Alignment and Calibration

Correct alignment is extremely important in connection with all wave receivers. The receiver is properly aligned at the factory with precision instruments and alignment should not be attempted unless all other possible causes of the faulty operation have first been investigated and unless the service technician has the proper equipment.

A signal generator that will provide an accurately calibrated signal at 415, 1750, 1700, 600, 1500, 1900, 1836, 11,000 and 6000 KC and an output indicating meter are required. It will be practically impossible to align the receiver if unsatisfactory apparatus is used. If a station is tuned in with the selectivity control in the broad position and this control is then turned to the sharp position, the station may disappear. This is not an indication that the receiver is out of alignment.

Use a non-metallic screwdriver for the adjustments. The complete procedure is as follows:

1. F. Adjustment

Set the signal generator for a signal of 415 KC.

Connect the output of the signal generator to the jacks of the 1st detector through a 2.5 MF condenser.

Connect the ground lead of the receiver to the ground post of the signal generator.

Turn the band selector to the Range B position (standard wave band—purple dial color).

Turn the selectivity control to the sharp position and keep it in this position for all adjustments.

Turn the volume control to the maximum position.

Activate the signal from the signal generator to prevent the leveling-off action of the A.V.C.

Then adjust the first F. trimmers until maximum output is obtained. The adjusting screws for these condensers are reached from the top of the chassis, and the location is shown in Fig. 4.

Adjust the non-metallic screwdriver for the adjustments.

2. Range C Adjustment

Set the signal generator for 1800 KC.

Connect the antenna lead of the receiver to the output of the signal generator.

Turn the volume control to the maximum position and keep it in this position for all adjustments.

Turn the volume control to the maximum position.

Activate the signal from the signal generator to prevent the leveling-off action of the A.V.C.

Then adjust the first and second F. trimmers until maximum output is obtained. The adjusting screws for these condensers are reached from the top of the chassis, and the location is shown in Fig. 4.

Adjust the non-metallic screwdriver for the adjustments.

3. Range D Adjustment

Set the signal generator for 18,300 KC.

Keep the antenna lead of the receiver connected through the 440 ohm resistor to the output of the signal generator.

1500 KC Adjustment

Set the signal generator for 1500 KC.

Turn the rotor of the tuning condenser carefully until maximum output is obtained. Loosen the rotor set screw and set the large pointer at the 1500 KC mark on the standard wave scale. Tighten the set screw. Adjust the 1st and 2nd intermediate Range B trimmers (C8 and C11) and antenna Range B trimmer (C3) to maximum.

Do not change the setting of the oscillator Range B trimmer.

6000 KC Adjustment

Set the signal generator for 6000 KC.

Turn the tuning condenser rotor until maximum output is obtained. Turn the rotor slowly back and forth until the maximum output is obtained. See Fig. 3 for location of this trimmer.

10,500 KC Adjustment

Set the signal generator for 10,500 KC.

Turn the tuning condenser rotor carefully until maximum output is obtained. Adjust the 1st and 2nd intermediate Range D trimmers (C10 and C11) and antenna Range D trimmer (C4) to maximum.

When adjusting the 2nd intermediate Range D trimmer, it will be necessary to turn the tuning condenser rotor slowly back and forth until the peak of greatest intensity is obtained.

Then turn back and repeat the procedure as given for the 15,000 KC adjustment. If it is found necessary to make any appreciable change in the setting of the oscillator Range D trimmer, the 15,000 KC adjustment must be repeated.

Do not make any further change in the setting of the oscillator Range D trimmer.

6000 KC Adjustment

Set the signal generator for 6000 KC.

Turn the tuning condenser rotor until maximum output is obtained. Adjust the 1st and 2nd intermediate Range D trimmers (C10 and C11) and antenna Range D trimmer (C4) to maximum.

When adjusting the 2nd intermediate Range D trimmer, it will be necessary to turn the tuning condenser rotor slowly back and forth until the peak of greatest intensity is obtained.

Then turn back and repeat the procedure as given for the 15,000 KC adjustment. If it is found necessary to make any appreciable change in the setting of the oscillator Range D trimmer, the 15,000 KC adjustment must be repeated.

Do not make any further change in the setting of the oscillator Range D trimmer.

Use a non-metallic screwdriver for the adjustments.

25. Cycle Receivers

The twenty-five cycle receiver differs from the sixty cycle receiver only in the fact that a different power transformer is used. The correct power transformer is shown in the parts list.

