

# PHILCO SERVICEMAN

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RADIO · MANUFACTURERS · SERVICE · NEWS



SEPTEMBER, 1937

## EDITORIAL

### Only the Genuine Can Qualify

THE PHILCO Research and Engineering Department spends annually hundreds of thousands of dollars to test and perfect the quality of parts which go into PHILCO radios. This tremendous research campaign is being carried on constantly, because it is the only way that the performance of PHILCO radios can be assured.

When a certain part number condenser or resistor is specified for a certain part of the circuit, this is done because that particular part is the only one which will perform properly in the circuit. No one in the PHILCO factory organization would ever think of making a substitution for that part, knowing that the substitute might not give the exact performance of the original. This attitude has come about through years of experience and learning that only the genuine parts can be used for correct performance. Anyone in the radio industry—manufacturer, serviceman or dealer—who countenances the use of anything but the original part is cheating his customers, because he is not giving these customers the performance to which they are entitled.

When companies like PHILCO and other large radio manufacturers are willing to spend many thousands of dollars to give their customers the best in radio performance, certainly it is not asking too much of the serviceman to spend a few more pennies in giving his customers the best possible performance. Only by using genuine replacement parts can this quality performance be obtained.

## YOUR R. M. S. MEMBERSHIP NO SECRET TO PUBLIC

### Telling the Public About Your Business Brings Added Profit

FROM Yonkers, New York, William F. Carter writes the following:

"This is the first opportunity I have taken to write to you about Radio Manufacturers Service since becoming a member.

"First, I want to add my praises to that of the many thousands of servicemen members. I think it is one of the finest service organizations yet formed and has done more for the independent serviceman than any other, giving him the opportunity to realize profit from his work the same as some of the larger, heavily financed service shops. It has made available to him valuable suggestions, leads, advertising and servicing data which would have cost many dollars otherwise.

Also, through the grouping of so many independent servicemen, it is now possible to secure replacement parts of high quality at a much lower cost."

Radio Manufacturers Service helps the serviceman in two ways. First, it gives him valuable technical information which enables him to service PHILCO receivers and to be equipped with the very latest PHILCO information. Second, it gives him equally valuable information from a sales and advertising standpoint, so that he can make more money by getting more service work. Neither of these helps costs the serviceman anything.

Radio Manufacturers Service is the only service organization that reaches the public generally and the only one

(Continued on Page 3)

## RADIO MANUFACTURERS SERVICE HELPS YOUR SERVICE BUSINESS

- By giving members over 4,000,000 pieces of technical helps a year . . . . . **FREE TO YOU!**
- By telling the whole world that an R. M. S. man knows his business and does guaranteed service work—**FREE TO YOU!**
- By giving you the recommendation and the backing of the world's largest radio supplier—PHILCO—**FREE TO YOU!**

Month after month since that important date in radio service history—June, 1933—when Radio Manufacturers Service was first announced, only one thought has been considered at R. M. S. headquarters—that is, will it help the serviceman? Nothing has been permitted to sidetrack the organization during these years, and *nothing will*. R. M. S. is helping the radio service business and membership is

**FREE**

to all qualified servicemen regardless of their business connections.

# Philco Dial Scale and Dial Assembly Part Number Listing

FOR various manufacturing reasons, the part number of the dial scale only is printed on the scale for most PHILCO models. This number has sometimes been confusing to servicers when ordering replacement dial assemblies. In many cases, particularly on the older models, the complete dial as-

sembly carries a different part number from the scale only. In order to help you in ordering replacements, we list below by radio set model numbers the part number of the dial scale only and the part number of the complete assembly, which latter is the correct number to order.

