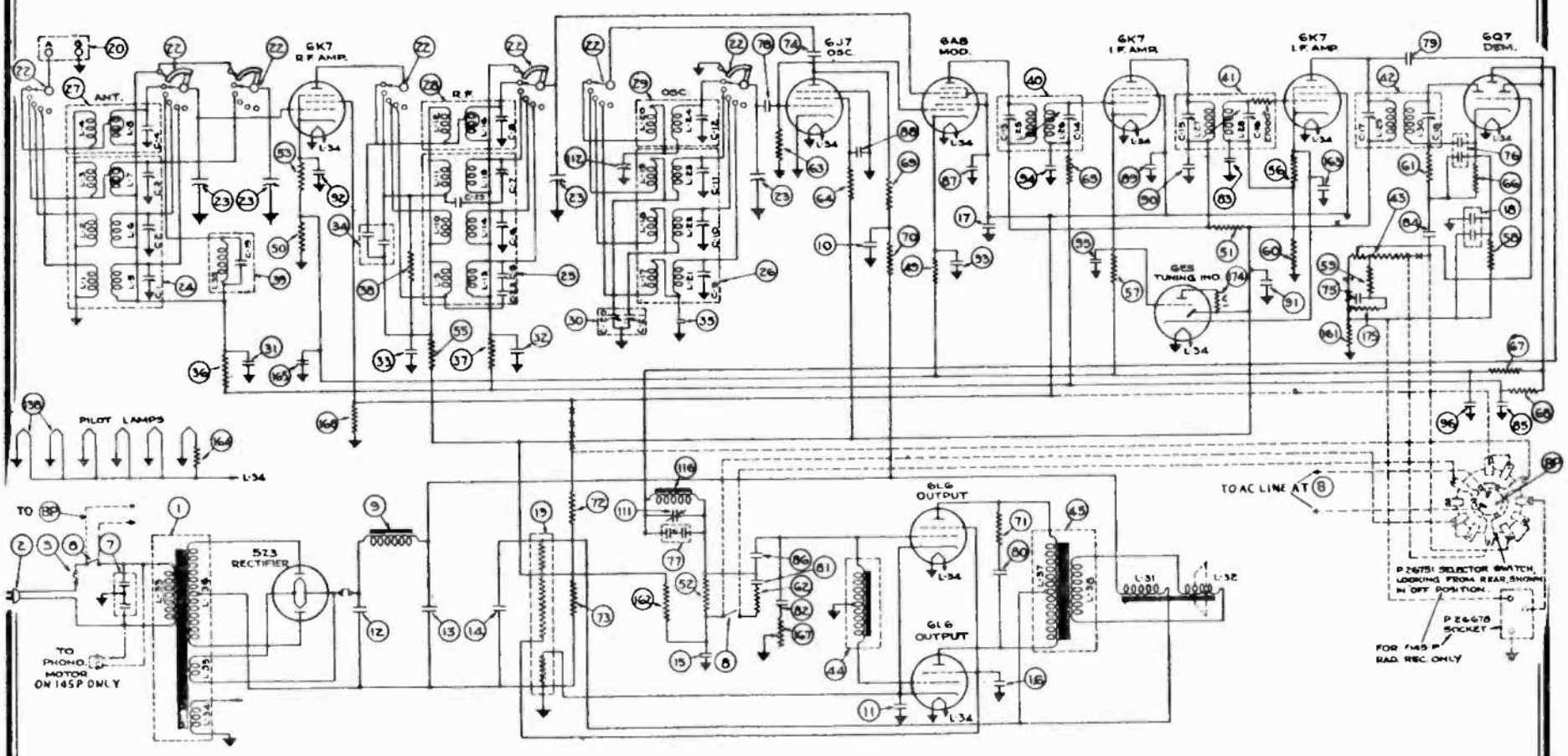
STROMBERG-CARLSON TEL. MFG. CO.

