

PHILCO SERVICEMAN



RADIO · MANUFACTURERS · SERVICE · NEWS

SEPTEMBER, 1934



Here is News for the Serviceman 1934 R. M. S. SERVICE MEETINGS

Philco Invites You to Join the
Nation-Wide Campaign for More Service Profits

National R. M. S. Meetings in Principal Cities—
September 4th to 15th

Campaign for More Dollars Profit for Every Serviceman

THE most important service meetings which have ever been held will be conducted by PHILCO distributors throughout the country during the first two weeks in September. We say these meetings or service schools are the most important because they will be devoted entirely to the subject with which you are most vitally concerned—your service income.

PHILCO NATIONAL CAMPAIGN FOR SERVICE WORK

PHILCO is going to conduct a national campaign this fall to bring more service work to you. All of the facilities of PHILCO'S advertising and merchandising departments are being placed at the disposal of R. M. S. members to get more service jobs. Boake Carter, PHILCO'S famous news commentator, who is heard by millions of people daily, is going to carry on a campaign for R. M. S. members such as you have never heard before. The same PHILCO advertising and sales promotion groups which have been so highly successful in helping to make PHILCO the world's largest radio manufacturer are going to work this fall for the servicemen to bring you more business.

PHILCO JOBBERS' CAMPAIGN FOR SERVICE WORK

PHILCO jobbers everywhere will supplement the national promotional campaign of the PHILCO factory organization to get you more service work. The local campaign is intended for the newspapers and will aid in obtaining more service jobs for R. M. S. members in your territory.

CO-OPERATIVE CAMPAIGN FOR MORE SERVICE WORK

There will be local co-operative advertising and sales promotional campaigns in every territory for the advancement of the serviceman's financial interests. Participating in these campaigns will be the serviceman, the PHILCO distributor, and the PHILCO factory. The campaign will be planned and prepared by one of the world's largest advertising agencies, and the sole purpose of the campaign will be to get more immediate service work for members of Radio Manufacturers Service.

FREE EXCLUSIVE R. M. S. LESSON

Every man attending the meeting will receive, free, a copy of the latest R. M. S. lesson explaining the technical circuit design of PHILCO'S new sensational Model 200-X High Fidelity Radio. In addition to the complete circuit description, full adjustment instructions will be given. A full chapter is also included on practical methods of getting the most short cuts from your test equipment.

PHILCO'S activities in Radio Manufacturers Service during the fall months are so comprehensive and so beneficial that it will be expensive *not* to be a member of R. M. S. The entire fall and winter program will be announced at the service meeting.

You will receive word from your PHILCO distributor within the next day or so announcing the date, time, and place of the meeting in your territory—and remember, all meetings will be held in the evening, thus making it possible for you to attend without interfering with your work. There will be refreshments after the meeting and plenty of real dope during the meeting.

Watch for complete details from your PHILCO distributor within the next few days.

Adjusting the Signal Generator

IT is highly important that a portable oscillator or signal generator used in radio service work be checked at frequent intervals for correct dial calibration. The constant moving and shocks to which a portable instrument are subjected can easily throw out the calibration sufficiently to cause serious errors in the adjustment of a radio set.

Most signal generators have compensating condensers which can be adjusted from time to time to correct any calibration discrepancies. The adjustment is simple, for it only involves (1) tuning in a reliable broadcasting station of known frequency; (2) removing the antenna and substituting a connection from the signal generator; (3) tuning the signal generator until its dial calibration corresponds to the frequency of the station; and (4) adjusting

(Continued on page 4)



One of several hundred R. M. S. headquarters around which the elaborate 1934 Radio Manufacturers Service activities will center.—Strong, Carlisle & Hammond, PHILCO distributors in Cleveland, Ohio.

