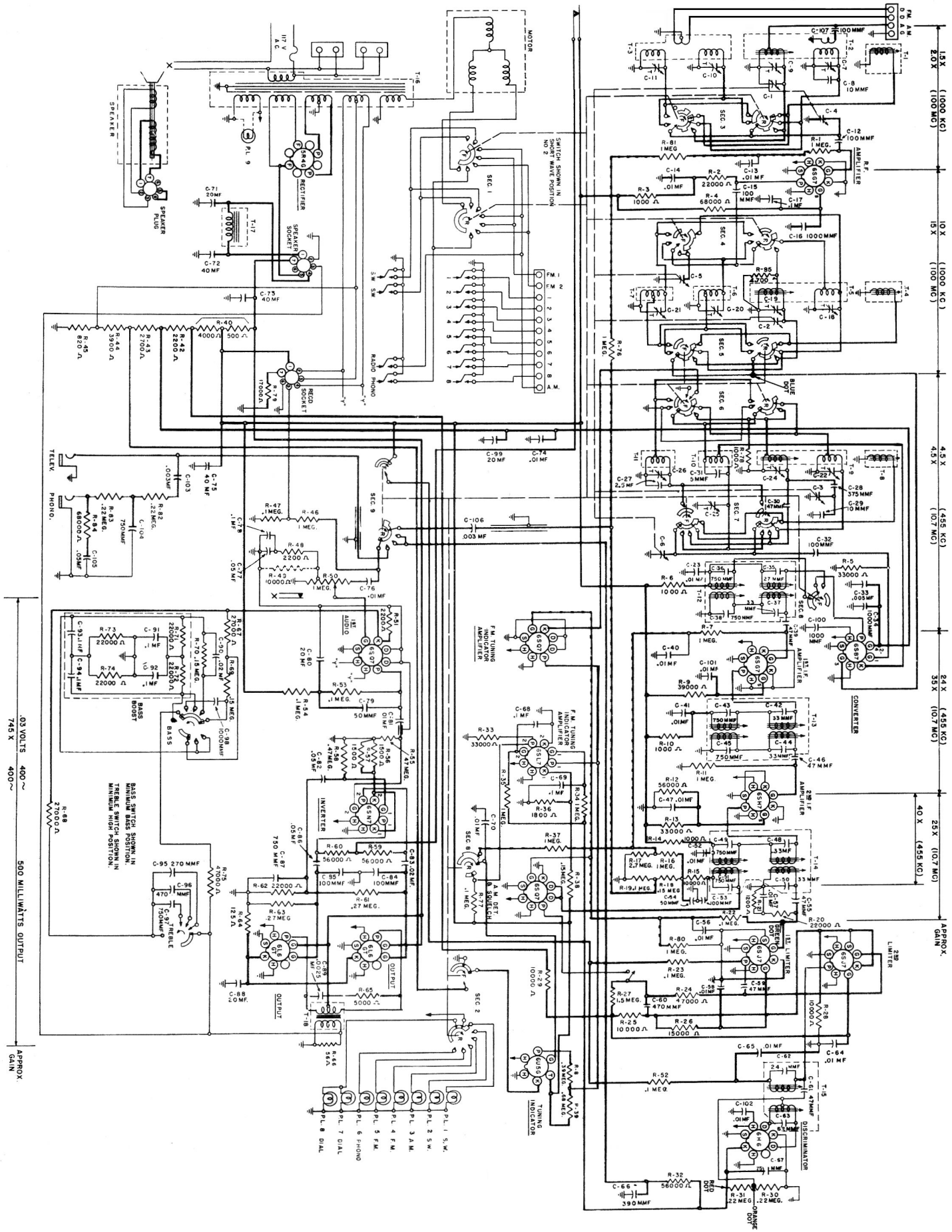
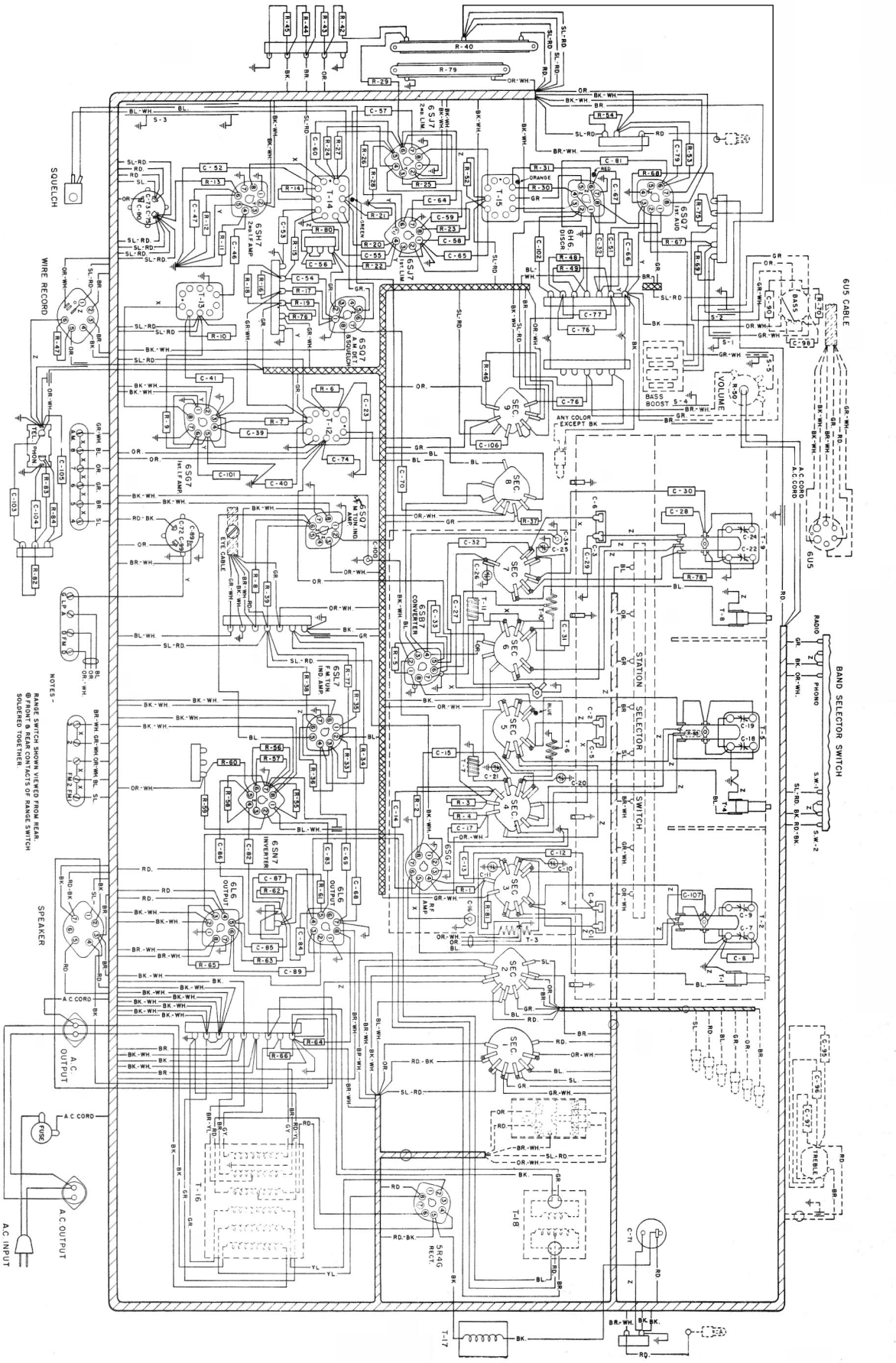
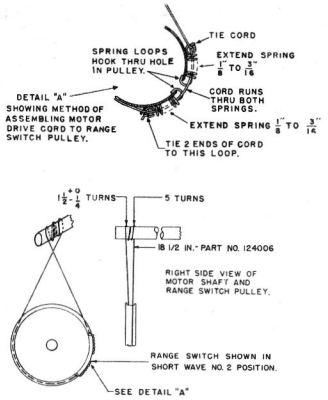
Stromberg-Carlson Model 8165 Schematic