The twenty-five cycle receiver can be operated satisfactorily from a sixty cycle power supply. However, the reverse is not true, the sixty cycle receiver cannot be operated from a twenty-five cycle power supply.

A 111-230 Volt, 40 to 60 cycle as well as other power transformers with special power ratings are also available for this model.

D. C. Resistance of Windings

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-1059</td>
<td>Antenna</td>
<td>11.5</td>
</tr>
<tr>
<td>P-1060</td>
<td>Range A</td>
<td>11.5</td>
</tr>
<tr>
<td>P-1061</td>
<td>Range B</td>
<td>11.5</td>
</tr>
<tr>
<td>P-1062</td>
<td>Range C</td>
<td>11.5</td>
</tr>
<tr>
<td>P-1063</td>
<td>Range D</td>
<td>11.5</td>
</tr>
</tbody>
</table>

For more information, please refer to the American Radio History website.
VOLTAGES AT SOCKETS

Line Voltage 115 - Antenna Shorted to Ground
Volume Control at Maximum

<table>
<thead>
<tr>
<th>Tube</th>
<th>Function</th>
<th>Across Heater</th>
<th>Plate to Ground</th>
<th>Screen to Ground</th>
<th>Cath to Ground</th>
<th>Cath. M.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6K7</td>
<td>R.F.</td>
<td>6.2</td>
<td>245</td>
<td>80</td>
<td>2.8</td>
<td>7.6</td>
</tr>
<tr>
<td>6K7</td>
<td>1st Det.</td>
<td>6.2</td>
<td>245</td>
<td>90</td>
<td>6.5</td>
<td>2.6</td>
</tr>
<tr>
<td>76</td>
<td>Osc.</td>
<td>6.2</td>
<td>245</td>
<td>90</td>
<td>5.5</td>
<td>3.9</td>
</tr>
<tr>
<td>6K7</td>
<td>2nd I. F.</td>
<td>6.2</td>
<td>245</td>
<td>80</td>
<td>2.6</td>
<td>7.6</td>
</tr>
<tr>
<td>6K7</td>
<td>2nd Det.</td>
<td>6.2</td>
<td>245</td>
<td>74</td>
<td>3.9</td>
<td>7.0</td>
</tr>
<tr>
<td>76</td>
<td>1st A. F.</td>
<td>6.2</td>
<td>245</td>
<td>74</td>
<td>3.7</td>
<td>7.0</td>
</tr>
<tr>
<td>6F6</td>
<td>Driver</td>
<td>6.2</td>
<td>245</td>
<td>110</td>
<td>5.6</td>
<td>2.1</td>
</tr>
<tr>
<td>6F6</td>
<td>Power</td>
<td>6.2</td>
<td>245</td>
<td>345</td>
<td>38.0(1)</td>
<td>22.5</td>
</tr>
<tr>
<td>80</td>
<td>Rectifier</td>
<td>5.1</td>
<td>500(1)</td>
<td>140.0(1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) As read across R19
(2) Grid to Ground
(3) Plate to Center Tap
(4) Two tubes in parallel

© John F. Rider, Publisher
Power Consumption: 90 Watts (At 115 Volt Input)
5 Watts Undistorted

Selectivity - 22 KC Broad at 1000 Times Signal (Sharp)

Sept., 1935

Power Output: 5 Watts
8 Tubes

Tuning Frequency Range
535 to 1500 KC.
2 Range: 1515 to 5800 KC.
3 Range: 5750 to 18300 KC.

Selectivity Control

Schematic

Groups of Circuit Elements Enclosed in Dotted Rectangles Comprise Distinct Mechanical Assemblies.  Dots on Selectivity Control Denote "Broad" and "Sharp" Respectivey.  The Capacity of the C' Shield is 55 μF.  The Capacity of the D' Shield is 20 μF.
Fig. 4 — Color Coding of Coil Wires and D.C. Resistance of Windings
(Also see complete D.C. Resistance List in this Manual)

VOLTAGES AT SOCKETS
Line Voltage, 115 - Volume Control at Maximum
Antenna Shorted to Ground

