD

A Howard W. Sams CIRCUITRACE® Photo

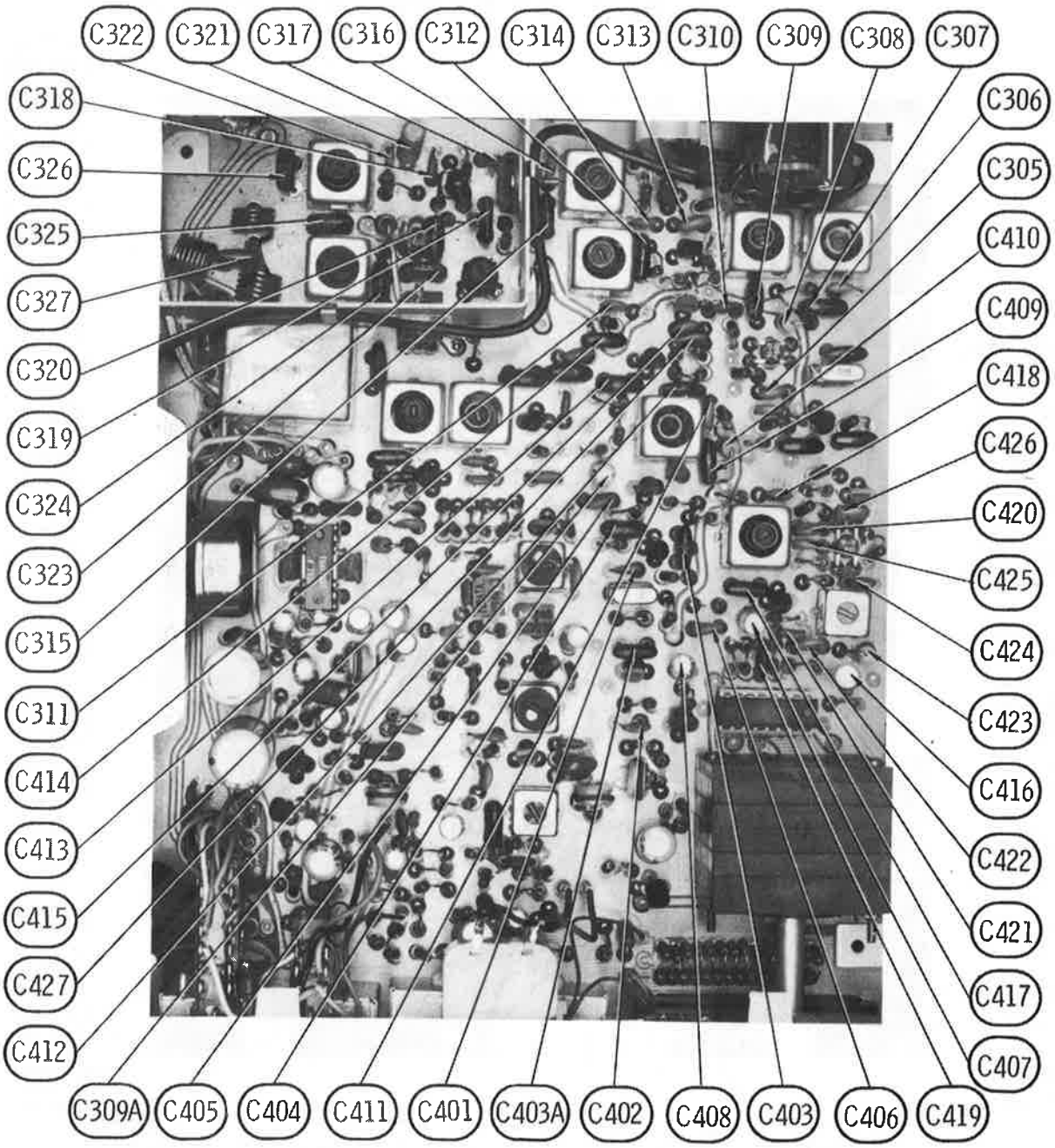
MAIN BOARD


R414
R418
R415
R417
C501
R416
R413
R436
R442
R444
R443
R437
R440
R439
R441
R438
R419
R411
R410
R424
R422
R425
R423
R426
R428
R427
R432
R430
R429
R435
R434
R431
R433
C508
C503
R420
R421
C507
R412
R501
C505
C506
C502

