PHILCO SERVICEMAN

• RADIO • MANUFACTURERS • SERVICE • NEWS •

APRIL, 1934

Cash In on Philco Three-Purpose Antenna Profits

Aerials Can Still Be Sold—Servicemen are selling the Philco Three-Purpose Antenna to thousands of radio owners all over the country. The Three-Purpose Antenna System includes a complete new aerial, antenna transformer, a fifty-foot roll of Philco noiseproof transmission line lead-in, a set transformer, porcelain tube installator, glass insulators for the antenna, ground clamp and lead-in strip for the ground wire; also a switch, so that the system will match a regular broadcast receiver or a receiver which brings in police calls. The range of the Three-Purpose Antenna System is from 520 to 4000 kilocycles. All this is in the kit which sells to the serviceman for $3.60.

Simplified Installation—When installing the antenna on the roof, it is important to have the aerial wire away from the source of interference; if there are power lines or trolley wires in the front of the house, the aerial should be as near the back of the house as possible.

The antenna transformer in most cases should be on the roof, particularly in apartment houses and large home installations. The antenna transformer should be grounded to the highest possible ground. In the majority of homes the vent pipe on the roof makes a satisfactory ground; in other cases it is necessary to ground the antenna transformer to the highest water pipe in the house. This may be in the bathroom on the top floor, in which case the ground should be run from the bathroom window to the antenna transformer.

The transmission line itself is supported by porcelain knobs on the wall, and is brought into the house wherever desired by means of the porcelain tube. The transmission line may be extended (additional rolls available through your Philco Distributor) to as much as 500 feet, giving outlets for radio sets in as many as four different rooms in the house or apartment building.

The set transformer must be located within one inch of the antenna terminal of the radio set. Failure to observe this precaution will result in picking up noise on the lead-in between the set transformer and the radio set itself. When there is more than one outlet provided, each set transformer must be within an inch of the antenna post of each receiver or else noise picked up by one chassis will be carried throughout the system.

Low Impedance System — The Three-Purpose Antenna is a low impedance system. However, it is not a low impedance system until the antenna and ground are connected to the antenna transformer. **With the antenna and ground connected to the antenna transformer, the system becomes a low impedance system and does not pick up interference.**

Philco Three-Purpose Antenna System is as effective in eliminating noise as a shielded system and it avoids any possible loss which might be a characteristic of the shielded lead-in system. The loss which is part of the ordinary lead-in is eliminated in the Philco Three-Purpose Antenna System. As much as 40 per cent. of the signal is lost in an ordinary lead-in. There is no loss in a Philco Three-Purpose Antenna.

Philco Three-Purpose Antenna National Advertising—Philco Three Purpose Antenna System has been advertised nationally on the air by Boake Carter, has been advertised by Philco distributors and dealers in newspapers and handbills and is recommended to purchasers in the instructions that go with Philco Receivers. When you are selling the antenna which Boake Carter talks about on the air, you will find that the public is interested in receiving first, better performance (additional stations); second, the elimination of noise; and third, extra outlets in their home for other radio sets. There is a suggested ad for you to use on this page of the PHILCO SERVICEMAN. Take advantage of the Philco merchandising plan, and run this ad (mats available from your distributor), so that you can cash in on the sale of the Philco Three-Purpose Antenna and make the profits which Philco has made available to the servicemen.

Amazing New Philco Antenna System

CUTS OUT RADIO NOISE

No longer need you endure annoying radio interference from street cars, power lines, telephones, oil burners, electric refrigerators, vacuum cleaners and other appliances. The new Philco Three-Purpose Antenna System eliminates all such interference—now you can enjoy radio more than ever. Ask us for complete details of this marvelous new radio discovery.

DEALER'S NAME
AND ADDRESS HERE

Phone Open Evenings

Not just a wire and lead-in

but a Complete High-Efficiency Aerial System that improves reception on ANY radio in any location.

3 Purposes

Eliminates man-made static (noise). Increases distance—more stations are heard and all stations come in louder and clearer. Accommodates 2 to 4 radios on a single antenna.

Philco Three-Purpose Antenna System, complete, installed—only $10.

Suggested copy for a newspaper ad. A mat of this ad (mat No. 111) can be obtained from your Philco distributor at 6c.