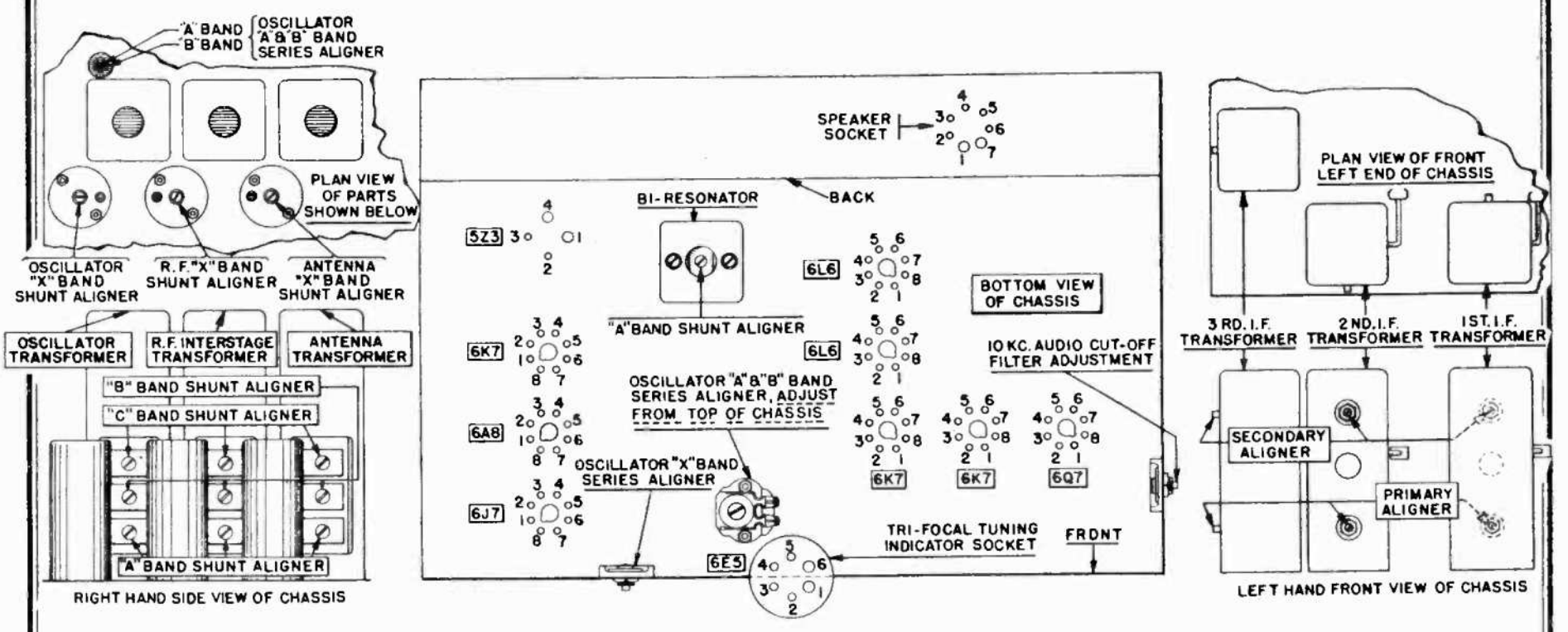
MODELS 145L, 145LB
145P, 145PB
Schematic, Socket
Trimmers



Type of Circuit	Superheterodyne
Tuning Ranges	X—145 to 370 Kc.; A—530 to 1700 Kc.; B—1700 to 5600 Kc.; C—5600 to 18,000 Kc.
Number and Type of Tubes	3 No. 6K7, 1 No. 6A8, 1 No. 6J7, 1 No. 6Q7, 2 No. 6L6, 1 No. 6E5, 1 No. 5Z3
Power Supply Voltage	105 to 125 Volts
Power Supply Frequency	25 to 60 Cycles and 50 to 60 Cycles
Input Power Rating—	
No. 145-L	118 Watts
No. 145-P	162 Watts
Frequency of Intermediate Amplifier	465 Kilocycles

APPARATUS SPECIFICATIONS

No. 145-L	50 to 60 Cycles; P-26288 Chassis; P-26170 Loud Speaker
No. 145-LB	25 to 60 Cycles; P-26289 Chassis; P-26170 Loud Speaker
No. 145-P	60 Cycles Only; P-26458 Chassis; P-26170 Loud Speaker; P-26728 Phonograph Unit
No. 145-PB	25 Cycles Only; P-26459 Chassis; P-26170 Loud Speaker; P-26729 Phonograph Unit