Model	Scale Part No.	Assembly Part No.	Model	Scale Part No.	Assembly Part No.	Model	Scale Part No.	Assembly Part No.
4	5871	03890	60	27-5181	31-1792 (sub. for 31-1472 and 31-1472A)	503	(see Model 18)	(see Model 18)
14 (Early)	B-	04832				503 (122)	(see Model 18)	(see Model 18)
14 (Inverted)	S-7997	06817					Code 124)	
14 (Police)	27-5013	31-1066	37-60	27-5196		504	(see Model 44)	
14 (Police)	27-5003	31-1026 (Inverted)	37-61	27-5205		505	(see Model 60)	
14 (Police)	27-5021	31-1095 (Inverted)	37-62	27-5287		506	(see Model 144)	
14-91	B-	04832	65	3398		507	(see Model 118)	
15	4276		66	27-5057	31-1234	509	(see Model 201)	
16 (121-122)	27-5011	31-1058	66	27-5081	31-1470	511		
16 (123)	27-5020	31-1115 (Inverted)	70	B-	03031	37-9	27-5283	
16 (125-126)	27-5064	31-1363	71	B-	04832	37-10-11	27-5271	
16 (127)	27-5067	31-1420 (Inverted)	76	3794		37-10-11 (125)	27-5283	
17	27-5013	31-1066	77	4118		600	27-5188	
17 (123)	27-5021	31-1095 (Inverted)	80	7409	45-2382	37-600	27-5193	
18 (121-122)	27-5013	31-1066	81	7409	45-2382	602	27-5188	
18 (123)	27-5021	31-1095 (Inverted)	81	B-7989	31-1008 (1500 k.c.)	37-602	27-5193	
18 (124)	27-5049	31-1207	81	27-5009	31-1032 (1700 k.c.)	604	27-5189	
18-RX	27-5058	31-1241 (Inverted)	84	27-5031		37-604	27-5189	31-1799
19 (121)	8111	06766	84	27-5100		610	27-5097	
19 (123)	7882	06697	84	27-5108		37-610	27-5203	
19 (124)	27-5004	31-1024 (Inverted)	37-84	27-5210		37-610 (125-126)	27-5285	
19 (128)	27-5001	31-1025	86	3047		611	27-5097	
20 and 21	S-	4209B	87	3398		37-611	27-5203	
28	27-5042	31-1208	89	7882	06697	37-611 (125)	27-5285	
28-CSX	27-5083	31-1481	89	27-5001	31-1025	620	27-5098	
29 (late)	27-5056	31-1245	89-19-LZX	8111	06766	37-620	27-5203	
29-CSX	27-5083	31-1481	89	27-5105	31-1590	37-620 (125-126)	27-5285	
30	4139		37-89	27-5204		37-2620	27-5245	
32	27-5001	31-1025	90	B-	03031	623	27-5097	
37-33	27-5243		91	B-7503	05902 (520 k.c.)	37-623	27-5214	
34	27-5039		91	27-5002	31-1028	624	27-5163	
37-34	27-5252	31-1162	37-93	27-5280		37-624	27-5214	
35 and 36	B-	03031	95		3794	625	27-5098	
37	S-7204	05811	96	4118		630	27-5098	
38	27-5019	31-1084	97	27-5093	31-1513	37-630	27-5203	
38 (123)	27-5101	31-1473	98	27-5094	31-1514	37-630 (125-126)	27-5285	
38 (123)	27-5068	31-1408	111	4276		635	27-5098	
37-38	27-5196		112	4276		640	27-5103	
39	27-5079	31-1471	116	27-5107		37-640	27-5214	
40-41 and 42	3794		37-116 (121)	27-5249 (Std.)		641	27-5125	
43	S-0833	05418	37-116 (122)	27-5207 (Auto. Tun.)		642	27-5214	
44	27-5028	31-1107	118	27-5046		643	27-5098	
45	27-5042	31-1208			31-1205 (Set screw on inside)	643	27-5131	
46	27-5056	31-1245	118	27-5046	31-1414 (Set screw on outside)	645	27-5250	
47	S-	4209B				650	27-5165	
17 (123-223)	B-	04832	118RX	27-5058	31-1241	650RX	27-5103	
48	S-7204	05811	144	27-5044	31-1206	37-650	27-5229 (Inv'd)	
49	27-5046	31-1205	144 (125)	27-5065	31-1361	37-2650	27-5269	
49	27-5013	31-1066	200	27-5049	31-1255	651	27-5170	
50	S-	03822	201	27-5046	31-1414	655	27-5165	
51 and 52	5883	04031	212	(see Model 111)		655 (123)	27-5183 (Inv'd)	
53	28-1021		220	(see Model 112)		660-L	27-5115	
54C	27-5008		270	(see Model 20)		37-660	27-5209	
54S	27-5054		296	(see Model 70)		665	27-5244	
54C	27-5085		370	(see Model 96)		37-665	27-5115	
57	28-1021		470	(see Model 4 & 70)		37-670	27-5213	
58	27-5023		490	(see Model 4 & 90)		37-2670	27-5266	
59C	27-5048		500	(see Model 16 Code 122)		37-675 (121)	27-5249	
59S	27-5051		501	(see Model 16 Code 122)		680	27-5207	
60	27-5024	31-1090				37-690	27-5127	
60	27-5000	31-1090					27-5207	

## DIMENSIONS OF 1938 PHILCO RADIO LINE

Model	Height, Inches	Width, Inches	Depth, Inches	Model	Height, Inches	Width, Inches	Depth, Inches
33 B	15 1/4	12 1/4	8 3/8	5 X	40 1/4	25 1/4	12 3/8
93 B	14 1/2	12 3/8	7 3/4	7 XX	41	25 1/2	13 3/8
5 B	20 5/8	17	11 3/8	4 XX	41 1/2	25 1/2	15 3/8
12 C	8	11 1/8	6 1/8	3 XX	42	25 1/2	16 3/8
14 T	8	11 1/8	6 1/8	2 XX	42 1/2	26 7/8	18 3/8
10 T	10 7/8	16 3/4	9	1 XX	43	27 1/2	17 3/4
9 T	10 1/8	17 3/8	8 1/8	116 XX	43 3/4	27 3/2	19 1/2
7 T	11 1/8	17 3/8	9 3/4	690 XX	44 1/2	30 1/2	16 3/8
10 F	38	22 3/8	10 1/8	7 CS	21 1/4	15 1/4	25 1/4
9 K	39 5/8	25	11	14 CS	19 1/2	15 1/2	24 3/4
8 X	39 1/8	24 3/4	11 1/8				

## Lead-In Wire Accounts for Large Portion of Cost in Philco Car Aerials

ONE of the biggest items which goes to make up the cost of a PHILCO Auto Radio Aerial is the lead-in.

