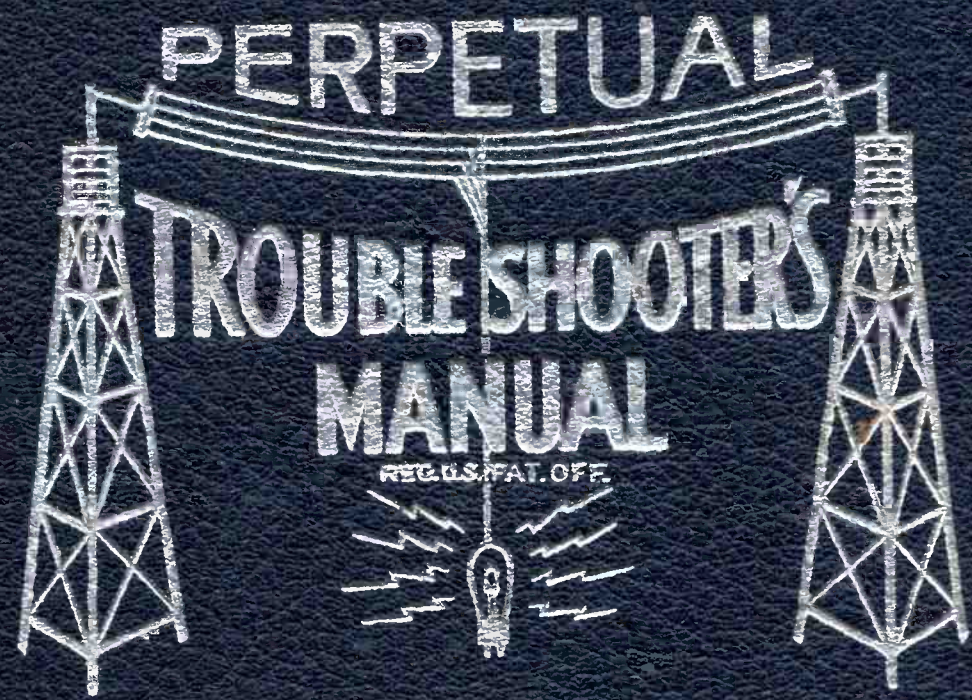


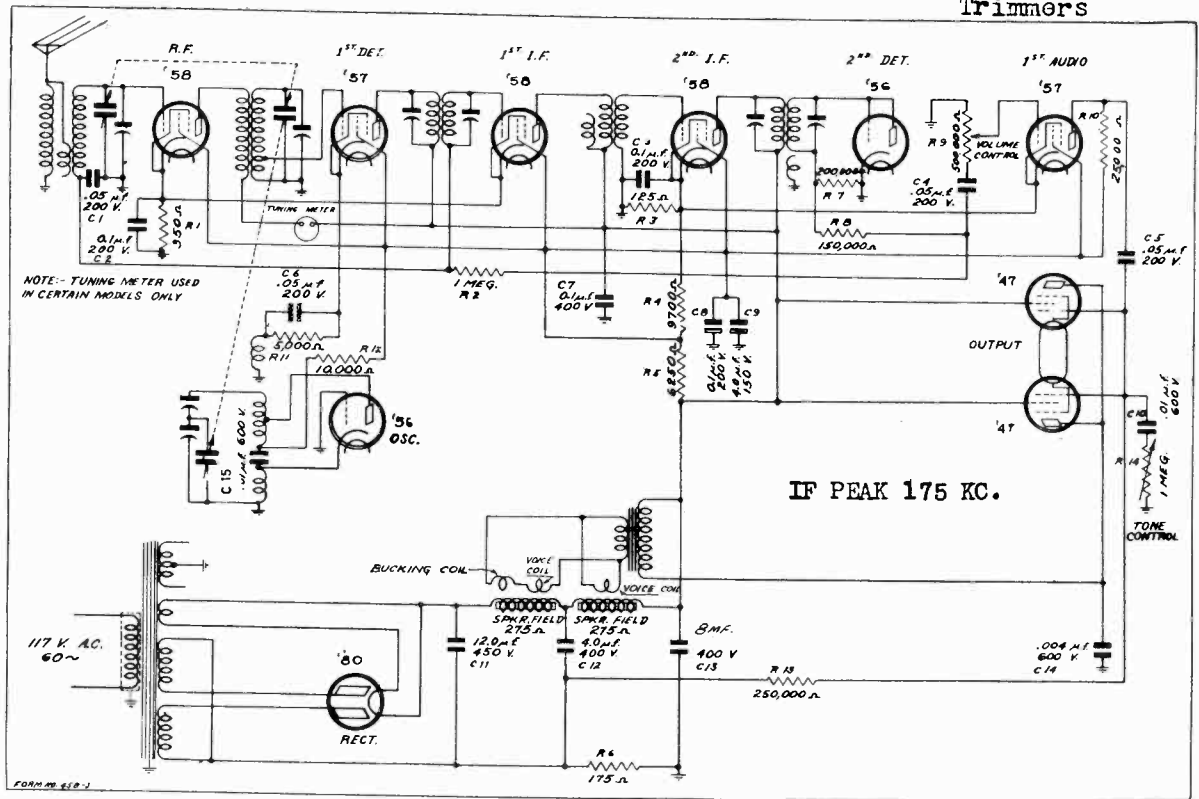
VOLUME XI



JOHN F. RIDER

LAFAYETTE RADIO MFG. CO.

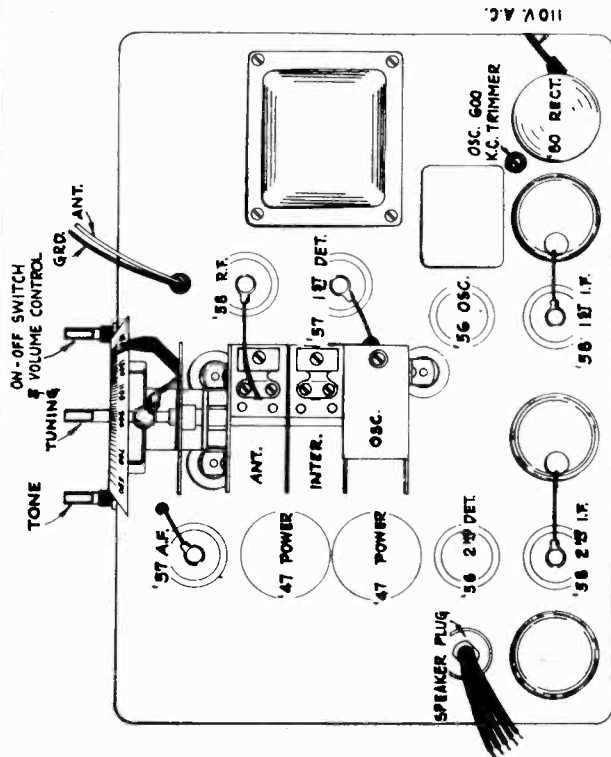
MODEL C-10 Late
Schematic, Voltage
Alignment, Socket
Trimmers



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.

