



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 SBE-54CB (KEY/COM 1000)

MANUFACTURER'S SPECIFICATIONS

Transmitter

Power Output:	4 watts (maximum)
Modulation:	95-100%
Modulator Response:	300 Hertz to 3000 Hertz, +3 -10db
Output Impedance:	50 ohms, unbalanced
Output Indicator:	Back lit front panel meter

Receiver

Sensitivity:	0.5 microvolt for 10db S+N/N ratio
Selectivity:	65 db @ ± 10 KHz
IF Frequencies:	10.695 MHz, 455 KHz
Receiver Delta Tune:	± 1500 Hertz, Nominal
Automatic Gain Control:	Less than 10db change in audio output for signal inputs from 10-500, 000uV
Squelch Threshold:	0.5uV
Audio Power Output:	Greater than 3.0 watts @ 10% T.H.D.
Built-in Speaker:	8 ohms, 3 1/2 " round
External Speaker:	(Not supplied) 4 or 8 ohms. Disables internal speaker when connected.
Spurious Rejection:	
Image:	-60 db or better
IF:	-65 db or better
Others:	-60 db or better

Courtesy of the Manufacturer

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

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SBE MODEL SBE-54CB

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

L503, L505, T503 9091, 8728-A, 8728

T103, T104, T105 5009, 8728-A, 8728

L101, L102, L103, L201, L202, L401, L402, L404,

L501, T101, T102, T201, T401, T501, T502. 9440

SYNTHESIZER ALIGNMENT

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Input of frequency to TP1 (junction R501 and FIL-3).	Ch. 19 DELTA TUNE Midrange	L404	Adjust for 10.240MHz.
Input of DC meter to TP	Ch. 19 DELTA TUNE Midrange	L401	Adjust for 2.73 volts.
	Ch. 19, XMT		Check for 3.78MHz.
Input of oscilloscope to TP2 (Q31, G2).	Ch. 19	T401	Adjust for maximum.
Input of oscilloscope to TP3 (junction R416 & C501 & C138).	Ch. 19 DELTA TUNE Midrange	L402	Adjust for maximum.
Input of frequency counter to TP3 (junction R416 & C501 & C138).	Ch. 1 DELTA TUNE Midrange		Check for 16.270MHz. Check all channels. (See Truth Chart for correct frequencies).
	Ch. 1, XMT		Check for 16.725MHz. Check all channels. (See Truth Chart for correct frequencies).
Input of frequency counter to TP4 (IC401, pin 2).	Ch. 1		Check for .910MHz Check all channels. (See Truth Chart for correct 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.

RF Gain Maximum, Delta Tune Midrange, Squelch MINIMUM, NB Off, NL Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to TP5 (Q3, gate) 455kHz, 1000Hz @ 30% modulation.	Ch. 19	T105, T104, T103	Adjust for maximum output.
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation.	Ch. 19	T102, T101, L103, L102, L101	Adjust for maximum output. If necessary readjust T103, T104 and T105.
Input of oscilloscope to TP6 (IC202, pin 2). Output of signal generator thru .01uF to antenna jack. 23.5MHz, no modulation.	Ch. 19 NB On	L201, L202, T201	Adjust for maximum.

RECEIVER ADJUSTMENTS

Connect an AC VTVM or AF wattmeter across speaker voice coil.
Adjust volume control to obtain a suitable indication.
RF Gain Maximum, Delta Tune Midrange, NB Off, NL Off.

TEST EQUIPMENT	TRANSCEIVER	ADJUST	REMARKS
Output of signal generator thru .01uF to antenna jack. 27.185MHz, 1000Hz @ 30% modulation. Output 2,000uV.	Ch. 19 Squelch Maximum	VR301	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 Squelch MINIMUM	VR102	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	T501, T502, L501, T503, L503, L505	Adjust for maximum.
	Ch. 19	L505	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 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	VR1, VR2	MIC GAIN Set VR2 to midrange. Adjust VR1 for 100% modulation maximum. If necessary readjust VR2 for 100% modulation maximum.
Connect an RF wattmeter and 50-ohm 25-watt dummy load to antenna connector	Ch. 19	VR501	RFO METER Adjust so that RFO meter agrees with RF wattmeter.

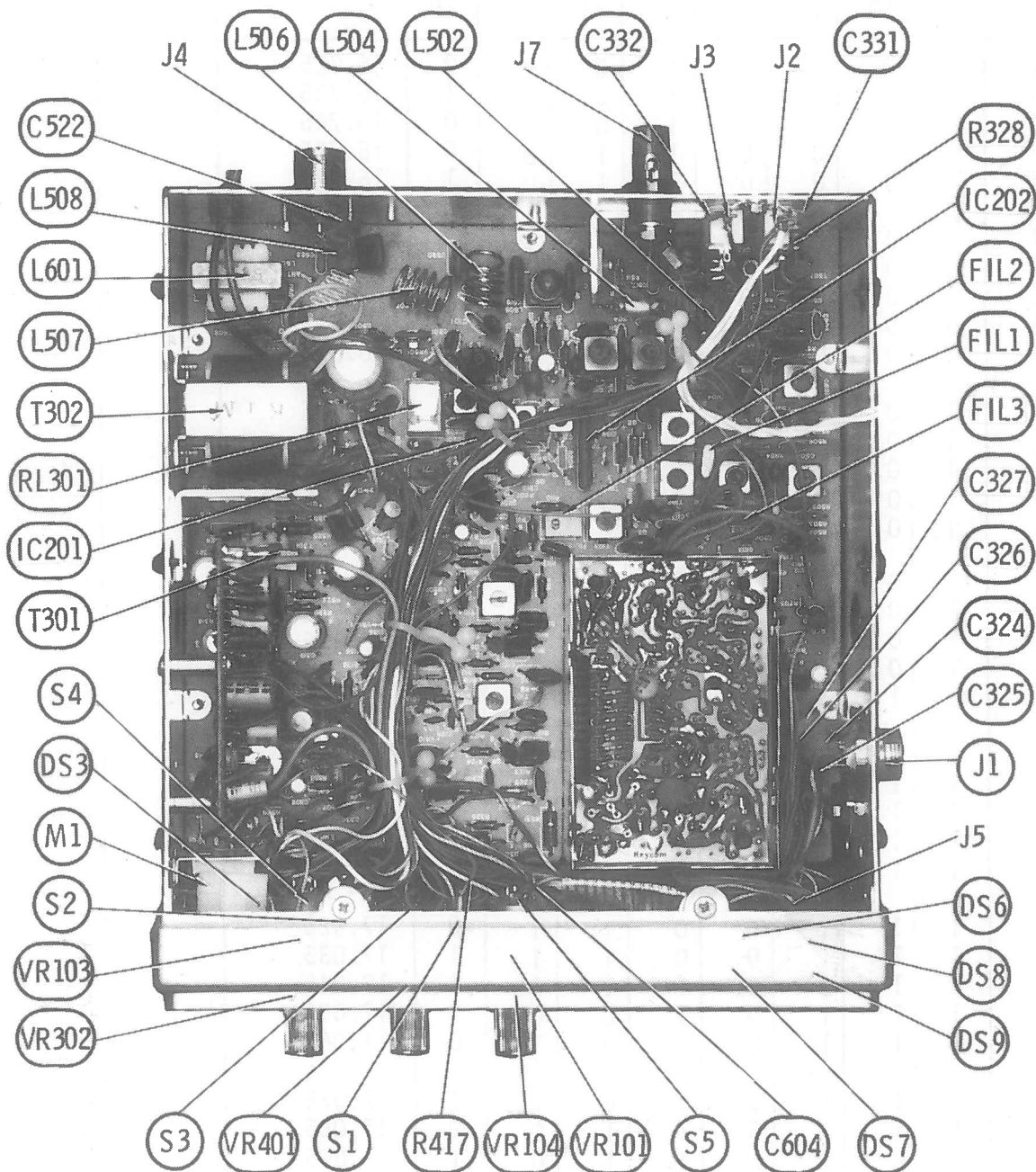
TRUTH CHART

C H A N N E L	1 = 5.50 Volts 0 = 0 Volts IC401 PROGRAM DIVIDER REC									REC SYNTHESIZER OUTPUT IN MHz AT TP3	DIVIDER INPUT IN MHz AT TP4	
	PINS											
	17	9	10	11	12	13	14	15	16			
1	0	0	1	0	1	1	0	1	1	16.270	.910	
2	0	0	1	0	1	1	1	0	0	16.280	.920	
3	0	0	1	0	1	1	1	0	1	16.290	.930	
4	0	0	1	0	1	1	1	1	1	16.310	.950	
5	0	0	1	1	0	0	0	0	0	16.320	.960	
6	0	0	1	1	0	0	0	0	1	16.330	.970	
7	0	0	1	1	0	0	0	1	0	16.340	.980	
8	0	0	1	1	0	0	1	0	0	16.360	1.000	
9	0	0	1	1	0	0	1	0	1	16.370	1.010	
10	0	0	1	1	0	0	1	1	0	16.380	1.020	
11	0	0	1	1	0	0	1	1	1	16.390	1.030	
12	0	0	1	1	0	1	0	0	1	16.410	1.050	
13	0	0	1	1	0	1	0	1	0	16.420	1.060	
14	0	0	1	1	0	1	0	1	1	16.430	1.070	
15	0	0	1	1	0	1	1	0	0	16.440	1.080	
16	0	0	1	1	0	1	1	1	0	16.460	1.100	
17	0	0	1	1	0	1	1	1	1	16.470	1.110	
18	0	0	1	1	1	0	0	0	0	16.480	1.120	
19	0	0	1	1	1	0	0	0	1	16.490	1.130	
20	0	0	1	1	1	0	0	1	1	16.510	1.150	
21	0	0	1	1	1	0	1	0	0	16.520	1.160	
22	0	0	1	1	1	0	1	0	1	16.530	1.170	
23	0	0	1	1	1	1	0	0	0	16.560	1.200	
24	0	0	1	1	1	0	1	1	0	16.540	1.180	
25	0	0	1	1	1	0	1	1	1	16.550	1.190	
26	0	0	1	1	1	1	0	0	1	16.570	1.210	
27	0	0	1	1	1	1	0	1	0	16.580	1.220	
28	0	0	1	1	1	1	0	1	1	16.590	1.230	
29	0	0	1	1	1	1	1	0	0	16.600	1.240	
30	0	0	1	1	1	1	1	0	1	16.610	1.250	
31	0	0	1	1	1	1	1	1	0	16.620	1.260	
32	0	0	1	1	1	1	1	1	1	16.630	1.270	
33	0	1	0	0	0	0	0	0	0	16.640	1.280	
34	0	1	0	0	0	0	0	0	1	16.650	1.290	
35	0	1	0	0	0	0	0	1	0	16.660	1.300	
36	0	1	0	0	0	0	0	1	1	16.670	1.310	
37	0	1	0	0	0	0	1	0	0	16.680	1.320	
38	0	1	0	0	0	0	1	0	1	16.690	1.330	
39	0	1	0	0	0	0	1	1	0	16.700	1.340	
40	0	1	0	0	0	0	1	1	1	16.710	1.350	

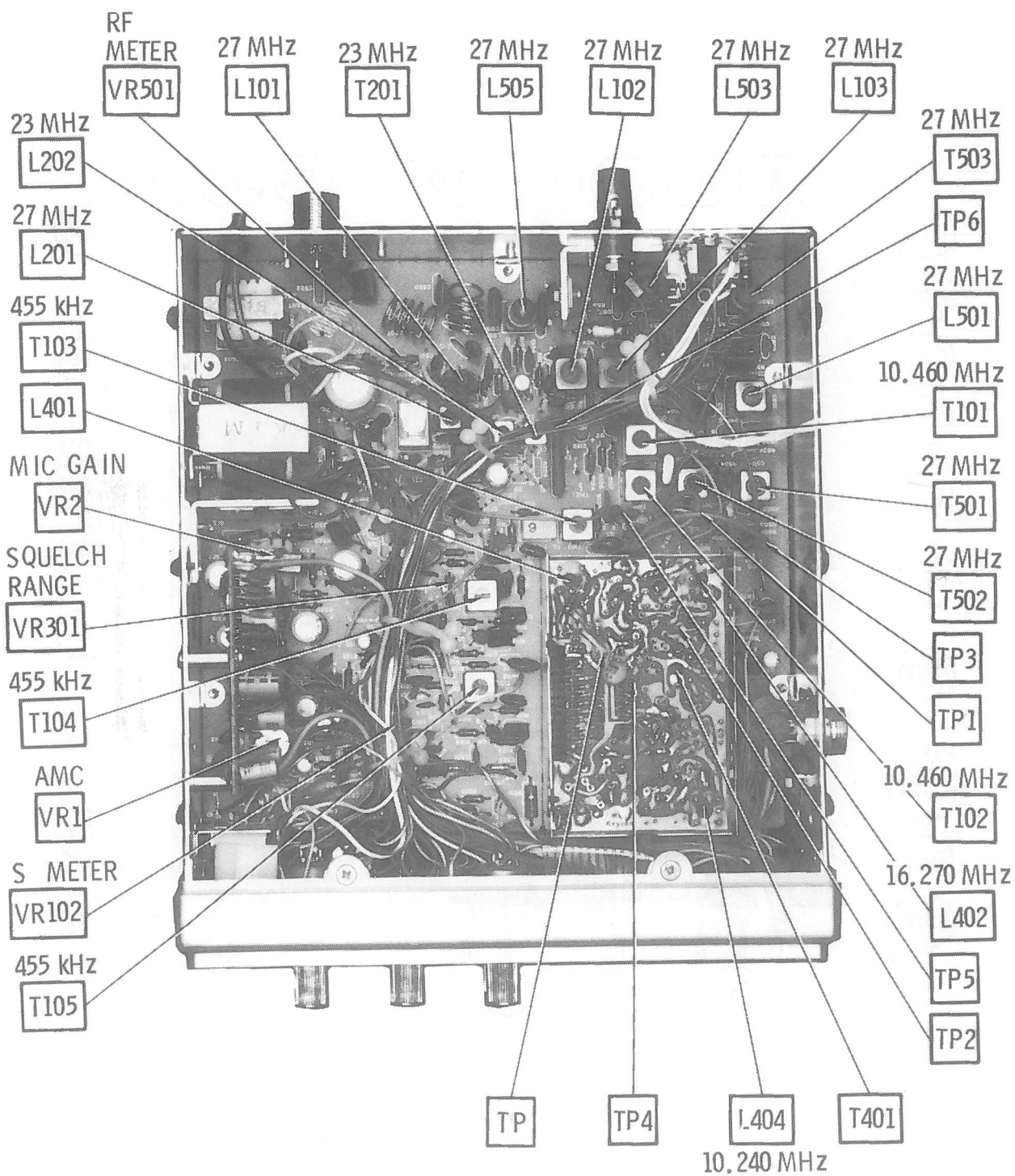
TRUTH CHART

C H A N N E L	1 = 5.50 Volts 0 = 0 Volts IC401 PROGRAM DIVIDER XMT									XMT SYNTHESIZER OUTPUT IN MHz AT TP3		
	PINS											
	17	9	10	11	12	13	14	15	16			
1	1	1	0	0	0	1	0	0	0	16.725		
2	1	1	0	0	0	1	0	0	1	16.735		
3	1	1	0	0	0	1	0	1	0	16.745		
4	1	1	0	0	0	1	1	0	0	16.765		
5	1	1	0	0	0	1	1	0	1	16.775		
6	1	1	0	0	0	1	1	1	0	16.785		
7	1	1	0	0	0	1	1	1	1	16.795		
8	1	1	0	0	0	0	0	0	1	16.815		
9	1	1	0	0	1	0	0	1	0	16.825		
10	1	1	0	0	1	0	0	1	1	16.835		
11	1	1	0	0	1	0	1	0	0	16.845		
12	1	1	0	0	1	0	1	1	0	16.865		
13	1	1	0	0	1	0	1	1	1	16.875		
14	1	1	0	0	1	1	0	0	0	16.885		
15	1	1	0	0	1	1	0	0	1	16.895		
16	1	1	0	0	1	1	0	1	1	16.915		
17	1	1	0	0	1	1	1	0	0	16.925		
18	1	1	0	0	1	1	1	0	1	16.935		
19	1	1	0	0	1	1	1	1	0	16.945		
20	1	1	1	1	0	0	0	0	0	16.965		
21	1	1	1	1	0	0	0	0	1	16.975		
22	1	1	1	1	0	0	0	1	0	16.985		
23	1	1	1	1	0	0	1	0	1	17.015		
24	1	1	1	1	0	0	0	1	1	16.995		
25	1	1	1	1	0	0	1	0	0	17.005		
26	1	1	1	1	0	0	1	1	0	17.025		
27	1	1	1	1	0	0	1	1	1	17.035		
28	1	1	1	1	0	1	0	0	0	17.045		
29	1	1	1	1	0	1	0	0	1	17.055		
30	1	1	1	1	0	1	0	1	0	17.065		
31	1	1	1	1	0	1	0	1	1	17.075		
32	1	1	1	1	0	1	1	0	0	17.085		
33	1	1	1	1	0	1	1	0	1	17.095		
34	1	1	1	1	0	1	1	1	0	17.105		
35	1	1	1	1	0	1	1	1	1	17.115		
36	1	1	1	1	1	0	0	0	0	17.125		
37	1	1	1	1	1	0	0	0	1	17.135		
38	1	1	1	1	1	0	0	1	0	17.145		
39	1	1	1	1	1	0	0	0	1	17.155		
40	1	1	1	1	1	0	1	0	0	17.165		

