

# Engineering Data

## Stromberg-Carlson No. 84 Receiver

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY  
Rochester, New York

### ELECTRICAL SPECIFICATIONS

Type of Circuit	----- Superheterodyne	
Tuning Ranges	----- A—520 to 1600 kc.; B—1500 to 4200 kc.; C—3.7 to 10 megacycles; D—8.5 to 23 megacycles	
Number and Type of Tubes	----- 3 No. 6K7, 1 No. 6A8, 1 No. 6C5, 1 No. 6H6, 1 No. 6J7, 4 No. 6F6, 1 No. 5Z3	
Voltage Rating	----- 105 to 125 Volts	
Frequency Rating	----- 25-60 Cycles and 50-60 Cycles	
Wattage Rating	----- 150 Watts	
Intermediate Frequency	----- 465 Kc.	

### APPARATUS SPECIFICATIONS

No. 84 Receiver	----- 50-60 Cycles	----- P-22725 Chassis; P-25683 Loud Speaker
No. 84-B Receiver	----- 25-60 Cycles	----- P-22726 Chassis; P-25683 Loud Speaker

### CIRCUIT DESCRIPTION

Twelve tubes, A. C. operated, Deluxe High Fidelity, Superheterodyne receiver employing metal tubes and having four tuning ranges. These four tuning ranges cover all the important broadcasts and special service bands of both American and Foreign stations. High fidelity is obtained in this receiver by its design as a complete high quality reproducing system including the receiver chassis which has a special band widener device; a Carpinchoe high fidelity speaker and treatment of the enclosing cabinet by means of the new revolutionary Stromberg-Carlson development for a sound reproducing system. This new device, the Acoustical Labyrinth (patent applied for) extends the bass response, provides reproduction only from the front of the cabinet and eliminates all cabinet resonance. Audio reproduction is further improved by employing sound diffusing vanes in front of the loud speaker opening which breaks up the directional high frequencies, thereby providing excellent reproduction in all parts of the room by spreading out these directional frequencies. See P-25826 Installation and Operating Instructions, for properly installing and operating this receiver.

The tubes used in this receiver are as follows: One No. 6K7 tube functions as an R. F. Amplifier, another No. 6K7 tube is used in the I. F. Amplifier Stage and the other No. 6K7 tube operates in the First Audio Stage. The No. 6A8 tube is used as the Modulator tube. The No. 6C5 tube is used as the Oscillator tube. The No. 6H6 tube is used as a Demodulator-Automatic Volume Control tube. The No. 6J7 tube is used in the Interstation Noise Suppressing (Q) Circuit. Two of the No. 6F6 tubes are connected in parallel and operate as the Audio Drive tubes. The other two No. 6F6 tubes operate in push-pull in the audio power output stage. The No. 5Z3 tube is the rectifier tube of the power supply unit.

