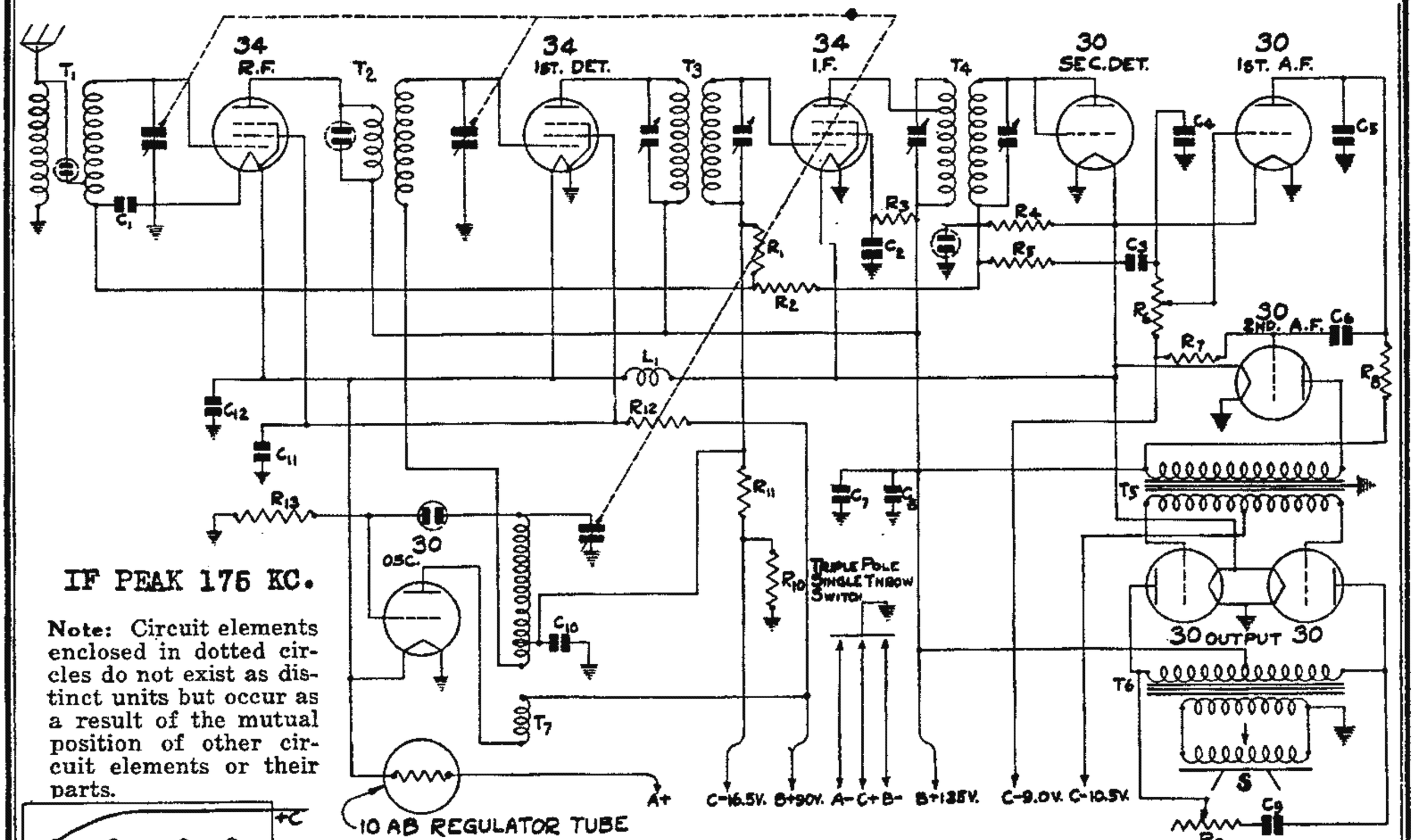
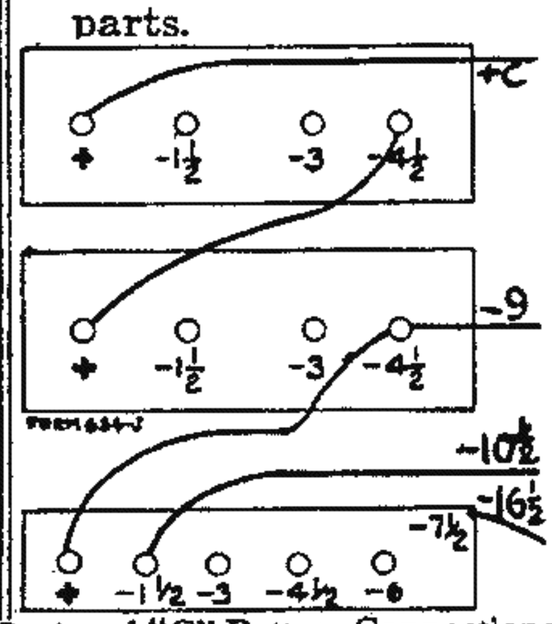
MODEL B-60
Schematic, Voltage
Socket, Parts List