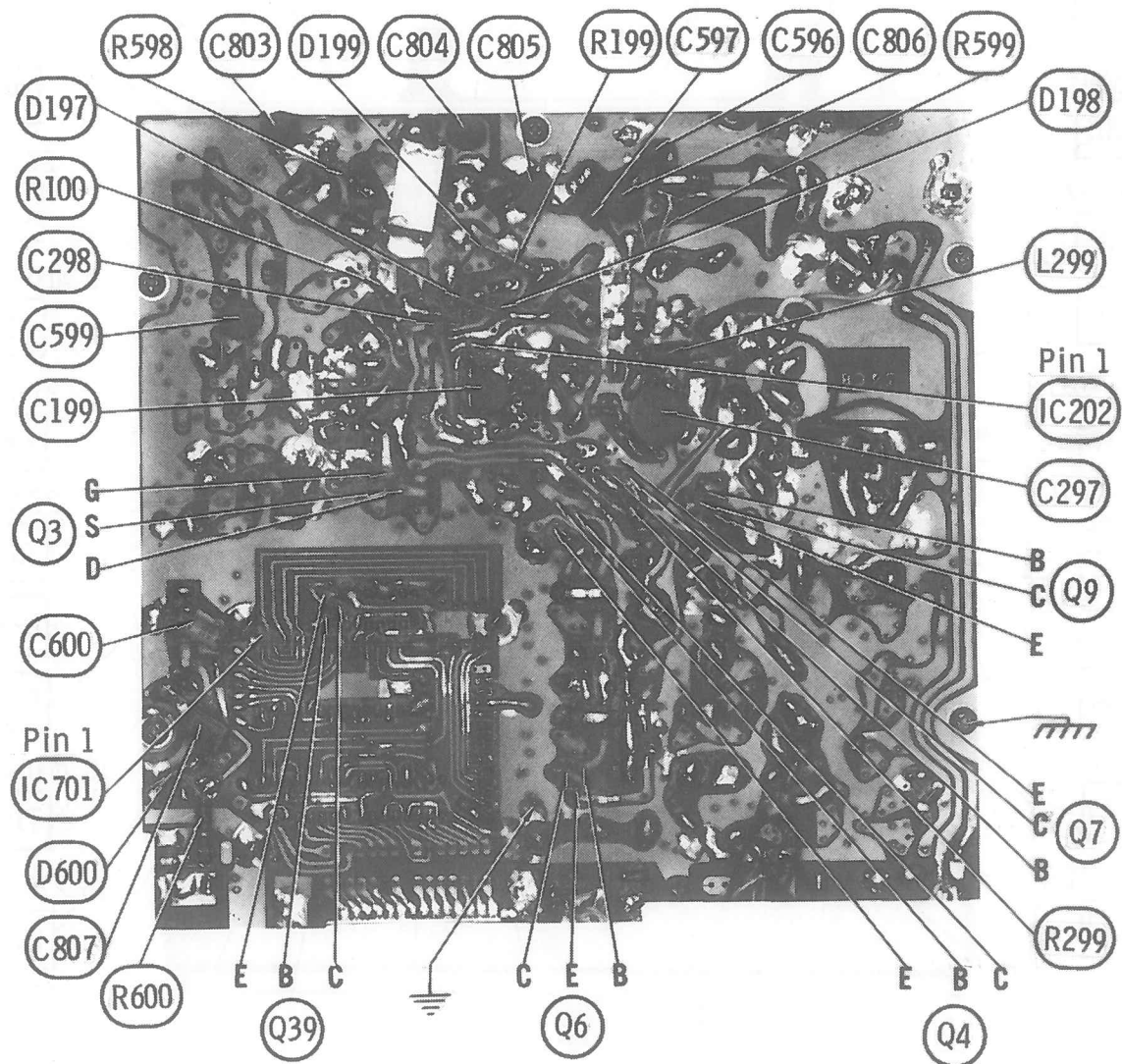
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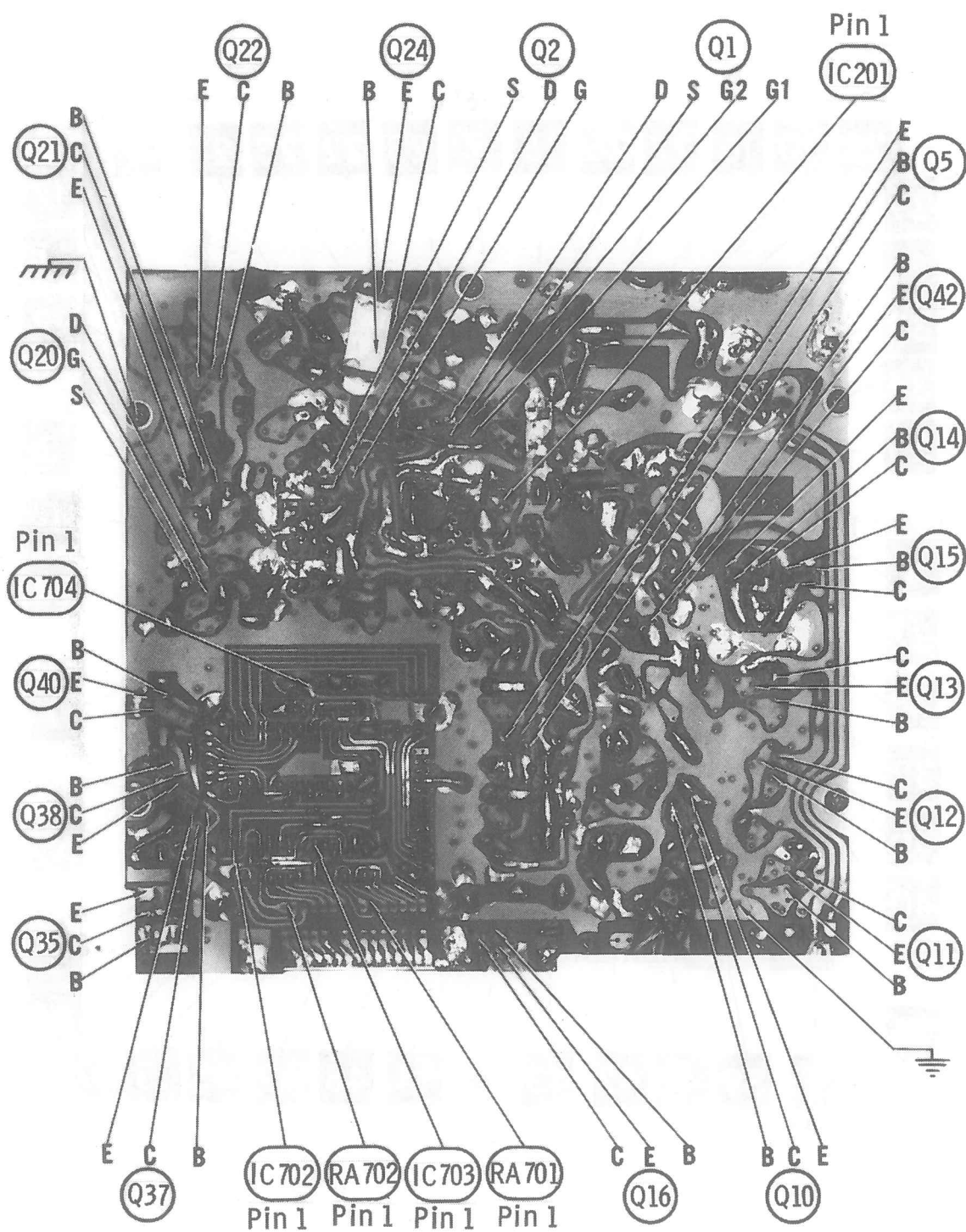
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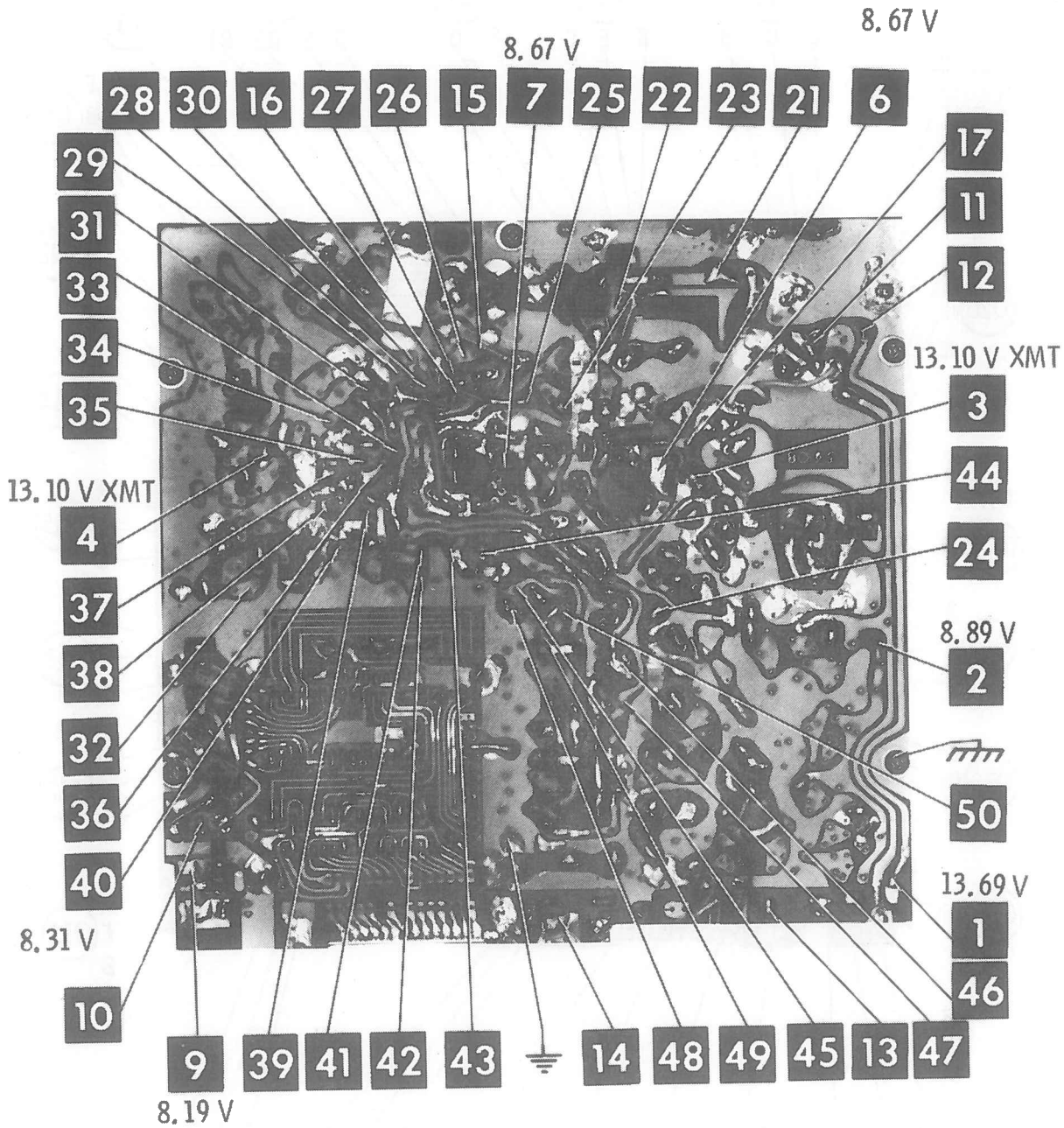
CHASSIS-BOTTOM



