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 B-4075

MANUFACTURER'S SPECIFICATIONS

TRANSMITTER SECTION

POWER OUTPUT	4Watt Max(AT 13.8V DC)
EMISSION	6A3
SPURIOUS RESPONSE REJECTION	All harmonic and spurious suppression greater than FCC and D. O. T. requirements
MODULATION	AM, 90% typical

RECEIVER SECTION

CIRCUIT TYPE	Dual conversion superheterodyne with RF stage and 455 KHz ceramic filter
FREQUENCY	40 crystal-controlled PLL channels in the 27MHz Citizens Band
SENSITIVITY	1.0 μV for 10dB S/N
SQUELCH RANGE	0-1mV
SELECTIVITY	70 dB down at $\pm$10 KHz
IF FREQUENCY	1st IF: 10.695 MHz 2nd IF: 455 KHz
IMAGE REJECTION	55dB
AUDIO OUTPUT	2. 5W maximum at 8 ohm load
CURRENT DRAIN	250mA on standby [no signal]
CURRENT DRAIN (MAXIMUM)	Less than 1.5A
ANTENNA	Nominal 50 ohms impedance
POWER SOURCE	Operates from nominal 12.6 volts DC, negative or positive ground system
DIMENSIONS [OVERALL]	$6\frac{1}{4}$" [W] $\times$ $9\frac{3}{4}$" [D] $\times$ 2" [H]
WEIGHT	5 lbs

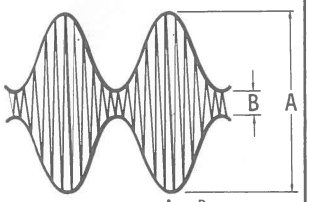
Courtesy of the Manufacturer

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

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.
Connect microphone.

Suggested Alignment Tools:	GC ELECTRONICS:
L105, L106, L107	5009, 8728A, 8728
L307, L308, L309	9091, 8728A, 8728
C403, C409, C415	8276, 5000
L101 thru L104, L301 thru L306, L404, L405, L312	9440



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

FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to TP3.	Ch. 19 Delta Tune -	C403	Adjust for 10.2394MHz.
	Ch. 19 Delta Tune 0	C409	Adjust for 10.240MHz
Input of DC meter to TP1.	Ch. 40 Delta Tune 0	L404	Adjust for 3.70 volts.
	Ch. 40, XMT		Check for .85 volts.
Input of oscilloscope to Q415 collector.	Ch. 19 Delta Tune 0	L405	Adjust for maximum RF.
Input of oscilloscope to TP10 (L301, Secondary).	Ch. 19 Delta Tune 0	L301	Adjust for maximum RF.
Input of frequency counter to TP10 (L301, Secondary)	Ch. 1 Delta Tune 0		Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies.)
	Ch. 1, XMT		Check for 16.543MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of frequency counter to P13.	Ch. 1, XMT	C415	Adjust for 10.422MHz.
Input of frequency counter to antenna jack.	Ch. 19, XMT	C415	Check for 27.185MHz. If necessary readjust C415 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.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP3. 455kHz, 1000Hz @ 30% modulation.	Ch. 19 Delta Tune 0 Squelch MINIMUM	L107,L106 L105	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19 Delta Tune 0 Squelch MINIMUM	L104,L103 L102,L101	Adjust for maximum output. If necessary readjust L105, L106 and L107.

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,1000Ha @ 30% modulation. Output 5000uV.	Ch. 19 Squelch Maximum Delta Tune 0	RV101	SQUELCH RANGE Adjust so that squelch just breaks.
Output of signal generator thru .01uF to antenna jack. 27.185MHz,1000Hz @ 30% modulation. Output 100uV.	Ch. 19 Delta Tune 0 Squelch MINIMUM	RV102	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	L302,L303 L304,L305 L306,L307 L308,L309	Adjust for maximum.
	Ch. 19	L306	Adjust for 4 watts maximum.
Input of spectrum analyzer or harmonic meter to antenna jack.	Ch. 19	L312	Adjust for MINIMUM at 54MHz.

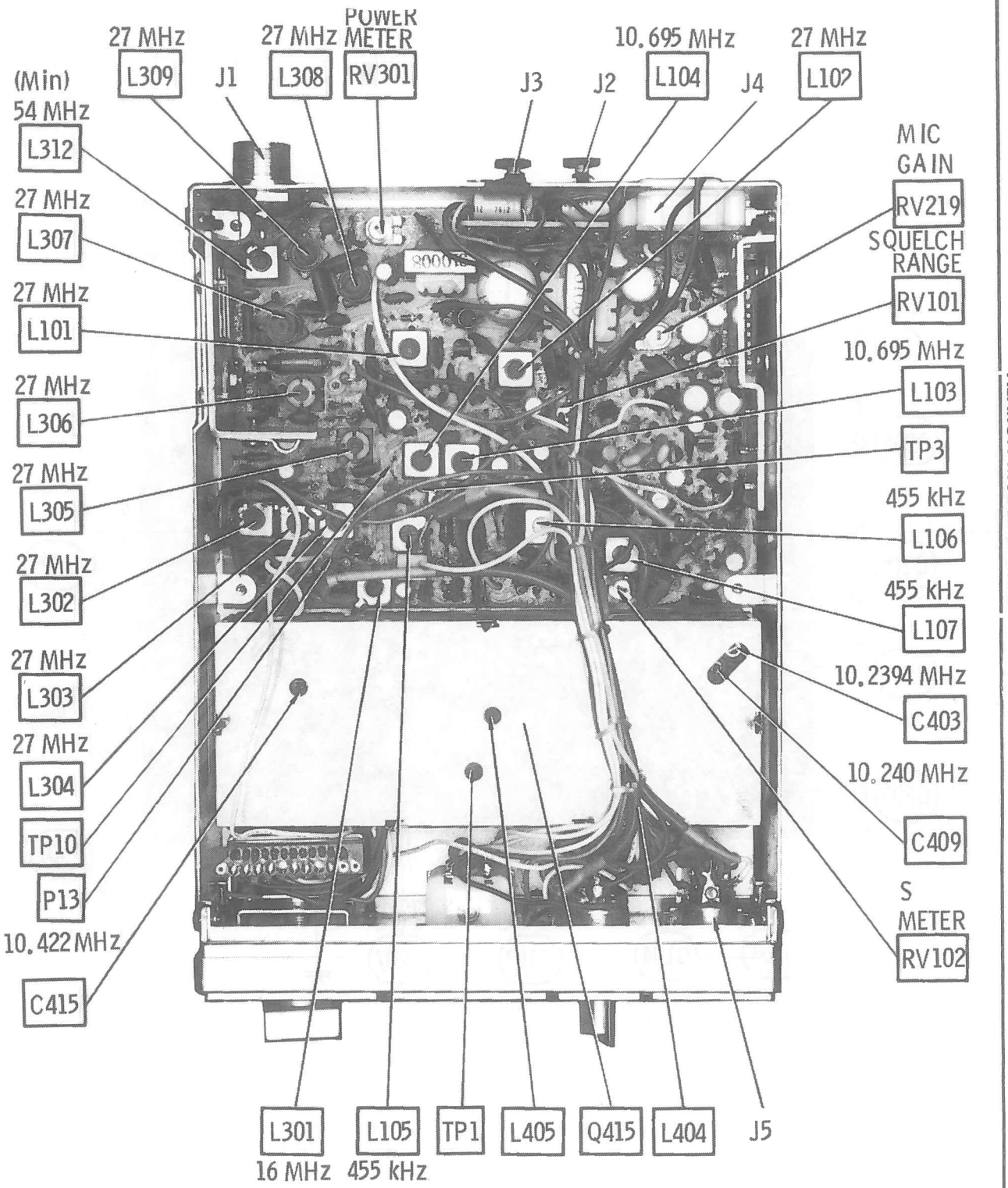
TRANSMITTER ADJUSTMENTS

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

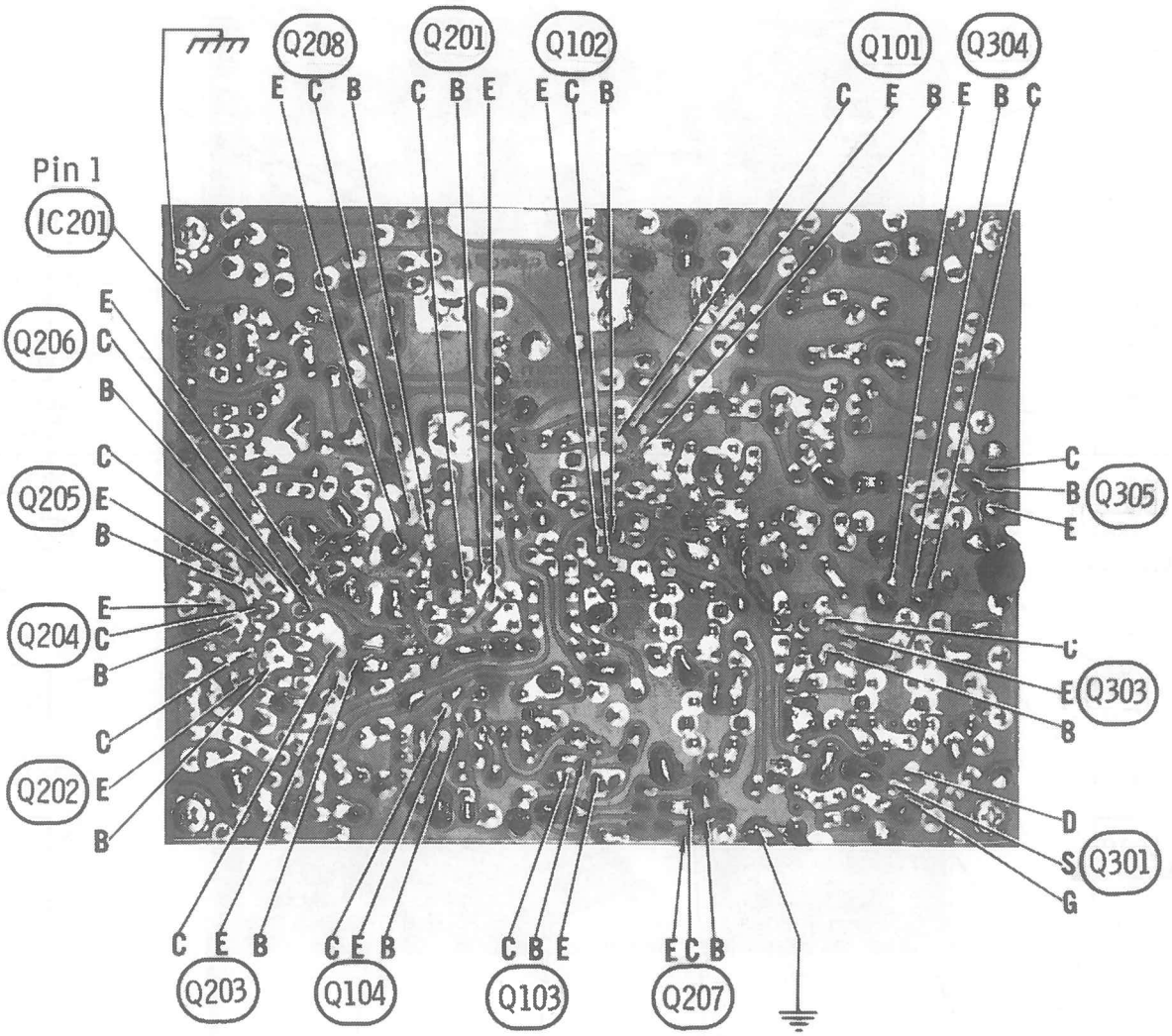
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of oscilloscope or modulation meter to antenna jack. Inject a 1000Hz, 20mV signal at MIC input.	Ch. 19	RV219	MIC GAIN Adjust for 100% modulation maximum. See Figure 1
Connect an RF wattmeter and 50-ohm, 25-watt dummy load to antenna connector.	Ch. 19	RV301	POWER METER Adjust so that panel power meter agrees with RF wattmeter.