<table>
<thead>
<tr>
<th>Type of Tube</th>
<th>Function</th>
<th>Heater or Filam'nt</th>
<th>Plate to Ground</th>
<th>Screen to Ground</th>
<th>Cathode to Ground</th>
<th>Cathode M.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6K7</td>
<td>R.F.</td>
<td>6.1</td>
<td>265</td>
<td>120</td>
<td>3.7</td>
<td>9.0</td>
</tr>
<tr>
<td>6K7</td>
<td>1st Det.</td>
<td>6.1</td>
<td>265</td>
<td>110</td>
<td>9.5</td>
<td>3.8</td>
</tr>
<tr>
<td>76</td>
<td>Osc.</td>
<td>6.1</td>
<td>265</td>
<td>110</td>
<td></td>
<td>5.8</td>
</tr>
<tr>
<td>6K7</td>
<td>1st. I. F.</td>
<td>6.1</td>
<td>265</td>
<td>120</td>
<td>3.7</td>
<td>9.0</td>
</tr>
<tr>
<td>6K7</td>
<td>2nd I. F.</td>
<td>6.1</td>
<td>265</td>
<td>120</td>
<td>3.7</td>
<td>9.0</td>
</tr>
<tr>
<td>76</td>
<td>2nd Det.</td>
<td>6.1</td>
<td>265</td>
<td>110</td>
<td></td>
<td>5.0</td>
</tr>
<tr>
<td>76</td>
<td>1st A. F.</td>
<td>6.1</td>
<td>265</td>
<td>120</td>
<td>14.0</td>
<td>8.5</td>
</tr>
<tr>
<td>45</td>
<td>Power</td>
<td>2.5</td>
<td>265</td>
<td></td>
<td>50.0(1)</td>
<td>22.0(1)</td>
</tr>
<tr>
<td>80</td>
<td>Rectifier</td>
<td>4.9</td>
<td></td>
<td></td>
<td></td>
<td>90(1)</td>
</tr>
</tbody>
</table>

(1) As-read with 500 Volt Scale. Grid to Ground.
Alignment and Calibration

Correct alignment is extremely important in connection with all wave receivers. The connection of all properly installed at the factory with precision in instruments and realignment should not be attempted until all other possible causes of the faulty operation have been first investigated and unless the service technician has the proper equipment.

A signal generator that will provide an accurately calibrated signal at 416, 1756, 1500, 600, 500, 1500, 18,1300, 15,000 and 6000 KC and an output indicating meter are required. It will be practically impossible to align the receiver if unsatisfactory apparatus is used. If a station is tuned in with the selectivity control in the broad position and this control is then turned to the sharp position, the station may disappear. This is not an indication that the receiver is out of alignment.

Use a non-metallic screwdriver for the adjustments. The complete procedure is as follows:

1. F. Adjustment
   - Set the signal generator for a signal of 416 KC.
   - Connect the output of the signal generator through a 400 ohm resistor to the output of the signal generator.
   - Connect the ground lead to the receiver at ground post of the signal generator.
   - Turn the band selector in the Range B position. 
   - Turn the selectivity control to the sharp position and keep it in this position for all adjustments.
   - Adjust the volume control to the maximum position.
   - Attempt the signal from the signal generator to prevent the levelling-off action of the A.V.C.
   - Then adjust the five I.F. trimmers until maximum output is obtained. The adjusting screws for these condensers are reached from the top of the chassis, and the location is shown in Fig. 5.

Range B Alignment

1730 KC Adjustment

1. Set the signal generator for 1730 KC.
2. Turn the rotor of the tuning condenser to the full open position.
3. Keep the band selector in the standard wave position.
4. Connect the antenna lead of the receiver through a 400 ohm resistor to the output of the signal generator.
5. For this and all subsequent adjustments keep the volume control at the maximum position and attenuate the signal from the signal generator to prevent A.V.C. action.
6. Adjust the oscillator Range B trimmer (C12) until maximum output is obtained. The location of this trimmer is shown in Fig. 5.

1500 KC Adjustment

1. Set the signal generator for 1500 KC.
2. Turn the rotor of the tuning condenser carefully until maximum output

Range C Alignment

5800 KC Adjustment

1. Set the signal generator for 5800 KC.
2. Connect the antenna lead of the receiver through a 400 ohm resistor to the output of the signal generator.
3. Adjust the oscillator Range C trimmer (C10) until maximum output is obtained. See Fig. 3 for location of this trimmer.

5000 KC Adjustment

1. Set the signal generator for 5000 KC.
2. Turn the rotor of the tuning condenser carefully until maximum output is obtained.
3. Adjust the oscillator Range C trimmer (C10) until maximum output is obtained. See Fig. 3 for location of this trimmer.