It will be noted that the lead-in wire on every PHILCO Auto Radio Aerial is a heavy, well-insulated, moisture-proof construction which defies wear and weather. An auto radio aerial might have the best possible pick-up in the aerial itself, but unless the signal is fed to the radio set through an efficient lead-in wire, there is absolutely no advantage gained in having good aerial pick-up. The length of lead-in wire, the size of the wire, the kind and amount of insulation and the type of shielding are all important factors which determine the efficiency of the aerial system.

Examination of the PHILCO lead-in wires for auto radio will show that these wires are invariably of large outside diameter so as to keep the wire itself as far away from the shielding as possible and thus reduce capacity losses. The insulation in all cases is treated to make it moisture-proof so there will be no leakage losses between the actual lead-in wire itself and the ground shielding. The type of copper braiding which is used in PHILCO lead-ins affords the maximum shielding effect and thus gives greater signal to noise ratio.

Some of the competitive lead-ins are of a cheaper construction, having small diameter wire, and in some cases not even having shielding of any kind. If an auto radio aerial does not operate satisfactorily and consistently, it is no bargain regardless of price.

PHILCO engineers are constantly

making laboratory tests and are analyzing different kinds of wire and insulation for lead-in purposes. Sensitivity curves are run on all types of materials, always with a view of obtaining the best lead-in wire. Many manufacturers have no facilities of this kind and make no attempt to study sensitivity in connection with lead-in wire, with the result that the performance from such material is entirely lacking.

We believe that the public, as well as the auto radio service stations, are beginning to get somewhat disgusted with the many poor-quality aerials that have been sold to them by various manufacturers during the past year. Many of these were sold principally because of low price, and the dealers did not consider the troubles that they would have later on from bending, breaking and rusting. Also, very few of them considered the question of signal pickup of the various types of aerials they have been using.

PHILCO Auto Radio Aerials are built of the finest-quality materials that PHILCO can obtain. They are designed by the same engineers who designed PHILCO Auto Radio Receivers, and the same degree of rigid engineering requirements is built into the aerials as that which is built into PHILCO Auto Radio Receivers.

When you sell a PHILCO Auto Radio Aerial you are selling unqualified customer satisfaction, and you are making more profit for yourself, both from the standpoint of initial cost and service upkeep.

## Your R. M. S. Membership No Secret to Public

(Continued from Page 1)

which does any national advertising to the public. There are millions of PHILCO radio sets in the homes of owners all over the country, and in every case these set owners have been told to look to Radio Manufacturers Service when their radio needs service attention. The customers' instruction sheets, in all cases, contain this R. M. S. reference. Radio Manufacturers Service has been advertised over the air by Boake Carter, and it has been advertised nationally in countless other ways to the public.

You as an individual serviceman member can get your rightful share of the service business if you will tie up with this mammoth, nationally known organization and identify yourself in your neighborhood as the local member of Radio Manufacturers Service, a PHILCO service plan. You can do this

by using the various R. M. S. advertising helps which PHILCO has made available to you through your PHILCO distributor. There are handbills, postcards, signs, letters, letterheads and countless other pieces of advertising material which have been designed by national advertising experts solely to enable you to get more business and make more money. Radio Manufacturers Service is the biggest thing in the service industry, and it is known to the public. PHILCO is the biggest thing in the radio industry, and certainly it is known to the public. Here is your chance to tie in your own business with the two outstanding organizations in radio service and the radio business and to make yourself some real profit.

Are you getting all of the service business to which you are entitled or are you letting this business go to some other member of Radio Manufacturers Service?

See your PHILCO distributor now and make your immediate plans for your R. M. S. advertising campaign.

## The "Why It Can't Be Done" for Vibrator Repairs

IF FOR some unforeseen reason a vibrator fails during the initial ninety-day warranty period, we say "REPLACE IT WITH A NEW ONE FROM STOCK AND RETURN THE DEFECTIVE ONE TO US." It would seem to be cheaper for us to say "There can't be anything very much wrong with it; the contacts must still be good; all it needs is a little adjusting."

### But That Isn't So

The most economical thing for you and for us is to replace it with a new PHILCO Vibrator from your stock.

For the car owner it means: quicker service, a standard service, a genuine PHILCO replacement part, a greater measure of safety and guarantee, an easier and less expensive service. And for you it means: an easier and quicker service operation, fewer reserve jobs and greater dependability, a fair and square genuine PHILCO parts replacement program.