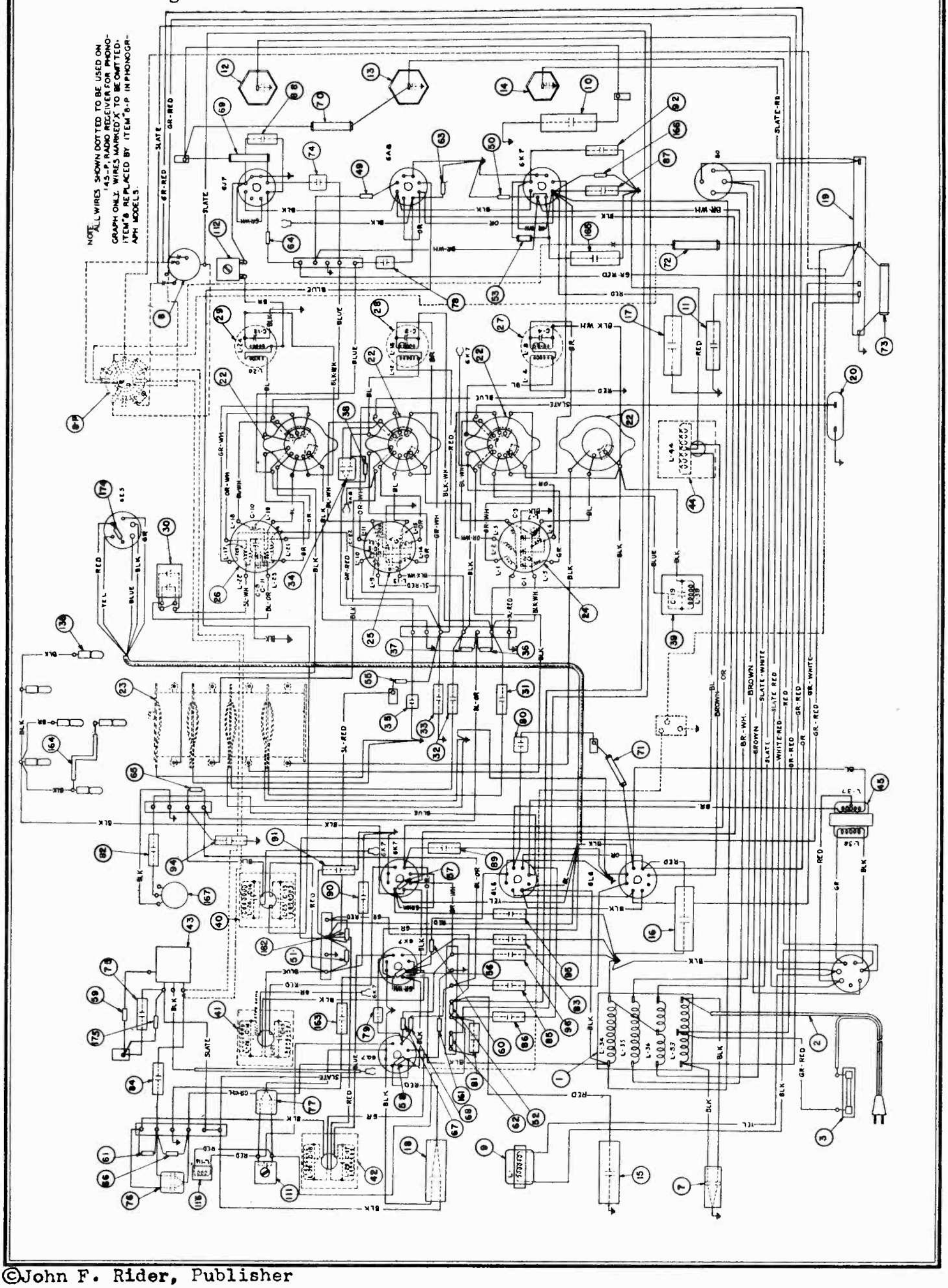


Terminal Layout for Voltage Measurement Chart and Location of the Various Aligning Capacitors.

MODELS 145L,145B
145P,145PB

STROMBERG-CARLSON TEL. MFG. CO.