18.300 KC Adjustment

1. Set the signal generator for 18,300 KC.
2. Keep the antenna lead of the receiver connected through the 400 ohm resistor to the output of the signal generator.
3. Turn the rotor of the tuning condenser to the full open position.
4. Adjust the oscillator Range C trimmer (C10) until maximum output is obtained. See Fig. 3 for location of this trimmer.

15.000 KC Adjustment

1. Set the signal generator for 15,000 KC.
2. Turn the rotor of the tuning condenser carefully until maximum output is obtained.
3. Adjust the oscillator Range C trimmer (C10) until maximum output is obtained. See Fig. 3 for location of this trimmer.

Then go back and repeat the procedure as given for the 18,300 KC adjustment. If it is found necessary to make any appreciable change in the setting of the oscillator Range C trimmer, the 15,000 KC adjustment must be repeated.

Do not make any further change in the setting of the oscillator Range C trimmer.

6000 KC Adjustment

1. Set the signal generator for 6000 KC.
2. Turn the tuning condenser rotor until maximum output is obtained.
3. Turn the tuning condenser rotor slowly back and forth at the same time adjusting the 6000 KC trimmer until the peak of greatest intensity is obtained. See Fig. 3 for location of this trimmer.

D.C. Resistance of Windings

Refer to Fig. 4.

Following are the D.C. resistances of the various windings in the chassis. The values given below will vary slightly in different sets.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Winding</th>
<th>Code in Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Twenty-five Cycle Receivers

The twenty-five cycle receiver differs from the sixty cycle receiver only in the fact that a different power transformer is used. The correct power transformer is shown in the parts list.

The twenty-five cycle receiver can be operated satisfactorily from a sixty cycle power supply. However, the reverse is not true, the sixty cycle receiver cannot be operated from a twenty-five cycle power supply.

A 115-230 Volt, 40 to 60 cycle as well as other power transformers with special power ratings are also available for this model.

Changes in Early Models

In the early models of this receiver the tone control resistor (R11) was connected as a series variable resistor connecting to series through the condenser C31 between the grids of the 45 tubes in the audio output stage. In the later models it is employed as a potentiometer in the manner shown in Fig. 2.

The 100,000 ohm resistor (R18) was not used in the early models. Condenser C31 was connected directly to resistor R7.

The type 6DK metal tube replaces the type 6DP glass tube which were used in the early models. Condenser C35 was added to the oscillator coil standard wave section in later models. It is not, however, used in all cases but only when this capacity is required in this circuit.

Phonograph Connections

Phonograph connections can be made as shown in Fig. 7. The parts required to make this installation are shown in the parts list.

To mount the phonowatch and phonojack, drill holes of a size and in the position shown. In Fig. 5, the left hand side (from back) of the rear panel of the chassis.

**Reference Image**

- Fig. 1—Details of Panel Drilling for Phonor Assembly
LAFAYETTE PAGE 10-9

LAFAYETTE RADIO MFG. CO.

MODEL M65
Schematic

Model M-65

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**Power Consumption**
- **At 115 Volts 60 Cycles**
- **290 Watts**

**Power Output**
- **30 Watts Undistorted**

**Sensitivity**
- **B Range Average**
  - 0.5 Microvolts Absolute
- **C Range Average**
  - 1.0 Microvolts Absolute
- **D Range Average**
  - 2.0 Microvolts Absolute
- **E Range Average**
  - 4.0 Microvolts Absolute

**Selectivity**
- 20 KC Band at 1000 Times Signal (Shirp)
- Intermediate Frequency: 456 KC
Tuning Frequency Range

B Range: 535 to 1730 KC
C Range: 1715 to 5800 KC
D Range: 5750 to 18300 KC
E Range: 17500 to 48000 KC

Speaker: Two 12 Inch Auditorium Dynamics
LAFAYETTE RADIO MFG. CO.

MODEL B78
Voltage Trimmers Chassis

Fig. 5—Bottom View of Chassis Showing Coil and Switch Section Location

Fig. 6—Trimmer Location

Fig. 7—Bottom View of Metal Tube Socket

Fig. 8—Condenser Block Internal Wiring

Fig. 10—Tube Arrangement in R.F. Chassis

Fig. 9—tube Arrangement in I.F. Chassis

Voltage at Ground—Line Voltage 110

<table>
<thead>
<tr>
<th>Tube</th>
<th>Function</th>
<th>Screen Grid</th>
<th>Grid</th>
<th>Control Grid</th>
<th>Cathode</th>
<th>M. A.</th>
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</thead>
<tbody>
<tr>
<td>6K7</td>
<td>R. F.</td>
<td>10.5</td>
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<td>1.0</td>
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<td>6K7</td>
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<td>6E7</td>
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www.americanradiohistory.com
MODEL B76
Trimmers, Color Code
Changes, Phone.

