



PHOTOFACT[®] with

CIRCUITRACE[®]

For Supplier Address See PHOTOFACT Index

NOTE

Repair or adjustment of transmitter circuits must be under supervision of a person with first-or second-class radiotelephone license.

(Refer to FCC Rules and Regulations Part 95, Subpart C & D.)

The frequency of the transmitter should be checked periodically with a secondary frequency standard to insure proper and legal operation.

Best results will be obtained when adjusting the final RF output circuit if the antenna normally used is connected and the chassis is as nearly in the cabinet as possible.

Connect either 50-ohm dummy load or the normally used antenna system.



MODEL AIRCOMMAND CBB-1040

MANUFACTURER'S SPECIFICATIONS

General

1. Channels 40
2. Frequency Range 26.965 ~ 27.405 MHz
3. Frequency Control PLL Synthesizer
4. Frequency Tolerance $\pm 0.002\%$
5. Operating Temperature $-30^{\circ}\text{C} \sim +50^{\circ}\text{C}$
6. Microphone . Plug in Base Dynamic Type (BPM-1)
7. Operating Voltage AC: 120 V 60 Hz
DC: 13.8 V Nominal
(Position on Negative Ground)
8. AC Power Consumption
Transmit AM Full Mode: 78 W
Receive Squelched: 35 W
9. DC Current Drain
Transmit AM Full Mode: 2.5 A
Receive Squelched: 0.75 A
10. Size 13-13/16 (W) x 4-9/16 (H) x 9-1/2 (D) (inches)
11. Weight 10.34 lbs.
12. Semi-conductors 10 Integrated Circuits
..... 5 Field Effect Transistors
..... 50 Transistors
..... 53 Diodes
..... 6 LEDS
..... 1 Thermister

Transmitter

1. Power Output 4 Watts
2. Modulation AM
3. Modulation Capability 100% max. with the
Superscope BPM-1 Microphone
4. Frequency Response 300 Hz ~ 2.5 kHz
5. Spurious Emission -65 dB
6. Output Impedance $50\ \Omega$ unbalanced

Receiver

1. Sensitivity . . . Less than $0.6\ \mu\text{V}$ for 10 dB (S+N)/N
2. Adjacent Channel Rejection (Selectivity)
60 dB at $\pm 10\text{ kHz}$
3. Image Rejection 50 dB
4. IF Frequency 1st 9.785 MHz
2nd 455 kHz
5. AGC . Less than 10 dB change in Audio Output for
inputs from 10 to 100,000 μV
6. Squelch Adjustable threshold less than
1 μV to 100 μV
7. Audio Output Power (Maximum) 6 W into $8\ \Omega$ Load
8. Frequency Response 300 Hz ~ 3 kHz
9. Built-in Speaker $8\ \Omega$, 4" round
10. Delta Tune Range $\pm 2.0\text{ kHz}$
continuously adjustable
11. RF Gain Control 28 dB attenuation
continuously adjustable

Courtesy of the Manufacturer

SUPERSCOPE MODEL AIRCOMMAND CBB-1040

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

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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.
Adjust R805 for 13.8 volts DC at TP.
Adjust R810 for 11.0 volts DC at TP04.
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:

L201, L202, L204, L301, L302, L401 thru L405, 9440
L602 thru L605 9440
L406, L407, L408 5000, 5009, 8276, 8728, 8728A
L606, L607, L610 8728, 8728A, 9304
C317, C602 5000, 8276

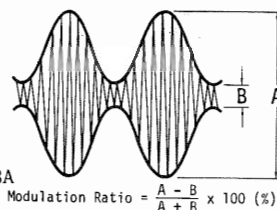


FIGURE 1

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency counter to J302.	Ch. 19 Delta Tune Detent	C317	Adjust for 10.240MHz.
Input of frequency counter to J302.	Ch. 19, XMT	R316	Adjust for 10.240MHz.
Input of frequency counter to TP202.	Ch. 19 Delta Tune Detent	C202	Adjust for 16.270MHz.
Input of DC meter to TP201 (J201).	Ch. 40 Delta Tune Detent	L204	Adjust for 3.00 volts. Check for approx. 1.90 volts on Channel 1.
Input of frequency counter to TP203 (Q211 Pin 13).	Ch. 1 Delta Tune Detent		Check for .910MHz. Check all channels. (See Truth Chart for correct frequencies.)
Input of oscilloscope to (J204).	Ch. 19	L201, L202	Adjust for maximum RF.
Input of frequency counter to (J204).	Ch. 1 Delta Tune Detent		Check for 17.180MHz. Check all channels (See Truth Chart for correct frequencies.)
Input of frequency counter to antenna input.	Ch. 19, XMT	C602	Adjust for 26.965MHz. Check all channels. (See page for channel frequencies.)

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, Delta Tune Detent, Squelch MINIMUM, NB, Off, Ch. 9/Scan Off, Tone Fully clockwise.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP02 (Q404 Base). 455kHz, 1000Hz @ 30% modulation.	Ch. 19	L408, L407, L406, R419	Adjust for maximum output.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation	Ch. 19	L405, L404, L403, L402,	Adjust for maximum output. Readjust L406, L407 and L408 for maximum.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation Input of oscilloscope to TP03 (Q302 Base).	Ch. 19	L301, L302	Set generator output for 10db signal to noise plus noise ratio of receiver. Inject a 100pps, 1uSec pulse width signal at antenna input. Switch Noise Blanker on and adjust for maximum pulse amplitude (approx. 2 volts peak).

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, Delta Tune Detent, Squelch MINIMUM, NB Off, Ch. 9/Scan Off, Tone Fully clockwise.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of DC meter to J401. No signal input.	Ch. 19	R427	AGC Adjust for 1.20 volts.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19 Squelch Maximum	RE07	SQUELCH RANGE Adjust so squelch just breaks.
Output of signal generator thru .01uF to antenna input. 27.065MHz, 1000Hz @ 30% modulation. Output 1.5uV.	Ch. 19 Scan Threshold MINIMUM Ch. 9/Scan Scan	R718	CH. 9 SCAN THRESHOLD Adjust so beep tone sounds and the Ch. 9 indicator starts flashing.
Output of signal generator thru .01uF to antenna input. 27.185MHz, 1000Hz @ 30% modulation. Output 100uV.	Ch. 19	R430	SIGNAL METER Adjust for 9 on Signal scale of meter.

TRANSMITTER ALIGNMENT

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 alignment of transmitter.
See page 4 for channel frequencies.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of RF wattmeter to antenna input.	Ch. 19	L602, L603, L604, L605, L606	Adjust for maximum RF output.
Input of RF wattmeter to antenna input.	Ch. 19	L607, L610	Adjust for 4.0 watts RF output maximum.

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 oscilloscope or modulation meter to antenna input. Inject a 1000Hz, 30mV signal at Mic input.	Ch. 19 Mic Gain High Mod/PWR/SWR Mod	R508	MIC AMP Adjust for 90% modulation maximum. (See Figure 1.)
Input of oscilloscope or modulation meter to antenna input. Inject a 1000Hz signal at Mic input.	Ch. 19 Mic Gain High Mod/PWR, SWR Mod	R548	MOD METER Set generator output to produce 80% modulation. Adjust for 80% on Mod scale of meter. (See Figure 1.)
Input of RF wattmeter to antenna input.	Ch. 19	R902	PWR METER Adjust so PWR meter agrees with RF wattmeter.

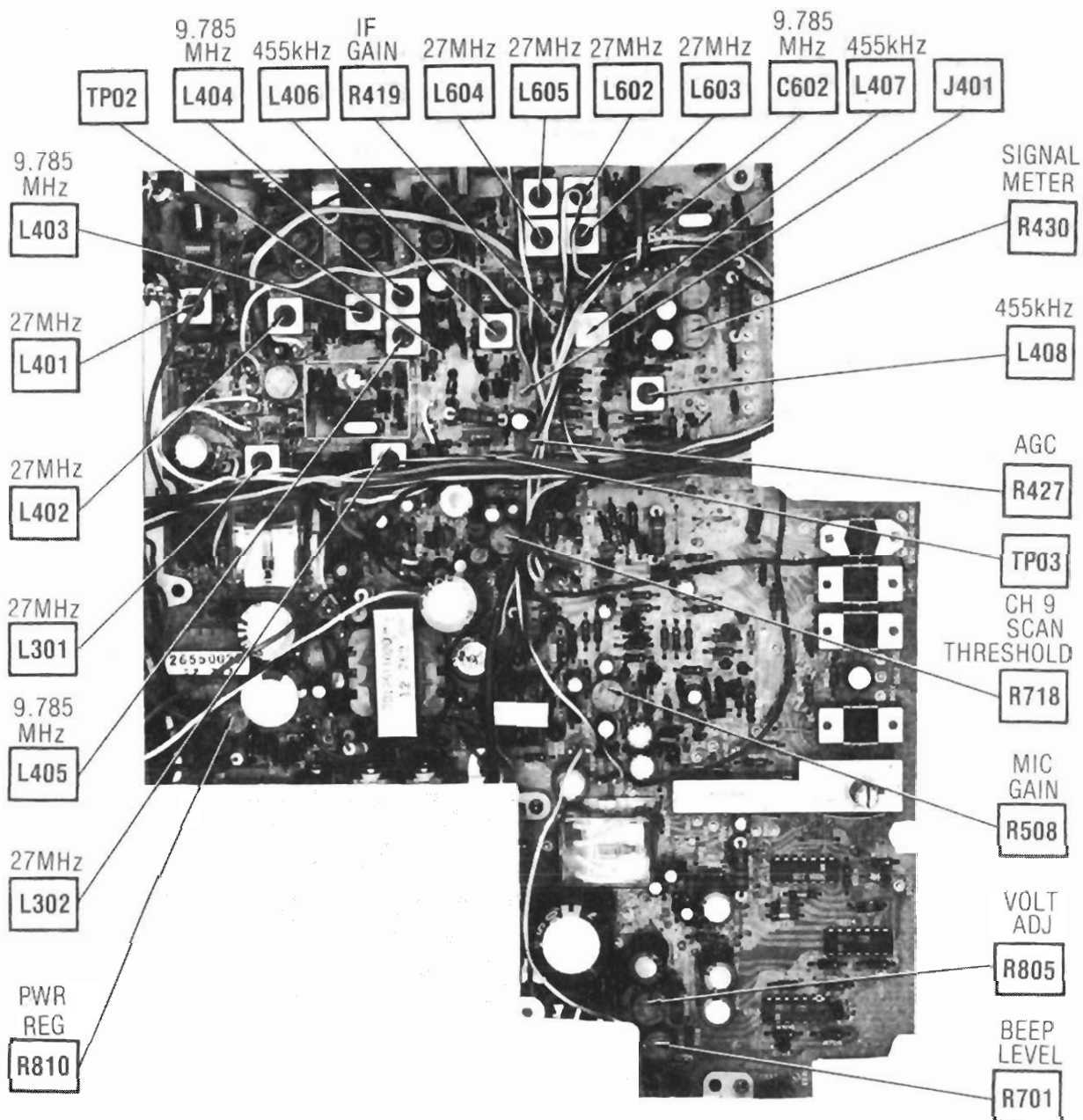
MISCELLANEOUS ADJUSTMENTS

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 Max, Delta Tune Detent, Squelch MINIMUM, NB Off, Ch. 9/Scan Off, Tone Fully Clockwise.

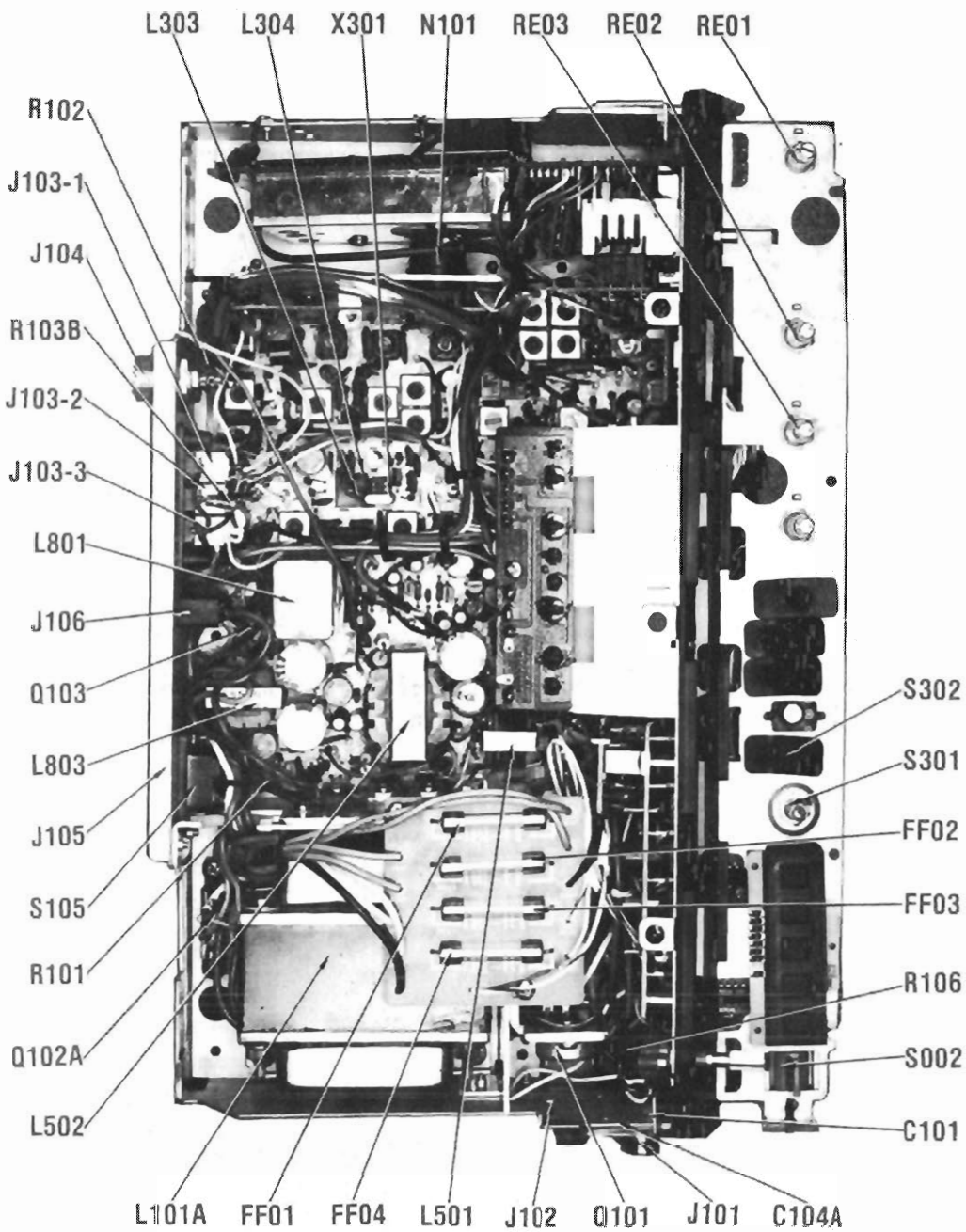
TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna input. 27.065MHz, no modulation. Input of oscilloscope across speaker voice coil.	Ch. 19 Ch 9/Scan Scan Scan Threshold MINIMUM Volume MINIMUM	R701	BEEP TONE LEVEL Set generator output high enough to activate Beep Tone. Adjust R701 for 2.0 volts peak to peak.

TRUTH CHART

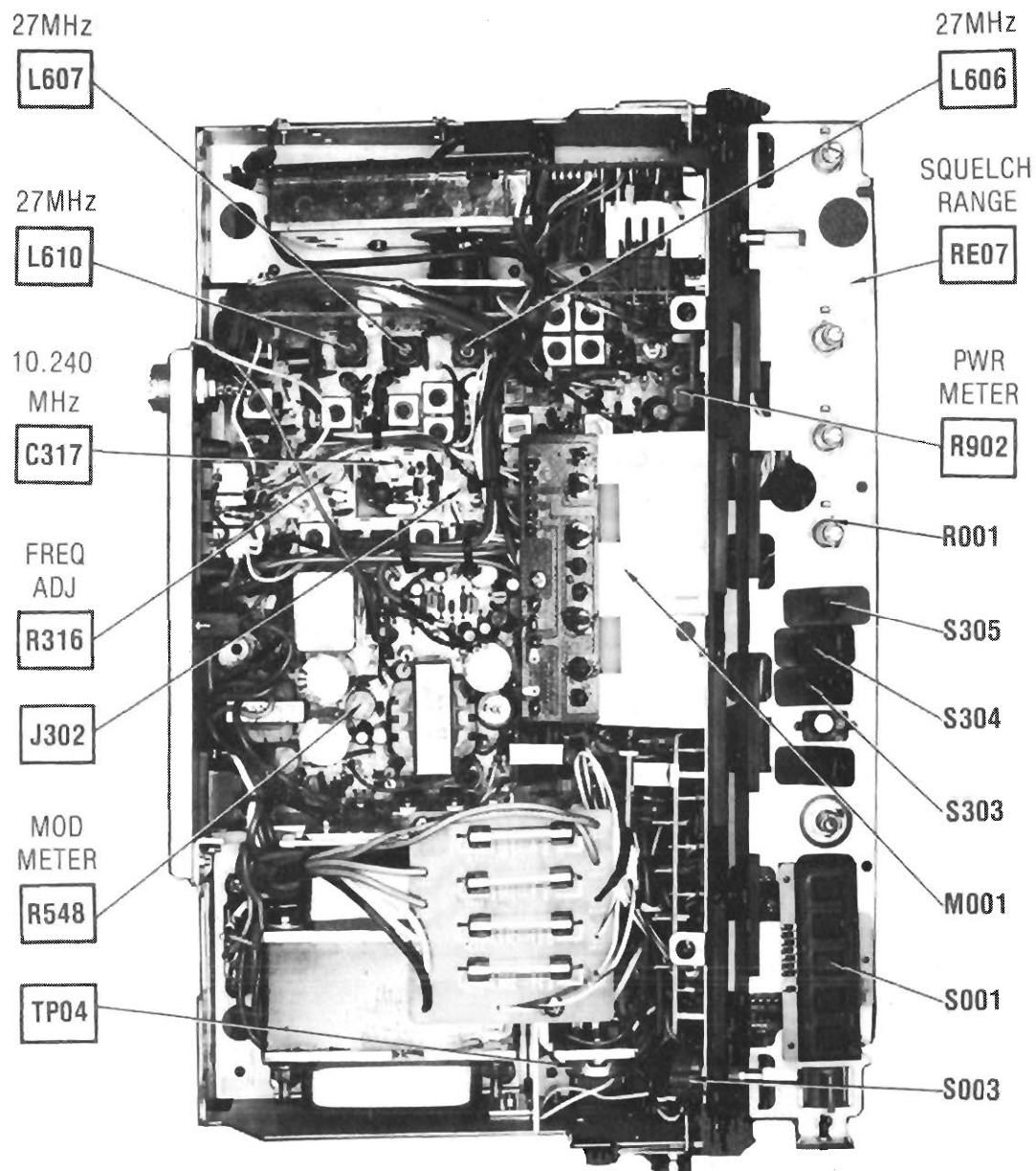
C H A N N E L	1 - 4.50 Volts 0 = 0-.15 Volts Q211 PROGRAM DIVIDER								DIVIDER INPUT IN MHz @ TP	Rec and XMT VCO OUTPUT IN MHz @ J204	
	PINS										
	8	7	6	5	4	3	2	1			
1	0	1	0	1	1	0	1	1	.910	17.180	
2	0	1	0	1	1	1	0	0	.920	17.190	
3	0	1	0	1	1	1	0	1	.930	17.200	
4	0	1	0	1	1	1	1	1	.950	17.220	
5	0	1	1	0	0	0	0	0	.960	17.230	
6	0	1	1	0	0	0	0	1	.970	17.240	
7	0	1	1	0	0	0	1	0	.980	17.250	
8	0	1	1	0	0	1	0	0	1.000	17.270	
9	0	1	1	0	0	1	0	1	1.010	17.280	
10	0	1	1	0	0	1	1	0	1.020	17.290	
11	0	1	1	0	0	1	1	1	1.030	17.300	
12	0	1	1	0	1	0	0	1	1.050	17.320	
13	0	1	1	0	1	0	1	0	1.060	17.330	
14	0	1	1	0	1	0	1	1	1.070	17.340	
15	0	1	1	0	1	1	0	0	1.080	17.350	
16	0	1	1	0	1	1	1	0	1.100	17.370	
17	0	1	1	0	1	1	1	1	1.110	17.380	
18	0	1	1	1	0	0	0	0	1.120	17.390	
19	0	1	1	1	0	0	0	1	1.130	17.400	
20	0	1	1	1	0	0	1	1	1.150	17.420	
21	0	1	1	1	0	1	0	0	1.160	17.430	
22	0	1	1	1	0	1	0	1	1.170	17.440	
23	0	1	1	1	1	0	0	0	1.200	17.470	
24	0	1	1	1	0	1	1	0	1.180	17.450	
25	0	1	1	1	0	1	1	1	1.190	17.460	
26	0	1	1	1	1	0	0	1	1.210	17.480	
27	0	1	1	1	1	0	1	0	1.220	17.490	
28	0	1	1	1	1	0	1	1	1.230	17.500	
29	0	1	1	1	1	1	0	0	1.240	17.510	
30	0	1	1	1	1	1	0	1	1.250	17.520	
31	0	1	1	1	1	1	1	0	1.260	17.530	
32	0	1	1	1	1	1	1	1	1.270	17.540	
33	1	0	0	0	0	0	0	0	1.280	17.550	
34	1	0	0	0	0	0	0	1	1.290	17.560	
35	1	0	0	0	0	0	1	0	1.300	17.570	
36	1	0	0	0	0	0	1	1	1.310	17.580	
37	1	0	0	0	0	1	0	0	1.320	17.590	
38	1	0	0	0	0	1	0	1	1.330	17.600	
39	1	0	0	0	0	1	1	0	1.340	17.610	
40	1	0	0	0	0	1	1	1	1.350	17.620	