Chassis Wiring



CIRCUIT DESCRIPTION

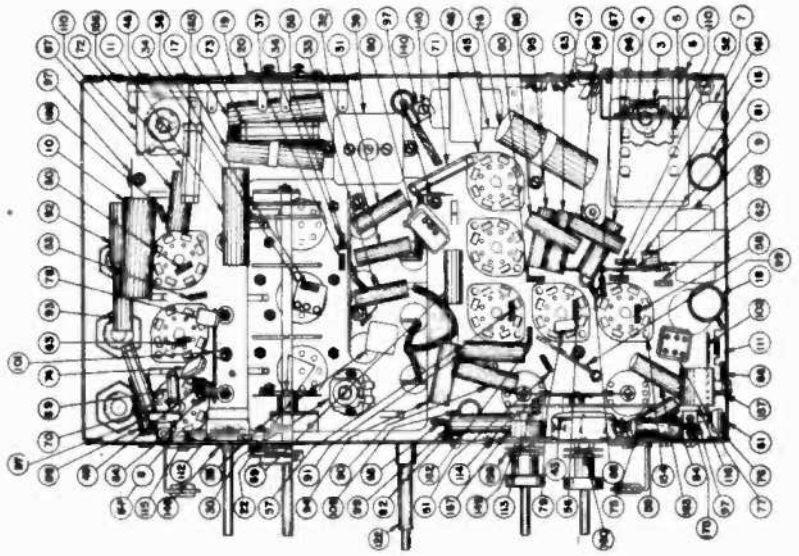
The No. 145 Radio Receiver is a ten tube, "Adjustable High Fidelity" receiver employing metal tubes including the new "Beam" power tubes. This receiver uses a Carpinchoe high fidelity dynamic speaker, and has incorporated in it the exclusive "Patent Applied For", Stromberg-Carlson "Tri-Focal" tuning system and the exclusive Stromberg-Carlson Acoustical Laboratories' revolutionary new development, the "Acoustical Labyrinth". This new device extends the bass response, provides reproduction only from the front of the cabinet, and eliminates all cabinet resonance. Audio reproduction is further improved in this receiver by employing sound diffusing vanes in front of the loud speaker opening which distribute the higher pitched tones, thereby providing excellent reproduction in all parts of the room by spreading out these directional frequencies.

Maximum selectivity between adjacent stations located in the standard broadcast band is obtained by the use of an additional tuned radio frequency ("Bi-resonator") circuit. When either the "X", "B", or "C" ranges are in operation, this additional tuned radio frequency circuit is automatically cut out of the receiver circuit. Adjustable high fidelity is obtained from this receiver by means of the variable band width, intermediate frequency transformers which are used in the two intermediate amplifier stages.

The various tubes are used in this receiver as follows: One No. 6K7 tube is used in the R. F. Amplifier, and the other two No. 6K7 tubes are used in the First and and Second I. F. Amplifier Stages. The No. 6A8 tube is used as the Modulator tube, and the No. 6J7 tube is used as the Oscillator tube. The No. 6Q7 tube is used as the Demodulator, Automatic Volume Control, and Audio Amplifier tube. The two No. 6L6 tubes are used in the Audio Power Output Stage. The No. 6E5 tube is used as the Indicator of the "Tri-Focal Tuning System", and the No. 5Z3 tube is the Rectifier tube of the Power Supply Unit.

			Terminals of Sockets								*Heater Voltages Between Heater Terminals*	
Tube	*Circuit*	*Cap*	1	2	3	4	5	6	7	8	*Socket Terminal Numbers*	*Volts*
6K7	R. F. Amp.	0	0	0	+245	+102	+6.8	+3.5	*6.3*	+6.8	2-7	*6.3*
6A8	Mod.	0	0	0	+247	+102	— 25	+102	*6.3*	+5.2	2-7	*6.3*
6J7	Osc.	— 25	0	0	+180	+145	0	—	*6.3*	0	2-7	*6.3*
6K7	I. F. Amp.	0	0	0	+240	+ 96	+7.6	+3.2	*6.3*	+7.6	2-7	*6.3*
6K7	I. F. Amp.	+.25	0	0	+242	+ 96	+6.9	+3.8	*6.3*	+6.9	2-7	*6.3*
6Q7	Dem.	0	0	0	+150*	0	+.15	+4.2	*6.3*	+7.5	2-7	*6.3*
6L6	Output	—	0	0	+260	+190	0	—	*6.3*	+ 12	2-7	*6.3*
6E5	Tuning Ind.	—	*6.3*	+.5	+7.5	+238	+ 9	0	—	—	1-6	*6.3*
5Z3	Rectifier	—	+442	*400*	*400*	+442	—	—	—	—	1-4	*4.8*
Speaker		—	+425	0	0	+442	+442	—	+262	—		

Voltage across vernier dial pilot lamp—*5.3* volts
Receiver tuned to 1000 Kc., no signal. A. C. voltages are indicated by italics.