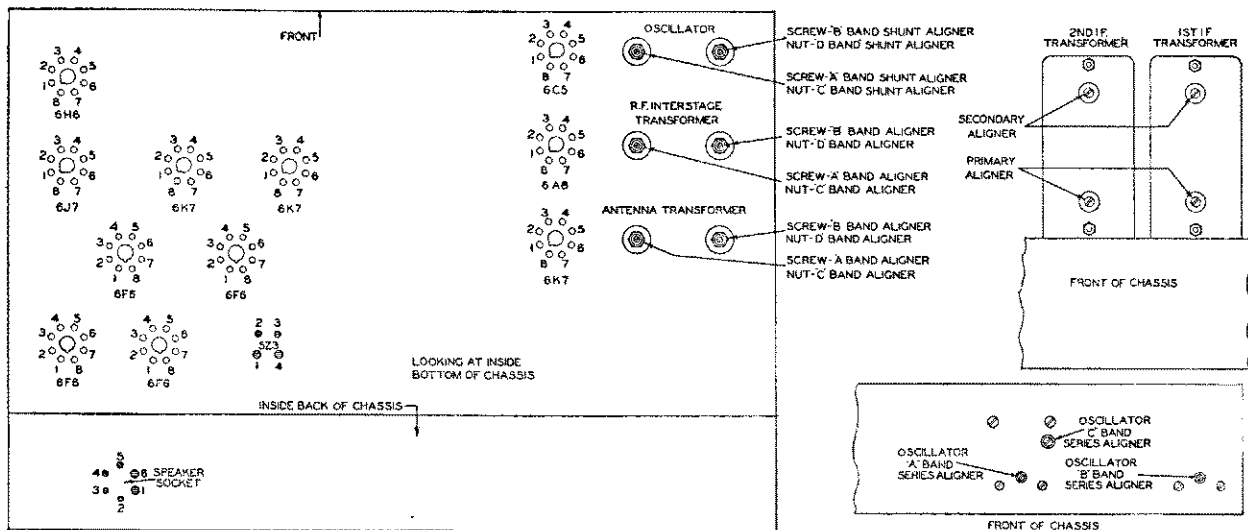
### NORMAL VOLTAGE READINGS

The various values of voltages listed in the following table are obtained by measuring between the various tube socket contacts and the chassis base, with the tubes in their respective sockets. The receiver is, therefore, in operation when the measurements are made. Figure 1 shows the terminal layout of the sockets with the proper terminal numbers.

Voltages are given for a line voltage of 120 volts, and allowance should be made for differences when the line voltage is higher or lower. 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.

Tube	Circuit	Cap.	Terminals of Sockets								Heater Voltages Between Terminals Nos. at 120 Volts
			1	2	3	4	5	6	7	8	
6K7	R. F. Amp.	0	0	—	+240	+ 90	+ 3.5	0	—	+ 3.5	<i>2-7, 6.3 Volts</i>
6A8	Mod.	0	0	—	+240	+ 85	—	+ 85	—	+ 2	<i>2-7, 6.3 Volts</i>
6C5	Osc.	—	0	—	+195	—	—	—	—	—	<i>2-7, 6.3 Volts</i>
6K7	I. F. Amp.	0	0	—	+230	+ 85	+ 3.5	—	—	+ 3.5	<i>2-7, 6.3 Volts</i>
6H6	Dem.—A. V. C.	—	0	—	+ .5	+ 20	— .25	—	0	0	<i>2-7, 6.3 Volts</i>
6K7	1st Audio	0	0	—	+100	+ 35	+ 10	—	—	+10	<i>2-7, 6.3 Volts</i>
6J7	"Q"	0	0	—	+ .5	+ .5	+ .35	—	0	+ .35	<i>2-7, 6.3 Volts</i>
6F6	2nd Audio	—	0	—	+220	+220	0	—	—	+20	<i>2-7, 6.3 Volts</i>
6F6	Output	—	0	—	+390	+390	0	—	—	+30	<i>2-7, 6.3 Volts</i>
5Z3	Rectifier	—	+410	395	395	+410					<i>1-4, 4.75 Volts</i>
Speaker Socket			0	+250	+410	+410	+ 395	0			

Set tuned to 1000 kc., no signal, "Q" circuit not operating. A. C. voltages are indicated by italics.



**Fig. 1. Terminal Layout for Voltage Measurement Chart and Location of the Various Aligning Capacitors.**  
**CAUTION—Never Attempt to Align Receiver With Fidelity Control Set At Any Position Other Than the Maximum Counter-Clockwise Position.**

