

Engineering Data

Stromberg-Carlson No. 350 Radio Receivers

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY
ROCHESTER, NEW YORK

ELECTRICAL SPECIFICATIONS

Type of Circuit	Superheterodyne with A. F. C. Electric Tuning
Tuning Ranges	A—530 to 1700 Kc.; B—1700 to 5600 Kc.; C—5600 to 18,000 Kc.
Number and Type of Tubes	{ 2 No. 6K7, 1 No. 6A8, 1 No. 6F8-G, 1 No. 6H6, 1 No. 6B8, 1 No. 6C5, 2 No. 6F6, 1 No. 6U5, 1 No. 5Z3
Voltage Rating	105 to 125 Volts, A. C.
Power Frequency Rating	See "Apparatus Specifications"
Input Power Rating:	
Radio Models Only	120 Watts
Radio-Phono. Models	140 Watts
Frequency of Intermediate Amplifier	455 Kilocycles

APPARATUS SPECIFICATIONS

No. 350-M Receiver	50 to 60 Cycles; P-29043 Chassis; P-27504 Speaker
No. 350-MB Receiver	25 to 60 Cycles; P-29044 Chassis; P-27504 Speaker
No. 350-R Receiver	50 to 60 Cycles; P-29043 Chassis; P-27504 Speaker
No. 350-RB Receiver	25 to 60 Cycles; P-29044 Chassis; P-27504 Speaker
No. 350-P Receiver	60 Cycles Only; P-29066 Chassis; P-27504 Speaker; P-29443 Phono. Motor Unit
No. 350-PB Receiver	25 Cycles Only; P-29067 Chassis; P-27504 Speaker; P-29444 Phono. Motor Unit
No. 350-V Receiver	50 to 60 Cycles; P-29043 Chassis; P-27504 Speaker
No. 350-VB Receiver	25 to 60 Cycles; P-29044 Chassis; P-27504 Speaker

CIRCUIT DESCRIPTION

The Stromberg-Carlson No. 350 Radio Receivers are eleven tube, "Electric Tuning", adjustable high fidelity receivers and have three tuning ranges. Either "Manual" or "Electric" tuning in the Standard Broadcast range is easily obtainable by simply rotating the range switch control knob to the desired position; when the range switch control knob is rotated to the "Electric" tuning position, the dial illumination ceases and the station letters and large green star become illuminated; when the range switch control knob is rotated to the other positions the tuning dial of the receiver becomes illuminated, the selectorlite dial arrangement indicating which range is in use. When it is desired to tune in stations located in either the Medium Wave or Short-Wave ranges, the electric tuning arrangement is made inoperative. The electric tuning circuit is arranged so that eight favorite stations located in the Standard Broadcast range may be set up for selection by means of the push-buttons. (Local and other stations that give the best daytime and evening service should be selected). To properly set up the electric tuning arrangement for the eight favorite broadcast stations, read the section, "Instructions for Setting Up the Electric Tuning Arrangement" appearing on page 7 of this book. When manually tuning these

