

PHILCO SERVICEMAN

Circulation Over 34,000 Copies Monthly

RADIO · MANUFACTURERS · SERVICE · NEWS

JANUARY, 1936



EDITORIAL

What Will 1936 Bring You?

NOW that 1935 has passed, it is interesting to reflect on what it has meant to you and your business and to lay your plans for 1936 so as to avoid mistakes and to plan a program which will enable you to get a larger share of the service business available in your territory.

Everyone predicts that business will be better in 1936. A gradual upturn has been going on in practically all lines; the national conventions and elections and many other attractions for radio listeners will undoubtedly stimulate both the sales and service end of the radio business this year.

Due to the concerted and consistent efforts of Radio Manufacturers Service and other radio service organizations, both national and local, the radio serviceman and his business are slowly but surely being accorded their rightful position in the community. The days of the "gyp" artist are practically passed, and the public is ready to believe and expect that the radio serviceman is a trained expert, backed by a reputable organization, who will do a guaranteed job at a reasonable price.

For 1936 we recommend that you:

1. Make a survey of your territory.
2. Prepare a "live" mailing list.
3. Plan a definite campaign of advertising service (with the help R. M. S. has given you and will give you).
4. Use only genuine parts and tubes in all your work.
5. Keep in touch with the latest things in radio.
6. Make your customers your friends. They will send you more customers.
7. Find out your costs and overhead and base your plans accordingly.

Radio Manufacturers Service is going to help its servicemen-members

R. M. S. ACTIVE IN GREAT BRITAIN

Standard Labor Charges Adopted

OVER in the British Isles, R. M. S. is going over just as successfully as it has throughout the United States and Canada. The PHILCO Radio and Television Corporation of Great

Britain, Ltd., is carrying on the R. M. S. activities along the same lines as the R. M. S. program in the United States. It is interesting to note that the radio service industry of Great Britain has adopted the R. M. S. standard labor charges as their standard in all cases.

All Prices are for LABOUR ONLY and are exclusive of Price of Parts.

NATURE OF WORK	Rate per Hour	Rate per Job	
		Minimum Charge	Maximum Charge
1. General service (labour only)	1/6	1/6	1/6
2. Repairing (labour only)	1/6	1/6	1/6
3. Tuning and repairing on air (labour only)	1/6	1/6	1/6
4. Cleaning and polishing (labour only)	1/6	1/6	1/6
5. Replacing (labour only)	1/6	1/6	1/6
6. Replacing and cleaning vacuum cleaners (labour only)	1/6	1/6	1/6
7. General repairs (labour only)	1/6	1/6	1/6
8. Replacing and cleaning vacuum cleaners (labour only)	1/6	1/6	1/6
9. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
10. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
11. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
12. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
13. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
14. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
15. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
16. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
17. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
18. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
19. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
20. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
21. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
22. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
23. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
24. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
25. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
26. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
27. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
28. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
29. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
30. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
31. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
32. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
33. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
34. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
35. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
36. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
37. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
38. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
39. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
40. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
41. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
42. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
43. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
44. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
45. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
46. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
47. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
48. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
49. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6
50. Replacing vacuum cleaners (labour only)	1/6	1/6	1/6

ALL CHARGES GUARANTEED FOR A PERIOD OF 90 DAYS
THE ABOVE PRICES REFER TO WORK ON RECEIVERS OUT OF GUARANTEE.

British R. M. S. Standard Labor Charge Sheet

more than ever during 1936. With 15,000 members (5000 more than a year ago) now on the rolls, the regular monthly mailings will be continued with valuable service data, new service selling helps, stationery, etc.

With the help of R. M. S. and the other service organizations and with improved general business, the wide-awake radio serviceman established in the community as a technician and merchant will have a "banner year" in 1936.