TRUTH CHART

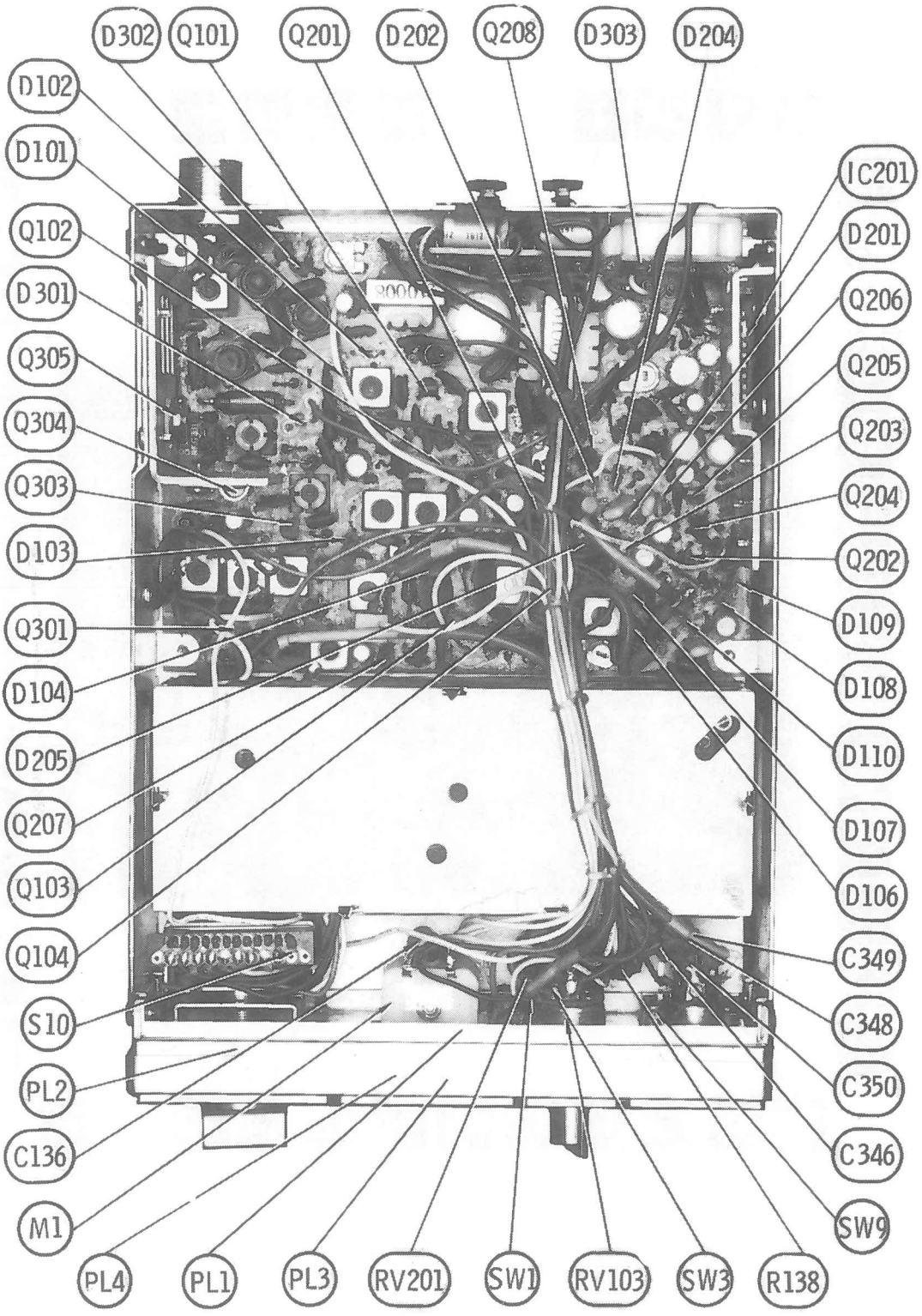
CHANNEL	1 = 8.62 Volts 0 = 0 Volts PLL PINS P8	P7	P6	P5	P4	P3	P2	P1	REC VCO OUTPUT IN MHz AT TP10	XMT VCO OUTPUT IN MHz AT TP10	
1	0	1	0	1	1	0	1	1	16.270	16.543	
2	0	1	0	1	1	1	0	0	16.280	16.553	
3	0	1	0	1	1	1	0	1	16.290	16.563	
4	0	1	0	1	1	1	1	1	16.310	16.583	
5	0	1	1	0	0	0	0	0	16.320	16.593	
6	0	1	1	0	0	0	0	1	16.330	16.603	
7	0	1	1	0	0	0	1	0	16.340	16.613	
8	0	1	1	0	0	1	0	0	16.360	16.633	
9	0	1	1	0	0	1	0	1	16.370	16.643	
10	0	1	1	0	0	1	1	0	16.380	16.653	
11	0	1	1	0	0	1	1	1	16.390	16.663	
12	0	1	1	0	1	0	0	1	16.410	16.683	
13	0	1	1	0	1	0	1	0	16.420	16.693	
14	0	1	1	0	1	0	1	1	16.430	16.703	
15	0	1	1	0	1	1	0	0	16.440	16.713	
16	0	1	1	0	1	1	1	0	16.460	16.733	
17	0	1	1	0	1	1	1	1	16.470	16.743	
18	0	1	1	1	0	0	0	0	16.480	16.753	
19	0	1	1	1	0	0	0	1	16.490	16.763	
20	0	1	1	1	0	0	1	1	16.510	16.783	
21	0	1	1	1	0	1	0	0	16.520	16.793	
22	0	1	1	1	0	1	0	1	16.530	16.803	
23	0	1	1	1	1	0	0	0	16.560	16.833	
24	0	1	1	1	0	1	1	0	16.540	16.813	
25	0	1	1	1	0	1	1	1	16.550	16.823	
26	0	1	1	1	1	0	0	1	16.570	16.843	
27	0	1	1	1	1	0	1	0	16.580	16.853	
28	0	1	1	1	1	0	1	1	16.590	16.863	
29	0	1	1	1	1	1	0	0	16.600	16.873	
30	0	1	1	1	1	1	0	1	16.610	16.883	
31	0	1	1	1	1	1	1	0	16.620	16.893	
32	0	1	1	1	1	1	1	1	16.630	16.903	
33	1	0	0	0	0	0	0	0	16.640	16.913	
34	1	0	0	0	0	0	0	1	16.650	16.923	
35	1	0	0	0	0	0	1	0	16.660	16.933	
36	1	0	0	0	0	0	1	1	16.670	16.943	
37	1	0	0	0	0	1	0	0	16.680	16.953	
38	1	0	0	0	0	1	0	1	16.690	16.963	
39	1	0	0	0	0	1	1	0	16.700	16.973	
40	1	0	0	0	0	1	1	1	16.710	16.983	



CHASSIS - BOTTOM


Q208
E C B
Q201
C B E
Q102
E C B
Q101
C E B
Q304
E B C
Pin 1
IC201
Q206
E
C
B
Q205
C
E
B
Q204
E
C
B
Q202
C
E
B
C
B
Q305
E
C
E
Q303
B
D
S
Q301
G
C E B
Q203
C E B
Q104
C B E
Q103
E C B
Q207