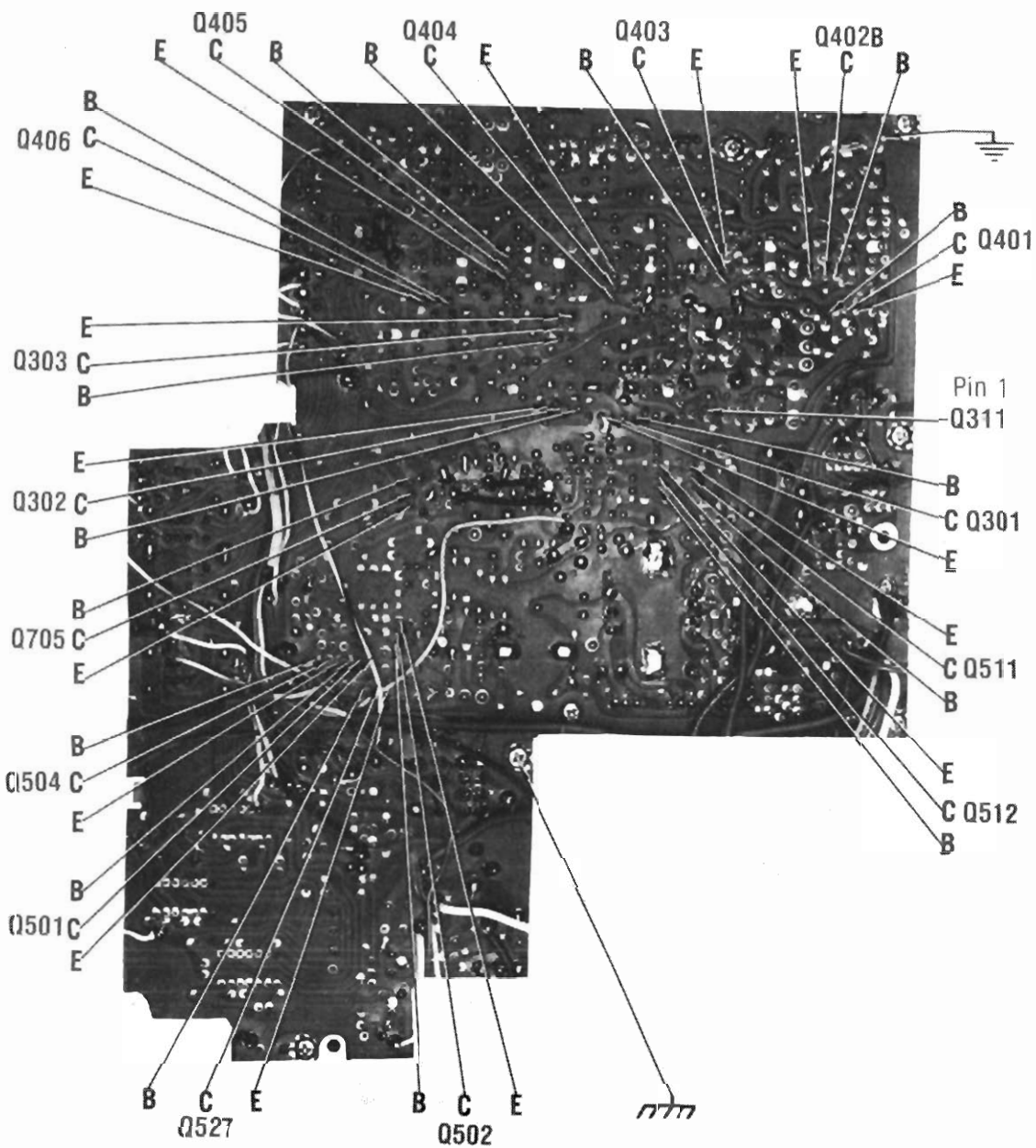
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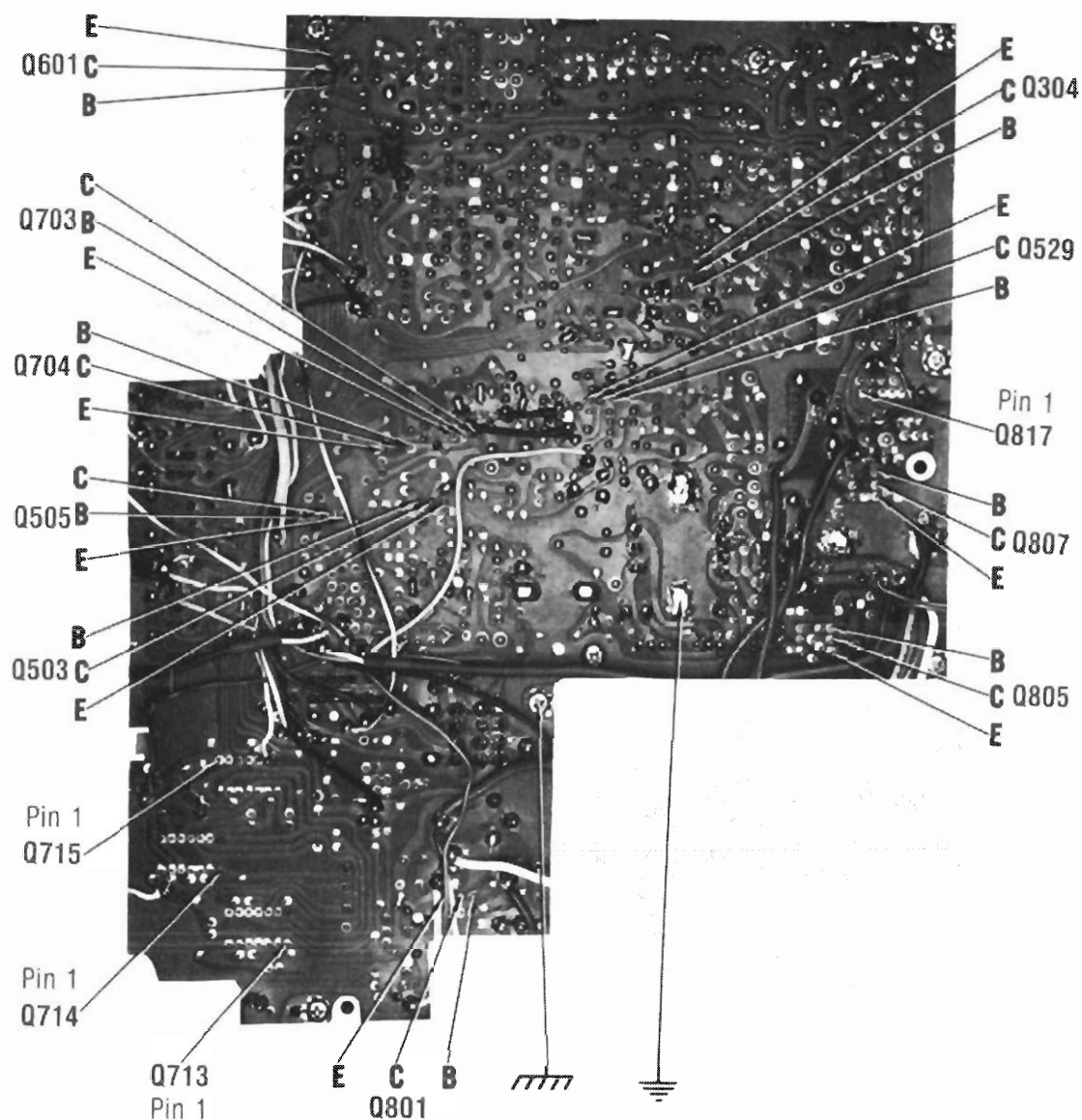
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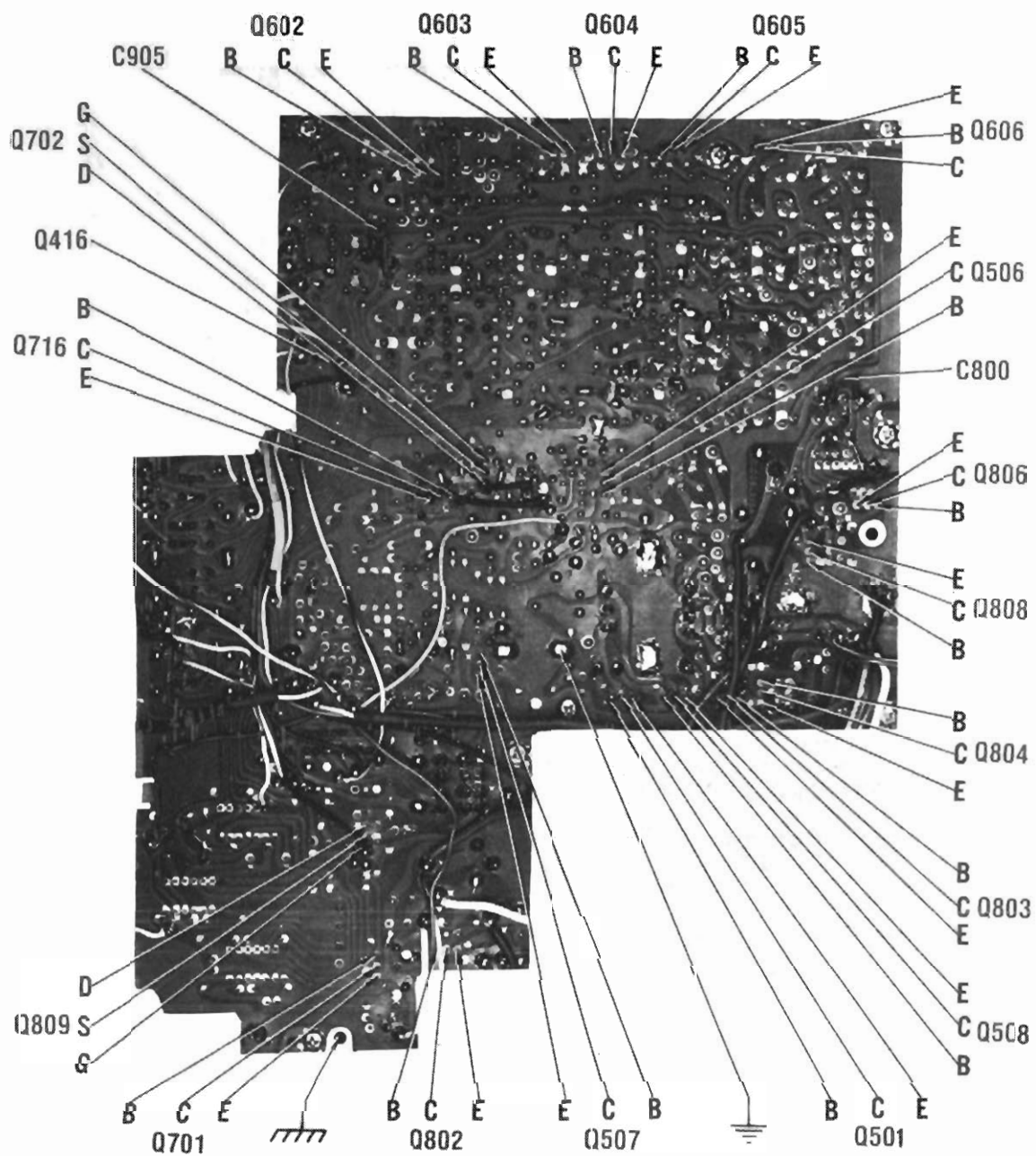
CHASSIS - TOP