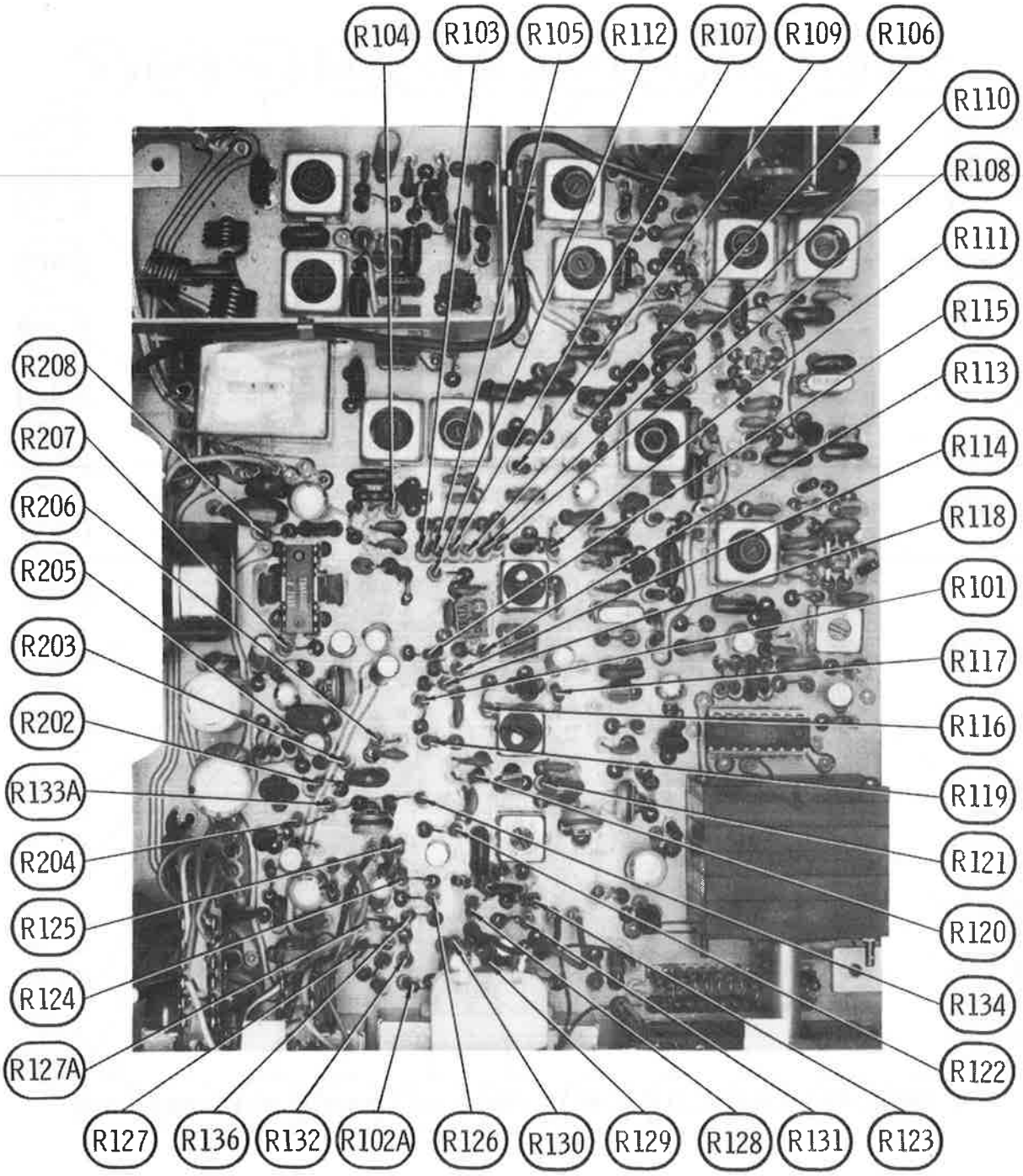
MAIN BOARD


C209
C206
C101
C102
C104
C105
C107
C106
C108A
C108
C208
C109
C209A
C110
C205
C103
C207
C304
C216
C302
C215
C301
C214
C303
C213
C111
C211
C113
C202
C114A
C210
C114
C204
C116
C203
C118
C212
C119
C212A
C117
C128
C201
C129
C125
C124
C126
C127
C123
C122
C121

MAIN BOARD


C322
C321
C317
C316
C312
C314
C313
C310
C309
C308
C307
C318
C326
C325
C327
C320
C319
C324
C323
C315
C311
C414
C413
C415
C427
C412
C306
C305
C410
C409