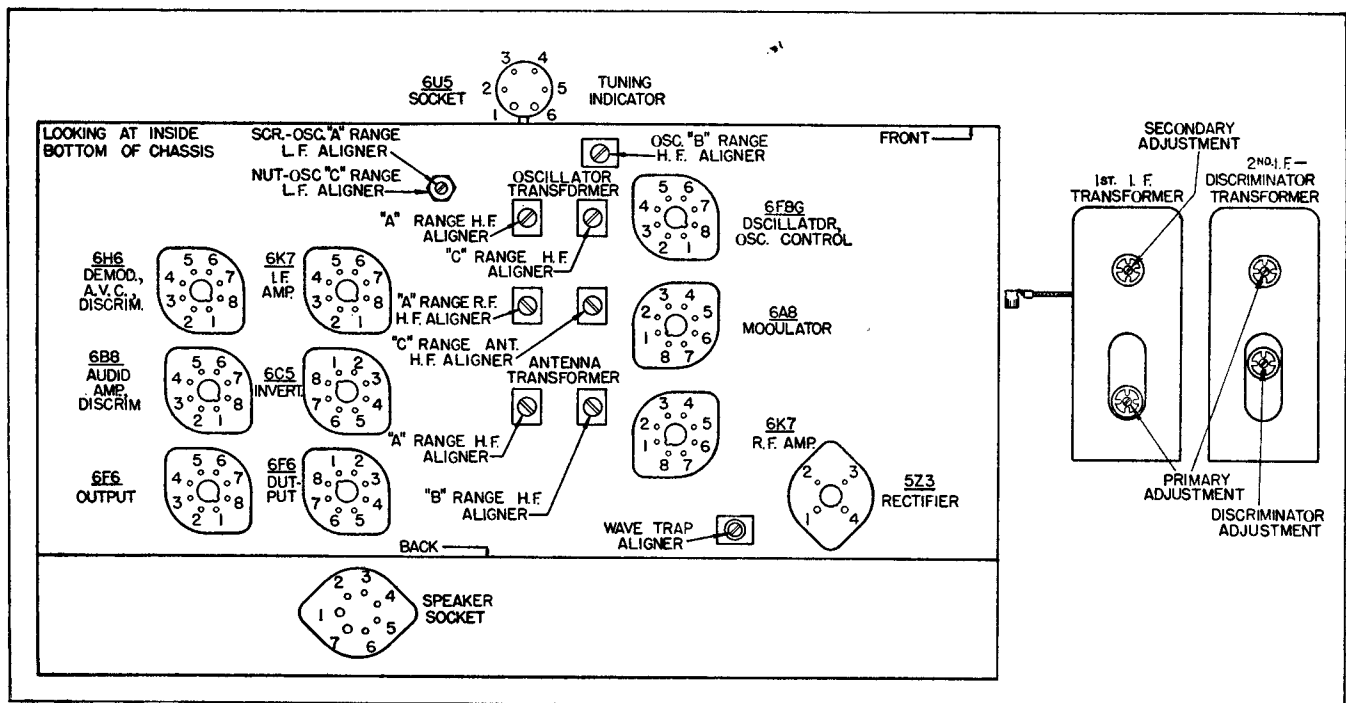


Fig. 1. Terminal Layout for Voltage Measurement Chart and Location of the Aligning Adjustments for the R. F., I. F. and Discriminator Circuits.

receivers, or when setting up the eight desired stations for electric tuning, resonance with a signal is indicated by means of the tuning indicator tube which operates on the cathode-ray principle. The strength of a received signal may be determined by observing the size of the aperture appearing on the target of the tuning indicator tube, the stronger a received signal the greater the reduction in the size of the aperture.

When reception conditions warrant, the fidelity of this receiver can be increased by rotating the "Tone-Fidelity" switch control knob in a clockwise rotation from the normal position of this control. High Fidelity reproduction is obtained in two steps from the normal position of this control. These receivers are also provided with a low level bass frequency compensating circuit in conjunction with the volume control circuit, so that balanced reproduction is obtained for any setting of the volume control. A "Bass" control is also provided to increase the response at the lower (bass) audio frequencies if this is desired.

In addition to the above features, the No. 350-P Receivers are also equipped with an automatic record changer type phonograph unit which uses a crystal type pick-up in conjunction with a specially equalized circuit.

The various tubes are used in these receivers as follows: One No. 6K7 tube is used in the R. F. Amplifier and the other No. 6K7 tube is used in the I. F. Amplifier. The No. 6A8 tube is used as the Modulator tube and the No. 6F8-G tube is used for both the Oscillator and Oscillator Control tube. The No. 6H6 tube is used as part of the Discriminator circuit for Automatic Frequency Control and also as the Demodulator and Automatic Volume Control tube. The No. 6B8 tube is also used as part of the Discriminator circuit for Automatic Frequency Control and also as the tube in the Audio Amplifier Stage (Driver). The No. 6C5 tube is used as the Phase Inverter tube of the Audio Amplifier circuit. The two No. 6F6 tubes are used in the Audio Power Output Stage and the No. 6U5 tube is used for indicating resonance in the Tuning Indicator System. The No. 5Z3 tube is the Rectifier tube of the Power Supply.

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 all the tubes in their respective sockets except the No. 6U5 tube. 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 except when an asterisk appears after any given voltage value, in which case the 500 volt scale was used.

Tube	Circuit	Cap	Terminals of Sockets								Heater Voltages Between Heater Terminals	
			1	2	3	4	5	6	7	8	Socket Terminal Numbers	Volts
6K7	R. F. Amp.	0	0	0	+205	+99	0	0	6.2	0	2-7	6.2
6A8	Modulator	0	0	0	+227	+99	-5.9	+99	6.2	0	2-7	6.2
6F8-G	Oscillator and Oscillator Control	0	0	0	+153	+7.8	-5.9	+152	6.2	0	2-7	6.2
6K7	I. F. Amp.	0	0	0	+210	+57	0	+57	6.2	0	2-7	6.2
6H6	Discriminator, Demodulator, A. V. C.	—	0	0	0	0	0	0	6.2	0	2-7	6.2
6B8	Discriminator, Audio Amp.	0	0	0	+20*	0	0	+38*	6.2	0	2-7	6.2
6C5	Audio Inv.	—	0	0	+120	+215	0	0	6.2	+5.9	2-7	6.2
6F6	Audio Output	—	0	0	+300	+308	0	0	6.2	+19	2-7	6.2
6F6	Audio Output	—	0	0	+300	+308	0	0	6.2	+19	2-7	6.2
6U5†	Tuning Ind.	—	6.2	+19	0	+217	-3	0	—	—	1-6	6.2
5Z3	Rectifier	—	+410	397	397	+410	—	—	—	—	1-4	4.8
Speaker Socket		—	+390	0	0	+410	+410	0	+308	—	—	—

Receiver tuned manually to 1000 Kc., no signal. A. C. voltages are indicated by italics.

ALIGNMENT DATA

All alignment adjustments are accurately made at the factory on these receivers, and ordinarily no readjustments are necessary. However, should it become necessary to make any readjustments, the procedure given in these instructions should be carefully followed. The preferred method of aligning these receivers is by the use of a suitable cathode ray oscillograph and frequency modulator unit in conjunction with the standard signal generator.

