

Engineering Data

Stromberg-Carlson No. 125 AC-DC Radio Receivers

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY
Rochester, New York

ELECTRICAL SPECIFICATIONS

Type of Circuit	Superheterodyne
Tuning Ranges	A—540 to 1500 Kc.; B—1450 to 3500 Kc.; C—5600 to 18,000 Kc.
Number and Types of Tubes	1 No. 6A8, 1 No. 6K7, 1 No. 6Q7, 1 No. 43, 1 No. 25Z5
Voltage Rating	105 to 125 Volts
Power Frequency (For AC Operation)	50-60 Cycles
Input Power Rating	45 Watts
Intermediate Frequency	465 Kilocycles

APPARATUS SPECIFICATIONS

No. 12550 to 60 Cycles (For AC Operation)..... P-26052 Chassis Assembly

CIRCUIT DESCRIPTION

This triple range, superheterodyne receiver has five tubes and may be operated on a power supply circuit of either alternating or direct current at the voltages and frequency (for A. C. operation) specified above.

The various tubes are used in this receiver as follows: One No. 6A8 tube functions as both Oscillator and Modulator; one No. 6K7 tube is used in the I. F. Amplifier; the No. 6Q7 tube is used as the Demodulator, A. V. C., and Audio Amplifier tube. The No. 43 tube is used in the Audio Power Output stage, and the No. 25Z5 tube is used as the Rectifier tube for the receiver "B" voltage supply.

NORMAL VOLTAGE READINGS

These voltage readings are obtained by measuring between the various tube socket contacts and the heavy bus wire with the tubes in their respective sockets. The receiver is, therefore, in operation when the measurements are made. The heavy bus wire, which is the negative side of the grid and plate voltages, is plainly marked on the schematic and wiring diagram shown on pages three and five. Figure 1, shows the terminal layout of the sockets with the proper terminal numbers.

Voltages are given for a line voltage of 120 volts, A. C. Allowance should be made for the difference when the line voltage is higher or lower.

IMPORTANT—If the receiver is operated from a direct current power supply circuit, the various voltages measured will be slightly lower than those listed in the table for A. C. operation. A meter having a resistance of 1000 ohms per volt should be used for measuring the D. C. voltages. Voltage values shown are those obtained on the lowest possible scale of a meter having the following ranges: 0-2.5, 0-10, 0-100, 0-250, 0-500, 0-1000 volts except when an asterisk appears after any given voltage value in which case the 1000 volt scale was used.

When the receiver is being operated from an alternating current power supply circuit, it will be necessary to have a high resistance A. C. voltmeter for checking the A. C. voltages.

Tube	Circuit	Cap.	Terminals of Sockets								Heater Voltages Between Heater Terminals	
			1	2	3	4	5	6	7	8	Terminal Numbers	Volts
6A8	Mod.—Osc.	—.02	<i>125</i>	0	+ 97	+ 60	— 7	+73	<i>6.3</i>	+1.3	2-7	<i>6.3</i>
6K7	I. F. Amp.	0	<i>125</i>	0	+ 97	+ 91	+ 3	—	<i>18</i>	+3	2-7	<i>6.3</i>
6Q7	Dem.—A.V.C. —Audio	0	0	0	+55*	0	0	—	<i>6.2</i>	+1	2-7	<i>6.3</i>
43	Audio Output	—	<i>43</i>	+ 90	+ 96	0	+ 12	<i>18</i>	—	—	1-6	<i>24</i>
25Z5	Rectifier	—	<i>65</i>	<i>112</i>	+102	+102	<i>112</i>	<i>43</i>	—	—	1-6	<i>22</i>

Voltage across pilot lamps—8.2 volts

A.C. voltages are indicated by italics; when the receiver is operated from a D.C. power supply, D.C. voltages will be obtained in place of the A.C. voltages.
Receiver tuned to 1000 kc., no signal.

