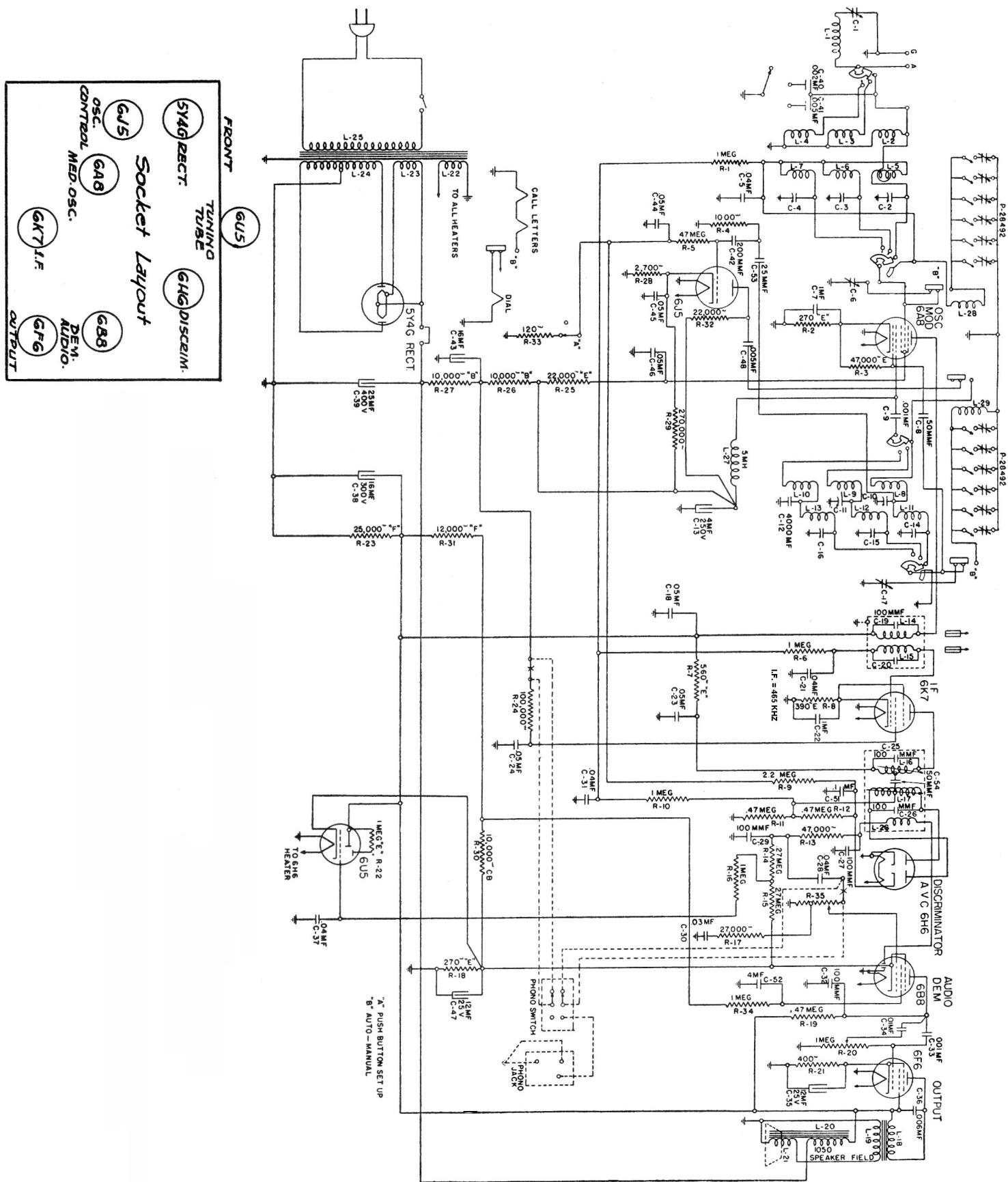


Stromberg-Carlson Model 235



Stromberg-Carlson Alignment Data

Model 235

Stromberg-Carlson Model 235 Alignment Information

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 the dial. If these lines do not center over the illuminated dial indicator line, loosen the two set screws on the hub of the dial and turn the dial until the lines do center 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 465 kilocycles. Because of the necessity of obtaining the proper shape of resonance curve of these stages, 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 Standard Broadcast range position and set the tuning dial to its extreme low frequency position. Set the "Manual-Electric" control knob to the "Manual" position, and the "Off-On-Tone" control knob to its normal position.
2. Apply between the chassis base (or ground binding post) of the receiver and the grid of the No. 6A8 modulator-oscillator tube a modulated signal of 465 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 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 "Manual-Electric" control knob which should be set to the "Manual" position. **CAUTION:** Before adjusting this circuit be sure that the I. F. amplifier is tuned exactly to 465 kilocycles. With the signal generator still set at a frequency of 465 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-oscillator tube. Now, observe the reading of the milliammeter which is connected in series with the cathode of the No. 6A8 oscillator control tube, and rotate the "Manual-Electric" control knob to the "Electric" position, observing whether there is any difference in the reading of the milliammeter. When the milliammeter reading is at its maximum, the "Manual-Electric" control knob is in the "Manual" position. If there is any difference in the milliammeter reading while rotating this control knob from the "Manual" to the "Electric" position, and vice versa, adjust the "Discriminator" circuit by means of the screw adjustment located on the 2nd I. F. -Discriminator transformer until the meter reading has the same value regardless of whether the "Manual-Electric" control knob is rotated to the "Manual" 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 "Manual-Electric" control knob should be related to the "Manual" position, and the "Off-On-Tone" control knob should also be set for "Normal" operation.