### REPLACEMENT PARTS

Piece Number	Parts	Description of Parts
P-24465	Binding Post Assembly	Antenna and Ground
P-22760	Capacitor	Electrolytic
P-22758	Capacitor	Electrolytic
P-22759	Capacitor	Electrolytic
P-22757	Capacitor	Electrolytic
P-22789	Capacitor	Electrolytic
P-25628	Capacitor	Electrolytic
P-23139	Capacitor	1 MF. (Used only on Receivers for 25-60 cycles)
P-22775	Capacitor	0.4 MF.
P-24402	Capacitor	0.1 MF.
P-24994	Capacitor	0.05 MF.
P-24405	Capacitor	0.04 MF.
P-21535	Capacitor	Two, 0.01 MF.
P-25149	Capacitor	0.01 MF.
P-22761	Capacitor	0.006 MF.
P-24461	Capacitor	0.004 MF.
P-23376	Capacitor	Type O, 250 MMF.
P-24559	Capacitor	Type O, 100 MMF.
P-24560	Capacitor	Type O, 50 MMF.
P-24168	Capacitor	Type O, 25 MMF.
P-24314	Capacitor	Type O, 10 MMF.
P-24561	Capacitor	Type O, 5 MMF.
P-24508	Capacitor	Aligning, 2,500 MMF.
P-25375	Capacitor	Aligning, 1,350 MMF.
P-24287	Capacitor	Aligning, 525 MMF.
P-25048	Capacitor	Aligning, 220 MMF.
P-22765	Choke Coil Assembly	Plate Voltage Supply Filter
P-22780	Coil Assembly	Antenna, "A" and "C" Bands
P-22731	Coil Assembly	E. F., "A" and "C" Bands
P-22732	Coil Assembly	Oscillator, "A" and "C" Bands
P-22733	Coil Assembly	Antenna, "B" and "D" Bands
P-22734	Coil Assembly	E. F., "B" and "D" Bands
P-22735	Coil Assembly	Oscillator, "B" and "D" Bands
P-24286	Cord	A. C. Supply
P-22779	Filter Assembly	Antenna
P-21984	Fuse Block	2.5 Amperes
P-22234	Fuse	Pilot, 6 Volts
P-18630	Lamp	Visual Tuning
P-24376	Meter	Volume Control
P-22767	Potentiometer	Tone Control and A. C. Switch
P-25807	Potentiometer	Type D, 300 ohms
P-23844	Resistor	Type D, 400 ohms
P-22898	Resistor	Type B, 750 ohms
P-25629	Resistor	Type D, 1,000 ohms
P-24316	Resistor	Type D, 5,000 ohms
P-22862	Resistor	Type C, 6,500 ohms
P-22329	Resistor	Type F, 15,000 ohms
P-25526	Resistor	Type D, 25,000 ohms
P-23355	Resistor	Type D, 50,000 ohms
P-23571	Resistor	Type D, 75,000 ohms
P-24354	Resistor	Type D, 0.1 megohm
P-22333	Resistor	Type D, 0.5 megohm
P-22335	Resistor	Type D, 1 megohm
P-22561	Resistor	Type D, 2 megohm
P-22871	Resistor	"B" Voltage Divider
P-25630	Resistor	Rectifier Tube
P-25756	Shield	Tube, 4 Prong
P-22988	Socket	Tube, 6 Prong
P-23040	Socket	Tube, 8 Prong
P-25539	Socket	Bass Compensation
P-17350	Switch	Frequency Range
P-22736	Switch Assembly	1st I. F.
P-25755	Transformer Assembly	2nd I. F.
P-25703	Transformer Assembly	Audio Driver Stage
P-25633	Transformer Assembly	Audio Power Output
P-25631	Transformer Assembly	Power, 50-60 cycles, 110 volts
P-22728	Transformer	Power, 25-60 cycles, 110 volts
P-22729	Transformer	