C418
C426
C420
C425
C424
C423
C416
C422
C421
C417
C407
C309A
C405
C404
C411
C401
C403A
C402
C408
C403
C406
C419

MAIN BOARD


R104
R103
R105
R112
R107
R109
R106
R110
R108
R111
R115
R113
R114
R118
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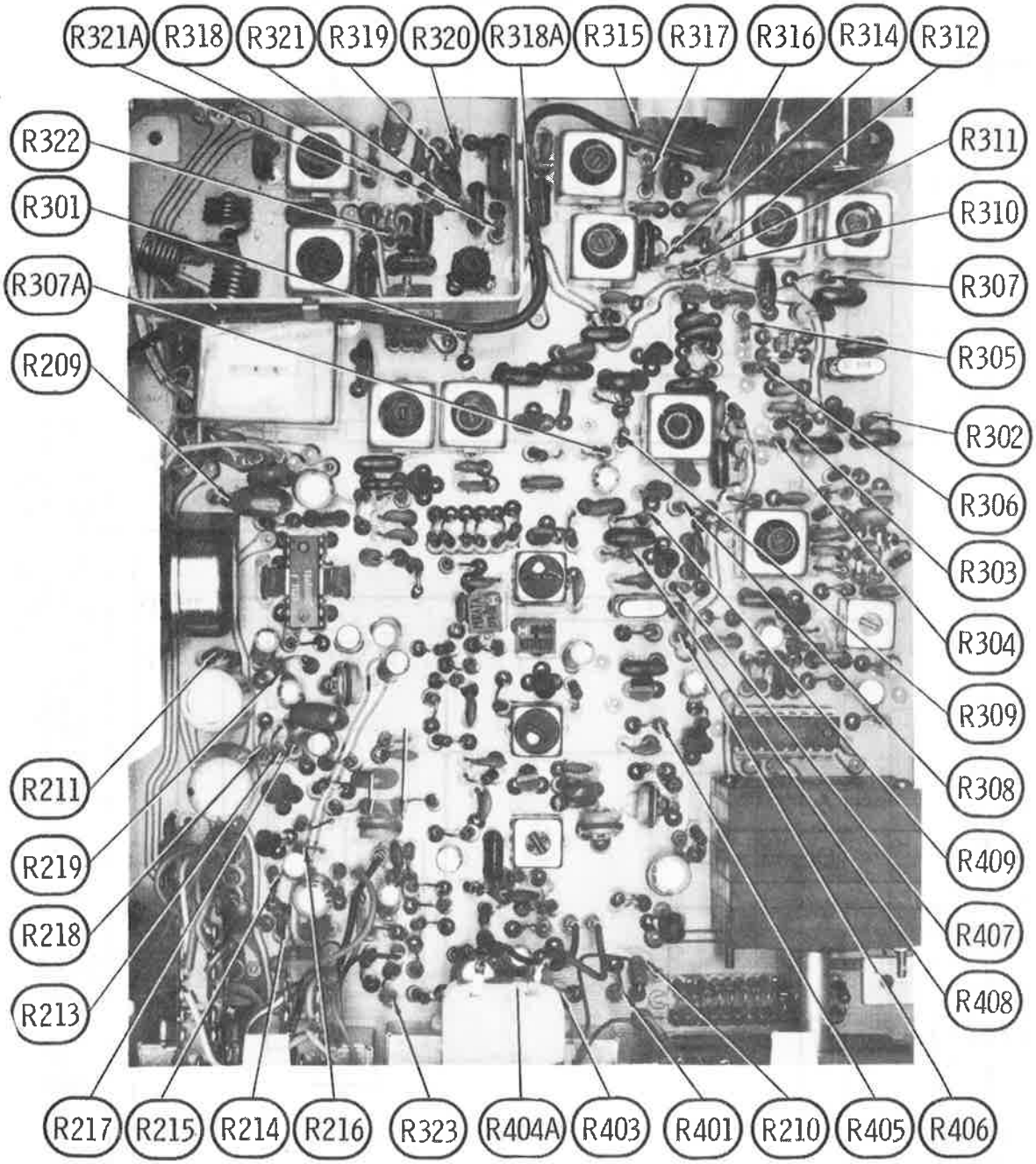
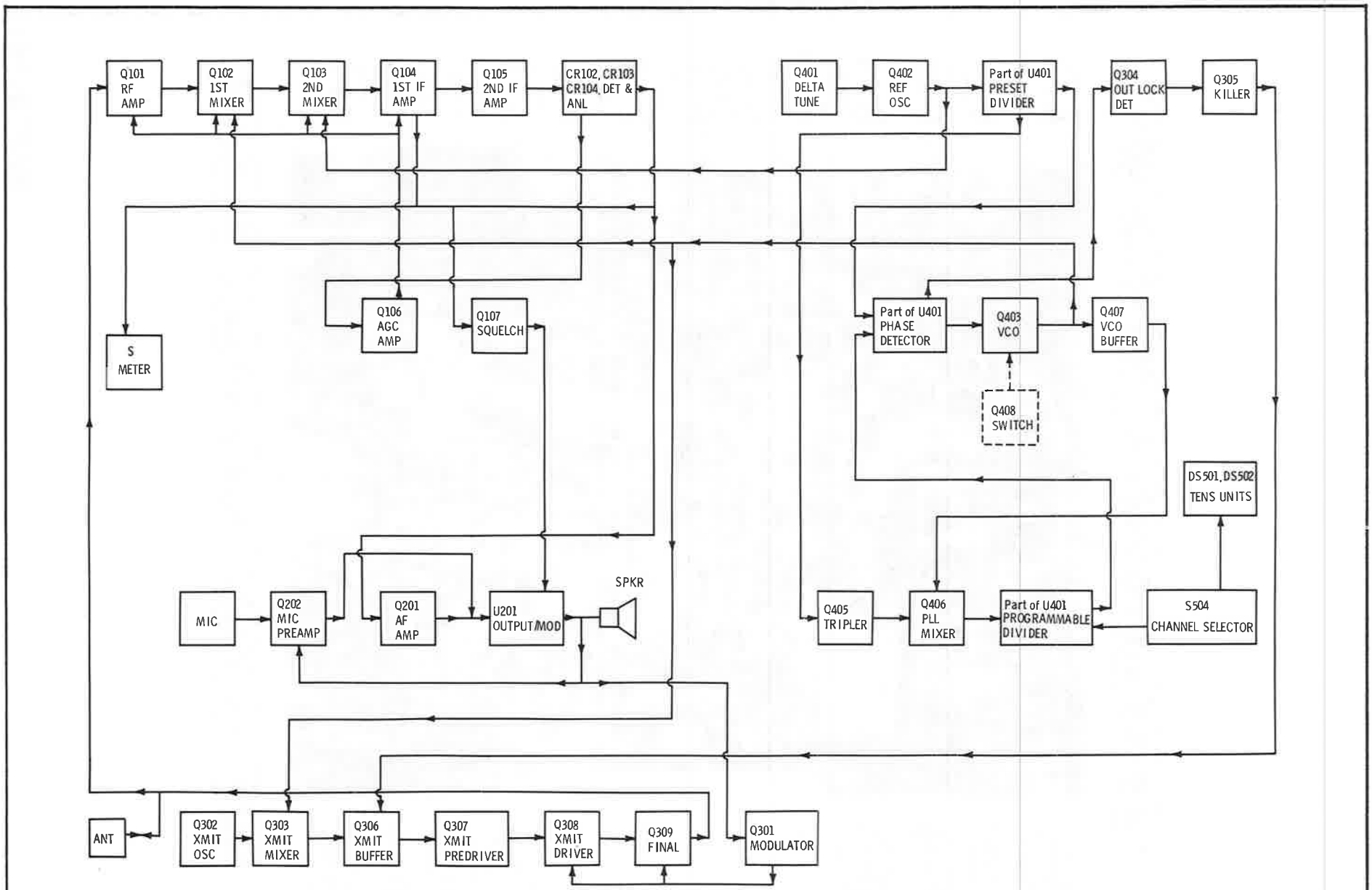
R117
R116
R119
R121
R120
R134
R122
R123
R131
R128
R129
R130
R126
R102A
R132
R136
R127
R127A
R124
R125
R204
R133A
R202
R203
R205
R206
R207
R208