MAIN BOARD



CHASSIS - BOTTOM

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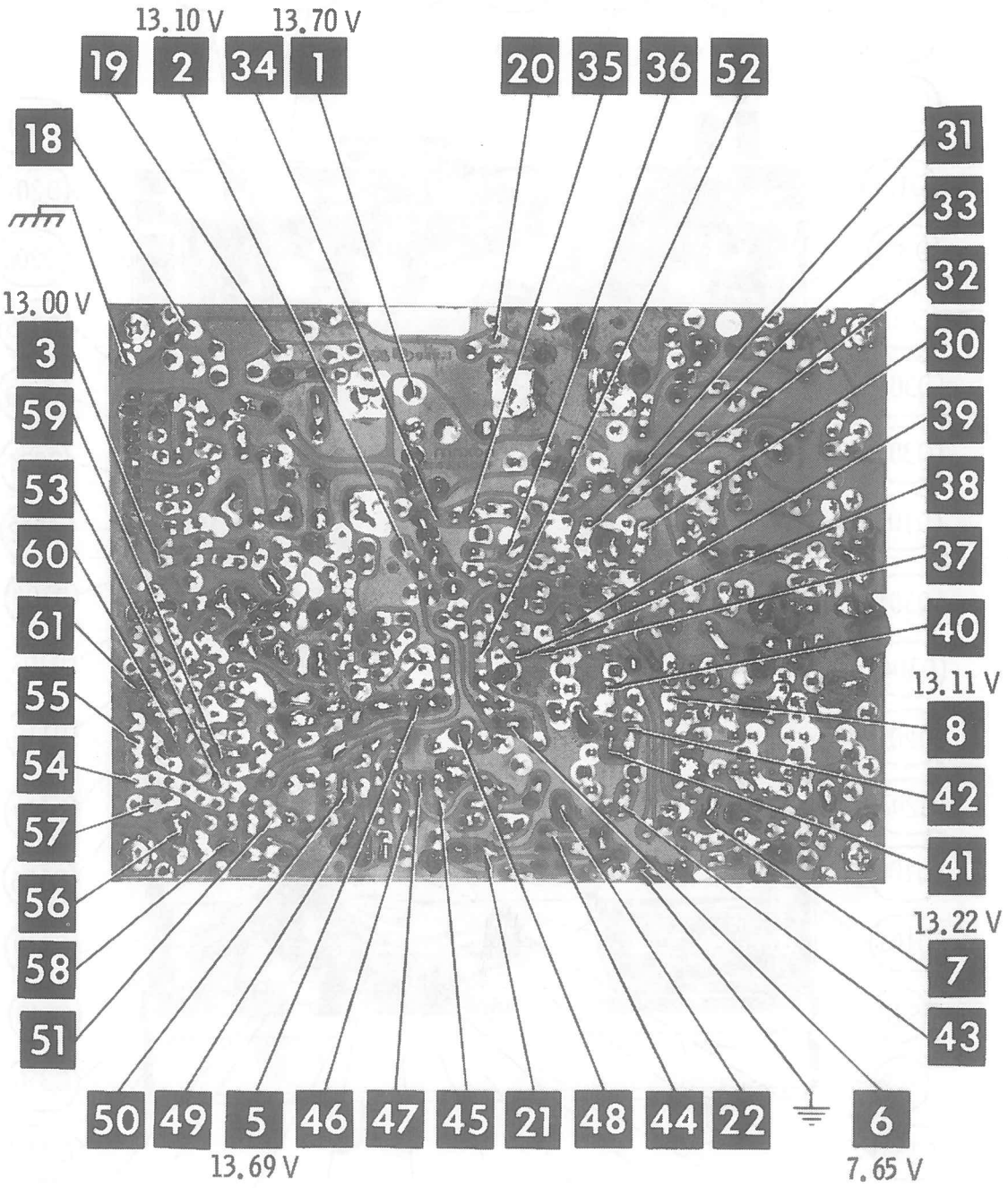
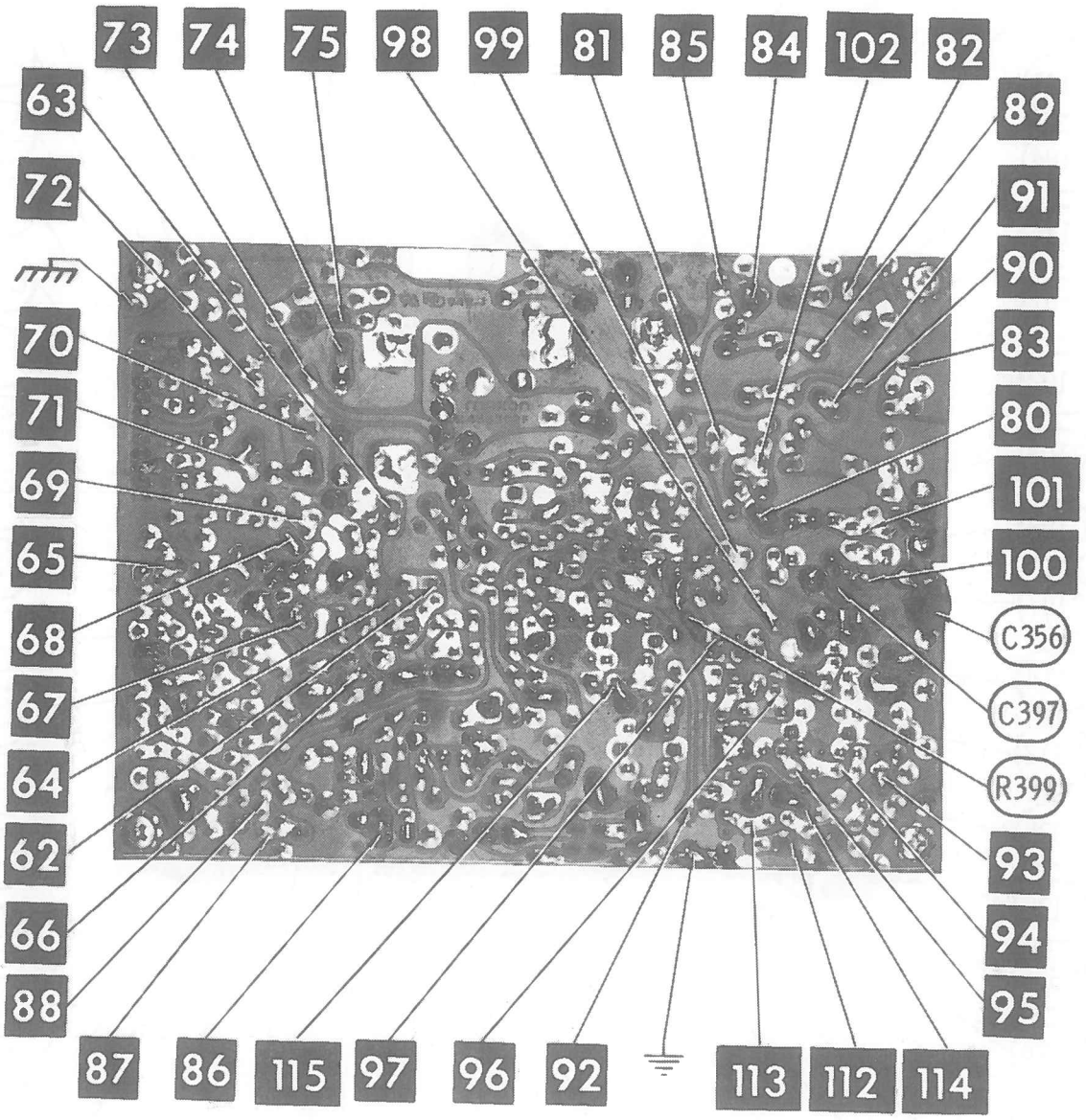


MAIN BOARD


73
74
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99
81
85
84
102
82
63
89
72
91
90
70
83
71
80
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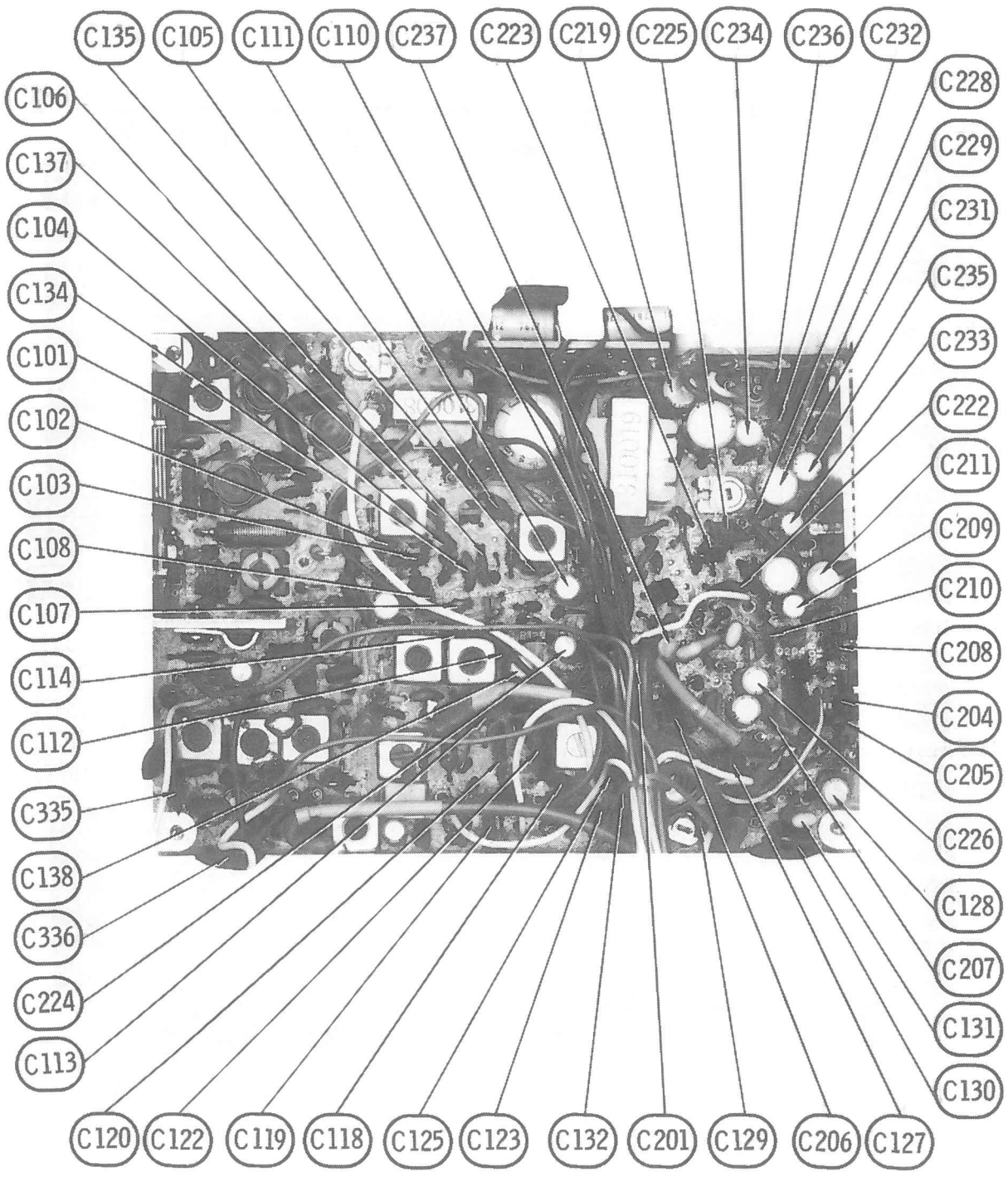
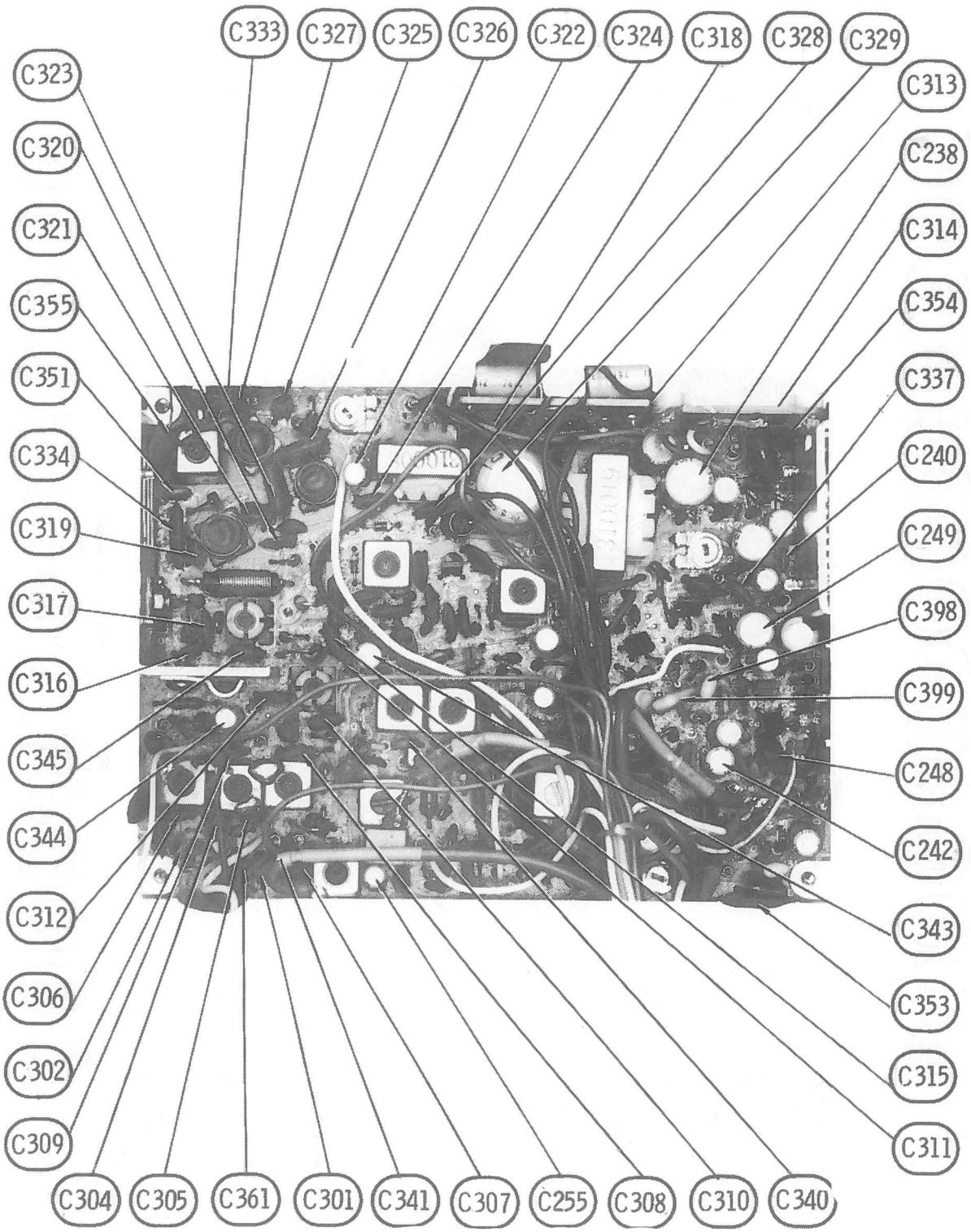
101
65
100
68
C356
67
C397
64
R399
62
93
66
94
88
95
87
86
115
97
96
92
113
112
114