Next set the signal generator for a signal of 600 K.C. and adjust the oscillator 600 K.C. trimmer. The adjusting screw for this condenser is reached from the top of the chassis and is between the I.F. and oscillator coil cans.



Voltages at Sockets
LINE VOLTAGE, 115 — ANTENNA LEAD
SHORTED TO GROUND

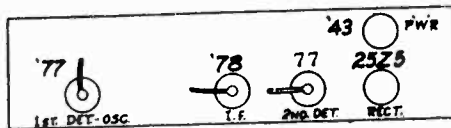
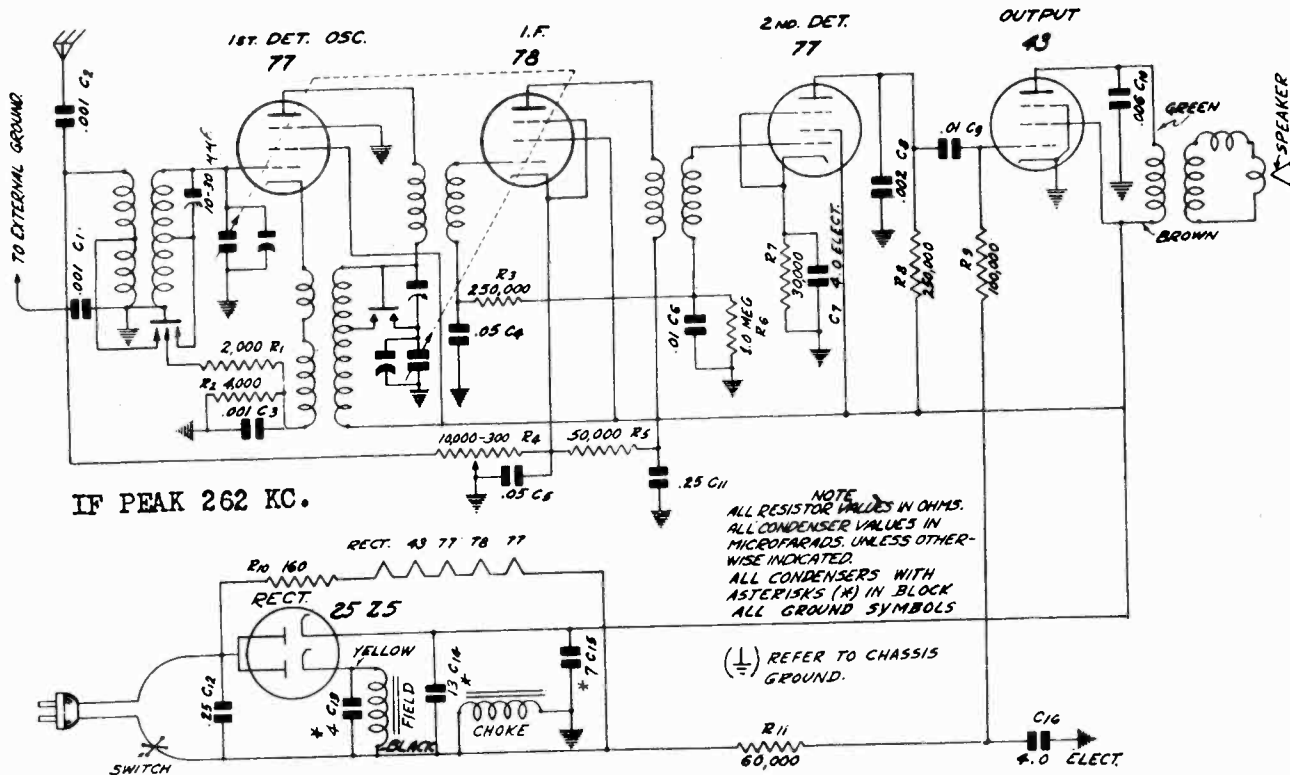
Type of Tube	Function	Across Filament or Heater	Plate to Cathode	Screen to Cathode	Grid to Cathode	Normal Plate M.A.
58	R.F.	2.4	275	100	4.2 ⁽¹⁾	5.2
57	1st Det.	2.4	265	99	5.4	.9
56	Osc.	2.4	28		0	8.6
58	1st I.F.	2.4	275	100	4.2 ⁽¹⁾	5.2
58	2nd I.F.	2.4	275	102	3.0	8.5
56	2nd Det.	2.4	0		0	0
57	1st Audio	2.4	12	102	3.0 ⁽¹⁾	1.8
47	Output	2.4	265	280	18.5 ⁽²⁾	30.0
80	Rect.	4.9				55.0 per plate

(1) Measured from cathode to ground.

(2) Measured across Resistor R6.

MODEL L-20, Nomad
Schematic, Voltage
Socket

LAFAYETTE RADIO MFG. CO.



Voltages at Sockets

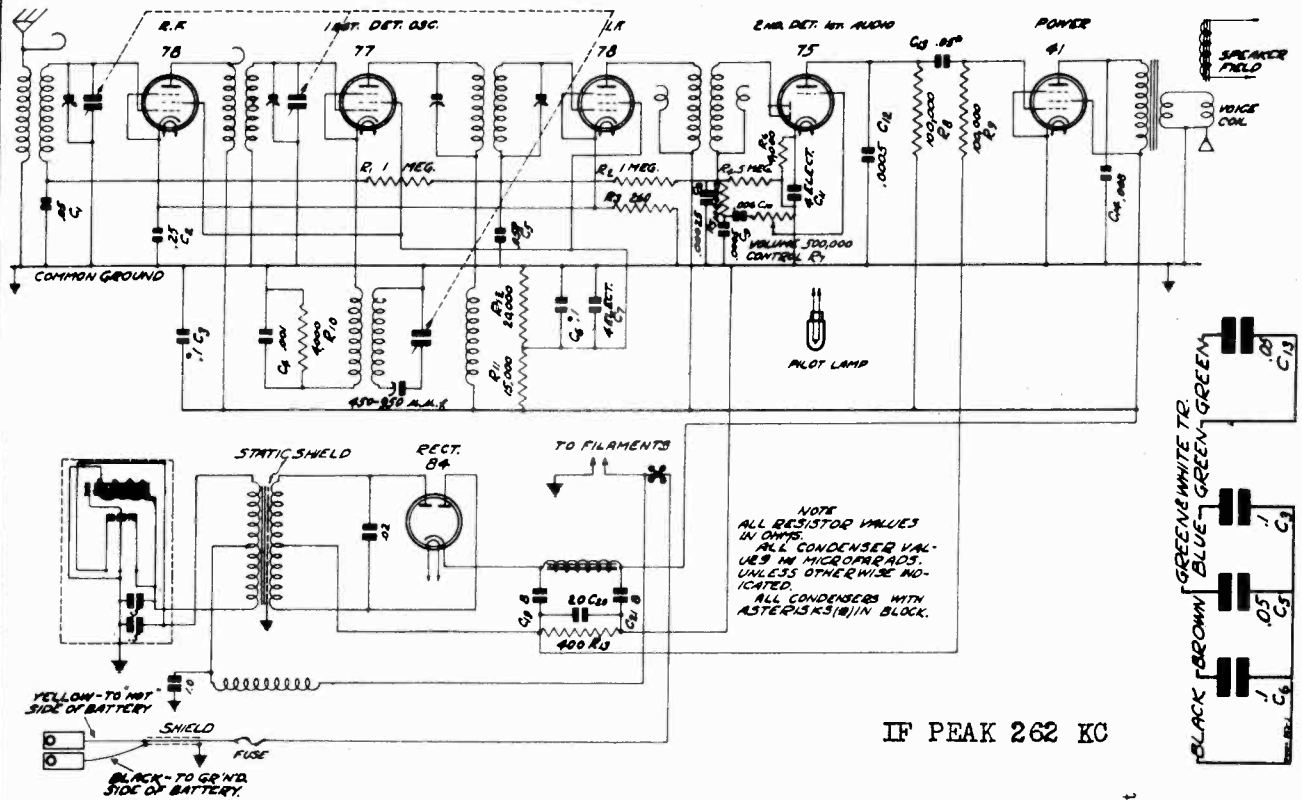
Antenna lead connected to ground lead (not external ground).—Volume Control at Maximum.
CAUTION—Do not put chassis on any grounded surface or let chassis touch any ground.