MAIN BOARD


R321A
R318
R321
R319
R320
R318A
R315
R317
R316
R314
R312
R322
R301
R307A
R209
R311
R310
R307
R305
R302
R306
R303
R304
R309
R308
R409
R407
R408
R211
R219
R218
R213
R217
R215
R214
R216
R323
R404A
R403
R401
R210
R405
R406

MAIN BOARD



BLOCK DIAGRAM

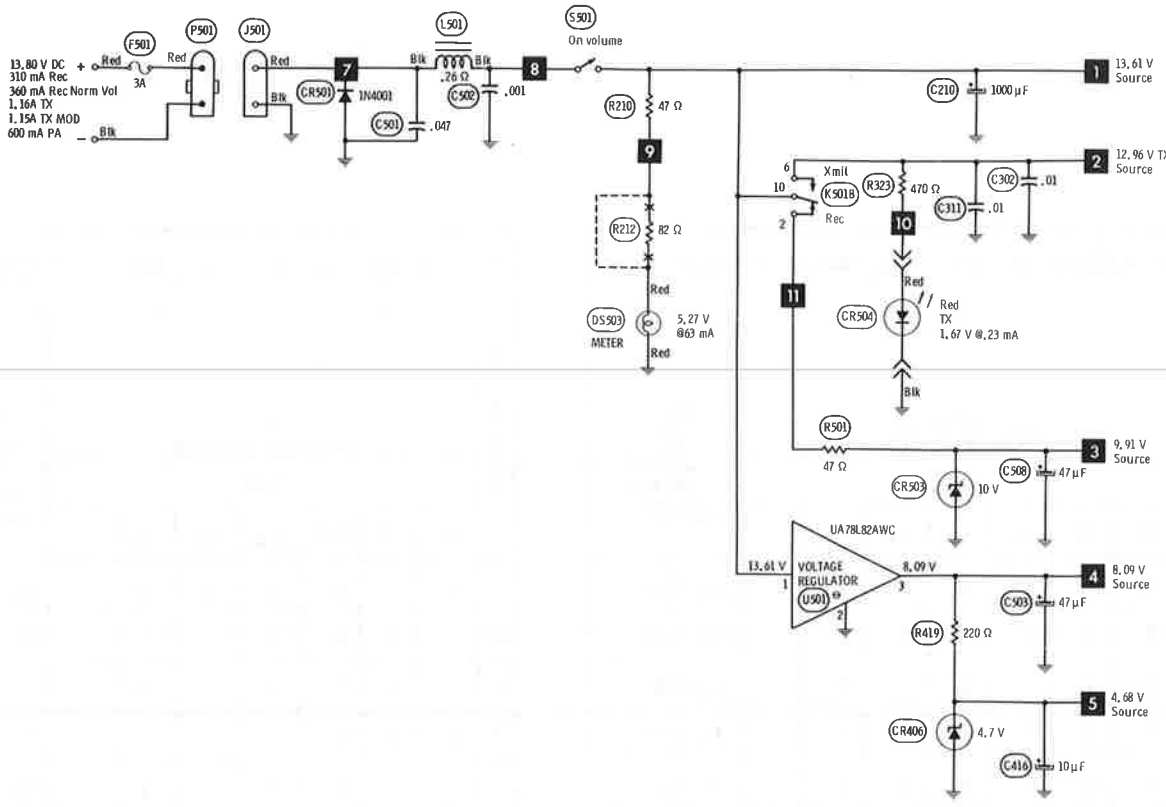
TRUTH CHART

1 = 4.68 Volts 0 = 0 Volts X = 4.49 Volts

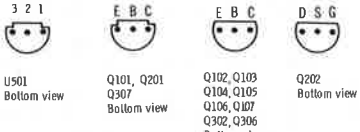
CHANNEL	U401 PROGRAM DIVIDER PINS 10	11	12	13	14	15		REC VCO OUTPUT IN MHz AT TP15
1	0	1	1	0	1	1		16.270
2	0	1	1	1	0	0		16.280
3	0	1	1	1	0	1		16.290
4	0	1	1	1	1	1		16.310
5	1	0	0	0	0	0		16.320
6	1	0	0	0	0	1		16.330
7	1	0	0	0	1	0		16.340
8	1	0	0	1	0	0		16.360
9	1	0	0	1	0	1		16.370
10	1	0	0	1	1	0		16.380
11	1	0	0	1	1	1		16.390
12	1	0	1	0	0	1		16.410
13	0	0	1	0	1	0		16.420
14	1	0	1	0	1	1		16.430
15	1	0	0	1	0	0		16.440
16	1	0	1	1	1	0		16.460
17	0	0	1	1	1	1		17.470
18	1	1	0	0	0	0		16.480
19	1	1	0	0	0	1		16.490
20	1	1	0	0	1	1		16.510

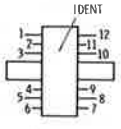
1 = 4.68 Volts 0 = 0 Volts X = 4.49 Volts

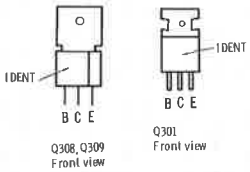
CHANNEL	U401 PROGRAM DIVIDER PINS 10	11	12	13	14	15		REC VCO OUTPUT IN MHz AT TP15
21	1	1	0	1	0	0		16.520
22	1	1	0	1	0	1		16.530
23	1	1	1	0	0	0		16.560
24	1	0	0	1	1	0		16.540
25	1	1	0	1	1	1		16.560
26	1	0	1	0	0	1		16.570
27	1	0	1	0	1	0		16.580
28	1	1	1	0	1	1		16.590
29	1	1	0	1	0	0		16.600
30	1	1	1	1	0	1		16.610
31	1	1	1	1	1	0		16.620
32	1	1	1	1	1	1		16.630
33	0	0	0	0	0	0		16.640
34	0	0	0	0	0	X		16.650
35	0	0	0	0	X	0		16.660
36	0	0	0	0	X	X		16.670
37	0	0	0	X	0	0		16.680
38	0	0	0	X	0	X		16.690
39	0	0	0	X	X	0		16.700
40	0	0	0	X	X	X		16.710

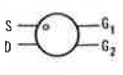


Terminal Guides





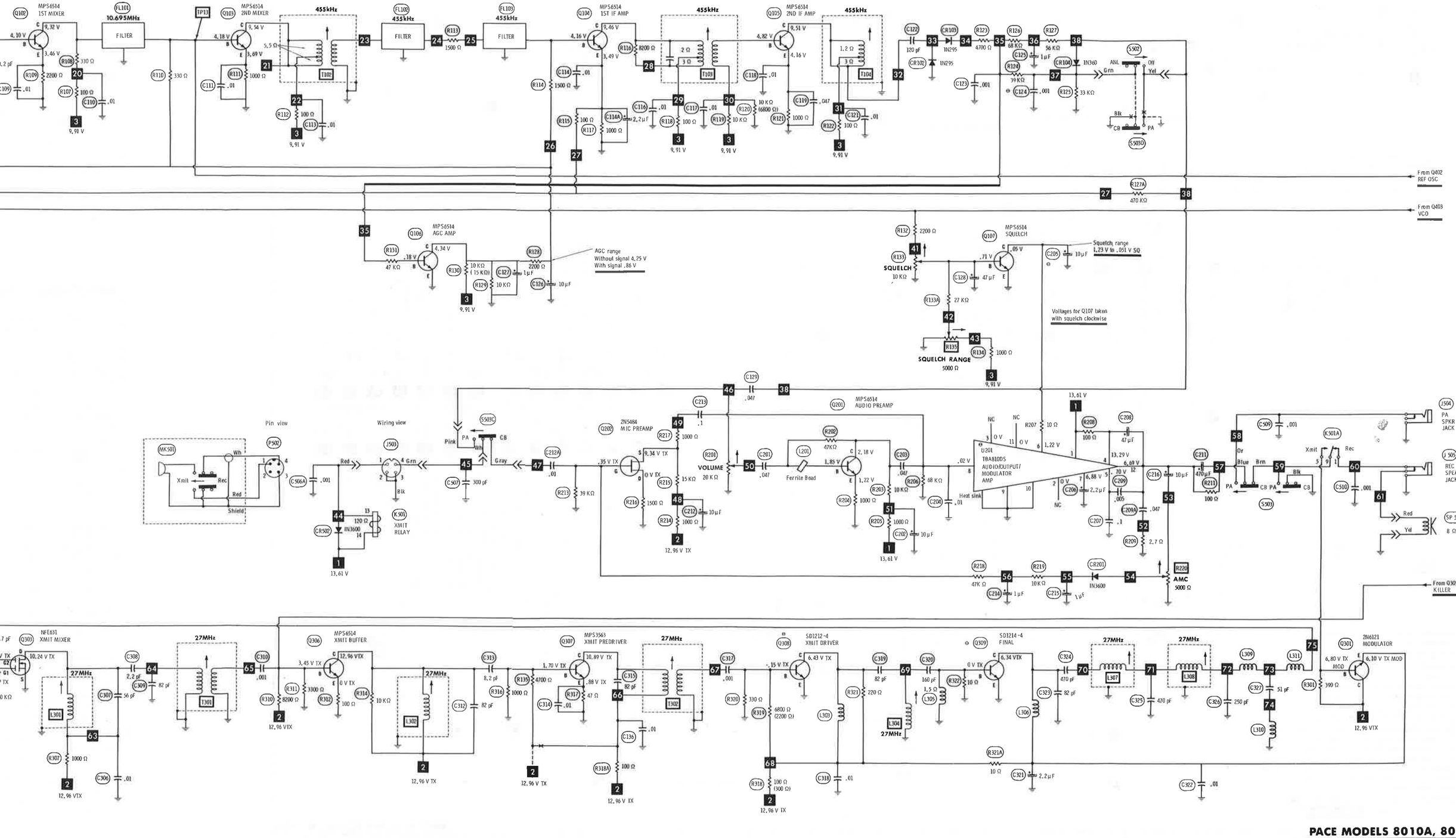




—✕— Circuitry not used in some versions
– – – Circuitry used in some versions
⊖ See parts list
⏚ Ground
Chassis

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, 10% unless noted.
Value in ( ) used in some versions.