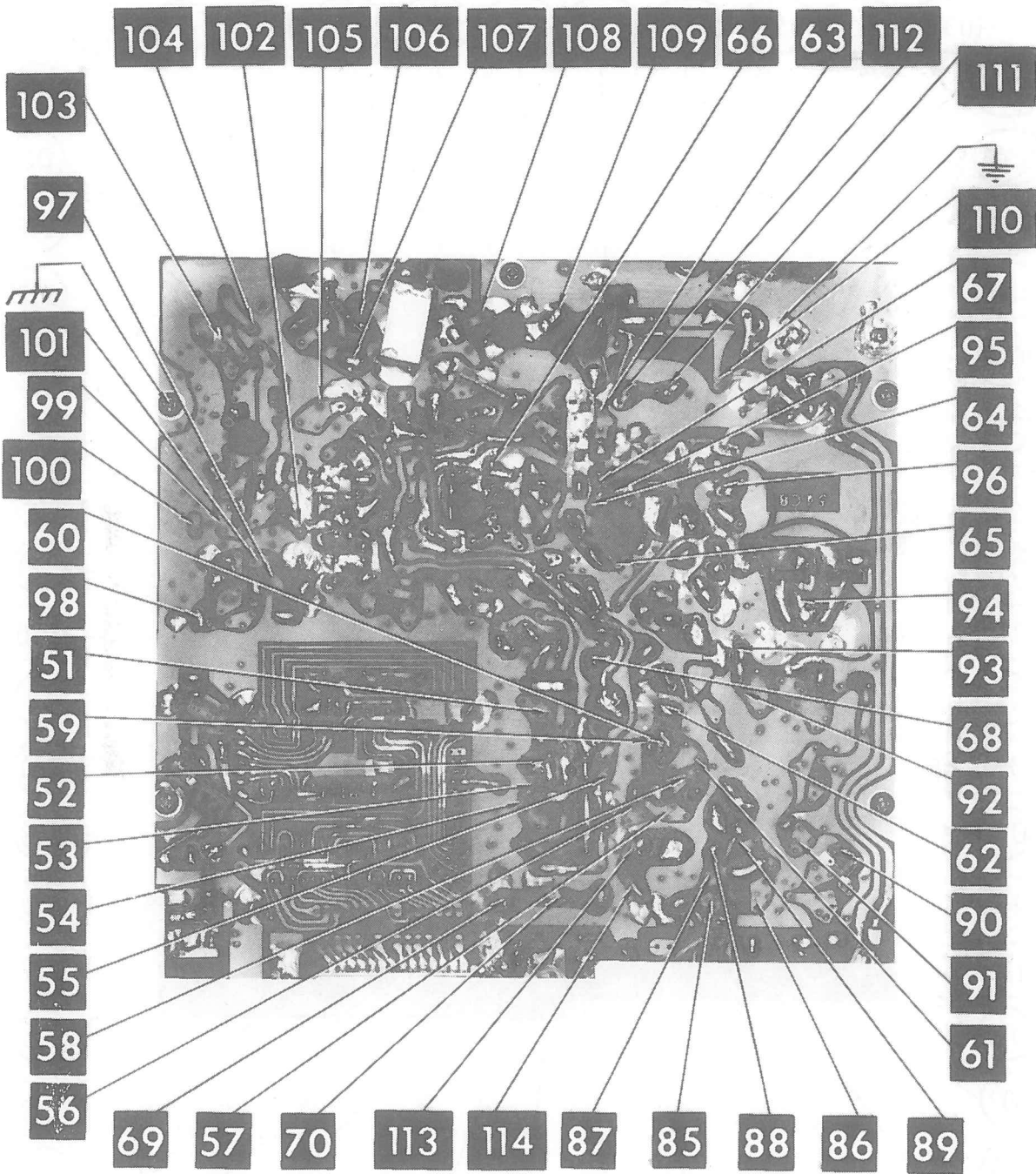
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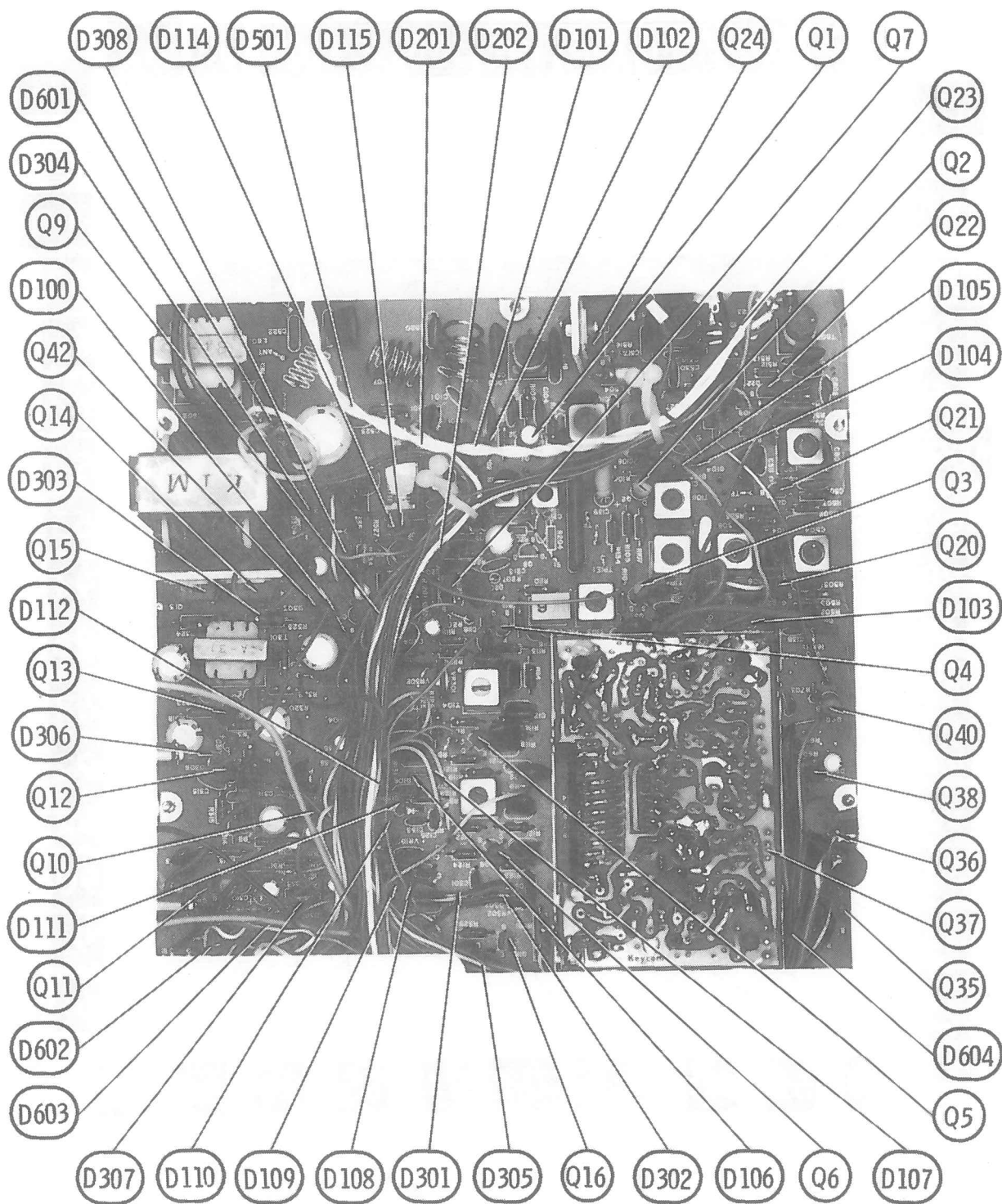
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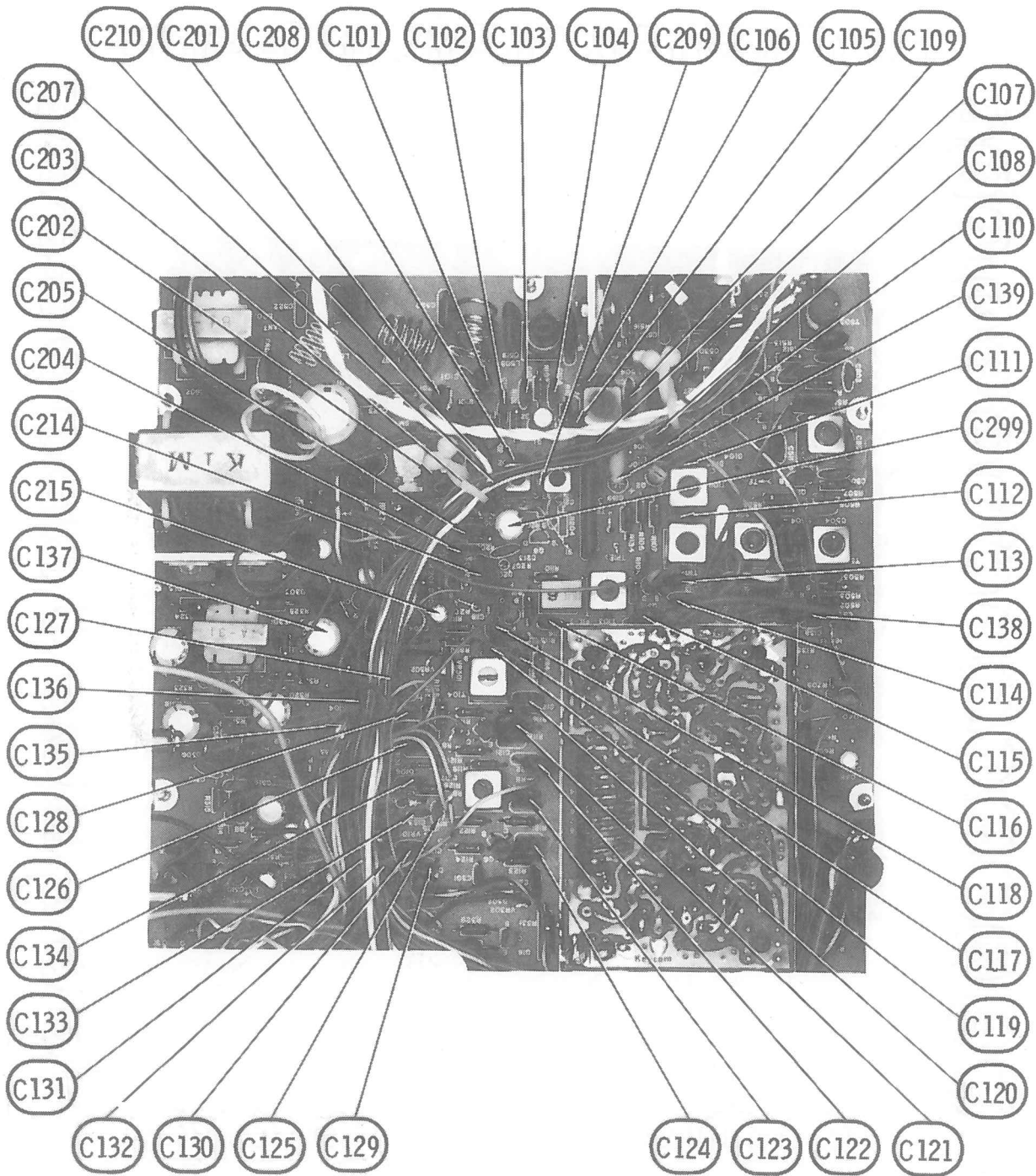
MAIN BOARD



