

PHILCO SERVICEMAN

Circulation, 27,256 Copies Monthly

RADIO · MANUFACTURERS · SERVICE · NEWS

DECEMBER, 1934



Are All Service Men Dishonest?

EDITORIAL

SOME magazine advertising during the past month has emphasized how "unscrupulous" and "dishonest" servicemen are on tube replacements.

In trade papers also the "unreliability of radio servicemen" is being given a lot of publicity.

We know that there are some dishonest servicemen who will sell old tubes, or old parts, for new ones, but we do not think it is advisable to give the public the impression that all servicemen are dishonest.

Ever since the formation of Radio Manufacturers Service we have been questioned by some people as to why it was necessary to organize servicemen under one name.

Advertising and news articles such as mentioned above give the whole answer as to why the formation of a serviceman's organization like Radio Manufacturers Service was essential.

An individual serviceman standing alone will find it almost impossible to convince the public that he is the exception rather than one of the "cheaters" or "unreliable" men.

On the other hand, Philco, through Radio Manufacturers Service, is daily telling the public by many forms of advertising, including broadcasting, that when they want dependable, reliable, honest radio service they should call a member of Radio Manufacturers Service.

What every serviceman wants is more service jobs and more profit. In order to build up your business you must create confidence in the minds of your prospects. Philco, through Radio Manufacturers Service, does everything possible to build up the members' prestige in the minds of the public.

Rather than disrupt the public's confidence in servicemen in general by claiming that they are "unscrupulous" and "unreliable," more effort should be made through sales promotion activities and advertising to have the public patronize the servicemen that are reliable and that do not have to be watched on every tube replacement for fear of cheating the public.

Use every possible means to identify yourself as an active member of Radio Manufacturers Service — an international service plan, backed by Philco, the world's largest radio manufacturer. What better guarantee of your dependability could any prospect wish than to know that you are an authorized member of this group?

Use this opportunity to cash in to the fullest extent on your membership in Radio Manufacturers Service and join the many thousands who are making the R.M.S. slogan come true — "MORE SERVICE JOBS AND MORE PROFIT."

Explaining the New Philco All-Wave Antenna System

ON EVERY occasion, we have stressed the importance of a good aerial installation for quality performance in a modern radio receiver. With the advent of practically an entire new line, consisting of short-wave receivers, PHILCO has realized more than ever the necessity for having good aerial equipment.

With a broadcast receiver, it is possible to get away with a poor aerial installation and to obtain reception of a kind. The reason for this is the fact that in most locations there is a broadcasting station of fair power within a reasonable distance of the receiving set.

GOOD AERIAL FOR DISTANCE

Almost since the very beginning of popular short-wave broadcast transmission and reception there has been the impression that short waves will perform wonders that could never be dreamed of in standard broadcasting. It is true that extreme distances can be covered by means of short waves with decreased power of transmission and greater reliability of reception. On the other hand, we must not expect the impossible. We know that we cannot sit down with a short-wave receiver at any time of the day or night and pick up China, Russia or South Africa. We do know, however, that if we sit down with an efficient short-wave receiver operating with a highly efficient antenna system, and if we listen at the proper time, it is entirely possible to receive such foreign stations.

PHILCO has designed and is now making available to every radio owner the marvelous new PHILCO All-Wave Antenna System. The system is based on the principle of maximum reception efficiency when the antenna length is equal to one-quarter wave length and also upon the low impedance transmission line principle for the lead-in.

AERIAL QUARTER WAVE LENGTH

In the October issue of the PHILCO SERVICEMAN we explained in detail how short-wave reception could be improved by making the aerial length in feet equal to one-half the wave length in meters of the most desirable short-wave broadcast band. The same efficiency holds when the antenna is equal to one-quarter wave length. The new PHILCO All-Wave Antenna employs two lengths of aerial — one of 17 feet and the other 43 feet. The smaller length tunes to the 20 meter band (15 megacycles) and the longer length is untuned for efficient reception of all other frequencies. The shorter length must be 17 feet at all times, but the longer aerial — because it is untuned — can be shorter if necessary, but no longer.

The set transformer is equipped with a switch having two positions — one for short waves and the other for standard broadcast. By adjusting the antenna system in this way for short-wave reception or for broadcast reception, the utmost efficiency is thus obtained. The PHILCO Three-Purpose Antenna System is suitable for broadcast reception up to 4 megacycles. When we go into the short-wave bands at frequencies higher than 4 megacycles, the Three-Purpose System becomes inefficient, simply because the set transformer is matched for broadcast reception and not short waves. In the new PHILCO All-Wave Antenna System, the switch serves to throw into the circuit, in the same way that a wave change switch on a short-wave receiver would do, another section of the set transformer which is matched for short waves.

