

Stromberg Carlson Co.

Model: 340M

Chassis:

Year: Pre August 1939

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

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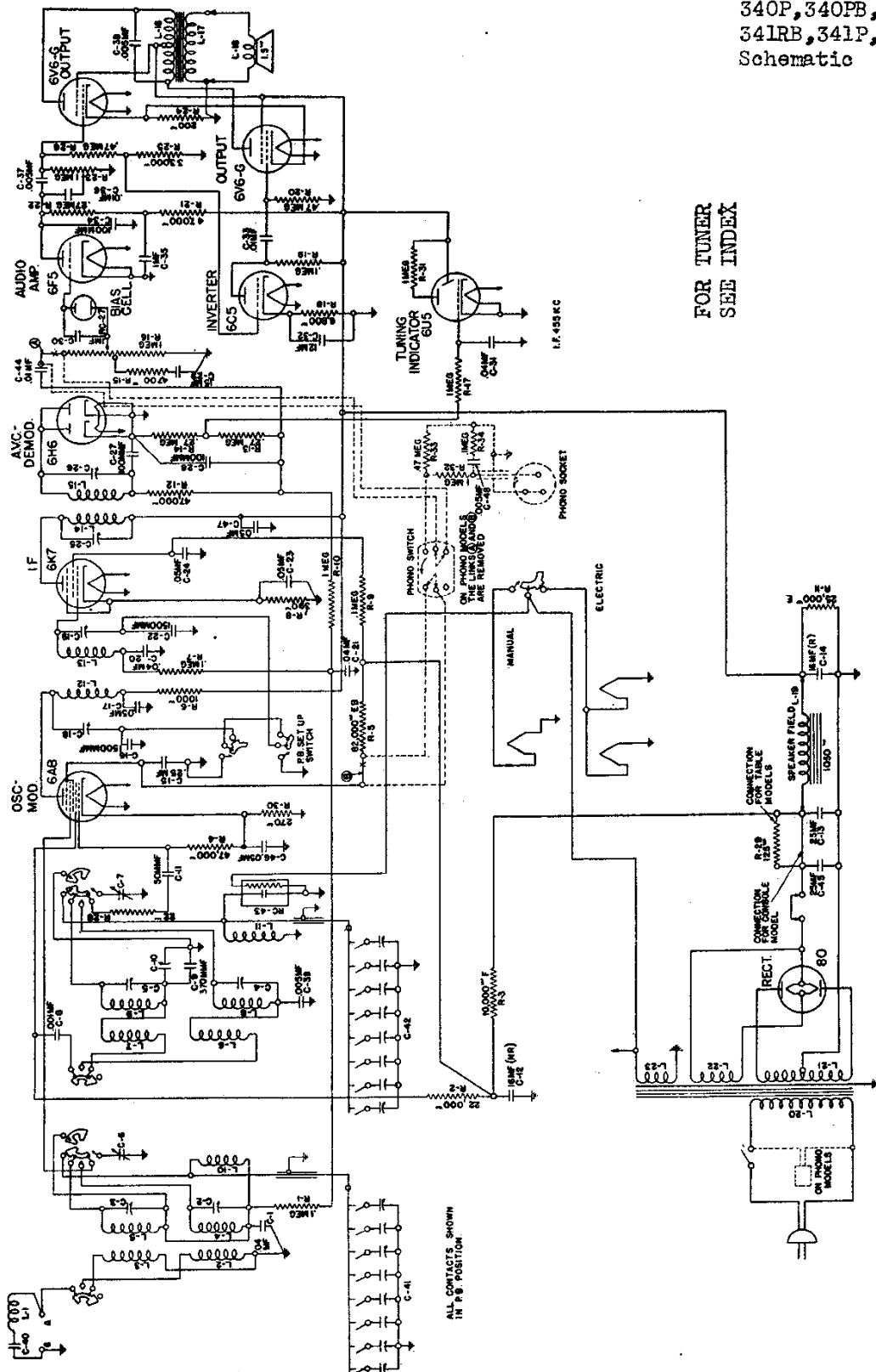
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STROMBERG-CARLSON TEL. MFG. CO.