MAIN BOARD



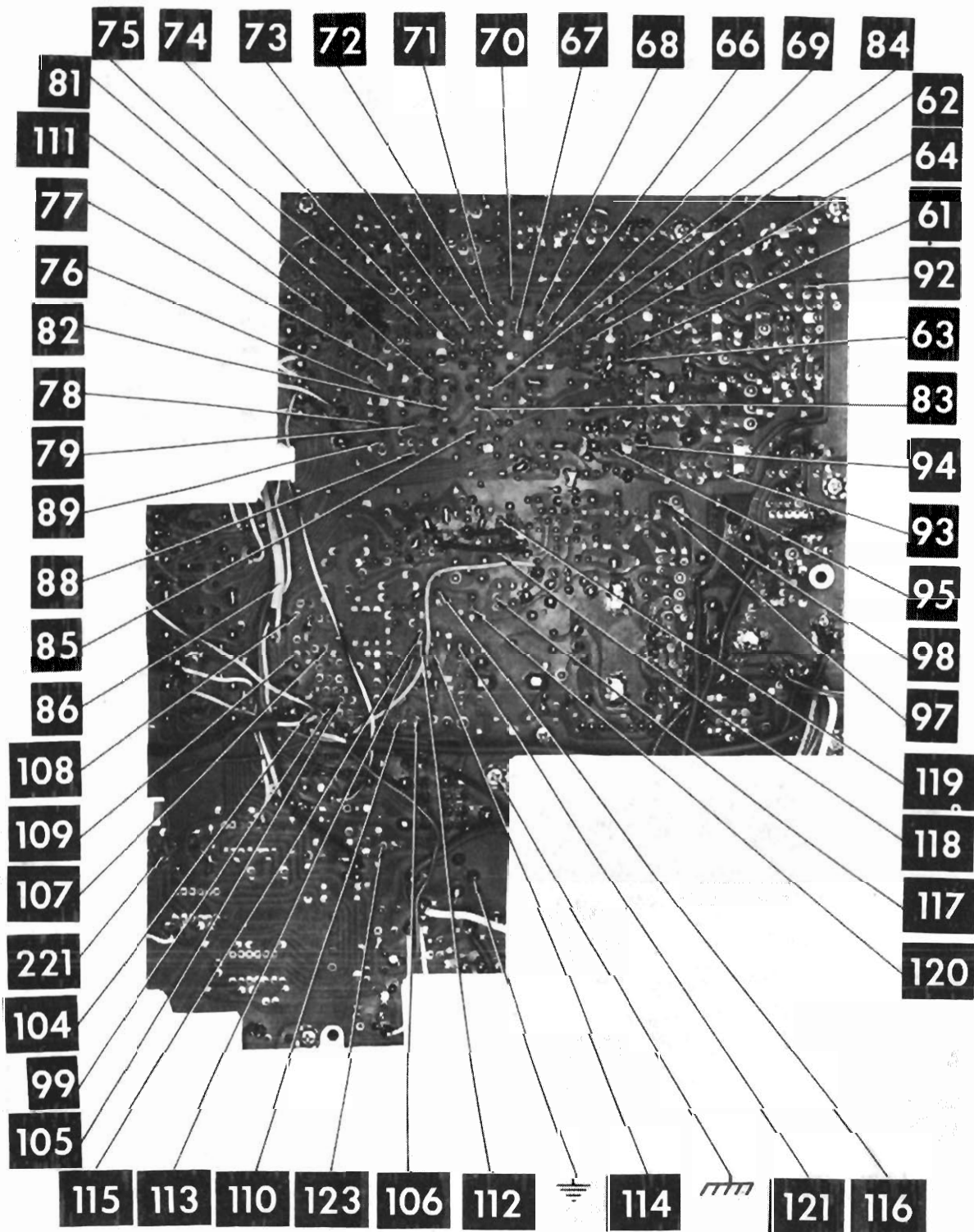
MAIN BOARD



MAIN BOARD

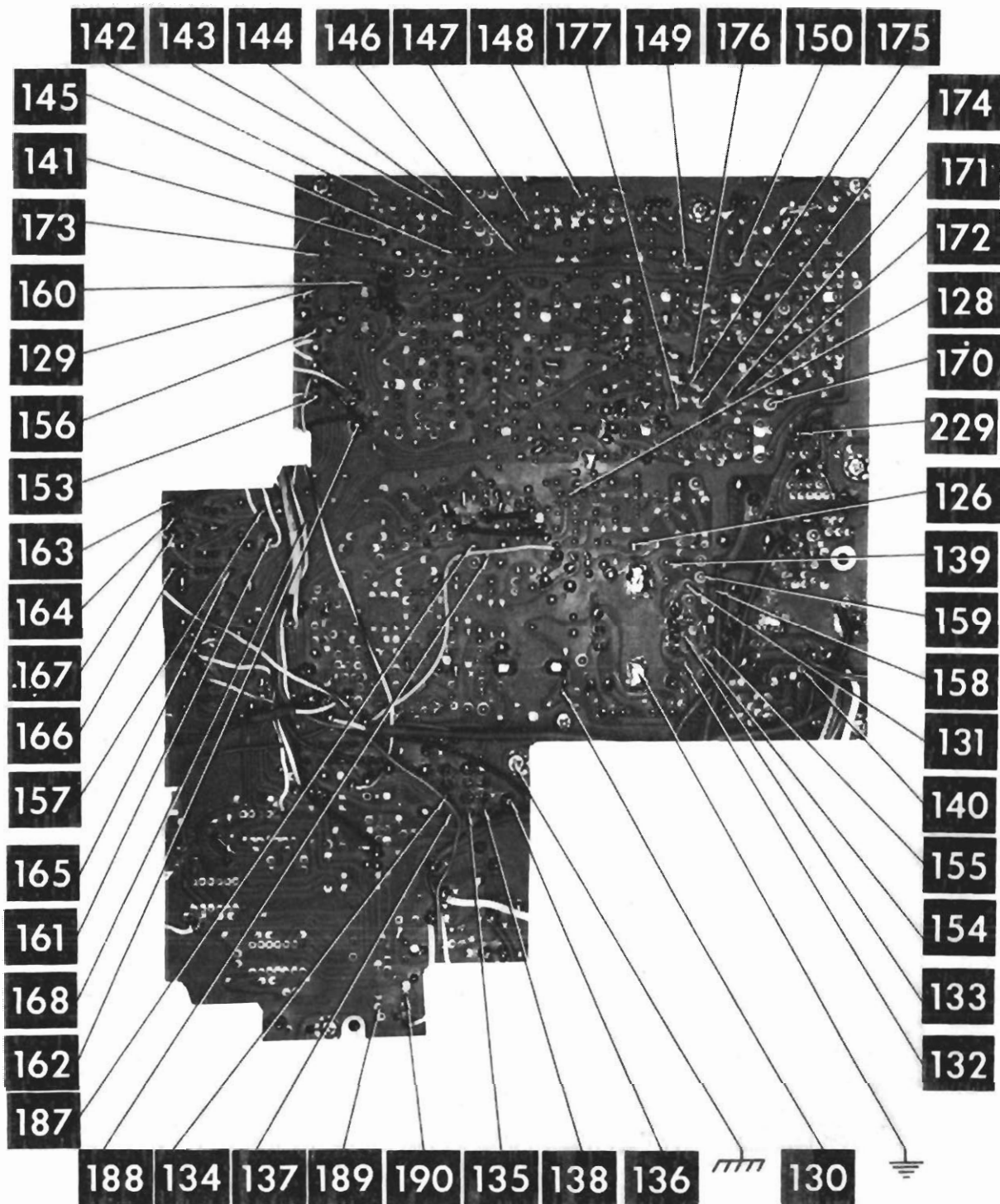


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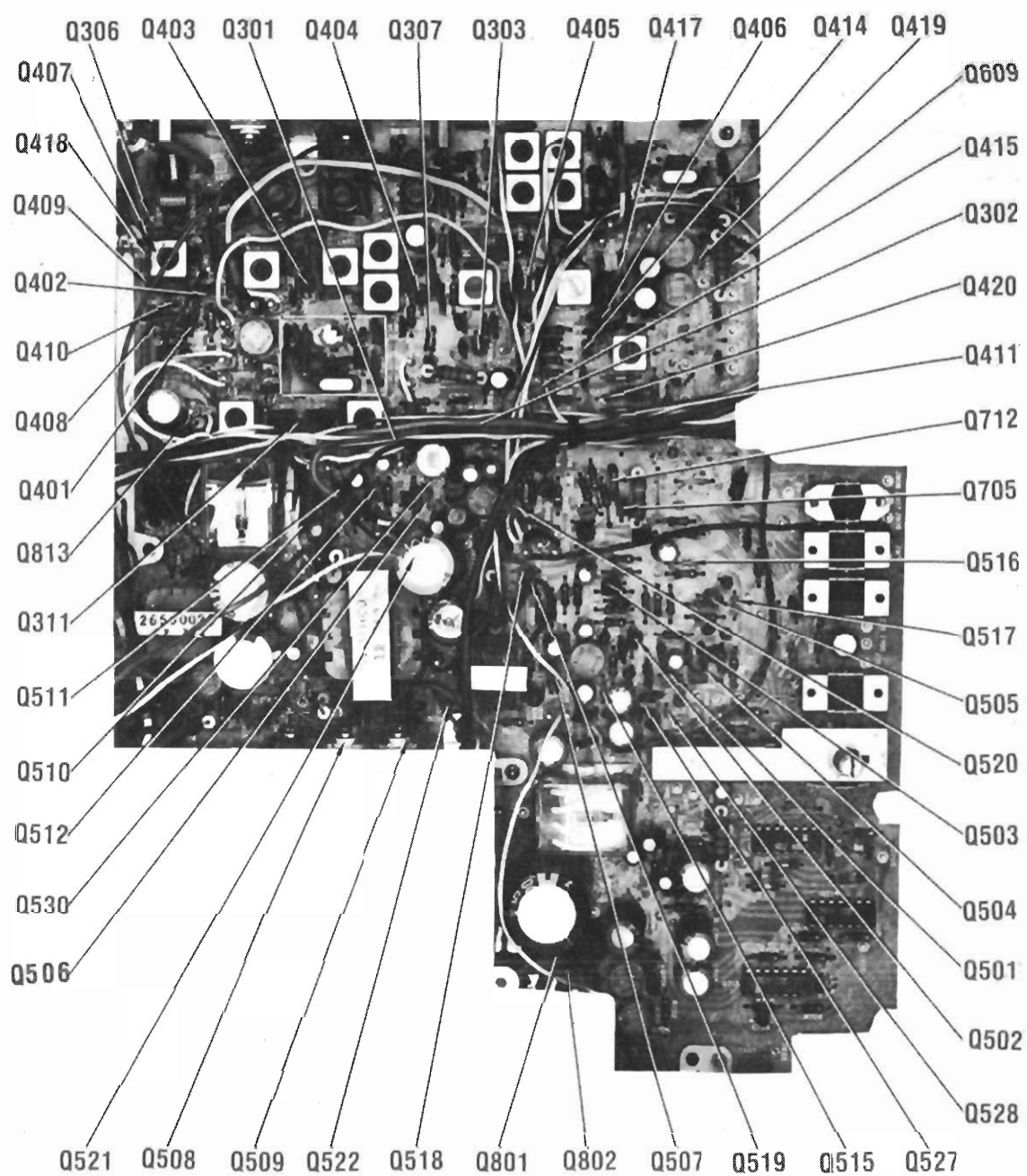