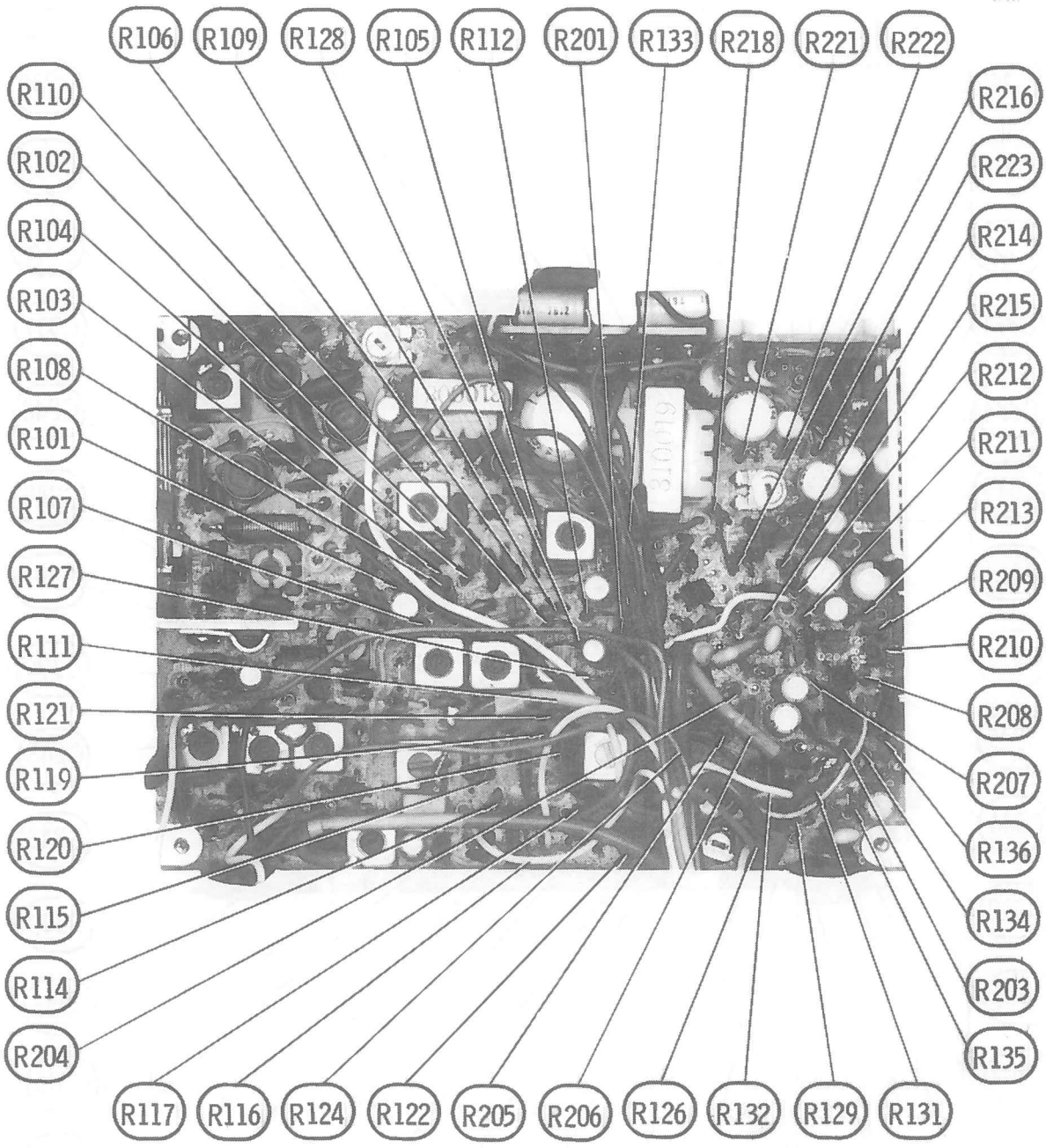
MAIN BOARD


C135
C105
C111
C110
C237
C223
C219
C225
C234
C236
C232
C106
C137
C104
C134
C101
C102
C103
C108
C107
C114
C112
C335
C138
C336
C224
C113
C228
C229
C231
C235
C233
C222
C211
C209
C210
C208
C204
C205
C226
C128
C207
C131
C130
C120
C122
C119
C118
C125
C123
C132
C201
C129
C206
C127

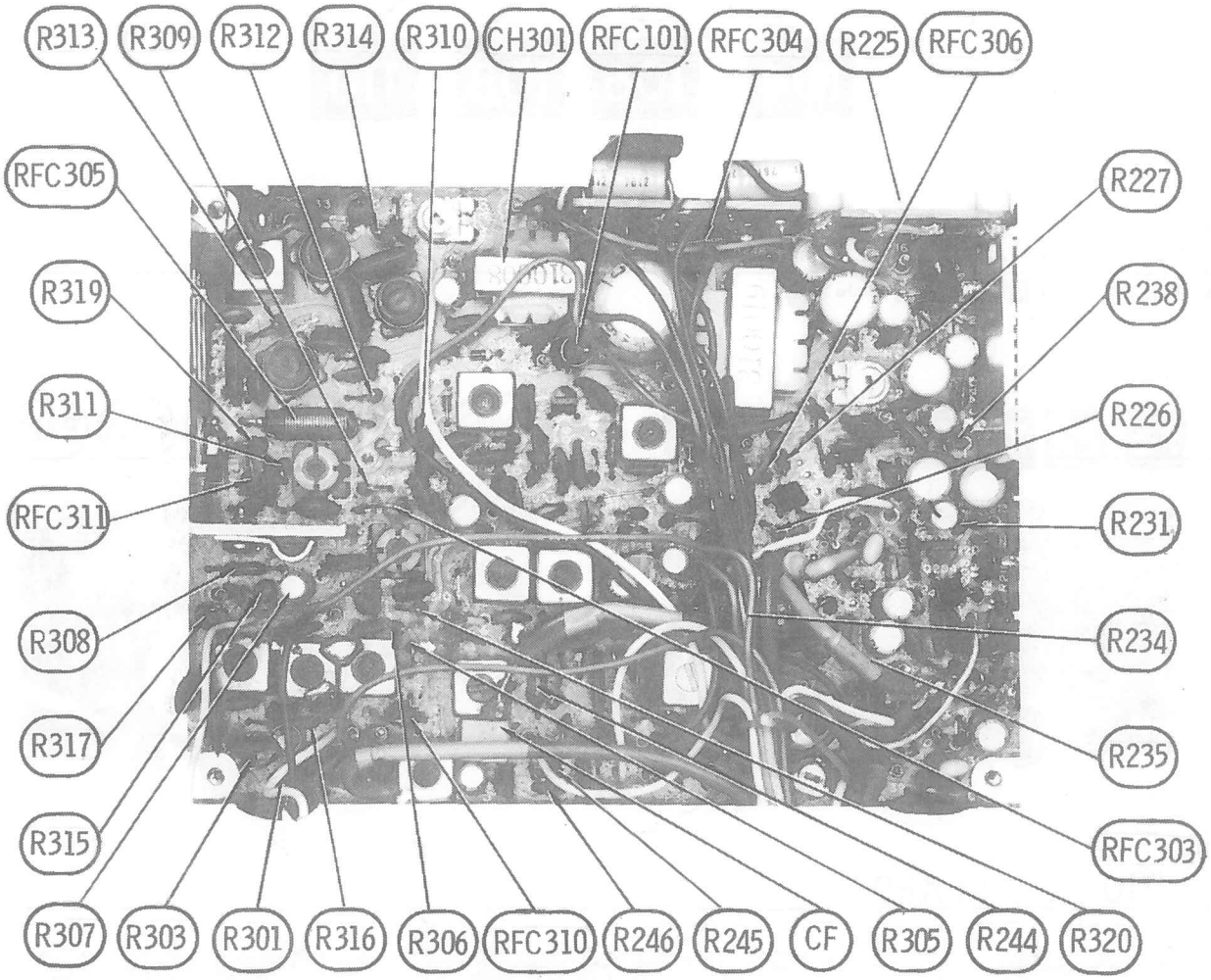
MAIN BOARD


C333
C327
C325
C326
C322
C324
C318
C328
C329
C323
C313
C320
C238
C321
C314
C355
C354
C351
C337
C334
C240
C319
C249
C317
C398
C316
C399
C345
C248
C344
C242
C312
C343
C306
C353
C302
C315
C309
C311
C304
C305
C361
C301
C341
C307
C255
C308
C310
C340