MODELS 340F, 340FB
 340H, 340HB, 340M
 340MB, 340V, 340VB
 340P, 340PB, 341R
 341RB, 341P, 341PB
 Schematic



FOR TUNER
 SEE INDEX

Fig. 2. Schematic Circuit of Receiver.

MODELS 340F, 340FB
340CH, 340HB, 340M
340MB, 340V, 340VB
340P, 340PB, 341R
341RB, 341P, 341PB
Chassis Wiring

STROMBERG-CARLSON TEL. MFG. CO.

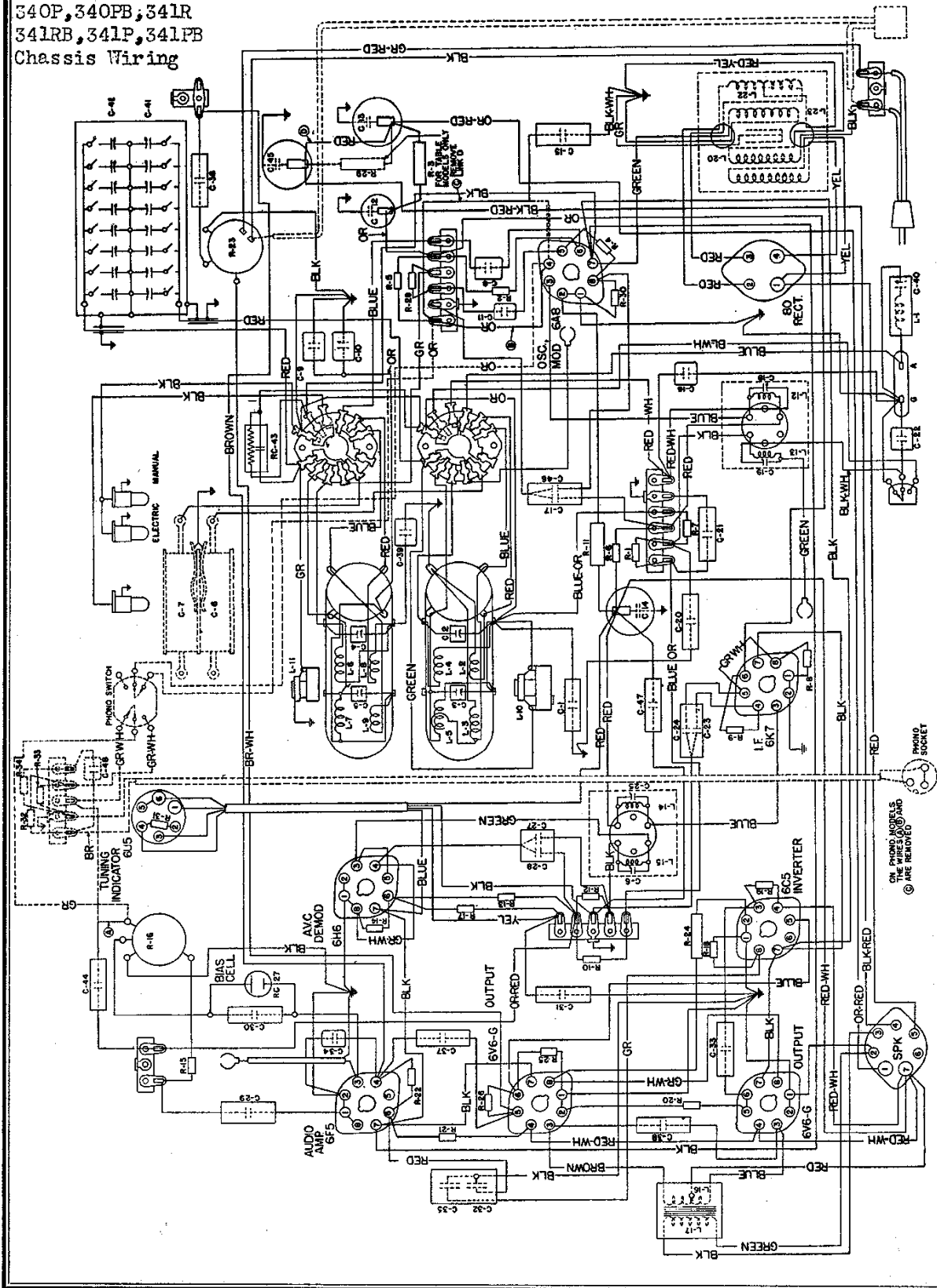


Fig. 3. Wiring Diagram of Chassis.

341RB, 341P, 341PB
Voltage, Socket
Trimmers, Circuit Data

STROMBERG-CARLSON TEL. MFG. CO.

MODELS 340F, 340FB
340H, 340HB, 340M
340MB, 340V, 340VB
340P, 340PB, 341R

Arrangement", appearing on page 10-17 of this book. Manual or electric tuning for the Standard Broadcast range is provided in the form of a tuning dial, which is set for the desired frequency. The dial is graduated in the direction of the designation for the desired type of tuning. When manually tuning the receiver, the Standard Broadcast or Short Wave ranges, the electric tuning arrangement is made inoperative and the dial of the receiver is illuminated. When the Range Switch control knob is set for electric tuning (arrow on Range Switch control knob points to the "E" position), the receiver is set for electric tuning. The dial of the receiver is illuminated 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.

When operating the electric tuning arrangement in order to eliminate drift in the oscillator circuit of these receivers, the control circuit is 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.