To accurately align circuits in these receivers, it is necessary to use a high grade signal generator capable of being modulated 30% and having an output voltage of at least 100,000 microvolts; it will also be necessary to have this output voltage controlled so that only a few microvolts may be fed into the receiver. In conjunction with the signal generator, a sensitive output meter should be used for determining the maximum signal voltage developed across the voice coil of the loud speaker. In addition to this equipment, it will be necessary when making a final adjustment of the "Discriminator" tuned circuit to use a milliammeter having a range of 0 to 10 milliamperes connected in series with that cathode of the No. 6F8-G tube which is used in the oscillator control circuit by means of an adapter plug inserted between the tube and its socket. The leads to the meter should not be longer than 15", and should be shunted at the socket connections by a capacitor of not less than 0.25 Mfd.

In order to make the aligning adjustments in an easy and satisfactory manner, it is recommended that the Stromberg-Carlson P-24608 aligning tool be used.

Before proceeding with the alignment of any circuits in these receivers, except when specifically directed, be sure that the Fidelity Control knob is set for the "Normal" position. The "Off-On-Bass" control should also be set for the "Normal" position. In making any alignment adjustments always adjust the test oscillator's output voltage to the minimum value where a good alignment may still be obtained, except when specifically directed in these instructions. Figure 1 shows the location of all the aligning capacitors or adjustments for this receiver.

Dial Adjustment

Before aligning the circuits of these receivers, the tuning dial must be properly aligned to "track" with the gang tuning capacitor. To check whether the dial is set correctly with respect to the gang tuning capacitor, rotate the "Rapid Station Selector" knob in a clockwise direction so that the gang tuning capacitor is set to its maximum capacity position. Then, with the receiver turned "on", the illuminated dial indicator line should be exactly centered over the dial alignment lines (black lines) which are located at the extreme low frequency end of each scale on the dial. If these lines do not center over the illuminated dial indicator line, loosen the two set screws located on the hub of the dial. Then, rotate the dial so that these alignment lines are centered over the illuminated dial indicator line. The two set screws of the dial hub should then be securely tightened.

Intermediate Frequency Adjustments

The intermediate frequency used in these receivers is 455 kilocycles. 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.

1. Operate the Range Switch of the receiver to the manual tuning, Standard Broadcast range position, and set the tuning dial to its extreme low frequency position. Set the Fidelity control knob to its "Normal" position, and the "Off-On-Bass" control knob to its normal position.

CAUTION: Never attempt to align the R. F. or I. F. circuits of this receiver with the Fidelity control knob set at any position other than the "Normal" position and the Range Switch control knob set at the "Electric" tuning position unless specifically directed in the following paragraphs. Also, do not make any aligning adjustments of the R. F., I. F., or "Discriminator" circuits with the A. F. C. switch (which is located on rear of the chassis base) set at the "set-up" position.

2. Apply between the chassis base (or ground binding post) of the receiver and the grid of the No. 6A8 modulator tube, a modulated signal of 455 kilocycles from the signal generator, using a 0.1 mfd. capacitor in series with the connection between the output terminal of the signal generator and the grid of the No. 6A8 tube. Do not remove the chassis grid lead connecting to this tube. The ground (or low side) terminal of the signal generator should be connected to either the chassis base or the ground binding post.
3. Now, noting from Fig. 1, the alignment adjustments for the First and Second I. F. transformers, align the I. F. circuits in the following order:

Adjust the Second I. F. transformer primary circuit for maximum output.

Adjust the First I. F. transformer primary circuit for maximum output.

Adjust the First I. F. transformer secondary circuit for maximum output.

Carefully make all of the above adjustments, watching carefully the output meter so that the peak reading is obtained for each adjustment. As each adjustment is made reduce the output of the test oscillator as required.

4. To adjust the Discriminator circuit proceed as follows:

Check the position of the Range Switch control knob which should be set to the manual tuning Standard Broadcast position.

CAUTION: Before adjusting this circuit be sure that the I. F. amplifier is tuned exactly to 455 kilocycles. With the signal generator still set at a frequency of 455 kilocycles, adjust the signal generator's

output control so that a signal of 50,000 to 100,000 microvolts is fed into the No. 6A8 modulator tube. Now, observe the reading of the milliammeter which is connected in series with the cathode of the No. 6F8-G oscillator control tube, and rotate the Range Switch control knob to the "Electric" position, observing whether there is any difference in the reading of the milliammeter. When this circuit is correctly adjusted, there should be no difference in the reading of the milliammeter when the Range Switch control knob is rotated from the manual tuning Standard Broadcast to the "Electric" position. If there is any difference in the milliammeter reading while rotating this control knob from the manual tuning Standard Broadcast to the "Electric" position and vice versa, adjust the "Discriminator" circuit by means of the screw adjustment until the meter reading has the same value regardless of whether the Range Switch control knob is rotated to the manual tuning Standard Broadcast or "Electric" position. When this condition is obtained, the Discriminator circuit is properly adjusted.