LAFAYETTE RADIO MFG. CO.

Changes in Early Models

R.F. Changes: In early models, B+ to ground was not used in the
R.F. Chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
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R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
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R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socket was a parallel with the
R.F. chassis. The speaker socke
D. C. Resistance of Windings
Refer to Figs. 12, 2 & 3.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>D.C. Resistance in Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-9A426</td>
<td>22.8</td>
</tr>
<tr>
<td>Range B Primary Winding</td>
<td>0.35</td>
</tr>
<tr>
<td>Range C Primary Winding</td>
<td>0.75</td>
</tr>
<tr>
<td>Range B Secondary Winding</td>
<td>6.1</td>
</tr>
<tr>
<td>Range D Secondary Winding</td>
<td>Small</td>
</tr>
</tbody>
</table>

**Phonograph in Separate Cabinet**
For this assembly, a 10-Watt vibration and a small external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Range C Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Alignment and Calibration**

Alignment and calibration is extremely important in the assembly with all weight restrictions. The components are properly aligned in the factory with precision instruments and gauges. The assembly should not be tampered with, other than possible repairs of the factory operation. The instructions in this manual is for the service technician.

The alignment and calibration is for the operation of the phonograph.

**Range D Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Range E Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Range F Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Range G Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Range H Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.

**Range I Adjustment**

For the signal generator, the 10-Watt power supply and the external plate assembly are required. The assembly has the radio-phonograph, 16-inch vinyl pickup and tone control for phonograph.

The phonograph is equipped with a turntable and the pickup head for the phonograph.

The pickup head is mounted at the turntable and the pickup head is controlled by the turntable.

The system is secured to the motor head and the tone control for phonograph.
**D. C. Resistance of Windings**

Following are the D. C. resistances of the various windings in the chassis. The values given below will vary slightly in different sets.

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Winding Code</th>
<th>D. C. Resistance in Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>P-9A443</td>
<td>T1</td>
<td>8.7</td>
</tr>
<tr>
<td>P-9A439</td>
<td>T2</td>
<td>44.4</td>
</tr>
<tr>
<td>P-9A441</td>
<td>T3</td>
<td>95.3</td>
</tr>
<tr>
<td>P-9A442</td>
<td>T4</td>
<td>44.1</td>
</tr>
<tr>
<td>P-9A444</td>
<td>T5</td>
<td>41.6</td>
</tr>
<tr>
<td>P-9A445</td>
<td>T6</td>
<td>3.6</td>
</tr>
<tr>
<td>P-9A446</td>
<td>T7</td>
<td>5.8</td>
</tr>
</tbody>
</table>

**VOLTAGES AT SOCKETS**

<table>
<thead>
<tr>
<th>Type of Tube</th>
<th>Function Across</th>
<th>Plate to Ground</th>
<th>Screen to Ground</th>
<th>Cathode to Ground</th>
<th>Cathode Current M.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6D6 R. F. Amp.</td>
<td>5.8 220</td>
<td>90</td>
<td>4.5</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>6C6 1st Det. Osc.</td>
<td>5.8 220</td>
<td>90</td>
<td>0</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>6D6 U. F. Amp.</td>
<td>5.8 220</td>
<td>90</td>
<td>4.5</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>75 2nd Det.</td>
<td>130(1)</td>
<td>1.2</td>
<td>0.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>84 Power</td>
<td>5.8 210</td>
<td>220</td>
<td>16(2)</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>84 Rectifier</td>
<td>5.8, 50.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(1) With 250,000 Ohm Meter  
(2) As read across filter choke.
Osc. trimmer adjusted at 1650 kc. with condenser full open. 1st det. and antenna trimmers adjusted at 1400 kc.