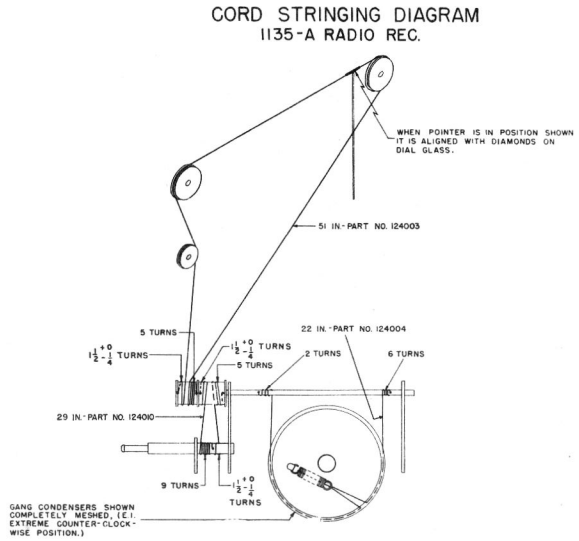


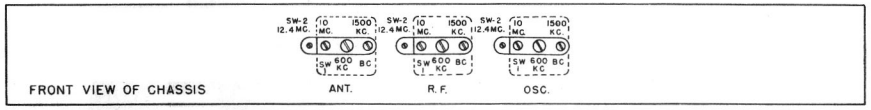
Stromberg-Carlson Model 8165 Wiring Diagram

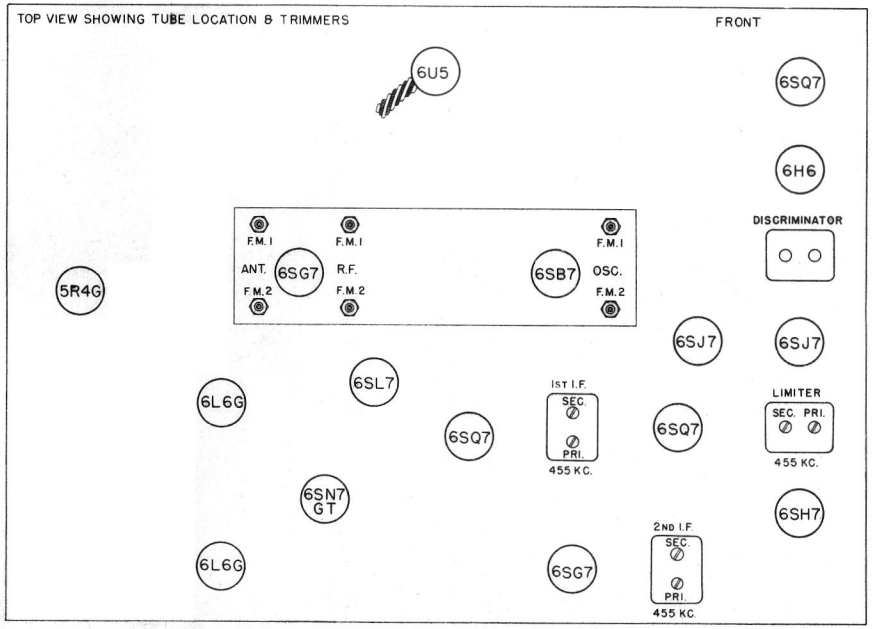


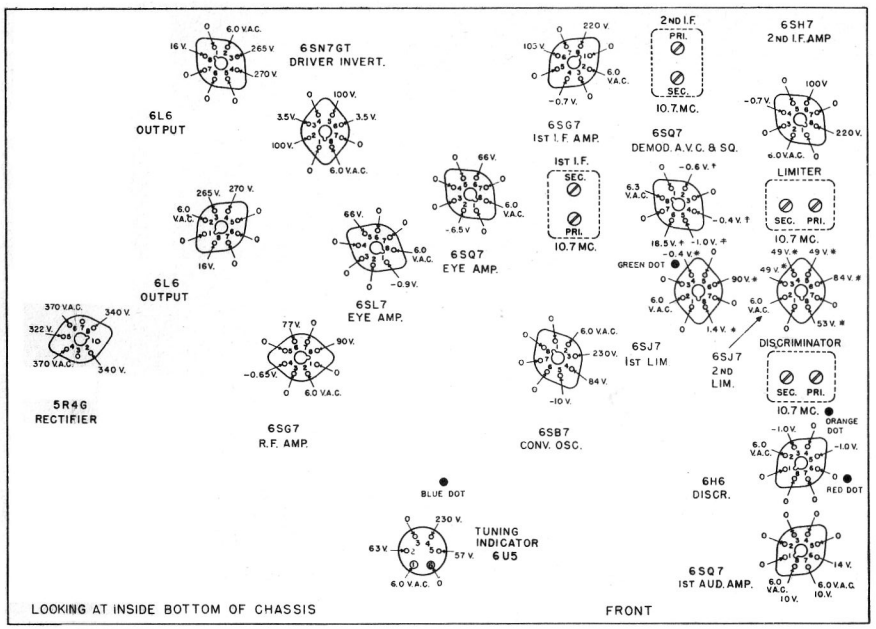
Stromberg-Carlson Model 8165 Dial Stringing & Top & Bottom Chassis Layouts











Stromberg-Carlson Model 8165 Alignment

SPECIFICATIONS

Voltage Rating . . . . . 105-125 Volts
Type of Circuit . . . . . Superheterodyne
Tuning Range . . . Broadcast, 540-1620 KC.—S.W., 8.8—10.2 MC.
S.W., 11.2—12.6 MC.—FM (2) 42-50 MC.—FM (1) 88-108 MC.