Radio Frequency Adjustments

The alignment of the radio frequency circuits in these receivers should be very carefully made and in the order specified.

When making any aligning adjustments of these circuits, the Fidelity Control knob should be set for "Normal" operation, and the "Off-On-Bass" control knob should also be set for "Normal" operation.

Alignment of Short Wave Range (Also Referred to as "C" Range)

In aligning the radio frequency circuits for this range, replace the 0.1-microfarad capacitor which was placed in series with the test oscillator's output lead for the I. F. alignments, with a 400-ohm carbon type resistor. This lead should then be connected to the antenna binding post located on the rear of the receiver chassis. The ground terminal (or low side) of the test oscillator should be connected to the ground binding post on the receiver.

1. Operate the Range Switch on the receiver chassis to the short wave ("C") range position, and set the test oscillator's frequency and the receiver's tuning dial to 16 megacycles.
2. Adjust the receiver's oscillator "C" range high frequency aligner for maximum output.
3. Adjust the antenna "C" range high frequency aligner for maximum output, at the same time rotate the gang tuning capacitor back and forth through resonance until maximum output is obtained.
4. Set the test oscillator's frequency and the receiver's tuning dial to 6 megacycles.
5. Adjust the receiver's oscillator "C" range low frequency aligner (series aligner), and at the same time rotate the gang tuning capacitor back and forth through resonance until maximum output is obtained.
6. Reset both the test oscillator's frequency and the receiver's tuning dial to 16 megacycles and repeat operations Nos. 2 and 3.

Alignment of Medium Wave Range (Also Referred to "B" Range)

In aligning the radio frequency circuits for this range, use the same artificial antenna (400-ohm carbon type resistor) in series with the output terminal of the test oscillator as was used for aligning the short-wave range.

1. Operate the Range Switch on the receiver chassis to the Medium Wave ("B") range position, and set the test oscillator's frequency and the receiver's tuning dial to 5 megacycles.
2. Adjust the receiver's oscillator "B" range high frequency aligner for maximum output.
3. Adjust the antenna "B" range high frequency aligner for maximum output, and at the same time rotate the gang tuning capacitor back and forth through resonance until maximum output is obtained.

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

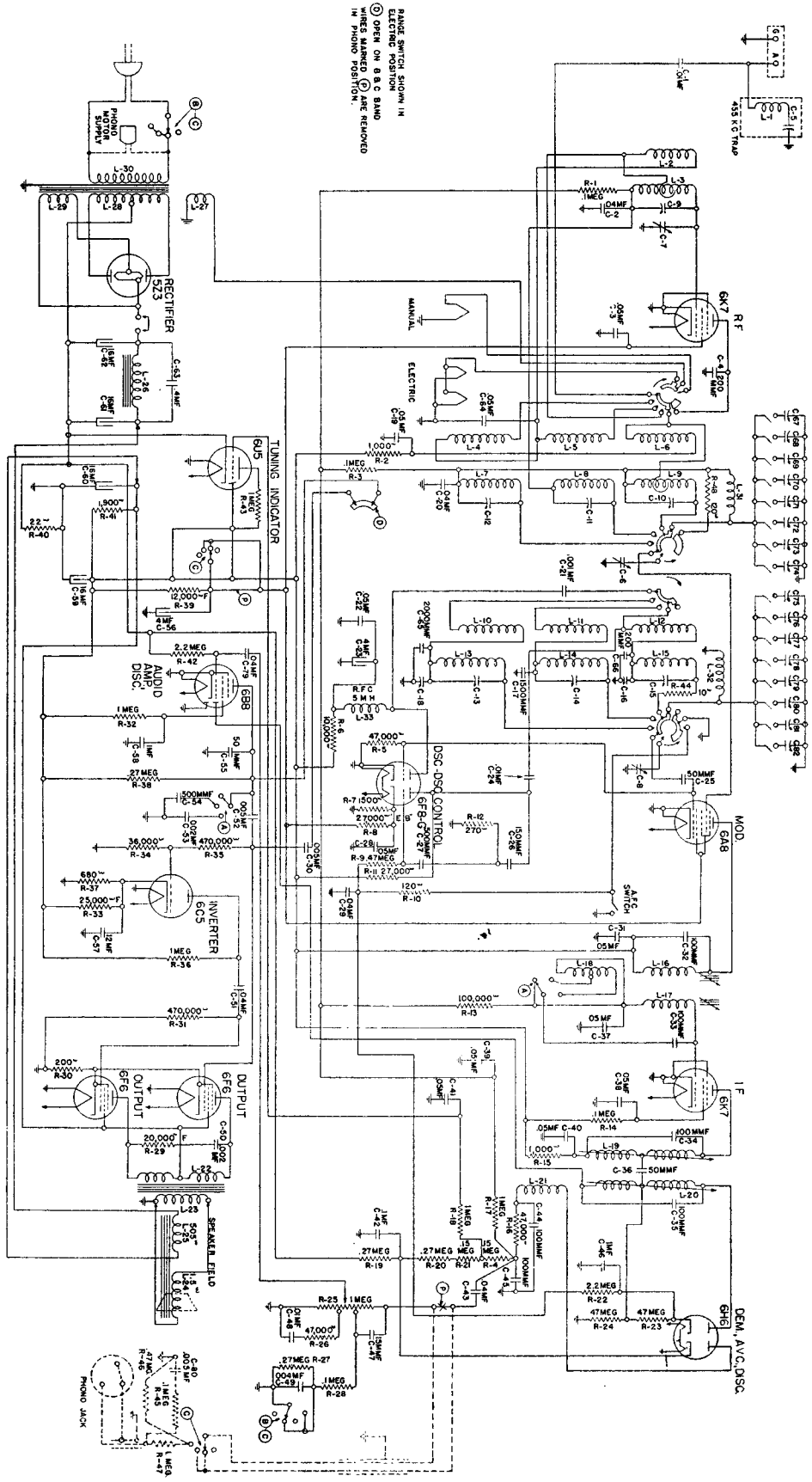
In aligning the radio frequency circuits for this range, replace the 400-ohm carbon type resistor in series with the test oscillator's output lead with a 200-micro-microfarad capacitor and align these circuits as follows:

1. Operate the Range Switch to the manual tuning Standard Broadcast "A" range position and set the test oscillator's frequency and the receiver's tuning dial to 1.5 megacycles.
2. Adjust the receiver's oscillator "A" range high frequency aligner for maximum output.
3. Adjust the R. F. interstage "A" range high frequency aligner for maximum output.
4. Adjust the antenna's "A" range high frequency aligner for maximum output.
5. Set the test oscillator's frequency and the receiver's tuning dial to 0.6 megacycles.
6. Adjust the receiver's oscillator "A" range low frequency aligner (series aligner) for maximum output, and at the same time rotate the gang tuning capacitor slightly back and forth through resonance until maximum output is obtained.
7. Reset both the test oscillator's frequency and receiver's tuning dial to 1.5 megacycles and repeat operations Nos. 2, 3 and 4.

Wave Trap Adjustment

In adjusting the wave trap circuit, set the Electric Tuning and Range Switch control knob to the manual tuning, Standard Broadcast position (arrow on knob pointing in direction of gold dot). Set the tuning dial to 1000 kilocycles.

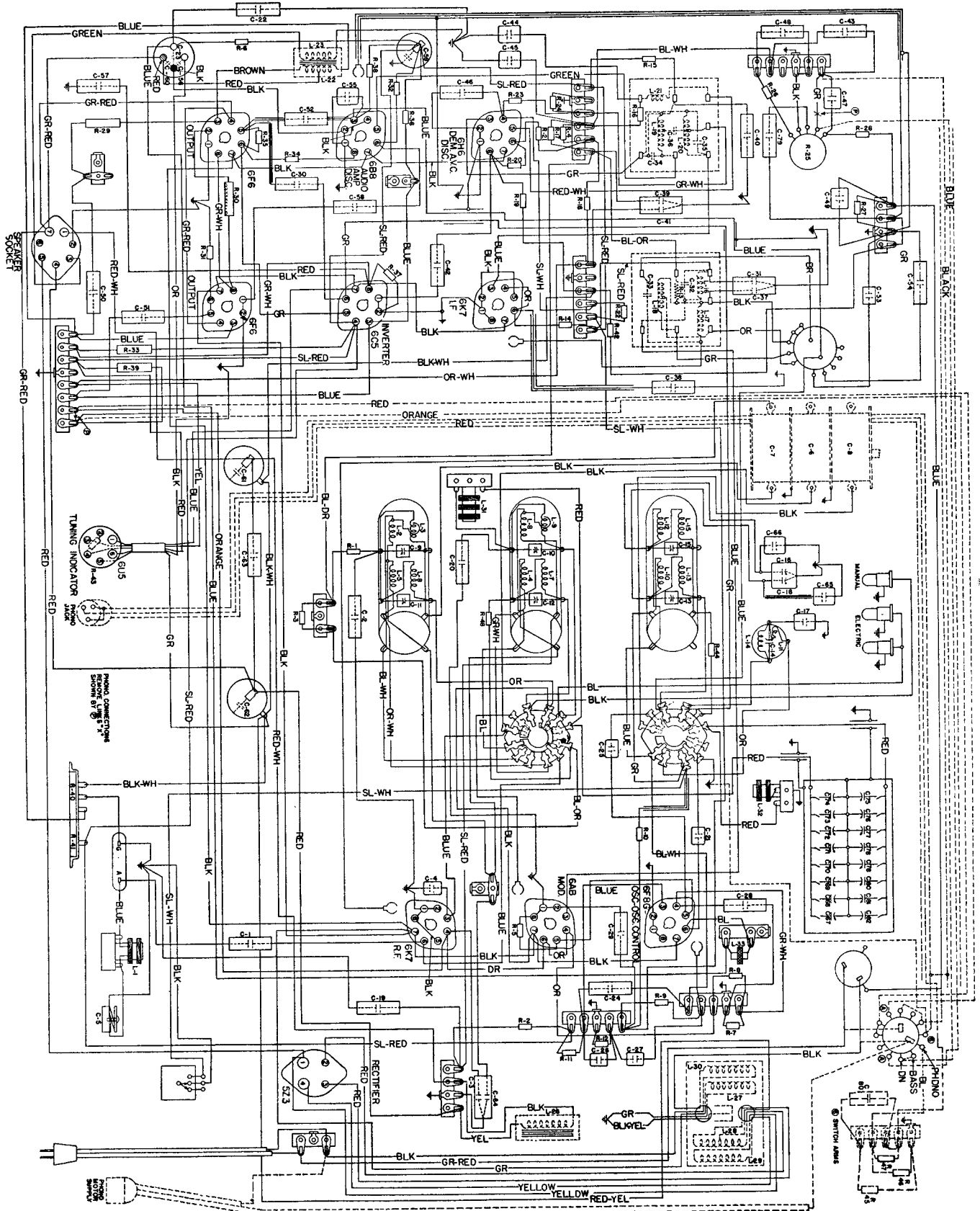
Connect a 200-micro-microfarad capacitor in series with the output terminal of the modulated test oscillator and the antenna binding post on the receiver, and the ground terminal of the test oscillator to the ground binding post on the receiver. Then, with the modulated test oscillator set at the frequency of the intermediate amplifier, 455 kilocycles, supply a fairly strong signal to the receiver and adjust the wave trap aligner until a minimum indication is obtained on the output meter.