In addition to the above features, the No. 340-P receiver is also equipped with a single record playing phonograph attachment. These phonograph units use a crystal type pick-up in conjunction with a specially equalized circuit. The chassis used in the table models differ from the chassis used in the console models in that a 125-ohm resistor, R-29, is added in the rectifier filament circuit. In addition, the chassis used in the No. 341 Receivers are provided with a radio-phonograph attachment. Also, the radio-phonograph models are equipped with a radio-phonograph switch.

The various tubes are used in these receivers as follows: The No. 6A8 tube functions as both the Modulator and Oscillator tube. The No. 6K7 tube is used in the I. F. Amplifier and the No. 6B5 tube is used as both the Detector and Automatic Volume Control tube. The No. 6E5 tube is used in the Audio Amplifier and the No. 6V6-G tube is used in the Tuning Indicator tube. The No. 615 tube is used for indicating resonance in the tuning indicator system and the No. 80 tube is the Rectifier tube of the Power Supply Unit.

NORMAL VOLTAGE READINGS

The values of voltages listed in the table below are those measured between the various tube socket terminals when the receiver is in proper operation. 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 varies. Voltage values shown are those obtained on the lowest possible scale of a meter having the following ranges: 0-25, 0-10, 0-100, 0-500, 0-1000 volts except when an asterisk appears after any given voltage value in which case the 100-volt scale was used.

The voltage table has two listed voltages; the lower voltage being obtained from those chassis which are equipped with this resistor, and the upper voltages are those obtained from chassis not equipped with this resistor.