PHILCO SERVICE EQUIPMENT ES

SPECIAL ADJUSTING TOOLS For Adjusting Padding Condensers



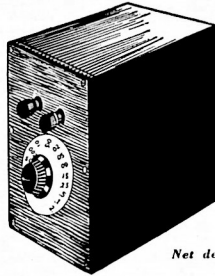
Part No. 3164. Fibre Wrench for hex head adjusting screws, 8" long.
Net dealer price \$0.12



Part No. 27-7059. Insulated Screwdriver. Fibre shank, 7" long, 1/8" steel blade.
Net dealer price \$0.35

CONDENSER TEST BOX

Model 093



Convenient switch box for testing by-pass condensers by substitution method. Contains 15 different fixed capacities which can be connected through multi-polar switch to obtain desired capacity, from .00025 to 2 mfd. Mahogany box in brown mahogany finish.

Net dealer price . . . \$8.61

REPLACEMENT CONDENSER SECTIONS

PHILCO special vacuum process construction. Condenser unit pitch sealed within paper housing. Used widely for replacement of single sections in filter condenser blocks. **Test voltage 2,000 volts.** Capacities, 0.1 mfd. to 2.0 mfd.



Net dealer prices \$0.18 to \$0.87

AUTOMOBILE RADIO LOCKS

Stud type lock, fits on one mounting bolt of chassis inside motor compartment. Heavy hardened steel construction. Positively prevents removal of radio from car. PHILCO Part No. 28-8272. Complete with numbered key.

Net dealer price \$0.75

Switch type lock, mounts on instrument panel and connects in series with A lead to ammeter. Prevents turning on radio when car is parked on street or garage. PHILCO Part No. 40-8074. Complete with key.
Net dealer price \$0.60

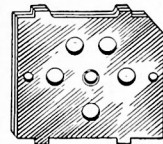
PHILCO KNOBS

Standard PHILCO knobs will fit practically any requirement. Hole for standard 3/16" shaft. Built-in phosphor bronze spring holds knob firmly in place.

	Part No.	Net Dealer Price
Brown bakelite, 1 1/8" wide	03063	\$0.06
Brown bakelite, 1" wide	03064	.06
Brown bakelite, 3/4" wide	03437	.03
Black bakelite, 1" wide	03334	.06
Black Modernistic, Large	27-4051	.06
Black Modernistic, Small	27-4052	.06
Ivorytone, Large	27-4032	.15
Ivorytone, Small	06823	.12

TUBE SOCKETS

Tube sockets with special retaining spring contacts. Complete with mounting rivets.



No. Terminals	Part No.	Net Dealer Price
4	4955	\$0.06
5	4956	0.07
6	6417	0.07
7	27-6005	0.07

PHILCO TESTING EQUIPMENT

PHILCO manufactures a complete line of precision test equipment for the serviceman. Quantity production permits the lowest prices and constant engineering supervision affords the highest quality. See PHILCO Parts Catalogue for complete specifications.

	Model	Net Dealer Price
Shadow Output Meter	Model 012	\$7.50
Signal Generator	Model 024	13.50
Short-Wave Signal Generator	Model 091	36.00
Circuit Tester	Model 025	36.60
All-Purpose Set Tester	Model 048	48.60
Universal Test Cabinet	Model 059	90.00

INTERFERENCE FILTER

Filter unit for elimination of man-made static from heavy power motors and generators. Consists of heavy R. F. choke coils (No. 8 wire) by-passed with high-voltage filter condensers. For use on two-phase power lines for farm-lighting equipment, heavy motors, generators, etc. Maximum current capacity 40 amperes. Housed in black crinkle-finish metal box. PHILCO Part No. 0100.

Net dealer price \$7.05

MICROPHONES

A high quality two-button microphone, suitable for broadcasting, amateur use, or any purpose where an efficient, satisfactory microphone is required at moderate cost. PHILCO Part No. 35-4011.



Net dealer price \$11.70

COMPLETE WIRE SELECTION

PHILCO has a complete selection of all kinds and sizes of wires and cables used in radio work. Same as used in wiring PHILCO chassis. Cotton-covered wire is specially flame-proof treated. See PHILCO Parts Catalogue for complete listing.



AUTOMOBILE RADIO FUSES

Tubular glass fuses for clip mounting for automobile radio; also used in certain 32-volt and 220-volt models, or for any general use where standard fuse is needed.