LAFAYETTE RADIO & TELEVISION CORP



IF PEAK 175 KC.

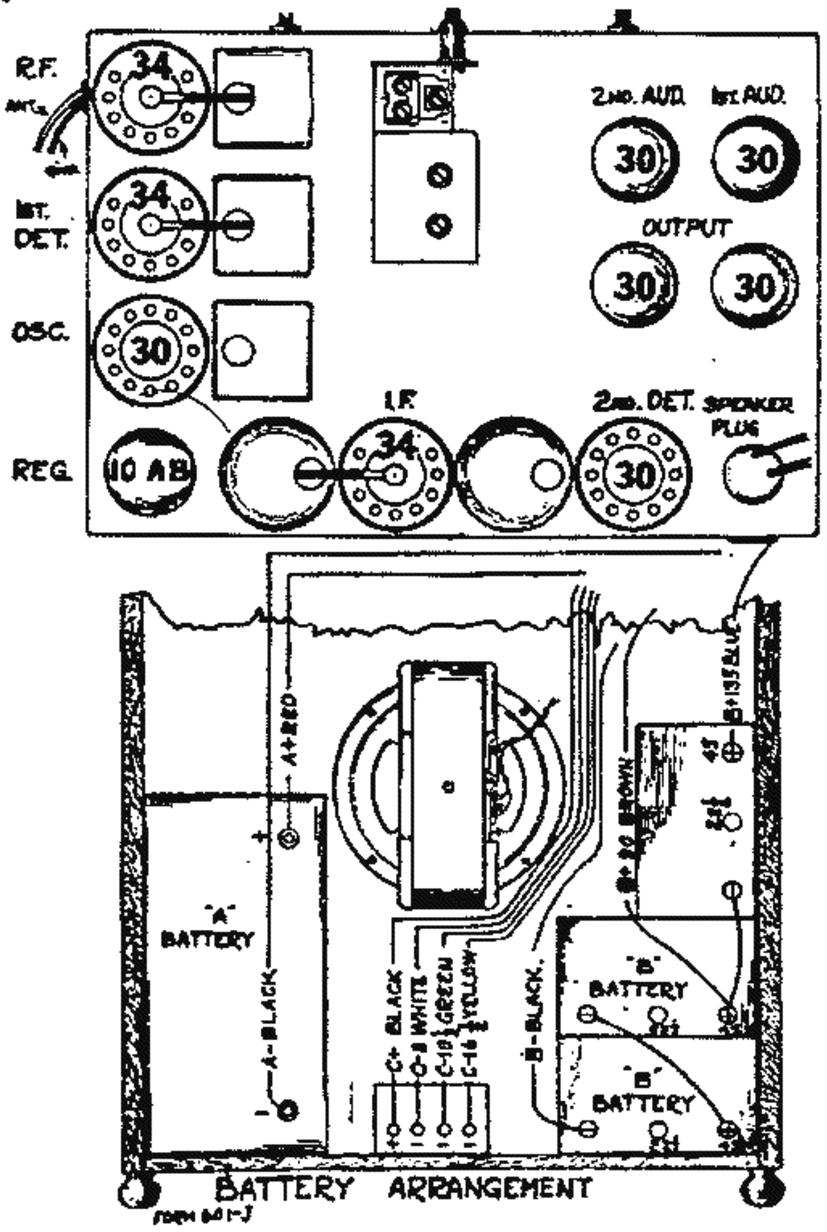
Note: Circuit elements enclosed in dotted circles do not exist as distinct units but occur as a result of the mutual position of other circuit elements or their parts.