MAIN BOARD

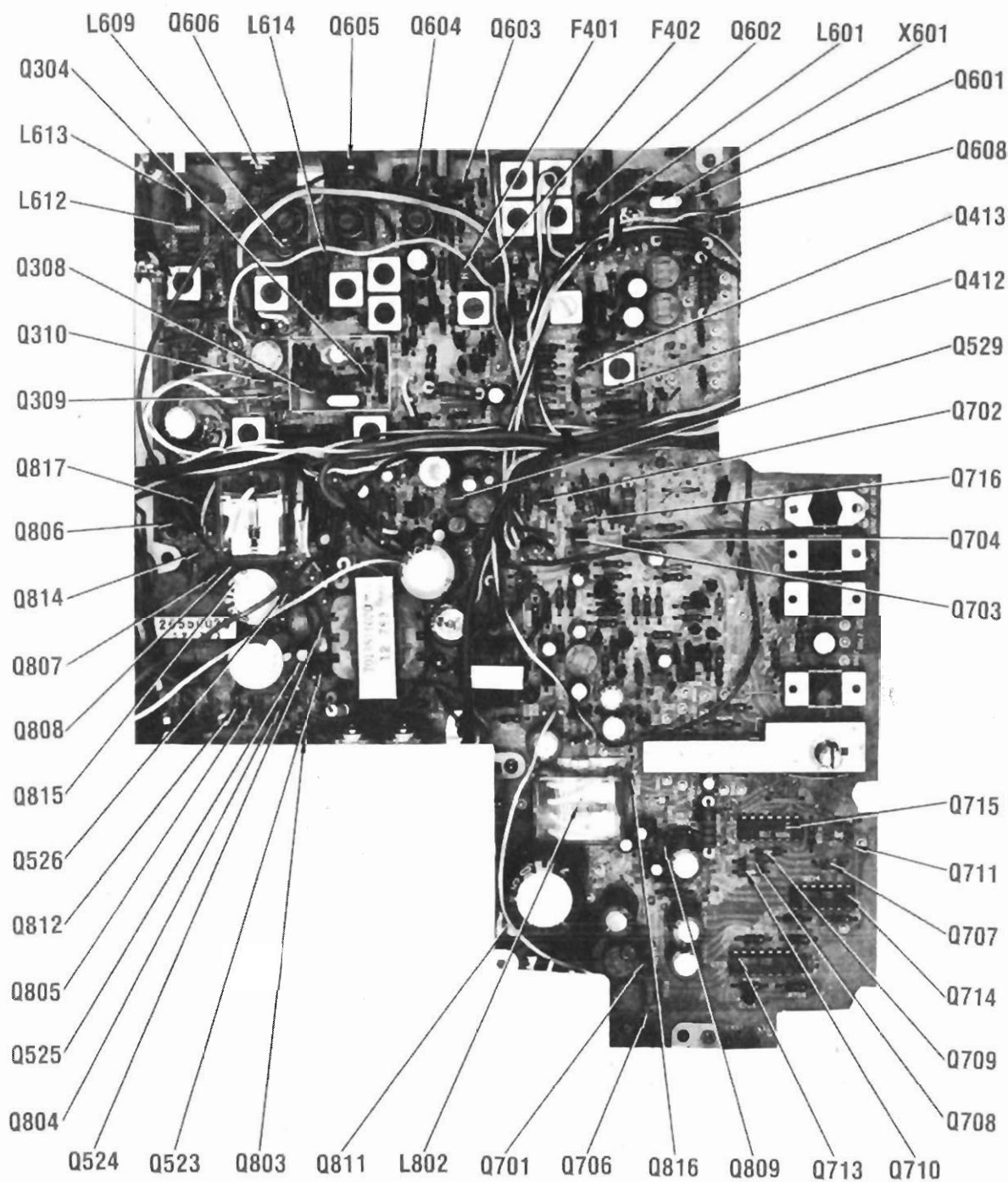
SUPERSCOPE MODEL AIRCOMMAND CBB-1040



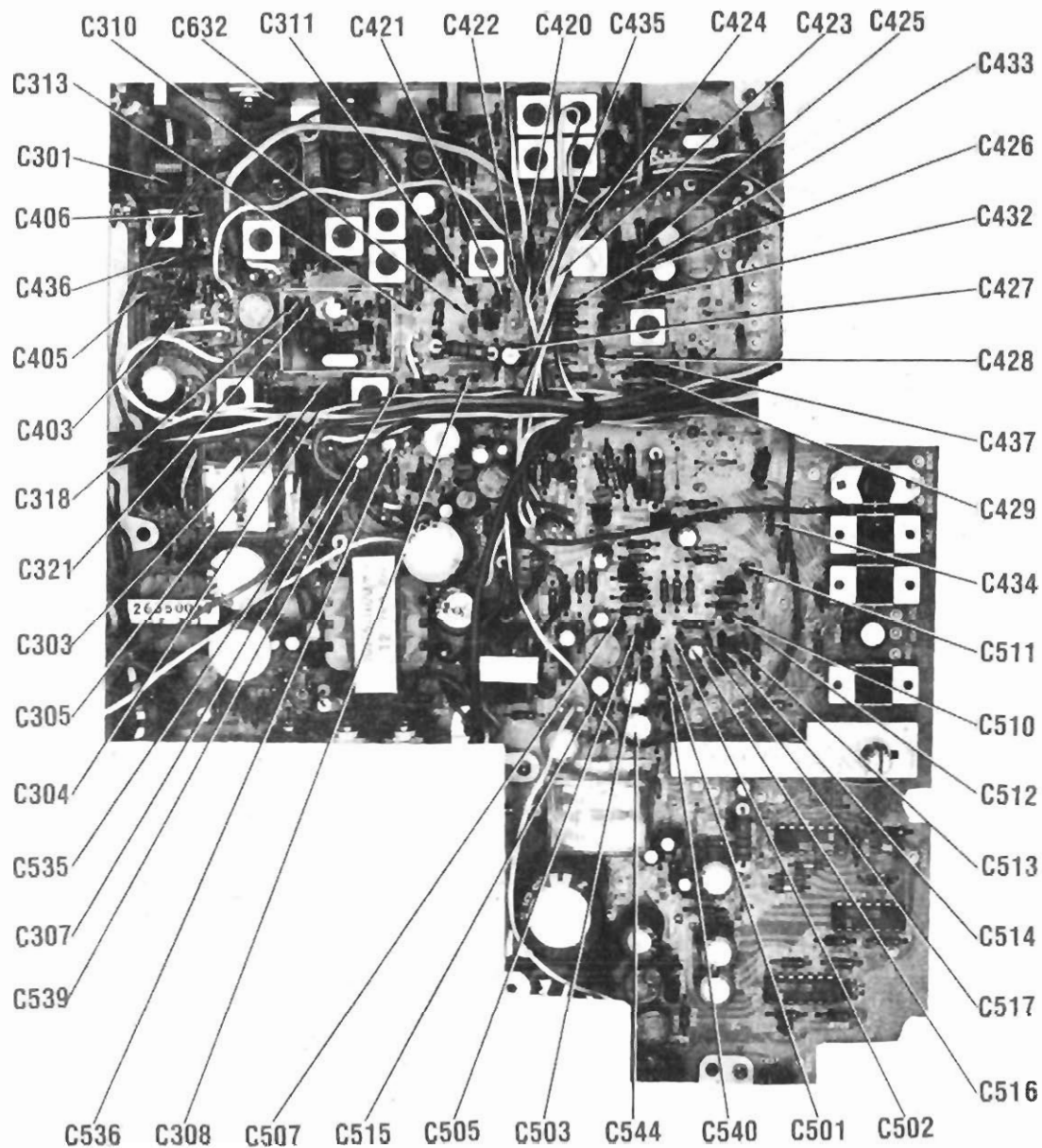
MAIN BOARD



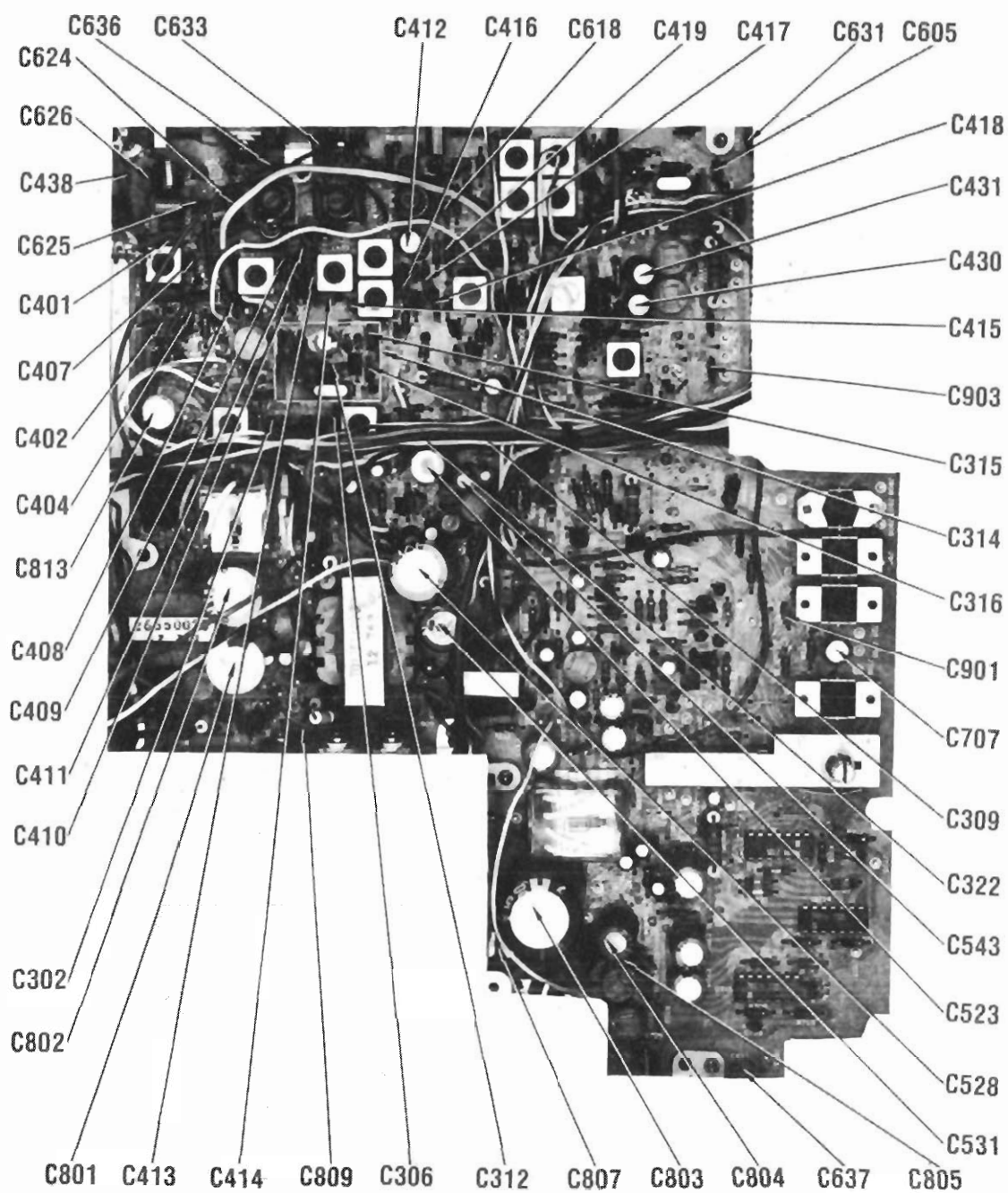
MAIN BOARD



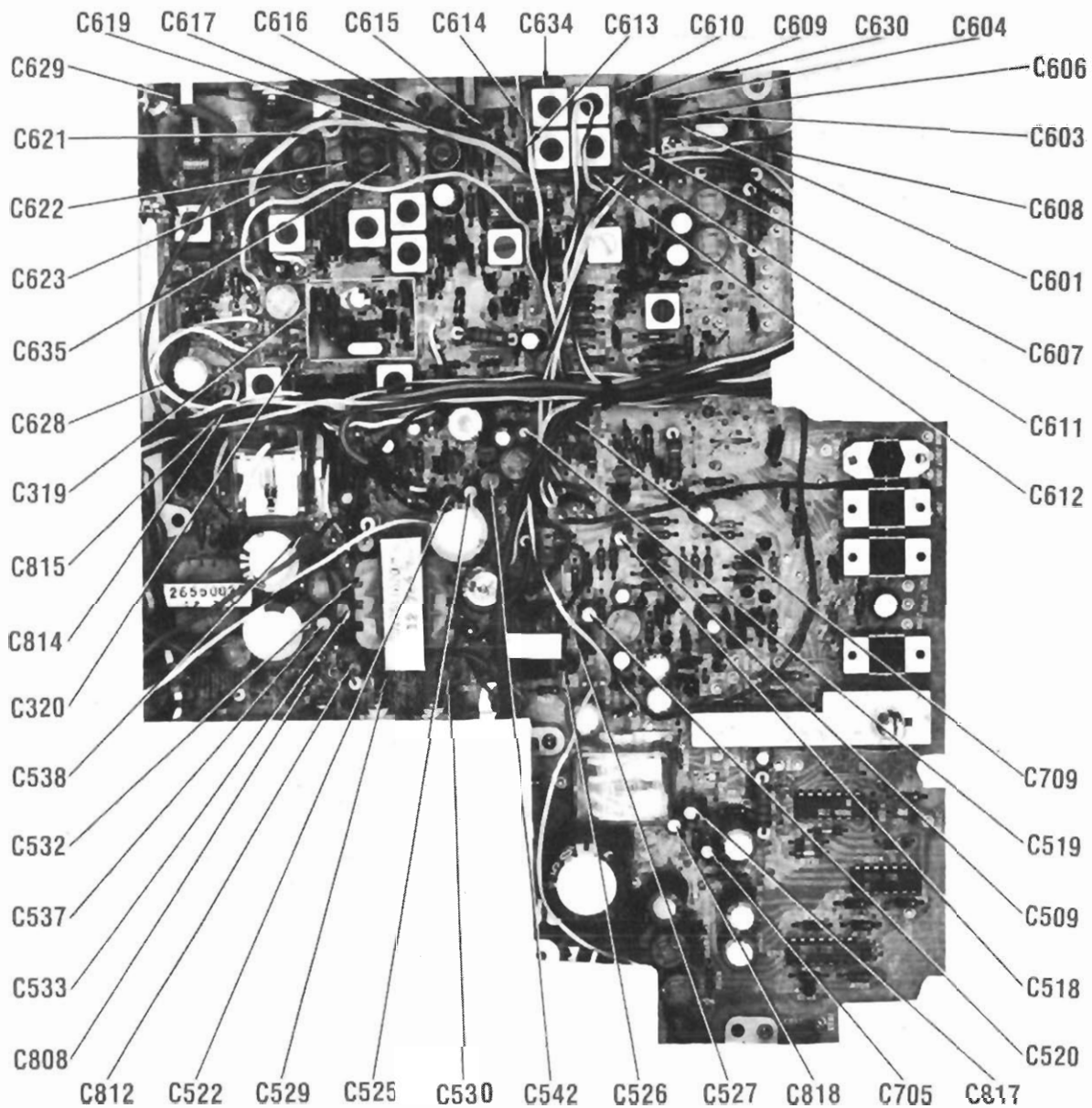
MAIN BOARD



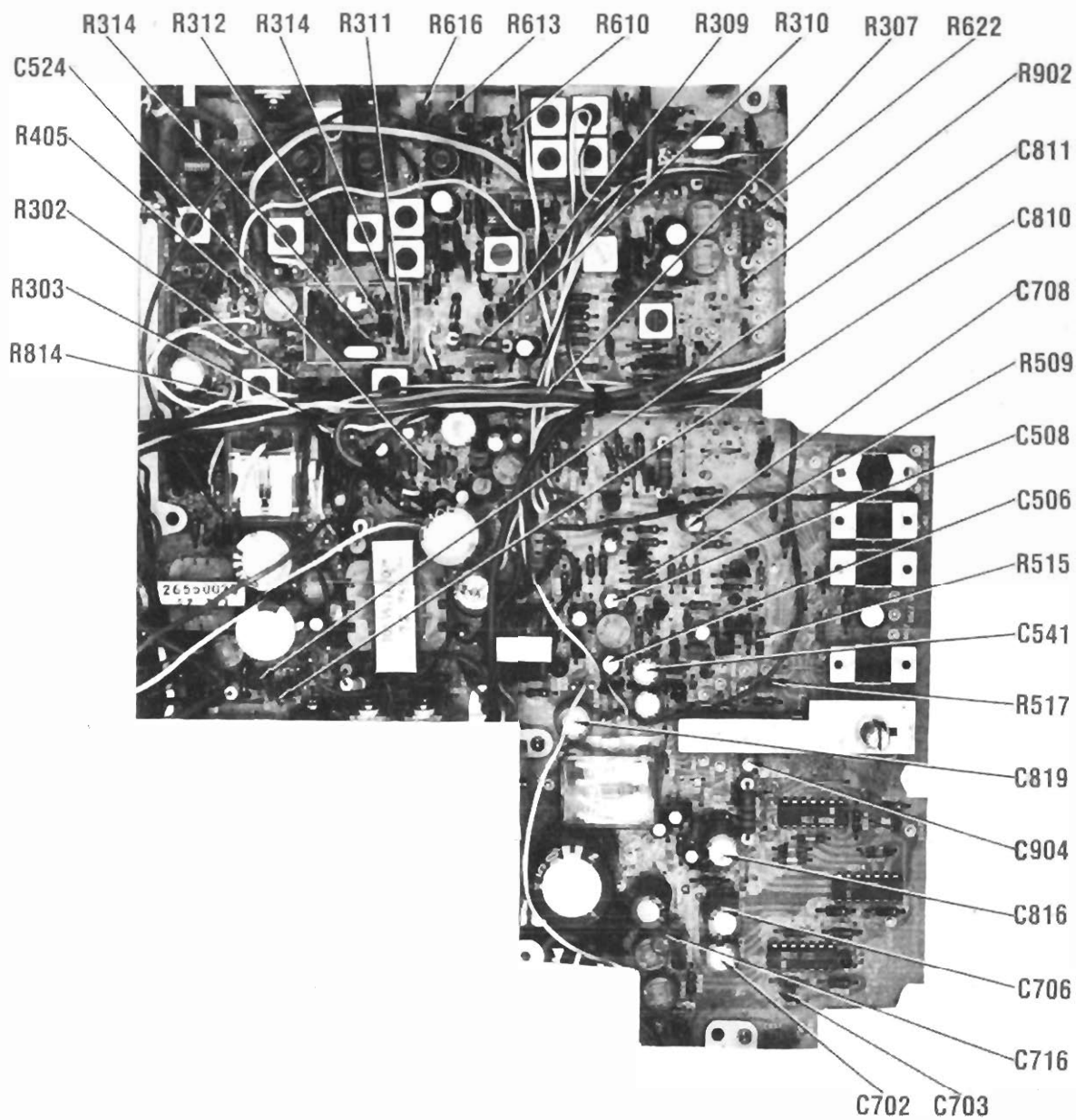
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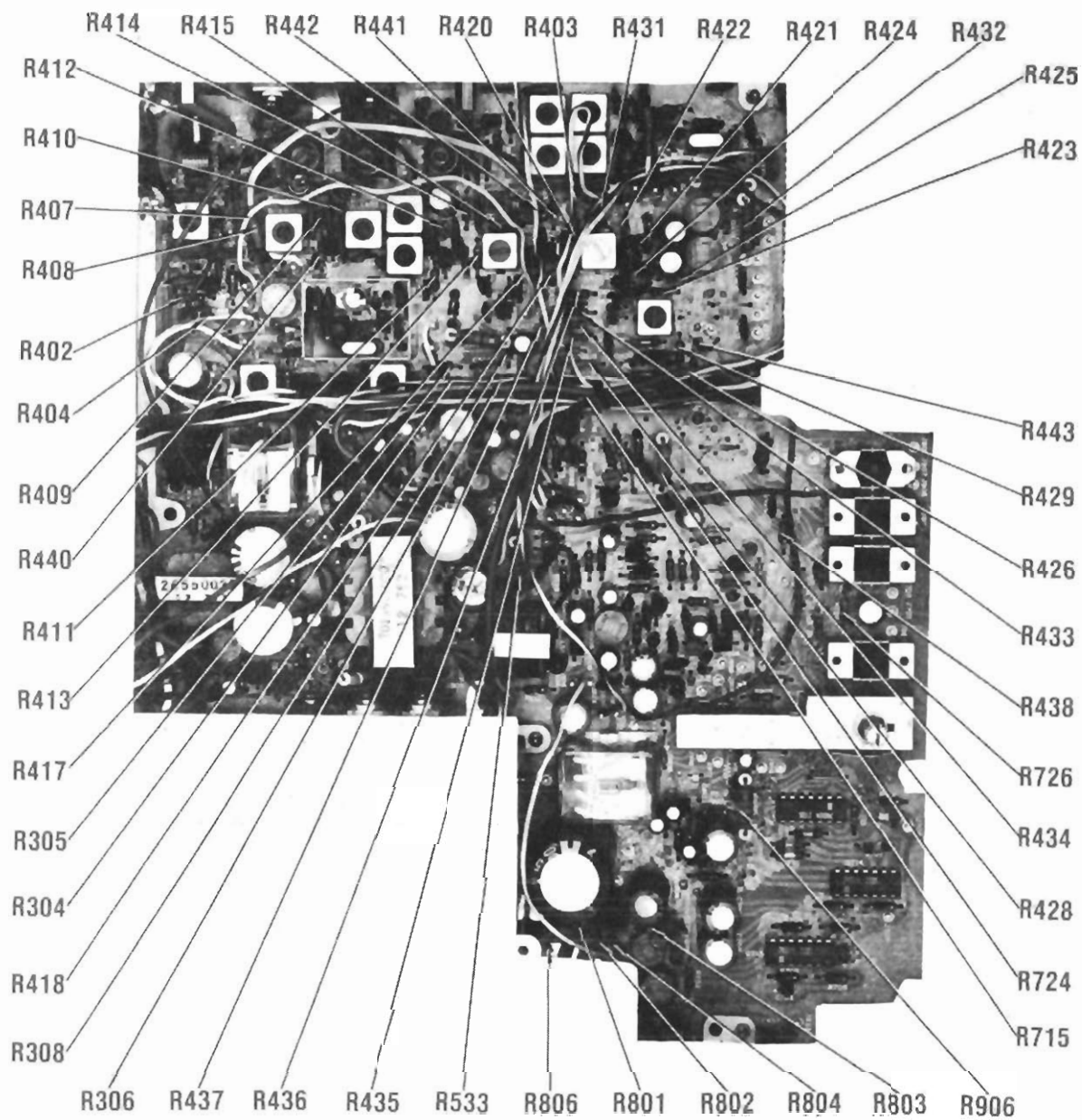
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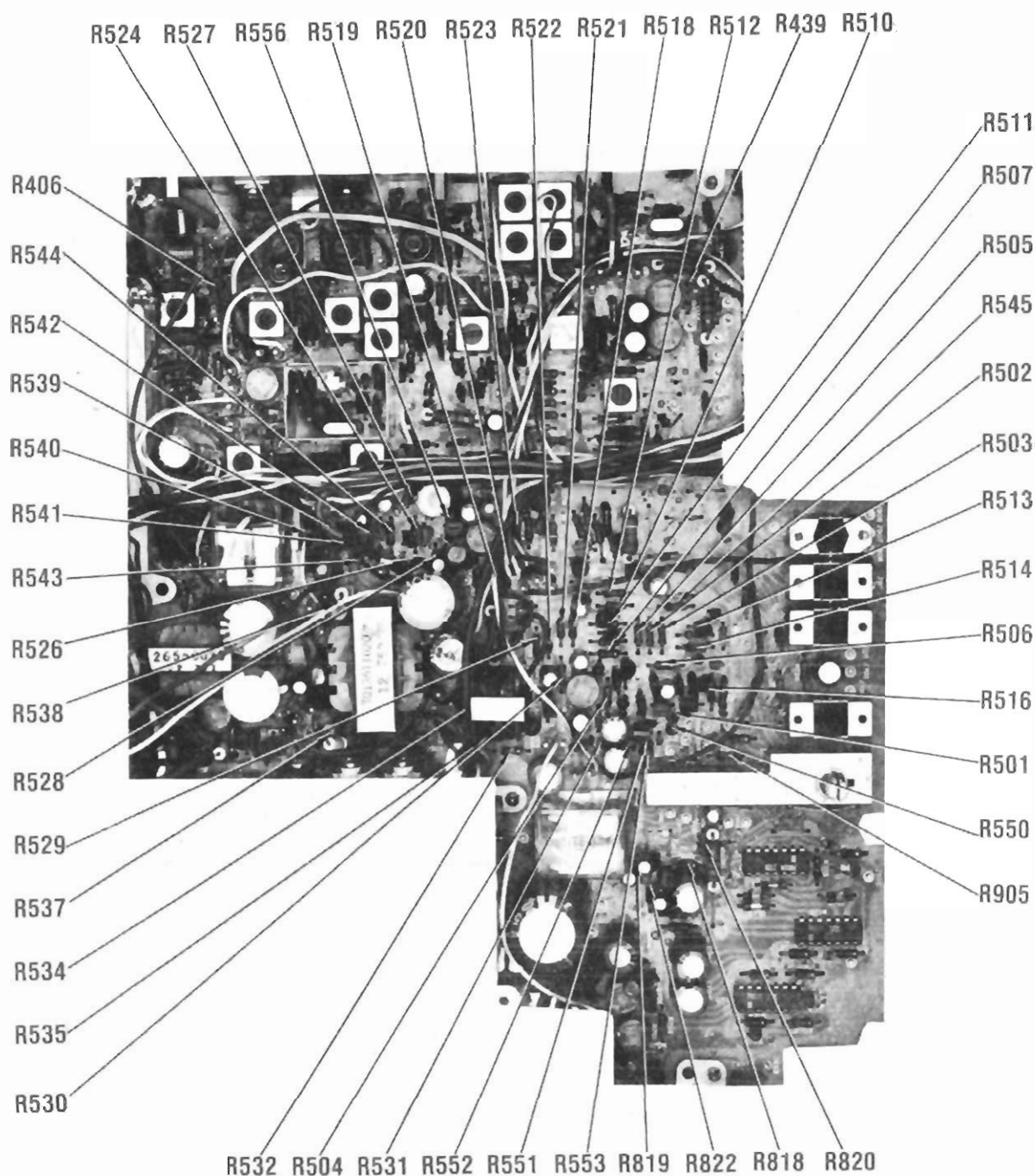
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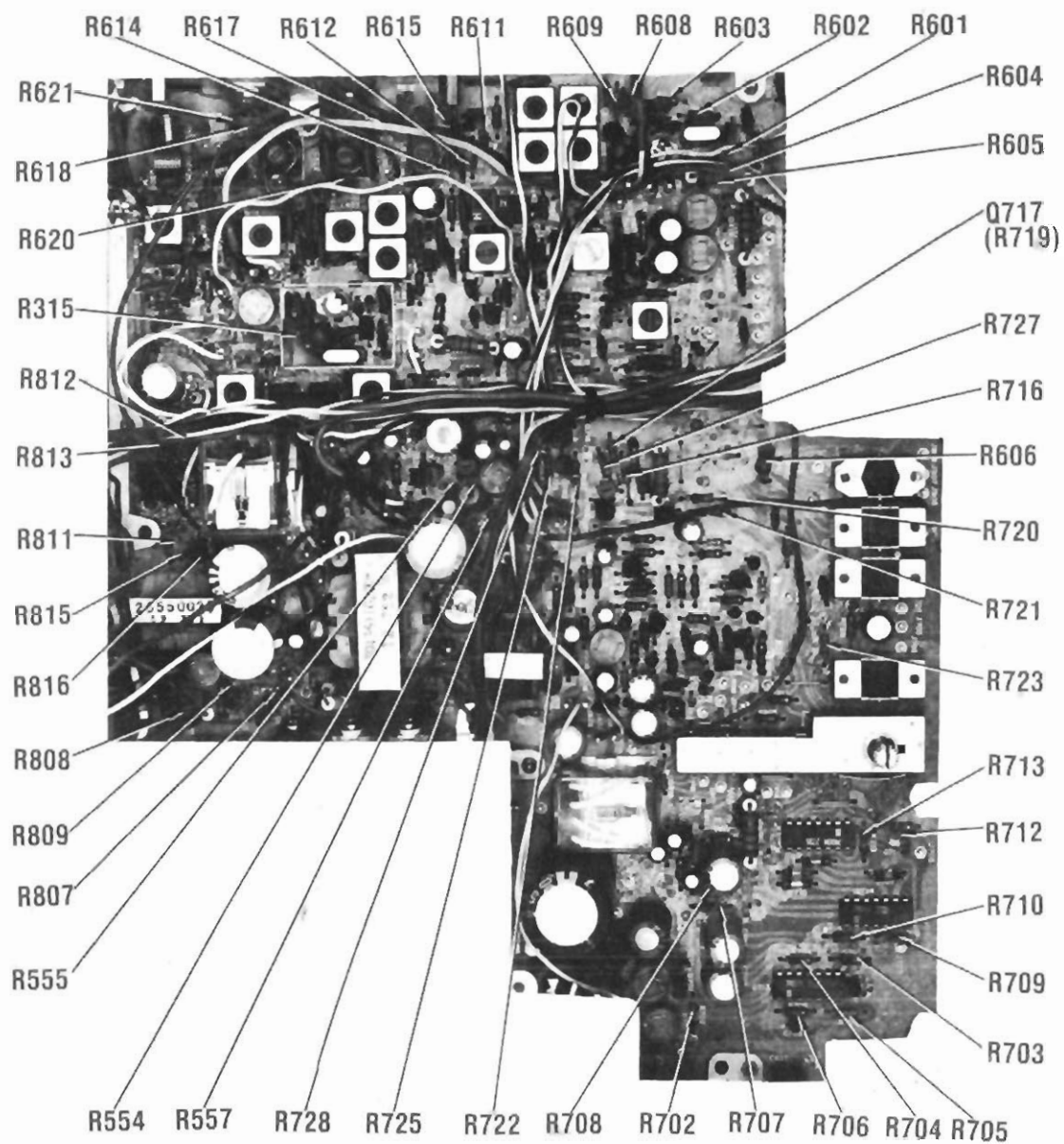
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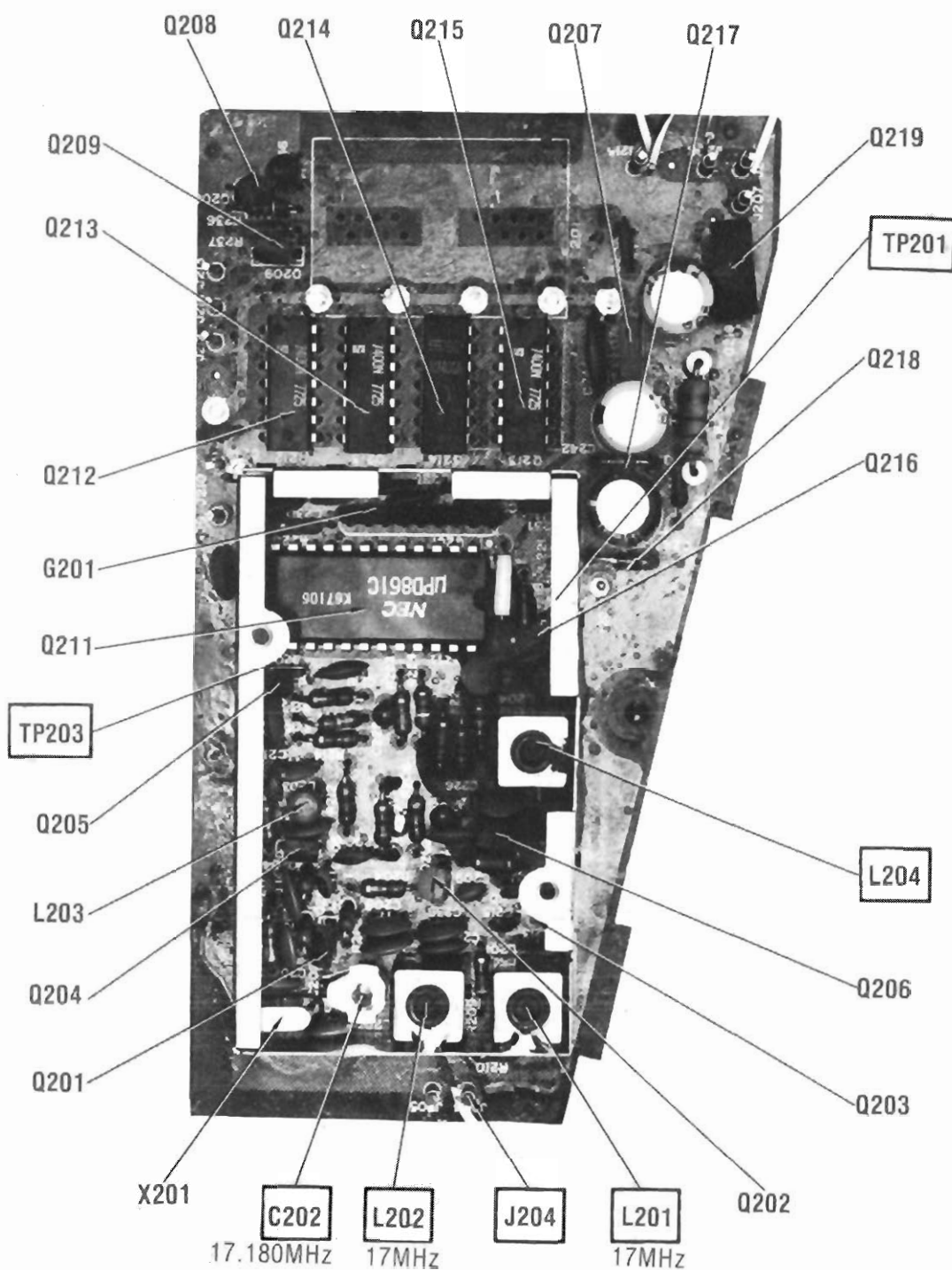
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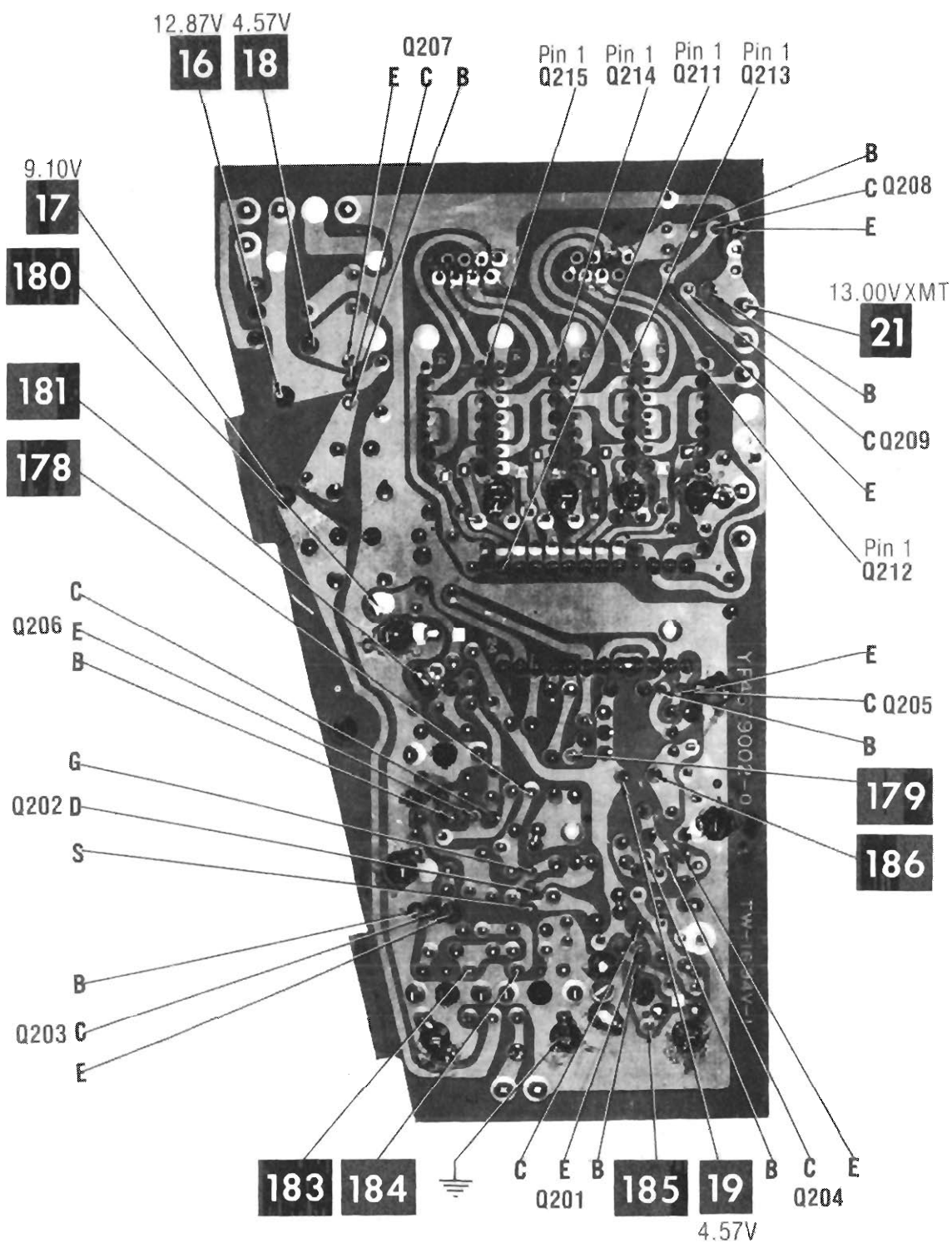
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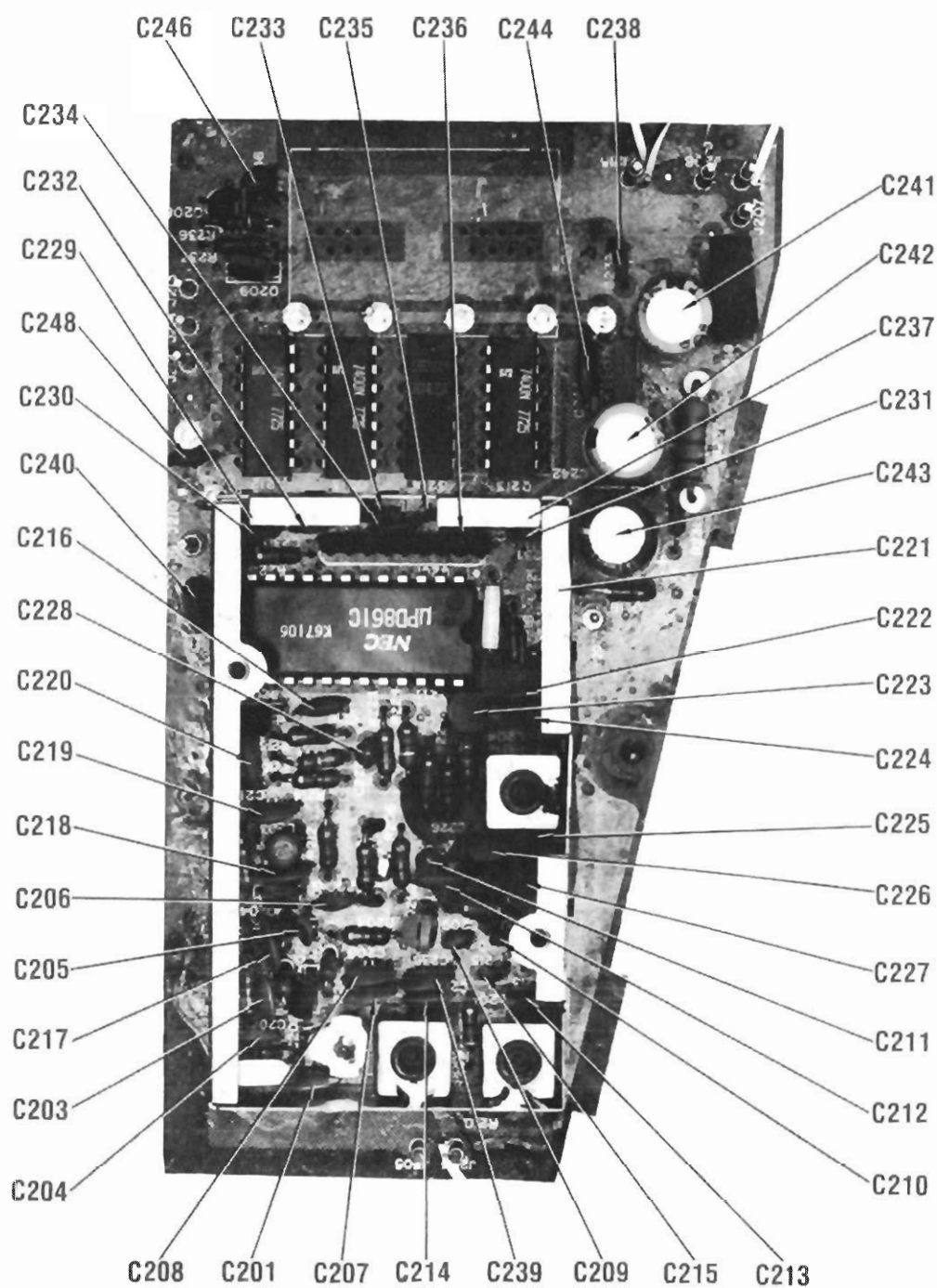
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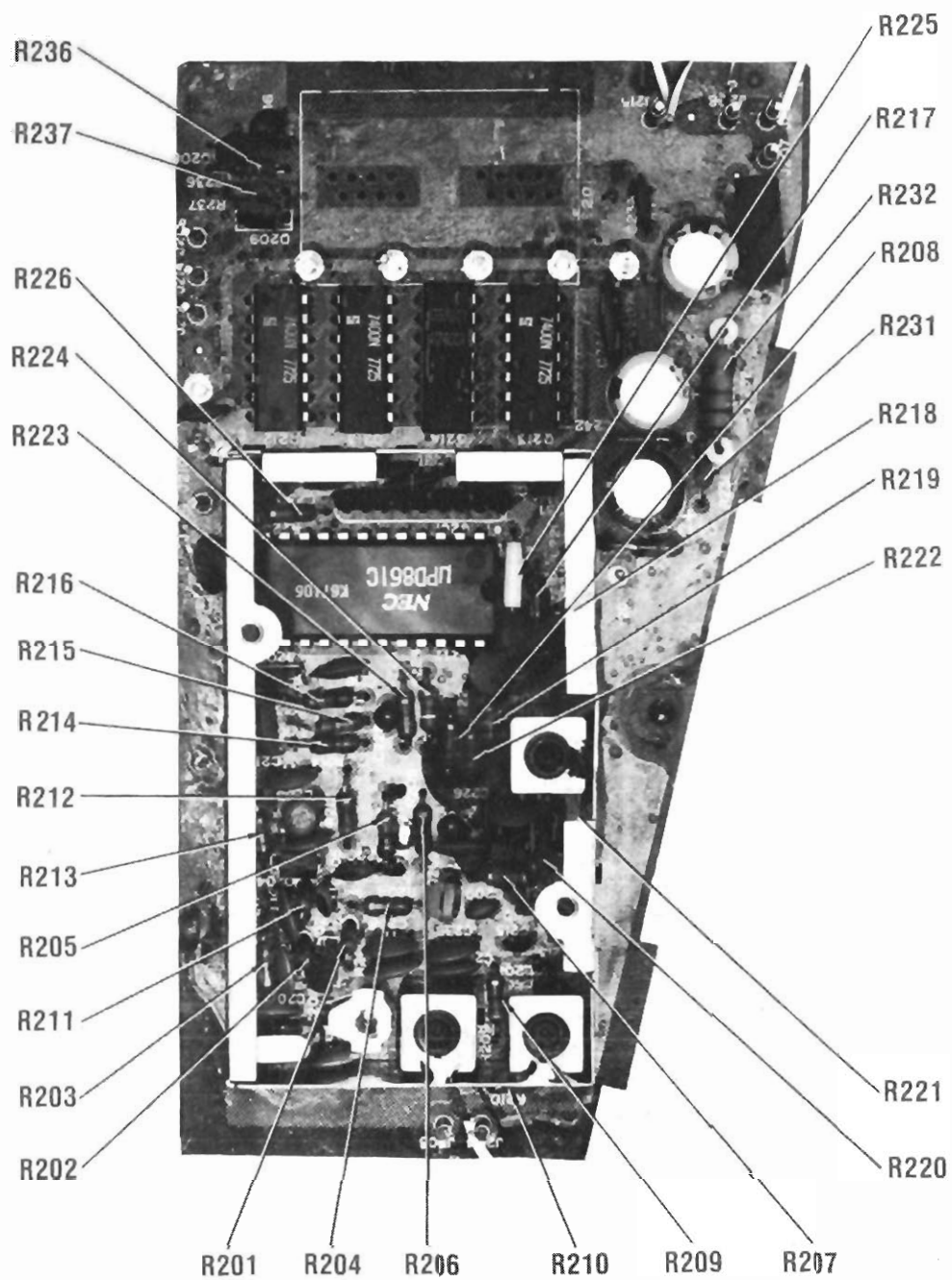