Considering the other angle, a serviceman asks, "But why can't I fix the vibrator?" Well, Mr. Serviceman,

without wanting to hurt your feelings, you may be a pretty good radio serviceman, but you don't know how to adjust PHILCO vibrators. It takes a lot more than being a serviceman to adjust a vibrator. Even the PHILCO Service Department never attempts to make such an adjustment.

How are the contacts? A little rough—and you fix them with a file. You fix them so they will never be right. How is the spacing? This one looks to be out a bit—and you fix that, too. How about spring tension, and follow? And reed clearance? Another casual inspection and then you connect it to a six-volt battery.

### Won't Work Long

But it won't work for long, not the vibrator—and it won't work right, quietly, smoothly, continuously, giving reliable PHILCO service.

This reasoning applies to an even greater extent in the case of a vibrator which has seen its normal life. Metal fatigue of the vibrating arm would make it impossible for such a vibrator to ever give service after being adjusted in any way.

The serviceman, at the time he fixes a vibrator, might look it over, probably a little proud of the job, and, pushing out his chest a trifle, remarks: "I can't see why that won't be all right."

Mr. Serviceman, you hit the nail right on the head. You answered your own question. YOU CAN'T SEE WHY IT WON'T BE ALL RIGHT. And that's the very reason we say to you and to all servicemen:

DON'T TRY TO ADJUST A VIBRATOR. REPLACE WITH A GENUINE, NEW PHILCO VIBRATOR.

# New Aerial Offers Great Sales Possibilities

## 1938 Set Transformer a Positive Noise Cure

THOUSANDS of installations of the 1938 PHILCO All-Wave Aerial have already proved that this is by far the finest performing aerial which has ever been offered to the public. The efficiency of reception, the amount of noise reduction and the ease of installation have made this aerial by far the most popular of any on the market.

It is a simple matter, merely by making a demonstration, to convince anyone of the fine performance which is possible with this aerial. The way in which the 1938 PHILCOS will perform in your store is entirely dependent upon the type of aerial which you employ with those sets. You can offer the finest possible demonstrations by installing this new aerial so that you can operate the sets on the aerial for which they have been designed.

### Can Be Lengthened

One of the important features of the 1938 PHILCO All-Wave Aerial is the fact that broadcast reception can be greatly improved by adding to the length of aerial. The standard length is 50 feet, but if this flat top is increased to 100 feet, for example, the sensitivity at the 600 K.C. end of the dial is increased not only twice, but four times. Short-wave reception is likewise improved when the length of aerial is increased. By the same token, sensitivity is decreased when the length of aerial is decreased.

### New Iron-Core Type

There are certain areas where it is almost impossible to get entirely noise-free reception, even when a noise-eliminating aerial such as the new PHILCO aerial is employed. For such cases as this, PHILCO engineers have designed a new set transformer (new iron-core type) which really performs. This transformer, which employs no switch from broadcast to short-wave reception, can be connected at the radio set end of the transmission line between the transmission line and the transmission line



1938 PHILCO High-Efficiency Aerial.

*For Full Enjoyment*

OF THE FINE

**RADIO PROGRAMS**

**YOU NEED A GOOD AERIAL!**

READ  
THE  
"REASONS WHY"  
ON OTHER  
SIDE

High-Efficiency Aerial Envelope Stuffer to Mail to Your Customers. Obtainable from Your PHILCO Distributor at \$2.00 Per Thousand. Form PR569.

terminals of the radio. In practically every case any residual noise is immediately eliminated.

This transformer offers you some unusual sales and demonstration possibilities. If your store is located in an extremely noisy section, you can be assured of better radio reception than you have ever had before. No doubt you have many customers who live in similar noisy locations and who have never been able to have really satisfactory radio reception because of the noise. To these people you can offer the new 1938 PHILCO aerial and the new set transformer, and you can assure them of quality radio performance. The set transformer is known as Part No. 32-2763 and sells at a list price of \$2.50.

### For Every Dealer

Every PHILCO dealer will want to install a new aerial in his store, and we know that dealers will likewise want to give their customers the benefit of the new satisfactory performance.

The new 1938 PHILCO High-Efficiency Aerial is also available in a heavy-duty-type construction for better installations on large buildings. The heavy-duty aerial is electrically the same as the standard High-Efficiency

Aerial, but its construction throughout is heavy and durable. Extra-large aerial wire, insulators and transmission line enable this aerial to stand up in the tougher types of installations. The new PHILCO Heavy-Duty Aerial is  
(Continued on Page 7)

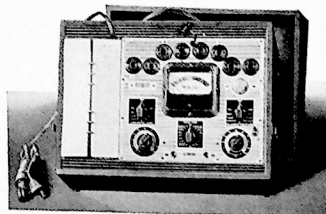
## Tube Tester Employs Two Types Engineering Tests

THOUSANDS of new PHILCO Tube Testers have been shipped from Philadelphia, and dealers and servicemen everywhere tell us the Model 066 is the finest tube tester ever placed on the market. It was a long time before PHILCO would place its name on a tube tester, because PHILCO was never able, up until this time, to produce a tester which PHILCO engineers were willing to agree would test tubes properly.