Use Radio Manufacturers Service Sales Helps

HUNDREDS of Radio Manufacturers Service members are using the R. M. S. printed material and are finding it to be one of the most effective means of advertising ever employed. The reason for their success is because these men are associating themselves in the minds of the public with the world's largest and most widely advertised service organization, Radio Manufacturers Service. The R. M. S. business card, or service folder, with your name and address imprinted, means only one thing to the customer—that you are a reliable serviceman associated with a reliable manufacturer. They have heard Boake Carter talk about you, and they have read about you in advertisements and in the PHILCO customer instruction sheets. Perhaps you, personally, are not a follower of the Boake Carter broadcasts, but don't forget that there are thousands of people who are, and it is these people who know most about Radio Manufacturers Service. They have been told night after night to call upon R. M. S. men for guaranteed service work and aerial installation.

Immediate Business From Philco Promotion

The cost of the R. M. S. printed material to you is relatively small, and the results which you will obtain from its use will repay you many times, not only in immediate new business, but in establishing yourself more firmly for future business. There are several letters available which you can obtain, printed on R. M. S. letterheads, imprinted with your name and address and telephone number, at a net cost of only $2.85 for five hundred. One serviceman who mailed out only one hundred of these letters obtained twelve installations of the Philco Three-Purpose Antenna System. His approximate advertising cost was $6.00 and his profit on the aerial installations was $43.20.

R. M. S. Folder and Tag Bring Results

Other men are using the service letter in conjunction with the R. M. S. folder to obtain additional service business. Many members are finding that the R. M. S. tag, placed on the back of the customer's radio sets, is producing marvelous results. The big advantage of this type of advertising is the fact that it will keep on working for you long after you called upon the prospect to attach the tag to his set. A wide distribution among your friends and your friends' friends of your R. M. S. business cards will get you many new service customers whom you never knew about previously. The R. M. S. newspaper mats which you can obtain for only five cents each will enable you to run an effective ad in your local newspaper —the type of advertising which will definitely produce results.

Just the Beginning

PHILCO has promised and is doing big things for the promotion of Radio Manufacturers Service, and this is just the beginning. Realize that already R. M. S. is the biggest service group in the industry and that it is sponsored and advertised by PHILCO—the world's largest radio manufacturer. Get on the bandwagon now, use the R. M. S. advertising, take advantage of PHILCO'S promotional tie-ups and suggestions, and make some real money in radio service work.

R. M. S. ADVERTISING MATERIAL AVAILABLE THROUGH YOUR PHILCO DISTRIBUTOR

1. Letterheads and envelopes imprinted with your name and address. Letterheads—250, $1.75; 500, $2.60; 1000, $3.75. Envelopes — 250, $1.85; 500, $2.85; 1000, $4.90.
2. Service letters printed on Radio Manufacturers Service letterhead, imprinted with your name and address: 250, $2.30; 500, $2.85; 1000, $4.20. Imprinted tags to tie on back of customers' radio: 250, $2.75; 500, $3.75; 1000, $6.25. Three-Purpose Antenna letter, imprinted with your name and address: 250, $2.35; 500, $2.90; 1000, $4.30.
3. Service folder, imprinted with your name and address: 250, $1.80; 500, $2.50; 1000, $3.50.
4. Service postcard, imprinted with your name and address: 250, $1.95; 500, $2.60; 1000, $3.75.
5. Billheads and business cards imprinted with your name and address. Billheads—250, $1.80; 500, $2.25; 1000, $2.95. Business cards—250, $1.35; 500, $1.70; 1000, $2.60.
6. Display advertisements for your local newspaper. Complete mats of several suggested ads at 6 cents each.

Samples of all of the above material can be seen at your Philco Distributor's Service Department.

Philco New, Improved, Compact Signal Generator

MODEL 024

THE Philco Model 024 Signal Generator is a complete, self-contained and accurately calibrated instrument, designed to cover all frequencies from 105 K. C. to 2000 K. C. All necessary batteries and tubes are included within the container. No external connections of any kind required.

Modern Superheterodynes cannot be adjusted properly without a high-grade signal generator, but many servicemen have been unable to pay the high prices previously asked for quality equipment. The PHILCO MODEL 024 now makes it possible for every serviceman to own a high quality Signal Generator at a figure about equivalent to the sum collected on his first six Radio Manufacturers Service jobs.

The proper functioning of any superheterodyne receiver is largely dependent on correct synchronizing of the various circuits: R. F., I. F., Oscillator, and Detector. This synchronizing procedure is necessary to overcome slight variations in capacity and inductance of parts and tubes.