Type of Tube	Function	A.C. Line Voltage—115 Use High Resistance A.C. Meter, Rectifier Type, for Heater Voltage Measurements					D.C. Line Voltage—110 Use High Resistance D.C. Meter for Heater Voltage Measurements				
		Across Heater	Plate to Cathode	Screen to Cathode	Grid to Cathode	Normal Plate M. A.	Across Heater	Plate to Cathode	Screen to Cathode	Grid to Cathode	Normal Plate M. A.
77	1st Det. Osc.	5.8	106	106	5.2	.8	5.6	87	87	4.3	.6
78	I F.	5.8	108	108	3.0 ⁽¹⁾	7.4	5.6	88	88	2.4 ⁽¹⁾	6.0
77	2nd Det.	5.8	65 ⁽²⁾	104	6.0 ⁽³⁾	.14	5.6	58 ⁽²⁾	82	5.0 ⁽³⁾	.11
43	Output	24.	95	110	18.0 ⁽⁴⁾	22.0	23.0	80	90	15.0 ⁽⁴⁾	17.0
			110 ⁽⁵⁾					5.0 ⁽⁵⁾			
25Z5	Rect.	24.	155 ⁽⁵⁾			Total	23.0	6.0 ⁽⁵⁾		Total	74.0

- (1) Cathode to Ground.
- (2) With 1,000,000 ohm meter—reading will be lower with lower resistance meter.
- (3) Cathode to ground—read with 100,000 ohm meter.
- (4) Read across filter choke.
- (5) Readings from plate to two cathodes with 250,000 ohm meter

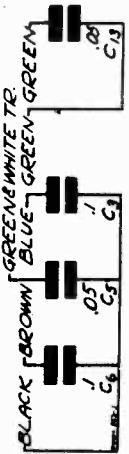
LAFAYETTE RADIO MFG. CO.

MODELS L-22, L-23
Schematic, Voltage
Socket, Alignment



NOTE
ALL RESISTOR VALUES
IN OHMS.
ALL CONDENSER VAL-
UES IN MICROFARADS.
UNLESS OTHERWISE IN-
DICATED.
ALL CONDENSERS WITH
ASTERISK (*) IN BLOCK.

IF PEAK 262 KC



Condenser Block—Internal Wiring

Type of Tube	Function	Across Heater	Plate to Cathode	Screen to Cathode	Grid to Cathode	Normal Plate MA
78	R. F.	6.1	182	80	3. (1)	7.0
77	1st Det. and Osc.	6.1	178	77	5. (2)	1.3 (2)
78	I. F.	6.1	182	80	3. (1)	7.0
75	2nd Det. 1st Audio	6.1	70 (3)		1.4 (1)	.35
41	Output	6.1	172.5	176.5	12.5 (4)	16.0
84	Rect.	6.1	205			17.5 per plate

- (1) Cathode to Ground
- (2) Subject to Variation
- (3) Triode Plate to Cathode
- (4) Read Across 400-Ohm Resistor, R13

First set the signal generator at approximately 262 K.C. Connect the antenna lead from the generator to the control grid of the I.F. 78 tube, through a .05 mfd. condenser. The ground lead of the generator goes to the ground of the receiver. Turn the rotor plates of the tuning condenser completely out and keep the signal weak enough to prevent A.V.C. action. Note from Fig 10 that the second I.F. transformer is self tuned and cannot be adjusted. Adjust the frequency of the signal generator until the output meter shows maximum output. The intermediate frequency setting of the generator is then correct, although it may be a very small percentage higher or lower than 262 K.C.

Next connect the signal lead from the signal generator to the grid of the 1st detector tube through a .05 mfd. condenser. Then adjust the two intermediate frequency condensers for maximum output. One of the I.F. condenser screws is reached through the hole on the top of the 1st I.F. assembly can. The other I.F. condenser screw is reached from the bottom of the sub-panel through a hole at the bottom of this assembly.

Now set the signal generator for a signal of exactly 1400 K.C. The antenna lead from the generator is, in this instance, connected to the antenna lead of the receiver. Connect the flexible drive shaft to the chassis if it has been disconnected. As explained previously, the dial scale should be at the low frequency end stop when the rotor is completely in mesh. Then turn the station selector knob until the dial scale is at 1400 K.C.

Then adjust the three trimmer condensers on the gang tuning condenser for maximum output, adjusting the oscillator section first.

Next, set the signal generator for a signal of 600 K.C. and adjust the oscillator 600 K.C. trimmer. The adjusting screw for this condenser is reached through a hole in the back wall of the sub-panel.

A non-metallic screwdriver is necessary for this adjustment. Turn the tuning condenser rotor until maximum output is obtained. Then turn the rotor slowly back and forth over this setting, at the same time adjusting the 600 K.C. trimmer screw until the highest output is obtained.

Then 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.

Trying Out the Set and Adjusting

adjusting screw up or down until maximum output is obtained.

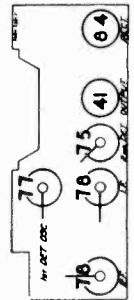


Fig. 8—Location of Tubes

After the wiring has all been completed and before the chassis is permanently installed, try out the set and adjust the antenna trimmer. The location of the tubes is shown in Fig. 8. To adjust the antenna trimmer, tune in a weak signal between 1200 and 1400 K.C. with the volume control about three-fourths on. On one end of the chassis box are two small metal plates. Remove the smaller of these two plates. Directly under the hole in the chassis box is the antenna trimmer condenser screw. Turn this

MODEL B-61
Schematic, Voltage
Socket, Resistance

LAFAYETTE RADIO MFG. CO.