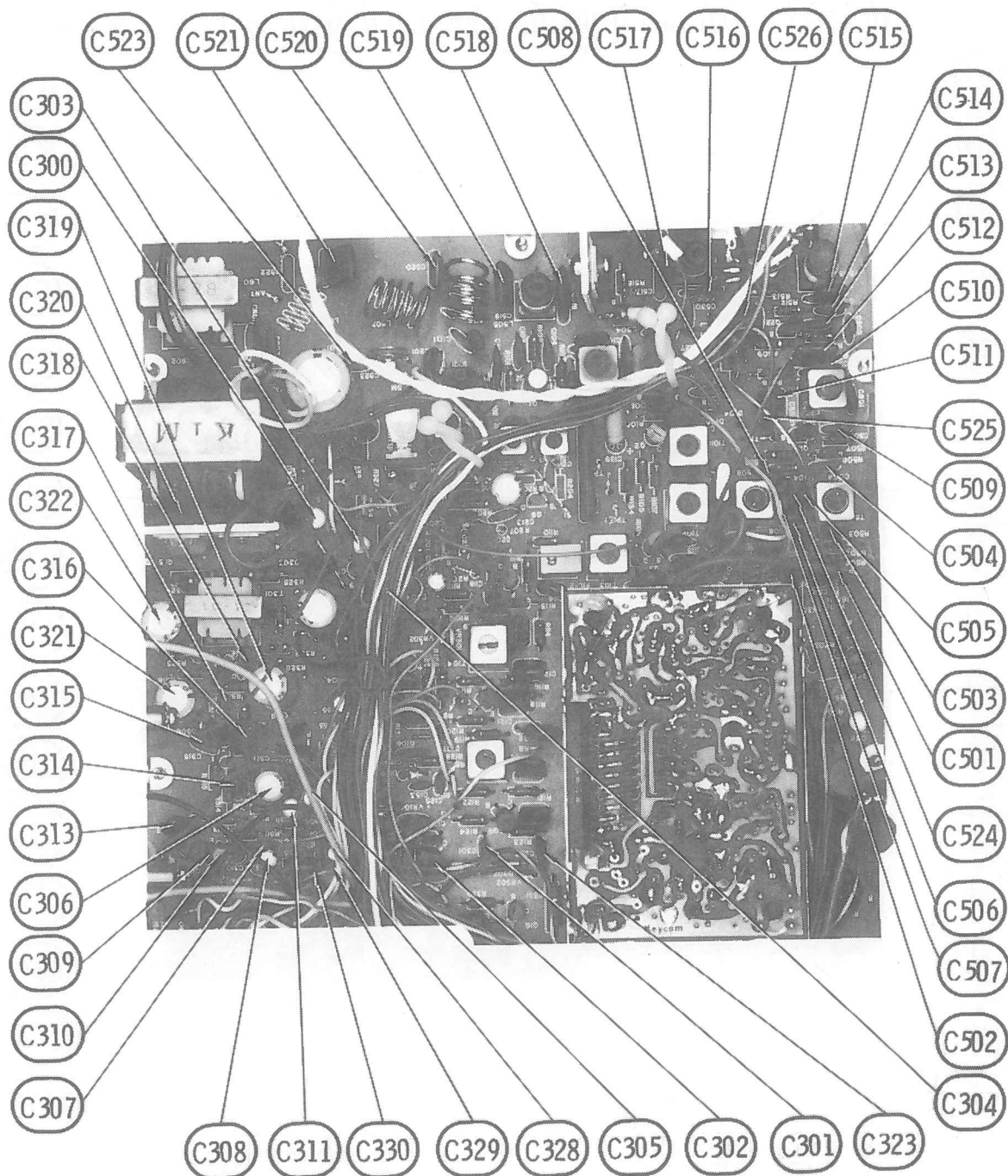
MAIN BOARD



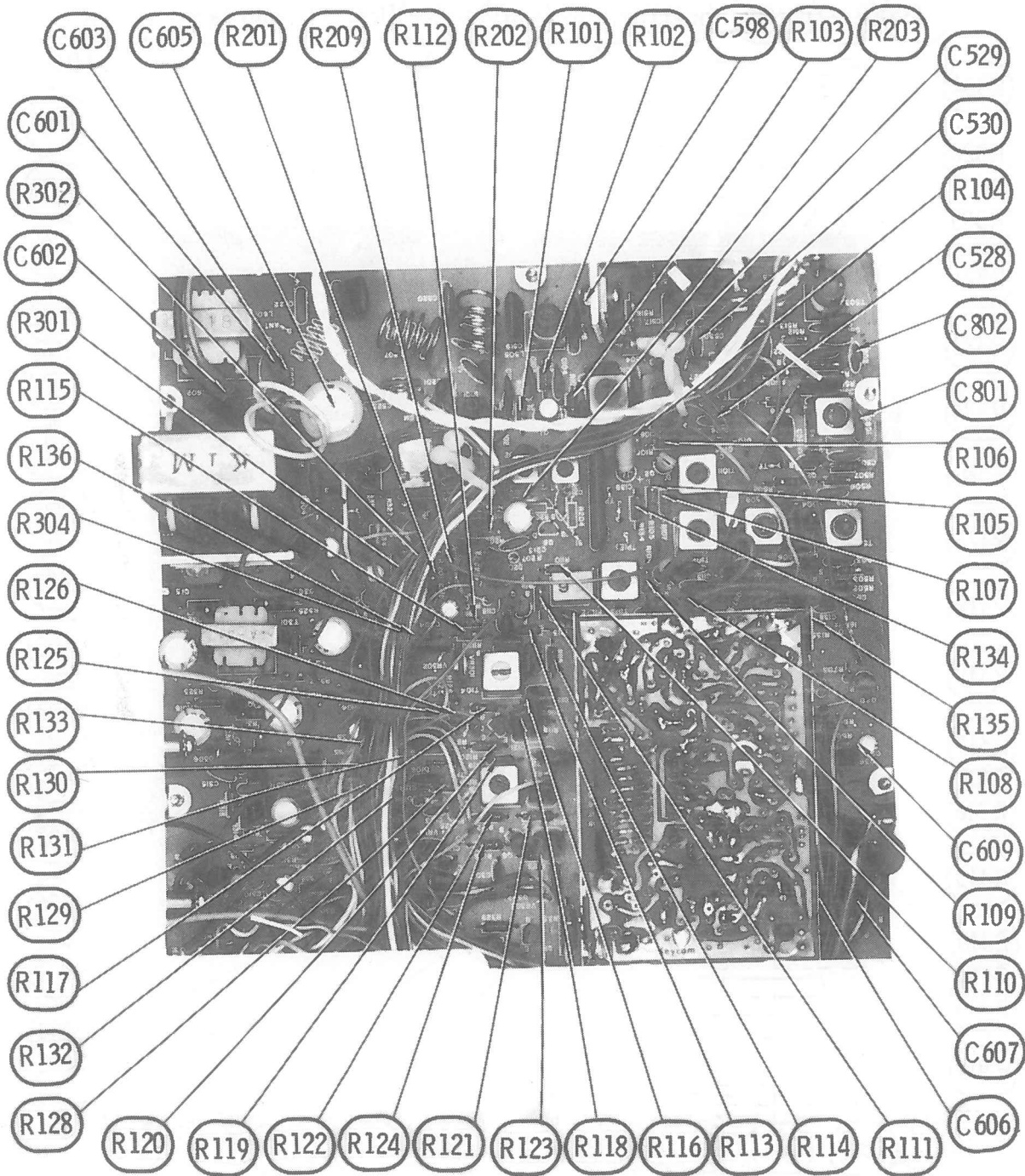
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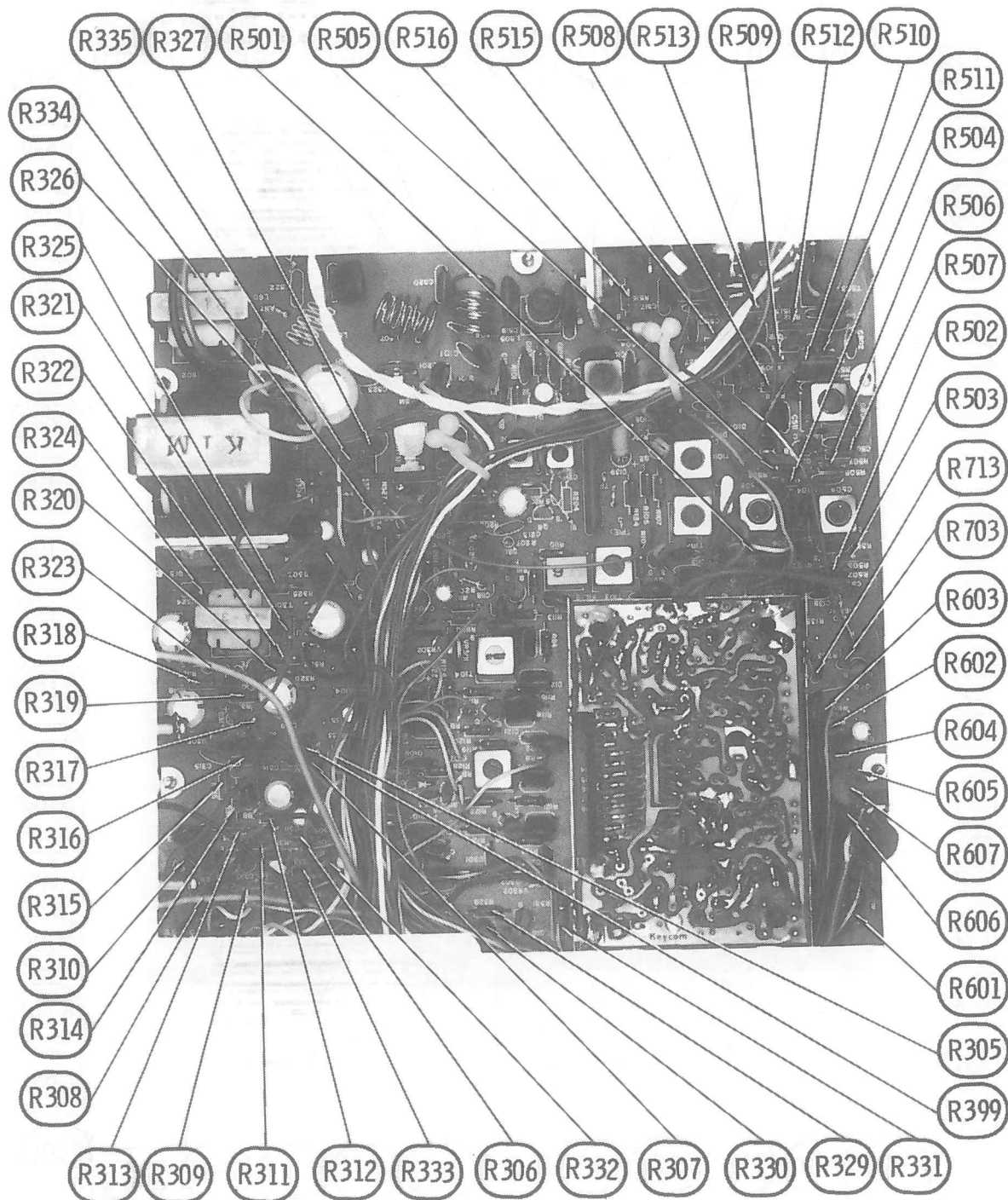
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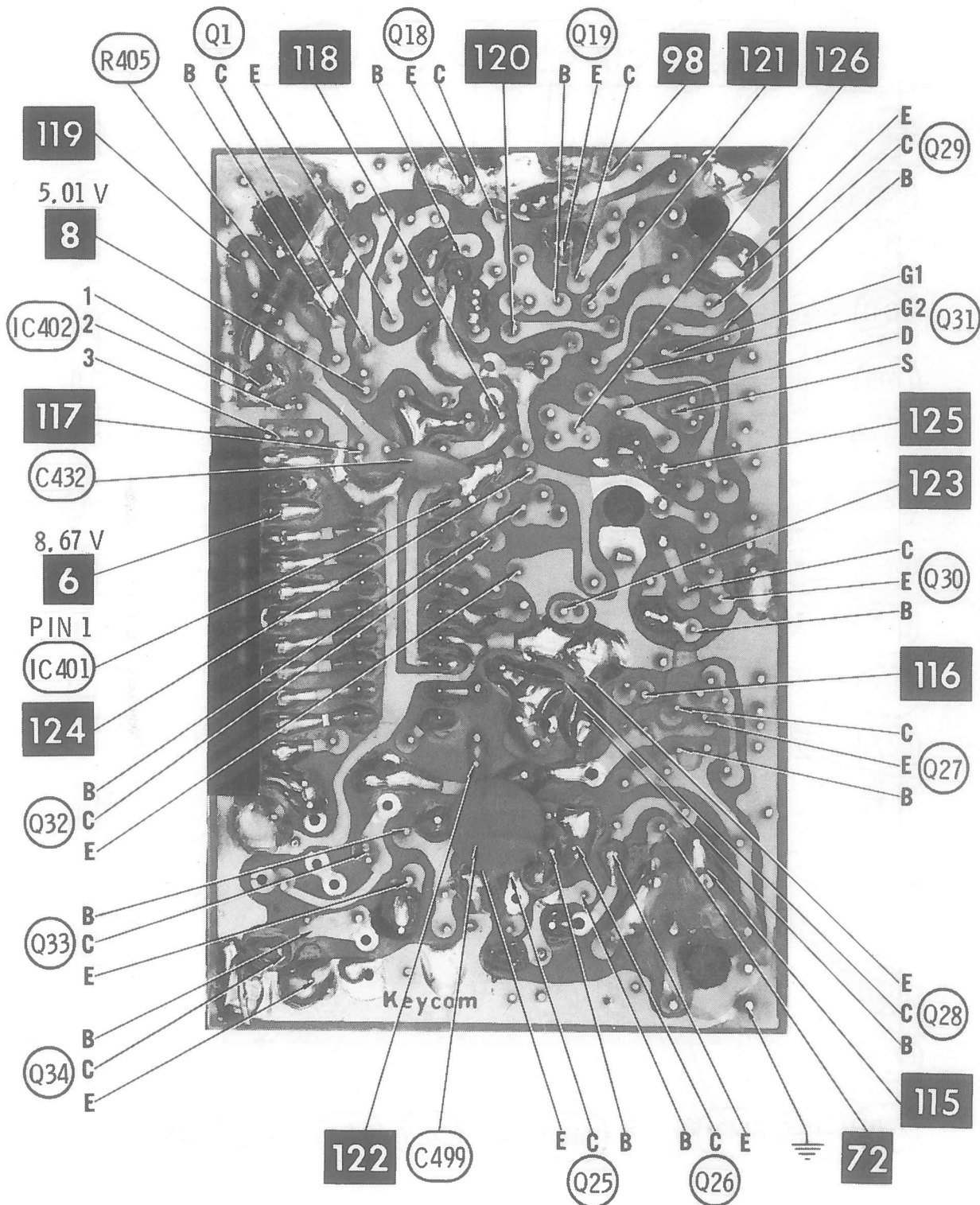
MAIN BOARD



MAIN BOARD

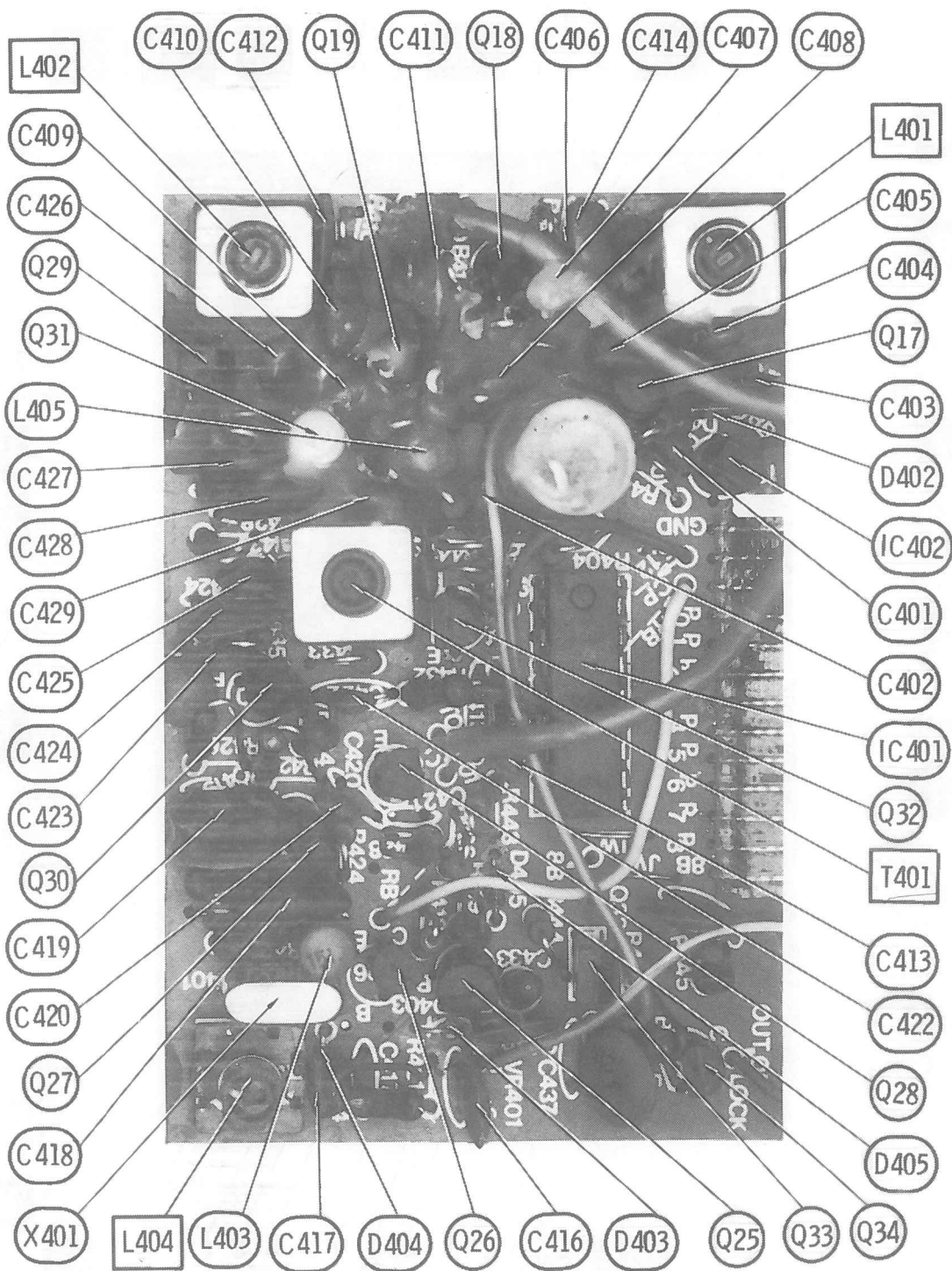


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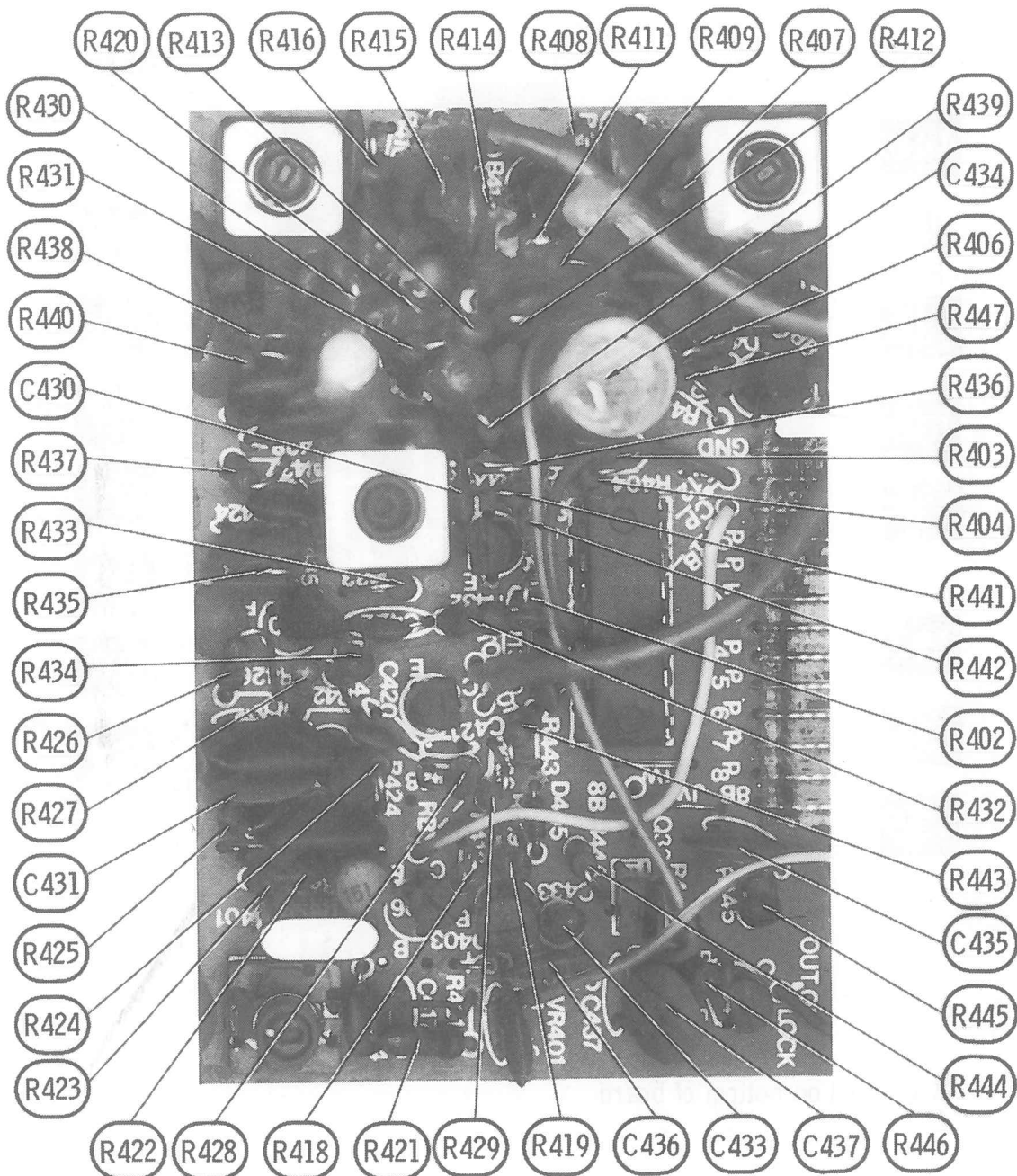