ALIGNMENT DATA

All alignment adjustments are accurately made at the factory on this receiver, and ordinarily no readjustments 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 Amplifier Adjustments

Because of the necessity of obtaining the proper shape of resonance curve of these stages in a high fidelity receiver, it is recommended that unless it is absolutely essential, these I. F. adjustments be untouched. In the factory these adjustments are made using a visual system which allows the operator to see the exact shape of the resonance curve. For this reason it is best to have these adjustments made at the factory. However, in the case where this cannot be done, the following procedure should be followed.

Operate the range switch of the receiver to the "A" range position. Set the tuning dial at its extreme low frequency position, and operate the "Tone-Fidelity" control knob so that the receiver is adjusted for the standard fidelity position as indicated by the fidelity indicator located on the front panel of the receiver. **Never attempt to align the I. F. circuits of this receiver with the "Tone-Fidelity" control set at any position other than the standard fidelity.** The I. F. circuits may then be checked for alignment by adjusting the aligning capacitors in the exact order as follows:

1. Secondary of 3rd I. F. Transformer (Capacitor C-18).
2. Primary of 3rd I. F. Transformer (Capacitor C-17).
3. Secondary of 2nd I. F. Transformer (Capacitor C-16).
4. Primary of 2nd I. F. Transformer (Capacitor C-15).
5. Secondary of 1st I. F. Transformer (Capacitor C-14).
6. Primary of 1st I. F. Transformer (Capacitor C-13).

Radio Frequency Adjustments

The alignment of the radio frequency circuits for the various ranges in this receiver should be very carefully made in the order and at the frequencies specified.

It will be noted that no instructions are given for aligning the receiver at other than two frequencies for any range. Each receiver is given an exacting check for "tracking" at various frequencies in each range before leaving the factory. It is felt by the manufacturers that should any receiver through accident require a check on the "tracking", it should be returned to the factory, where this may be easily and accurately done.

Alignment of Long-Wave-Weather Range (Also Referred to as "X" Band) Circuits

1. Oscillator's "X" Band Shunt Aligning Capacitor at 350 Kilocycles (Capacitor C-12).
2. R. F. Interstage "X" Band Shunt Aligning Capacitor at 350 Kilocycles (Capacitor C-8).
3. Antenna "X" Band Shunt Aligning Capacitor at 350 Kilocycles (Capacitor C-4).
4. Oscillator "X" Band Series Aligning Capacitor at 150 Kilocycles (Capacitor Item 112). When operation No. 4 has been completed repeat operations 1, 2, and 3 again and in the exact order given.

Alignment of Standard Broadcast Range (Also Referred to as "A" Band) Circuits

1. Oscillator's "A" Band Shunt Aligning Capacitor at 1500 Kilocycles (Capacitor C-11).
2. R. F. Interstage "A" Band Shunt Aligning Capacitor at 1500 Kilocycles (Capacitor C-7).
3. "A" Band, R. F. Bi-resonator Shunt Aligning Capacitor at 1500 Kilocycles (Capacitor C-19).
4. Antenna "A" Band Shunt Aligning Capacitor at 1500 Kilocycles (Capacitor C-3).
5. Oscillator "A" Band Series Aligning Capacitor at 600 Kilocycles (Capacitor C-20). When operation No. 4 has been completed repeat operations 1, 2, and 3 again and in the exact order given.

Alignment of Amateur, Police, and Aircraft Range (Also Referred to as "B" Band) Circuits

1. Oscillator's "B" Band Shunt Aligning Capacitor at 5 Megacycles (Capacitor C-10).
2. R. F. Interstage "B" Band Shunt Aligning Capacitor at 5 Megacycles (Capacitor C-6).
3. Antenna "B" Band Shunt Aligning Capacitor at 5 Megacycles (Capacitor C-2).
4. Oscillator "B" Band Series Aligning Capacitor at 1.8 Megacycles (Capacitor C-21). When operation No. 4 has been completed repeat operations 1, 2, and 3 again and in the exact order given.

