Voltage readings were made with a 1000 ohm per volt meter, 250 volt range.

- The reading here on a set analyzer will show about 2 volts due to the fact that the 2 meg. ohm resistor is in series with the meter. To check grid voltage, drop across speaker divided by 2 will be the approximate voltage applied to grid. If plate current is about 25 mls and voltage about 220, it is safe to assume that the grid bias is O.K.

<table>
<thead>
<tr>
<th>Voltage Reading</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.F. Plate Voltage</td>
<td>160 V</td>
</tr>
<tr>
<td>R.F. Screen Grid Voltage</td>
<td>75 V</td>
</tr>
<tr>
<td>R.F. Grid Bias</td>
<td>2.5 V</td>
</tr>
<tr>
<td>R.F. Plate Current</td>
<td>3 m</td>
</tr>
<tr>
<td>First A.F. Plate Current</td>
<td>33 m</td>
</tr>
<tr>
<td>First A.F. Plate Voltage</td>
<td>115 V</td>
</tr>
<tr>
<td>First A.F. Bias</td>
<td>5 V</td>
</tr>
<tr>
<td>'45s Plate Voltage</td>
<td>225 V</td>
</tr>
<tr>
<td>'45s Bias</td>
<td>50 V</td>
</tr>
<tr>
<td>'45s Plate Current</td>
<td>30 m</td>
</tr>
<tr>
<td>Detector Screen Grid Voltage</td>
<td>50 V</td>
</tr>
<tr>
<td>Detector Bias</td>
<td>5 V</td>
</tr>
<tr>
<td>Detector Plate Current</td>
<td>10 m</td>
</tr>
<tr>
<td>Detector Plate Voltage</td>
<td>100 V</td>
</tr>
</tbody>
</table>

- No signal in receiver

- The field resistance of the meter (1000 ohm, 110 volts).
MODEL 59—JACKSON-BELL RECEIVER

This is a tuned radio frequency circuit, using 26 tubes at radio frequency amplifiers, grid leak detector, using a 27th tube; two stages of audio; transformer coupled; 26 tubes in all. Voltages and currents are controlled by variable R.F. bias and antenna shunt. 1.3 Volts

Model 60

For 1920

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Jackson-Bell CO., Inc.

2nd & 3rd Series Schematic, Socket

Model G2

Schematic for the Jackson-Bell CO., Inc. Model G2 radio, showing the layout of components and connections. The diagram includes various components such as resistors, capacitors, and coils, along with labels and annotations.

Layout of Chassis - In second series only, where speaker field was connected in positive leg of rectifier, 2nd series were used. In series 1, where full was 50 volts above chassis potential, 3rd series were used.

To center top of coil, winding 1 section to center cathode.

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VOLTAGE AND CURRENT VALUES - MODEL 60 RECEIVERS

The following values are correct with 1000 ohm speaker field and 120 volts A.C. on the line, or 125 volts on the line when power transformer is thus connected. With volume control at half way position the following voltages should be indicated from ground:

To 180 filaments, ................................. 240 volts
To low side of choke, ............................. 180 *
To detector screen grid, ......................... 28 to 35 volts
To 171 filaments, ................................. 50 volts
To R.F. Filaments, ............................... 10 to 15 volts
As volume control is shifted from maximum to minimum

The following values of plate current should be read within 225:

R.F.  .00015 to .0004 amperes as volume control is rotated from minimum to maximum. Detector 50 to 100 micro amperes. First audio .005 amperes. Second audio .017 to .060 amperes.

CONTINUITY TESTS:
The following resistance values should be observed when making continuity tests without removing the chassis from the cabinet:

R.F Grid to ground, ............................... 800 ohms.
R.F. Plate to ground, ............................. 8500 *
R.F. Filament to ground, ........................ 1100 to 3200 ohms.