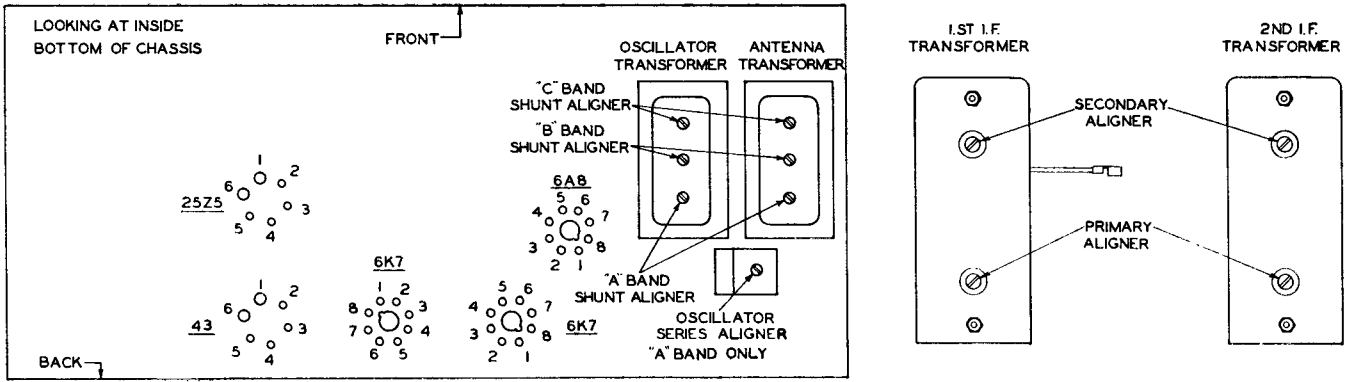


Fig. 1. Terminal Layout for Voltage Measurement Chart and Location of the Various Aligning Capacitors.

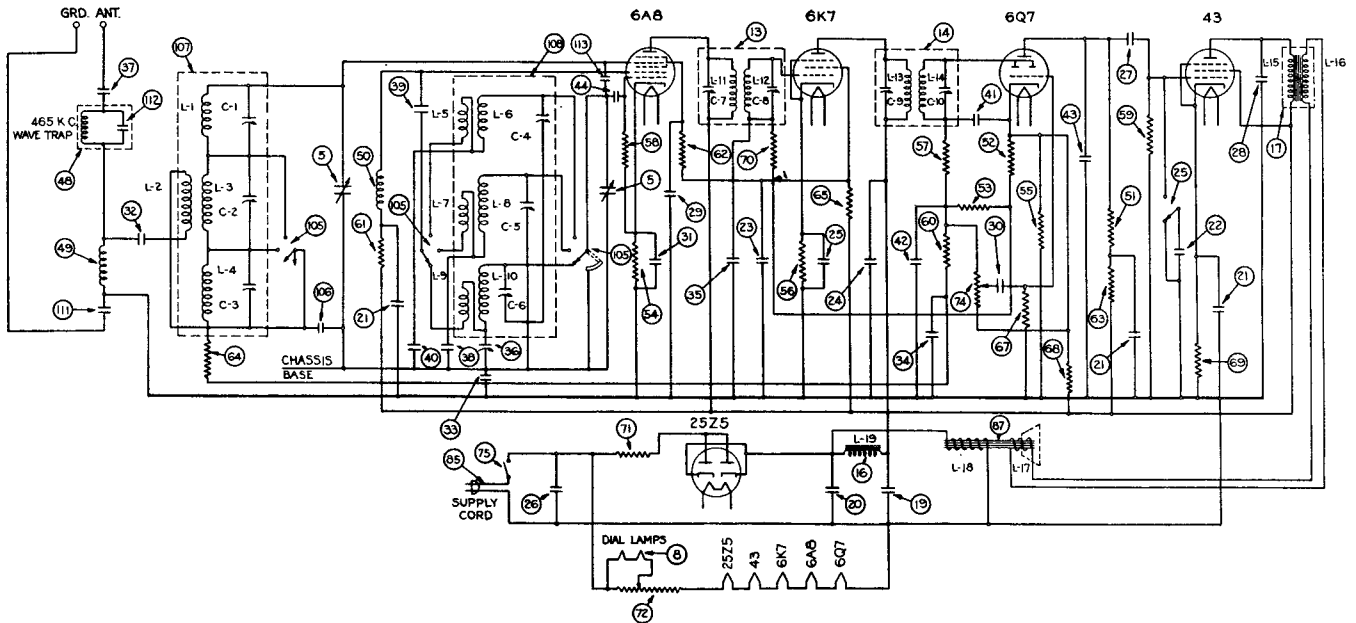


Fig. 2. Schematic Circuit of Receiver.

ALIGNMENT DATA

All alignment adjustments are accurately made at the factory on these receivers and ordinarily no re-adjustments are necessary. However, should it become necessary to make any readjustments, this alignment procedure should be carefully followed.

In making any alignment adjustments always adjust the signal generator's output to the minimum value where a good alignment may still be obtained. Never attempt to make any alignment adjustments using a strong signal.