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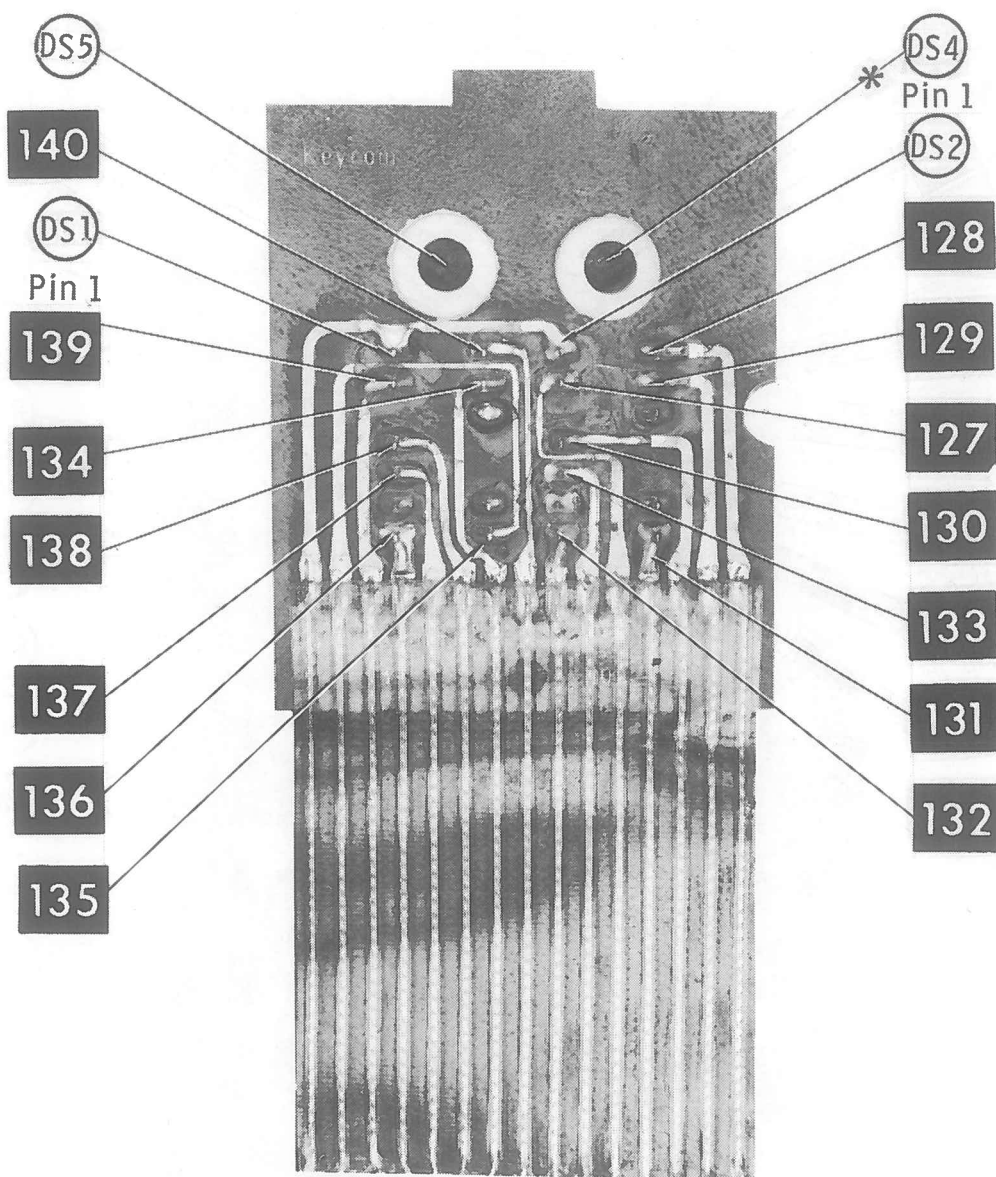
PLL BOARD



PLL BOARD

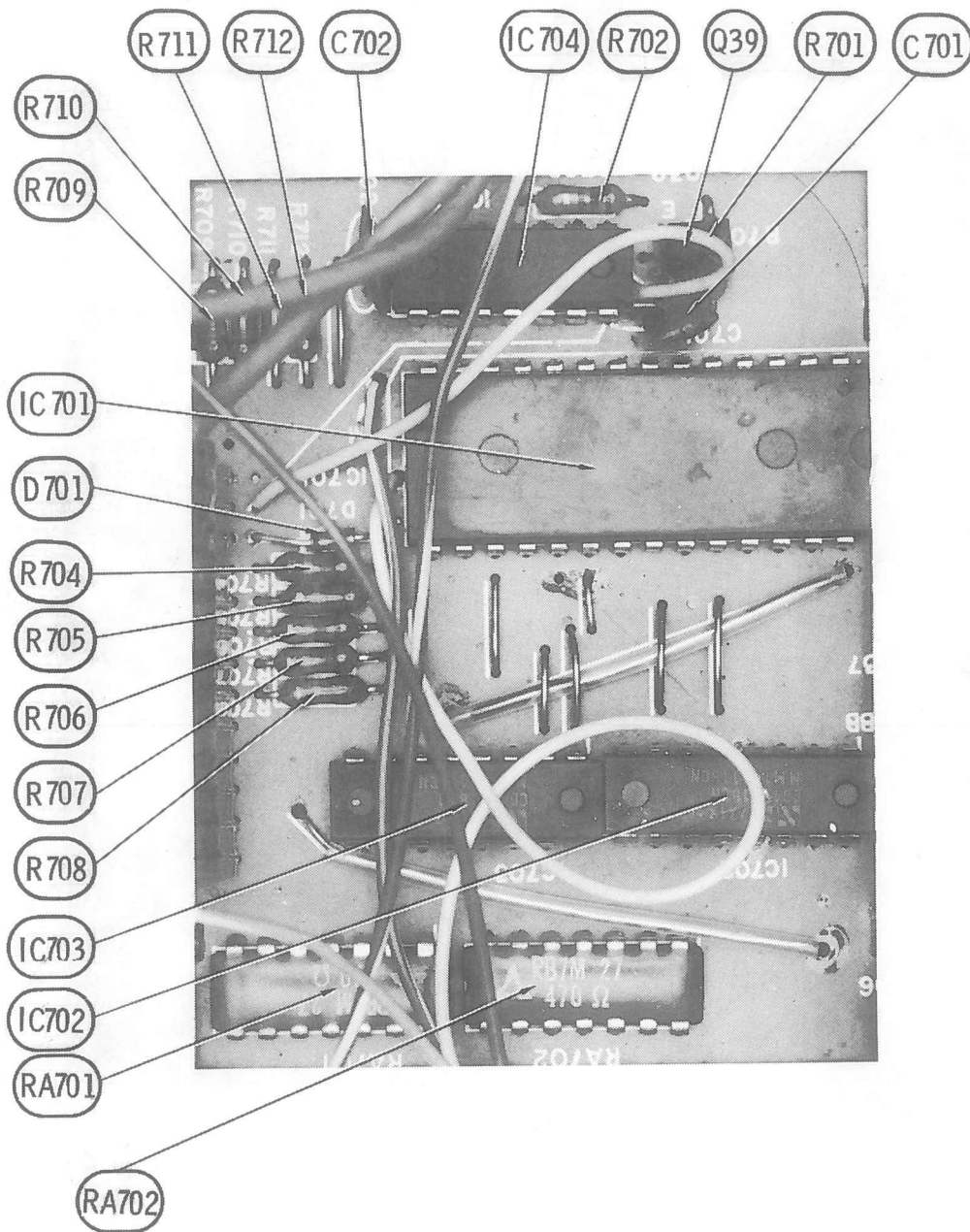


PLL BOARD

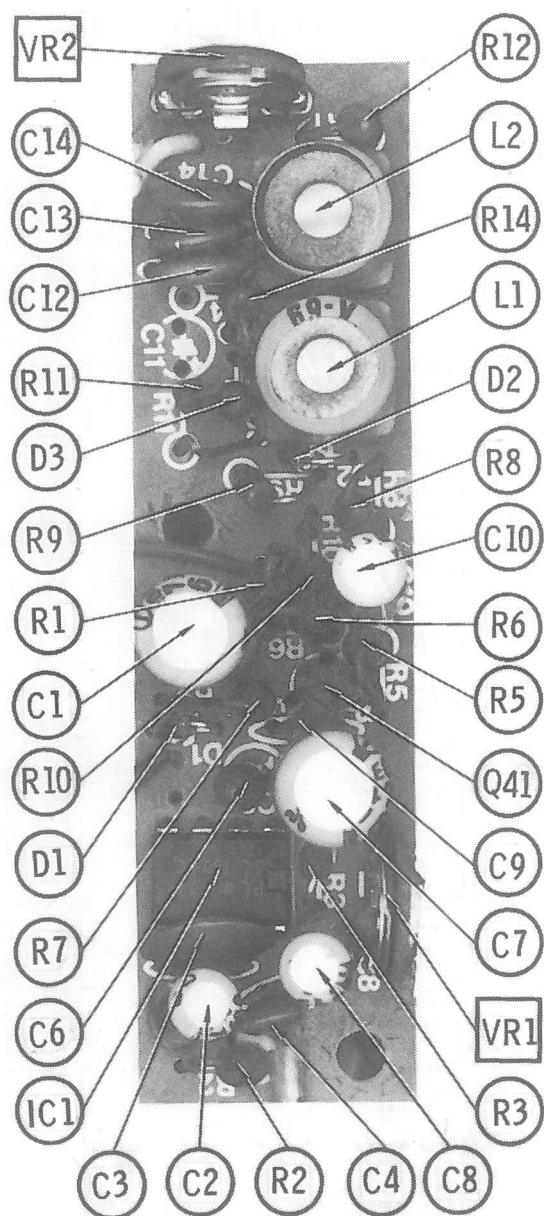
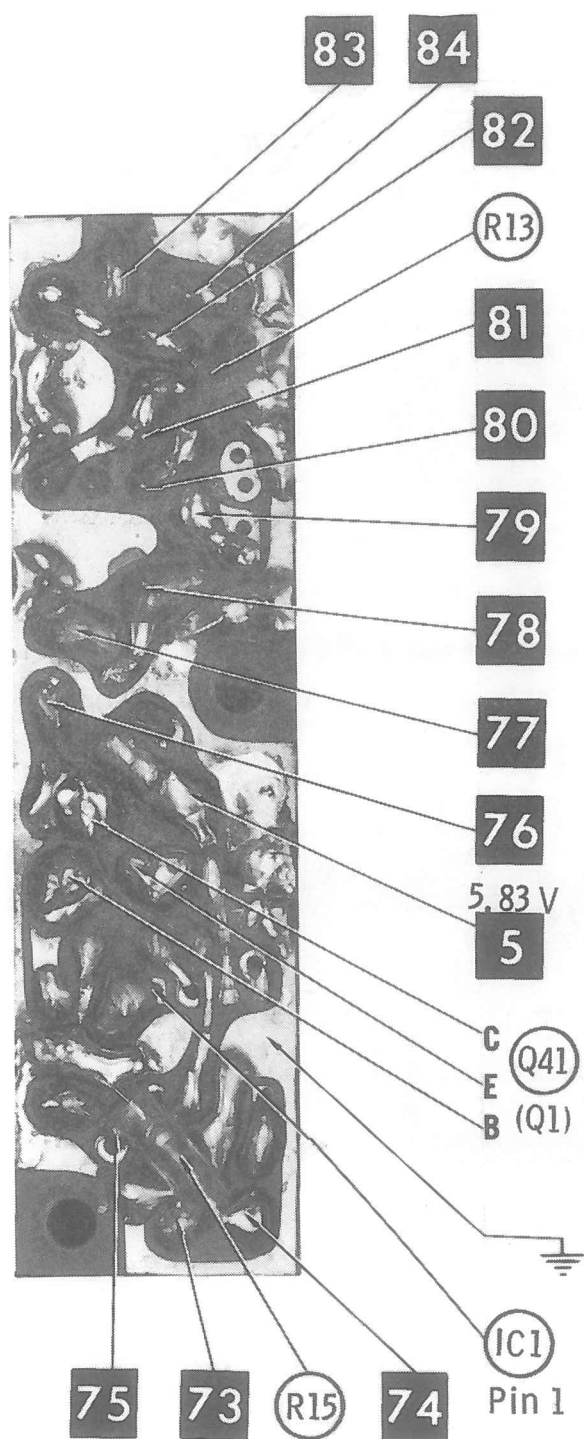


* Located on bottom of board

CH. READOUT BOARD



CH. SELECTOR BOARD



MIC PREAMP BOARD

KEYBOARD FUNCTIONS

The KEY/COM 1000 has two modes of operation; a function mode, and a numeric entry mode. The functions provided by the keyboard are:

1. (white keys) Channel Stepping: Keys **0↑** **1↓** **2↓** **3↑**
2. (green keys) Alternate Priority Channel Selection: Key **4p** , **6a** .
3. (yellow keys) Memory and Scan Functions: Keys **5s** , **7n** , **8m** .
4. (red key) Channel 9 Direct Access: Key **9e**
5. Function/Numeric Entry Conversion: Key **CHANNEL** .

The keyboard is normally in the function mode. To place the keyboard in the numeric entry mode, the **CHANNEL** key must first be depressed.

CHANNEL SELECTION

There are two methods of normal channel selection; 1. Direct channel entry. 2. Stepping.

DIRECT CHANNEL ENTRY

To enter channels directly, the **CHANNEL** key must first be depressed. *When this key is depressed, the microprocessor in the unit will wait 2 to 3 seconds for channel numbers to be entered. If a channel number is not entered in 2 to 3 seconds, the unit will revert back to the function mode and the channel window will display the channel that was displayed before depressing the **CHANNEL** key.* If a numeral key is depressed within 2 to 3 seconds after the **CHANNEL** key is depressed, that number will be displayed in the channel display and the unit will wait another 2 to 3 seconds for additional numbers. After the desired channel numbers have been entered and are displayed on the channel display, one can wait 2 to 3 seconds for the microprocessor to latch the channel or one can depress the **CHANNEL** key again. This immediately latches the display channel into the microprocessor.

Example: Depress **CHANNEL** **1↓** **4p** **CHANNEL** Channel 14 will now appear in channel display window and the unit will operate on channel 14.

If more than two numbers are entered into the unit, the channel display will display the last two and eliminate any numbers before that. If an illegal channel is entered, the microprocessor will revert to channel 19.