Optional "C" Battery Connections

Part No.	Code	Resistance	Type
P-A95504	R1	.5 megohm	Carbon
P-A94105	R2	1.0 megohm	Carbon
P-A95353	R3	35,000 ohms	Carbon
P-A94204	R4	200,000 ohms	Carbon
P-A95104	R5	100,000 ohms	Carbon
P- 96009	R6	1 megohm	Volume Control
P-A94105	R7	1 megohm	Carbon
P-A95104	R8	100,000 ohms	Carbon
P- 97005	R9	150,000 ohms	Tone Control
P-A94153	R10	15,000 ohms	Carbon
P-A94405	R11	4 megohms	Carbon
P-A94153	R12	15,000 ohms	Carbon
P-A95504	R13	.5 megohm	Carbon

Part No.	Code	Capacity	Voltage	Type
P-80864	C1	.10 mfd.	200 V.	Tubular
P-80862	C2	.050 mfd.	200 V.	Tubular
P-80862	C3	.050 mfd.	200 V.	Tubular
P-80919	C4	.00025 mfd.	600 V.	Moulded
P-80919	C5	.00025 mfd.	600 V.	Moulded
P-80862	C6	.050 mfd.	200 V.	Tubular
P-80968	C7	4.00 mfd.	150 V.	Electrolytic
P-80862	C8	.050 mfd.	200 V.	Tubular
P-80940	C9	.02 mfd.	400 V.	Tubular
P-80981	C10	.01 mfd.	400 V.	Tubular
P-80888	C11	.25 mfd.	200 V.	Tubular
P-80888	C12	.25 mfd.	200 V.	Tubular
P-80980	Three Gang Variable Condenser			



Voltages at Sockets

Antenna Shorted to Ground
Batteries Up to Rated Voltages. See Fig. 1
Voltages Read From Negative Filament Terminal

Type of Tube	*Function*	*Across Filament*	*Plate to Cathode*	*Screen to Cathode*	*Grid to Cathode*	*Normal Plate M. A.*
34	R.F.	2.0	135	65	3.0(1)	2.6
34	1st Det.	2.0	135	65	4.5(1)	2.5
30	Osc.	2.0	90		2–4(2)	3.3
34	I.F.	2.0	135	90	4.5(1)	3.0
30	2nd Det.	2.0				
30	1st Audio	2.0	90		9.0(3)	.45
30	2nd Audio	2.0	130		9.0(4)	3.4
30	Output	2.0	135		10.5	2.5

(1) Computed figure—cannot be read because of high resistance circuit.
(2) Varies with frequency setting.
(3) Volume Control at minimum.
(4) As read at battery.

Aug., 1933

MODEL B-60
Alignment
Parts List

LAFAYETTE RADIO & TELEVISION CORP.

Batteries

The batteries and voltages required are shown in Figs. 2 and 3.

The majority of potential complaints on short "B" battery life can be prevented if proper instructions are given to the customer at the time the receiver is installed. The average "B" drain of this receiver under no signal conditions is 18 milliamperes. **A milliammeter in the negative "B" line will quickly determine whether the "B" drain is excessive or normal.**

Two factors directly affect the "B" battery consumption. One is the strength of the station signal. When the signal is weak, little or no automatic volume control action is obtained, and the 34 tubes draw high plate current. As the strength of the incoming signal increases, plate current in these tubes is reduced with a corresponding reduction in total "B" battery current. The other factor is the volume used. As the volume is increased, the "B" battery drain of the output tubes is increased.

As this receiver does not have a pilot lamp, it is easy to forget to turn it off. When this happens, the receiver may be on as long as 24 hours or more. A continuous drain of this kind for a long period will shorten the life of the "B" batteries considerably. **Caution the customer regarding this.**

The "A" Battery consists of any direct current power supply source delivering from 2 to 3 volts. An air cell, 3 volt dry cell bank, and 2 volt storage cell are some of the units which can be used. **Caution—do not use a 6 volt storage battery.**

For the "C" battery a special 22½ volt "C" battery with 9, 10½ and 16½ volt taps, as indicated in Fig. 2, may be used. If such a battery is not available, two standard 4½ volt "C" batteries and a standard 7½ volt "C" battery can be connected as shown in Fig. 3 to supply the necessary voltages.