Figure 1 shows the location of all the aligning capacitors used in this receiver.

Intermediate Frequency Adjustments

The intermediate frequency used in these receivers is 465 kilocycles. In making these I. F. circuit adjustments always align in the following order:

1. Secondary of 2nd I. F. Transformer (Capacitor C-10).
2. Primary of 2nd I. F. Transformer (Capacitor C-9).
3. Secondary of 1st I. F. Transformer (Capacitor C-8).
4. Primary of 1st I. F. Transformer (Capacitor C-7).

Radio Frequency Adjustments

The adjustments of the aligning capacitors used in the radio frequency circuits in this receiver should be very carefully made in the following order and at the frequencies specified below:

1. Oscillator's "C" Band Shunt Aligner at 17 Megacycles (Capacitor C-4).
2. Antenna "C" Band Shunt Aligner at 17 Megacycles (Capacitor C-1).
3. Oscillator's "B" Band Shunt Aligner at 3.4 Megacycles (Capacitor C-5).
4. Antenna "B" Band Shunt Aligner at 3.4 Megacycles (Capacitor C-2).
5. Oscillator's "A" Band Shunt Aligner at 1400 Kilocycles (Capacitor C-6).
6. Antenna "A" Band Shunt Aligner at 1400 Kilocycles (Capacitor C-3).
7. Oscillator's "A" Band Series Aligner at 600 Kilocycles (Capacitor (36)).
8. Oscillator's "A" Band Shunt Aligner at 1400 Kilocycles (Capacitor C-6).
9. Antenna "A" Band Shunt Aligner at 1400 Kilocycles (Capacitor C-3).

REPLACEMENT PARTS

Item Number	Piece Number	Part	Item Number	Piece Number	Part
2	25998	Bracket Assembly	56	26327	Resistor Type "E" 330 Ohms
5	26057	Gang Tuning Condenser	57	26353	Resistor Type "E" 47,000 Ohms
6	26143	Dial Assembly	58	26353	Resistor Type "E" 47,000 Ohms
8	26287	Dial Lamp	59	26369	Resistor Type "E" 1 Megohm
13	26121	1st I. F. Transformer	60	26369	Resistor Type "E" 1 Megohm
14	25506	2nd I. F. Transformer	61	26345	Resistor Type "E" 10,000 Ohms
16	26133	Choke Assembly	62	26345	Resistor Type "E" 10,000 Ohms
17	26135	Transformer, Output	63	26345	Resistor Type "E" 10,000 Ohms
19	26162	Capacitor, Electrolytic 25 Mf.	64	26357	Resistor Type "E" .1 Megohm
20	26163	Capacitor, Electrolytic 40 Mf.	65	26333	Resistor Type "E" 1,000 Ohms
21	26164	Capacitor, Electrolytic 4-4-12 Mf.	67	26373	Resistor Type "E" 2.2 Megohms
22	25481	Capacitor .002 Mf.	68	26408	Resistor Type "C" 27,000 Ohms
23	25483	Capacitor .1 Mf.	69	26330	Resistor Type "E" 560 Ohms
24	25483	Capacitor .1 Mf.	70	26365	Resistor Type "E" .47 Megohms
25	25483	Capacitor .1 Mf.	71	25911	Resistor Type "R" 50 Ohms
26	25150	Capacitor .02 Mf.	72	26127	Resistor, "B" Voltage Divider
27	25150	Capacitor .02 Mf.	73	26252	Insulation (For Tone Control)
28	25150	Capacitor .02 Mf.	74	26114	Potentiometer (Volume Control)
29	25150	Capacitor .02 Mf.	75	26061	Off-On Switch—Tone Control
30	25150	Capacitor .02 Mf.	77	25539	Tube Socket, 8 Prong
31	25150	Capacitor .02 Mf.	78	22974	Tube Socket, 6 Prong
32	25150	Capacitor .02 Mf.	85	24268	Cord, Power Supply
33	25389	Capacitor Assembly .2 Mf.	86	25564	Grid Clip Assembly
34	24405	Capacitor Assembly .04 Mf.	87	26053	Speaker Assembly
35	24405	Capacitor Assembly .04 Mf.	105	26172	Range Switch
36	26747	Capacitor, Alligier	106	25488	Capacitor .002 Mf.
37	26778	Capacitor .005 Mf.	107	26113	Coil Assembly, Antenna
38	25487	Capacitor .001 Mf.	108	26157	Coil Assembly, Oscillator
39	25487	Capacitor .001 Mf.	109	26424	Dial Lamp Socket Assembly
40	25489	Capacitor .00125 Mf.	111	25149	Capacitor Assembly, .01 Mf.
41	25504	Capacitor 100 Mmf.	112	25488	Capacitor .002 Mf.
42	25504	Capacitor 100 Mmf.	113	26417	Capacitor (Gimmick)
43	25504	Capacitor 100 Mmf.			
44	24559	Capacitor 100 Mmf.			
48	25513	Coil Assembly, Wave Trap			
49	25814	Coil Assembly, Choke			
50	25814	Coil Assembly, Choke			
51	26362	Resistor Type "E" .27 Megohms			
52	26362	Resistor Type "E" .27 Megohms			
53	26362	Resistor Type "E" .27 Megohms			
54	26326	Resistor Type "E" 270 Ohms			
55	26327	Resistor Type "E" 330 Ohms			