Example: Depress **CHANNEL** **1↓** **2↓** **3↑** Channel 23 will appear in channel display. Depress **CHANNEL** **2↓** **4p** **5s** . Channel 45 will appear in channel display then channel 19 because channel 45 is an illegal channel.

CHANNEL STEPPING

It is possible to step up or down through the channels by using the stepping keys.

- 0↑** — rapid step up
- 1↓** — rapid step down
- 2↓** — slow step down
- 3↑** — slow step up

INSTANT CHANNEL 9 ACCESS

Channel 9 may be accessed instantly by depressing [9e]. Use of the [CHANNEL] bar is not necessary. By depressing the [9e] key, the KEY/COM 1000 will automatically override any other function selected in the unit and automatically revert both transmit and receive to channel 9.

40 CHANNEL SCAN

The KEY/COM 1000 will scan up or down through all 40 channels, stopping whenever the squelch breaks. It can also be directed to scan through a series of up to 10 preselected channels by using the memory capability. In order to use either the 40 channel scan or memory scan feature on the KEY/COM 1000, it is necessary that the SQUELCH control be set at threshold so that background noise is muted.

For normal scan, simply adjust the SQUELCH control to mute background noise and then press [7n]. [5s] The unit will now scan through all channels stopping when the squelch is broken. To specify upward or downward direction in scanning, simply push the appropriate directional key ([0↑], [1↓], [2↓], or [3↑]) before entering [7n] or [5s]. If the direction is not specified, then the unit will scan the direction of the last stepping key pressed or up if the unit was just turned on.

MEMORY SCAN

The KEY/COM 1000 has the capability of storing up to 10 channels in its memory. Once the memory has been programmed for those 10 channels, the unit may be programmed to scan only those channels rather than all 40 channels. The KEY/COM 1000 microprocessor will assign a memory location to each memory entry and the radio will scan through the memory channels in the order in which they were entered. The following procedure should be used in order to program channels into the memory; press the [8m] key once. This will gain access to the memory function and place you in the number one position. If nothing has been previously entered into the memory, the digits 01 will appear in the channel window. To program a channel in the number 1 position, such as channel 12, press [CHANNEL], [1↓], [2↓], [CHANNEL]. Channel 12 has now been entered into the first memory position. To select the number two memory position, simply press the [8m] key again. If nothing has been entered into the number two position, then the digits 00 will appear in the channel window. To enter a channel such as 40 into the number two position, simply press the following keys: [CHANNEL], [4p], [0↑], [CHANNEL]. Channel 40 has now been entered into number two memory position. To access the number three memory position, simply press [8m] key again and the third memory position in the KEY/COM 1000 will be recalled. The above procedure may be used to load up to ten channels into the memory position. It is not necessary that all ten memory positions be filled. You may program the unit for anything between one to ten channels.

To begin scanning the channels placed in the memory, simply adjust the SQUELCH control to mute normal background and then press [8m], [5s] for memory scan. The KEY/COM 1000 will now scan through the channels programmed into the memory until the squelch is broken on an active channel. Should the squelch break, the unit will stop on that channel and you may either monitor the conversation or transmit and receive to the party on that channel. Once the conversation has ceased, scanning may again be initiated by pressing the [5s] button. Should you wish to stop memory scan, simply press the [8m] button once. This will keep you in the memory function of the KEY/COM 1000, however, it will stop the memory scanning function.

To manually step through the channels in the memory in order to review them, simply depress the **[8m]** key repeatedly. This will, one at a time, recall the memory positions and display in the channel window the channel number programmed into that memory position or the digits 00 indicating no channel was programmed in that slot. Should you wish to revise a channel in the memory sequence, such as replacing channel 17 for channel 12, simply depress the **[8M]** key repeatedly until the channel 12 appears in the channel window then press **[CHANNEL]** . **[1↓]** . **[7n]** . **[CHANNEL]** . Channel 17 will now be entered into the memory where channel 12 was.

To take the KEY/COM 1000 out of the memory function and return it to normal keyboard operation, simply press **[7n]** or **NORMAL** key. Doing this will leave the memory of the KEY/COM 1000 intact and will return you to normal operation of the unit on the last channel you had selected prior to entering the KEY/COM's memory. *When returning the KEY/COM 1000 from memory operation to normal operation, if the **[7n]** or **NORMAL** key is not depressed, but another key is depressed then the channels entered into the KEY/COM 1000's memory will be disturbed. Always depress the **[7n]** or **NORMAL** key when you wish to leave the memory function of the KEY/COM 1000 and return to normal operation.*

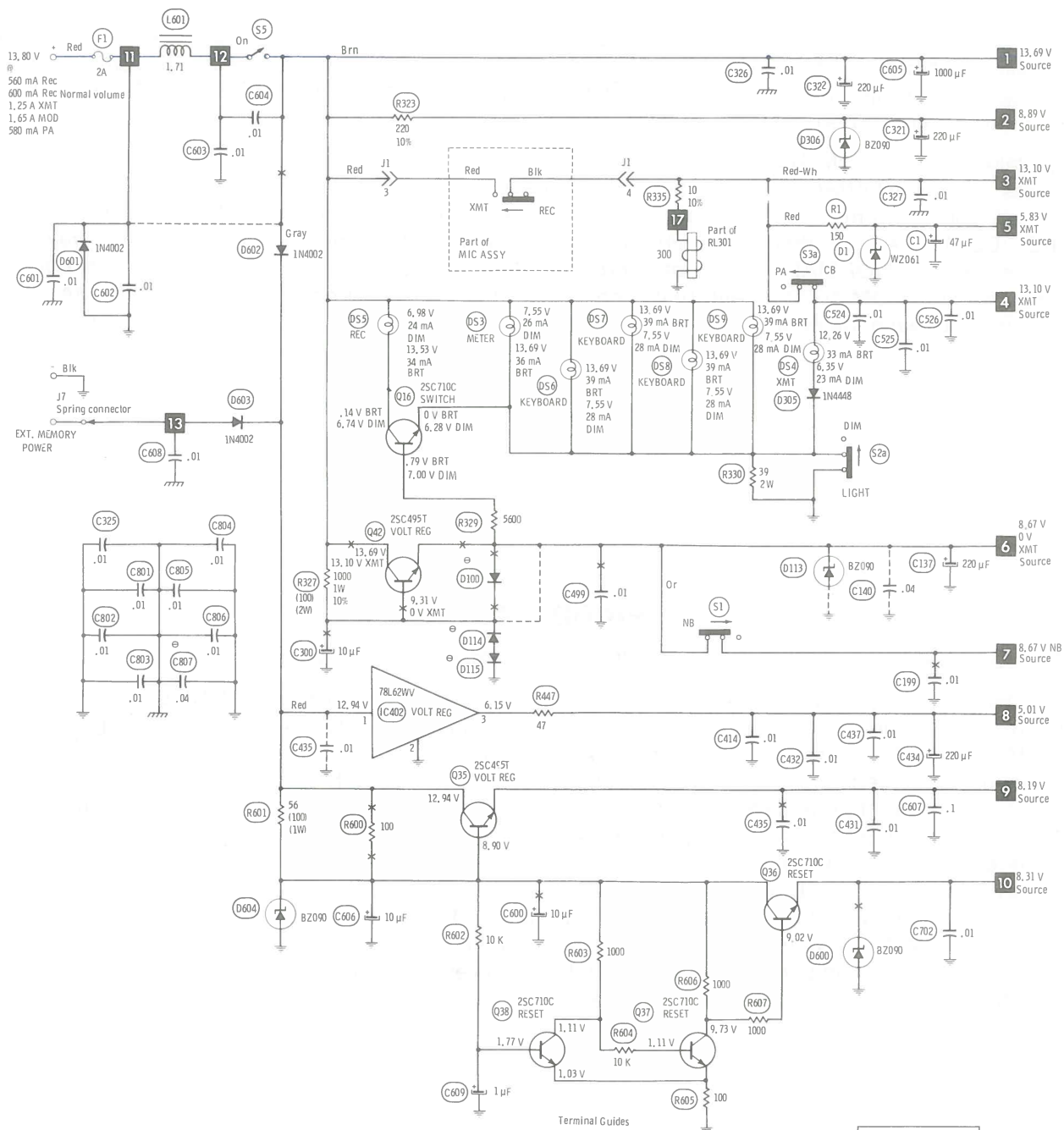
PRIORITY CHANNEL

To use the priority function of the KEY/COM 1000 proceed as follows:

Any two channels may be entered into the Alternate mode of the KEY/COM 1000, either of which may be given a priority status. Direct keyboard enter channel 19 by pressing **[CHANNEL]** . **[1↓]** . **[9e]** . **[CHANNEL]** . Now press the **[6a]** or Alternate button once. Any alternate channel which had been previously selected will now show in the channel window. If none had been selected, then channel 9 will be the alternate channel. You may now enter the second alternate or priority channel such as channel 40 by pressing **[CHANNEL]** . **[4p]** . **[0↑]** . **[CHANNEL]** . Once this is done, simply press the **[6a]** or Alternate channel again and the unit will return to channel 19. In order to make the priority function operable, simply adjust the SQUELCH control to mute background noise and then press the **[4p]** or Priority channel. Momentarily, channel 40 will appear in the channel window and then channel 19. Once every ten seconds the KEY/COM 1000 will shift over to the priority channel (channel 40) and look for any activity. If none is present then the unit will revert to channel 19. However, should a conversation occur on channel 40, then the KEY/COM 1000 will latch onto channel 40 and remain there.

ALTERNATE CHANNEL OPERATION

A secondary function of the Alternate or **[6a]** key in the KEY/COM 1000 is the capability to allow the user to shift back and forth instantaneously between any two preselected channels. Let's assume that contact is established with a party on a local calling channel (channel 11) and that you wish to find a clear channel, simply press the **[6a]** or Alternate key once and then, using the stepping channel select method, step through the channels until a clear channel has been found (channel 40). Channel 40 will now be in the KEY/COM 1000's Alternate memory position. Pressing the **[6a]** or Alternate key again will automatically return the unit to channel 11. Once on channel 11, tell your calling party that channel 40 is clear then press the **[6a]** or Alternate key and you will instantaneously return to channel 40.



— Circuitry not used in some versions

--- Circuitry used in some versions

⊕ See parts list

⊗ Nominal value

⊕ Ground

⊕ Chassis

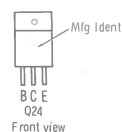
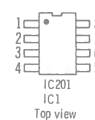
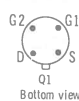
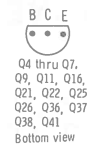
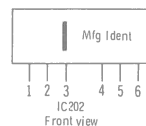
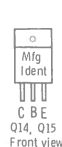
▽ Common tie point

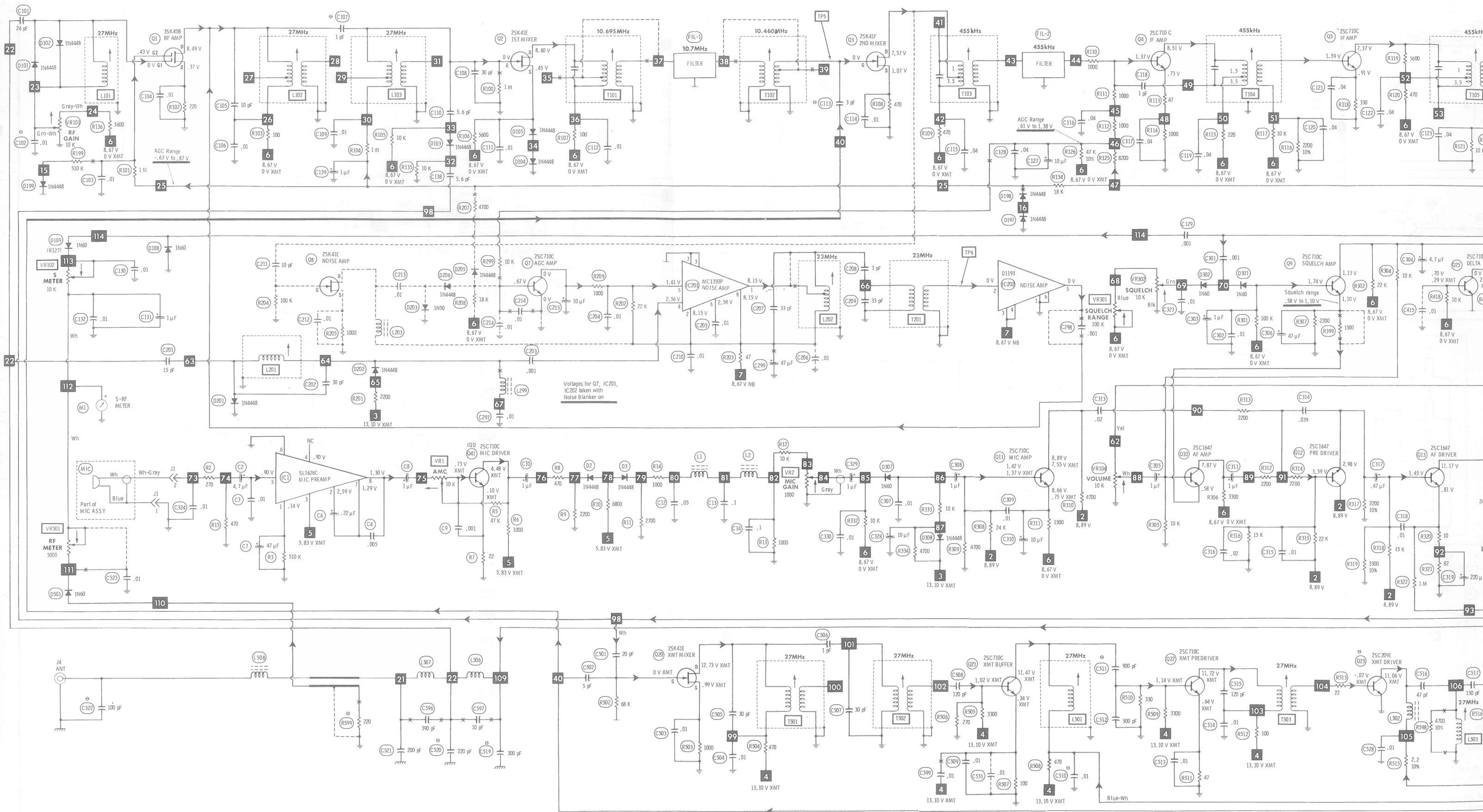
Measurements made in Channel 1 with switching as shown unless noted. Item numbers in rectangles appear in the alignment/adjustment instructions. Supply voltage maintained as shown at input. Voltages measured with digital meter, no signal. Controls adjusted for normal operation. Arrow at control indicates 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.