The Model 066 Tube Tester affords an accurate indication of tube quality on every type of commercial receiving tube in use. When arriving at the standard control settings for the various types of tubes as indicated on the chart at the side of the tester, PHILCO engineers checked over 50,000 tubes so as to get the best average readings and also to afford some indication of just how the tube tester would hold up in use. The original sample tester is still in use in the PHILCO Service Department.

The combination mutual conductance and emission test which the PHILCO Tube Tester makes, engineers agree, is the best possible test for any type of tube. There is no guesswork when testing with the 066, and your customers can be sure at all times of a fair and honest indication of tube quality.

Your PHILCO distributor has a special on the Model 066 Tube Tester. We suggest that you see him at once and make arrangements to get this new PHILCO testing equipment without further delay.



Model 066 Tube Tester.

## PHILCO Identified Resistors Continue to Be the Industry's Standard

ABOUT a year and a half ago PHILCO announced to the radio service industry the PHILCO Identified Resistor. This resistor was something entirely



PHILCO Identified Resistor.

new. Immediately it became the standard replacement resistor for all purposes, and PHILCO Identified Resistors have been used as standard by dealers and servicemen ever since they were



Serviceman's Identified Resistor Assortment, Part 45-1246, List Price \$6.40.

first announced. Millions of these resistors are now in use, and they are continuing to be the standard for all types of replacement work. They are subject to less temperature and voltage change than any other type resistor ever



PHILCO Identified Resistor Assortment, 100 Resistors, List Price \$20.00.

## Guarantee Plan Gives Dealer Philco's Backing With Customer

### Has No Connection With Ordinary Service Work

THE PHILCO Guarantee Plan is now being used with great success by many PHILCO dealers throughout the country. This plan is in no way to be considered as a means of getting service work or repair work for any dealer or serviceman. We are anxious, however, that all servicemen understand the details of it because we believe that it will be of interest to them.

#### Dealer Problem

Dealers have been faced with an installation problem during the past few years that has become increasingly important and in many cases quite serious to them. In most installations an aerial has been sold with the set, and it is necessary for the dealer in some way to get this aerial up. Also on automatic tuning radios of all types there is a certain amount of setting up that must be done to cover the selection of stations desired by the customer. In addition to this, it is our belief that every radio, regardless of make, should be properly aligned and tested by the dealer before installing in the home.

It is true that some people might say that these things are expected by the customer and, therefore, the dealer should perform these operations free of charge. In many cases the dealers have been performing them free of charge.

However, since the dealers have had no income from this work, we have found that at times they neglected or did it in a hurried or haphazard manner. If the proper installation is not made, if the radio is not carefully

used by PHILCO, and they hold up when others fail.

Because of the comparatively small size of the Identified Resistor, PHILCO is now supplying only the one-watt type, with a few exceptions. These one-watt resistors require no more space than earlier-type resistors of 1/2-watt rating. The PHILCO Identified Resistors are available in every range, from 1000 ohms to 5 megohms, and the list price is 20 cents.

The handy serviceman's kit contains thirty-two resistors of sixteen different commonly used resistance values. This kit is known as Part No. 45-1246 and sells at a list of \$6.40. A larger resistor kit, Part No. 45-1248, contains an assortment of 100 resistors, selling at a list of \$20.00. If you prefer to make up your own assortment of resistance values for the No. 45-1248 kit, your PHILCO distributor can supply you with the kit box free with an order of 100 resistors. Remember that on all of these resistor items you get your full maximum parts discount.

checked before it is installed and if it is not checked again some time after the installation, the dealer will, almost without fail, get several service complaints from the customer. These complaints, of course, the dealer is forced to handle at no charge to the customer. Since he handles them at no charge, he again is inclined to hurry the job as much as possible.

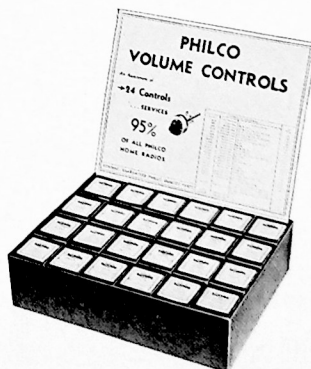
#### Philco to the Rescue

It would be desirable for every dealer to do the things outlined in the PHILCO Guarantee Plan at no charge to the customer. Most dealers will not go this far in making sure that every customer of theirs is 100 per cent satisfied with the performance obtained. Because it is difficult to get the dealers to do these things no charge, and because radio sales are depending more and more on the correct installation and the correct instructions that are given to the owner, PHILCO is helping the dealers by backing them up in charging for this necessary work.

## New Serviceman's Volume Control Assortment Services 95% of all Philcos

PHILCO has recently announced a new serviceman's Volume-Control Kit, which takes care of 95 per cent of all PHILCO models, including the 1937 sets. This assortment of twenty-four different volume controls is an indispensable item for every serviceman because it will enable him to give immediate service on any PHILCO model with the exception of a few of the more special-type sets.