Piece Number	Part
26096	Cone Assembly (For P-26053 Speaker)
26296	Knob (Used on Volume, "Off-on-Tone" and Station Selector Controls) 3 Required for Each Receiver
26297	Knob (For Range Switch) 1 Required

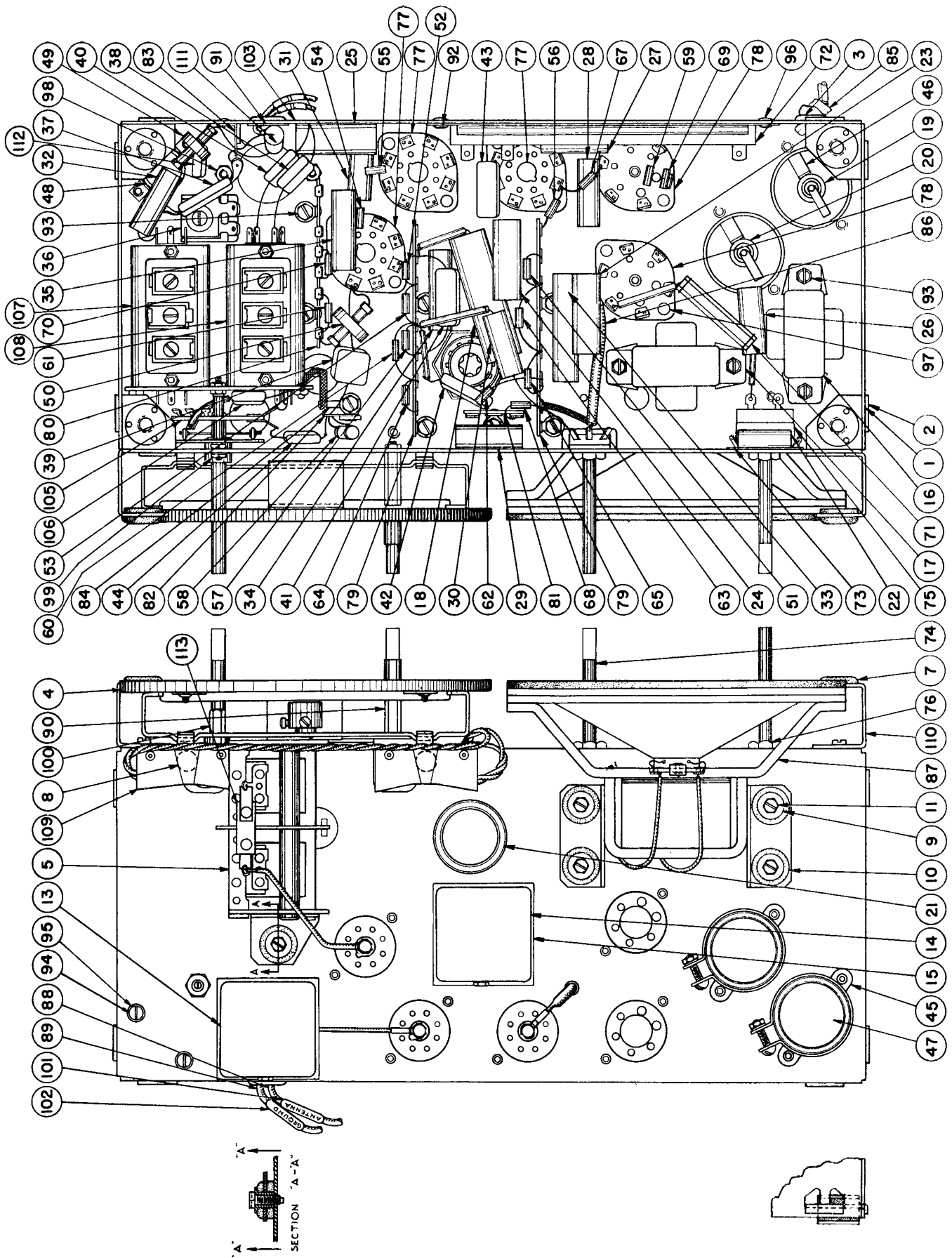


Fig. 3. Chassis Assembly.