EASY TO INSTALL ANY LOCATION

The transmission line which runs between the antenna transformer and the set transformer is the same wire as that employed in the PHILCO Three-Purpose Antenna System. The length of transmission line between the antenna transformer and the set transformer is not critical and can be extended up to 400 feet without loss of efficiency and without noise pick-up.

The lengths of the antenna wires permit the highest possible efficiency of reception at the megacycle frequency to which the short antenna is tuned. At the same time the efficiency of reception for any other frequencies will be just as great as it would be in an untuned antenna system which has been carefully erected.

Start now to give your customers the best in radio performance by furnishing them with PHILCO'S greatest aerial development.

Building Your Stock for Service

MANY servicemen are making every possible effort to build up their parts stock in such a way that all replacement parts that are frequently used will be available for immediate service. These men have learned from experience that their time in doing service work and in soliciting additional service business is far more valuable than their time consumed in chasing after small orders of parts from time to time to their PHILCO distributor. Since it is possible to save considerable money by purchasing fairly large quantities of parts in advance, these servicemen are finding it increasingly profitable to maintain on hand at all times the necessary parts to do practically any service job.

At this time of the year, the serviceman is busier than at any other time. There is more service work available now because people are more radio-minded than they are in the spring and summer months. This year, people are spending more money for radio than they have for a number of years. They are buying new sets and they are also having old

sets repaired and placed in first-class operating condition. Right now is the time for the serviceman to utilize every moment of his available time to do actual service work or to solicit such work. Many servicemen are working day and night at this time of the year, so that they can get in just as much of this work as possible, and thus make up for some of the slack time during the summer.

Be sure to anticipate your needs for parts and tubes and have them available so that you will not lose out on any of this work which is coming your way.

■ BE SURE TO INVESTIGATE THE REMARKABLE SALES AND SERVICE POSSIBILITIES WHICH ARE AWAITING YOU IN THE NEW PHILCO ALL-WAVE ANTENNA SYSTEM

"OFF TO BUFFALO"



A Real Parts Sales Department

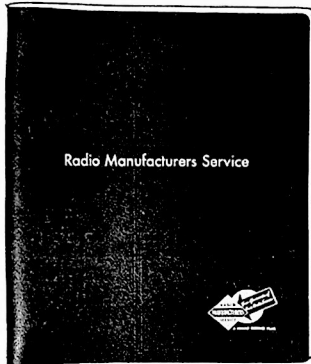


A Real Service Workbench

PHILCO PARTS AND SERVICE DEPARTMENT, W. BERGMAN CO., *Philco Distributors*, BUFFALO, N. Y.

Complete Philco Service Data in R. M. S. Binder

COMPLETE service data, including wiring diagrams, parts layout illustrations, parts lists and socket terminal voltage information for every PHILCO radio from 1928 to and including the latest models of the 1935 line, are now available in a genuine leather binder at a net cost of one dollar.



R.M.S. Binder

The PHILCO wiring diagram book, which is already familiar to thousands of servicemen, has been supplemented with a new book containing reprints of all PHILCO service bulletins from January 1 up to the present time. In addition to this latest information, there is included in the supplement a convenient chart giving the number and type of tubes since the first model 511 in 1928, the intermediate frequencies of superheterodynes, the power consumption, tuning ranges in kilocycles, and complete socket voltages of every PHILCO model.

The new binder is of genuine flexible leather. It has the large rings suitable for standard bulletins and is stamped in gold with the Radio Manufacturers Service insignia.

For the benefit of those who already have the PHILCO wiring diagram book, the wiring diagram supplement can be obtained separately from your PHILCO distributor at a cost of twenty-five cents. The binder can also be obtained separately at fifty cents.

Spending and Planning for Expansion

THE business side of servicing and the establishment of radio service on a true cost and profit basis, is the subject of John F. Rider's new house organ, *Successful Servicing*.

Radio Manufacturers Service, from the very beginning, has always advocated to the serviceman the importance of operating his business on a business-like basis. We heartily agree with Mr. Rider's ideas, and we know that every serviceman who will read this new contribution to service literature, *Successful Servicing*, will be greatly benefited.

Every business, to be successful, must be operated on a careful basis, wherein costs of operation are known and definite selling prices of service are established.