Number and Type of Tubes—16

1—6SG7 . . . . . R.F. Amplifier
1—6SB7 . . . . . Converter
1—6SG7 . . . . . 1st I.F. Amplifier
1—6SH7 . . . . . 2nd I.F. Amplifier
1—6SJ7 . . . . . 1st Limiter
1—6SJ7 . . . . . 2nd Limiter
1—6H6 . . . . . Discriminator
1—6SQ7 . . . . . AVC, Demodulator and FM Squelch
1—6SQ7 . . . . . 1st Audio Amplifier
1—6SN7GT . . . . . Audio Driver & Inverter
2—6L6G . . . . . Power Output
1—6SL7GT . . . . . Tuning Indicator Amplifier
1—6SQ7 . . . . . Tuning Indicator Amplifier
1—6U5 . . . . . Tuning Indicator
1—5R4G . . . . . Rectifier

Input Power Rating . . . . . 235 Watts
Intermediate Frequency . . . . . AM. 455 KC. FM-10.7 MC.
Speaker Voice Coil Impedance at 400 Cycles . . . . . 10 Ohms
Speaker Field Resistance . . . . . 210 Ohms
Power Output . . . . . 19 Watts less than 10% Distortion

ALIGNING

Never realign unless absolutely necessary.

Refer to "Location Chart" for alignment adjusters. Allow set to warm up 10 to 15 minutes before attempting to align.

Always align using the smallest possible input from the signal generator. A strong signal makes adjustments approximate.

Always have volume full on.

The alignment of this receiver does not require special equipment or information; however, it is well to adhere to the standard procedure as outlined.

The required equipment is: 1 Electronic Voltmeter, 1 Output Meter, 1 Standard Signal Generator, 1 High Frequency Signal Generator, 1 No. 80777 Aligning Tool.

ALIGNING PROCEDURE *(follow this order exactly)*

Intermediate Frequency Adjustments
Amplitude Modulation

The I.F. aligners that are used to adjust the amplitude modulation (AM) channel are found on the top side of the chassis. They consist of 6 adjustable iron cores used to tune the inductance of the 1st, 2nd and 3rd I.F. transformers (161202, 161200, 161201). These cores are found inside the plastic tubes protruding from the top of the I.F. transformers and are equipped with small screwdriver slots.

Caution: These cores are made of high quality R.F. iron and are fragile; therefore care must be used in adjusting them.

1. Connect the signal generator to the modulator grid, terminal number 8 of the 6SB7 converter tube which is connected to the wave band switch, and is identified by a blue dot.
2. Connect the output meter across the voice coil of the speaker (green and black wires from cable).
3. Adjust the signal generator to 455 KC. Use 30% modulation at 400 cycles.
4. Adjust volume control full on.
5. Adjust tone control to maximum high, minimum bass.
6. Adjust range switch to standard broadcast band, actuate any AM. push button.
7. Adjust the tuning selector to approximately 600 KC.
8. Adjust I.F. cores for maximum output with a reduced signal Input.

Frequency Modulation

The I.F. Aligners may be found from the underside of the chassis. The adjusters are 6 Iron cores used to tune the inductance of the high frequency coils.

1. Connect the signal generator to the modulator grid, terminal number 8 of the 6SB7 converter tube, which is connected to the wave band switch, and is identified by a blue dot.
2. Connect the electronic voltmeter to the junction of the 22,000 ohm and the 100,000 ohm resistors in the first limiter grid circuit identified by a green dot. This junction point will be found underneath the limiter shield.
3. Adjust the voltmeter to the lowest negative voltage scale.
4. Actuate push button on extreme right of row of eight.
5. Adjust the tuning selector to approximately 21 on this band.
6. Adjust the signal generator to 10.7 megacycles. No modulation is required.
7. Adjust the cores for maximum output of the voltmeter. Reduce the input signal and readjust until the maximum output is secured for minimum input. (Approximately 1 volt output).