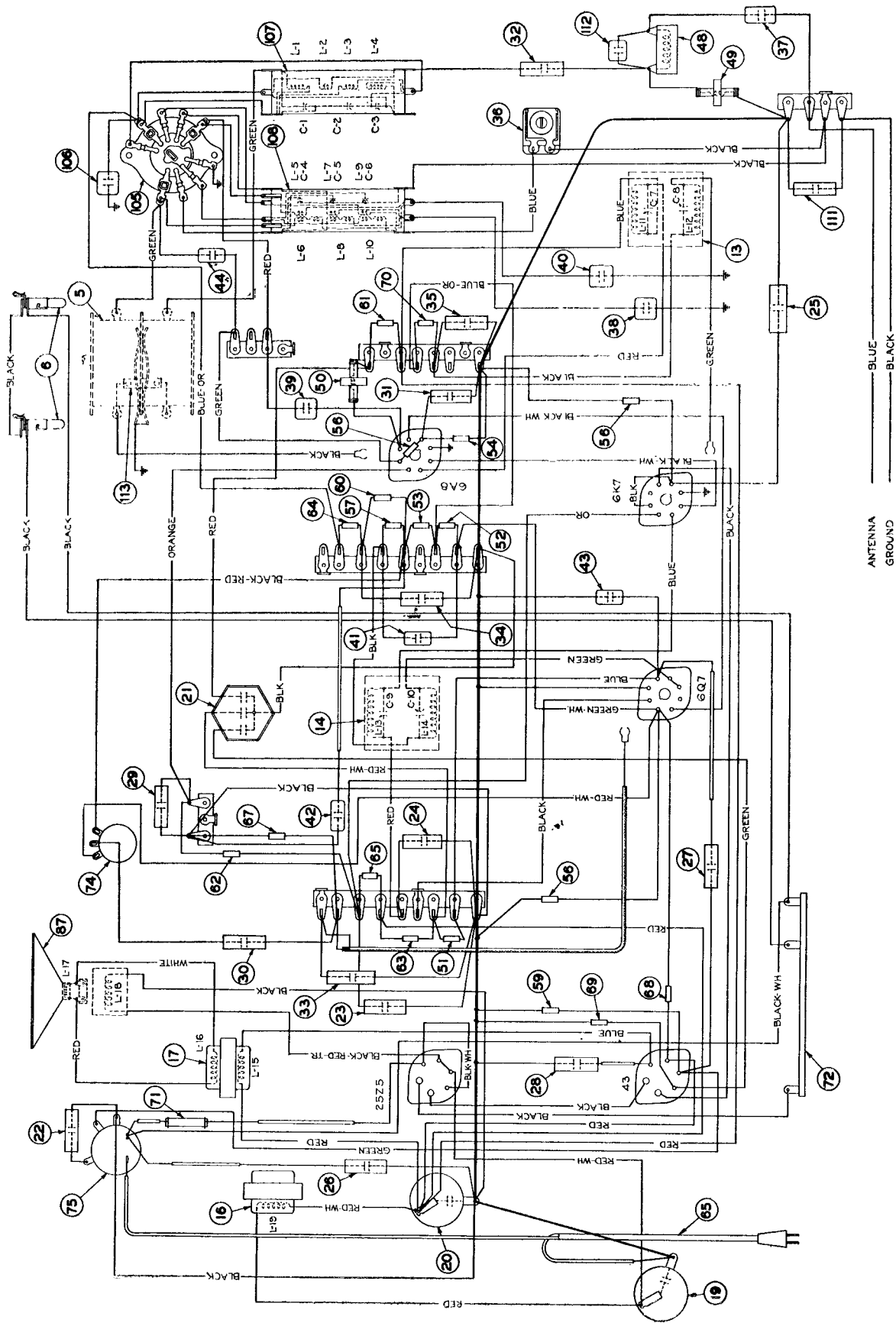


Fig. 4. Wiring Diagram of Chassis.