Tube	Circuit	Cap	Terminals of Sockets								Heater Voltages Between Heater Terminals	
			1	2	3	4	5	6	7	8	Socket Terminal Numbers	Volts
6A8	Mod., Osc.	0	0	0	+245 +240	+109	-14	+205	6.3	+2.35	2-7	6.3
6K7	I. F. Amp.	0	0	0	+250 +244	+109*	0	+290	6.3	+3.3	2-7	6.3
6H6	Dem., A. V. C.	—	0	0	0	0	0	0	6.3	0	2-7	6.3
6F5	Audio Amp.	0	0	0	0	+100*	0	+220* +218*	6.3	0	2-7	6.3
6C5	Audio Inv.	—	0	0	+138* +136*	+250 +244	0	0	6.3	+4.8	2-7	6.3
6V6-G	Audio Output	—	0	0	+244 +237	+250 +244	0	0	6.3	+13.8	2-7	6.3
6V6-G	Audio Output	—	0	0	+244 +237	+250 +244	0	0	6.3	+13.8	2-7	6.3
615	Tuning Ind.	—	6.3	+139* +135*	—	+250 +244	0	0	—	—	1-6	6.3
80	Rectifier	—	+370	372	+370	+370	—	—	—	—	1-4	5
Speaker Socket		—	+370	0	0	+370	+370	0	—	—	—	—

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

Stromberg-Carlson Nos. 340 and 341 Radio Receivers

STROMBERG-CARLSON TELEPHONE MANUFACTURING COMPANY
ROCHESTER, NEW YORK

ELECTRICAL SPECIFICATIONS

- Type of Circuit..... Superheterodyne with Electric Tuning
- Tuning Ranges..... 530 to 1700 Kc., 10 to 30 Mc.
- Power Supply Voltage..... 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 175, 180, 185, 190, 195, 200, 205, 210, 215, 220, 225, 230, 235, 240, 245, 250, 255, 260, 265, 270, 275, 280, 285, 290, 295, 300, 305, 310, 315, 320, 325, 330, 335, 340, 345, 350, 355, 360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410, 415, 420, 425, 430, 435, 440, 445, 450, 455, 460, 465, 470, 475, 480, 485, 490, 495, 500, 505, 510, 515, 520, 525, 530, 535, 540, 545, 550, 555, 560, 565, 570, 575, 580, 585, 590, 595, 600, 605, 610, 615, 620, 625, 630, 635, 640, 645, 650, 655, 660, 665, 670, 675, 680, 685, 690, 695, 700, 705, 710, 715, 720, 725, 730, 735, 740, 745, 750, 755, 760, 765, 770, 775, 780, 785, 790, 795, 800, 805, 810, 815, 820, 825, 830, 835, 840, 845, 850, 855, 860, 865, 870, 875, 880, 885, 890, 895, 900, 905, 910, 915, 920, 925, 930, 935, 940, 945, 950, 955, 960, 965, 970, 975, 980, 985, 990, 995, 1000
- Power Frequency Rating..... 50 to 60 Cycles and 125 to 60 Cycles
- Input Power Rating..... 40 Watts
- No. 340-P Radio-Phono Model..... 100 Watts
- No. 341-P Radio-Phono Model..... 100 Watts
- Frequency of Intermediate Amplifier..... 455 Kilocycles

APPARATUS SPECIFICATIONS

- No. 340-F Receiver..... 50 to 60 Cycles; P-28961 Chassis Assembly; P-26170 Speaker
- No. 340-FB Receiver..... 25 to 60 Cycles; P-28962 Chassis Assembly; P-26170 Speaker
- No. 340-H Receiver..... 25 to 60 Cycles; P-28963 Chassis Assembly; P-26170 Speaker
- No. 340-MB Receiver..... 25 to 60 Cycles; P-28964 Chassis Assembly; P-26170 Speaker
- No. 340-VB Receiver..... 25 to 60 Cycles; P-28965 Chassis Assembly; P-26170 Speaker
- No. 340-PB Receiver..... 25 to 60 Cycles; P-28966 Chassis Assembly; P-26170 Speaker
- No. 340-PB Receiver..... 25 to 60 Cycles; P-28967 Chassis Assembly; P-26170 Speaker
- No. 340-PB Receiver..... 25 to 60 Cycles; P-28968 Chassis Assembly; P-26170 Speaker
- No. 341-F Receiver..... 25 to 60 Cycles; P-28969 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28970 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28971 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28972 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28973 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28974 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28975 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28976 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28977 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28978 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28979 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28980 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28981 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28982 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28983 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28984 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28985 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28986 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28987 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28988 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28989 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28990 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28991 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28992 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28993 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28994 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28995 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28996 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28997 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28998 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-28999 Chassis Assembly; P-26170 Speaker
- No. 341-FB Receiver..... 25 to 60 Cycles; P-29000 Chassis Assembly; P-26170 Speaker