Discriminator Alignment (FM)

Caution: ***Discriminator secondary must be zeroed at same generator setting used for FM I.F. alignment.***

1. Connect the signal generator to the grid of the second I.F. tube, terminal No. 4 of the 6SH7.
2. Connect the electronic voltmeter to the center of the diode load resistors at the point indicated by the orange dot.
3. Adjust the primary for maximum output with .1 volt from signal generator set at 10.7 megacycles.
4. Switch the electronic voltmeter to the high side of the diode load resistors, identified by a red dot.
5. Adjust the secondary for zero output.
6. Swing generator to 75 KC. higher and 75 KC. lower in frequency and note the plus and minus voltage. If these voltage values are not approximately equal, repeat operations 3, 4 and 5.

Dial Pointer Adjustment

Check dial pointer to see that it is aligned with the two diamond shaped markers at the extreme left of the dial scale, when the variable capacitor plates are completely engaged.

R.F. Adjustment—Amplitude Modulation

The Broadcast band should be adjusted first. The built-in loop should remain connected to the antenna and ground terminals.

1. Connect the signal generator to the AM antenna terminals leaving the loop antenna connected. A 400 ohm resistor must be used in series with the signal generator. Use of a 30% modulated signal of 400 cycles is recommended.
2. Adjust the signal generator to 1500 KC.
3. Adjust station selector to 1500 KC.
4. Adjust range switch to AM Broadcast. Actuate any AM push button.
5. Adjust the oscillator, R.F. and antenna trimmer for maximum output.
6. Reduce the input signal and readjust the trimmers until the maximum output is secured for minimum input.
7. Adjust station selector to 600 KC.
8. Set signal generator to 600 KC.
9. Adjust iron cores in oscillator, R.F. and antenna coils for maximum output.
10. Repeat 1500 KC. and 600 KC. alignments until no further change is required.

R.F. Adjustment—Short Wave (9-10 MC. Band)

The built-in loop should remain connected to the antenna and ground terminals.

1. Connect the signal generator to the antenna and ground terminals of the receiver using a 400 ohm resistor.
2. Set the dial pointer to 10 MC.
3. Adjust signal generator to 10 MC.
4. Actuate left S.W. push button.
5. Adjust oscillator, R.F., and antenna trimmer for maximum output. (No further alignment is required on this band.)

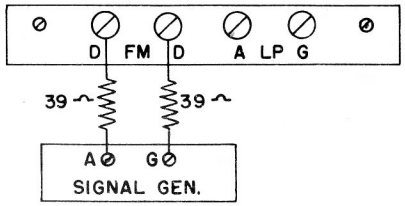
R.F. Adjustment—Short Wave (11.2-12.6 MC. Band)

1. Connect the signal generator to the antenna and ground terminals of the receiver using a 400 ohm resistor in series with the signal generator.
2. Set dial pointer to 12.4 MC.
3. Adjust signal generator to 12.4 MC.
4. Actuate right S.W. push button.
5. Adjust oscillator, R.F. and antenna iron cores for maximum output.

R.F. Adjustments—Frequency Modulation

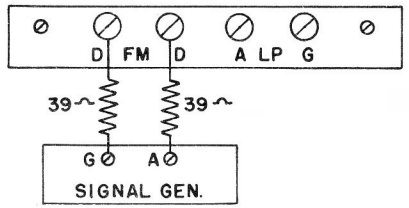
Align the FM (2) Band first.

1. Set dial pointer to channel 90 (49 MC.)
2. Connect the signal generator to FM dipole terminals using 39 ohm resistors as indicated (disconnect dipole antenna). *Connect signal generator ground to chassis ground.*
3. Set signal generator to 49 MC.
4. Actuate FM (2) push button (extreme right hand button in row of 8 buttons).
5. Connect electronic voltmeter to the junction of the 22,000 and the 100,000 ohm resistors in the first limiter grid circuit (identified by green dot).
6. Adjust oscillator R.F. and antenna trimmers for maximum output on electronic voltmeter.



FM (1) Band

Adjust the same as the FM (2) band using 106 MC., setting the dial pointer to channel 290. Connect the generator to the dipole input using 39 ohm resistors as indicated. Actuate 3rd push button from right in row of 8 buttons. *Connect signal generator ground to chassis ground. Note reverse signal generator connection.*



IDENTIFICATION TABLE

Model	Chassis	Cabinet	Speaker	Phono
1135 PFM	112007	37237	155019	148002 & 41613
1135 PLM	112007	35717	155019	41613
1135 PLW	112007	35978	155019	41613