Detector grid to ground, .......................... 1 ohm
Detector screen grid to ground, ..................... 3000 *
Detector plate to ground, ........................ 3000 *
Detector filament to ground, .......................... 2000 *
First audio grid to ground, .......................... 2 ohm
First audio filament to ground, ....................... 5000 ohms
First audio plate to ground, ........................ 4500 *
Second audio grid to ground, ........................ 1500 *
Second audio filament to ground, ...................... 750 *
Second audio plate to ground, ........................ 2900 *

COILS:
Effective immediately, specifications of the radio frequency transformers used in the model 60 receiver are changed to the following:

Primitives, ............................. .16 turns
Secondaries, .............................. .81 *
Circuit inductance, ......................... .40 microhenries

The overall gain throughout the radio frequency amplifier with the new coils is approximately 100% greater than with the old ones. The substantial increase of sensitivity should, therefore, be observed.

When orders for replacement coils are filled they will always be in complete sets of three and of new type.

GRID SUPPRESSORS:
Service notes and circuit print of this receiver show 2 - 800 ohm grid suppressors. The grid suppressor of the first radio frequency stage has been reduced to 500 ohms. The second one remains 800.

FILTERS:
Specifications of this receiver call for 2 - 8 microfarad electrolytic condensers in the filter. At times when the factory has been unable to obtain these electrolytic condensers it has been necessary to substitute paper condensers and an additional filter choke. The value of the units in the paper condenser block is as follows:

When the block is fastened in the chassis and the chassis is viewed in an inverted position, the lower terminal is five microfarads, the center terminal one microfarad and the top terminal two microfarads. Only a limited number of these have been installed and regular production will continue to contain the electrolytic condensers.

MODEL 60
2nd & 3rd Series

SERVICE NOTES

FOR SERIAL NO. 120,000 AND UP

If it should become necessary to resonate the radio frequency circuit, proceed as follows:

Set the dial at about 25 degrees and set all coupling condensers at approximately one full turn to the left of the maximum capacity adjustment. With a grid dip oscillator, check all circuits for resonance, making connection to the caps on top of the screen grid tubes. The tubes should be cold when this is done. If it is necessary to move any of the coupling condensers more than one-half turn in order to obtain resonance, adjustment of capacity in that particular stage should be made by bending the split rotor plate of the variable condenser. This does not apply to the antenna stage where the condenser on the coil does not affect coupling. When resonance has been obtained at this point, the dial should be shifted to 90, and all stages again checked with a grid dip meter. Here all capacity adjustments must be made by bending plates, being careful not to disturb the position of that portion of the split plate which was active when the first adjustment was made.

VOLTAGE AND CURRENT VALUES:

With the volume control at maximum, the following readings should be obtained, with an allowable variation of 15%:

R.F. Plate voltage ................................ 160
R.F. Screen Grid Voltage .......................... 90
R.F. Grid Bias .................................. 2.5
R.F. Plate Current ................................ 2.8
240 Plate Voltage ................................ 225
245 Plate Current ................................ 46
245 Bias ....................................... 50 Volts
Screen Grid Voltage ................................ 63
Detector Bias .................................... 5 *
Detector Plate Current ............................. .3 W (No signal)

Detector Plate Voltage ......................... 100 *

*This reading will be obtained with a 500,000 ohm volt-meter as found in a Jewell 193 test set. This reading is subject to considerable variation with meters of various resistances, as the voltage at this point is measured through a 600,000 ohm resistor.

The voltage at the opposite end of the resistor should be 250.

MODEL 60
2nd & 3rd Series

Alignment, Voltage
Model 15 "A" & "B" Supply
10 - 18 - 26

**NOTE** Condenser capacity for 60-cycle Unit is 2.0 mf.
Condenser capacity for 25-cycle Unit is 4.0 mf.

Model 61 "B" Transifier
11 - 5 - 26

Model 161 "B" Transifier
5 - 12 - 27
LAFAYETTE RADIO MFG. CO.

MODEL S-W. Converter
MODEL P.A. Tuner

Schematic

LAFAYETTE SHORT-WAVE CONVERTER

PRE SELECTOR COIL
ANT
GND

5B
RF COIL
2A7

IF PEAK 466 KC
1-IF

287

300 M
50 M
250 M

0.01

0.01

VOLUME CONT.
WITH SWITCH

250 VOLT

100 V - 60 V

2.5 V

100 M

0.01

1 MEG

5 MEG

500 M

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www.americanradiohistory.com
Alignment Voltage MODEL E-20, E-204

Alignment Voltage

LAFAYETTE RADIO MFG. CO.

