

# PHILCO . . . Model 39-3B4 (Codes 121 and 122)



## FOR MEMBERS OF RADIO MANUFACTURERS SERVICE A PHILCO SERVICE PLAN

## SERVICE BULLETIN No. 298-C

### Electrical Specifications

**Type Circuit:** Superheterodyne, with pentode audio output, battery operated.

**Batteries Required:**

"A" Supply—A 2 volt storage battery, or an air cell battery, type A-600. Or a 3 volt dry "A" battery may be used, providing proper means, such as a voltmeter, is provided for adjusting the voltage to 2 volts.

"B" Batteries—Two 45 volt, plug-in type "B" batteries are required.

"C" Batteries—No "C" batteries are required.

**Connections for Use With 2-Volt Storage "A" Battery:** Connect the black wire to the negative (—) terminal of the "A" battery. Connect the red wire to the positive (+) terminal of the "A" battery. Tape up the air cell lead, the only remaining lead, in such a manner that it cannot come in contact with any of the batteries.

**Connections for Use With Air Cell Battery:** If an air cell battery is used in place of a storage battery, connect the black wire to the negative (—) terminal of the air cell. Connect the brown wire to the positive (+) terminal of the air cell. Tape up the red wire in such a manner that it cannot come in contact with any of the batteries.

**Current Drain:** "A" battery—360 M.A.; "B" battery—12 M.A.

**Tubes Used:** 1C6E, detector oscillator; 1A4E, I.F. amplifier; 1F7EG, second detector and first audio; 1G5EG, power output pentode.

**Frequency Range:** 540 to 1600 K.C.

**Intermediate Frequency:** 460 K.C.

**Speakers:** Table Model—Quam Magnetic;

Console Model—Permanent Magnet Dynamic

### Aligning Compensators

To accurately adjust this receiver, precision test equipment is necessary. A signal generator such as the Philco Model 177, covering from 115 to 32,500 K.C., is recommended for adjusting the various compensators at the frequencies specified. A visual indication of the receiver output is also necessary. Philco Model 026 Circuit Tester contains a sensitive output meter and is recommended for this purpose.

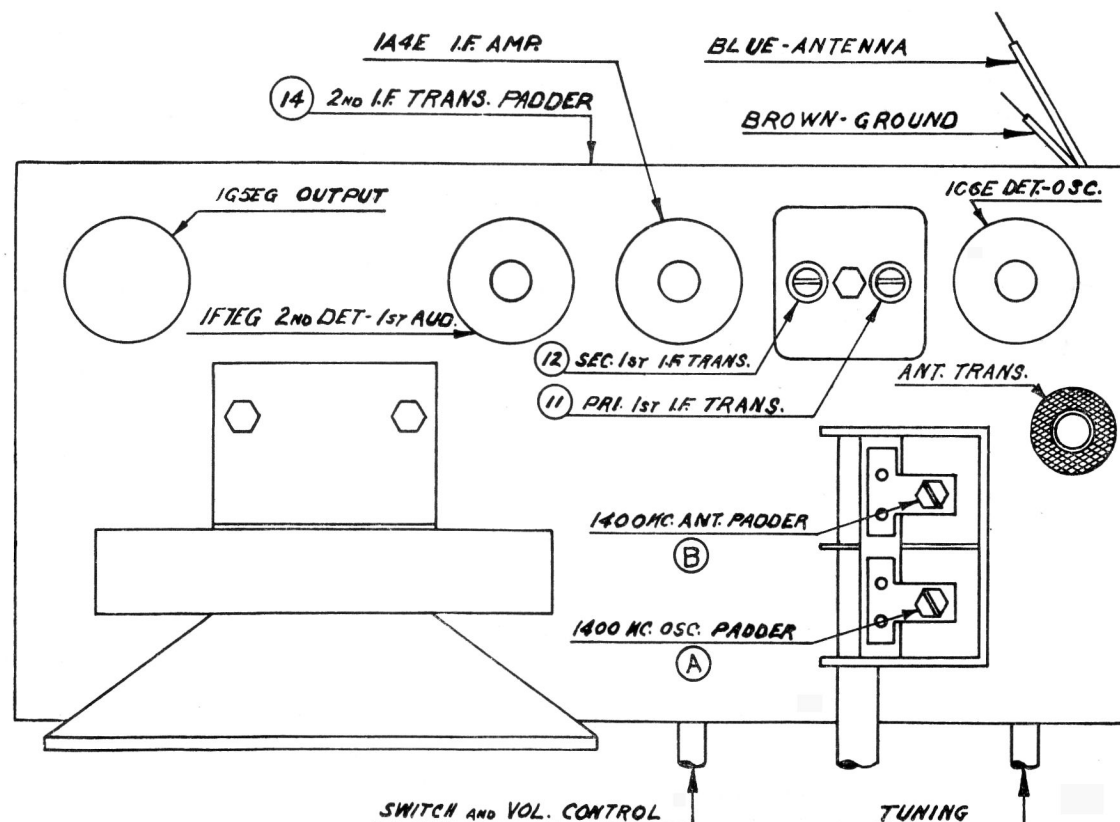
Philco fibre handle screw-driver No. 27-7059 and wrench Part No. 7696 complete the equipment necessary for the following adjustments. The locations of the various compensators are shown in Fig. 1.