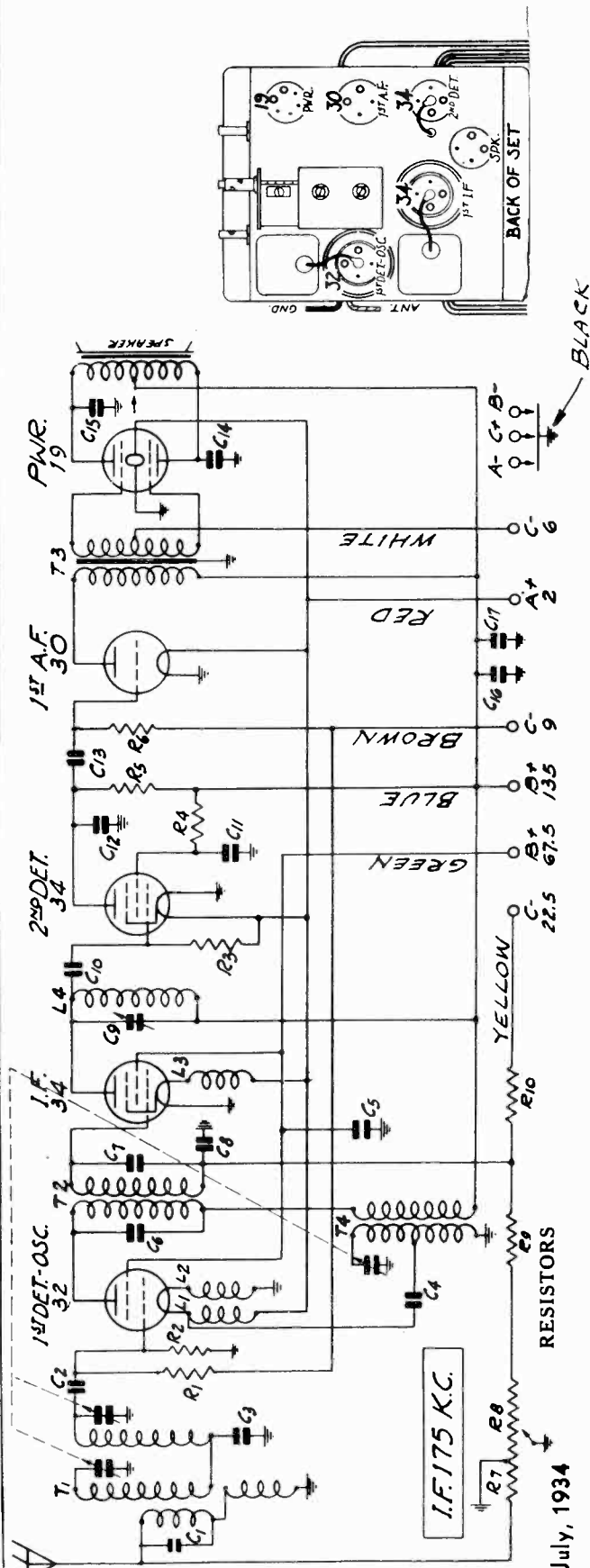


Fig. 1—Schematic Circuit Diagram.

July, 1934

Part No. Code	Resistance	Wattage	Type
P-A94505 R1	5 Megohm	0.2	Carbon
P-A94105 R2	1 Megohm	0.2	Carbon
P-A94205 R3	2 Megohm	0.2	Carbon
P-B94104 R4	100,000 Ohm	0.5	Carbon
P-B94403 R5	40,000 Ohm	0.5	Carbon
P-A95105 R6	1 Megohm	0.2	Carbon
P-96001 (R7)	3,000 Ohm		Volume Control
P-A94901 (R8)	60,000 Ohm		Wire Wound
P-A94652 R10	300 Ohm	0.2	Carbon
*P-A94106 R1	10 Megohm	0.2	Carbon
*P-A94205 R2	2 Megohm	0.2	Carbon

*These resistors were used on first models.

CONDENSERS

Part No. Code	Capacity	Voltage	Type
P-81812 C1	200 mmf		Wire—Part of Ant. Assem
P-81801 C2	35 mmf		Wire—Part of Ant. Assem.
P-80862 C3	0.05 mf	200V	Tubular
P-80862 C4	0.05 mf	200V	Tubular
P-80862 C5	0.05 mf	200V	Tubular
P-81806 C6	70 mmf		Wire
P-81804 C7	45 mmf		Wire
P-80862 C8	0.05 mf	200V	Tubular
P-1685 C9	70 ± 30 mmf		I. F. Trimmer
P-81800 C10	50 mmf		Wire
P-81045 C11	0.25 mf	200V	Tubular
P-80868 C12	0.004 mf	600V	Tubular
P-80868 C13	0.006 mf	600V	Tubular
P-80969 {C14	0.01 mf	400V	Dual Tubular
P-80864 {C15	0.01 mf	400V	Dual Tubular
P-80968 C16	0.1 mf	200V	Tubular
P-81035 C17	4.0 mf	150V	Electrolytic
	3 Gang		Condenser

D. C. Resistance of Windings

Following are the D.C. resistances of the various windings in the chassis.

Item	Code	D. C. Resistance in Ohms
Double Tuned Ant. Coil Pri.	T1	19.2
Double Tuned Ant. Coil Sec. (Preselector)	T1	3.2
Double Tuned Ant. Coil Sec. (1st Det.)	T1	3.2
1st I.F. Coil Pri.	T2	90.0
1st I.F. Coil Sec.	T2	116.0
D Audio Input Trans. Pri.	T3	1010.
Audio Input Trans. Sec. Cent. Tap to outside end	T3	648.
Audio Input Trans. Sec. Cent. Tap to inside end	T3	588.
Oscillator Coil, Grid Winding	T4	4.1
Oscillator Coil, Plate Winding	T4	10.4
Double Filament Reactor Assem.	L1	.61
Double Filament Reactor Assem.	L2	.61
Single Filament Reactor Assem.	L3	52.1
2nd I.F. Reactor Coil to outside end	L4	272.
6" Magnetic Speaker, Center Tap to inside end		225.
8" Magnetic Speaker (same as P-2124)		225.

VOLTAGES AT SOCKETS
Volume Control at Maximum—Antenna Shorted to Ground
B + 135 Volts

Function	Across Filament	Plate to Cath.	Screen to Cath.	Grid to Cath.	Normal Plate M. A.
1st Det. & Osc.	2.0	135	67.5	7.5(1)(2)	2.5
I. F.	2.0	135	67.5	2.5(3)	2.8
2nd Det.	2.0	50	40(1)	0	1.8
1st Audio	2.0	135		9(4)	3.0
Output	2.0	135		6	1.8
(1) With 250,000 ohm meter.					Total
(2) Subject to variation due to oscillatory current.					
(3) With 25,000 ohm meter.					
(4) As read at "C" battery.					