PLL BOARD

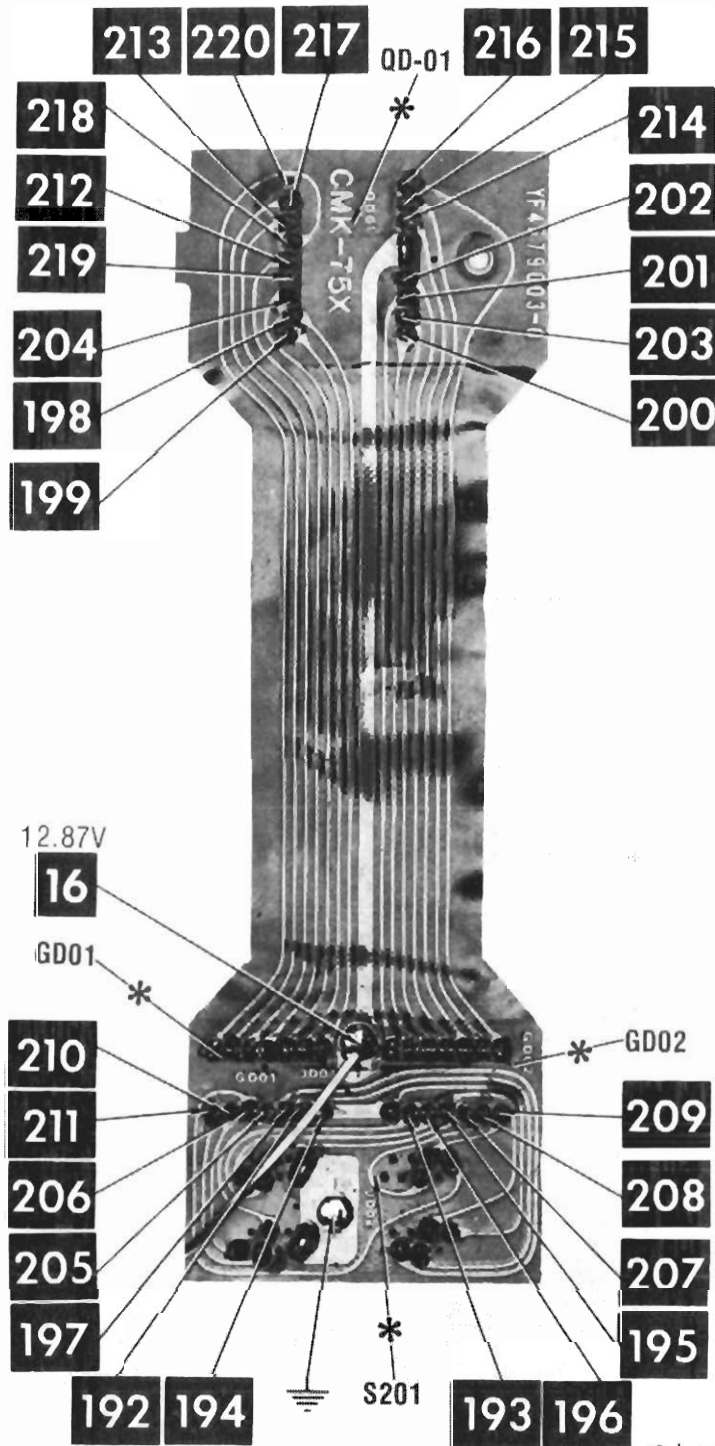


PLL BOARD



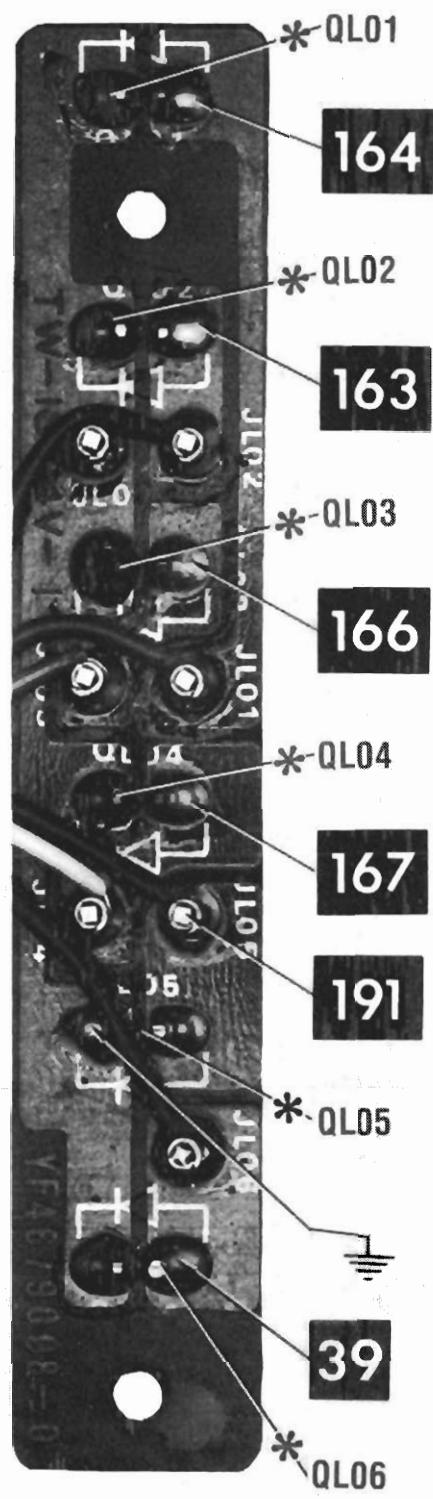


PLL BOARD



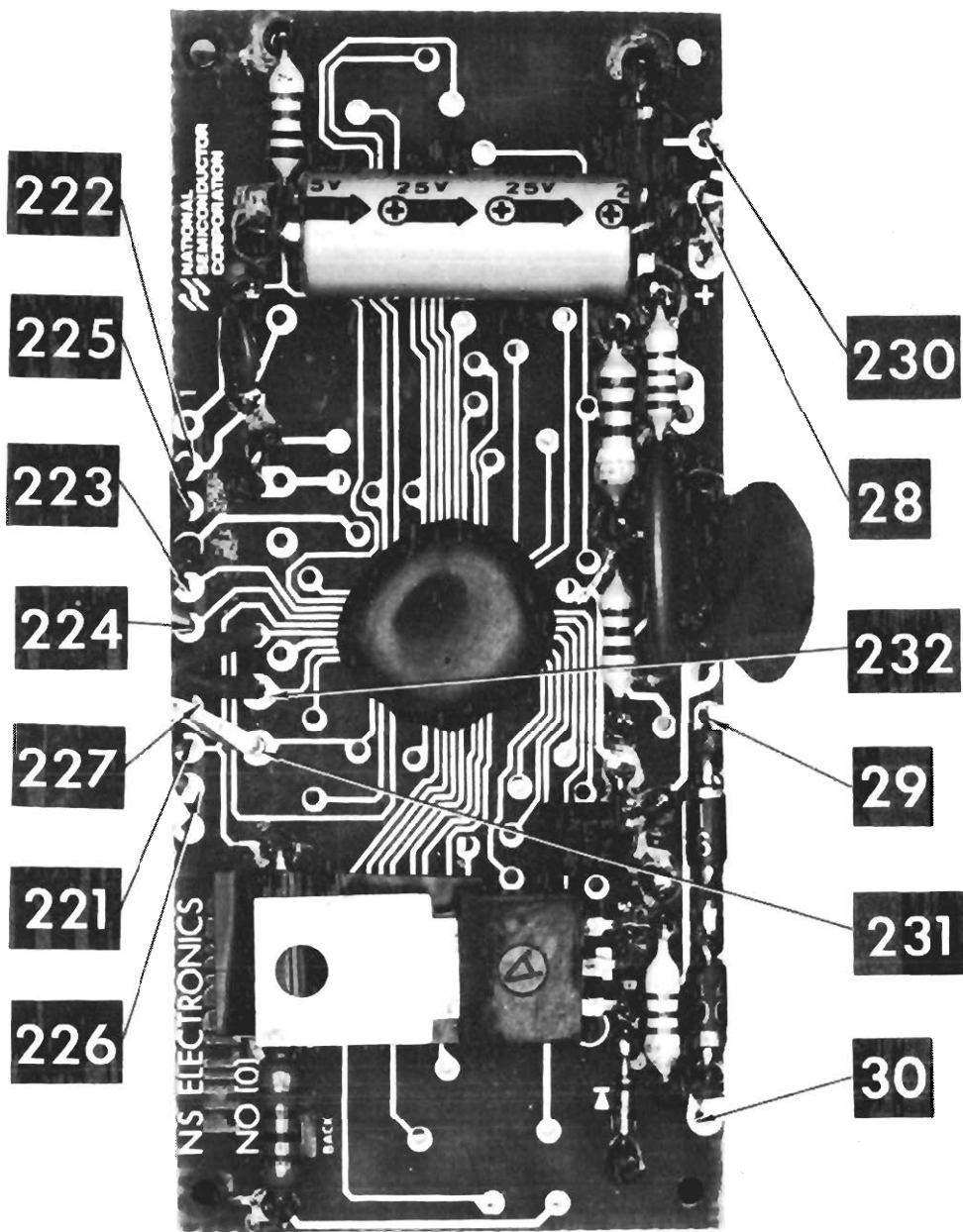
* Located on top of board.