Part No.	Capacity	Net Dealer Price
4540	1 ampere	\$0.03
45-2046	3 amperes	0.036
7331	8 amperes	0.024
5676	10 amperes	0.03
7227	17 amperes	0.07

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PHILCO THREE-PURPOSE ANTENNA KIT

Noise elimination—greater distance—multiple set operation. A complete antenna system with low impedance antenna transmission line for reduction of man-made static, increasing distance range, and for multiple receiver operation. Includes special matched antenna transformer and set transformer; 50 feet weatherproof double transmission line; complete aerial equipment. Lead-in transmission line can be extended to 400 feet if desired without any loss of efficiency. PHILCO Part No. 40-5000-A Kit complete.

Net dealer price \$3.60

• • SEE ALL OF THESE ITEMS AT

SPECIALLY FOR THE SERVICEMAN

FURNITURE TOUCH-UP KIT

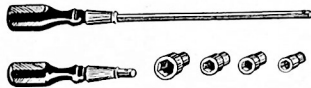
A new cabinet touch-up kit containing all the necessary materials for retouching and refinishing radio cabinets. The kit contains lacquer, sealer, stain, burn-in wax, alcohol lamp, pumice, steel wool, etc. PHILCO Part No. 45-1033.

Net dealer price\$10.35

SOCKET WRENCH KIT

A kit of four sockets and two handles, long and short, for hex head nuts, screws and bolts. Specially hardened steel of the highest grade. Contains 1/4" socket, 5/16" socket, 3/8" socket, 1/2" socket, long handle, short handle. Complete in wooden box. PHILCO Part No. 7063.

Net dealer price\$1.65



SPEAKER CONE CEMENT

Cement as used in PHILCO factory for fastening speaker cones to frames. The only type of cement which will hold permanently and securely without developing speaker rattles. PHILCO Part No. 2827.

Net dealer price, 1 1/2-oz. tube ..\$0.20

FURNITURE POLISH

High-grade liquid wax furniture polish, especially for radio cabinets. Superior to average furniture polish on the market. Used extensively for radio cabinets, furniture, automobiles, floors, tile and linoleum. PHILCO Part No. 80207.



Net dealer price\$0.25

3-WAY EXTENSION CORD

Heavy extension cord with three-way socket. Permits six-foot extension of radio cord and two additional outlet connections for lamps or other electrical appliances. PHILCO Part No. L-1279.

Net dealer price\$0.48

ELECTROLYTIC CONDENSERS

New Low Prices

PHILCO electrolytic condensers are furnished in all standard values and types, and are designed for replacement use in all makes of radio. Stud type mounting fitted with large thread bolt at one end. Also clamp type mounting. Dry and wet types. Capacity ranges from 4 mfd. to 20 mfd. See PHILCO Parts Catalogue for complete listing, and ask your PHILCO distributor about the new low prices.



HEADPHONE KIT

Headphone kit for connection to any radio set; can be used with or independently of speaker in set. Kit consists of a pair of light-weight headphones, plug and jack, two .5 mfd. condensers and two adapter leads. Condenser connections made to plates or plate and cathode of output tubes; opposite sides of condenser to phone jack. PHILCO headphone kit complete, Part No. 40-5037.

Net dealer price\$4.14

PHILCO SPEAKERS

PHILCO has a complete line of radio speakers for every need. A wide choice of sizes and field coil resistances. All speakers are complete with output transformers matched for various types of output circuits. Available with and without field supply; also available in permanent magnet speaker field.

Net dealer prices\$2.91 to \$7.20

See PHILCO Parts Catalogue for complete listing and specifications.

PILOT LAMPS

PHILCO pilot lamps have a conservative voltage rating to insure long life. Lamps all furnished with standard miniature base.

Part No	Voltage Rating	Net Dealer Price
6608	6.0-6.3 volts	\$0.066
3463	2.7 volts	0.066
5316*	2.0 volts	0.21

*Special for battery sets—draws only 60 milliamperes filament current.



PHILCO AERIAL KITS

PHILCO SHORT-WAVE ANTENNA KIT HIGH-TEST INSULATION

This PHILCO special short-wave antenna kit has been designed to enable the owner of a short-wave receiver to obtain maximum performance from his set. Every part used is of the highest grade material, and particular attention has been given to the insulation to prevent any possibility of leakage of the weak signals from foreign short-wave stations. PHILCO Part No. 40-5081. Complete installation instructions.