Power Consumption: 6.5 Amperes at 6.3 Volts
Power Output: 3 Watts Undistorted

Tuning Frequency Range: 530 - 1650 KC

John F. Rider, Publisher

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www.americanradiohistory.com
MODEL B90(N) Late
Schematic, Socket
Trimmers

Power Consumption 7.0 Amperes at 6.0 Volts
Power Output 3 Watts Undistorted
Sensitivity 1.0 Microvolt Absolute
Selectivity 45 KC Broad at 1000 Times Signal

Tuning Frequency Range 530 to 1650 KC
Intermediate Frequency 175 KC
Speaker 6 inch Dynamic

LAFAYETTE RADIO MFG. CO.

Fig. 2 - Location of Tubes and Trimmers

Fig. 4 - Condenser Block - Internal Wiring

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### D. C. Resistance of Windings

Following are the D. C. resistances of the various windings in the chassis. The values given below will vary slightly in different sets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Winding</th>
<th>D. C. Resistance in Ohms</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>Primary Winding</td>
<td>5.6</td>
</tr>
<tr>
<td></td>
<td>Long Portion</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>Short Portion</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>Secondary Winding—Either Portion</td>
<td>1.8</td>
</tr>
<tr>
<td>T2</td>
<td>Interstage Transformer</td>
<td>41.5</td>
</tr>
<tr>
<td></td>
<td>Primary Winding</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Secondary Winding</td>
<td>1.8</td>
</tr>
<tr>
<td>T3</td>
<td>1st I. F. Transformer</td>
<td>88.0</td>
</tr>
<tr>
<td></td>
<td>Primary Winding</td>
<td>87.0</td>
</tr>
<tr>
<td></td>
<td>Secondary Winding</td>
<td>43.0</td>
</tr>
<tr>
<td>T4</td>
<td>2nd I. F. Transformer</td>
<td>48.2</td>
</tr>
<tr>
<td></td>
<td>Primary Winding</td>
<td>48.2</td>
</tr>
<tr>
<td></td>
<td>Secondary Winding</td>
<td>48.2</td>
</tr>
</tbody>
</table>

### VOLTAGES AT SOCKETS

**Antenna Disconnected** | Battery 6 Volts Under Load

<table>
<thead>
<tr>
<th>Type of Tube</th>
<th>Function</th>
<th>Across Heater</th>
<th>Plate to Ground</th>
<th>Screen to Ground</th>
<th>Cathode to Ground</th>
<th>Cathode Current M. A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6D6</td>
<td>R. F. Amp.</td>
<td>5.6</td>
<td>245</td>
<td>105</td>
<td>5.2</td>
<td>7.5</td>
</tr>
<tr>
<td>6C6</td>
<td>1st Det. Osc.</td>
<td>5.6</td>
<td>245</td>
<td>105</td>
<td>0</td>
<td>2.9</td>
</tr>
<tr>
<td>6D6</td>
<td>I. F. Amp.</td>
<td>5.6</td>
<td>245</td>
<td>105</td>
<td>5.2</td>
<td>7.5</td>
</tr>
<tr>
<td>75</td>
<td>2nd Det.</td>
<td>5.8</td>
<td>1200(1)</td>
<td>1.4</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Power</td>
<td>5.8</td>
<td>235</td>
<td>245</td>
<td>15.0(2)</td>
<td>30.0</td>
</tr>
<tr>
<td>84</td>
<td>Rectifier</td>
<td>5.8</td>
<td>52.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. With 250,000 Ohm Meter
2. Read Across Filter Choke

### Antenna

**IMPORTANT**—If the car antenna is of high capacity (600 mmf. or higher) insert the antenna plug with the mark on the HC side—See Fig. 10. If it is a low capacity antenna, insert the plug with the mark on the LC side.

The General Motors cars have steel roofs, and a running board or other under car antenna must be used. These are low capacity antennas. The Chrysler motor cars (except Plymouth) have a steel roof separated from the body proper, which is used as an antenna. These are high capacity antennas. Other cars without steel roofs such as Ford and Plymouth have a built-in roof antenna which is of low capacity.

**If a running board or under-car antenna is used, it must be one which is covered with a suitable insulation, to prevent short circuiting in wet weather.**

---

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Adjusting Antenna 600 KC Trimmer

After the receiver is installed and the car antenna is connected, it will be necessary to adjust the antenna trimmer. Tune in a weak signal at approximately 600 KC with the volume control about three-fourths on. Turn the adjusting screw of the antenna 600 KC trimmer up or down until maximum output is obtained. See Fig. 3 for location of this trimmer.

As shown in this illustration, the antenna plug is inserted in one of two ways, depending on whether the car has a high or low capacity antenna. Full instructions are in the installation manual packed with each radio.