**Output Meter:** The 026 output meter is connected between the plate contact of the 1G5EG tube and ground. Adjust the meter to use the 0 to 30 volt scale.

### Intermediate Frequency Circuit

**Frequency 460 K.C.**

1. Connect the 177 Signal Generator output lead through a .1 mfd. condenser to the control grid of the 1C6E tube and the ground connection of the output lead to the chassis. Then turn the tuning condenser to approximately 580 K.C. and adjust the generator for 460 K.C. Connect a .001 mfd. condenser from oscillator section of gang condenser to ground.
2. Now adjust compensators (14) on the 2nd I.F. Transformer and (12) and (11) on the 1st I.F. Transformer for maximum output.



### Radio Frequency Circuit 540 to 1600 K.C.

1. Remove the signal generator output lead from the 1C6E tube and connect it through a 200 Mmfd. condenser to the blue antenna lead of the receiver, and the generator ground lead to the brown ground lead on the chassis. Remove the .001 mfd. condenser from oscillator section of gang condenser.
2. Turn the signal generator to 1400 K.C. Rotate the receiver tuning condenser to the minimum capacity position (clockwise). Make sure that the dial pointer is 1/8" beyond the 1600 K.C. mark. Then turn the receiver dial to the 1400 K.C. mark and adjust compensators (A) and (B) for maximum output.