LAFAYETTE RADIO MFG. CO.

MODEL B-64
Schematic, Voltage
Socket

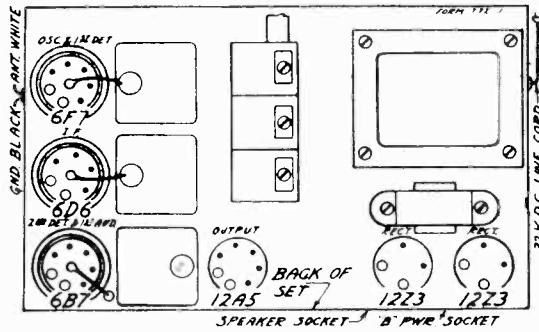
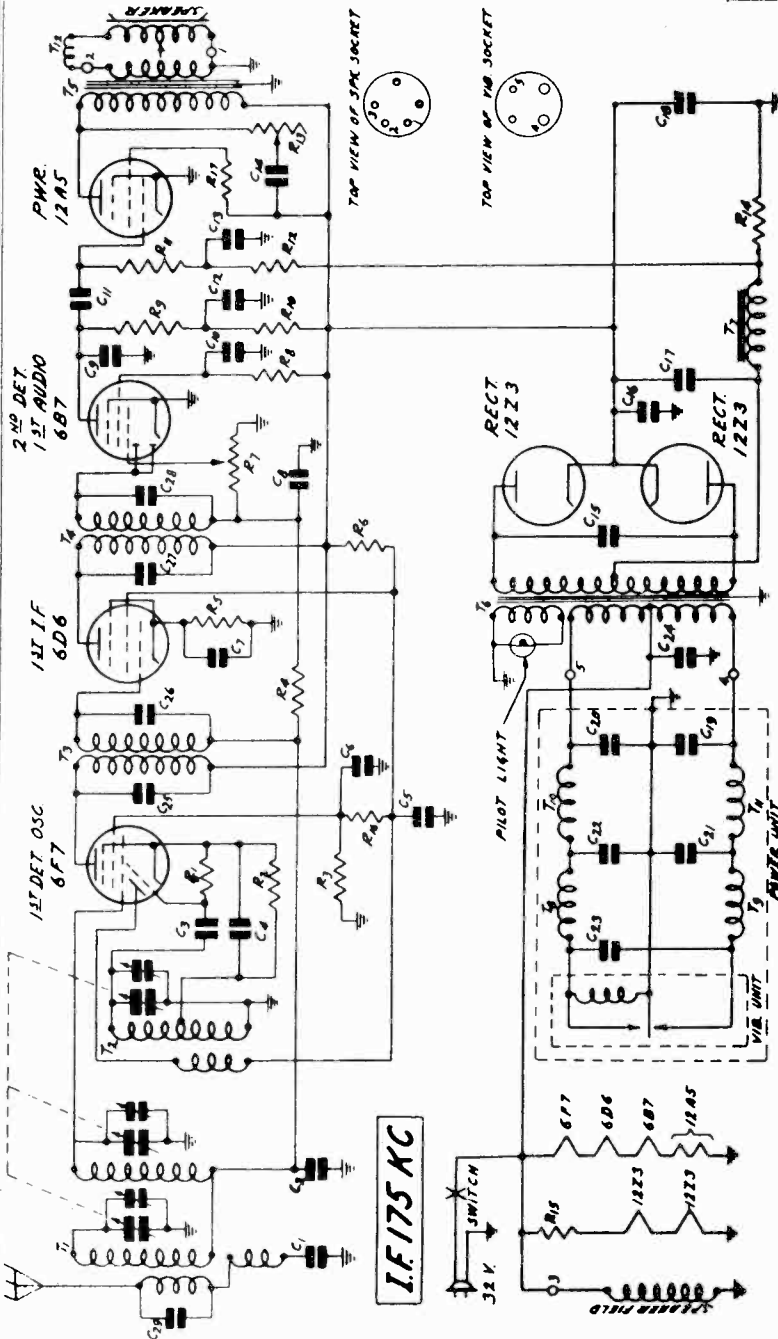


Fig. 2—Arrangement of Tubes

VOLTAGES AT SOCKETS						
Input 32 Volts—Antenna Shorted to Ground						
Type of Tube	Function	Across Filament	Plate to Cathode	Screen to Cathode	Grid to Cathode	Normal Plate M.A.
6F7	1st Det. & Osc.	6.3	167(1)	90	2.6	7.0(1)
			117(2)		0	2.8(2)
6D6	I. F.	6.3	172	120	3.2	8.2
6B7	2nd Det.	6.3	25	25	7.25	2.0
12A5	Output	12.6	180	180	25	32
12Z3	Rectifier	12.6	225			25

- (1) Pentode Section of Tube
- (2) Triode Section of Tube



The numbers on the 2 sockets shown at the right above, correspond with the numbers as shown in the circuit.

Fig. 1—Schematic Circuit Diagram

CONDENSERS

Part No.	Code	Capacity	Voltage	Type
P-80862	C1	.05 Mf.	200V	Tubular
P-80862	C2	.05 Mf.	200V	Tubular
P-81801	C3	35 Mmf.	200V	Wire Capacitor Part of Osc. Assem
P-80862	C4	.05 Mf.	200V	Tubular
P-80898	C5	.25 Mf.	200V	"
	C6	.05 Mf.	200V	"
	C7	.05 Mf.	200V	"
P-81049	C8	100 Mmf.	600V	Wire Capacitor
P-81051	C9	.02 Mf.	200V	Tubular
P-80888	C10	.25 Mf.	600V	"
P-80872	C11	.01 Mf.	600V	"
P-80888	C12	.25 Mf.	200V	"
P-81062	C13	.01 Mf.	140V	"
P-81055	C14	.05 Mf.	400V	"
P-81052	C15	.015 Mf.	1600V	"
P-80887	C16	.10 Mf.	400V	"
	C17	8.0 Mf.	300V	Electrolytic Block
P-81016	C18	8.0 Mf.	300V	Electrolytic Block
	C19	.5 Mf.	140V	Tubular
P-80993	C24	5 Mf.	140V	Wire Capac. Part of 1st I.F. Assem.
P-81806	C25	70 Mmf.	45 Mmf.	Wire Capac. Part of 1st I.F. Assem.
P-81804	C26	45 Mmf.	90 Mmf.	Wire Capac. Part of 2nd I.F. Assem.
P-81808	C27	90 Mmf.	100 Mmf.	Wire Capac. Part of 2nd I.F. Assem.
P-81810	C28	100 Mmf.	200 Mmf.	Wire Capac. Part of Ant. Assem.
P-81812	C29	200 Mmf.		Three Gang Condenser