In addition to this end of the business, which we might term the accounting, there is equally important the sales and advertising. Radio Manufacturers Service has sponsored a great service advertising campaign, which is now in progress all over the country. R.M.S. members everywhere are benefiting by tying up with their local R.M.S. headquarters on the newspaper advertising campaigns. In addition to this type of advertising, there are many members who are utilizing the various sales helps, such as handbills, folders, form letters, etc. These men are not necessarily spending their money now in order to reap the benefits of such expenditure a year from now. *They are getting their return immediately in the form of increased service work.*

The servicemen who are tying up with R.M.S. at the present time are building for the future, and are reaping immediate present benefits. They are the men who have decided to remain in the service business and to take advantage of their opportunity to increase their business. They are planning for the future by setting aside a certain portion of their gross profits and placing this money into advertising so that their names are definitely connected in the mind of the public with the world's largest radio service organization.

RADIO SERVICE

Your radio represents money, and most of all, gives you more entertainment and pleasure than anything you own.

Now is the time to have your tubes checked, your aerial inspected and your set adjusted for topnotch performance so you will be able to get the coming football games and big programs on the air.

The men listed below are members of the Radio Manufacturers Service sponsored by Philco and can be depended upon. Call them for service.

A. HARTIG RADIO SERVICE
MONTANA 0076-J.

BILL & DICKS RADIO SERVICE

BRANBLE 2047.
Wm. BRYANT
HEMLOCK 2121-W.

RICHARD RUDOLPH, JR.
SOUTH 1852.

LEON BASS
AVON 3095.

FAMOUS AUTO SUPPLY
Lebanon, Ohio

W. R. COOK RADIO SERVICE
MELROSE 4368.

A Typical R.M.S. Ad
On Service

General Replacement Field Coils

PHILCO has a complete line of replacement field coils which can be used in all standard models of Magnavox, Rola, Utah and Jensen speakers, or in any other makes of speakers having cores one inch in diameter. The following table gives complete information on these various field coils:

| Philco Part No. | Resistance | Size of Wire | Approximate Field Excitation Current |
|-----------------|------------|--------------|--------------------------------------|
| 32-9076 | 6 ohms | 21 | 1.25 A |
| 32-9077 | 650 ohms | 32 | 110 MA |
| 32-9078 | 1000 ohms | 33 | 90 MA |
| 32-9079 | 2000 ohms | 34 | 70 MA |
| 32-9080 | 2500 ohms | 35 | 65 MA |
| 32-9081 | 5000 ohms | 36 | 40 MA |
| 32-9082 | 7500 ohms | 37 | 32 MA |

All of the above coils may be interchangeably used in the Magnavox speaker models as follows:

| Model No. | Cone Diameter |
|-----------|---------------|
| 150 | 6" |
| 154 | 8" |
| 152 | 10" |
| 144 | 8" |
| 142 | 10" |
| 143 | 12" |

Since the original coil to be replaced has the resistance stamped on it, the selection of the proper PHILCO part number for this replacement is a simple matter. These coils can be used in Majestic sets, Wells Gardner, Sparton, Zenith, Crosley, Colonial, Wurlitzek, and Bosch.



Parts Department of Taylor Distributing Co., Philco Distributors in San Antonio, Texas

Questions and Answers

1 Q. What is the cause of dial slipping in some of the latest type 60 and 38 models?

A. This condition is often caused by too much tension on the nut at the back of the drive shaft. Loosening this nut slightly will allow the rotor to turn more freely and thus eliminate slipping of the drive.

2 Q. What is a possible cause of the 89 and 19 stopping oscillation?

A. This condition has occasionally been found to be due to an open section in the by-pass condenser No. 8, PHILCO wiring diagram of the Models 89 and 19. This condenser is a .0007 mfd. capacity. Part No. 8174B. In the later Model 89, in which the type 77 detector oscillator tube replaces the 36 tube, this condenser has been increased in capacity to .0014 mfd.

3 Q. What is the principle of increased efficiency and noise reduction as applied to the new PHILCO All-Wave Antenna System?

A. The principle is essentially the same as that of the PHILCO Three-Purpose Antenna System, which is intended for broadcast reception only. The signal passes through the high impedance line, which is the antenna circuit, and then through the low impedance line, which is the lead-in circuit. The transformer at the antenna changes the circuit to a low impedance type, and the transformer at the radio set then builds up the circuit to high impedance for operation of the radio set. Because of the fact that the entire lead-in transmission line is low impedance, there is no loss of efficiency in

transmission, and there is no pick-up of noise. It is possible in this way to have the antenna placed at a considerable distance from the receiving set, so that the antenna itself will be fairly well out of the noise area. The transmission line can then pass through the noise area over to the radio set, and there will be no pick-up of noise.