Net dealer price\$2.40

PHILCO STANDARD ANTENNA KIT

A complete antenna kit, consisting of the following items:

- 75 feet 7-24 stranded bare copper antenna wire
- 35 feet No. 18 rubber-covered lead-in wire
- 1 glazed porcelain weatherproof lightning arrester
- 2 glazed porcelain insulators
- 3 glazed porcelain nail-on knobs
- 1 lead-in strip
- 1 ground clamp

PHILCO Part No. 8043.

Net dealer price\$0.96

MAJESTIC REPLACEMENT VIBRATOR KIT

Replacement vibrator unit for Majestic automobile radio receivers. Operates from 6-volt car battery; provides all necessary Band C voltages for Majestic Models 66 and 116. PHILCO Part No. 38-6057.

Net dealer price\$3.60

YOUR PHILCO DISTRIBUTORS . .

Adjusting the Signal Generator

(Continued from page 1)

the compensating condenser or condensers of the signal generator until the signal is heard in the radio with maximum volume. In practice, it is desirable to use an output meter to indicate maximum volume rather than to rely upon the ear. It is also necessary to check the adjustment on several other frequencies, making any necessary small readjustments to obtain correct calibration at all points.

Before concluding at any time that the signal generator is in need of recalibration, it is advisable to test the batteries. Run-down batteries, particularly a weak "A" battery, will cause a variation in calibration.

In the PHILCO Models 048 and 024 signal generators the adjustment is made by tuning in a station at or near 1,000 K. C.

The compensating condenser for adjustment of the B scale is located on the side of the tuning con-

denser. In many instruments, both Model 048 and 024, it will be found that the movable plate of this compensating condenser has been bent almost at right angles to the stationary plate, and that the adjusting screw has been removed. In such cases no adjustment for this scale will ordinarily be found necessary. In some extreme cases, however, it may be necessary to bend the plate slightly until the correct setting is found.

The A scale is adjusted by placing the switch in the A position and adjusting the compensating condenser on the signal generator base (reached through the hole in the back) for maximum output meter reading. Here again the adjustment is made by tuning in a station at or near 1,000 K. C., and then substituting the signal from the signal generator for that from the broadcast station.

In the Model 024 the adjustments can be reached by removing the metal plugs in the housing of the signal generator.

Questions and Answers

1 Q. Why is it impossible to use an I. F. or broadcast signal generator for adjusting the short-wave compensating condensers in a short-wave receiver?

A. The harmonics of such a signal generator are not separated by sufficient dial space at the higher frequencies to distinguish one from another. It is necessary to employ a signal generator having a high-frequency fundamental signal in order to obtain sufficient separation of the harmonics. The PHILCO Short-Wave Signal Generator, Model 091, has a fundamental frequency of 3,600 K. C., crystal controlled. It is extremely accurate, and is sufficiently high in fundamental frequency to permit convenient adjustment over the entire short-wave band.

2 Q. How can dial slipping be corrected in some of the earlier production of the Model 45?

A. This condition, which is caused by excessive wear on the fibre drive pulley, can be corrected by installing a special spring, PHILCO Part No. 28-8252, which holds the

fibre drive wheel tightly against the metal drive shaft. All later production is equipped with this spring.

3 Q. Why does the PHILCO Three-Purpose Antenna System require a high ground connection to a large mass rather than merely a wire run down to the ground from the antenna transformer?

A. The connection to the large grounded mass at a high level permits grounding out of the interference from the lead-in before the wire passes through the noise area. The large mass ground affords the necessary grounding at a height, but an ordinary wire run down to the earth would not permit absorption of the interference waves.

4 Q. How can low sensitivity be corrected in the Model 45?

A. The I. F. compensating condensers should first be adjusted at 460 K. C. in accordance with the standard practice. The cathode resistor in the 6-A-7 tube circuit should next be checked. If it is 500 ohms, it should be changed to a 400-ohm resistor, PHILCO Part No. 33-3016.

PHILCO RADIO & TELEVISION CORP. OF CALIFORNIA

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