RANGE SWITCH SHOWN IN ELECTRIC POSITION
 (1) OPEN ON B & C BAND WIRES MARKED (2) ARE REMOVED IN PHONO POSITION.

Fig. 2. Schematic Circuit of Receiver.

Fig. 3. Wiring Diagram, No. 350 Receiver.



OBTAINING REPRODUCTION FROM PHONOGRAPH RECORDS FOR RECEIVERS NOT EQUIPPED WITH A RECORD PLAYING UNIT

In order to obtain reproduction of phonograph records in conjunction with these receivers, the following instructions should be followed:

To equip these receivers for phonograph operation, it will be necessary to purchase and install a Stromberg-Carlson, P-29721 Package Assembly. Complete instructions on how to install and operate this assembly are furnished with each P-29721 Package Assembly.

To obtain the best quality of phonograph reproduction from these receivers, a Stromberg-Carlson Record Player is recommended. The record player is equipped with a correctly designed single record playing motor unit, and uses a crystal type pick-up in conjunction with a specially equalized circuit.

If the Stromberg-Carlson Record Player is not used and the electric pick-up to be used is of the high impedance type, it will be necessary to connect a low capacity shielded cable between the three-prong socket and plug of the P-29721 Package Assembly, and the pick-up. The length of the shielded cable used should be kept as short as possible.

If a pick-up of the low impedance type is used, it will be necessary to connect a "matching transformer" between the three-prong socket and plug of the P-29721 Package Assembly, and the pick-up. The transformer should be located as near to the receiver as possible, in which case it will not be necessary to use a shielded cable.

INSTRUCTIONS FOR SETTING UP ELECTRIC TUNING ARRANGEMENT

1. Before proceeding to set up the stations for electric tuning, the radio receiver should be turned "on" for approximately twenty minutes.
2. Check the position of the "Tone-Fidelity" switch control knob. When tuning in a signal this control knob should be set at the "Normal" position (pointer on knob pointing in direction of gold dot).
3. Remove the lists of station letters from the P-28781 package assembly which is tacked inside of the cabinet.
4. Remove the three screws which hold the electric tuning escutcheon plate (metal plate). Then, remove from the escutcheon, the strip of transparent material and the strip of paper on which the eight stars are printed.
5. Remove the five screws which hold the electric tuning escutcheon to the front panel.
6. From the list of stations, remove the call letters of the eight stations which it is desired to set up for electric tuning. These eight stations should preferably be selected and set up in the daytime so that the best service will be obtained at all times.

CAUTION: Each button adjustment for electric tuning has assigned frequency limits. These limits are designated for each adjustment on the cover plate which covers the electric tuning adjusting capacitors (visible when the electric tuning escutcheon is removed from the cabinet). The eight stations should be selected so that the frequency of each station will be within the assigned frequency limits of its associated push button.

It will be noted that the station letters are printed on partially cut squares to facilitate ease in removing the desired station letters. In setting up these eight favorite stations, the following order should be followed:

Looking at the front of the receiver, the station letters of the station having the highest frequency should be inserted into the farthest left-hand square of the escutcheon. Then, in successive order, according to the frequency, insert the station letters of the remaining seven stations into the other seven squares of the electric tuning escutcheon; the station letters of the station having the lowest frequency being inserted into the farthest right-hand square of the escutcheon.

After the eight station call letters have been inserted into the escutcheon, the transparent strip should be replaced over the station call letters, and the escutcheon plate then fastened into its position on the electric tuning escutcheon by means of the three screws.