MAIN BOARD


R106
R109
R128
R105
R112
R201
R133
R218
R221
R222
R110
R102
R104
R103
R108
R101
R107
R127
R111
R121
R119
R120
R115
R114
R204
R216
R223
R214
R215
R212
R211
R213
R209
R210
R208
R207
R136
R134
R203
R135
R117
R116
R124
R122
R205
R206
R126
R132
R129
R131

MAIN BOARD


R313
R309
R312
R314
R310
CH301
RFC101
RFC304
R225
RFC306
RFC305
R227
R319
R238
R311
R226
RFC311
R231
R308
R234
R317
R235
R315
RFC303
R307
R303
R301
R316
R306
RFC310
R246
R245
CF
R305
R244
R320

MAIN BOARD

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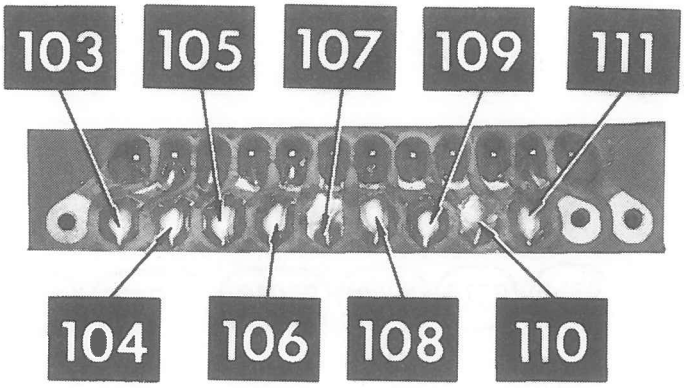
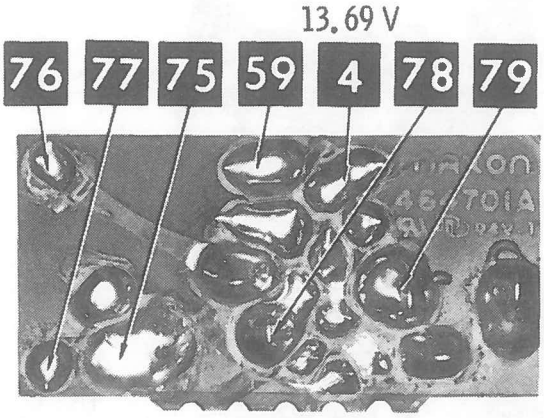
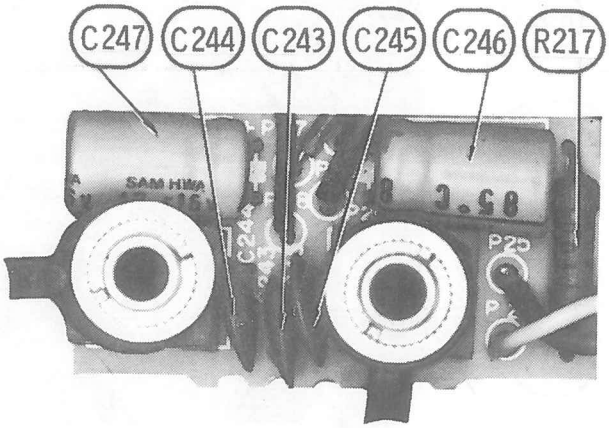