The new volume-control assortment contains 24 controls, is known as Part No. 45-2488 and sells at a list price of \$33.15.



PHILCO Volume Control Kit, Part No. 45-2488.

## SERVICEMEN—

HAVE you given any serious thought to the wonderful sales and installation possibilities you have with the PHILCO Phone? The PHILCO Phone, PHILCO'S inter-communicating system, affords you a marvelous opportunity for extra profits. Here are some suggested uses for PHILCO Phone:

### SUGGESTED USES FOR PHILCO PHONE

- A. In HOMES
1. Living room to maid's room.
  2. Master bedroom to kitchen.
  3. Children's room to living room.
  4. Living room to garage.
  5. Cellar recreation room to living room.
  6. Cellar recreation room to children's bedroom.
  7. Master bedroom to front door.
  8. Invalid's room to living room or kitchen.
- B. In WAREHOUSES
1. From the front office to each of different storerooms.
  2. Front office to receiving clerk.
  3. Front office to shipping clerk.
- C. In OFFICES
1. Executive to Secretary.
  2. Executive to filing department.
  3. Executive to assistant executive.
  4. Executive to engineering department.
- D. PROFESSIONAL OFFICES  
(Dentists, Doctors, Lawyers)
1. Reception clerk to private offices.
- E. In RETAIL STORES
1. Information desk to manager's office.
  2. Information desk to service department.
  3. Front counter to repair department.
- F. WHOLESALE DISTRIBUTORS
1. Front counter to sales department.
  2. Front counter to service department.
  3. Front counter to shipping department.
- G. In RESTAURANTS
1. Front counter to kitchen.
- H. In THEATERS
1. Ticket office to manager's office.
- I. In HOTELS
1. Front desk to porter's desk.
  2. Front desk to doorman.
  3. Front desk to checkroom.

### INEXPENSIVE—QUICK INSTALLATION

1. Place Master Control and Remote Phone units.
2. Connect Master Phone to each Remote Phone, using any twisted wires.

## Strong Locals Overcome on Cone-Centric Set-Up

A QUESTION of proper aerial tuning has been asked in connection with setting up the stations on the cone-centric models using the 077 Station Setter.

When operating in the vicinity of a powerful local broadcasting station, it is sometimes difficult to hear the squeal or beat note which is produced by beating the 077 signal with the signal produced by the local station. This is because the automatic volume control in the set operates to reduce the amount of signal coming into the I.F. of the set and thus makes it too weak to produce an audible beat note with the local I.F. signal from the 077. In most cases this condition can be overcome by connecting the signal output from the 077 through the clip to the insulation of the I.F. control grid lead instead of to the insulation of the control grid lead of the first detector.

If the local station signal is still too strong to produce a beat note, the transmission line is disconnected, and a 100-ohm non-inductive resistor such as PHILCO Part No. 33-110439 is connected across the transmission line terminals on the set.

Many dealers, when encountering this condition, have simply disconnected one side of the transmission line so as to reduce the amount of incoming signal from the station. Experience has shown that this method is not satisfactory. When one side of the transmission line is disconnected in this manner, the aerial becomes a high-impedance system connected to a low-impedance aerial input. If stations are lined up using a high-impedance aerial, they are bound to be detuned when the set is finally installed with the 1938 PHILCO Aerial, which is a low-impedance system.

3. Plug in Master Control to any A.C. or D.C. outlet and turn on. No soldering necessary. No conduit required.

Connecting additional phones as easy as first one. When control unit is on a desk, a neat, convenient four-station cable is available. Aerial transmission line (white or black) is ideal for wiring between phones.

PHILCO Phone has complete fire underwriter approval.

### OPERATING PHILCO PHONE

Talk or listen to any one individual (strictly private), or all remote phones. Control on panel selects any or all remote phones as desired. Depress control switch to talk, release to listen.

## Questions and Answers

1. Q. Are certain type tubes more subject to damage in transit than others?

A. Yes. All filament-type battery tubes should always be packed carefully for transit. Types 2A3, 6A3, 6B4G and 6A5G are easily subject to shorting unless handled carefully. When shipping these types of tubes, the cartons should be packed in shredded newspaper.

2. Q. What is the cause of low sensitivity on 1938 PHILCO when operated with the ordinary L type or high-impedance aerial?

A. Except for the compacts, which are designed for use with the Utility Aerial, the 1938 PHILCO sets are designed for operation with the PHILCO High-Efficiency Aerial, which is a low-impedance system. When an ordinary aerial is connected to the terminals on the back of the set, the sensitivity is low and the set will not perform properly with such a high-impedance aerial. If it is necessary to use a high-impedance system, then the set transformer, Part No. 42-1095, should be connected between the high-impedance aerial and the transmission line terminals of the radio set. The terminals on the set transformer marked "Red" and "Black" should be connected to the corresponding terminals on the back of the chassis. The aerial is connected to the aerial terminal of the set transformer and ground to the ground terminal.