RESISTORS

Part No.	Code	Resistance	Wattage	Type
P-A95104	R1	100,000 Ohm	2	Carbon
P-A95152	R2	1,500 Ohm	2	Carbon
P-B94103	R3	30,000 Ohm	5	Carbon
P-A9827	R4	2 Megohm	2	Carbon
P-98021	R5	400 Ohm	2	Wire Wound
P-C93702	R6	7,000 Ohm	1.0	Carbon Volume Control
P-96014	R7	500,000 Ohm	5	Carbon
P-B94204	R8	200,000 Ohm	5	Carbon
P-B94603	R9	60,000 Ohm	5	Carbon
P-A95203	R10	20,000 Ohm	2	Carbon
P-A95504	R11	500,000 Ohm	2	Carbon
P-A94104	R12	100,000 Ohm	2	Carbon
P-97011	R13	150,000 Ohm	2	Carbon
P-98035	R14	450 Ohm	2.0	Tone Control
P-98034	R15	25 Ohm	3.0	Wire Wound
P-B95602	R16	6,000 Ohm	5	Carbon

Oct, 1934

MODEL B-65
Schematic, Voltage
Socket

LAFAYETTE RADIO MFG. CO.

RESISTORS

Part No.	Code	Resistance	Wattage	Type
P-A95104	R1	100,000 Ohm	.2	Carbon
P-A98803	R2	30,000 Ohm	.2	Carbon
P-A95104	R3	100,000 Ohm	.2	Carbon
P-A93602	R4	6,000 Ohm	.2	Carbon
P-B93902	R5	9,000 Ohm	.5	Carbon
P-A95505	R6	5 Megohm	.2	Carbon
P-96012	R7	1 Megohm		Volume Control.
P-A95505	R8	5 Megohm	.2	Carbon
P-A94603	R9	60,000 Ohm	.2	Carbon
P-A95104	R10	100,000 Ohm	.2	Carbon
P-A95104	R11	100,000 Ohm	.2	Carbon

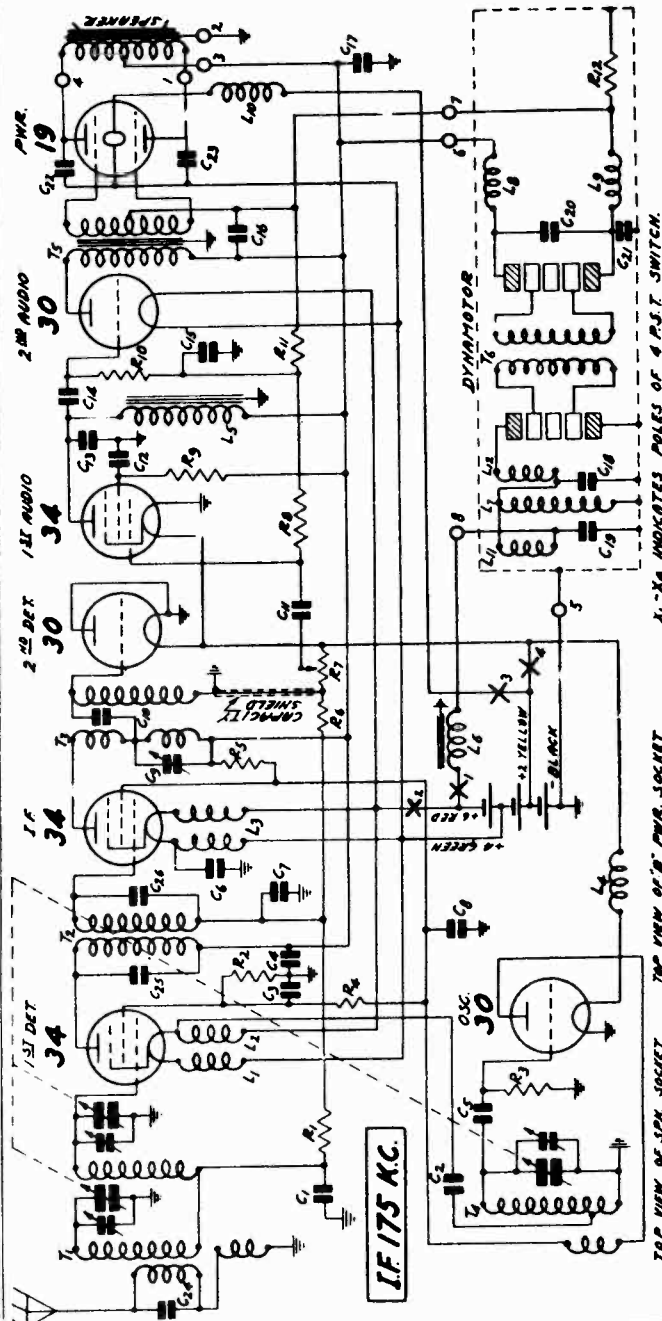


Fig. 1. Schematic Circuit Diagram

Voltages at Sockets
ANTENNA SHORTED TO GROUND

Type of Tube	Function	Fila-ment Volt.	Plate to Neg. Filament	Screen to Neg. Filament	Grid to Neg. Filament	Normal Plate M. A.
34	1st Detector	2.0	135	55	3.0 av.	1.90
30	Oscillator	2.0	75		0.0	3.70
34	I. F.	2.0	135	70	3.0 av.	8.00
30	2nd Detector	2.0	2			
34	1st A. F.	2.0	140	65	4.0	2.30
30	2nd A. F.	2.0	135		8.0	3.10
19	Output	2.0	137		6.0	1.00 perplate

CONDENSERS

Part No.	Code	Capacity	Voltage	Type
P-80862	C1	0.050 Mf.	200V	Tubular
P-80862	C2	0.050 Mf.	200V	Tubular
P-80862	C3	0.050 Mf.	200V	Tubular
P-80864	C4	0.100 Mf.	200V	Tubular
P-81801	C5	35 Mmf.	Cap. Part of Osc. Coil Assem.	
P-80888	C6	0.250 Mf.	200V	Tubular
P-80862	C7	0.050 Mf.	200V	Tubular
P-80988	C8	1.500 Mf.	140V	Tubular
P-1966	C9	70-140 Mmf.	Trimmer	
P-81800	C10	50 Mmf.	Cap. Part of 2nd I.F. Coil As.	
P-80981	C11	0.010 Mf.	400V	Tubular
P-80988	C12	0.250 Mf.	200V	Tubular
P-80945	C13	500 Mmf.	Moulded	
P-80862	C14	0.050 Mf.	200V	Tubular
P-80888	C15	0.250 Mf.	200V	Tubular
P-80888	C16	16.00 Mf.		Electrolytic Block
P-81014	C17	16.00 Mf.		
P-80914	C22	0.002 Mf.	600V	Tubular
P-80914	C23	0.002 Mf.	600V	Tubular
P-81812	C24	200 Mmf.	Cap. Part of Ant. Assem.	
P-81807	C25	70 Mmf.	Cap. Part of 1st I.F. Coil As.	
P-81805	C26	45 Mmf.	Cap. Part of 1st I.F. Coil As.	