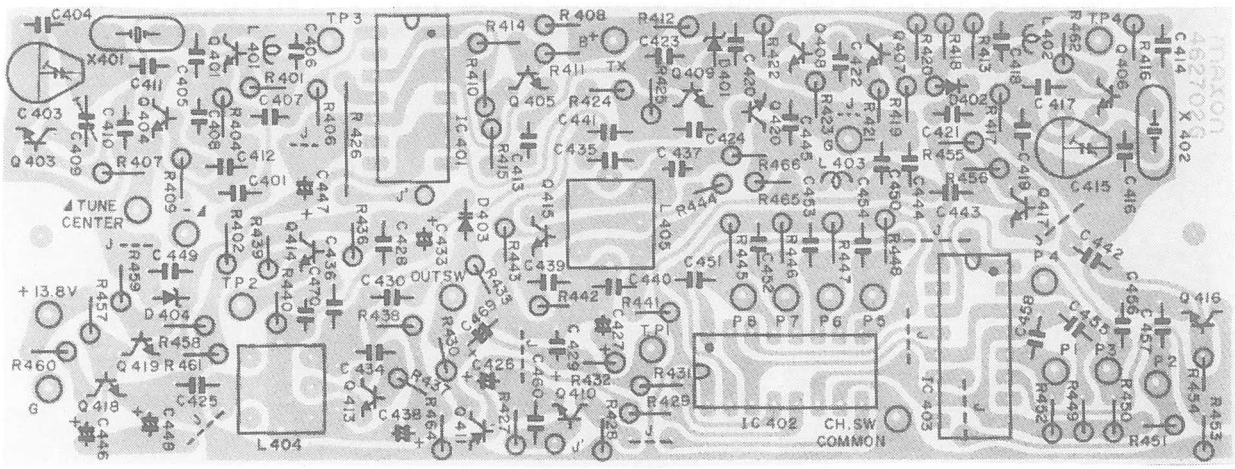
CH. SELECTOR BOARD

A Howard W. Sams CIRCUITRACE® Photo



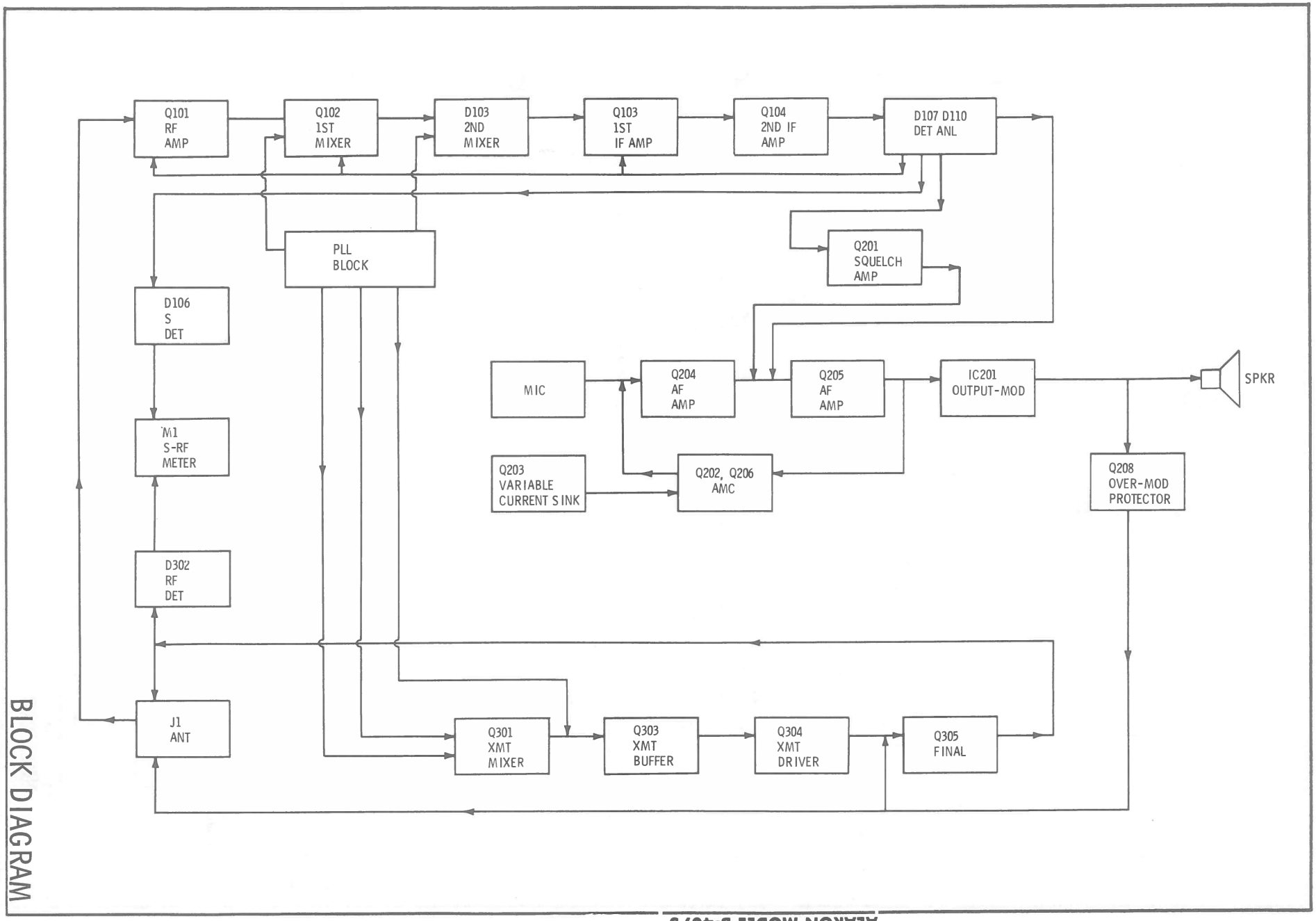


AUDIO JACK BOARD

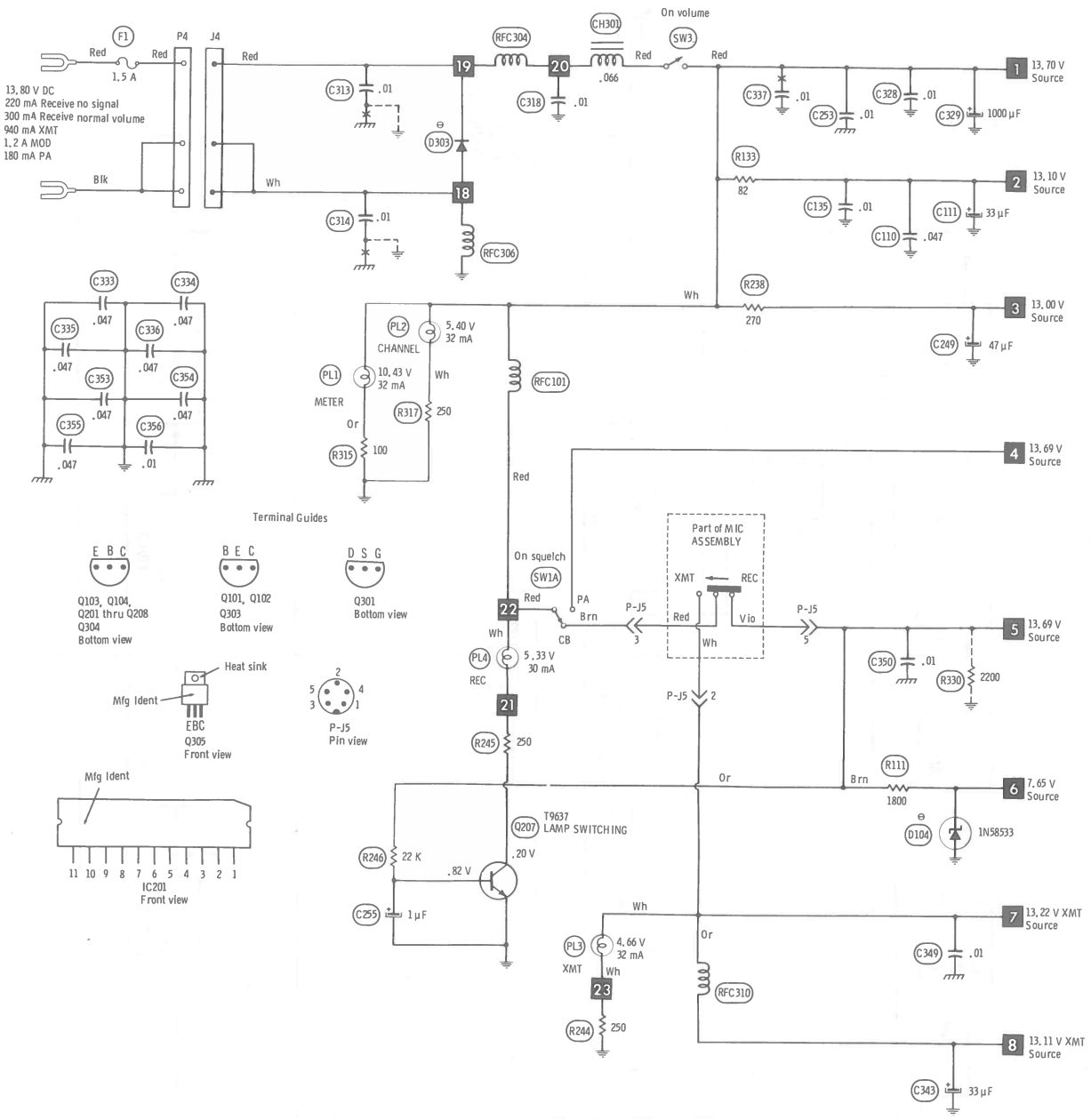


PLL BOARD

Courtesy of the Manufacturer

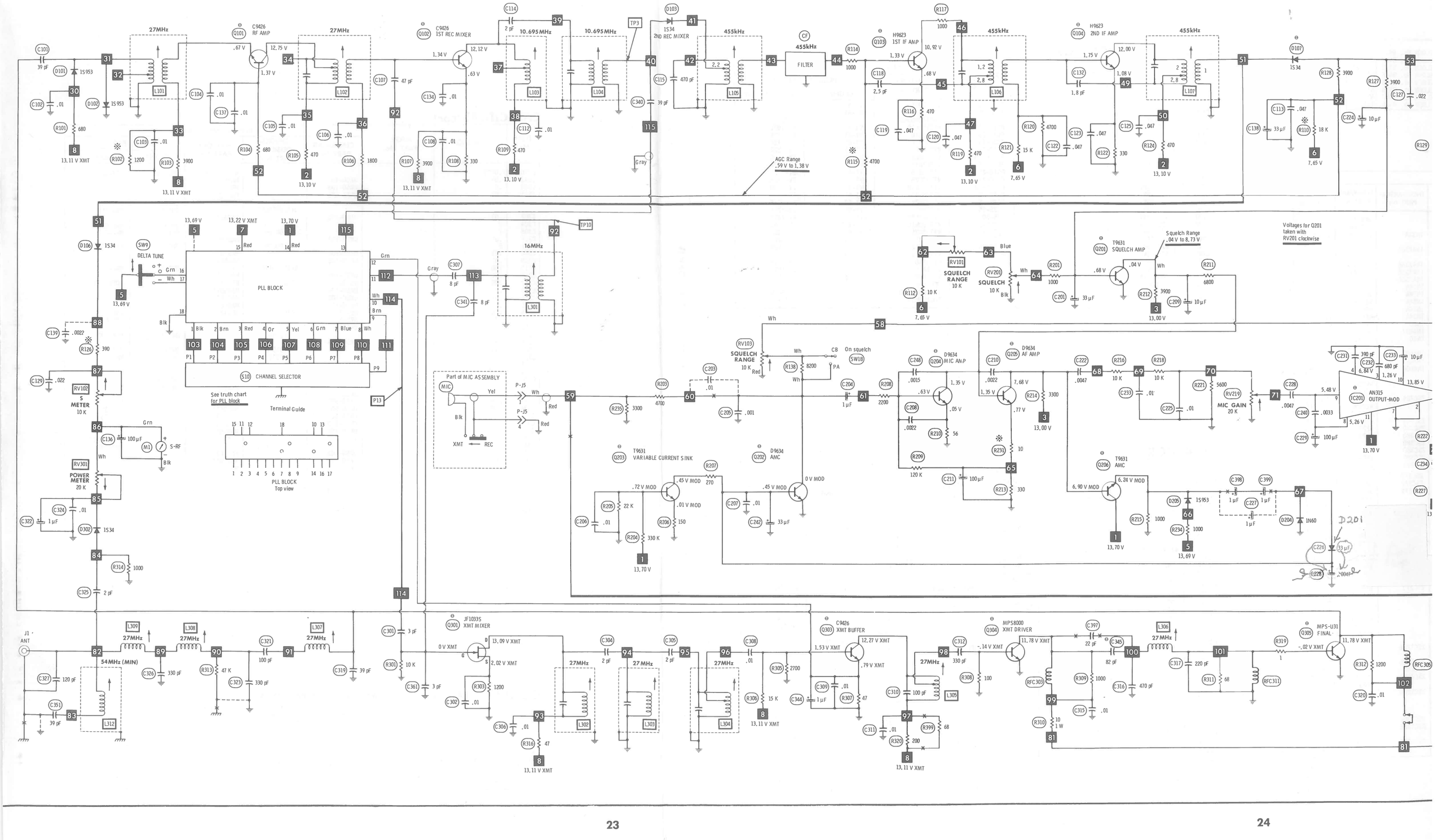


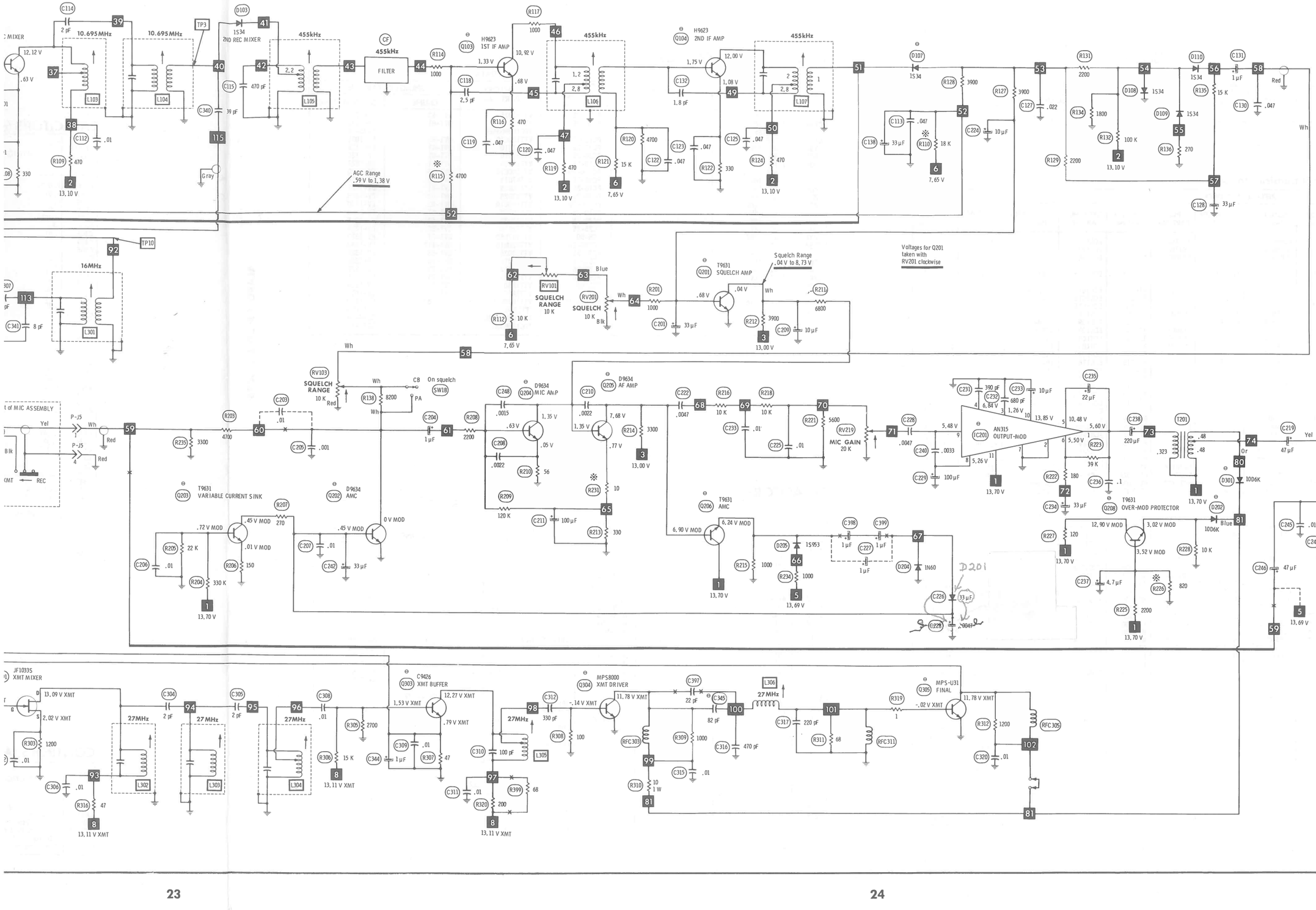
BLOCK DIAGRAM



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

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH CIRCUITRACE®


27MHz
C9426 RF AMP
Q101
27MHz
C9426 1ST REC MIXER
Q102
10.695MHz
10.695MHz
TP3
1S34 2ND REC MIXER
D103
455kHz
CF 455kHz FILTER
H9623 1ST IF AMP
Q103
455kHz
H9623 2ND IF AMP
Q104
455kHz
D107 1S34
AGC Range .59 V to 1.38 V
Gray
16MHz
L301
PLL BLOCK
SW9 DELTA TUNE
S10 CHANNEL SELECTOR
See truth chart for PLL block
Terminal Guide
PLL BLOCK Top view
RV102 S METER 10 K
RV301 POWER METER 20 K
M1 S-RF
Part of MIC ASSEMBLY
MIC
XMT
REC
SQUELCH RANGE 10 K
RV101 SQUELCH RANGE 10 K
RV201 SQUELCH 10 K
T9631 SQUELCH AMP
Q201
Squelch Range .04 V to 8.73 V
Voltages for Q201 taken with RV201 clockwise
CB On squelch SW1B
PA
D9634 MIC AMP
Q204
D9634 AF AMP
Q205
RV219 MIC GAIN 20 K
AN315 OUTPUT-MOD
IC201
T9631 VARIABLE CURRENT SINK
Q203
D9634 AMC
Q202
T9631 AMC
Q206
1S953
1N60
D201
J1 ANT
54MHz (MIN)
L309
27MHz
L308
27MHz
L307
27MHz
L312
JF1033S XMT MIXER
Q301
L302
27MHz
L303
27MHz
L304
27MHz
C9426 XMT BUFFER
Q303
L305
27MHz
MPS8000 XMT DRIVER
Q304
L306
27MHz
MPS-U31 FINAL
Q305
RFC305
RFC309
RFC311
13,69 V
13,22 V XMT
13,70 V
13,11 V XMT
13,10 V
13,00 V
7,65 V
0 V XMT
13,09 V XMT
2,02 V XMT
1,53 V XMT
12,27 V XMT
11,78 V XMT
-,14 V XMT
-,02 V XMT
6,90 V MOD
6,24 V MOD
.72 V MOD
.45 V MOD
.01 V MOD
0 V MOD



ALARON MODEL B-4075

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.	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.
D101	1S953		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D102	1S953		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D103	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D104	1N5853B		GEZD-8.2	ZM8.2B		RE 112		RT-257	ECG5016	1N4738A	WEP1417	
	1N5853		GEZD-8.2	ZM8.2B		RE 112		RT-257	ECG5016	1N4738A	WEP1417	
	RD8.2E		GEZD-8.2	ZM8.2B		RE 112		RT-257	ECG5016	1N4738A	WEP1417	
	MA1082		GEZD-8.2	ZM8.2B		RE 112		RT-257	ECG5016	1N4738A	WEP1417	
D106	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D107	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D108	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D109	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D110	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D201	1N60		1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D202	10D6K		GE-504A	PTC202	HEPR0054	RE 49	SK3313	RT-215	ECG116	1N4007	WEP158	212-76
D204	1N60		1N60	PTC206	HEPR9135	RE 47	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D205	1S953		GE-300	PTC214	HEPR0602	RE 52	SK3100	RT-218	ECG177		WEP1062	
D301	10D6K		GE-504A	PTC202	HEPR0054	RE 49	SK3313	RT-215	ECG116	1N4007	WEP158	212-76
D302	1S34		1N34AS	PTC207	HEPR9134A	RE 47	SK3087	RT-200	ECG109	1N34A	WEP134	ZEN-430
D303			GE-504A	PTC201	HEPR0052	RE 49	SK3030	RT-213	ECG116	1N4004	WEP156	212-76
IC201	AN315								ECG1240			
Q101	C9426		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
	MPS9426		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
	2SC784-0		GE-60*	PTC132*	HEPS0008*	RE 28*	SK3122*	RT-187	ECG229*	2SC784	WEP784	ZEN-104
Q102	C9426		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
	MPS9426		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
	2SC784-0		GE-60*	PTC132*	HEPS0008*	RE 28*	SK3122*	RT-187	ECG229*	2SC784	WEP784	ZEN-104
Q103	H9623		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	MPS9623		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380-0		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q104	H9623		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	MPS9623		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
	2SC380-0		GE-61*	PTC136*	HEPS0016*	RE 9	SK3018*	RT-107A	ECG229	2SC380	WEP380	ZEN-127
Q201	T9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	MPS9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	2SC372		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q202	D9634		GE-60	PTC139	HEPS0030	RE 64	SK3124	RT-105	ECG199		WEP66	121-972
	MPS9634D		GE-60	PTC139	HEPS0030	RE 64	SK3124	RT-105	ECG199		WEP66	121-972
Q203	T9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	MPS9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q204	D9634		GE-60	PTC139	HEPS0030	RE 64	SK3124	RT-105	ECG199		WEP66	121-972
	MPS9634D		GE-60	PTC139	HEPS0030	RE 64	SK3124	RT-105	ECG199		WEP66	121-972
Q205	D9634		GE-60	PTC139	HEPS0030	RE 64	SK3124	RT-105	ECG199		WEP66	121-972
	MPS9634D		GE-60	PTC139	HEPS0030	RE 64	SK3124	RT-105	ECG199		WEP66	121-972
Q206	T9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	MPS9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q207	T9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	MPS9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
Q208	T9631		GE-61*	PTC121*	HEPS0015*	RE 13*	SK3444	RT-308	ECG123A*	2SC372	WEP372	ZEN-114