SERVİCE NOTES FOR THE MODELS E-20 & E-204
THE TUBE ALL-WAY SUPERHET RECEIVERS

ALIGNMENT PROCEDURE

Alignment of this receiver should not be attempted unless all other possible causes of faulty operation have been thoroughly investigated. An accurately calibrated signal generator which will cover the necessary wave-bands and an output meter for indicating the effect of adjustments are required.

1. P. ADJUSTMENT - The signal generator is tuned to 11.5 kc. and is connected across the grid of the first i.f. transformer. The grid clip from the receiver is disconnected. The side band of the generator is connected to the r.f. part of the receiver. The trimmers are adjusted by turning the screws up and down until maximum responses is obtained in the output meter. Both the primary and secondary trimmers of the first i.f. transformer should be adjusted in this manner. The second i.f. transformer is an impedance coupling device and no trimmers to adjust. The third i.f. transformer is aligned in the same manner as the first, except that the latter has only one trimmer. The first transformer is mounted in back of the short wave coil assembly. The third i.f. transformer is located between the 6k a.v.c. & n.o. tube and the 58 second detector. All i.f. trimmers are accessible from the top of the chassis shield case.

1400 KC. ADJUSTMENT - The high side of the signal generator is connected to the antenna post of the receiver and the low side to the ground post. The lattice detector is also tuned to a frequency of 1400 kc. The oscillator trimmer condenser is adjusted for maximum output, with the volume control at full and the signal generator adjusted for minimum input. The antenna preselector and first detector variable condenser trimmers are then adjusted in the order named. The variable condenser sections are, reading from front of the receiver to the rear, antenna preselector, first detector, and oscillator.

600 KC. ADJUSTMENT - The receiver and signal generator are both tuned to 600 kc. and the 600 kc. pedding condenser is adjusted for maximum output. This condenser is located on the left hand side of the chassis closest to the rear. The oscillator trimmer condenser located immediately adjacent to the 600 kc. pedding condenser, is the 9.5 megacycle padding condenser. This may be necessary to read the variable condenser entirely to the right and left in making this adjustment.

2. L. ADJUSTMENT - The band selector switch is adjusted for operation on the top band by turning the dial to a point approximately 10 megacycles and the end of the dial, (approximately 9.5 megacycles). The signal generator is set for a signal of 9.5 megacycles. A 9.5 megacycle trimmer, located alongside of the 600 kc. pedding condenser, is not tuned to this dial setting. This is to have the correct signal frequency on the predetermined set of the receiver. The signal generator is then turned to 1400 kc. and the signal generator adjusted for minimum input. The oscillator trimmer condenser is adjusted for maximum output, with the volume control at full and the signal generator adjusted for minimum input. The 9.5 megacycle padding condenser is then adjusted to obtain maximum output. The 9.5 megacycle signal should come in at approximately 9.5 megacycles below the dial setting of the receiver. The 9.5 megacycle signal should come in at a signal of 9.5 megacycles. The signal generator should be turned to 1400 kc. and the signal generator adjusted for minimum input. The oscillator trimmer condenser is then adjusted to obtain maximum output. The 9.5 megacycle signal should come in at approximately 9.5 megacycles below the dial setting of the receiver.

3. Q. ADJUSTMENT - This is only made on the Model E-204. The wave bands are obtained by adjusting the trimmer condenser located on the front of the chassis pan below the tuning dial and is accessible to the tuning dial. The signal generator is set for 14.0 megacycles and the signal generator adjusted for minimum input. The oscillator trimmer condenser is then adjusted to obtain maximum output. The 9.5 megacycle signal should come in at approximately 9.5 megacycles below the dial setting of the receiver. The signal generator should be turned to 1400 kc. and the signal generator adjusted for minimum input. The oscillator trimmer condenser is then adjusted to obtain maximum output. The 9.5 megacycle signal should come in at approximately 9.5 megacycles below the dial setting of the receiver. The 9.5 megacycle signal should come in at a signal of 9.5 megacycles. The signal generator should be turned to 1400 kc. and the signal generator adjusted for minimum input. The oscillator trimmer condenser is then adjusted to obtain maximum output. The 9.5 megacycle signal should come in at approximately 9.5 megacycles below the dial setting of the receiver. The signal generator should be turned to 1400 kc. and the signal generator adjusted for minimum input. The oscillator trimmer condenser is then adjusted to obtain maximum output. The 9.5 megacycle signal should come in at approximately 9.5 megacycles below the dial setting of the receiver.