4 Q. Why don't the PHILCO testers, Models 025 and 048, have a rotary switch for change-over of testing positions?

A. These instruments were built with the pin jacks and the present switch arrangement purposely to protect the instrument from damage. It is easily possible when making tests with the rotary switch type control on the instrument to have an accidental short or to touch the test leads to a high voltage when the switch is set for a lower voltage. In the PHILCO arrangement, the serviceman must think twice before he uses such a low range, and he will be careful to protect the instrument because of the necessity for removing the test leads from the pin jacks in order to change the testing positions.

5 Q. Have there been any recent changes in PHILCO compensating condenser design?

A. Yes. The latest type PHILCO compensating condensers are built of molded bakelite with an extremely smooth surface. These new condensers have an absolute minimum of moisture absorption, with the result that the adjustment of the condenser holds its position far better than any other type of compensating condenser.

PHILCO RADIO & TELEVISION CORP. OF CALIFORNIA

218 Fremont Street

San Francisco, Cal.

Announcing

THE *First*
AERIAL TO
ELIMINATE NOISE
ON *all* BANDS!

New

PHILCO ALL-WAVE
AERIAL

\$7.50
LIST PRICE

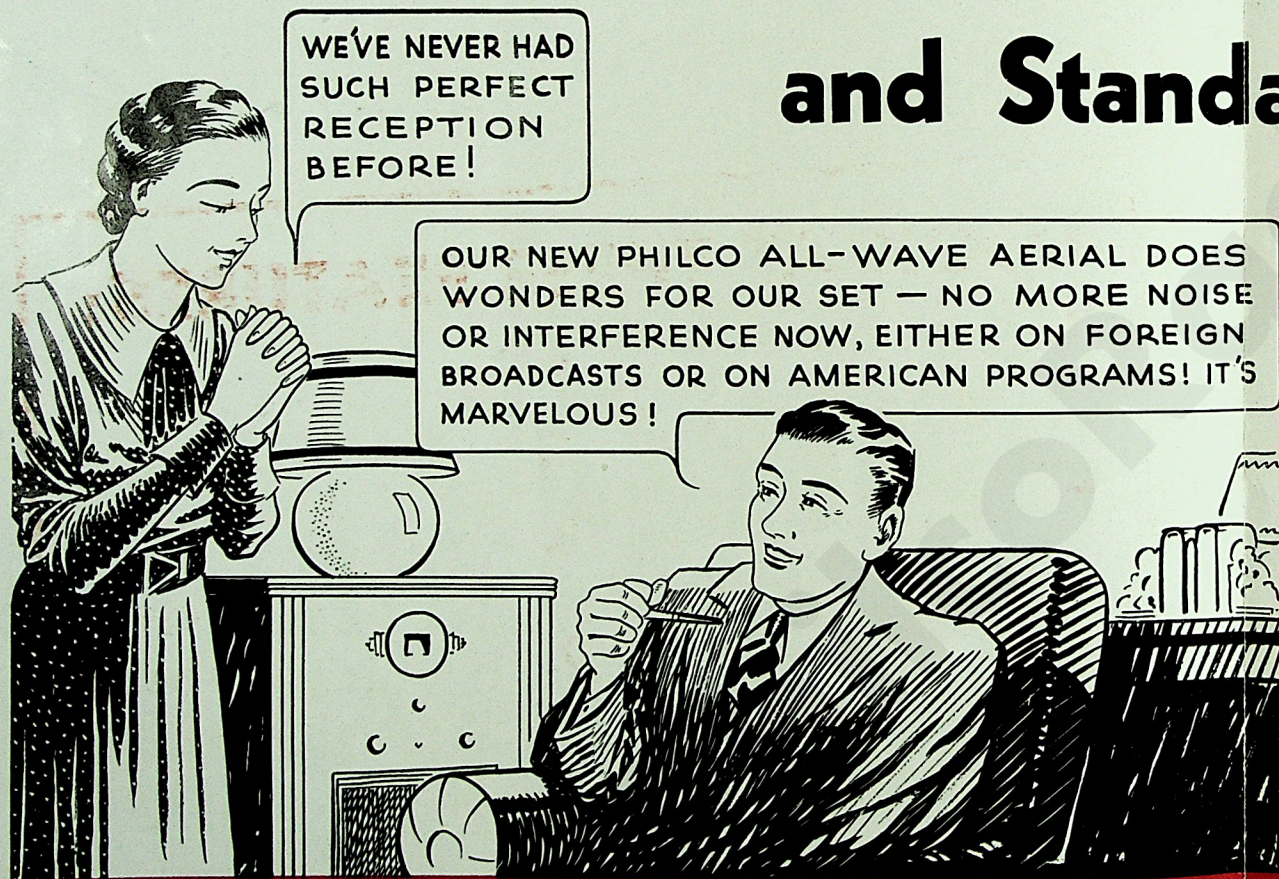
You've been waiting
for it — now it's here!
**NOTHING LIKE IT
ON THE MARKET!**

**Easy to Sell — It's Designed, Built
and Advertised by PHILCO!**

*Amazing
New*

PHILCO ALL-WAVE AERIAL

The First Aerial to Eliminate NOISE and LOCAL INTERFERENCE on both Short-Wave and Standard Broadcast Reception!