3. Check calibration at 1000 K.C. and 600 K.C.

**Note:** This receiver will oscillate if not connected to an antenna and ground.

Fig. 1.—Location of Compensators

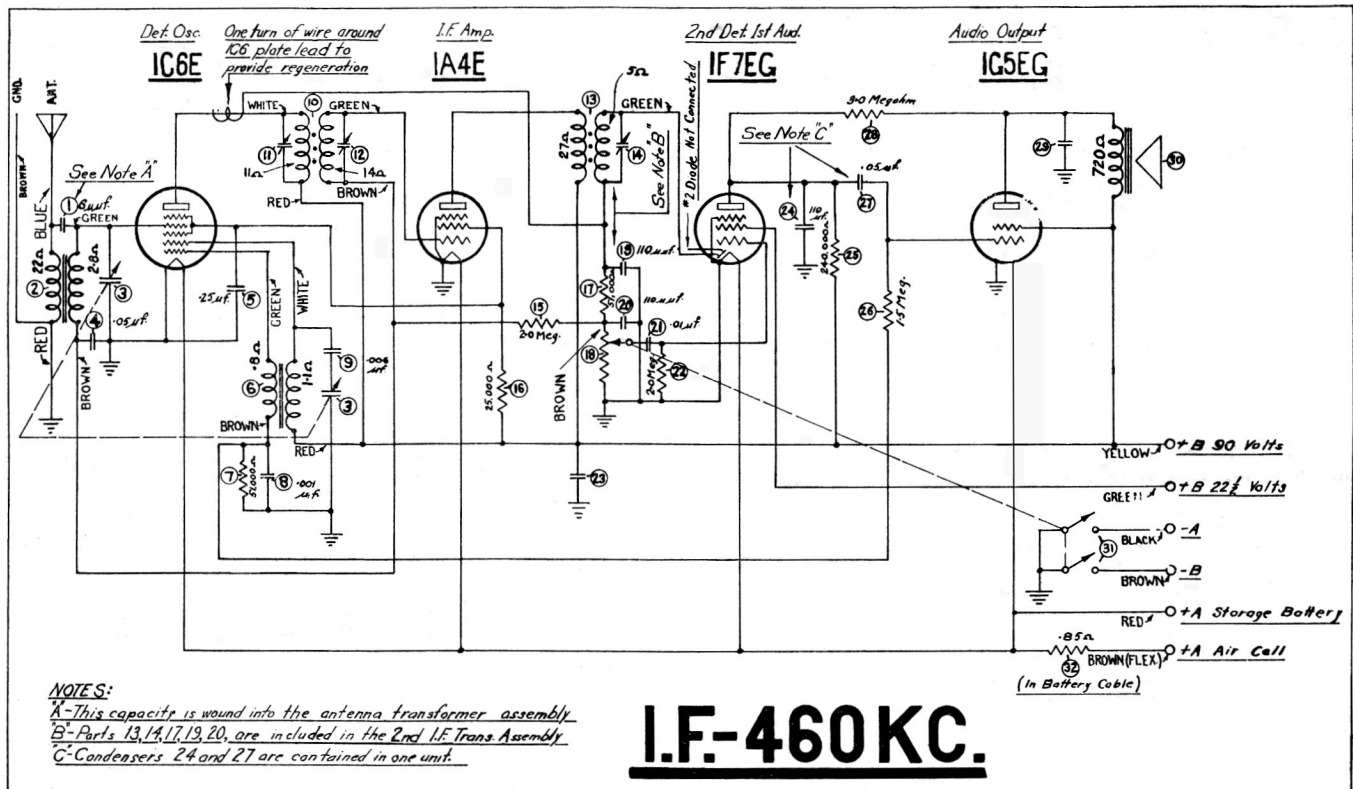


Fig. 2.—Schematic Diagram, Model 39-3B4

## Replacement Parts—Model 39-3B4

Schem. No.	Description	Part No.	Schem. No.	Description	Part No.
1	Condenser (6 Mmfd.)	Part of (2)	25	Resistor (240,000 ohms)	33-424344
2	Antenna Transformer	32-3043	26	Resistor (1.5 Meg.)	33-515344
3	Tuning Condenser	31-2277	27	Condenser (.05 Mfd.)	Part of (24)
4	Condenser (.05 Mfd.)	30-4519	28	Resistor (3.0 Meg.)	33-530344
5	Condenser (.25 Mfd.)	30-4446	29	Condenser .01 Mfd. (Code 121 only)	30-4479
6	Oscillator Transformer	32-3044		Condenser .02 Mfd. (Code 122 only)	30-4215
7	Resistor (51,000 ohms)	33-351344	30	Speaker Assembly (Code 121 only)	36-1430
8	Condenser (.001 Mmfd.)	30-4310	31	Power Switch	Part of (18)
9	Condenser (.006 Mfd.)	30-4467	32	Resistor (.85 ohms)	Part of Battery Cable
10	1st I.F. Transformer	32-3018		Dial Pointer	28-5185
11	1st I.F. Trans. Pri. Padder	Part of (10)		Dial Scale	31-2279
12	1st I.F. Trans. Sec. Padder	Part of (10)		Knob	27-4604
13	2nd I.F. Transformer	32-2944		Battery Cable	41-3416
14	2nd I.F. Trans. Sec. Padder	Part of (13)	4	Prong Socket	27-6044
15	Resistor (2.0 Meg.)	33-520344	6	Prong Socket	27-6036
16	Resistor (25,000 ohms)	33-325344		Octal Socket	27-6087
17	Resistor (51,000 ohms)	33-351344		39-3B4 CODE 121 ONLY (Table Model)	
18	Volume Control	33-5277		Bezel Window	27-5409
19	Condenser (110 Mmfd.)	Part of (13)		Baffle & Silk	40-6311
20	Condenser (110 Mmfd.)	Part of (13)		39-3B4 CODE 122 ONLY (Console Model)	
21	Condenser (.01 Mfd.)	30-4479		Bezel	40-6158
22	Resistor (2.0 Meg.)	33-520344		Baffle & Silk	40-6382
23	Condenser (.25 Mfd.)	30-4446		Speaker	36-1432-3
24	Condenser (110 Mmfd.)	30-4575			

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