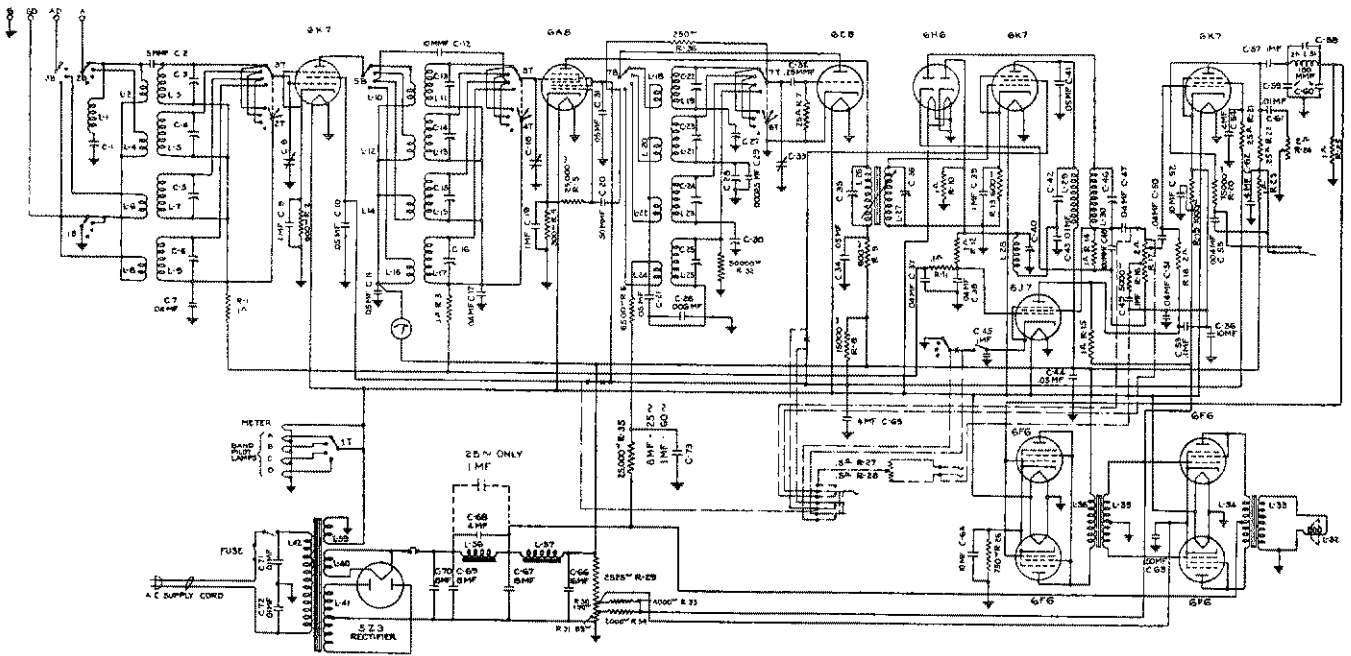


Fig. 2. Schematic Circuit of Receiver.

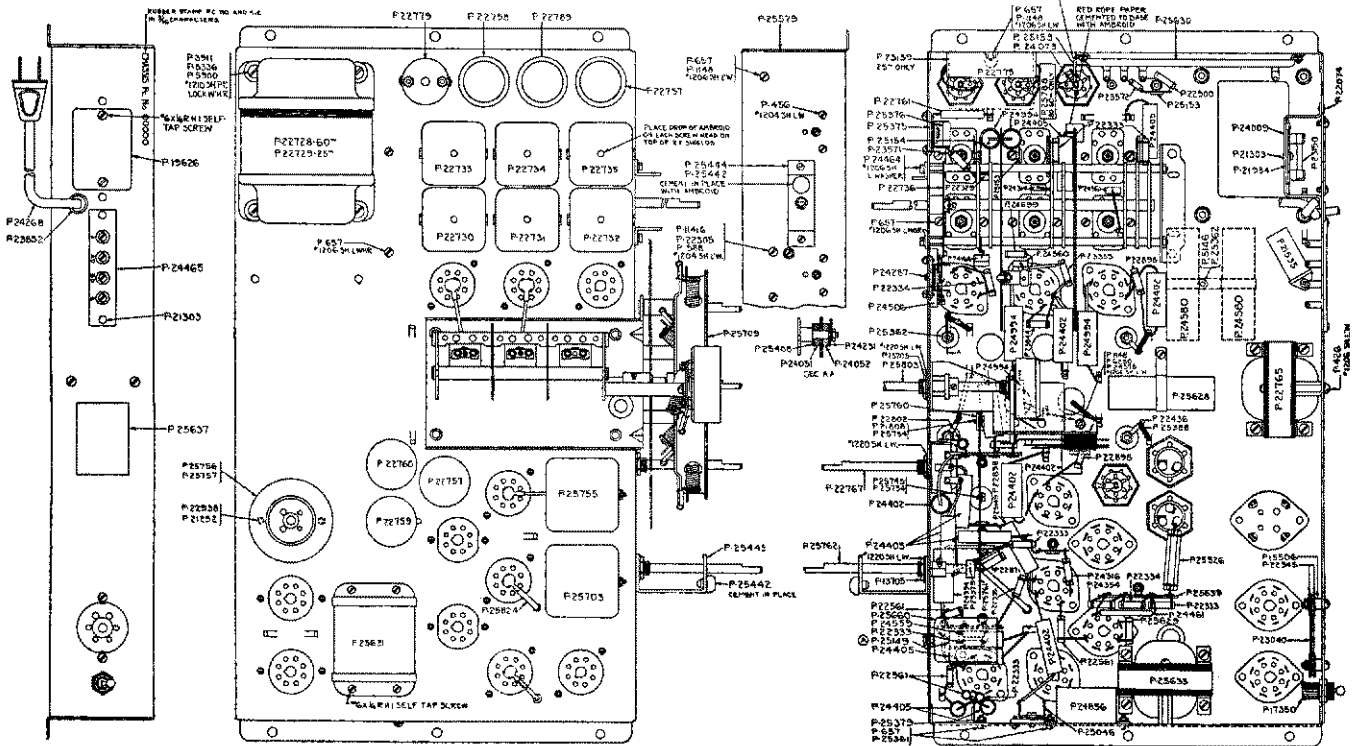


Fig. 3. Chassis Assembly.