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE™


Q102 MPS6514 1ST MIXER
FL101 10.695MHz FILTER
Q103 MPS6514 2ND MIXER
455kHz
FL102 455kHz FILTER
FL103 455kHz FILTER
Q104 MPS6514 1ST IF AMP
455kHz
Q105 MPS6514 2ND IF AMP
455kHz
T102
T109
T104
Q106 MPS6514 AGC AMP
AGC range
Without signal 4.25 V
With signal .86 V
Q107 MPS6514 SQUELCH
SQUELCH 10 KΩ
SQUELCH RANGE 5000 Ω
Squelch range
1.23 V to .051 V SQ
Voltages for Q107 taken with squelch clockwise
From Q402 REF OSC
From Q403 VCO
S502
S503D
Off
Yel
ANL
Grn
Blk
CB
PA
Pin view
Wiring view
MK501
P502
J503
S503C
K501
XMIT RELAY
CR502 IN3600
Q209 2N5484 MIC PREAMP
Q201 MPS6514 AUDIO PREAMP
VOLUME 20 KΩ
Ferrite Bead
U201 TBA810DS AUDIO/OUTPUT/ MODULATOR AMP
Heat sink
AMC 5000 Ω
CR201 IN3600
J504 PA SPKR JACK
J 505 REC SPEAKER JACK
SP 501 8 Ωz
K501A
S503
From Q305 KILLER
Q303 NFE631 XMIT MIXER
27MHz
Q306 MPS6514 XMIT BUFFER
Q307 MPS3563 XMIT PREDRIVER
Q308 SD1212-4 XMIT DRIVER
Q309 SD1214-4 FINAL
Q301 2N6121 MODULATOR
6.10 V TX MOD
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T301
L302
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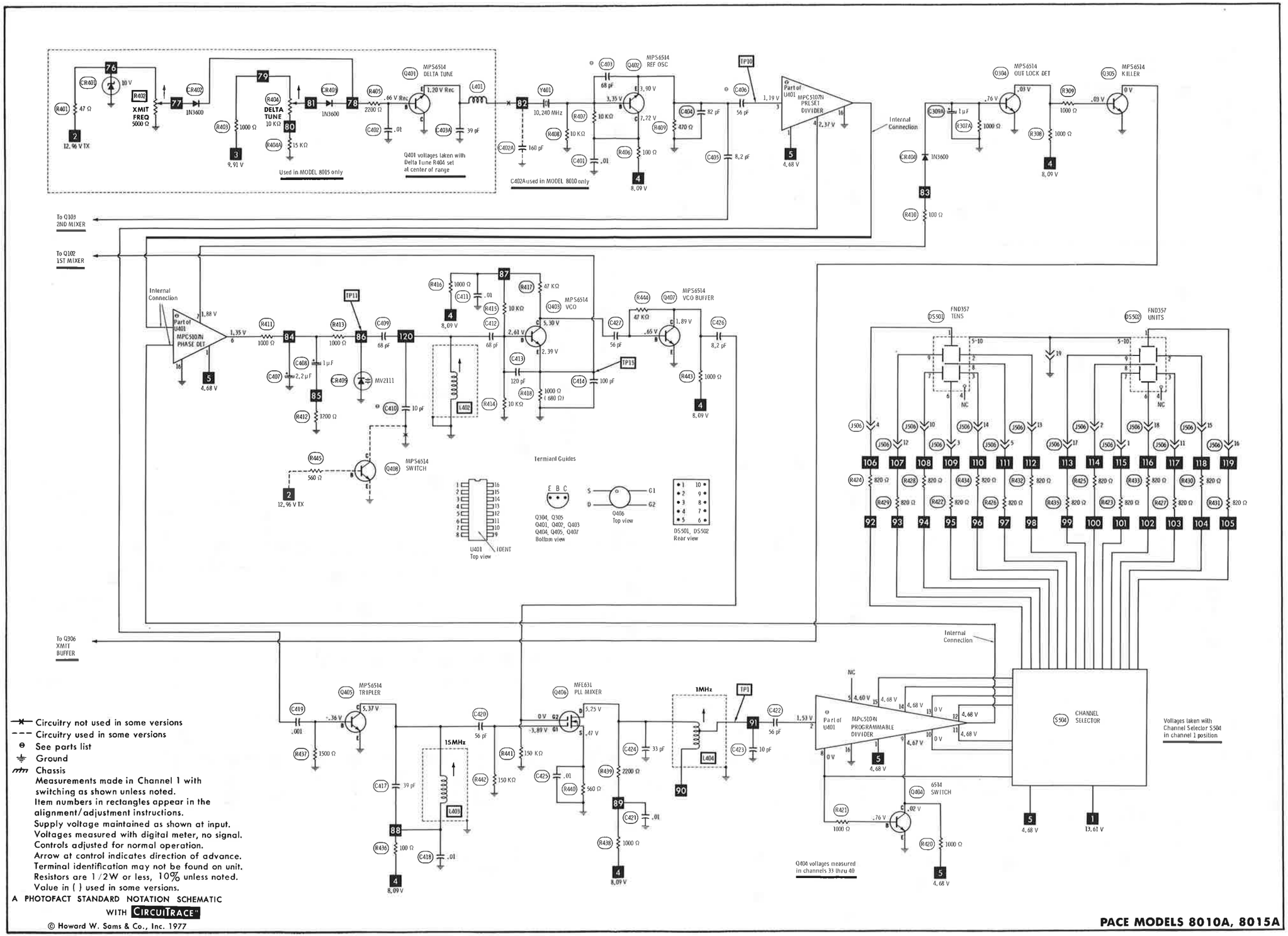
L306
L307
L308
L309
L310
L311