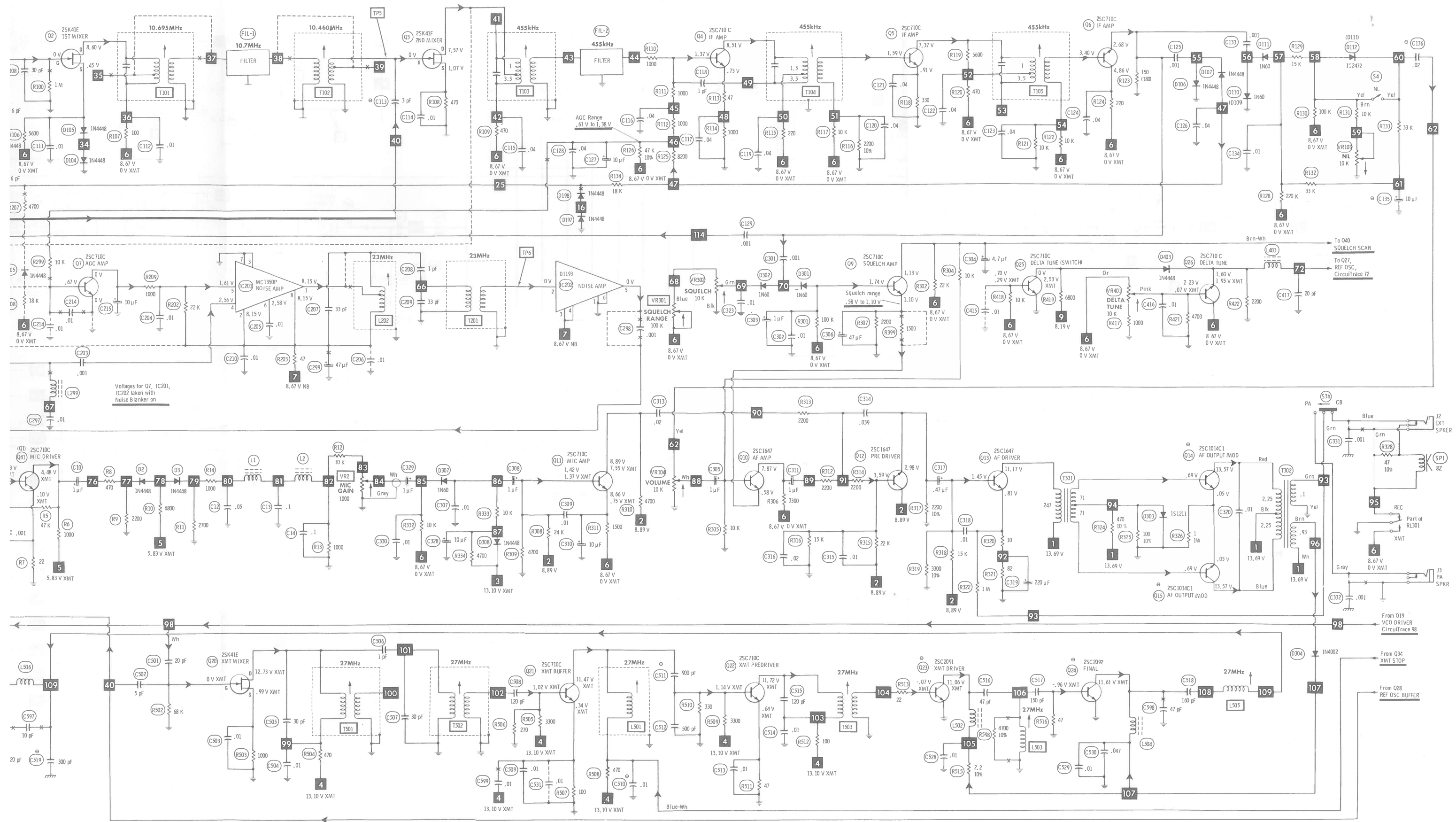
A PHOTOFAC STANDARD NOTATION SCHEMATIC

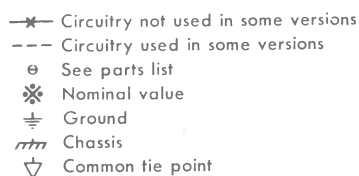
WITH **CIRCUITRACE[®]**

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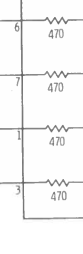
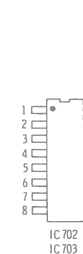
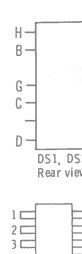
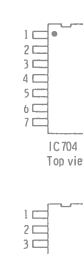
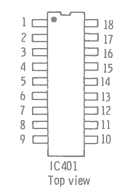
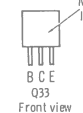
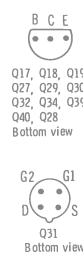


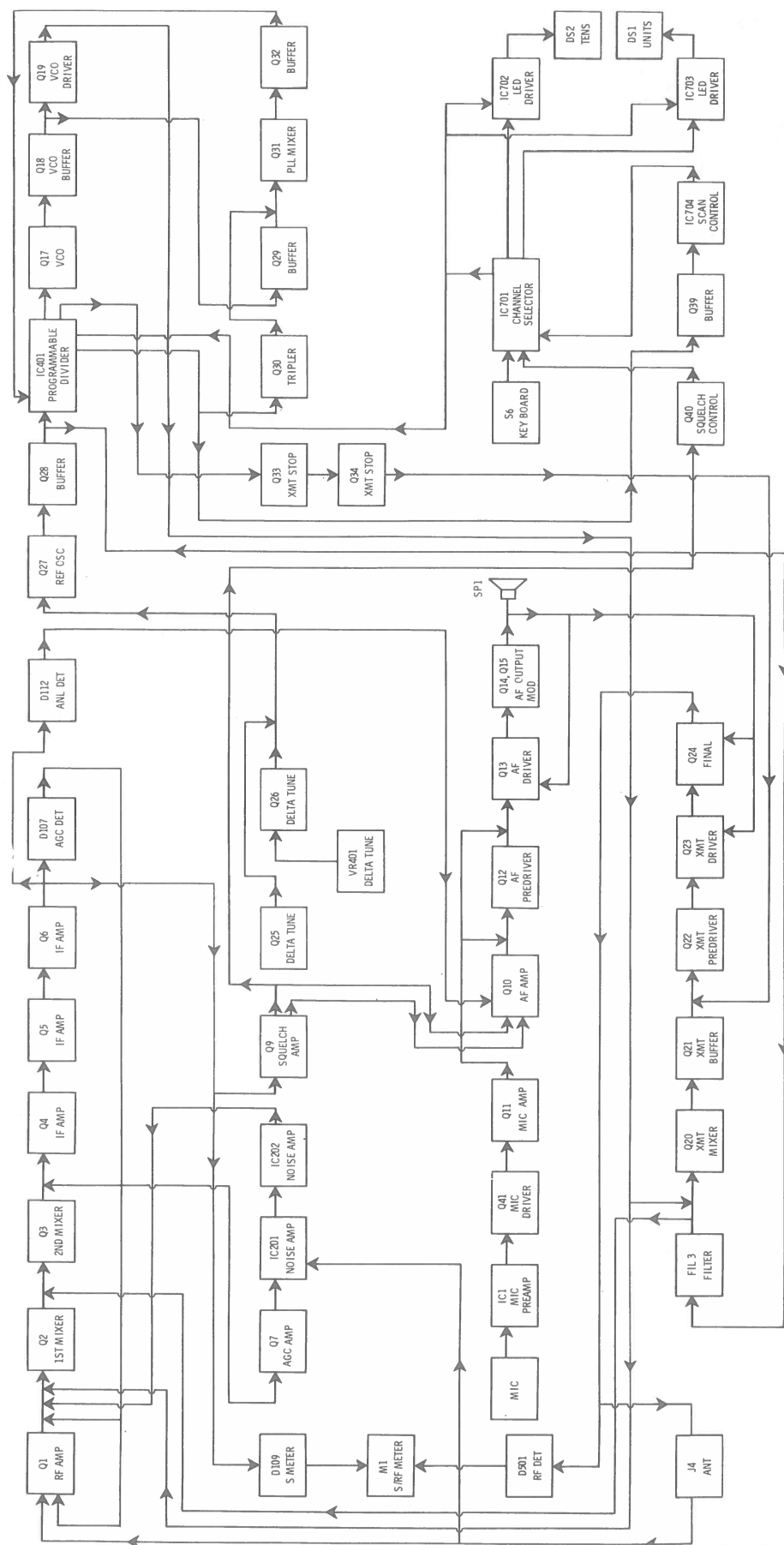






Pin view of J5 connector showing 7 pins.





BLOCK DIAGRAM

PARTS LIST AND DESCRIPTION

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

SEMICONDUCTORS (Select replacement transistor for best results)

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.
D2	WZ061	8000-00043-007	GEZD-6.2	ZM6.2B		REN 137		RT-237	ECG5013	1N4735A	WEP1414	
D2	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D3	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D100	1N4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D101	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D102	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D103	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D104	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D105	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D106	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D107	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D108	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D109	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D110	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D111	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D112	1S2472	8000-00011-042	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D113	BZ090	8000-00047-011	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
	1N4739A	8000-00057-011	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
D114			GE-504A	PTC201	HEPR0052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D115			GE-504A	PTC201	HEPR0052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D116			GE-504A	PTC201	HEPR0052	REN 116	SK3030	RT-213	ECG116	1N4004	WEP156	212-76-02
D197	1N4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D198	1N4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D199	1N4448		GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D201	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D202	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D203	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D206	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D301	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D302	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D303	1S1211	8000-00011-045	1N60	PTC301		REN 601	SK3463		ECG601			
D304	1N4002	8000-00030-010	GE-504A	1N4002	HEPR0052	REN 116	SK3312	RT-213	ECG116	1N4004	WEP156	212-76-02
D305	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D306	BZ090	8000-00057-011	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
	1N4739A	8000-00057-011	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
D307	1N60	8000-00006-077	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D308	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D402	MV201	8000-00038-010	GE-514	PTC214	HEPR2502	REN 612			ECG612			
D403	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D404	MV201	8000-00038-010	GE-514	PTC214	HEPR2502	REN 612			ECG612			
D405	1N4448	8000-00042-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
D501	1N60	8000-00006-007	1N60	PTC206	HEPR9135	REN 109	SK3088	RT-263	ECG109	1N60	WEP134	ZEN-430
D600	BZ090		GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
D601	1N4002	8000-00030-010	GE-504A	1N4002	HEPR0052	REN 116	SK3312	RT-213	ECG116	1N4004	WEP156	212-76-02
D602	1N4002	8000-00030-010	GE-504A	1N4002	HEPR0052	REN 116	SK3312	RT-213	ECG116	1N4004	WEP156	212-76-02
D603	1N4002	8000-00030-010	GE-504A	1N4002	HEPR0052	REN 116	SK3312	RT-213	ECG116	1N4004	WEP156	212-76-02
D604	BZ090	8000-00057-011	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
	1N4739A	8000-00057-011	GEZD-9.1	ZB9.1B		REN 139	SK3060	RT-240	ECG139A	1N4739A	WEP1109	103-272
D701	1N4448	8000-00047-007	GE-514	PTC214	HEPR0602	REN 177	SK3100	RT-218	ECG519	1N4148	WEP925	
IC1	SL1626C	8000-00045-004										
IC201	MC1350P	8000-00053-004	GEIC-217		HEPG6059P		SK3234	TVCM-59	ECG746		WEP2024	
IC202	D1193A											
	D1193											
	HBD1193	8000-00053-005										
IC401	MM55106N	8000-00057-007										
	MM55106											
IC402	78L62WV											
IC701	MM57150N											
	MM57150											
	MM57150FAJ	8000-00057-008										
IC702	MM14511BCN											
	MM14511CN	8000-00057-009										
	MM4511											
IC703	MM14511BCN											
	MM14511CN	8000-00057-009										
	MM4511											
IC704	MM74C93N	8000-00057-010										
Q1	3SK45B	8000-00042-013	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222		WEP905	121-826
Q2	2SK41E	8000-00057-005	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
Q3	2SK41E	8000-00057-005	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
Q4	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q5	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q6	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q7	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q8	2SK41E	8000-00057-005	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
Q9	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q10	2SC1740	8000-00057-004	GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*		WEP736*	121-972
	2SC1647	8000-00057-004	GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*		WEP736*	121-972
Q11	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q12	2SC1740	8000-00057-004	GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*		WEP736*	121-972
	2SC1647	8000-00057-004	GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*		WEP736*	121-972
Q13	2SC1740	8000-00057-004	GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*		WEP736*	121-972
	2SC1647	8000-00057-004	GE-62	PTC121*	HEPS0015*	REN 123A*	SK3122	RT-109*	ECG123A*		WEP736*	121-972
Q14	2SC1014C2	8000-00057-001	GE-251			REN 198	SK3220	RT-135	ECG198			
	2SC1014C1	8000-00051-001	GE-273	PTC193		REN 300	SK3464	RT-137	ECG300	2SC482*	WEP1014	
	2SC1014C2	8000-00057-001	GE-273	PTC193		REN 300	SK3464	RT-137	ECG300	2SC482*	WEP1014	
Q15	2SC1014		GE-273	PTC193		REN 300	SK3464	RT-137	ECG300	2SC482*	WEP1014	
Q16	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q17	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q18	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q19	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q20	2SK41E	8000-00057-005	GE-FET-2	PTC161	HEPF0021	REN 132	SK3448	RT-175	ECG312			ZEN-123
Q21	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q22	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q23												

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.
Q28	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q29	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q30	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q31	3SK41L	8000-00011-053	GE-FET-4	PTC182	HEPF2007	REN 222	SK3065	RT-181	ECG222	2SC710	WEP905	121-826
Q32	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q33	2SA844C	8000-00050-016	GE-244*	PTC103*	HEPS0019*	REN 129*	SK3114	RT-126A*	ECG129*		WEP60*	
Q34	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q35	2SC495T	8000-00006-278	GE-270	PTC180		REN 295	SK3253	RT-162	ECG295		WEP913	ZEN-209
Q36	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q37	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q38	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q39	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q40	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q41	2SC710C	8000-00011-047	GE-211*	PTC132	HEPS0016*	REN 123A*	SK3444	RT-308*	ECG123A*	2SC710	WEP710	121-29000*
Q42	2SC495T	8000-0011-047	GE-270	PTC180		REN 295	SK3253	RT-162	ECG295		WEP913	ZEN-209

* Lead configuration may vary from original.