The tuning adjustments for the eight favorite stations can now be made, starting with the station having the highest frequency and proceeding as follows:

7. **IMPORTANT:** By aid of a screwdriver, rotate the slotted shaft of the A. F. C. Switch, which is located at the rear of the chassis base, so that the slot of the shaft points in the direction of the word "Set-up" (maximum clockwise rotation).
8. With the receiver turned "on", and the Range Switch control knob set to the manual tuning Standard Broadcast position, tune the receiver in the conventional manner by means of the station selector knobs to that station having the highest frequency (of the eight chosen for setting up in the electric tuning arrangement) and carefully note the program which it is broadcasting. Then, rotate the Range Switch control knob to the electric tuning position, arrow on knob pointing in direction of the gold dot (large star and station letters become illuminated).
9. With the electric tuning escutcheon still removed from the cabinet, push in the push button for the station having the highest frequency, provided, of course, that the station chosen has a frequency which is within the assigned frequency limits for this button. Now, looking in on the electric tuning unit, rotate by means of a small screwdriver, the screw of the oscillator (OSC.) tuning adjustment which is designated 1560 to 1000 kilocycles to the position where the desired station is received.

In order to check whether the program being received is from the desired station, simply rotate the Range Switch control knob to the manual tuning position, and with the receiver tuned in manually to the desired station a quick check can be made; then, rotate the Range Switch control knob back to the electric tuning position. Exact resonance with the desired station should always be obtained by observing the tuning indicator.

IMPORTANT: Always use the tuning indicator unit when setting up stations for electric tuning in order to determine when resonance with the desired station is obtained.

- When the oscillator tuning adjustment has been properly made as mentioned in paragraph 9 above, the screw of the antenna (ANT.) tuning adjustment designated 1560 to 1000 kilocycles should be rotated to the position where exact resonance with the desired station is again obtained by observing the tuning indicator.

When these adjustments have been properly made, the station having the highest frequency is correctly set up for electric tuning selection.

- Now proceed to set up the remaining seven stations in the same manner as mentioned in Paragraphs 7, 8, 9 and 10 above, proceeding according to the frequency of the remaining stations.
- IMPORTANT:** When all of the adjustments have properly been made for the eight desired stations, the slotted shaft of the A. F. C. Switch located on the rear of the chassis base, should be rotated so that the slot of the shaft points in the direction of the word, "Operate" (maximum counter-clockwise rotation). The electric tuning escutcheon should then be refastened into its position on the cabinet by means of the five special screws.

With the electric tuning system in operation, the receiver will be automatically kept in tune with any one of the eight favorite stations as long as the station is operating or provided it has no unusual fading characteristics. If a distant station which is very weak is set up in the electric tuning unit, it will be found that the automatic frequency control circuit will not hold this station if a strong signal is present in either adjacent channel. This same phenomenon will occur if two stations in adjacent channels are almost of equal signal strength with the weakest signal fading slightly; with this condition the strong signal will have a tendency to "pull in" when the receiver is tuned to the station which is slightly weaker and fading.

REPLACEMENT PARTS

Piece Number	Circuit Designation	Part
22775	C63	Capacitor, .4 Mfd.
22988	. . . . .	Socket, 4 Prong
23517	. . . . .	Socket, 7 Prong
24402	C42, C46, C58	Capacitor, .1 Mfd.
24405	C2, C20, C29, C43, C51, C79	Capacitor, .04 Mfd.
24994	C19, C22, C28, C38, C40	Capacitor Assembly, .05 Mfd.
25149	C1, C24, C48	Capacitor, .01 Mfd.
25481	C50, C53	Capacitor, .002 Mfd.
25539	. . . . .	Socket, 8 Prong
25814	L33	R.F. Choke Coil
26151	C30, C52	Capacitor, .005 Mfd.
26260	L26	Choke Assembly
26309	R44	Resistor, Type E, 10 Ohms
26322	R10, R48	Resistor, Type E, 120 Ohms
26326	R12	Resistor, Type E, 270 Ohms
26331	R37	Resistor, Type E, 680 Ohms
26333	R2, R15	Resistor, Type E, 1,000 Ohms
26345	R6	Resistor, Type E, 10,000 Ohms
26350	R11	Resistor, Type E, 27,000 Ohms
26353	R5, R16, R26	Resistor, Type E, 47,000 Ohms
26357	R1, R3, R13, R14, R28, R36	Resistor, Type E, .1 Megohm
26359	R4, R21	Resistor, Type E, .15 Megohm
26362	R19, R20, R27, R38	Resistor, Type E, .27 Megohm
26365	R9, R31, R35	Resistor, Type E, .47 Megohm
26369	R17, R18, R32	Resistor, Type E, 1 Megohm
26373	R22, R42	Resistor, Type E, 2.2 Megohm
26677	. . . . .	Phono Socket Plug
26775	R29	Resistor, Type F, 20,000 Ohms
26776	R39	Resistor, Type F, 12,000 Ohms
27081	C5	Aligning Capacitor, Wave Trap
27101	C4	Capacitor, Type O, 200 Mmfd.
27108	C3, C31, C37, C39, C41, C64	Capacitor Assembly (2-.05 Mfd.)
27123	C59	Electrolytic Capacitor, 16 Mfd., 300 Volts
27125	R33	Resistor, Type F, 25,000 Ohms
27134	L22, L23	Output Transformer
27198	. . . . .	Spring Washer
27232	C6, C7, C8	Gang Tuning Capacitors Assembly
27237	. . . . .	Arm Assembly (Mask Actuator)
27238	. . . . .	Rod, Mask (Actuator)
27305	C25, C36, C55	Capacitor, Type O, 50 Mmfd.
27313	. . . . .	Switch for Fidelity Control
27336	C61	Electrolytic Capacitor, 16 Mfd., 500 Volts