Alignment of Short-Wave-Foreign Range (Also Referred to as "C" Band) Circuits

1. Oscillator's "C" Band Shunt Aligning Capacitor at 16 Megacycles (Capacitor C-9).
2. R. F. Interstage "C" Band Shunt Aligning Capacitor at 16 Megacycles (Capacitor C-5).
3. Antenna "C" Band Shunt Aligning Capacitor at 16 Megacycles (Capacitor C-1).

MODELS 145L, 145LB
145P, 145PB

STROMBERG-CARLSON TEL. MFG. CO.

Parts List

REPLACEMENT PARTS

Item Number	Piece Number	Part
1	26440	Power Transformer (50 to 60 Cycles Chassis)
1	26441	Power Transformer (25 to 60 Cycles Chassis)
2	24268	Cord (A. C. Power Supply)
3	23150	Fuse (2 Amperes)
4	21984	Fuse Block Assembly
7	21535	Capacitor Assembly (2—.01 Mf. Capacitors)
8	26061	Switch ("Off-On" and Tone Control)
9	26260	Choke Coil Assembly (Filter of Rectifier)
10	25788	Electrolytic Capacitor, 1 Mf., 450 Volts
11	24207	Electrolytic Capacitor, 12 Mf., 25 Volts
12	22757	Electrolytic Capacitor (50 to 60 Cycles Chassis)
12	26510	Electrolytic Capacitor (25 to 60 Cycles Chassis)
13	22789	Electrolytic Capacitor (50 to 60 Cycles Chassis)
13	26511	Electrolytic Capacitor (25 to 60 Cycles Chassis)
14	25458	Electrolytic Capacitor, 16 Mf.
15	26693	Electrolytic Capacitor, 4 Mf., 350 Volts
16	26693	Electrolytic Capacitor, 4 Mf., 350 Volts
17	26693	Electrolytic Capacitor, 4 Mf., 350 Volts
18	26048	Capacitor, Dual, 10 Mf.
19	26442	Resistor "B" Voltage Divider
22	26443	Range Switch Assembly
23	26444	Gang Tuning Capacitor Assembly
24	26446	Coil Assembly, Antenna ("A", "B" and "C" Ranges)
25	26447	Coil Assembly, R. F. ("A", "B" and "C" Ranges)
26	26448	Coil Assembly, Oscillator ("A", "B" and "C" Ranges)
27	26507	Coil Assembly, Antenna ("X" Range)
28	26508	Coil Assembly, R. F. ("X" Range)
29	26509	Coil Assembly, Oscillator ("X" Range)
30	26564	Capacitor Assembly, Series Aligner ("A" and "B" Ranges)
31	24405	Capacitor Assembly, .04 Mf.
32	24405	Capacitor Assembly, .04 Mf.
33	24994	Capacitor Assembly, .05 Mf.
34	26513	Capacitor, Double, 200 Mmf.
35	25155	Capacitor, .0035 Mf.
36	26357	Resistor, Type "E", .1 Megohm
37	26357	Resistor, Type "E", .1 Megohm
38	26353	Resistor, Type "E", 47,000 Ohms
39	26474	Coil Assembly (Bi-Resonator)
40	26481	1st I. F. Transformer
41	26482	2nd I. F. Transformer
42	26243	3rd I. F. Transformer
43	26077	Potentiometer (Volume Control)
44	26272	Transformer Assembly, Audio Input
45	26469	Transformer Assembly, Audio Output
46	22988	Socket, 4 Prong
47	23517	Socket, 7 Prong
48	25539	Socket, 8 Prong
49	26326	Resistor, Type "E", 270 Ohms
50	26324	Resistor, Type "E", 180 Ohms
51	26330	Resistor, Type "E", 560 Ohms
52	26357	Resistor, Type "E", .1 Megohm
53	26329	Resistor, Type "E", 470 Ohms
55	26330	Resistor, Type "E", 560 Ohms
56	26330	Resistor, Type "E", 560 Ohms
57	26333	Resistor, Type "E", 1000 Ohms
58	26340	Resistor, Type "E", 3900 Ohms
59	26341	Resistor, Type "E", 4700 Ohms
60	26331	Resistor, Type "E", 680 Ohms
61	26345	Resistor, Type "E", 10,000 Ohms