	MPS9631		GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312			ZEN-123
Q301	JF1033S		GE-FET-2	PTC161	HEPF0021	RE 45	SK3116	RT-175	ECG312			ZEN-123
	2SK19		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
Q303	C9426		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
	MPS9426B,C		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-209	ECG229*		WEP394	ZEN-114
	2SC394		GE-61*	PTC121*	HEPS0014*	RE 9	SK3018*	RT-309	ECG229*		WEP394	ZEN-114
	2SC1854		GE-270	PTC180		RE 209	SK3253	RT-162	ECG295	2SC1226	WEP913	ZEN-209
Q304	MPS8000 (12)		GE-270	PTC180		RE 209	SK3253	RT-162	ECG295	2SC1226	WEP913	ZEN-209
	2SC495		GE-336	PTC180		RE 209	SK3253		ECG295	2SC496	WEP913	800-767
	2SC1846		GE-270	PTC180		RE 209	SK3253		ECG295	2SC496	WEP913	800-767
	2SC1847		GE-270	PTC180	HEPS3044	RE 209	SK3197		ECG295		WEP913	
	2SC1957		GE-270	PTC180		RE 209	SK3253	RT-162	ECG295	2SC1226	WEP913	ZEN-209
	LM8000											
Q305	MPS-U31 (13)		GE-275			RE 204	SK3252	RT-310	ECG302		WEP918	
	2SC1306		GE-215	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC1678		GE-322	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
	2SC2075		GE-215	PTC186		RE 203	SK3197	RT-146	ECG235		WEP785	
	2SC1974-5		GE-337	PTC186		RE 203	SK3197	RT-146	ECG235	2SC1306	WEP785	
	MRF472		GE-215	PTC186		RE 203	SK3197	RT-46	ECG235		WEP785	ZEN-209

* Lead Configuration may vary from original.
(12) 5 watt @ 800mA.
(13) 12 watt @ 3.0A.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFGR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No. Q-LINE	SPRAGUE PART No. GENERAL LINE
C111	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C128	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C131	1 16V			TDC105M035EL		SD35-19
C136	100 6.3V		PC100-10	VTT100E10	QV1-93	EV-1030
C138	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C201	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C209	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C211	100 6.3V		PC100-10	VTT100E10	QV1-93	EV-1030
C219	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C224	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C226	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C229	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C233	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C234	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C235	22 16V		PC25-25	VTT22B16	QV1-55	EV-1224
C237	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C238	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C242	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C246	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C247	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C249	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C255	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C322	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C329	1000 16V		PC1000-16	VTT1000L16	Q V1-183	EV-1260
C344	1 50V		PC1-50	VTT1A50	QV-11	EV-1615
C398	1 16V			TDC105M035EL		SD35-19
C399	1 16V			TDC105M035EL		SD35-19

CAPACITORS

ITEM No.	RATING	MFGR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No. Q-LINE	SPRAGUE PART No. GENERAL LINE
C101	39			CD15ED390J03	SX439	QW1-17	MWA-390
C102	.01		UK50-103		MAG5011		
C103	.01		UK50-103		MAG5011		
C104	.01		UK50-103		MAG5011		
C105	.01		UK50-103		MAG5011		
C106	.01		UK50-103		MAG5011		
C107	47 N220 5%				*		10TCR-Q47
C108	.01		UK50-103		MAG5011		
C110	.047		UK25-503		MAG2515		HY-735
C112	.01		UK50-103		MAG5011		
C113	.047		UK25-503		MAG2515		HY-735
C114	2			CD15CD050D03		QW1-2	MWA-050
C118	25			CD15ED270J03	SX427	QW1-13	MWA-270
C119	.047		UK25-503		MAG2515		HY-735
C120	.047		UK25-503		MAG2515		HY-735
C122	.047		UK25-503		MAG2515		HY-735
C125	.047		UK25-503		MAG2515		HY-735
C127	.022				M192P2239R8	QFT2-127	1FT-S22
C129	.022				M192P2239R8	QFT2-127	1FT-S22
C130	.047			DPMS2S47	EWF1A147	QFT2-171	1FT-S47
C132	1.8			CD15CD010D03		QW1-1	MWA-010
C134	.01		UK50-103		MAG5011		
C135	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C137	.01		UK50-103		MAG5011		
C204	1			WMF05W1	EWF0510		431P1059R5
C205	.001			DPMS6D1	EWF1A210	QFT2-1	1FT-D10
C206	.01		UK50-103		MAG5011		
C207	.01		UK50-103		MAG5011		
C208	.0022 5%				M192P2229R8	QFT2-27	1FT-D22
C210	.0022				M192P2229R8	QFT2-27	1FT-D22
C222	.0047				M192P4729R8	QFT2-63	1FT-D47
C223	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C225	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C228	.0047				M192P4729R8	QFT2-63	1FT-D47
C231	390		DD-391	GP390	GP339		10TS-T39
C232	680		DD-681	GP680	GP368		10TS-T68
C236	.1			WMF05P1	EWF05010	QFT2-215	1FT-P10

CAPACITORS

ITEM No.	RATIN
C240	.0033
C243	.01
C244	.01
C245	.01
C248	.0015
C301	3
C302	.01
C304	2
C305	2
C306	.01
C307	8
C308	.01
C309	.01
C310	100
C311	.01
C312	330
C313	.01
C314	.01
C315	.01
C316	470
C317	220
C318	.01
C319	39
C320	.01
C321	100
C323	330
C324	.01
C325	2 NPO
C326	330
C327	120
C328	.01
C333	.047
C334	.047
C335	.047
C336	.047
C337	.01
C340	39 N220 5%
C341	8
C348	.01
C349	.01
C350	.01
C351	39 N220 5%
C353	.047
C354	.047
C355	.047
	.01
C356	.01
C361	3
C397	22