Three Gang Condens.

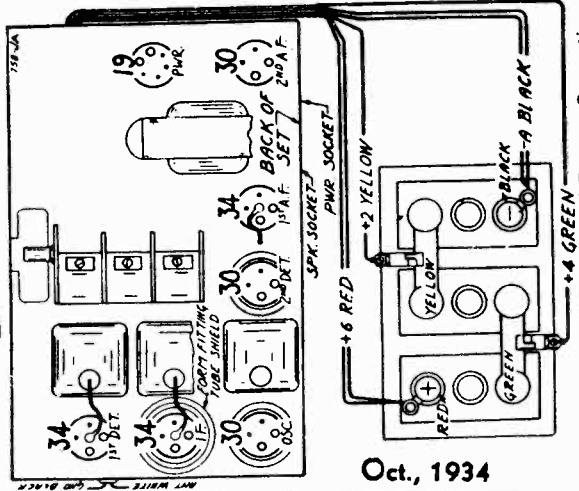
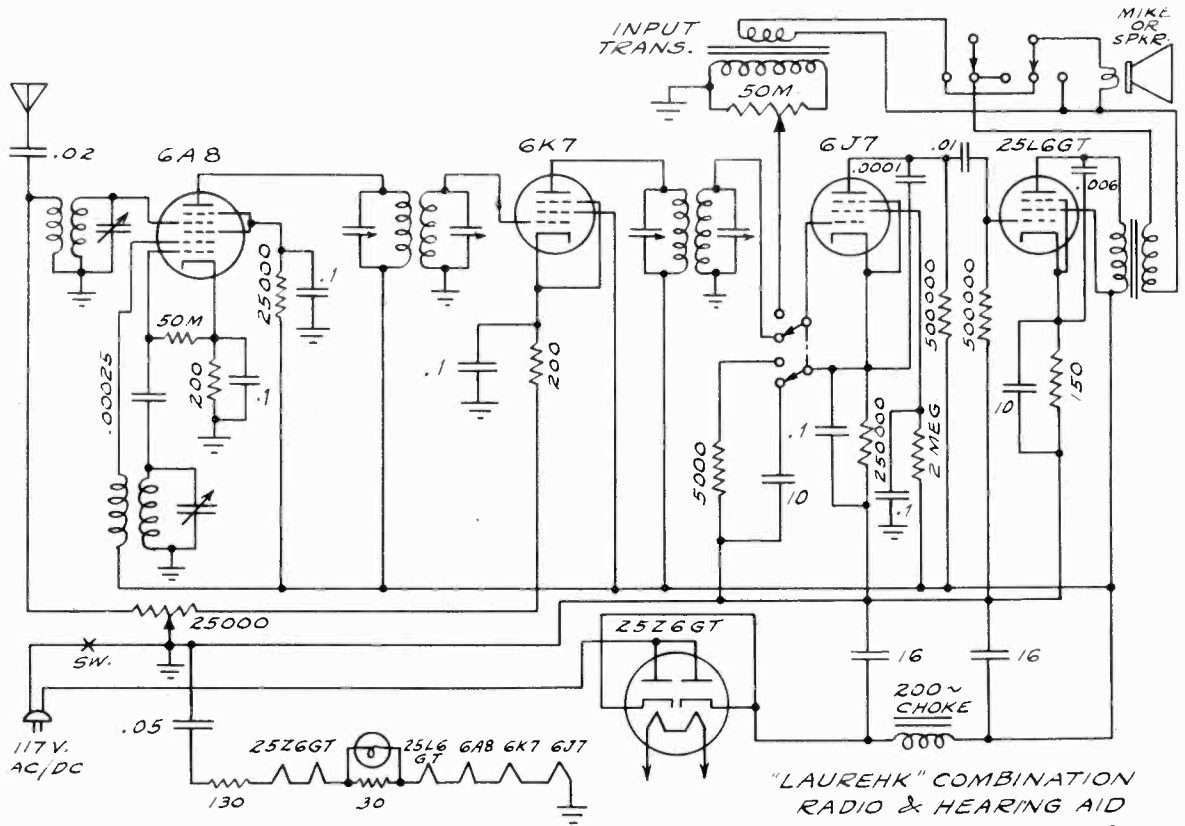


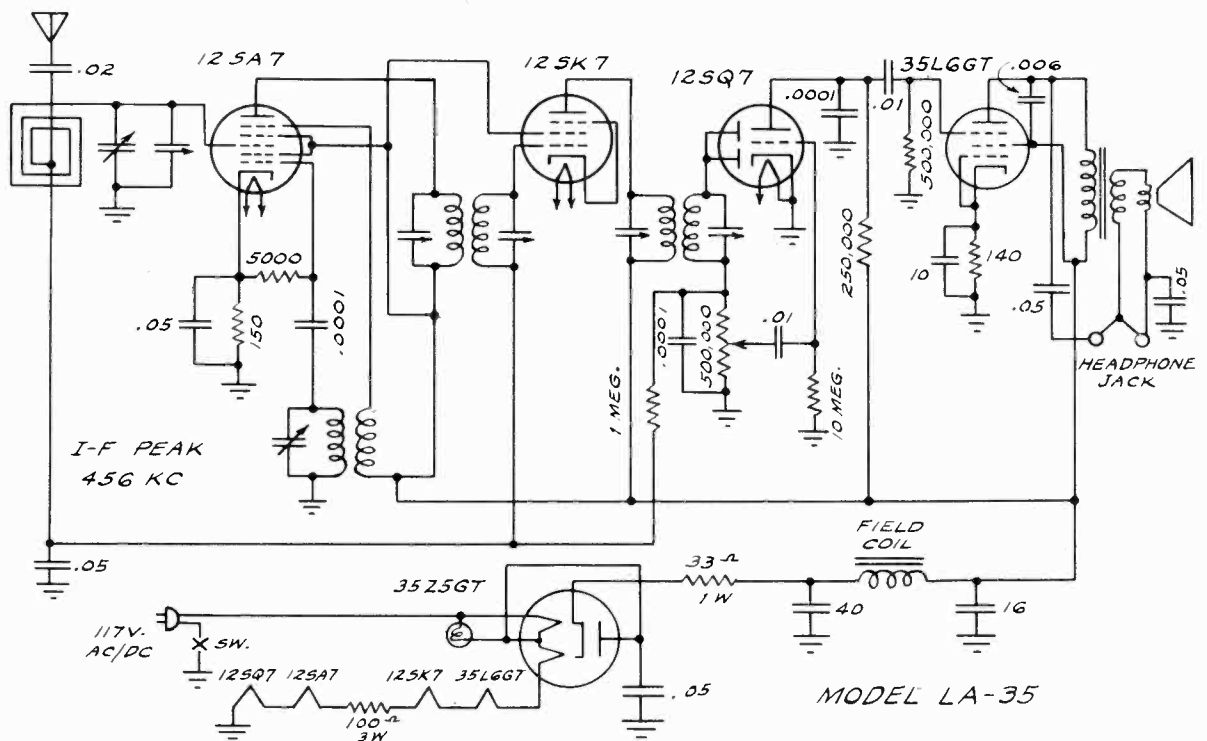
Fig. 2. Location of Tubes and Battery Connections