PARTS LIST AND D

(When ordering parts, state Mo

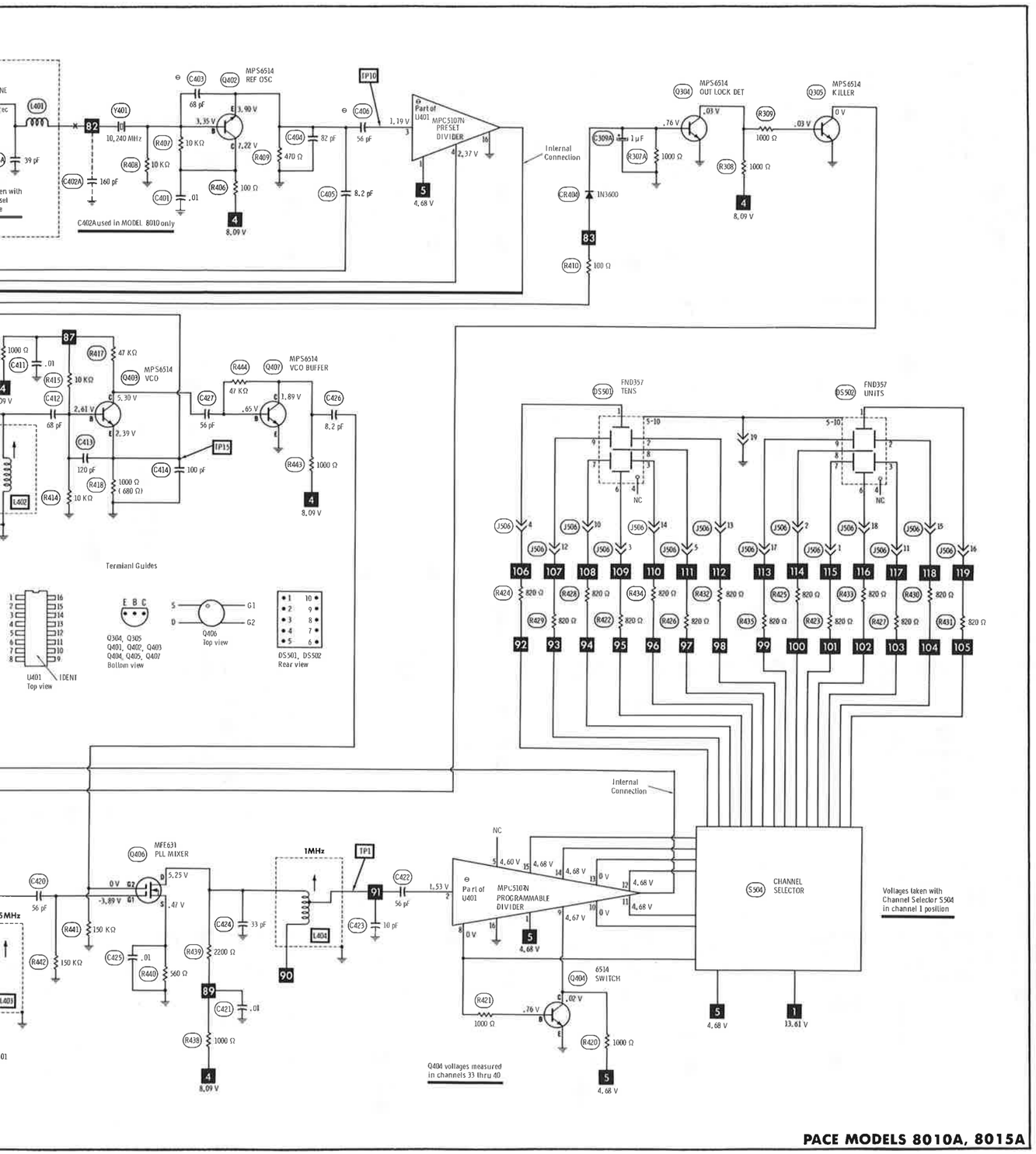
WIRING DATA

General-use Hook-up Wire (av
Shielded Hook-up Wire (spira
(braid
Speaker Cable (available in
Bonding Strap . . . . . .
AC Power Cord . . . . . .

SEMICONDUCTORS

ITEM No.	TYPE No.	MFGR. PART No.
CR101	1N3600	13-0003
CR102	1N295	13-0004
CR103	1N295	13-0004
CR104	1N3600	13-0003
CR201	1N3600	13-0003
CR401		13-0002
CR402	1N3600	13-0003
CR403	1N3600	13-0003
CR404	1N3600	13-0003
CR405	MV2111	13-0117
CR406		13-0164
CR501	1N4001	13-0050
CR502	1N3600	13-0003
CR503		13-0002
Q101	MPS6511	
	MPS6514	13-0022(1)
Q102	MPS6514	13-0022
Q103	MPS6514	13-0022
Q104	MPS6514	13-0022
Q105	MPS6514	13-0022
Q106	MPS6514	13-0022
Q107	MPS6514	13-0022
Q201	MPS6514	13-0022
Q202	2N5484	13-0114
Q301	2N6121	13-0094
Q302	MPS6514	13-0022
Q303	MFE631	13-0165
Q304	MPS6514	13-0022
Q305	MPS6514	13-0022
Q306	MPS6514	13-0022
Q307	MPS3563	13-0082
Q308	SD1212-4	
	SD1212(1)	13-0129
Q309	SD1214-4	
	SD1214(1)	13-0130
Q401	MPS6514	13-0022
Q402	MPS6514	13-0022
Q403	MPS6514	13-0022
Q404	MPS6514	13-0022
Q405	MPS6514	13-0022
Q406	MFE631	13-0165
Q407	MPS6514	13-0022
Q408	MPS6514	13-0022
U201	TBA810DS	
	TBA810S	13-0108(1)
U401	NPC5107N	
	NPC5107	13-0158(1)
U501	UA78L82AWC	
	UA78L82	13-0161(1)

* Lead configuration may va
(1) Used in some versions.



PACE MODELS 8010A, 8015A

PARTS LIST AND DESCRIPTION

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

WIRING DATA

General-use Hook-up Wire (available in 5 colors)	BELDEN No. 8523	Coiled Microphone Cable	
Shielded Hook-up Wire (spiral wrapped)	BELDEN No. 8421	3-conductor (1 shielded)	23AWG BELDEN No. 9471 (5')
(braided)	BELDEN No. 8401		BELDEN No. 8497 (6')
Speaker Cable (available in 4 colors)	BELDEN No. 8782		BELDEN No. 9472 (7-1/2')
Bonding Strap	BELDEN No. 8672		28AWG BELDEN No. 9466 (6')
AC Power Cord . . . . . (6')	BELDEN No. 17106		31AWG BELDEN No. 9468 (10')
(9')	BELDEN No. 17109	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.	IR WORKMAN PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.
CR101	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR102	1N295	13-0004	1N295	1N295	PTC206	HEPR9134A	RE 47	SK3089	RT-200	ECG109
CR103	1N295	13-0004	1N295	1N295	PTC206	HEPR9134A	RE 47	SK3089	RT-200	ECG109
CR104	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR201	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR401		13-0002	GEZD-10	Z1210	ZB10A	HEPZ0413	RE 115	SK3061	RT-241	ECG140
CR402	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR403	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR404	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR405	MV2111	13-0117	GE-90	D201		HEPR2503	RE 195	SK3126	RT-262	ECG610
CR406		13-0164	GEZD-4.7	Z1202		HEPZ0405	RE 104		*	ECG5069
CR501	1N4001	13-0050	GE-504A	5A4D	PTC201	HEPR0053	RE 49	SK3016	RT-214	ECG116
CR502	1N3600	13-0003	GE-300	D200	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177
CR503		13-0002	GEZD-10	Z1210	ZB10A	HEPZ0413	RE 115	SK3061	RT-241	ECG140
Q101	MPS6511		GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
	MPS6514	13-0022(1)	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q102	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q103	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q104	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q105	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q106	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q107	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q201	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q202	2N5484	13-0114	GE-FET-2	FE-100	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312
Q301	2N6121	13-0094	GE-66	TR-76	PTC154	HEPS5027	RE 205	SK3054	RT-197	ECG152
Q302	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q303	MFE631	13-0165	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
Q304	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q305	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q306	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q307	MPS3563	13-0082	GE-86 *	TR-24	PTC115 *	HEPS0010 *	RE 10	SK3039	RT-113	ECG108
Q308	SD1212-4		GE-322	WEP1678	PTC186		RE 203	SK3197	RT-146	ECG235
	SD1212(1)	13-0129	GE-322	WEP1678	PTC186		RE 203	SK3197	RT-146	ECG235
Q309	SD1214-4		GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
	SD1214(1)	13-0130	GE-215	WEP1306	PTC186		RE 203	SK3197	RT-146	ECG235
Q401	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q402	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q403	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q404	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q405	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
Q406	MFE631	13-0165	GE-FET-4	WEP905	PTC181	HEPF2004	RE 199	SK3050	RT-181	ECG222
Q407	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3022	RT-172	ECG123A
Q408	MPS6514	13-0022	GE-20	TR-21	PTC123	HEPS0015	RE 13	SK3122	RT-172	ECG123A
U201	TBA810DS						RE 89			
	TBA810S	13-0108(1)	GEIC-278					SK3184		ECG1116
U401	NPC5107N									
	NPC5107	13-0158(1)								
U501	UA78L82AWC									ECG977
	UA78L82	13-0161(1)								ECG977