CIRCUIT DESCRIPTION

These receivers are nine tube, instantaneous "Electric Tuning" superheterodyne receivers employing metal tubes and a highly efficient dynamic speaker. There are two tuning ranges, the frequency limits of each range being listed under the "Electrical Specifications", given above. The various tubes, located in the Standard Broadcast range, are of the 6A8, 6K7, 6H6, 6F5, 6C5, 6V6-G, 615, and 80 types. The tuning indicator tube is of the 615 type. The electric tuning mechanism is of the instantaneous selection type, 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 Standard Broadcast stations, read the section, "Instructions for Setting Up the Electric Tuning

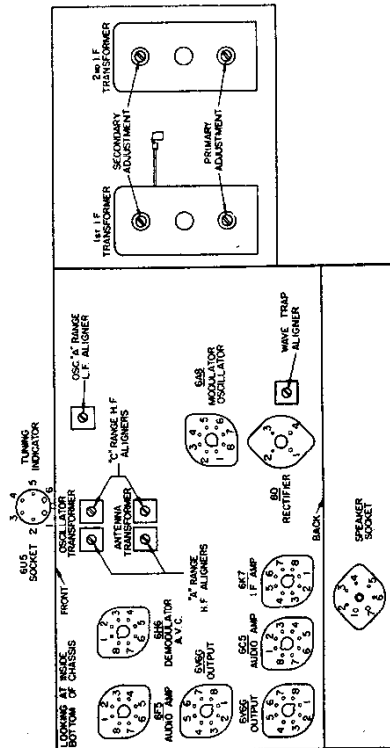


Fig. 1. Terminal Layout for Voltage Measurement Chart and Location of the Aligning Capacitors.

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MODELS 340F, 340FB
 34CH, 34CHB, 34OM
 340MB, 340V, 340VB

STROMBERG-CARLSON TEL. MFG. CO.

340P, 340PB, 341R
 341RB, 341P, 341PB
 Alignment

2. Adjust the oscillator's "C" range high frequency aligner for maximum output.
3. Adjust the antenna's "C" 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. Rotate the Electric Tuning and Range Switch control knob to the manual tuning, Standard Broadcast ("A") range position and set the test oscillator's frequency and the receiver's tuning dial to 1.9 megacycles.
2. Adjust the oscillator's "A" range high frequency aligner for maximum output.
3. Adjust the antenna's "A" range high frequency aligner for maximum output.
4. Set the test oscillator's frequency and the receiver's tuning dial to 0.6 megacycles.
5. Adjust the oscillator's "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.
6. Reset both the test oscillator's frequency and receiver's tuning dial to 1.5 megacycles and repeat operations Nos. 2 and 3.

Wave Trap Adjustment

In adjusting the wave trap circuit, set the Electric Tuning and Range Switch control knob to the manual tuning position, pointing in direction of letters "B.R.". Set the dial pointer to 10.0 megacycles and the Electric Tuning Set-Up Switch, located on the back of the receiver chassis, to the "Set-Up" position.

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 frequency, adjust the volume control knob to the receiver and adjust the wave trap aligner until a minimum indication is obtained on the output meter.

IMPORTANT: When all the aligning adjustments have been completed, it is important that the Electric Tuning Set-Up Switch (located on the rear of the receiver chassis) be reset to the "Operate" position.

OBTAINING REPRODUCTION FROM PHONOGRAPH RECORDS FOR NOS. 340 AND 341 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-29712 Package Assembly. The rear of the chassis base of the receiver is already drilled for this assembly. Complete instructions on how to install and operate this assembly are furnished with each P-29712 Package Assembly.