If the receiver does not operate satisfactorily test the batteries under load. A high resistance meter is required for the "B" and "C" voltages. If any of the batteries are considerably below their rated voltage, new ones should be used. When the "B" batteries are replaced the "C" batteries should also be replaced. The reason for this is that the "C" drain is such that the "C" batteries are run down in about the same time as the "B" batteries.

Tubes

The tubes used in this receiver are all of the 2 volt series. The 34's are R. F. Pentodes with the suppressor grid tied internally to the cathode. The 30 tube is a general purpose triode. All of these tubes are of the filament or directly heated cathode type. All of them have a 2 volt filament and should not be connected to a power supply not intended for this type of tube. The filaments of both types of tubes take 60 milliamperes at 2 volts and the total "A" drain is therefore 9 times .06 or .54 amperes. The average "B" drain of the receiver under no signal conditions is 18 milliamperes. The tube marked 10AB is a voltage regulator which keeps the filament voltage within safe operating limits over a battery range of 2 to 3 volts.

Condenser Alignment

Misalignment or mistracking of condensers generally manifests itself in broad tuning and lack of volume at portions or all of the broadcast band. The receivers are all properly aligned at the factory with precision instruments and realignment 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 of 175 K. C. and accurately calibrated signals over the broadcast band, and an output indicating meter are desirable. The procedure is as follows:

Set the signal generator for 175 K. C. Connect the signal lead from the signal generator to the grid of the 1st detector tube through a .05 mfd. condenser. Turn the tuning condenser rotor until the plates are completely out. The ground lead from the signal generator goes to the ground lead of the receiver. Then adjust the four intermediate frequency condensers for maximum output. The adjusting screws for these condensers are reached from the bottom of the chassis.

Next set the signal generator for a signal of exactly 1400 K. C. The antenna lead from the signal generator is, in this instance, connected to the antenna lead of the receiver. Set the dial pointer on the 1400 K. C. mark on the dial scale and adjust the three trimmer condensers on the gang tuning condenser for maximum output, adjusting the oscillator trimmer first.

The tuning condensers are all adjusted at the factory for the correct relative capacity between the oscillator section and the other two sections. As a rule no adjustment other than at 1400 K. C., as mentioned above, is required. If, after the receiver has been aligned at 1400 K. C., the sensitivity is still low at some portion of the band, adjust the signal generator to that setting and tune for maximum output with the station selector knob on the receiver. Then, without readjusting the trimmers, bend the slotted rotor plates on the **front two sections** of the gang to obtain maximum output. Care should be taken not to bend these plates too far in an inward direction as the condenser may short as a result.

After any adjustment of this nature, set the signal generator again for a signal of 1400 K. C. and check the adjustment of the tuning condenser trimmers at this frequency for maximum output.

REPAIR PARTS LIST FOR 10 TUBE BATTERY OPERATED SUPERHETERODYNE RECEIVER

When ordering parts be sure and give the part number. Also give the series number which will be found in the License Notice label. If there is a spot of paint on the chassis, give this color.

Part No.	Item
P-1727	No. 30 Socket
P-1729	No. 34 Socket
P-1832	Reg. Socket
P-1640	Spkr. Socket
P-20406B	Tube Shield
P-20408	Tube Shield Base
P-1960	On-Off Switch
P-1504	8-Lug Terminal Strip
P-20714	Bottom Plate
P-5115	Antenna R. F. Transf. Assembly less can
P-5116	Interstage R. F. Transf. Assembly less can.
P-5117	Oscillator Coil Assembly less can
P-40432	Cans for the above assemblies
P-5128	1st I. F. Assembly complete with can
P-5129	2nd I. F. Assembly complete with can
P-5111	Filament Choke
P-50589	Audio Input Transformer
P-50590	Audio Output Transformer
P-70751	9-Wire Battery Cable
P-10272	Rubber Mtg. Feet
P-1540	Knobs, Plain
P-1724	Knob, Indicator
P-30342	Grid Cap Only
P-10224	Rubber Drive Pinion
P-30374	Bushing for Rubber Pinion
P-1897	Permanent Magnet Dynamic Speaker
P-1627	Tuning Meter