CH. SELECTOR & LED BOARD



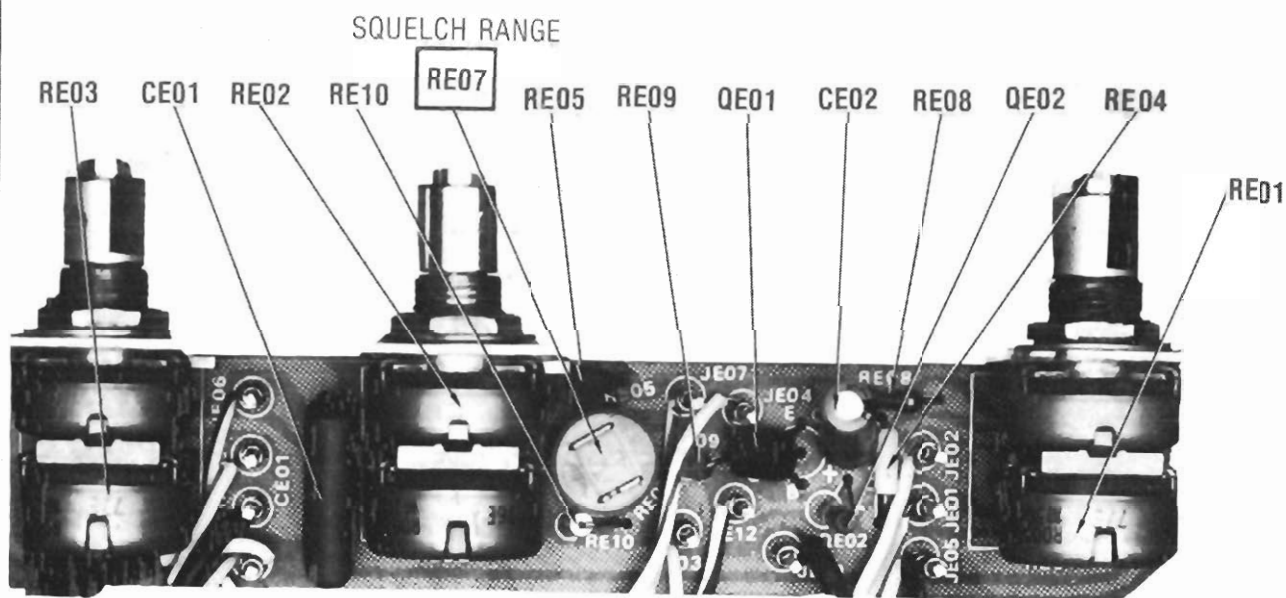
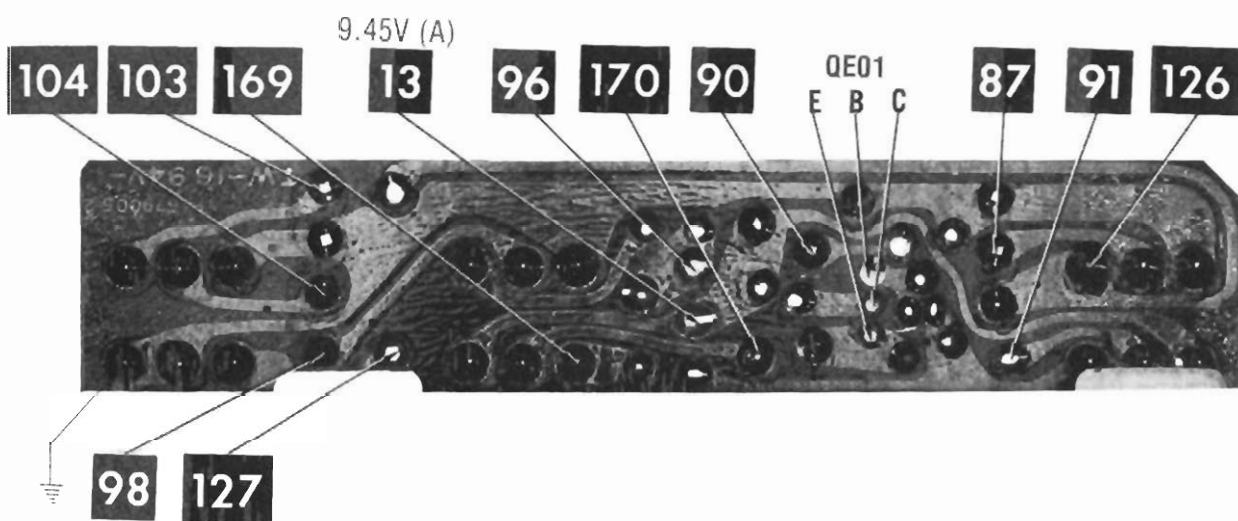
* Located on top of board.

LED BOARD



SUPERSCOPE MODEL AIRCOMMAND CBB-1040

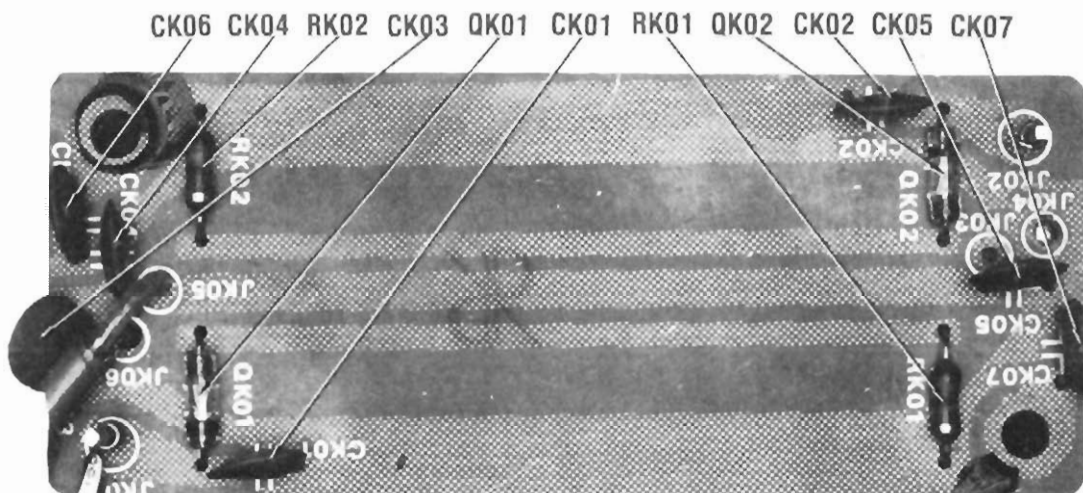
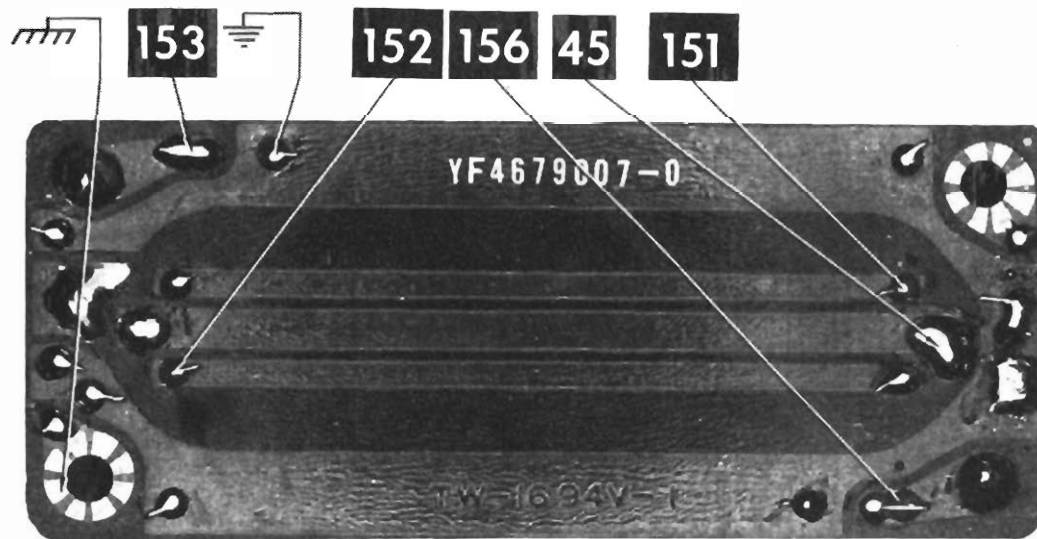
CLOCK BOARD