CONTROLS

ITEM No.	FUNCT
RV101	Squelch Ra
RV102	S Meter
RV103	Volume/Pow
RV201	Squelch/PA
RV219	MIC Gain
RV301	Power Mete

G BELDEN No. 9471 (5')
BELDEN No. 8497 (6')
BELDEN No. 9472 (7-1/2')
G BELDEN No. 9466 (6')
G BELDEN No. 9468 (10')
G BELDEN No. 8415 (6')
G BELDEN No. 9467 (6')
BELDEN No. 9465 (7-1/2')

NIA No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
		WEP1062	
		WEP1062	
	1N34A	WEP134	ZEN-430
6	1N4738A	WEP1417	
6	1N4738A	WEP1417	
6	1N4738A	WEP1417	
	1N34A	WEP134	ZEN-430
	1N34A	WEP134	ZEN-430
	1N34A	WEP134	ZEN-430
	1N34A	WEP134	ZEN-430
	1N60	WEP134	ZEN-430
	1N4007	WEP158	212-76
	1N60	WEP134	ZEN-430
		WEP1062	
	1N4007	WEP158	212-76
	1N34A	WEP134	ZEN-430
	1N4004	WEP156	212-76
0			
*		WEP394	ZEN-114
*		WEP394	ZEN-114
*	2SC784	WEP784	ZEN-104
*		WEP394	ZEN-114
*		WEP394	ZEN-114
*	2SC784	WEP784	ZEN-104
	2SC380	WEP380	ZEN-127
	2SC380	WEP380	ZEN-127
	2SC380	WEP380	ZEN-127
	2SC380	WEP380	ZEN-127
	2SC380	WEP380	ZEN-127
	2SC380	WEP380	ZEN-127
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
9		WEP66	121-972
9		WEP66	121-972
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
9		WEP66	121-972
9		WEP66	121-972
9		WEP66	121-972
9		WEP66	121-972
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
3A*	2SC372	WEP372	ZEN-114
2			ZEN-123
2			ZEN-123
9*		WEP394	ZEN-114
9*		WEP394	ZEN-114
9*		WEP394	ZEN-114
9*		WEP394	ZEN-114
5	2SC1226	WEP913	ZEN-209
5	2SC1226	WEP913	ZEN-209
5	2SC496	WEP913	800-767
5	2SC496	WEP913	800-767
5		WEP913	
5	2SC1226	WEP913	ZEN-209
2		WEP918	
5	2SC1306	WEP785	
5	2SC1306	WEP785	
5		WEP785	
5	2SC1306	WEP785	
5		WEP785	ZEN-209

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFGR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C111	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C128	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C131	1 16V			TDC105M035EL		SD35-19
C136	100 6.3V		PC100-10	VTT100E10	QV1-93	EV-1030
C138	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C201	33 10V		PC30-25	VTT33B10	QV1-61	EV-1125
C209	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C211	100 6.3V		PC100-10	VTT100E10	QV1-93	EV-1030
C219	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C224	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C226	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C229	100 10V		PC100-10	VTT100E10	QV1-93	EV-1130
C233	10 16V		PC10-25	VTT10B25	QV1-41	EV-1222
C234	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C235	22 16V		PC25-25	VTT22B16	QV1-55	EV-1224
C237	4.7 25V		PC5-50	VTT4R7B50	QV1-27	EV-1319
C238	220 16V		PC250-25	VTT220H16	QV1-117	EV-1240
C242	33 16V		PC30-25	VTT33D25	QV1-63	EV-1325
C246	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C247	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C249	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C255	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C322	1 50V		PC1-50	VTT1A50	QV1-11	EV-1615
C329	1000 16V		PC1000-16	VTT1000L16	Q V1-183	EV-1260
C344	1 50V		PC1-50	VTT1A50	QV-11	EV-1615
C398	1 16V			TDC105M035EL		SD35-19
C399	1 16V			TDC105M035EL		SD35-19

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	39			CD15ED390J03	SX439	QW1-17	MWA-390
C102	.01		UK50-103		MAG5011		
C103	.01		UK50-103		MAG5011		
C104	.01		UK50-103		MAG5011		
C105	.01		UK50-103		MAG5011		
C106	.01		UK50-103		MAG5011		
C107	47 N220 5%				*		10TCR-Q47
C108	.01		UK50-103		MAG5011		
C110	.047		UK25-503		MAG2515		HY-735
C112	.01		UK50-103		MAG5011		
C113	.047		UK25-503		MAG2515		HY-735
C114	2			CD15CD050D03		QW1-2	MWA-050
C118	25			CD15ED270J03	SX427	QW1-13	MWA-270
C119	.047		UK25-503		MAG2515		HY-735
C120	.047		UK25-503		MAG2515		HY-735
C122	.047		UK25-503		MAG2515		HY-735
C125	.047		UK25-503		MAG2515		HY-735
C127	.022				M192P2239R8	QFT2-127	1FT-S22
C129	.022				M192P2239R8	QFT2-127	1FT-S22
C130	.047			DPMS2S47	EWF1A147	QFT2-171	1fT-S47
C132	1.8			CD15CD010D03		QW1-1	MWA-010
C134	.01		UK50-103		MAG5011		
C135	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C137	.01		UK50-103		MAG5011		
C204	1			WMF05W1	EWF0510		431P1059R5
C205	.001			DPMS6D1	EWF1A210	QFT2-1	1FT-D10
C206	.01		UK50-103		MAG5011		
C207	.01		UK50-103		MAG5011		
C208	.0022 5%				M192P2229R8	QFT2-27	1FT-D22
C210	.0022				M192P2229R8	QFT2-27	1FT-D22
C222	.0047				M192P4729R8	QFT2-63	1FT-D47
C223	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C225	.01			WMF1S1	EWF1A110	QFT2-91	1FT-S10
C228	.0047				M192P4729R8	QFT2-63	1FT-D47
C231	390		DD-391	GP390	GP339		10TS-T39
C232	680		DD-681	GP680	GP368		10TS-T68
C236	.1			WMF05P1	EWF05010	QFT2-215	1FT-P10

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
C240	.0033				M192P3329R8	QFT2-43	1FT-D33
C243	.01		UK50-103		MAG5011		
C244	.01		UK50-103		MAG5011		
C245	.01		UK50-103		MAG5011		
C248	.0015			DPMS6D15	EWF6215	QFT2-13	1FT-D15
C301	3			CD15CD050D03		QW1-2	MWA-050
C302	.01		UK50-103		MAG5011		
C304	2			CD15CD050D03		QW1-2	MWA-050
C305	2			CD15CD050D03		QW1-2	MWA-050
C306	.01		UK50-103		MAG5011		
C307	8			CD15CD080D03		QW1-5	MWA-080
C308	.01		UK50-103		MAG5011		
C309	.01		UK50-103		MAG5011		
C310	100			CD15FD101J03	SX310	QW1-27	MWA-101
C311	.01		UK50-103		MAG5011		
C312	330		DD-331	GP330	GP333		10TS-T33
C313	.01		UK50-103		MAG5011		
C314	.01		UK50-103		MAG5011		
C315	.01		UK50-103		MAG5011		
C316	470		DD-471	GP470	GP347		10TS-T47
C317	220		DTZ-220				10TCC-T22
C318	.01		UK50-103		MAG5011		
C319	39			CD15ED390J03	SX439	QW1-17	MWA-390
C320	.01		UK50-103		MAG5011		
C321	100			CD15FD101J03	SX310	QW1-27	MWA-101
C323	330			CD15FD331J03	SX333	QW1-39	MWA-331
C324	.01		UK50-103		MAG5011		
C325	2 NPO		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C326	330			CD15FD331J03	SX333	QW1-39	MWA-331
C327	120			CD15FD121J03	SX312	QW1-29	MWA-121
C328	.01		UK50-103		MAG5011		
C333	.047		UK25-503		MAG2515		HY-735
C334	.047		UK25-503		MAG2515		HY-735
C335	.047		UK25-503		MAG2515		HY-735
C336	.047		UK25-503		MAG2515		HY-735
C337	.01		UK50-103		MAG5011		
C340	39 N220 5%				*		10TCR-Q39
C341	8			CD15CD080D03		QW1-5	MWA-080
C348	.01		UK50-103		MAG5011		
C349	.01		UK50-103		MAG5011		
C350	.01		UK50-103		MAG5011		
C351	39 N220 5%				*		10TCR-Q39
C353	.047		UK25-503		MAG2515		HY-735
C354	.047		UK25-503		MAG2515		HY-735
C355	.047		UK25-503		MAG2515		HY-735
C356	.01		UK50-103		MAG5011		
C361	3			CD15CD050D03		QW1-2	MWA-050
C397	22		DTZ-22	NP022	CN0422		10TCC-Q22

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

ITEM No.	FUNCTION	RESIST-ANCE	REPLACEMENT DATA				
			MFGR. PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	MALLORY PART No.	TRW PART No.
RV101	Squelch Range	10K					U260R103B
RV102	S Meter	10K					U260R103B
RV103	Volume/Power Switch	10K					
RV201	Squelch/PA Switch	10K					U260R253B
RV219	MIC Gain	20K					U260R253B
RV301	Power Meter	20K					

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 RF (27MHz)		340005		
L102	RF Amp (27MHz)		340007		
L103	IF (10.695MHz)		340007		
L104	IF (10.695MHz)				
L105	IF (455kHz)		340008		
L106	IF (455kHz)		340009		
L107	IF (455kHz)		340010		
L301	PLL Output (16MHz)		340037		
L302	XMT Mixer (27MHz)		340012		
L303	XMT Mixer (27MHz)				
L304	XMT Mixer (27MHz)		340013		
L305	XMT Buffer (27MHz)				
L306	XMT Driver (27MHz)				
L307	Final (27MHz)				
L308	Pi Filter				
L309	Ant Tuning (27MHz)				
L312	TVI Trap (54MHz)				
REC301	RF Choke				
REC303	RF Choke				
REC304	RF Choke				
REC305	RF Choke				
REC306	RF Choke				
REC310	RF Choke				
REC311	RF Choke				

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.	
CH301	1.2A	.066	.53mH	310008 (1)			(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T201	8	49.7	310019 (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.	
SP	3" PM 8 Ohms			

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
F1	1.5A Quick Acting			AGC1 1/2	HDJ	31201.5	150145	FG1 1/2-2

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		18-032	18-034	18-010	18-105	4	1	2	5	NC	3

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
CF	Filter		455kHz
M1	Meter		S/RF
PL1	Lamp		Meter 10.43V @ 32mA
PL2	Lamp		Channel 5.40V @ 32mA
PL3	Lamp		XMT 4.66V @ 32mA
PL4	Lamp		Rec 5.33V @ 30mA
SW1	Switch		PA-CB (Part of Squelch Control)
SW3	Switch		Power (Part of Volume Control)
SW9	Switch		Delta Tune