The *only* satisfactory means of "tuning up" each circuit to maximum resonance is by adjusting the compensating (padding) condenser in each circuit, by means of an *accurate signal generator* capable of producing a signal of the intermediate frequencies used in any receiver, and also of both the high and low frequency ends of the broadcast and police bands.

Philco 024 Signal Generator

Only when all the compensating condensers in the receiver are properly adjusted at the correct adjusting frequency is maximum volume and efficiency possible from the set. The Model 024 Signal Generator is the answer to these requirements.

A compact, smoothly operating and beautifully finished instrument. Frequency-range scales and designations of controls are etched in brass lettering on black panel. Top, sides and back have special black "crackle" finish. Brass handle provides easy portability. Ball-bearing tuning condenser provides extremely fine adjustment. Shielded antenna lead with Universal clip included for connection to receiver. Illustration at left shows simplicity of replacing the "A" battery, which is held in place by a special spring cap, removable without tools. Entire instrument mounted on special felt feet.

Side View, Showing Ease of Replacing "A" Battery

MODEL 024 SIGNAL GENERATOR, *Complete with Batteries and Tube*

Serviceman's Net Price . . . $13.50

Suppressing Noise From the Firing Plug of an Oil Burner

A RECENT EXPERIENCE reported by D. Shohet, a member of Radio Manufacturers Service, will be interesting to servicemen and dealers who have been confronted with the problem of eliminating interference from oil burners.

The sale of a Model 16-X hinged upon the elimination of interference from an oil burner. Mr. Shohet attempted to correct the trouble by placing condensers across the motor, but this did not help to any great extent. Recalling his experience with Transitone noise suppression, he placed a Transitone spark plug suppressor in the firing plug of the burner. This suppressor resistor completely eliminated all noise.

The same results can be obtained by connecting fixed resistors of approximately 10,000 ohms in series with the firing plug of the burner. These resistors should be at least a one watt rating, so as to withstand the power surges which are present in the firing circuit.

In past issues of the PHILCO SERVICEMAN we have given hints on noise elimination and we have received many reports from servicemen that our suggestions were extremely helpful in enabling the men to eliminate man-made interference. Now that all-wave receivers are a big factor in modern radio, it is highly important that every installation be as free as possible from man-made static. We suggest that you review your past copies of the PHILCO SERVICEMAN and that you utilize all of the information given on the subject of noise elimination.

Questions and Answers

1 Q. What method can be used, in addition to the suggestions in the Question and Answer column in the March issue of the PHILCO SERVICEMAN, to prevent cutting off or failure of oscillation in the Models 89 and 19?

A. In many cases the strength of oscillation can be increased by lowering the value of the cathode resistor No. 10 in the wiring diagram of Service Bulletins Nos. 146 and 146-A, from 15,000 ohms to 10,000 ohms. PHILCO Resistor Part No. 3524 should be used for this purpose.

2 Q. What is the purpose of shielding on the inside floor of the 84-B Cabinets?

A. This shielding is designed to contact the under side of the chassis in such a way as to prevent possible radiation from the wiring and thus eliminate any squeals or howls in a neighboring radio set. There is no antenna radiation in this circuit, but if the fibre adjusting nut is advanced too far there is a possibility of oscillation taking place. The lower shield eliminates radiation of these oscillations.

3 Q. What is the cause of low sensitivity and selectivity on some sets of the Model 16?

A. On some of these receivers it has been found that the I. F. compensating condensers will change slightly so as to throw the I. F. circuits out of resonance by a small amount. Ordinarily these condensers are received in perfect adjustment by the dealer, but there are occasional cases where the adjustment comes out a small amount during transit. The condition can be readily corrected by adjusting the I. F. compensating condensers in accordance with the standard instructions in Service Bulletin 165-C and in Radio Manufacturers Service Lesson No. 1.

4 Q. What is the cause of excessive carrier hum on certain stations when no excess of hum is experienced on the same stations played on the same models but in other localities?

A. This condition is caused by a small phase difference in the A. C. power supply of the receiver and transmitter. If there is any A. C. hum present in the station and if there is a slight phase difference in the two A. C. power supplies, this carrier hum will be noticed, particularly when bass compensation is used on the receiver. The condition is not noticeable on sets without bass compensation, and on those with it the difficulty can easily be corrected simply by turning the bass compensating tone control all the way over to the left when listening to these stations.

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CLIFFORD S. BOWMAN, Service Manager