3. Q. What is the cause of the switch failing to open when the cone-centric plunger is pushed in for a station?

A. There are various possible causes, one of which is a bent switch. In other cases the track for the cone might not be exactly at right angles with respect to the plate of the cone-centric tuning assembly. If a condition of this kind is found, it will be noted invariably that the trouble exists only on a few of the cones and not all of them. The cone will be off center with respect to the plunger so that the latter cannot go all the way down sufficiently to open the shorting switch. The only thing that can be done in a case of this kind is to replace the entire cone-centric tuning assembly, and, of course, such cases are extremely rare. An easy way to check for such trouble would be to insert a 3/16-inch drill down through the hole of the plunger and observe if the point of the drill lines up with the point of the cone.

4. Q. Is there a carrying case available for the Model 077 Signal Generator?

A. Yes. An attractive black leatherette case is available for this purpose. This case is known as Part No. 10311 and sells at a list price of \$7.50.

5. Q. When using the 1938 PHILCO High-Efficiency Aerial with sets not having built-in transmission line terminals, which set transformer should be employed?

A. The new 1938 PHILCO set transformer, Part No. 32-2763,

## NOTICE TO PHILCO DEALERS

WE SUGGEST, after reading this notice, that you install one of the new PHILCO Compact Radio models in your home, connected to a PHILCO Utility Aerial.

The combination of the PHILCO Utility Aerial and the PHILCO Compact Radio will give you such marvelous performance that we know you will become enthusiastic over the possibility of selling the two together.

Don't forget that the new PHILCO Compacts have been designed for best performance on the PHILCO Utility Aerial, and we strongly recommend that you have one set up in your home and try it so that you get the personal experience of this great performance.

If properly handled through your retail salesman, you will find it possible to sell Utility Aerials with practically every compact sold, and this means that you have boosted the list price \$5.00 because of the aerial sale.

If you do not have Utility Aerials in stock now, call your PHILCO distributor for your order.

## Midget Electrolytic Kit for General Replacement Work

A NEW electrolytic condenser kit has just been made available by PHILCO. This kit contains an assortment of ten midget-type electrolytics in those capacity values which are most commonly used. In all cases the condensers are rated at 450 volts operating voltage.

There are hundreds of applications for condensers of this type, particularly in some of the smaller midget re-



PHILCO Midget Electrolytic Condenser Kit, Part 45-1324, List Price \$11.80.

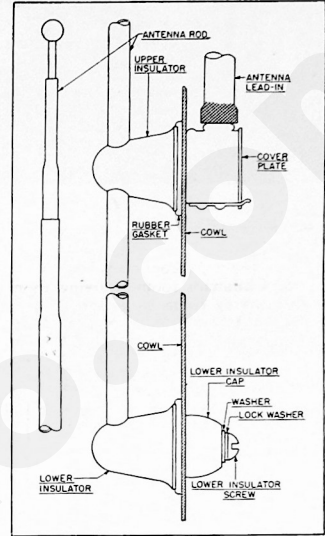
## A NEW TELESCOPING COWL AERIAL FOR AUTO RADIO

A NEW telescoping cowl aerial has been added to the line of PHILCO Auto Radio Aerials which we feel sure will immediately become a fast seller. It is a real quality aerial, telescoping in three sections. The length, collapsed, is 24 inches; with two sections extended, it is 43 inches; with the three sections extended, it is 62 inches. It is made of seamless, rust-proof metal. It telescopes easily without any binding and has great mechanical strength. It mounts on a car with small insulated mounting brackets and can be installed very easily and very quickly.

The lead-in supplied is 30 inches long, made of high-quality material which not only prevents loss of signal, but also prevents noise pickup due to its careful shielding. There is a plug on the end of the lead-in to fit into the aerial socket of the radio. The connection of the lead-in to the aerial itself is inside of a shielded cup so that there is no noise pickup at this point.

The performance of the cowl aerial, when fully extended, is remarkably good. For traveling in cities where the broadcasting stations are nearby, the pickup is satisfactory with the aerial in the collapsed position.

The list price of the aerial is \$6.75, Part No. 45-2553, subject to your full parts discount.



PHILCO Telescoping Cowl Aerial.

## New Aerial Offers Great Sales Possibilities

(Continued from Page 4)

known as Part No. 40-6192 and sells at a list price of \$13.50, with your regular parts discount.

There are marvelous sales possibilities in aerials. Many dealers have increased floor traffic in their store tremendously by placing one each of the three PHILCO aerials in the window and putting a price sign on each aerial. PHILCO aerials have been advertised enough in national magazines, newspapers and over the air so that the public is fairly familiar with the prices. The Standard Aerial, Part No. 45-2431, sells at a list price of \$1.60. The Long-Distance Aerial, Part No. 45-2428, sells at a list price of \$2.50, and the All-Wave Aerial sells at a list price of \$5.00. A selling-up program on PHILCO aerials will net you some extra profits from the sale of the aerial itself, but the important thing is that it will bring you more floor traffic, and a certain percentage of these customers will be interested in new radio sets.