VOLTAGE TABLE

<table>
<thead>
<tr>
<th>Tube</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>15000v</td>
</tr>
<tr>
<td>A10</td>
<td>15000v</td>
</tr>
<tr>
<td>A12</td>
<td>15000v</td>
</tr>
<tr>
<td>A13</td>
<td>15000v</td>
</tr>
<tr>
<td>A14</td>
<td>15000v</td>
</tr>
<tr>
<td>A15</td>
<td>15000v</td>
</tr>
<tr>
<td>A16</td>
<td>15000v</td>
</tr>
<tr>
<td>A17</td>
<td>15000v</td>
</tr>
<tr>
<td>A18</td>
<td>15000v</td>
</tr>
<tr>
<td>A19</td>
<td>15000v</td>
</tr>
<tr>
<td>A20</td>
<td>15000v</td>
</tr>
</tbody>
</table>

PARTS LIST

<table>
<thead>
<tr>
<th>Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A10</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A12</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A13</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A14</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A15</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A16</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A17</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A18</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A19</td>
<td>15000v transformer</td>
</tr>
<tr>
<td>A20</td>
<td>15000v transformer</td>
</tr>
</tbody>
</table>

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PROCEDURE OPERATION

On the back of the chassis adjacent to the short wave, ports are located the phonograph jacks into which the types of the phonograph pickup may be inserted. It is necessary that the pickup be equipped with a volume control of its own. The toggle switch located just below the tuning dial must be switched in the phono position for phonograph operation and to the position marked "r.f." for radio operation.

RIGHT WAVE TRIMMER

The short wave trimmer is used for a fine tuning adjustment when short wave band trimming takes care of frequencies between 1.5 and 14.0 megacycles. The wave position is set by adjusting this trimmer. When the receiver is operating on the broadcast band.

FREQUENCY BAND

The model E-204 is designed for the following five frequency bands:

- Band 1: 2 to 8 kc.
- Band 2: 8 to 9 kc.
- Band 3: 9 to 13 kc.
- Band 4: 15 to 50 kc.
- Band 5: 50 to 150 kc.

Model E-20 is designed for the first four bands listed above only. Band 5 may be selected by placing the wave selector switch in the maximum left hand position. The other bands follow in rotation, as the knob is turned to the right.
OPERATING INSTRUCTIONS FOR THE MODEL C-50
7 TUBE 3 BAND A.M.-G.C. SUPERHETERODYNE RECEIVER

POWER SUPPLY
This receiver is designed to operate on either direct or alternating current of any frequency on voltages between 105 and 130. If voltages in excess of this value are to be applied, a special voltage reducing resistor must be used. For operation on 220-250 volts, a type 660 amperite is substituted for the type 3-90 amperite.

When operating from direct current, the tubes should be allowed about three-quarters of a minute to heat up; if, at the end of this time, no reaction occurs, the plug should be reversed in the socket.
Power consumption - 50 watts.

FREQUENCY BAND
The receiver operates on three frequency bands; either may be selected by means of the selector switch which is located at the extreme right, on the front panel. This switch has three positions which are marked to correspond to the three frequency bands designated below:

<table>
<thead>
<tr>
<th>Band</th>
<th>Short Wave</th>
<th>Medium Wave</th>
<th>Long Wave</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>5 to 15 mc.</td>
<td>60 to 187.5 mc.</td>
<td>140 to 320 kc.</td>
</tr>
<tr>
<td>#2</td>
<td>650 to 1580 kc.</td>
<td>606.5 to 194.8 meters</td>
<td>214.3 to 920.2 meters</td>
</tr>
</tbody>
</table>

FRONT PANEL VIEW

ALIGNMENT PROCEDURE
Realignment of this receiver should not be attempted unless all other possible causes of faulty operation have first been thoroughly investigated. An accurately calibrated signal generator which will cover the various wave-bands, and an output meter for indicating the effects of adjustments, are required.