62	26349	Resistor, Type "E", 22,000 Ohms
63	26353	Resistor, Type "E", 47,000 Ohms
64	26353	Resistor, Type "E", 47,000 Ohms
65	26357	Resistor, Type "E", .1 Megohm
66	26362	Resistor, Type "E", .27 Megohm
67	26369	Resistor, Type "E", 1 Megohm
68	26369	Resistor, Type "E", 1 Megohm
69	18696	Resistor, Type "B", 10,000 Ohms
70	24073	Resistor, Type "B", 25,000 Ohms
71	18696	Resistor, Type "B", 10,000 Ohms
72	25526	Resistor, Type "F", 15,000 Ohms
73	26567	Resistor, Type "F", 30,000 Ohms
74	25487	Capacitor, Type "W", .001 Mf.
75	24994	Capacitor Assembly, .05 Mf.
76	26512	Capacitor, Double, 100 Mmf.
77	26512	Capacitor, Double, 100 Mmf.
78	24560	Capacitor, 50 Mmf.
79	24560	Capacitor, 50 Mmf.
80	25487	Capacitor, Type "W", .001 Mf.
81	25149	Capacitor Assembly, .01 Mf.
82	25149	Capacitor Assembly, .01 Mf.
83	24405	Capacitor Assembly, .04 Mf.
84	24405	Capacitor Assembly, .04 Mf.
85	24405	Capacitor Assembly, .04 Mf.
86	24405	Capacitor Assembly, .04 Mf.
87	24994	Capacitor Assembly, .05 Mf.
88	24994	Capacitor Assembly, .05 Mf.
89	24994	Capacitor Assembly, .05 Mf.
90	24994	Capacitor Assembly, .05 Mf.
91	24994	Capacitor Assembly, .05 Mf.
92	24402	Capacitor Assembly, .1 Mf.
93	24402	Capacitor Assembly, .1 Mf.
94	24402	Capacitor Assembly, .1 Mf.
95	24402	Capacitor Assembly, .1 Mf.
96	24402	Capacitor Assembly, .1 Mf.
111	26568	Adjustable Capacitor (High Frequency Cut-off Filter)
112	26569	Capacitor (Oscillator Series Aligner, "X" Range)
113	26485	Potentiometer and Bracket Assembly (Tone Control and High Fidelity)
116	26515	Coil Assembly (High Frequency Cut-off Filter)
122	26220	Drive Shaft Assembly
123	26520	Dial Assembly
124	26533	Dial Assembly (Main)
125	26672	Drive Cord Assembly, R. T. Disc
126	26673	Drive Cord Assembly, L. T. Disc
127	26683	Cord Assembly (Dial Elevator)
128	26226	Spring
132	26682	Reel Assembly (Range Switch)
133	26667	Reel Assembly (Tone Control)
134	26666	Reel Assembly (Volume Control)
136	26147	Dial Lamp Socket
137	26257	Lamp Shades (For Dial Lamps)
138	26287	Pilot Lamp
141	26497	Cable Assembly, Tri-Focal Indicator
161	26353	Resistor, Type "E", 47,000 Ohms
162	26353	Resistor, Type "E", 47,000 Ohms
163	24402	Capacitor Assembly, .1 Mf.
164	26780	Resistor, 3.5 Ohms, (Pilot Lamp)
165	24207	Electrolytic Capacitor, 12 Mf., 25 Volts
166	26353	Resistor, Type "E", 47,000 Ohms
167	26439	Potentiometer (Tone Control)
174	26369	Resistor, Type "E", .1 Megohm

MISCELLANEOUS PARTS

Piece Number	Part
26250	Cone Assembly (For P-26170 Speaker)
26043	Plug (For Loud Speaker Cable)
26369	Resistor, Type "E", 1 Megohm (Used at Socket of No. 6E5 Tube)
26302	Knob (For "Volume" Control)
26299	Knob (For "Tone-Fidelity" Control)
26305	Knob (For "Stations" Selector Control Shaft)
26306	Knob (For "Vernier" Stations Selector Control Shaft)
26301	Knob (For "Ranges" Switch)
26300	Knob (For "Off-On-Bass" Control)
26391	Knob (For "Off-On-Bass-Phono" Control. Used only on No. 145-P Receivers)