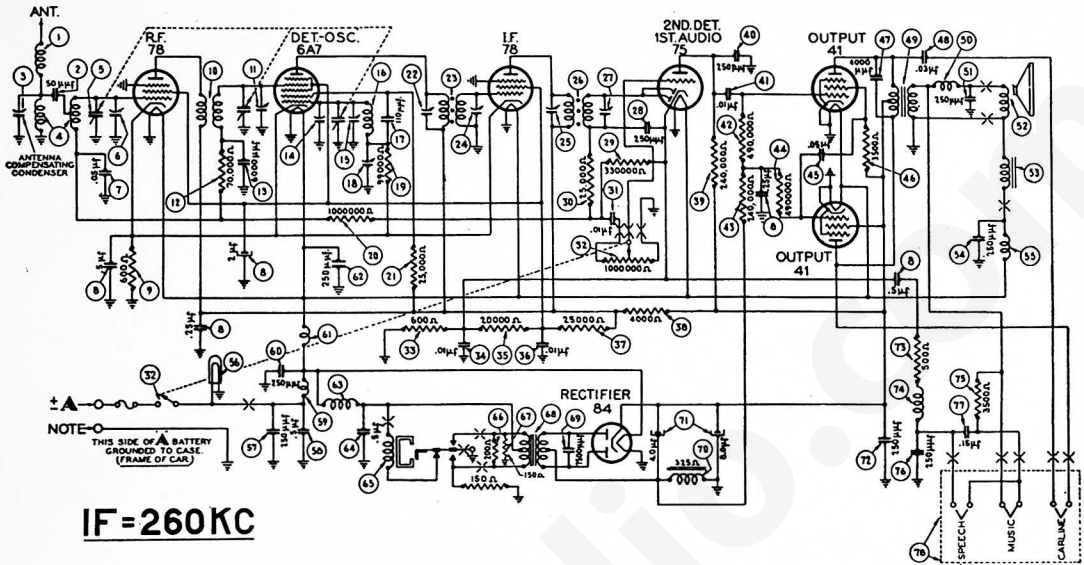
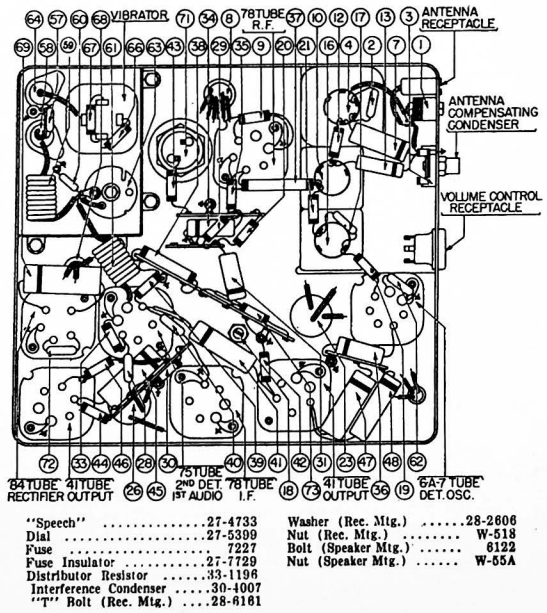