To obtain the best quality of phonograph reproduction from these receivers, a Stromberg-Carlson Record Player, and use a crystal type pick-up in conjunction with a specially designed single record playing motor unit, and use a 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-29712 Package Assembly, and the pick-up. This shielded cable should be of the low capacity type. 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 output terminal of the test oscillator and the antenna binding post on the receiver. 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.

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

To accurately align the circuits in these receivers, it is necessary to use a high grade, modulated test oscillator (Signal Generator), the output voltage of which can be varied. In conjunction with this test oscillator, a coil of the loud speaker should be used for determining the maximum signal voltage developed across the voice coil of the loud speaker.

In making any alignment adjustments, always adjust the test oscillator's output voltage to the minimum value. Before proceeding with the alignment of any circuits in these receivers, the alignment of the Tone's control knob is set for maximum treble response (position where knob is rotated from its maximum counter-clockwise position, slightly clockwise to position where set turns "on"), and that the slotted shaft of the electric tuning set-up switch, located on the rear of the chassis base, points in the direction of the word "Set-Up". When the test oscillator is set at the intermediate frequency, the test oscillator's output terminal should be rotated so that the slot points in the direction of the word, "Operate". Figure 1, shows the location of all the aligning capacitors in these receivers.

Dial Adjustment

Before aligning the circuits of any of these receivers, the tuning dial must be properly aligned to track with the gang tuning capacitors. To check whether the dial is set correctly with respect to the gang tuning capacitors, the test oscillator should be set to the intermediate frequency and the gang tuning capacitors in this alignment position should be placed on the horizontal center line of the dial. To do this, align the pointer with the short black line located at the extreme right-hand edge of the dial plate.

Intermediate Frequency Adjustments

The intermediate frequency used in these receivers is 455 kilocycles. In making these circuit adjustments always align the circuits in the order given in these instructions.

1. Set the Electric Tuning and Range Switch control knob to the manual tuning standard broadcast position (arrow on knob pointing in direction of letters "B.R."). Set the dial pointer by means of the Station Selector knob to the extreme low frequency position on the receiver's dial. Rotate the "OFF-ON" knob to the "OFF" position. Then, with the gang tuning capacitors in this alignment position, the test oscillator should be set to the intermediate frequency position. By aid of a screwdriver rotate the slotted shaft of the Electric Tuning Set-Up Switch, located on the rear of the chassis base, so that the slotted shaft points in the direction of the word "Set-Up" (maximum volume). Rotate the Volume control knob to its maximum clockwise position (maximum volume).
2. Apply between the chassis base (or ground binding post) of the receiver and the grid of the No. 648 modulator-oscillator tube, a modulated signal of 465 kilocycles from the test oscillator, using a 0.1 microfarad capacitor in series with the connection between the output terminal of the test oscillator and the antenna binding post on the receiver. Then, with the gang tuning capacitors in this alignment position (for low side) remove the chassis grid lead connecting to this tube. The ground binding post terminal of the test oscillator should be connected to either the chassis base or the ground binding post terminal.
3. Now, noting from Figure 1, the aligning capacitors for the first and second I. F. transformers, align the I. F. circuits in the following manner:
 - Secondary of second I. F. transformer.
 - Primary of second I. F. transformer.
 - Secondary of first I. F. transformer.
 - Primary of first I. F. transformer.

Adjusting the circuits to obtain maximum reading on the output meter, reducing the output of the test oscillator as required.

Radio Frequency Adjustments

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

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 is placed in series with the test oscillator's output lead for the I. F. alignments, with a 400-ohm carbon type resistor. The ground terminal 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. Rotate the Electric Tuning and Range Switch control knob to the Short Wave ("C") range position, and set the test oscillator's frequency and the receiver's tuning dial to 17 megacycles.