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	REPLACEMENT DATA				
		MFR. PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	SPRAGUE PART No.	
					Q-LINE	GENERAL LINE
C1	47 16V	4-47M16	PC50-16	VTT47D16	QV1-73	EV-1226
C2	4.7 25V	4-4.7M25	PC50-50	VTT47R750	QV1-27	EV-1319
C6	.22 35V	8000-00051-010		TDC224M050EL	QDT1-10	SD50-R229
C7	47 16V	4-47M16	PC50-16	VTT47D16	QV1-73	EV-1226
C8	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C10	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C127	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C131	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C135	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C137	220 16V	4-220M16	PC250-25	VTT220H16	QV1-117	EV-1240
C139	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C215	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C299	47 16V	4-47M16	PC50-16	VTT47D16	QV1-73	EV-1226
C300	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C303	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C304	4.7 25V	4-4.7M25	PC50-50	VTT47R750	QV1-27	EV-1319
C305	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C306	47 16V	4-47M16	PC50-16	VTT47D16	QV1-73	EV-1226
C308	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C310	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C311	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C317	.47 35V	8000-00028-259		TDC474M050EL	QDT1-19	SD50-R479
C319	220 16V	4-220M16	PC250-25	VTT220H16	QV1-117	EV-1240
C321	220 16V	4-220M16	PC250-25	VTT220H16	QV1-117	EV-1240
C322	220 16V	4-220M16	PC250-25	VTT220H16	QV1-117	EV-1240
C328	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C329	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615
C401	.22 35V	8000-00051-010		TDC224M050EL	QDT1-10	SD50-R229
C402	1 25V			TDC105M035EL	SD35-19	
C433	.22 35V	8000-00051-010		TDC224M050EL	QDT1-10	SD50-R229
C434	220 16V	4-220M16	PC250-25	VTT220H16	QV1-117	EV-1240
C600	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C605	1000 16V	4-1000M16	PC1000-16	VTT1000L16	QV1-183	EV-1260
C606	10 16V	4-10M16	PC10-25	VTT10B25	QV1-41	EV-1222
C609	4.7 25V	4-4.7M25	PC50-50	VTT47R750	QV1-27	EV-1319
	1 50V	4-1M50	PC1-50	VTT1A50	QV1-11	EV-1615

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
C3	.01		UK50-103		MAG5011	
C4	.005 50V			DPMS2S47	EW1A147	QFT2-171
C9	.001		DD-102		GP210	1FT-S47
C12	.05		UK50-503		MAG5015	10TS-D10
C13	.1 12V		UK12-104		MAG1201	
C14	.1 12V		UK12-104		MAG1201	HY-360
C101	24			CD15ED240J03	SX424	HY-360
C102	.01		UK50-103		MAG5011	MMA-240
C103	.01		UK50-103		MAG5011	
C104	.01		UK50-103		MAG5011	
C105	10			CD15CD100J03		
C106	.01		UK50-103		MAG5011	QW1-6
C107	3					MMA-100
C108	30			CD15ED300J03	SX430	
C109	.01		UK50-103		MAG5011	QW1-14
C110	5.6					MMA-300
C111	.01		UK50-103		MAG5011	
C112	.01		UK50-103		MAG5011	
C113	1			CD15CD010D03		QW1-1
C114	.01		UK50-103		MAG5011	MMA-010
C115	.04 10%			DPMS6S33	M192P3939R8	
C116	.04 10%			DPMS6S33	M192P3939R8	QFT2-159
C117	.04 10%			DPMS6S33	M192P3939R8	1FT-S39
C118	1			CD15CD010D03	M192P3939R8	QFT2-159
C119	.04 10%			DPMS6S33	M192P3939R8	QW1-1
C120	.04 10%			DPMS6S33	M192P3939R8	1FT-S39
C121	.04 10%			DPMS6S33	M192P3939R8	QFT2-159
C122	.04 10%			DPMS6S33	M192P3939R8	1FT-S39
C123	.04 10%			DPMS6S33	M192P3939R8	QFT2-159
C124	.04 10%			DPMS6S33	M192P3939R8	1FT-S39
C125	.001		DD-102		GP210	QFT2-159

SBE MODEL SBE-54CB

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
C126	.04 10%			DPMS6S33	M192P3939R8	QFT2-159	1FT-S39
C128	.04 10%			DPMS6S33	M192P3939R8	QFT2-159	1FT-S39
C129	.001		DD-102		GP210		10TS-D10
C130	.01		UK50-103		MAG5011		
C132	.01		UK50-103		MAG5011		
C133	.001		DD-102		GP210		10TS-D10
C134	.01		UK50-103		MAG5011		
C136	.02 50V 10%			DPMS2S2	PVC212		2PS-S20
C138	5.6						
C140	.04						
C199	.01		UK50-103		MAG5011		
C201	15			CD15CD150J03		QW1-8	MWA-150
C202	30 N750						
C203	.001		DD-102		GP210		10TS-D10
C204	.01		UK50-103		MAG5011		
C205	.01		UK50-103		MAG5011		
C206	.01				*		10TCR-Q33
C207	33 N220 5%	1-33P50-N220		CD15CD010D03	*	QW1-1	MWA-010
C208	1				MAG5011		10TCR-Q33
C209	33 N220 5%	1-33P50-N220					
C210	.01		UK50-103				
C211	10						
C212	.01						
C213	.01						
C214	.01		UK50-103		MAG5011		
C297	.01		UK50-103		MAG5011		
C298	.001		DD-102		GP210		10TS-D10
C301	.001		DD-102		GP210		10TS-D10
C302	.01		UK50-103		MAG5011		
C307	.01		UK50-103		MAG5011		
C309	.01		UK50-103		MAG5011		
C313	.02 10%			DPMS2S2	PVC212		2PS-S20
C314	.039			DPMS6S33	M192P3939R8	QFT2-159	1FT-S39
C315	.01		UK50-103		MAG5011		
C316	.02 10%			DPMS2S2	PVC212		2PS-S20
C318	.01		UK50-103		MAG5011		
C320	.01		UK50-103		MAG5011		
C323	.01		UK50-103		MAG5011		
C324	.01		UK50-103		MAG5011		
C325	.01		UK50-103		MAG5011		
C326	.01		UK50-103		MAG5011		
C327	.01		UK50-103		MAG5011		
C330	.01		UK50-103		MAG5011		
C331	.001		DD-102		GP210		10TS-D10
C332	.001		DD-102		GP210		10TS-D10
C403	.01		UK50-103		MAG5011		
C404	20 N750		DTN-20	N20	CN7420	QW1-19	10TCU-Q20
C405	47 10%			CD15ED470J03	SX447		MWA-470
C406	47 N750		DTN-47	N47	CN7447		10TCU-Q47
C407	5			CD15CD050D03		QW1-2	MWA-050
C408	5			CD15CD050D03		QW1-2	MWA-050
C409	5			CD15CD050D03		QW1-2	MWA-050
C410	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101
C411	.01		UK50-103		MAG5011		
C412	.01		UK50-103		MAG5011		
C413	.001		DD-102		GP210		10TS-D10
C414	.01		UK50-103		MAG5011		
C415	.01						
C416	.01		UK50-103		MAG5011		
C417	20			CD15ED200J03	SX420	QW1-10	MWA-200
C418	330 10%			CD15FD331J03	SX333	QW1-39	MWA-331
C419	150 10%			CD15FD151J03	SX315	QW1-31	MWA-151
C420	.001		DD-102		GP210		10TS-D10
C421	30						
C422	.001		DD-102		GP210		10TS-D10
C423	.01		UK50-103		MAG5011		
C424	.01		UK50-103		MAG5011		
C425	15			CD15CD150J03		QW1-8	MWA-150
C426	5			CD15CD050D03		QW1-2	MWA-050
C427	.04 10%			DPMS6S33	M192P3939R8	QFT2-159	1FT-S39
C428	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101
C429	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101
C430	.001		DD-102		GP210		10TS-D10
C431	.01		CK-104		MAG5001		
C432	.01		UK50-103		MAG5011		
C435	.01		UK50-103		MAG5011		
C436	.01		UK50-103		MAG5011		
C437	.01		UK50-103		MAG5011		
C499	.01		UK50-103		MAG5011		
C501	20			CD15ED200J03	SX420	QW1-10	MWA-200
C502	5			CD15CD050D03		QW1-2	MWA-050
C503	.01		UK50-103		MAG5011		
C504	.01		UK50-103		MAG5011		
C505	30			CD15ED300J03	SX430	QW1-14	MWA-300
C506	1			CD15CD010D03		QW1-1	MWA-010
C507	30			CD15ED300J03	SX430	QW1-14	MWA-300
C508	120 10%			CD15FD121J03	SX312	QW1-29	MWA-121
C509	.01		UK50-103		MAG5011		
C510	.01		UK50-103		MAG5011		
C511	900 5%			CD19FD911J03	SX391		MWC-911
C512	500 10%			CD15FD511J03	SX351	QW1-43	MWA-511
C513	.01		UK50-103		MAG5011		
C514	.01		UK50-103		MAG5011		
C515	120 10%			CD15FD121J03	SX312	QW1-29	MWA-121
C516	47			CD15ED470J03	SX447	QW1-19	MWA-470
C517	150 10%			CD15FD151J03	SX315	QW1-31	MWA-151
C518	160 10%			CD15FD161J03	SX316	QW1-32	MWA-161
C519	300 5%			CD15FD301J03	SX330	QW1-38	MWA-301
C520	220 10%			CD15FD221J03	SX322	QW1-35	MWA-221
C521	200 10%			CD15FD201J03	SX320	QW1-34	MWA-201
C522	100 10%			CD15FD101J03	SX310	QW1-27	MWA-101

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
C523	.01		UK50-103		MAG5011		
C524	.01		UK50-103		MAG5011		
C525	.01		UK50-103		MAG5011		
C526	.01		UK50-103		MAG5011		
C528	.01		UK50-103		MAG5011		
C529	.01		UK50-103		MAG5011		
C530	.047		UK25-503		MAG2515		HY-735
C531	.01						
C596	390 10%			CD15FD391J03	SX339	QW1-41	MWA-391
C597	10			CD15CD100J03		QW1-6	MWA-100
C598	47			CD15ED470J03	SX447	QW1-19	MWA-470
C599	.01		UK50-103		MAG5011		
C601	.01		UK50-103		MAG5011		
C602	.01		UK50-103		MAG5011		
C603	.01		UK50-103		MAG5011		
C604	.01		UK50-103		MAG5011		
C607	.1 10%			WMF05P1	ENF05010	QFT2-215	1FT-P10
C608	.01						
C701	5			CD15CD050D03		QW1-2	MWA-050
C702	.01		UK50-103		MAG5011		
C801	.01		UK50-103		MAG5011		
C802	.01		UK50-103		MAG5011		
C803	.01		UK50-103		MAG5011		
C804	.01		UK50-103		MAG5011		
C805	.01		UK50-103		MAG5011		
C806	.01		UK50-103		MAG5011		
C807	.04 50V			DPMS6S39	M192P3939R8	QFT2-159	1FT-S39

*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	RESIST-ANCE	REPLACEMENT DATA			
			MFR. PART No.	CENTRALAB PART No.	MALLORY PART No.	TRW PART No.
VR1	AMC	10K	8000-00004-096			X260R103B(2)
VR2	Mic Gain	1000	8000-00051-020			X260R102B
VR101	RF Gain	10K	8000-00051-015			
VR102	S Meter	10K	8000-00004-096			X260R103B(2)
VR103	NL/Switch	10K	8000-00042-003			
VR104	Volume/Power Switch	10K	8000-00006-282			
VR301	Squelch Range	100K	8000-00004-094			X260R104B(2)
VR302	Squelch	10K	8000-00051-015			
VR401	Delta Tune	10K	8000-00051-015			
VR501	RF Meter	5000	8000-00051-019			X260R502B(2)

(2) Cut off one of the end terminals and bend to fit 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.
RA701	Resistor Network		8000-00057-016(1)				
RA702	Resistor Network		8000-00057-016(1)				

(1) Consists of seven 470 ohm resistors.

COILS (RF-IF)

ITEM No.	FUNCTION	REPLACEMENT DATA			REMARKS
		PART No.	OTHER IDENTIFICATION	MILLER PART No.	
L1	RF Choke	8000-00045-019	K69		
L2	RF Choke	8000-00045-019	K69		
L101	Rec RF (27MHz)	8000-00038-018	C294DD		
L102	Mixer (27MHz)	8000-00050-012	C337BD		
L103	Mixer (27MHz)	8000-00050-012	C337BD		
L201	Input Noise Amp (27MHz)	8000-00037-004	C544NT		
L202	Input Noise Amp (27MHz)	8000-00053-002	Z561DT		
L203	RF Choke (470uH)	8000-00011-020		9250-474	
L299	RF Choke (470uH)				
L401	VCO	8000-00038-023	Z355N		
L402	XMT Mixer (16.270MHz)	8000-00038-017	C354NZ		
L403	RF Choke (150uH)	8000-00011-018			
L404	Ref Osc (10.240MHz)	8000-00038-022	Z353ZZ		
L405	RF Choke (100uH)	8000-00052-007			
L501	XMT Pre Driver (27MHz)	8000-00052-002	C409NZ		
L502	RF Choke (2.5uH)	8000-00030-011			
L503	Final Loading (27MHz)	8000-00004-075	C043ND	CB140(34)(1)	(1) Rotate to proper two terminals, cut off unused leads.
L504	RF Choke (65uH)	8000-00004-055		CB144(34)(1)	
L505	Final (27MHz)	8000-00004-077	C045ZD		
L506	Pi Filter	8000-00047-027	C997ND		
L507	Pi Filter	8000-00047-027	C997ND		
L508	RF Choke	8000-00047-027	C997ND		
T101	IF (10.695MHz)	8000-00050-014	F001AD		
T102	IF (10.460MHz)	8000-00050-014	F001AD		
T103	IF (455kHz)	8000-00038-021	A293AD		
T104	IF (455kHz)	8000-00012-034	ETA227B	2067	
T105	IF (455kHz)				
T201	Noise Amp (23MHz)				
T401	Tripler	8000-00011-026	A1761T	CBS131-TC	
T501	XMT Mixer (27MHz)	8000-00052-001	C410DZ		
T502	XMT Buffer (27MHz)	8000-00052-001	C410DZ		
T503	XMT Driver (27MHz)	8000-00030-016	C042DD		

SBE MODEL SBE-54CB

PARTS LIST AND DESCRIPTION (CONTINUED)

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

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.	
L601	1.65A	1.71	1.1mH	8000-00050-010 K-18(1)	TR555		(1) Number on unit.

TRANSFORMER (Driver)

ITEM No.	TURNS RATIO			REPLACEMENT DATA			NOTES
	PRI.	SEC. 1	SEC. 2	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T301	1	.7		8000-00030-019 A-31(1)	TR651		(1) Number on unit.

TRANSFORMER (Audio Output)

ITEM No.	IMPEDANCE		REPLACEMENT DATA			NOTES
	PRI.	SEC.	MFGR. PART No.	THORDARSON PART No.	TRIAD PART No.	
T302	32	1 9.68 2 6.38	8000-00052-008 E-77(1)			(1) Number on unit.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		MFGR. PART No.	QUAM PART No.	
SP1	2 3/4" PM 8 ohms	8000-00011-057 B-26(1)		(1) Number on unit.

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	2A Quick Acting			AGC2	HDJ	312002	150145	FG2-2	

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	8000-00004-153	18-032	18-034	18-010	18-092	2	1	4	NC	NC	3

MISCELLANEOUS

ITEM No.	PART NAME	PART No.	NOTES
DS1	LED	8000-00057-012	Channel Display 1.83V @ 2mA
DS2	LED	8000-00057-012	Channel Display 1.83V @ 2mA
DS3	Lamp	8000-00004-142	Meter 7.55V @ 25mA Dim/13.69V @ 36mA Bright
DS4	Lamp	8000-00004-142	XMT 6.35V @ 23mA Dim/12.26V @ 33mA Bright
DS5	Lamp	8000-00004-142	Rec 6.98V @ 24mA Dim/13.53V @ 34mA Bright
DS6	Lamp	8000-00057-013	Key Board 7.55V @ 28mA Dim/13.69V @ 39mA Bright
DS7	Lamp	8000-00057-013	Key Board 7.55V @ 28mA Dim/13.69V @ 39mA Bright
DS8	Lamp	8000-00057-013	Key Board 7.55V @ 28mA Dim/13.69V @ 39mA Bright
DS9	Lamp	8000-00057-013	Key Board 7.55V @ 28mA Dim/13.69V @ 39mA Bright
FIL1	Filter	8000-00057-017	10.7MHz
FIL2	Filter	8000-00057-018	455kHz
FIL3	Filter	8000-00057-019	10.24MHz
J1	Jack	8000-00004-070	Mic
J2	Jack	8000-00030-021	Ext Spk
J3	Jack	8000-00030-021	PA
J4	Jack	8000-00057-022	Antenna
M1	Meter	8000-00052-023	S/RF
RL301	Relay	8000-00050-020	Rec/XMT
S1	Switch	8000-00057-020	NB
S2	Switch	8000-00057-020	Bright/Dim
S3	Switch	8000-00057-020	CB/PA
X401	Crystal	8000-00038-011	10.240MHz

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

ITEM	PART No.	ITEM	PART No.
Bezel	8000-00057-029	Chassis, Main	8000-00057-027
Cabinet, Bottom	8000-00057-031	Knob, Control	8000-00055-007
Cabinet, Top	8000-00057-030	Front Panel	8000-00057-034

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')