# PHILCO AUTO RADIO Model 928K



## MODEL 928-K PARTS LIST

| No. | Description                                     | Part No.  | No. | Description                 | Part No.  |
|-----|---|-----------|-----|-----------------------------|-----------|
| 1   | Antenna Choke                                   | 32-1956   | 51  | Condenser (.01 mfd.)        | 30-4145   |
| 2   | Condenser (50 mmfd.)                            | 30-1101   | 52  | Resistor (490,000 ohms)     | 33-449344 |
| 3   | Antenna Compensating Condenser                  | 31-6248   | 53  | Resistor (240,000 ohms)     | 33-424344 |
| 4   | Antenna Transformer                             | 32-2945   | 54  | Resistor (490,000 ohms)     | 33-449344 |
| 5   | Tuning Condenser                                | 31-2242   | 55  | Condenser (.05 mfd.)        | 30-4454   |
| 6   | First Padder (on Tun. Cond.)                    | 32-2945   | 56  | Resistor (3,500 ohms)       | 33-235344 |
| 7   | Condenser (.05 mfd.)                            | 30-4444   | 57  | Condenser (4,000 mmfd.)     | 30-4185   |
| 8   | Condenser (.25-.25-.5-.5-2 mfd.)                | 30-4568   | 58  | Condenser (.03 mfd.)        | 30-4560   |
| 9   | Resistor (600 ohms)                             | 33-160331 | 59  | Output Transformer          | 32-7968   |
| 10  | R. F. Transformer                               | 32-2946   | 60  | Choke                       | 32-1374   |
| 11  | Second Padder (on Tun. Cond.)                   | 33-370344 | 61  | Condenser (250 mmfd.)       | 30-1032   |
| 12  | Condenser (6,000 mmfd.)                         | 30-4467   | 62  | Cone & Voice Coil           | 45-2064   |
| 13  | Thermal Comp. Condenser                         | 32-6232   | 63  | Field Coil                  | 32-9493   |
| 14  | Third Padder (on Tun. Cond.)                    | 32-2947   | 64  | Condenser (250 mmfd.)       | 30-1032   |
| 15  | Oscillator Transformer                          | 30-1031   | 65  | Choke                       | 32-2535   |
| 16  | Condenser (.110 mmfd.)                          | 30-1031   | 66  | Pilot Lamp                  | 34-2040   |
| 17  | Low Frequency Padder                            | 31-6230   | 67  | Condenser (250 mmfd.)       | 30-1032   |
| 18  | Resistor (99,000 ohms)                          | 33-399344 | 68  | Condenser (.5 mfd.)         | 30-4474   |
| 19  | Resistor (1,000,000 ohms)                       | 33-516344 | 69  | "A" Choke                   | 32-1374   |
| 20  | Resistor (23,000 ohms)                          | 33-325344 | 70  | Condenser (250 mmfd.)       | 30-1032   |
| 21  | Padder (Pri. 1st I. F. Trans.)                  | 32-3013   | 71  | Vibrator Choke              | 32-2537   |
| 22  | First I. F. Transformer                         | 32-3013   | 72  | Condenser (5 mfd.)          | 30-4474   |
| 23  | Padder (Sec. 1st I. F. Trans.)                  | 32-3014   | 73  | Vibrator                    | 41-3170-3 |
| 24  | Padder (Pri. 2nd I. F. Trans.)                  | 32-3014   | 74  | Resistor (200 ohms)         | 33-120344 |
| 25  | Second I. F. Transformer                        | 32-3014   | 75  | Resistor (150 ohms)         | 33-115344 |
| 26  | Padder (Sec. 2nd I. F. Trans.)                  | 30-1032   | 76  | Power Transformer           | 32-7951   |
| 27  | Condenser (250 mmfd.)                           | 30-1032   | 77  | Condenser (7,500 mmfd.)     | 30-4567   |
| 28  | Resistor (330,000 ohms)                         | 33-433344 | 78  | Filter Choke                | 32-7959   |
| 29  | Resistor (25,000 ohms)                          | 33-325344 | 79  | Filter Condenser (4-8 mfd.) | 30-2316   |
| 30  | Condenser (.01 mfd.)                            | 30-4479   | 80  | Condenser (250 mmfd.)       | 30-1032   |
| 31  | Volume Control (1,000,000 ohms & On-Off Switch) | 33-3268   | 81  | Resistor (500 ohms)         | 33-150331 |
| 32  | Resistor (600 ohms)                             | 33-160331 | 82  | Choke                       | 32-1372   |
| 33  | Condenser (.01 mfd.)                            | 30-4479   | 83  | Resistor (3,500 ohms)       | 33-235344 |
| 34  | Resistor (20,000 ohms)                          | 33-320344 | 84  | Condenser (250 mmfd.)       | 30-1032   |
| 35  | Condenser (.01 mfd.)                            | 30-4479   | 85  | Condenser (.15 mfd.)        | 30-4571   |
| 36  | Resistor (25,000 ohms)                          | 33-325344 | 86  | Reception Control           | 42-5850   |
| 37  | Resistor (4,000 ohms)                           | 33-240444 | 87  | Complete Control            | 42-5840   |
| 38  | Resistor (240,000 ohms)                         | 33-424344 | 88  | Tuning Shaft                | 28-8871   |
| 39  | Condenser (250 mmfd.)                           | 30-1032   | 89  | Tuning & Volume Knob        | 27-4725   |
|     |   |           | 90  | "Car Line" Knob             | 27-4731   |
|     |   |           | 91  | "Music" Knob                | 27-4732   |