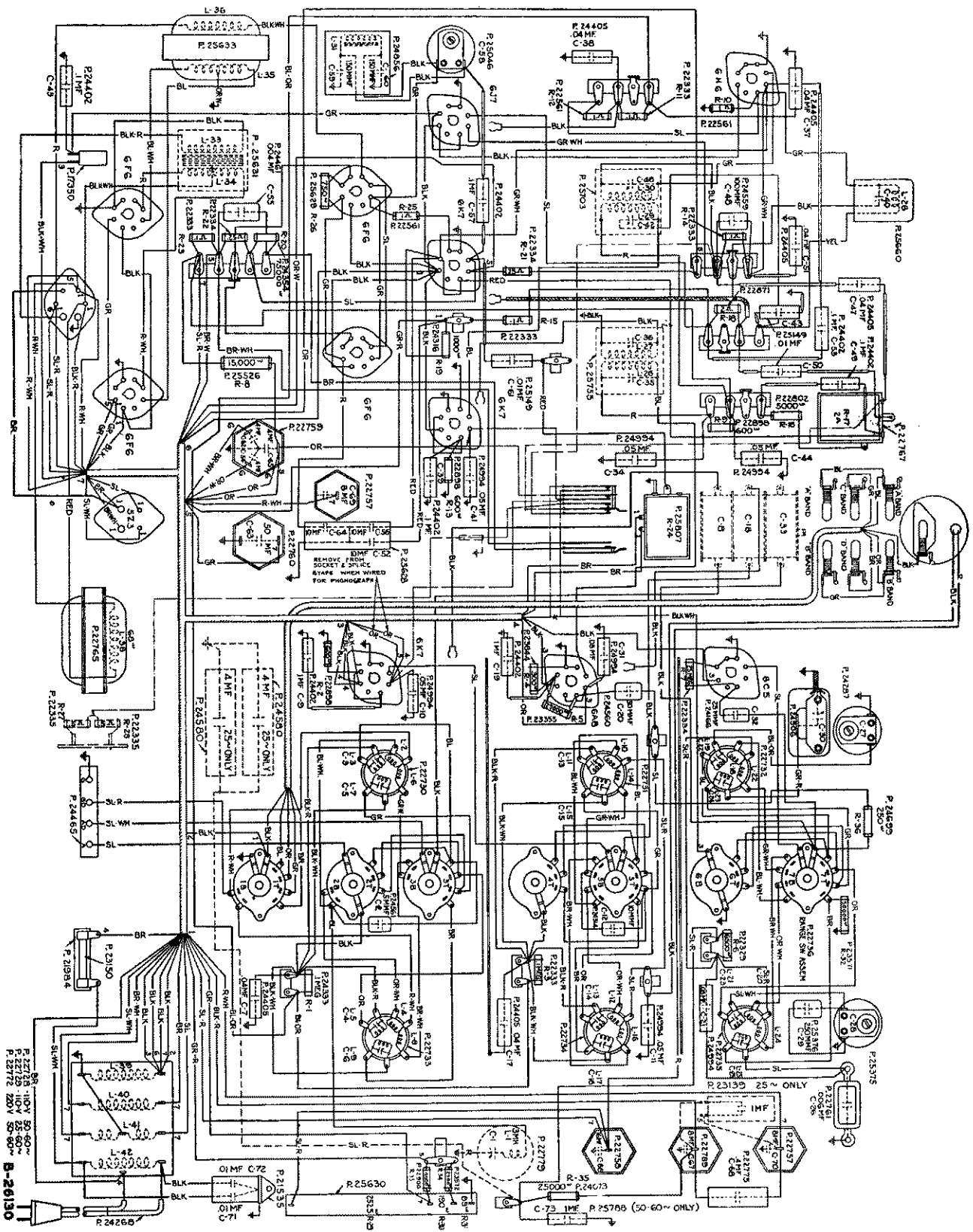


Fig. 4. Wiring Diagram of Chassis.