MODEL C-60
I.F. ADJUSTMENT - The signal generator is set at 456 kc. The "hot" lead from the signal generator is connected to the grid cap on the 1st detector (6A7) tube; the clip having first been removed from the tube cap. The ground lead is connected to the receiver gnd. post. The oscillator condenser (front) of the gang tuning condenser is short-circuited and the volume control turned on full. The i.f. trimmers are then adjusted for maximum gain in the receiver. These trimmers are located on top of the i.f. transformer shield cans, which are situated in the rear of the chassis, to the left. The one nearest the front is the last i.f. transformer and the rear one is the 1st i.f. transformer.

16 MHz. ADJUSTMENT - The short-circuit is removed from the oscillator condenser and the grid clip replaced in its normal position on the cap of the 6A7 tube. The "hot" lead from the signal generator is connected to the antenna post of the receiver and the ground lead to the ground post of the receiver. With the volume control set at maximum and a minimum input signal from the signal generator, the band switch is set at position no. 1 and the receiver dial set at 16 mc. The oscillator trimmer is adjusted for maximum gain at this setting. The oscillator trimmer is found on the side of the oscillator coil shield can which is located directly in front of the i.f. transformers. The upper trimmer is the one for this wave-band. After the oscillator is adjusted, the antenna trimmer is adjusted. This is found on the front of the antenna coil can which is directly in front of the 6A7 tube. The lower trimmer is the one for this band.

6 MHz. ADJUSTMENT - With all connections as above, the signal generator is set at 3 mc. and the signal turned on the dial. The i.f. pad for this frequency is found on the front sub-panel of the receiver, in the lower left hand corner. This pad should be adjusted for maximum response of the receiver, while the tuning condenser is rocked slightly back and forth. The 15 mc. adjustment should then be rechecked.

1000 Kilocycle Adjustment - With the receiver and signal generator both set at 1400 kc. the procedure outlined above is repeated. The trimmers are adjusted for maximum gain of the receiver. These trimmers are located on the coil shield cans; the oscillator trimmer for this band is the bottom one on the oscillator can; the detector trimmer for this band is the upper one on the detector or antenna coil can. The 600 kc. pad is on the front sub-panel, directly under the i.f. transformer.

1000 MHz. Adjustments - With the receiver and signal generator both set at 400 kc. the procedure outlined above is repeated. The trimmers are located on the left side panel of the chassis; one towards the rear is the oscillator trimmer and the other near the front is the antenna trimmer. There is no series pad for this band.

MODEL C-79
The alignment procedure for the Model C-79 is exactly the same as for the model C-60 except for the location of the trimmers, and the designation of the bands. These are as follows:

Short wave band - Oscillator trimmer is the lower one on the osc. coil can. Antenna trimmer is the upper one on the antenna coil can. No series pad.

Broadcast band - Oscillator trimmer is the upper one on the antenna coil can. Antenna trimmer is the lower one on the antenna coil can. 500 kc. series pad is on the lower left hand corner of the front sub-panel.

Police band - Two trimmers are on the left side panel of the chassis. The one towards the rear is the oscillator shunt trimmer; the one towards the front is the antenna shunt trimmer.