Every one of your customers to whom you sold a radio last year and the year before should be a prospect for the 1938 aerial. Wind and storms have taken their toll, and a replacement aerial of the later type will mean improved performance for the customer. Here again you have the opportunity to talk to your customers about a new aerial and at the same time to discuss with them the possibilities of purchasing a 1938 PHILCO Radio.

## "ODD IS EVEN" for Cone-Centric Dial Part Numbers

IN ORDER to avoid any possible confusion, we again point out the fact that the dials for the cone-centric tuning Models 4 and 7 are different and carry a different part number. The dial for the Model 4 is Part No. 45-5337, and the dial for the Model 7 is Part No. 45-5338. These part numbers are printed at the bottom of the dial. An easy way to remember is to refer to model numbers (4 and 7) and to the last digit of the part number and remember that "odd is even."

Both the dials are similar in appearance, but the calibrations are entirely different, and it is impossible to use a Model 4 dial on a Model 7 set or vice versa and have the set tuned correctly.

In addition to the dial part number, there is another number which appears on the dial after the part number. This is the territory number, inasmuch as the cone-centric dials are different for each distributing area.

**NEW!  
FINER!**

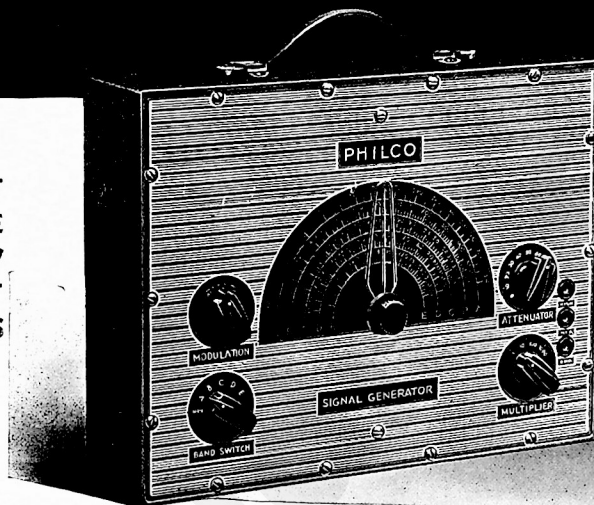
# 1938 PHILCO

★ A. C. Operated ★

## SIGNAL GENERATOR

**Model  
077**

**A PRECISION-BUILT  
LABORATORY-TYPE  
INSTRUMENT ESPECIALLY  
DEVELOPED TO MEET  
SERVICEMEN'S NEEDS**



SIZE OF CASE 13<sup>1</sup>/<sub>6</sub>" x 10<sup>1</sup>/<sub>6</sub>" x 4"

Designed to meet present-day need for a super-accurate instrument providing quick, easy operation, rich appearance and precision results.

**DEALER  
NET PRICE**

**\$27.00**

**Complete With All  
Fittings**

★

● The new 1938 Model "077" Philco Signal Generator includes a veritable host of important new features that without doubt make it the ideal aligning instrument you have been waiting for—at a value that commands your earnest attention and consideration.

Model "077" covers every needed frequency range—115 K.C. to 37 M.C.—in five separate bands—with generous overlap from one band to another. Every frequency is fundamental—no harmonics. Direct reading scales with large legible figures and all commonly used adjusting frequencies and I.F.'s marked. Special moisture-proof design of parts insures permanency of calibration.

The "077" affords complete elimination of frequency shift due to changes in attenuator setting or to switching from modulated to unmodulated positions.

Beautiful mirror-polished brass panel—finished superior to commercial or even laboratory instruments. Can be operated vertically or horizontally. Special carrying handle, rugged internal construction, and permanent accuracy of calibration make the "077" ideally suited for either portable or shop work.

A thoroughly engineered aligning instrument built to exacting specifications, it will enable you to do better service work and get better satisfied customers.

● MODEL "077" IS ABSOLUTELY ESSENTIAL FOR CORRECTLY SETTING UP STATIONS ON  
■ THE 1938 PHILCO MODELS EQUIPPED WITH "CONE-CENTRIC" AUTOMATIC TUNING

### A FEW OF THE MANY 077 FEATURES

- OPERATES FROM STANDARD A.C. OUTLET
- COVERS HIGHEST AND LOWEST FREQUENCIES
- GENEROUS OVERLAP OF BANDS
- COMBINED ON-OFF AND MODULATION SWITCH
- NEW KNIFE-EDGE POINTER FOR ACCURATE READINGS
- THREE OUTPUT CONNECTIONS
- EXCEPTIONALLY HIGH R.F. OUTPUT
- FULL ATTENUATION ON ALL BANDS

#### Controllable in Steps or Continuously

- 400 CYCLE AUDIO SIGNAL PROVIDED
- EQUIPPED WITH 6-FT. CABLE AND PLUG HAVING EXTRA OUTLET BUILT IN
- UNAFFECTED BY LINE-VOLTAGE VARIATIONS

★ **SEE IT TODAY . . . AT YOUR DISTRIBUTOR'S** ★