# PHILCO AUTO RADIO Model 928K

## I. F. TRANSFORMERS AND PADDERS

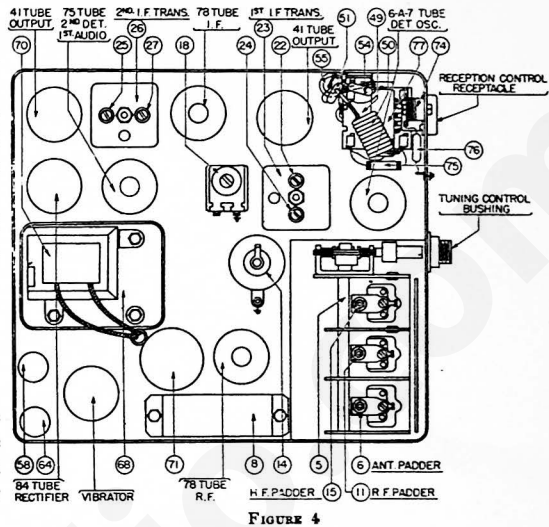
The I. F. transformers are assembled complete with padding condensers.

Both the primary and the secondary padders are placed side by side in the top of the transformer shield can. The adjusting screws are accessible thru the holes in the top of the shield. (See Figure 4).

The coil windings terminate in leads instead of terminals or lugs. The color scheme of the leads is given in Figure 3.



If replacements are ever necessary, replace the entire coil assembly, 32-3013, for the first I. F. stage and 32-3014 for the second I. F. stage. Neither the coil nor the padders will be furnished separately. Order only by the above numbers.



## MODEL 928-K ADJUSTMENTS

All padding adjustments are carefully made at the factory and ordinarily no readjustments are necessary. However, when readjustments are required, the procedure given below must be followed in detail.

**Equipment** — Storage Battery (fully charged) or a 6 volt power pack. Signal Generator such as Philco Models 077 or 177. Vacuum Tube Voltmeter and Circuit Tester, Philco Model 027. In addition a padding screw driver, Philco Part No. 45-2610.

**General** — The output meter must be connected by means of an adapter to the plate of the type 41 output tube and to the Radio chassis.

With the Radio and signal generator set up for operation at the prescribed frequency, turn the Radio volume control on full and set the signal generator attenuator so that a half scale reading is obtained on the output meter. The signal in the speaker should be audible but not loud.

The shielding on the signal generator output lead must be connected to the Radio housing.

| OPERATION | SIGNAL GENERATOR |                                | DUMMY CAPACITY                                  | SPECIAL INSTRUCTIONS   | ADJUST PADDER |
|-----------|------------------|--------------------------------|---|--|---------------|
|           | FREQUENCY        | CONNECTION                     |   |  |               |
| 1         | 260 K. C.        | To grid of 6A7 Tube            | .1 Mfd. Condenser in Series with Generator Lead | No Antenna Connection  | 25 27 28      |
| 2         | 1550 K. C.       | To Antenna Receptacle on Radio | 50 Mmfd. See Note 1                             | Turn Tuning Condenser Plates Out of Mesh as Far as They Will Go. | 15 11 8       |
| 3         | 580 K. C.        | To Antenna Receptacle on Radio | 50 Mmfd. See Note 1                             | Set Tuning Condenser at 580 K. C.                                | 18 Note 2     |
| 4         | 1550 K. C.       | To Antenna Receptacle on Radio | 50 Mmfd. See Note 1                             | Turn Tuning Condenser Plates Out of Mesh as Far as They Will Go. | 15            |
| 5         | 1400 K. C.       | To Antenna Receptacle on Radio | 50 Mmfd. See Note 1                             | Set Tuning Condenser at 1400 K. C.                               | 11 8 Note 3   |
| 6         | 600 K. C.        | Note 4                         | Note 4  | Note 4   | 3 Note 4      |

Make all adjustments for maximum reading on the output meter.

**NOTE 1** — Connect the antenna lead, Part No. 41-3191, to the antenna receptacle in the radio. Connect a 50 Mmfd. Condenser in series between the signal generator and the antenna lead.

**NOTE 2** — Rock the tuning condenser while adjusting the low frequency padder. Tune the condenser to the signal and adjust the padder for maximum output. Rotate the tuning condenser back and forth slightly for maximum output. Then re-adjust the padder for maximum output. Repeat this procedure until no further improvement is noticed.

**NOTE 3** — When the antenna stage adjustment is made with the Radio installed in the car, the Radio antenna lead must be connected to the car antenna in the usual manner. Connect the signal generator output lead to a wire placed near the car antenna but not connected to it.

**NOTE 4** — When installing the Radio in a car, follow the installation instructions carefully. Tune in a weak broadcast signal at approximately 60 on the control scale. With a small screw driver adjust the antenna compensating condenser 3 for the maximum signal.