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

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 "C" range position, and set the test oscillator's frequency and the receiver's tuning dial to 17 megacycles.
2. Adjust the oscillator's "C" band high frequency aligner for maximum output.
3. Adjust the antenna's "C" band 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.

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

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 "B" range position, and set the test oscillator's frequency and the receiver's tuning dial to 5 megacycles.
2. Adjust the oscillator's "B" band high frequency aligner for maximum output.
3. Adjust the antenna's "B" band 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.
4. Set the test oscillator's frequency and the receiver's tuning dial to 1.8 megacycles.
5. Adjust the oscillator's "B" band 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 5 megacycles and repeat operations Nos. 2 and 3.

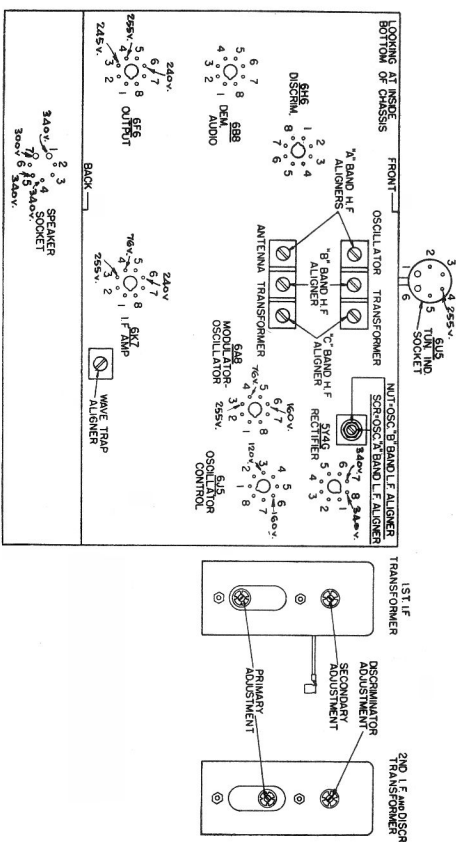
Alignment of Standard Broadcast Range (Also Referred to as "A" Band)

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 "A" range position and set the test oscillator's frequency and the receiver's tuning dial to 1.4 megacycles.
2. Adjust the oscillator's "A" band high frequency aligner for maximum output.
3. Adjust the antenna's "A" band 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" band 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 1.4 megacycles and repeat operations Nos. 2 and 3.

Wave Trap Adjustment

In adjusting the wave trap circuit, the "Signal Admission Control" should be set for the most sensitive position (slight rotation in the most counter-clockwise direction). Set the Range Switch of the receiver to the "A" range position, and set the test oscillator's frequency and the receiver's tuning dial to 1.4 megacycles. 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, 465 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.



Layout of Adjusting Screws for R.F. Aligning Capacitors same as Models 230 - 231 on Data Sheet - 32