REPLACEMENT PARTS—Continued

Piece Number	Circuit Designation	Part
27337	C49	Capacitor, Type W, .004 Mfd.
27339		Switch, "Off-On-Bass" (Used on Radio Models Only)
27341	R30	Resistor, 200 Ohms
27374	R40, R41	Resistor, "B" Voltage Divider
27569	R25	Volume Control
27622	C62	Electrolytic Capacitor, 16 Mfd., 500 Volts
27685	C57	Capacitor, 12 Mfd., 25 Volts
27921	C9, C12	H.F. Aligners, Antenna Transformer ("A" and "C" Ranges)
27969		Phono Socket and Cable Assembly
28025		Pilot Lamp
28485		Mask Assembly (Selectorlite Dial)
28568	C44, C45	Capacitor, Type O, 100 Mmfd.
28652		Cord (Power Supply)
28806	C10, C13	H.F. Aligners, R.F. Transformer "A" Range, Oscillator Transformer "C" Range
28824		Set-Up Switch for Electric Tuning
28849	L32	Coil Assembly, Oscillator Shunt
28990		Range Switch
28996	L31	Coil Assembly, Antenna Shunt
29012	C32, C33, C34, C35	Capacitor, 100 Mmfd.
29025		Large Pulley
29030	L16, L17, L18	First I.F. Transformer
29031	L19, L20, L21	Second I. F. and Discriminator Transformer
29033	L1	Coil Assembly, Wave Trap
29047		Dial
29060	L2, L3, L5, L8	Antenna Transformer ("A" and "B" Ranges)
29061	L4, L6, L7, L9	R.F. Transformer "A" Range, Antenna Transformer "C" Range
29062	L10, L12, L13, L15	Oscillator Transformer, "A" and "C" Ranges
29063	L11, L14	Oscillator Transformer, "B" Range
29064	C66	Capacitor, 200 Mmfd.
29065	C16, C18	L.F. Aligners, Oscillator Transformer ("A" and "C" Ranges)
29088	C67 to C82	Adjustable Capacitors and Switches for Electric Tuning
29090	R23, R24	Resistor, Type E, .47 Megohm
29091	R34	Resistor, Type E, 36,000 Ohms
29093		Electric Tuning-Cable Assembly
29094		Electric Tuning-Cable Assembly
29095		Dial Lamp Socket Assembly
29096		Pilot Lamp Sockets Assembly for Station Letters
29123	L27, L28, L29, L30	Power Transformer (50 to 60 Cycles Chassis)
29124	L27, L28, L29, L30	Power Transformer (25 to 60 Cycles Chassis)
29129		Spring for Tuning Drive
29146		Tuning Drive Assembly
29282	C26	Capacitor, Type O, 150 Mmfd.
29283	C47	Capacitor, Type O, 15 Mmfd.
29284	C21	Capacitor, Type W, .001 Mfd.
29357	R7	Resistor, Type E, 1500 Ohms
29365	C17	Capacitor, 1500 Mmfd.
29366	C65	Capacitor, Type W, .002 Mfd.
29368	R8	Resistor, Type EB, 27,000 Ohms
29371	C27, C54	Capacitor, Type 2, 500 Mmfd.
29375		Tuning Indicator Cable Assembly
29543	C23, C56, C60	Electrolytic Capacitor, 4 Mfd., 250 Volts; 4 Mfd., 250 Volts; 16 Mfd., 400 Volts
29561	C11, C14, C15	H.F. Aligners, Antenna Transformer "B" Range, Oscillator Transformer "A" and "B" Ranges

Used only on No. 350-P Receivers

25301		Cord, Power Supply for Phono Motor
26151	C80	Capacitor, .005 Mfd.
26357	R45	Resistor, Type E, .1 Megohm
26365	R46	Resistor, Type E, .47 Megohm
26369	R47	Resistor, Type E, 1 Megohm
26751		"Off-On-Bass-Phono" Switch
29702		Phono Socket and Cable Assembly

MISCELLANEOUS PARTS

27628		Felt Washers. Used on "Volume," "Fidelity," "Ranges" and "Off-On-Bass" Control Shafts
27800		Knob. Used on "Volume" and "Off-On-Bass" Control Shafts
27801		Knob. Used on "Fidelity" and "Ranges" Control Shafts
27802		Knob. Used on "Rapid Station Selector" Control Shaft
27803		Knob. Used on "Vernier Station Selector" Control Shaft
		Black Cord for Tuning Drive