VOLTAGE TABLE

<table>
<thead>
<tr>
<th>TUBE</th>
<th>FUNCTION</th>
<th>1000</th>
<th>2000</th>
<th>470</th>
<th>90.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>6A7</td>
<td>dot.-esc.</td>
<td>4.5</td>
<td>100.2</td>
<td>47.0</td>
<td>90.0</td>
</tr>
<tr>
<td>6E7</td>
<td>i.f. ampl.</td>
<td>4.3</td>
<td>100.2</td>
<td>47.0</td>
<td>90.0</td>
</tr>
<tr>
<td>6J6</td>
<td>diode det.</td>
<td>4.6</td>
<td>100.2</td>
<td>47.0</td>
<td>90.0</td>
</tr>
<tr>
<td>6P5</td>
<td>1st audio</td>
<td>5.4</td>
<td>100.2</td>
<td>47.0</td>
<td>90.0</td>
</tr>
<tr>
<td>4P7</td>
<td>audio out</td>
<td>20.2</td>
<td>100.2</td>
<td>47.0</td>
<td>90.0</td>
</tr>
<tr>
<td>2555</td>
<td>rectifier</td>
<td>21.0</td>
<td>100.2</td>
<td>47.0</td>
<td>90.0</td>
</tr>
</tbody>
</table>

[Diagram of alignment procedure and front panel view]
LAFAYETTE MODELS 132-A, 133-A
MODEL 135-A
Schematics

LAFAYETTE RADIO MFG. CO.

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The foreign band of 19 to 49 meters can be adjusted by the two trimmers on the short wave coil located next to the gang condenser. Set the test oscillator to 10 megacycles or 31 meters.

The police and aviation band can be adjusted from a signal set at 3,000 K.C. or 300 on the Dial. The oscillator trimmer is located underneath the chassis set and the R.F. trimmer is between the 6A7 tube and the wave change switch.

The gang condenser trimmers are not to be used for alignment of either of the short wave bands.

Alignment of this receiver requires the use of a test oscillator that will cover the frequencies of 465, 600, 1400, 3000 and 10,000 K.C and an output meter to be connected across the primary or secondary of the output transformers.

If possible all alignment should be made with the volume control on maximum and the test oscillator output as low as possible, to prevent the A.V.C. from operating and giving false readings.

I.F. ALIGNMENT Adjust the test oscillator to 455 K.C and connect the output to the grid of the last detector tube (6A7) through an .05 or .1 mfd condenser. If desired the ground on the test oscillator can be connected to the chassis ground. Align all four I.F. trimmers to peak or maximum reading on the output meter.

R.F. ALIGNMENT Adjust the oscillator to 1400 K.C and connect the output to the antenna post through a .0001 mfd micro condenser to give the equivalent of an antenna about 60 feet. Set the receiver pointer to 1400 K.C and adjust the rear gang condenser trimmer to peak.

Next rest the dial pointer on the receiver and the test oscillator to 500 K.C. Slowly increase or decrease the oscillator padding condenser, and at the same time continuously tuning back and forth across the signal with the receiver until the maximum reading is obtained on the output meter. This adjustment seems a little complicated but is the easiest way to adjust the oscillator to the preselector or R.F. section. The padding condenser is located on the left hand end of the chassis.

Return to 1400 K.C and again go over the adjustments at that frequency to be sure they have not been thrown out of adjustment.
ALIGNMENT DATA

The alignment of this receiver requires the use of a test oscillator that will cover the frequencies of 456, 600, 1400, 3000 and 10,000 K.C. and an output meter to be connected across the primary or secondary of the output transformers. If possible all alignment should be made with the volume control on maximum and the test oscillator output as low as possible, to prevent the AFC from operating and giving false readings.

I.F. ALIGNMENT Adjust the test oscillator to 456 K.C. and connect the output to the grid of the 1st detector tube (6A7) through a .001 mfd. mica condenser to give the equivalent of an antenna about 60 feet. Set the receiver pointer to 1400 K.C. and adjust the rear gang condenser trimmer to peak.

R.F. ALIGNMENT Adjust the oscillator to 1400 K.C. and connect the output to the antenna post through a .0001 mfd. mica condenser. If desired the ground on the test oscillator can be connected to the chassis ground. Align all four I.F. trimmers to peak or maximum reading on the output meter.

Next rest the dial pointer on the receiver and the test oscillator to 600 K.C. Slowly increase or decrease the oscillator padding condenser, and at the same time continuously tuning back and forth across the signal with the receiver until the maximum reading is obtained on the output meter. This adjustment seems a little complicated but is the easiest way to adjust the oscillator to the preselector or R.F. section. The padding condenser is located on the left hand end of the chassis.