* Lead configuration may vary from original.
(1) Used in some versions.

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
C114A	2.2 25V	19-0049	PC2-100	VTT2R2A50	QV1-19	EV-1517
C125	1 50V	19-0186-2	PC1-50	VTT1A50	QV1-11	EV-1615
C126	10 16V	19-0127	PC10-25	VTT10B25	QV1-41	EV-1222
C127	1 50V	19-0186-2	PC1-50	VTT1A50	QV1-11	EV-1615
C128	47 16V	19-0129	PC50-16	VTT47D16	QV1-73	EV-1226
C202	10 16V	19-0127	PC10-25	VTT10B25	QV1-41	EV-1222
C205	10 16V	19-0127	PC10-25	VTT10B25	QV1-41	EV-1222
	47 16V	19-0129 (1)	PC50-16	VTT47D16	QV1-73	EV-1226
C206	2.2 25V	19-0049	PC2-100	VTT2R2A50	QV1-19	EV-1517
C208	47 16V	19-0129	PC50-16	VTT47D16	QV1-73	EV-1226
C210	1000 16V	19-0052	PC1000-16	VTT1000L16	QV1-183	EV-1260
C211	470 16V	19-0167	PC500-16	VTT470K16	QV1-151	EV-1250
C212	10 16V	19-0127	PC10-25	VTT10B25	QV1-41	EV-1222
C214	1 50V	19-0186-2	PC1-50	VTT1A50	QV1-11	EV-1615
C215	1 50V	19-0186-2	PC1-50	VTT1A50	QV1-11	EV-1615
C216	10 16V	19-0127	PC10-25	VTT10B25	QV1-41	EV-1222
C309A	1 50V	19-0186-2	PC1-50	VTT1A50	QV1-11	EV-1615
C321	2.2 25V	19-0049	PC2-100	VTT2R2A50	QV1-19	EV-1517
C407	2.2 25V	19-0049	PC2-100	VTT2R2A50	QV1-19	EV-1517
C408	1 50V	19-0186-2	PC1-50	VTT1A50	QV1-11	EV-1615
C416	10 16V	19-0127	PC10-25	VTT10B25	QV1-41	EV-1222
C503	47 16V	19-0129	PC50-16	VTT47D16	QV1-73	EV-1226
C508	47 16V	19-0129	PC50-16	VTT47D16	QV1-73	EV-1226

(1) Used in some versions.

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
C101	27 10%			CD15ED270J03	SX427	QW1-13	MWA-270
C102	39 10%			CD15ED390J03	SX439	QW1-17	MWA-390
C103	.01		UK16-103		MAG1611		HY-420
C104	22 10%			CD15ED220J03	SX422	QW1-11	MWA-220
C105	.01		UK16-103		MAG1611		HY-420
C106	.01		UK16-103		MAG1611		HY-420
C107	120 10%			CD15FD121J03	SX312	QW1-29	MWA-121
C108A	8.2 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C108	250 10%			CD15FD271J03	SX327	QW1-37	MWB-271
C109	.01		UK16-103		MAG1611		HY-420
C110	.01		UK16-103		MAG1611		HY-420
C111	.01		UK16-103		MAG1611		HY-420
C113	.01		UK16-103		MAG1611		HY-420
C114	.01		UK16-103		MAG1611		HY-420
C116	.01		UK16-103		MAG1611		HY-420
C117	.01		UK16-103		MAG1611		HY-420
C118	.01		UK16-103		MAG1611		HY-420
C119	.047 100V			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C121	.01		UK16-103		MAG1611		HY-420
C122	120 10%			CD15FD121J03	SX312	QW1-29	MWA-121
C123	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C124	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
	.01	(1)	UK16-103		MAG1611		HY-420
C129	.047 100V			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C201	.047 100V			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C203	.047 100V			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C204	.01		UK16-103		MAG1611		HY-420
C207	.1 100V			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C209A	.047 100V			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C209	.005		DC-502	MGP005	TA250	QC2-123	TG-D50
C212A	.01 10% 100V		DC-103	MGP01	TA110	QC2-141	TG-S10
C213	.1 100V			DPMS2P1	EWF1A010	QF1-215	1PB-P10
C301	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101
C303	.01		UK16-103		MAG1611		HY-420
C303	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101
C304	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C305	4.7		DTZ-4R7	NP04P7	CN0547		10TCC-V47
	3.9		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C306	.01		UK16-103		MAG1611		HY-420
C307	56 5%			CD15ED560J03	SX456	QW1-21	MWA-560
C308	2		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C309	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C310	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C311	.01		UK16-103		MAG1611		HY-420