CONTROL BOARD

LAMP BOARD

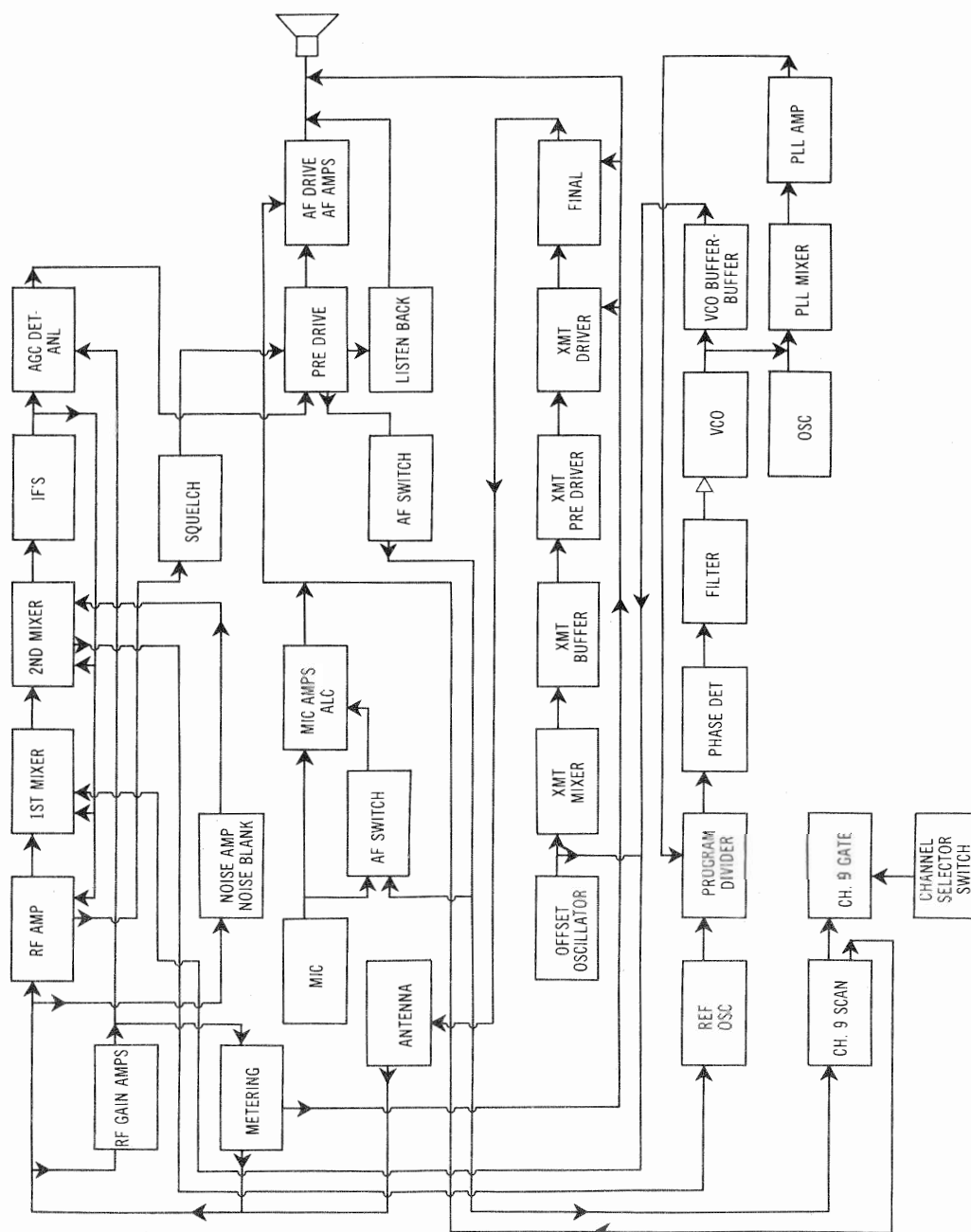


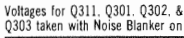


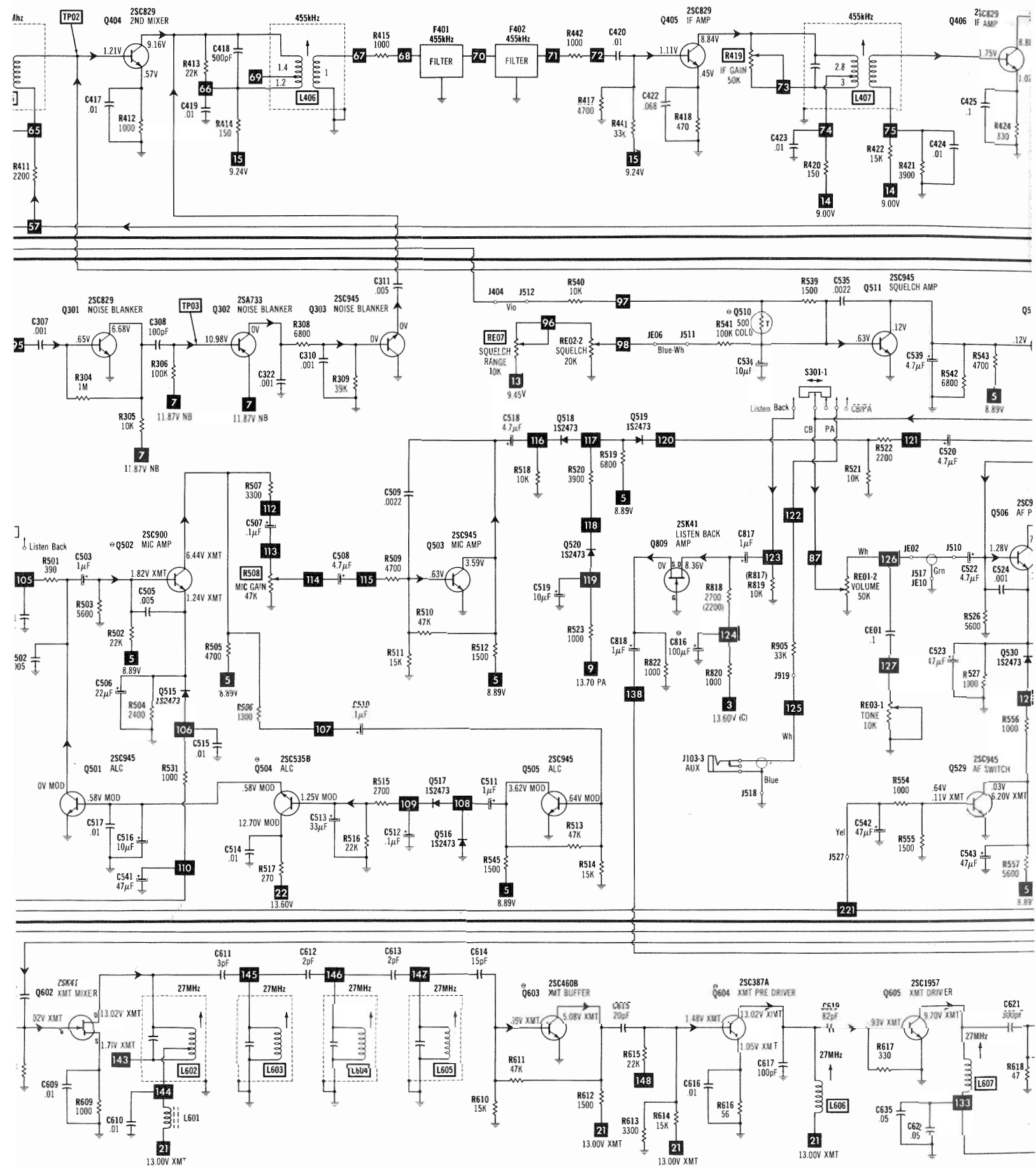
SWR BOARD



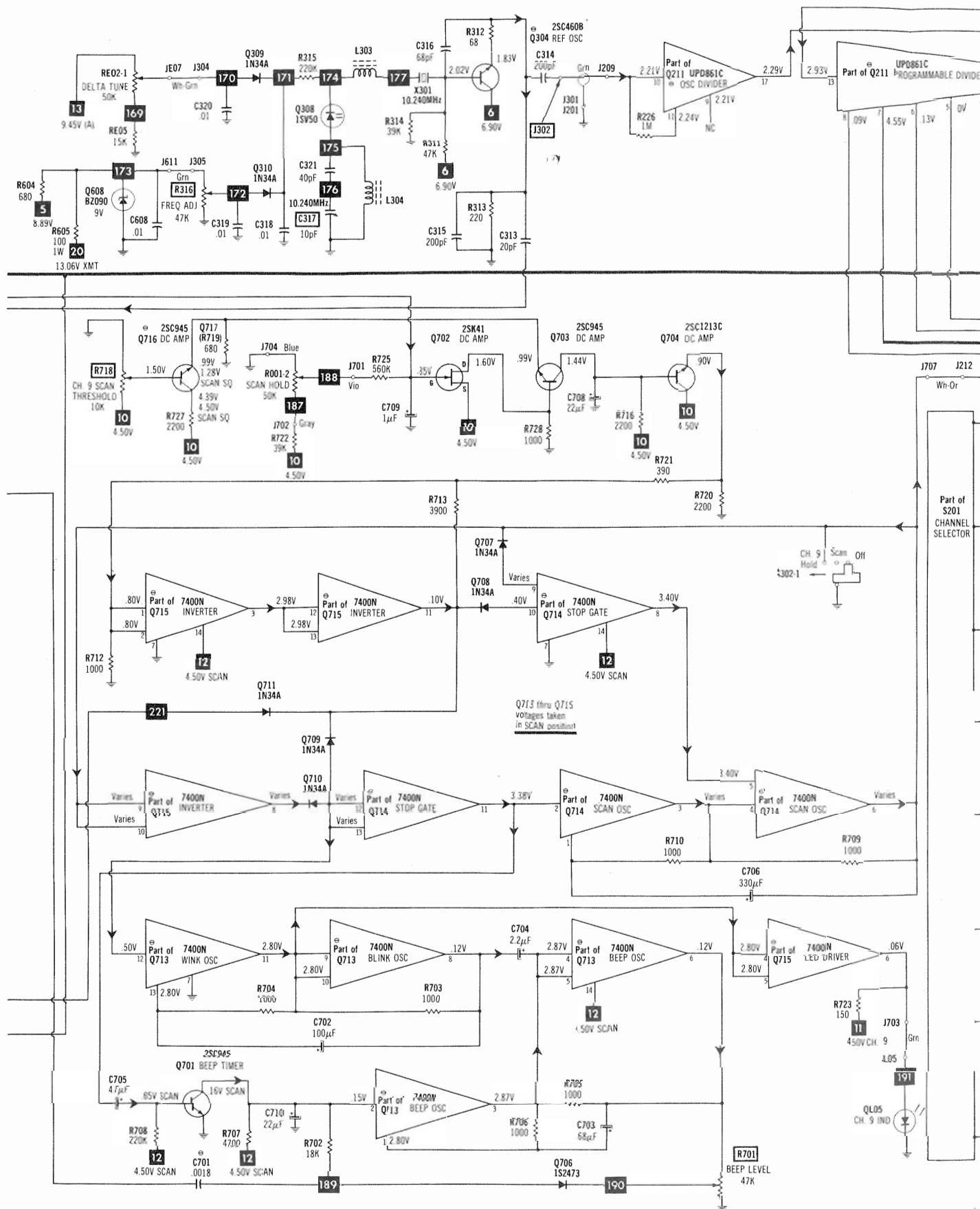
MIC BOARD







MAIN SCHEMATIC

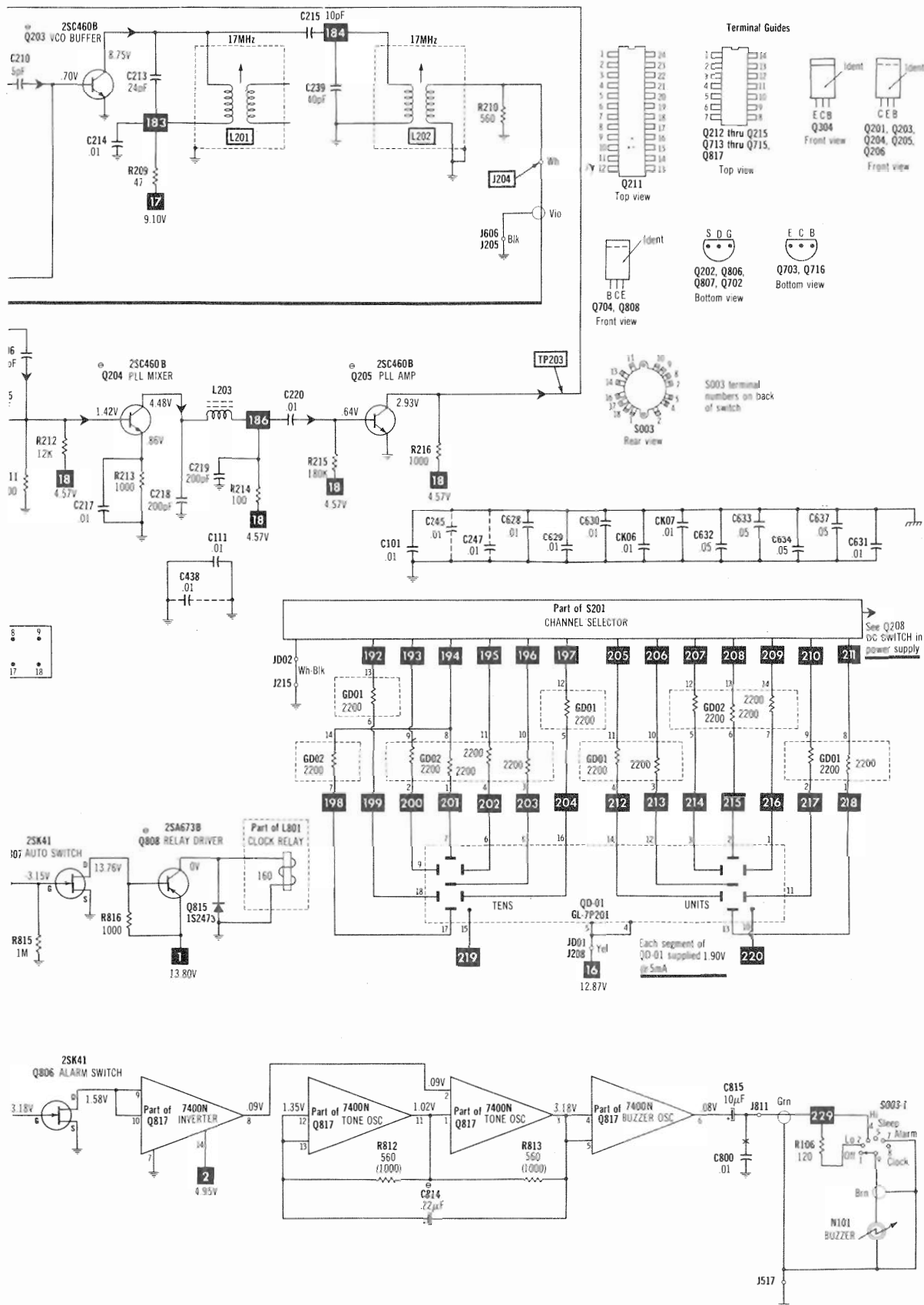


- Circuitry not used in some versions
- - - Circuitry used in some versions
- ⊕ See parts list
- ⊗ Nominal value
- ⊕ Common tie point
- ⊕ Signal path
- ⊕ Voltage path
- ⊕ Chassis

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.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
WITH **CIRCUITRACE®**

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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	4-conductor (unshielded)	23AWG BELDEN No. 8415 (6')
	(9') BELDEN No. 17109	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.	MFG. 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.
Q101	2SD119	HT40119340	GE-262	PTC173	HEPS7004	REN 280	SK3036		ECG280	TM280	WEP222	121-29034
Q102A	582	HD20005100	GE-512	PTC204	HEPRO098	REN 156	SK3051	RT-201	ECG156	TM156	WEP4008	212-29000
Q102B	2SC900	HT309002A0	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
Q103	1001	HD20001100	GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	1001		GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
Q201	2SC4608	HT304601B0	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
	2SC460		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q202	2SK41	HF200411C0	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q203	2SC4608		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
	2SC460	HT304601B0	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q204	2SC4608		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
	2SC460	HT304601B0	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q205	2SC4608		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
	2SC460	HT304601B0	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q206	2SC4608		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
	2SC460	HT304601B0	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q207	2SC1368B		GE-57	PTC904	HEPSS0000	REN 184	SK3190	RT-194	ECG184	TM184	WEP913	121-29035
	2SC1368	HT313681B0	GE-57	PTC904	HEPSS0000	REN 184	SK3190	RT-194	ECG184	TM184	WEP913	121-29035
Q208	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q209	2SA673B		GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
	2SA673	HT106731B0	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q211	UPD0861C	HC10008060							ECG1254			
Q212	SN7400N		GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
	SN7400	HC10004110	GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
Q213	SN7400N		GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
	SN7400	HC10004110	GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
Q214	SN7400A		GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
	SN7400	HC10004110	GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
Q215	SN7400N		GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
	SN7400	HC10004110	GE-7400	HEPC3001	REN 7400	SK7400	TVCM-500	ECG7400			WEP7400	
Q216	1SV50	HD40001060	GE-90		HEPR2503	REN 614		RT-262	ECG614		WEP200	
Q217	BZ052	HD30042090	GEZD-5.6	ZB5.6B		REN 136	SK3057	RT-236	ECG136A	TM136/**	WEP1104	103-29007
Q218	BZ090	HD30017090	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
Q219	131A		GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
	DS131A	HD20007030	GE-504A	PTC201	HEPRO052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
Q301	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q302	2SA733	HT107331Q0	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP911	121-952
Q303	2SC945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q304	2SC4608		GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
	2SC460	HT304601B0	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q306	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q307	BZ071	HD30019090	GEZD-7.5	ZB7.5B		REN 138	SK3059	RT-239	ECG138A	TM138/**	WEP1107	103-29002
Q308	1SV50	HD40001060	GE-90	HEPR2503	REN 614			RT-262	ECG614		WEP200	
Q309	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q310	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q311	TA7061AP	HC10002050	SE1C-92	PTC781	REN 1100	SK3223		ECG1100		TA7061AP	WEP941	221-29023
Q401	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q402	2SC535	HT305351B0	GE-86	PTC132*	HEPS0016*	REN 229	SK3018*	RT-134	ECG229*	TM229/**	WEP535	121-29021
Q403	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q404	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q405	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q406	2SC829	HT308291B0	GE-20*	PTC139*	HEPS0015*	REN 229*	SK3444	RT-308	ECG229*	TM229/**	WEP829	121-29000A*
Q407	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q408	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q409	1N34A	HD10001010	1N34AS	FTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q410	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q411	1N34A	HD10001010	1N34AS	FTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q412	1N34A	HD10001010	1N34AS	FTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q413	1N34A	HD10001010	1N34AS	FTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q414	1N34A	HD10001010	1N34AS	FTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q415	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q416	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q417	BZ090	HD20017090	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
Q418	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q419	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q420	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q501	2SC945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q502	2SC900	HT309002A0	GE-88	PTC121	HEPS0015*	REN 123A*	SK3122*	RT-302*	ECG123A*	TM123A*	WEP736*	121-29000A*
Q503	2SC945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q504	2SC535B		GE-86	PTC132*	HEPS0016*	REN 229	SK3018*	RT-134	ECG229*	TM229/**	WEP535	121-29021
	2SC535	HT305351B0	GE-86	PTC132*	HEPS0016*	REN 229	SK3018*	RT-134	ECG229*	TM229/**	WEP535	121-29021
Q505	2SC945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q506	2SC900	HT309002A0	GE-62	PTC139*	HEPS0015*	REN 199	SK3124	RT-302	ECG199	TM199/**	WEP66	121-972
Q507	2SC1213C		GE-268	PTC123*	HEPS0014*	REN 289	SK3024*	RT-134	ECG289	TM289	WEP910	121-29000A*
	2SC1213	HT312131C0	GE-268	PTC123*	HEPS0014*	REN 289	SK3024*	RT-134	ECG289	TM289	WEP910	121-29000A*
Q508	2SD313E	HT403131E0	GE-241	PTC154	REN 196	SK3054	RT-154	ECG196	TM196	WEP745	121-987-02	
Q509	2SD313E	HT403131E0	GE-241	PTC154	REN 196	SK3054	RT-154	ECG196	TM196	WEP745	121-987-02	
Q511	2SC945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q512	2SA733	HT107331Q0	GE-48	PTC127	HEPS0019*	REN 294	SK3138	RT-303	ECG294	TM294/**	WEP911	121-952
Q515	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q516	1S2473	HD20001210	GE-514	FTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287

SUPERSCOPE MODEL AIRCOMMAND CBB-1040

SEMICONDUCTORS

ITEM No.	TYPE No.
Q517	1S2473
Q518	1S2473
Q519	1S2473
Q520	1S2473
Q521	BZ090
Q522	1S1209
Q523	100-1
	1

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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

ITEM No.	TYPE No.	MFR. PART No.	REPLACEMENT DATA									
			GENERAL ELECTRIC PART No.	MALLORY PART No.	MOTOROLA PART No.	RAYTHEON PART No.	RCA PART No.	SPRAGUE PART No.	SYLVANIA PART No.	THORDARSON PART No.	WORKMAN PART No.	ZENITH PART No.
Q517	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-215	ECG519	TM519	WEP925	103-287
Q518	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-213	ECG519	TM519	WEP925	103-287
Q519	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-213	ECG519	TM519	WEP925	103-287
Q520	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-213	ECG519	TM519	WEP925	103-287
Q521	BZ090	HD30017090	GEZD-9.1	ZB9.1B	HEPR9137	REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
Q522	151209	HV00001060	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
Q523	100-1	1001	GE-504A	PTC201	HEPR0052	REN 116	SK3311	RT-213	ECG116	TM116	WEP156	212-76-02
Q524	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q525	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q526	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q527	25A673B	HT10673180	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q528	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-213	ECG519	TM519	WEP925	103-287
Q529	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q530	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q601	25C4608	HT30460180	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q602	25K41	HF200411C0	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q603	25C4608	HT30460180	GE-61*	PTC136*	HEPS0014*	REN 107	SK3122	RT-134	ECG107	TM107/**	WEP460	121-29000*
Q604	25C387A	HT30387100	GE-214	PTC132*	HEPS0020*	REN 161	SK3039*	RT-134	ECG316*	TM316*	WEP56*	121-972
Q605	25C387	HT30387100	GE-214	PTC132*	HEPS0020*	REN 161	SK3039*	RT-134	ECG316*	TM316*	WEP56*	121-972
Q606	25C395	HT31957100	GE-270	PTC180	HEPS3044	REN 295	SK3197	RT-146	ECG295	TM295	WEP913	121-880
Q608	BZ090	HD30017090	GEZD-9.1	ZB9.1B	HEPR9137	REN 139	SK3060	RT-240	ECG139A	TM139/**	WEP1109	103-272
Q609	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q701	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q702	25K41	HF200411C0	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q703	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q704	25C1213C	HT312131C0	GE-268	PTC123*	HEPS0014*	REN 289	SK3024*	RT-134	ECG289	TM289	WEP910	121-29000A*
Q705	25C1213C	HT312131C0	GE-268	PTC123*	HEPS0014*	REN 289	SK3024*	RT-134	ECG289	TM289	WEP910	121-29000A*
Q706	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q707	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q708	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q709	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q710	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q711	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q712	BZ052	HD30042090	GEZD-5.1	ZB5.68	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q713	7400N	HC10004110	GE-7400	PTC121*	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q714	7400N	HC10004110	GE-7400	PTC121*	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q715	7400N	HC10004110	GE-7400	PTC121*	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q716	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q801	25C1368B	HT31368180	GE-37	PTC130	HEPS5021	REN 164	SK3115	RT-140	ECG164	TM164	WEP740A	121-29044
Q802	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q803	P6009	HT70011100	GE-58	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q804	25A673B	HT10673180	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q805	25A673	HT10673180	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q806	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q807	25K41	HF200411C0	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q808	25A673B	HT10673180	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q809	25A673	HT10673180	GE-269	PTC103*	HEPS0026*	REN 290	SK3114	RT-115*	ECG290	TM290	WEP911	121-1019
Q810	25K41	HF200411C0	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312	TM312	WEP920	121-756
Q811	BZ071	HD30023090	GEZD-7.5	ZB7.5B	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q812	BZ052	HD30042090	GEZD-5.6	ZB5.68	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q813	BZ052	HD30042090	GEZD-5.6	ZB5.68	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q814	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q815	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q816	152473	HD20001210	GE-514	PTC214	HEPR9137	REN 177	SK3100	RT-218	ECG519	TM519	WEP925	103-287
Q817	7400N	HC10004110	GE-7400	PTC121*	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q818	SN7400	HC10004110	GE-7400	PTC121*	HEPC7400P	REN 7400	SK7400	RT-235	ECG7400	TM7400	WEP1103	103-290
Q819	25C945	HT309451R0	GE-212	PTC121*	HEPS0015*	REN 199	SK3124	RT-107A	ECG199	TM199/**	WEP1945	121-972
Q820	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q821	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001
Q822	1N34A	HD10001010	1N34AS	PTC207	HEPR9134A	REN 109	SK3087	RT-200	ECG109	TM109/**	WEP134	103-29001

SUPERSCOPE MODEL AIRCOMMAND CBB-1040

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

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA			
			CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	Q-LINE
C102	10 16V	EA10601690	PC10-25	VTT10825	QV1-41	EV-1222
C105	100 3V	EV10700360	PC50-16	TDC107M010GL	QDT1-1	SD10-1009
C107	47 16V	EA47601690	PC10-25	VTT47D16	QV1-73	EV-1226
C108	10 16V	EA10601690	PC10-25	VTT10825	QV1-41	EV-1222
C211	.68 35V	EV68403560	PC500-16	TDC335M050EL	QDT1-2	SD50-R689
C228	3.3 10V	EV33501060	PC500-16	TDC335M050FL	QDT1-4	SD15-3R39
C241	470 6.3V	EA47700690	PC500-16	VTT470K1	QV1-149	EV-1150
C242	33C 10V	EA33701090	PC500-16	VTT330G1	QV1-131	EV-1145
C243	22C 16V	EA22701690	PC500-16	VTT220H1	QV1-111	EV-1240
C246	4.7 35V	EV47503560	PC500-16	VTT47363	QV1-79	EV-1626
C309	22 16V	EA22601690	PC500-16	VTT22B16	QV1-55	EV-1224
C412	47 16V	EA47601690	PC500-16	VTT47D16	QV1-73	EV-1226

PARTS LIST AND DESCRIPTION (CONTINUED)

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

ELECTROLYTIC CAPACITORS (cont)

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C427	22 16V	EA22601690	PC25-25	VTT22B16	QV1-55	EV-1224
C430	47 16V	EA47601690	PC50-16	VTT47D16	QV1-73	EV-1226
C431	47 16V	EA47601690	PC50-16	VTT47D16	QV1-73	EV-1226
C435	.1 35V	EA10403560		TDC104M050EL	QDT1-2	SD50-R109
C503	1 35V	EY10503560		TDC105M035EL		SD35-19
C506	22 16V	EA22601690	PC25-25	VTT22B16	QV1-55	EV-1224
C507	.1 35V	EY10403560		TDC104M050EL	QDT1-2	SD50-R109
C508	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C510	1 35V	EY10503560		TDC105M035EL		SD35-19
C511	1 35V	EY10503560		TDC105M035EL		SD35-19
C512	.1 35V	EY10403560		TDC104M050EL	QDT1-2	SD50-R109
C513	33 10V	EY33601060		TDC336M010FL	QDT1-89	SD10-339
C516	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
C518	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C519	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
C520	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C522	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C523	47 16V	EA47601650	PC50-16	VTT47D16	QV1-73	EV-1226
C525	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C526	100 3V	EY10700360		TDC107M010GL	QDT1-111	SD10-1009
C528	1000 16V	EA10801690	PC1000-16	VTT1000L16	QV1-183	EV-1260
C531	330 25V	EA33702590	WBR300-35*	VTT330L25	QV1-135	EV-1345
C533	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
C534	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
C536	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
C537	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C539	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626
C541	47 16V	EA47601690	PC50-16	VTT47D16	QV1-73	EV-1226
C542	47 10V	EA47601090	PC50-16	VTT47D16	QV1-73	EV-1226
C543	47 10V	EA47601090	PC50-16	VTT47D16	QV1-73	EV-1226
C544	22 25V	EA22602590	PC25-25	VTT22025	QV1-57	EV-1324
C702	100 16V	EA10701690	PC100-16	VTT100F16	QV1-95	EV-1230
C703	.68 35V	EY68403560		TDC684M050EL	QDT1-22	SD50-R689
C704	2.2 50V	EA22505090		TDC225M050FL	QDT1-37	SD50-2R29
C705	4.7 35V	EA47503590	PC5-50	VTT47B50	QV1-29	EV-1519
C706	330 6.3V	EA33700690	WBR300-35*	VTT330G10	QV1-131	EV-1145
C707	47 16V	EA47601690	PC50-16	VTT47D16	QV1-73	EV-1226
C708	22 16V	EA22601690	PC25-25	VTT22B16	QV1-55	EV-1224
C709	1 50V	EY10505010	PC1-50	VTT1A50	QV1-11	EV-1615
C710	22 10V	EA22601090	PC25-25	VTT22B16	QV1-55	EV-1224
C801	1000 25V	EA10802590	WBR1000-25*	VTT1000M25	QV1-185	EV-1360
C802	1000 25V	EA10802590	WBR1000-25*	VTT1000M25	QV1-185	EV-1360
C803	3300 35V	EB33803530				
C804	100 25V	EA10702590	PC100-25	VTT100G25	QV1-97	EV-1330
C807	100 25V	EA10702590	PC100-25	VTT100G25	QV1-97	EV-1330
C808	.1 35V	EY10403560		TDC104M050EL	QDT1-2	SD50-R109
C813	100 16V	EA10701690	PC100-16	VTT100F16	QV1-95	EV-1230
C814	.22 35V			TDC224M050EL	QDT1-10	SD50-R229
	3.3 35V	EY33403560		TDC334M035FL		SD35-3R39
C815	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
C816	100 25V	EA10702590	PC100-25	VTT100G25	QV1-97	EV-1330
	47 16V		PC50-16	VTT47D16	QV1-73	EV-1226
C817	1 50V	EA10505090	PC1-50	VTT1A50	QV1-11	EV-1615
C818	1 50V	EA10505090	PC1-50	VTT1A50	QV1-11	EV-1615
C819	100 16V	EA10702590	PC100-16	VTT100F16	QV1-95	EV-1230
C904	1 50V	EA10505090	PC1-50	VTT1A50	QV1-11	EV-1615
C905	10 16V	EA10601690	PC10-25	VTT10B25	QV1-41	EV-1222
CE02	4.7 35V	EA47503590	PC50-50	VTT47J63	QV1-79	EV-1626

* Axial replacement for radial device.