Oct., 1934

MODEL IA35
 LAUREHK RADIO MFG. CO. MODEL Radio-Hearing Aid
 Schematics



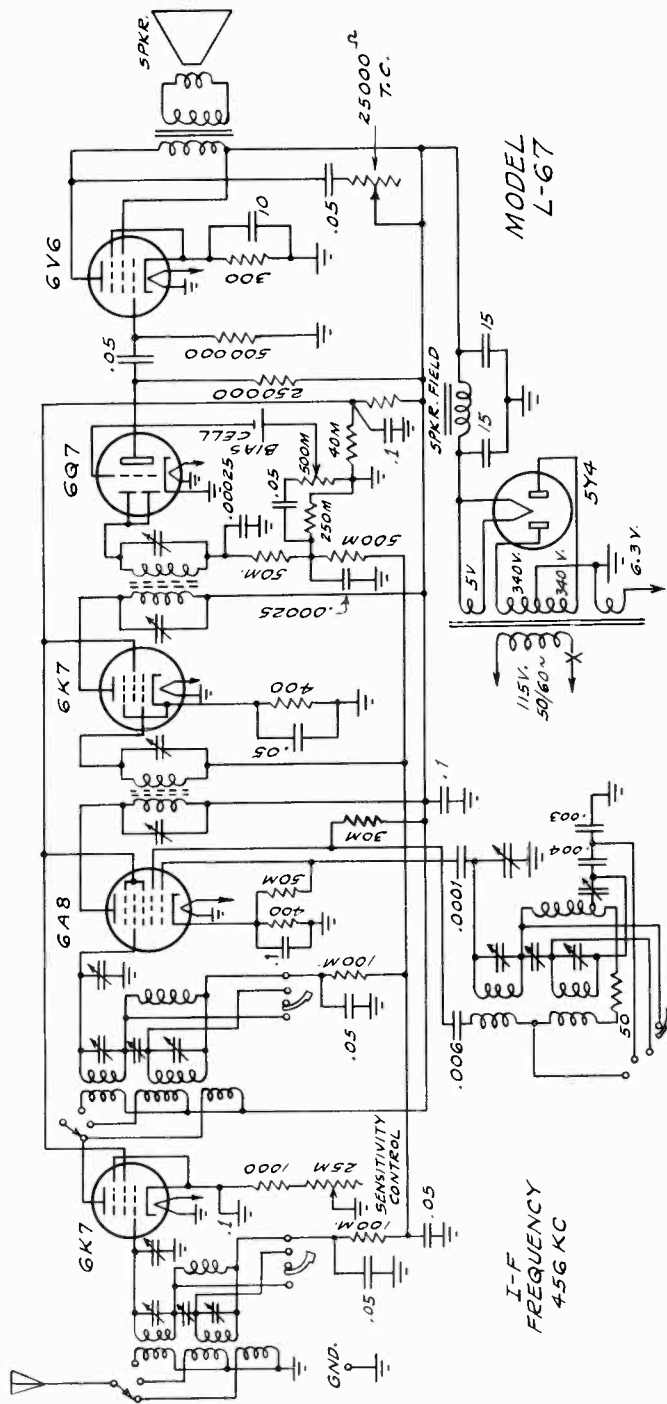
"LAUREHK" COMBINATION
 RADIO & HEARING AID
 IF PEAK - 456 - KC



MODEL LA-35

MODEL L67
Schematic, Alignment

LAUREHK RADIO MFG. CO.



The I. F. Amplifier is aligned in the usual manner. Connect a service oscillator between the chassis and the grid of the 6A8 tube, using a condenser .0005 mfd. to .25 mfd. between the grid and the high side of the generator output. Do not remove the grid clip for this operation. The Range Switch should be turned to the Broadcast band and the dial set near 600 Kc; then proceed with alignment at 456 Kc.

Turn the audio Volume Control and Sensitivity Controls on full. Increase the output of the service oscillator until a signal is just audible. Adjust each I. F. Trimmer so that maximum volume is obtained. It is best to repeat this procedure two or three times on each trimmer to obtain the most accurate adjustment. These trimmers are adjusted with a small screw driver through the openings in the top of the shield on each I. F. transformer.

The service oscillator should now be connected to the Antenna and Ground terminals of the receiver, through the proper dummy antenna.

Close the gang condenser and see that the dial pointer position coincides with the last line at the low-frequency end of the dial. If this condition does not obtain, loosen the set-screw on the dial drum, make the necessary correction, and firmly tighten the screw.

Turn the range switch to the Short-wave (extreme clockwise) position, set the dial and the service oscillator to 17 Kc, connect a 400 ohm resistor between the service oscillator and the antenna binding post as a dummy antenna, turn the output of the service oscillator up to maximum, tighten the top trimmer in the oscillator coil until just snug, then loosen it four turns and then as the trimmer is tightened, set it to the position of maximum response, reducing the output of the service oscillator as alignment proceeds. (If two responses are found of nearly equal intensity, adjust for the one with the trimmer farthest open). Align the

top trimmers in the RF coil, but since the RF adjustment has some effect on the oscillator frequency it will be necessary to rock the dial slightly to keep the signal tuned in. Having aligned the oscillator and RF circuits adjust the top trimmer in the Antenna coil for maximum sensitivity, reducing the output of the service oscillator as the receiver becomes progressively more sensitive. If the receiver tends to "motor-boat", turn down the service oscillator output until the trouble stops. Some service oscillators, however, leak through enough signal that even with the output control set at zero, the receiver is still overloaded, in which case it is necessary to turn down the sensitivity and Audio Controls until the receiver behaves properly.

Turn the Range Switch to the "Police" or middle range and set the service oscillator and dial at 4.8 Mc. Align first the oscillator, then the RF and Antenna coils on this band - lower trimmer on all three coils, in a manner similar to that used on the Short Wave band. Both the Short Wave and Police band ranges have fixed padding condensers.

Turn the Range Switch to the Broadcast position, substitute a 200 mmfd. condenser for the 400 ohm resistor as a dummy antenna, set the dial and the service oscillator to 1400 Kc. and align the circuits again (middle trimmer) in the same manner as described above. Having done this, set the service oscillator to 600 Kc. and tune the receiver dial for maximum response in the neighborhood of 600 Kc. Next, rock the dial back and forth across the signal, at the same time adjusting the padding condenser, turning continuously in one direction until the output of the receiver, as it is rocked across the signal, becomes maximum. If the padding is turned too far, the output will drop off again. A few minutes experiment with this operation will show more than a lengthy description. Having completed the padding operation, return the receiver and the generator to 1400 Kc. and realign as before. This completes the alignment of the Broadcast band and of the receiver.