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
C312	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C313	8.2 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C314	.01		UK16-103		MAG1611		HY-420
C315	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C316	.01		UK16-103		MAG1611		HY-420
C317	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C318	.01		UK16-103		MAG1611		HY-420
C319	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C320	160 10%		DTZ-180				10TCC-T18
C322	.01		UK16-103		MAG1611		HY-420
C323	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C324	470 10%			CD15FD471J03	SX347	QW1-42	MWA-471
C325	470 10%			CD15FD471J03	SX347	QW1-42	MWA-471
C326	250 10%			CD15FD271J03	SX327	QW1-37	MWB-271
C327	51 10%			CD15ED510J03		QW1-20	MWA-510
C401	.01		UK16-103		MAG1611		HY-420
C402A	160 10%		DTZ-180				10TCC-T18
C402	.01		UK16-103		MAG1611		HY-420
C403A	30 10%				CN0439		10TCC-Q39
C403	68 10%			CD15ED680J03	SX468	QW1-23	MWA-680
	100			CD15FD101J03	SX310	QW1-27	MWA-101
C404	82 10%			CD15ED820J03	SX482	QW1-25	MWA-820
C405	8.2 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C406	56 10%				CN0456		10TCC-Q56
	.001	(1)	DD-102G	GP1000	GP210	QC2-81	5GA-D10
C409	68 10%			CD15ED680J03	SX468	QW1-23	MWA-680
	100	(1)		CD15FD101J03	SX310	QW1-27	MWA-101
C410	10		DTZ-10	NP010	CN0410		10TCC-Q10
	91	(1)	DTZ-100	NP0100	CN0310		10TCC-T10
C411	.01		UK16-103		MAG1611		HY-420
C412	68 10%			CD15ED680J03	SX468	QW1-23	MWA-680
	120	(1)		CD15FD121J03	SX312	QW1-29	MWA-121
C413	120 10%			CD15FD121J03	SX312	QW1-29	MWA-121
C414	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101
C415	4.7		DTZ-4R7	NP04P7	CN0547		10TCC-V47
	3.9	(1)	DTZ-3R3	NP03P3	CN0533		10TCC-V33
C417	39 10%			CD15ED390J03	SX439	QW1-17	MWA-390
C418	.01		UK16-103		MAG1611		HY-420
C419	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C420	56 10%				CN0456		10TCC-Q56
C421	.01		UK16-103		MAG1611		HY-420
C422	56 10%				CN0456		10TCC-Q56
C423	10		DTZ-10	NP010	CN0410		10TCC-Q10
C424	33 10%		DTZ-33	NP033	CN0433		10TCC-Q33
C425	.01		UK16-103		MAG1611		HY-420
C426	8.2 NPO		DTZ-10	NP010	CN0410		10TCC-Q10
C427	56 10%				CN0456		10TCC-Q56
C501	.047 100V		UK25-503		MAG2515		HY-735
C502	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C504	68 10%			CD15ED680J03	SX468	QW1-23	MWA-680
C505	.01		UK16-103		MAG1611		HY-420
C506A	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C506	.047 100V			DPMS2S47	EWF1A147	QF1-171	1PB-S47
C507	300 10%		DD-301	GP300	GP330		10TS-T30
C509	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10
C510	.001		DD-102G	GP1000	GP210	QC2-81	5GA-D10

(1) Used in some versions.

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

ITEM No.	FUNCTION	RESISTANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
R102	RF Gain	1000	15-0113 (18)				H3 (A-E4, A1)
R404	Delta Tune	10K					(B-E7, A1)
R133	Squelch/Switch	10K	15-0112 (19)				
R201	Volume	20K					
R135	Squelch Range	5000	14-0026-1	T-5000	C-502	MTC53L1	X201R502B
R137	S Meter	5000	14-0026-1	T-5000	C-502	MTC53L1	X201R502B
R220	AMC	5000	14-0026-1	T-5000	C-502	MTC53L1	X201R502B
R402	Xmit Freq.	5000	14-0026-1	T-5000	C-502	MTC53L1	X201R502B

(18) Includes R102 and R404.
(19) Includes R133 and R201.

PARTS LIST AND DESCRIPTION (CONTINUED)

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

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L101	Rec Input (27MHz)	17-0019		CB215	
L301	Harmonic Suppressor (27MHz)	17-0020		CB216	
L302	Xmit Buffer (27MHz)	17-0020		CB216	
L303	RF Choke (2.7uH)	17-0068			
L304	Xmit Drive (27MHz)	17-0101			
L305	RF Choke	17-0041			
L306	RF Choke (2.7uH)	17-0068			
L307	Final (27MHz)	17-0106			
L308	Final (27MHz)	17-0106			
L309	Pi Filter	17-0117			
L310	RF Choke	17-0102			
L311	RF Choke	17-0102			
L401	RF Choke (.82uH)	17-0062			
L402	VCO	17-0084			
L403	Tripler (15MHz)	17-0083			
L404	PLL Mixer (1MHz)	16-0013			
T101	Rec RF (27MHz)	17-0018		CB152-T	
T102	IF (455kHz)	16-0045			
T103	IF (455kHz)	16-0046			
T104	IF (455kHz)	16-0005		8515	
T301	Xmit Mixer (27MHz)	17-0028		CB745	
T302	Xmit Pre-Drive (27MHz)	17-0028		CB745	

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	CURRENT (Measured)	DC RES.	INDUCTANCE (0 CURRENT 1000~)	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L501	1.2A	.26	3.89mH	16-0021	TR505		

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP501	2 11/16" PM 8 Ohms	22-0031	23A05Z8	

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
F501	2A 250V	15-0099		AGC3	HDJ	312003	150145	FG3-2

PARTS LIST AND DESCRIPTION (CONTINUED)

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

MICROPHONE

ITEM No.	REPLACEMENT DATA				CONNECTION DATA						
	MFGR. PART No.	GC PART No.	GC NOISE CANCEL	GC POWER	GC CONNECTOR	GC Red	GC Shield	GC Yellow	GC Blue	GC White	GC Black
MK501	P5550	18-032	18-034	18-010	18-097	4	3	1	NC	NC	3

CRYSTALS

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
Y301	10.695 15.815	20-0039 (1)	CB140M10.695	Xmit Mixer

(1) Used in some versions.

ITEM No.	CRYSTAL FREQUENCY IN MHz	MFGR. PART No.	CTS KNIGHTS PART No.	CHANNEL
Y401	10.240	20-0038	CA40M10.240	Ref. Osc.

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CR504	Led	13-0166	TX (1.67V @ 23mA)
DSS501	Led	13-0163	Channel (Tens)
DS502	Led	13-0163	Channel (Ones)
DS503	Lamp		Meter (5.27V @ 63mA) (Part of M501)
FL101	Ceramic Filter	16-0040	10.695MHz
FL102	Ceramic Filter	16-0039	455kHz
FL103	Ceramic Filter	16-0039	455kHz
J501	Jack		Power
J502	Jack	27-0060	Antenna
J503	Jack		Microphone
J504	Jack	27-0143	PA Speaker
J505	Jack	27-0143	Rec Speaker
J506	Jack	27-0159	Led
K501	Relay	21-0009	Xmit/Rec
L201	Ferrite Bead	17-0087	
M501	Meter	36-0030	S
S501	Switch		On/Off (Part of Volume Control)
S502	Switch	15-0110	ANL
S503	Switch	15-0110	CB/PA
S504	Switch	15-0111	Channel Select

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

ITEM	PART No.	PART No.	PART No.	PART No.	PART No.
	MODEL 8010A	MODEL 8015A			
Case	24-0130	24-0130			
Escutcheon, Channel Selector	31-0497-1	31-0469-1			
Escutcheon, Controls	31-0497	31-0479			
Knob, Channel Selector	24-0143	24-0143			
Knob, Control	24-0144	24-0144			
Window, Channel Display	24-0139	24-0139			