CAPACITORS

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C101	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C103	.001		DD-102		GP210		10TS-D10
C104A	.02		DC-203	MGP02	TA120	QC2-157	TG-S20
C104B	.03		DC-103	MGP01	TA110	QC2-141	TG-S10
C106	.001		DD-102		GP210		10TS-D10
C109	470		DD-471	GP470	GP347		10TS-T47
C110	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C111	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C201	40 5%				CN0439		10TCC-Q39
C202	20						
C203	82 5%	CT 2000070	DTZ-82	NP082	CN0482		10TCC-Q82
C204	200 N750 10%		DTN-200				10TCU-T20
C205	3 NPO		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C206	20 NPO 5%		DTZ-20	NP020	CN0420		10TCC-Q20
C207	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C208	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C209	1.5		DTZ-1R5	NP01P5	CN0515		10TCC-V15
C210	5 N220	DD10050020			*		10TCP-V50
C212	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C213	24 NPO 5%		DTZ-25	NP025	CN0425		10TCC-Q25
C214	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C215	10 NPO 5%		DTZ-10	NP010	CN0410		10TCC-Q10
C216	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C217	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C218	200 N750 10%		DTN-200				10TCU-T20

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFG. PART No.	REPLACEMENT DATA					PART No.
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE		
						Q-LINE	GENERAL LINE	
C219	200 N750 10%	DD15600010 DD15300020 DD16200040	DTN-200	MGP01	TA110	QC2-141	10TCU-T20	
C220	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C221	.01		DC-103	MGP01			TG-S10	
C222	60 N470 5%				*		10TCT-Q30	
C223	30 N470 5%				CN7415		10TCU-Q15	
C224	15 N750			DTN-15	N15		10TCT-Q20	
C225	20 N470					CN0482	10TCC-Q82	
C226	82 5%			DTZ-82	NP082		TG-S10	
C227	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C229	.01			DC-103	MGP01	TA110	QC2-141	TG-S10
C230	.01	DK18103010	DC-103	MGP01	TA110	QC2-141	TG-S10	
C231	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C232	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C233	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C234	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C235	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C236	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C237	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C238	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C239	40 N220 5%				*		10TCR-Q39	
C240	.01	DD15300020	DC-103	MGP01	TA110	QC2-141	TG-S10	
C244	.05		DC-503	MGP05	TA150	QC2-207	TG-S50	
C245	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C247	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C248	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C301	30 N470				*		10TCT-Q30	
C302	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C303	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C304	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C305	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C306	.02	DD16680010 CT11000010	DC-203	MGP02	TA120	QC2-157	TG-S20	
C307	.001 50V			DPMS6D1	EWFA1210	QF1-1	1PB-D10	
C308	100		DTZ-100	NP0100	CN0310		10TCC-T10	
C310	.001 50V			DPMS6D1	EWFA1210	QF1-1	1PB-D10	
C311	.005 50V			WMF1D5	EWFA1250			
C312	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C313	20 NPO 5%		DTZ-20	NP020	CN0420		10TCC-Q20	
C314	200		DTZ-200				10TCC-T20	
C315	200		DTZ-200				10TCC-T20	
C316	68 N220 5%				*		10TCR-Q68	
C317	10	DD10005010						
C318	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C319	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C320	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C321	40 NPO 5%				CN0439		10TCC-Q39	
C322	470		DD-471	GP470	GP347		10TS-T47	
C401	40 NPO 5%				CN0439		10TCC-Q39	
C402	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C403	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C404	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C405	50 NPO 5%	DD10005010	DTZ-50	NP050	CN0450		10TCC-Q50	
C406	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C407	.5 NPO ±.25							
C408	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C409	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C410	5 NPO		DTZ-4R7	NP04P7	CN0547		10TCC-V47	
C411	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C413	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C414	1				CN0510		10TCC-V10	
C415	1				CN0510		10TCC-V10	
C416	.01	500 N750 10%	DC-103	MGP01	TA110	QC2-141	TG-S10	
C417	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C418	500 N750 10%		DTN-470				10TCU-T47	
C419	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C420	.01 50V				EWFA1110	QF1-91	1PB-S10	
C421	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C422	.068 50V				EWFA168	QF1-195	1PB-S68	
C423	.01 50V				EWFA1110	QF1-91	1PB-S10	
C424	.01 50V				EWFA1110	QF1-91	1PB-S10	
C425	.1 50V				EWFO5010		431P1049R5	
C426	.01 50V	CT12000010			EWFA1110	QF1-91	1PB-S10	
C428	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C429	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C432	100 NPO 5%		DTZ-100	NP0100	CN0310		10TCC-T10	
C433	.002				GP220		10TS-D20	
C434	.0039 50V				M192P3929R8		192P3929R8	
C436	24 NPO 5%		DTZ-25	NP025	CN0425		10TCC-Q25	
C437	500 N750 5%		DTN-470				10TCU-T47	
C438	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C501	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C502	.005	500 N750 10%	DC-502	MGP005	TA250	QC2-123	TG-D50	
C505	.005		DC-502	MGP005	TA250	QC2-123	TG-D50	
C509	.0022 50V				M192P2229R8		192P2229R8	
C514	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C515	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C517	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C524	.001 50V				EWFA1210	QF1-1	1PB-D10	
C527	.001 50V				EWFA1210	QF1-1	1PB-D10	
C529	.022 50V				M192P2239R8		192P2239R8	
C530	.022 50V				M192P2239R8		192P2239R8	
C532	.01	500 N750 10%	UK50-103		MAG5011		192P2229R8	
C535	.0022 50V				M192P2229R8		192P2229R8	
C538	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C540	.01		DC-103	MGP01	TA110	QC2-141	TG-S10	
C601	20 NPO 5%		DTN-20	NP020	CN0420		10TCC-Q20	
C602	20							
C603	500 5%		DTN-470				10TCU-T47	

SUPERSCOPE MODEL AIRCOMMAND CBB-1040

PARTS LIST AND DESCRIPTION (CONTINUED)

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

CAPACITORS (cont)

ITEM No.	RATING	MFR. PART No.	REPLACEMENT DATA				
			CENTRALAB PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
						Q-LINE	GENERAL LINE
C604	200		DTZ-200				10TCC-T20
C605	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C606	50 NPO 5%		DTZ-50	NP050	CN0450		10TCC-Q50
C607	50 NPO 5%		DTZ-50	NP050	CN0450		10TCC-Q50
C608	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C609	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C610	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C611	3 NPO		DTZ-3R3	NP03P3	CN0533		10TCC-V33
C612	2 NPO		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C613	2 NPO 10%		DTZ-2R2	NP02P2	CN0522		10TCC-V22
C614	15 NPO 10%		DTZ-15	NP015	CN0415		10TCC-Q15
C615	20 NPO 5%		DTZ-20	NP020	CN0420		10TCC-Q20
C616	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C617	100 N470 5%	DD15101020			*		10TCT-T10
C618	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C619	82 N220 10%	DD16820010			*		10TCT-Q82
C621	300 N750 5%		DTN-330	N330	CN7333		10TCU-T33
C622	.05		DC-503	MGP05	TA150	QC2-207	TG-S50
C623	100 N470 5%	DD15101020			*		10TCT-T10
C624	200 10%		DTZ-200				10TCC-T20
C625	200		DTZ-200				10TCC-T20
C626	200 N470 10%	DD16201030			*		10TCT-T20
C628	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C629	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C630	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C631	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C632	.05		DC-503	MGP05	TA150	QC2-207	TG-S50
C633	.05		DC-503	MGP05	TA150	QC2-207	TG-S50
C634	.05		DC-503	MGP05	TA150	QC2-207	TG-S50
C635	.05		DC-503	MGP05	TA150	QC2-207	TG-S50
C636	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C637	.05		DC-503	MGP05	TA150	QC2-207	TG-S50
C701	.0018 50V			CD19FD182J03	SX218		10TCT-182
C805	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C809	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C810	.1		DC-104	MGP1	TA010	QC2-233	TG-P10
C811	.04 25V				GP140		56A-S40
C812	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C901	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C902	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
C903	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CE01	.1 50V			WMF05P1	EWFO5010		431P1049R5
CK01	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CK02	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CK03	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CK04	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CK05	100 NPO 5%		DTZ-100	NP0100	CN0310		10TCC-T10
	200		DTZ-200				10TCC-T20
CK06	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CK07	.01		DC-103	MGP01	TA110	QC2-141	TG-S10
CZ01	.01		DC-103	MGP01	TA110	QC2-141	TG-S10

*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			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
R001-1	Scan Hold Level	50K		RD05030100		
R001-2	Scan Hold	50K				
R316	Frequency Adjust	47K	RA04730030			U260R503B(3)
RA19	IF Gain	50K	RA05030010			X260R503B(2)
R427	AGC	47K	RA04730030			U260R503B(2)
R430	Signal Meter	4700	RA04720050			U260R502B(3)
R508	Mic Gain	47K	RA04730030			U260R503B(3)
R548	Mod Meter	10K	RA01030070			U260R103B(3)
R701	Beep Level	47K	RA04730030			U260R503B(3)
R718	Ch. 9 Scan Threshold	10K	RA01030070			U260R103B(3)
R805	Voltage Adjust	2200	RA02220100			U260R252B(3)
R810	Power Reg	2200	RA02220100			U260R252B(3)
R902	Power Meter	47K	RA04730030			U260R503B(3)
RE01-1	RF Gain	10K	RD05030080			
RE01-2	Volume	50K				
RE02-1	Delta Tune	50K	RD02030060			
RE02-2	Squelch	20K				
RE03-1	Tone	10K	RD02030050			
RE03-2	PA Gain	20K				
RE07	Squelch Range	22K	RA02230040			U260R253B(3)

(2) Cut off one of the end terminals and bend to fit PC board.

(3) For horizontal mounting, bend the two outside terminals to fit PC board. Use jumper to connect center terminal to PC board.

RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA		ITEM No.	RATING	REPLACEMENT DATA	
		WORKMAN PART No.	MFR. PART No.			WORKMAN PART No.	MFR. PART No.
G201	Resistor Network		BW20751020(1)	Q510	550 Cold NTC		HH00007030
G001	Resistor Network		BW20222010(2)	R225			RC00000140
G002	Resistor Network		BW20222010(3)	RE04			RC00000140
				RE10			RC00000140

(1) Consists of eight 750-ohm resistors.

(2) Consists of six 2.2K-ohm resistors.

(3) Consists of seven 2.2K-ohm resistors.

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.	
L101B	RF Choke (22uH)	LC12230020			
L201	VCO Buffer (17MHz)	LA10153070			
L202	VCO Buffer (17MHz)	LA10153070			
L203	RF Choke (22uH)	LC12230020			
L204	VCO	LO10153030			
L301	Noise Amp (27MHz)	LA10153010			
L302	Noise Amp (27MHz)	LA10153020			
L303	RF Choke (3.3uH)	LC13320010			
L304	RF Choke (10uH)	LC11030020			
L401	Antenna Matching (27MHz)	LA10153030			
L402	RF Amp	LA10153040			
L403	Mixer (9.785MHz)	LI10153010			
L404	Mixer (9.785MHz)	LI10153010			
L405	Mixer (9.785MHz)	LI10153020			
L406	IF (455kHz)	LI10013170			
L407	IF (455kHz)	LI10013180			
L408	IF (455kHz)	LI10013190			
L601	RF Choke (390uH)	LC13940010			
L602	XMT Mixer (27MHz)	LA10153050			
L603	XMT Mixer (27MHz)	LA10153060			
L604	XMT Mixer (27MHz)	LA10153060			
L605	XMT Mixer (27MHz)	LA10153060			
L606	XMT Predriver (27MHz)	LA10393010			
L607	XMT Driver	LA10393020			
L609	Final (.4uH)	LC24010010			
L610	Loading Final (27MHz)	LA10393030			
L611	Pi Filter	LL26812080			
L612	Pi Filter	LL26812080			
L613	RF Choke	LL26812080			
L614	RF Choke (2.7uH)	LC12720020			

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.	
L803	2.1A	.6	6.2mH	LC26550020			

TRANSFORMER (Power)

ITEM No.	RATING		REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L101A	120V AC @ 925mA AC	35V AC CT @ 4.14A DC	TS17609060			

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L501	.5	1		TI12407060			

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
L502	2	1 2 1 1.6	T013511020			

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
N001	4" PM	QK01001130	4A1Z8	

FUSE DEVICES

ITEM No.	DESCRIPTION	REPLACEMENT DATA					
		PART No.		BUSS PART No.		LITTELFUSE PART No.	
		DEVICE	HOLDER	DEVICE	HOLDER	DEVICE	WORKMAN PART No.
FF01	3A Quick Acting	FS20300910		GJV-3A		318003	
FF02	3A Quick Acting	FS20300910		GJV-3A		318003	
FF03	.5A Quick Acting	FS20050910		GJV-1/2A		318.500	
FF04	.5A Quick Acting	FS20050910		GJV-1/2A		318.500	
FO01	3A Quick Acting	FS10300060		AGC-3	HDJ	312003	150145 FG3-2

SUPERSCOPE MODEL AIRCOMMAND CBB-1040

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
M101	MP10000310	18-032	18-034	8-010 18-000		1	2	3	5	NC	2

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
A001	Clock	AG12100040	Digital LED
F401	Filter	FG455304H0	(CFU-455H) 455kHz
F402	Filter	FG455304H0	(CFU-455H) 455kHz
JZ01	Jack	YJ08000170	Lamp
JZ02	Jack	YJ08000170	Lamp
JZ03	Jack	YJ08000170	Lamp
JZ04	Jack	YJ08000170	Lamp
JZ07	Jack	YP06001050	5 Pin
JZ08	Jack	YJ06001050	5 Pin Connector
J001	Plug	YP07000030	Connector for Switch Board (Alarm/Sec/Slow/Fast/Sleep)
J002	Jack	YJ07000160	Connector for Switch Board (Alarm/Sec/Slow/Fast/Sleep)
J101	Jack	YJ10000800	Microphone
J101	Plug	YP10001420	Microphone (5P)
J102	Jack	YJ01000650	Phone
J102	Jack	YJ010001060	Phone
J103	Jack	BY01090010	External Speaker (3P)
J104	Jack	YJ10000780	Antenna
J105	Jack	YJ04000510	AC
J106	Jack	YJ04000580	DC
J107	Jack	YJ05000190	Transistor (Socket)
L801	Relay	LY10120120	160 Ohms
L802	Relay	LY40120040	160 Ohms
M001	Meter	IM11080050	Signal, PWR/SWR, Modulation
PD01	Printed Circuit Board	ZZ46790030	7 Segment Flex w/Components
PE01	Printed Circuit Board	YF46790030	7 Segment Flex w/out Components
PF01	Printed Circuit Board	ZZ46790050	Volume, Complete Assembly
PK01	Printed Circuit Board	YF46790052	Volume, (Board Only)
PL01	Printed Circuit Board	ZZ46790040	Fuse Complete Assembly
PL01	Printed Circuit Board	YF46790040	Fuse (Board Only)
PL01	Printed Circuit Board	ZZ46790070	SWR Complete Assembly
PL01	Printed Circuit Board	YF46790070	SWR (Board Only)
PL01	Printed Circuit Board	ZZ46790080	LED Complete Assembly
PL01	Printed Circuit Board	YF46790080	LED (Board Only)
PZ01	Printed Circuit Board	ZZ46790090	Lamp Complete Assembly
P150	Printed Circuit Board	YF46790060	Lamp (Board)
P201	Printed Circuit Board	ZZ46791012	Microphone Amplifier Complete Assembly
P201	Printed Circuit Board	YF46790090	Microphone Amplifier (Board Only)
P201	Printed Circuit Board	ZZ46790020	PLL Complete Assembly
P301	Printed Circuit Board	YF46790020	PLL (Board Only)
P301	Printed Circuit Board	ZZ467900130	Main Complete Assembly
QD01	Printed Circuit Board	YG46790013	Main (Board Only)
QD01	LED	HI10001320	Tens & Units 7 Segment GL-7P20 (Each segment supplied with 1.90V @ 5mA)
QL01	LED	HI10001300	SWR (1.60V @ 2mA)
QL02	LED	HI10001300	Cal (1.60V @ 2mA)
QL03	LED	HI10001300	PWR (1.60V @ 2mA)
QL04	LED	HI10001300	MOD (1.60V @ 2mA)
QL05	LED	HI10001300	Ch. 9 (1.60V @ 2mA)
QL06	LED	HI10001300	Scan (1.60V @ 2mA)
S001	Switch	SM05010020	Switch Board for Clock Mini
S002	Switch	SC02030060	Power On/Auto
S003	Switch	SR02060070	Rotary/2C-6P Clock Selector
S101	Switch	SC01020100	Push to Talk (Micro)
S102	Switch	SS02030080	Hi/Lo Talk(Slide)
S105	Switch		AC/DC (Activated by AC Cord insertion)
S201	Switch	SR06400010	Channel Selector (Rotary)
S301	Switch	SR04040110	Listen/PA (Slide)
S302	Switch	SC02030050	Scan/Ch. 9
S303	Switch	SC02030050	NB/ANL
S304	Switch	SC02030050	Meter Selector
S305	Switch	SC02020240	SWR Calibrate
VZ01	Lamp	IN10080430	(7 @ 270mA)
VZ02	Lamp	IN10080430	(7 @ 270mA)
W001	Cord	YC01500060	AC Power Cord (DC Cord with Cone)
W002	Cord	ZC02002020	AC Power Cord (S.S. Mark)
X201	Crystal	XA21627004	
X301	Crystal	XX21024004	
X601	Crystal	XA20978504	
Y101	Cord	YB02000000	Connective (Curled)

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

ITEM	PART No.	ITEM	PART No.
Cabinet Assembly, Top	4679064400	Knob (Scan Hold Level, PA Gain, Delta Tune, RF Gain)	4656154120
Cabinet, Top	4679064015	Knob (Scan Hold, Tone, Squelch, Volume)	4656154030
Cabinet Top, Mic	4713064010	Knobs, (Switch)	4656154050
Cabinet Bottom	4679064025	Knob, Mic	4683270010
Escutcheon	4679265010	Window, Dial	4679158010
Knob (Listen/PA, Clock Selector)	4656154042		
Knob (Channel Selector)	4656154010		