Return to 1400 K.C. and again go over the adjustments at this frequency to be sure they have not been thrown out of adjustment.

SHORT WAVE BANDS

The foreign band of 19 to 49 meters can be adjusted by the two trimmers on the short wave coil located next to the gang condenser. Set the test oscillator to 10 megacycles or 31 meters.

The police and aviation band can be adjusted from a signal set at 3,000 K.C. or 300 on the dial. The oscillator trimmer is located underneath the chassis set and the R.F. trimmer is between the 6A7 tube and the wave change switch.

The gang condenser trimmers are not be used for alignment of either of the short wave bands.

SERVICE HINTS

LOW VOLUME This may be caused by weak or defective tubes (Replace with new ones if in question), antenna disconnected from the receiver, open antenna coil, or shorted by-pass condensers, or defective wave change switch.

LOW VOLTAGE Low voltage may be caused by a defective 60 rectifier, low line voltage, a defective power transformer or shorted by-pass condensers.

NOISE Excessive hum may be caused by a defective 80 tube, open filter condenser, or open audio grid lead.

DISTORTED REPRODUCTIONS This may be caused by a defective 75 or 42 tube or a ground on the automatic volume control circuits. Check all circuits with an ohm meter or continuity tester.

OSCILLATION Most trouble from oscillation is due to open by-pass or defective filter condenser. The grid lead on the 75 tube may also cause a howl if it runs too close to the 42 tube.
LAFAYETTE RADIO MFG. CO.

Chassis Layout

©John F. Rider, Publisher
THE PROCEDURE TO ALIGN THE I.F. STAGES

The I.F.'s are aligned in the usual system of feeding the intermediate frequency of odd EK into the grid of the I.F. or Detector tube.

Make certain that the sensitivity adjustment (which may be the named short extending from the back of the chassis) is turned all the way to the right. Always minimize the I.F. or Oscillator circuits.

(As mentioned above in paragraphs three - the same signal may be checked to determine if the adjustments have been made on the correct signal.)

6. SECOND SHORT WAVE BAND

Rotate head switch to 38-4 Megacycles.

Set dial hand to 12 Megacycles.

Peak trimmers A at 37 Megacycles.

Peak trimmers F and G in the IF circuits on the same frequency.

Set dial hand to 13 Megacycles on the same band.

Adjust padding condenser K to the 13 Megacycle signal.

7. FIRST SHORT WAVE BAND

Rotate head switch to 4-1.5 Megacycles.

Set dial hand to 4 Megacycles.

Peak trimmer I to 4 Megacycles.

Peak trimmers J and K in the I.F. circuits to the same frequency.

Set dial hand to 1.5 Megacycles.

Adjust padding condenser L to resonance with 1.5 Megacycles.

8. BROADCAST BAND

Rotate head switch to "MF" position.

Set dial hand to 1600 Kilocycles.

Peak trimmer M to 1500 Kilocycles.

Peak trimmers N and O to 1200 Kilocycles.

Set dial hand to 200 Kilocycles.

Adjust padding condenser P to resonance with 300 Kilocycles.

Check the middle of the dial at 950 Kilocycles for example and head the plates of the variable condenser if necessary to line up with the calibration.

9. THE LONG WAVE

This adjustment applies to sets that have the extra band from 150 Kilocycles to 250 Kilocycles attached.

The alignment trimpers are shown in dotted lines on the Pictorial Diagram.

Rotate head switch to its fifth position - all the way to the right.

Set dial hand to 350 Kilocycles.

Peak trimmer Q to 200 Kilocycles from the signal generator.

Peak trimmers R and S in the IF circuits to the same frequency.

Set dial hand to 150 Kilocycles.

Adjust padding condenser T at 150 Kilocycles.

(a) On some sets the two resistors - 800 and 2000 ohms, and with a 12 Megacycle signal, resonances may be checked and corrected by shifting the ground lead at "V" (see pictorial) by 1/8" in either direction as necessary along the bare ground wire for the greatest gain.

(b) Refer to schematic p200 showing changes, if any.

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MODEL XP-15949
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Schematics

HIGH FIDELITY D.C. AMPLIFIER

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