LOOK AT THESE FEATURES:

1. Complete noise elimination of all local interference on both short-wave and standard broadcast bands!
2. No soldering necessary. Every connection soldered at the factory!
3. One aerial used for both short-wave and standard broadcast reception!
4. Easily and quickly installed!
5. Operates on any make of radio!
6. Kit contains all necessary parts (including lightning arrestor!)
7. Built-in wave band switch on set transformer!
8. Maximum sensitivity over all wave lengths from 540 kilocycles to 23 megacycles!
9. Flexible transmission line lead-in can be shortened to fit installation without affecting performance!
10. Reception on all radios improved!

Guaranteed

TO IMPROVE

Your

RADIO

NEVER BEFORE SUCH EASE OF INSTALLATION

COMPARISON CHART

The new PHILCO All-Wave Aerial Kit is so complete that it is not necessary to add other parts when making installation. You will find this aerial to be the easiest one you ever installed. Simply support the flat top on the roof and connect the lead-in through the set transformer to the radio.

With the PHILCO All-Wave Aerial it is not necessary to have a flat top, sixty to one hundred feet long, as is required on most short-wave aeriels. Many installations have been made with the overall length of the flat top under forty feet with excellent results. There is no advantage in making it any longer than sixty feet.

The height of the aerial is not critical as long as it is far enough above the supporting surface to properly insulate it. There are no special wires to be brought down at any definite angle. One flat top aerial with thin flexible lead-in coming down from approximately the center of the flat top direct to the set transformer at the radio is all there is to it.

Remember, the new PHILCO All-Wave Aerial provides noise elimination on both the broadcast and short-wave bands along with greater sensitivity at all points on the scale.

The table at the right gives a quick comparison of the PHILCO All-Wave Aerial with two other types now on the market. Type "A" uses a flat top aerial with two diagonal leads coming down from it, while Type "B" uses transposition blocks on the lead-in.

| | PHILCO | TYPE "A" | TYPE "B" |
|--|---------------------|---------------------------|------------------------------------|
| 1. Noise elimination on short-wave and standard wave. | YES | NO | NO |
| 2. Thin flexible lead-in. | YES | YES | NO |
| 3. Special weather proof lead-in. | YES | NO | NO |
| 4. Can lead-in be increased in length? | YES | Multiples of 110 ft. only | Difficult with transposition block |
| 5. Can lead-in be cut if too long? | YES | NO. Must be coiled in set | YES |
| 6. Must aerial or lead-in be arranged at any definite angle? | NO | YES | NO |
| 7. Any soldering necessary by installer? | NO. Done at factory | YES | YES |
| 8. Lightning arrestors needed? | YES | YES | YES |
| 9. Are lightning arrestors supplied in kit? | YES | NO | NO |
| 10. Overall length required for aerial. | 34 ft. minimum | 60 ft. minimum | 41 ft. minimum |

Use inside of this folder to show prospects when selling them

RUN THESE ADS in your NEWSPAPER!

*Sensational
New
Discovery!*

PHILCO ALL-WAVE AERIAL

**ELIMINATES
NOISE
AND LOCAL
INTERFERENCE**
on both short-wave
and standard
broadcast reception

Here's the first and only aerial to eliminate noise and interference on ALL broadcast bands. A spectacular development that improves reception on ANY radio! Installed easily and quickly by our experts! **\$0**

**DEALER'S NAME
AND ADDRESS HERE**

Ad No. 171—2 columns x 3 inches

**ELIMINATES
NOISE
on ALL bands!**

PHILCO ALL-WAVE AERIAL

Here's the first aerial to stop interference on both short-wave and standard broadcast bands. Improves reception on ANY radio! **\$0**

**QUICKLY INSTALLED
DEALER'S NAME
AND ADDRESS HERE**

Ad No. 172
1 column x 3 inches

Order mats of these ads from your distributor



PHILCO RADIO & TELEVISION CORP.

The World's Largest Radio Manufacturer

PHILADELPHIA • NEW YORK • CHICAGO • SAN FRANCISCO • TORONTO • LONDON, ENG.

Printed in U. S. A.