PHILCO SERVICEMAN

VOL. 5. NOVEMBER, 1935

RADIO MANUFACTURERS SERVICE NEWS

THE PHILCO RADIO & TELEVISION CORPORATION OF GREAT BRITAIN, LTD.
FETTERIDGE, GREENFORD, MIDDLESEX

MODEL 335 INTERFAXE TRANSFORMER

British PHILCO Serviceman

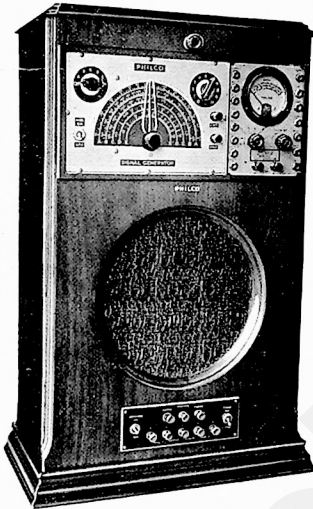
The efforts of R. M. S. to place the radio service industry on a fair and profitable basis are clearly attested by the large number of servicemen-members throughout the British Isles. The same efforts which have been and are still being exerted in the United States to help the serviceman are being carried on in Great Britain.

Always . . .

REPLACE A COMPLETE SET OF TUBES INSTEAD OF JUST ONE OR TWO

Using the 088 Signal Generator in the 059 Bench Tester

THE thousands of servicemen who have purchased the PHILCO Bench Tester Model 059 will be interested in the illustration on this page showing the 059 converted for use with the Model 088 Signal Generator in place of the I. F. and broadcast signal generator originally used in the 059. This new job consists of the brass plate 088 All-Wave Signal Generator and the brass-plate Model 025 Circuit Tester. This equipment is the same as that furnished in the Model 099 Tester.



Many servicemen may wish to take the old test panel out of the 059 Bench Tester and place it in a carrying case for portable use. They can then obtain the 088 and the 025 for mounting in the 059 cabinet. Your PHILCO distributor's service department will be glad to answer any questions which may arise with regard to changing over equipment in this manner.

Special Price on New Test Combination

FOR those who want simpler equipment than the PHILCO Tester Model 099, there is a combination of PHILCO test units which will give the serviceman excellent working tools. This is the PHILCO All-Wave Signal Generator Model 088, the PHILCO Shadow Output Meter Model 012 and the attractive wood carrying case for the Model 099. These items give the serviceman all of the necessary equipment for aligning receivers. See your PHILCO distributor for a special and attractive price on this combination.

COMPLETE TUBE RENEWAL MEANS INCREASED DOLLAR VOLUME PER CALL

MANY servicemen are increasing their profits every day by selling customers a complete new set of PHILCO tubes along with the R. M. S. tune-up. When you have a service job on a radio set which has been in operation over one year, it is usually advisable to replace the complete set of tubes. If this is not done, sooner or later one or more of the old tubes will fail, and this will mean that the customer must pay for another service call.

You might think that you will make less money through the single call, but such is not the case. You will get increased dollar business on the call. Your reputation as a serviceman will likewise be assured when your customers realize that they do not have to call you in a few weeks after you have made the first service call. There are thousands of radio sets in operation today which are not performing as they should simply because the tubes are worn out and the adjustments are incorrect. A complete tube replacement and the complete R. M. S. tune-up will afford the customer better performance from his radio than he obtained when the set was new.

The new PHILCO tube wall chart has been designed to assist you in selling a complete set of tubes to your customers. We know that you will profit greatly by the use of a combined complete tube renewal and the R. M. S. tune-up, and your customers will be more pleased than ever with the service which you have rendered.

Remember that the public demands PHILCO four to one. Give your customers what they want—PHILCO tube quality. Your honesty as a serviceman will need no further endorsement.



BOAKE CARTER'S
R. M. S.
Broadcasts



October 11, 1935

"And to be sure one's set is always on the job, day or night, get hold of a Radio Manufacturers Serviceman, an expert trained by PHILCO, from any PHILCO dealer, and see that every four or six months he gives your radio the once-over. His charges are standard, reasonable and his work about the best that comes. Then your set will always serve you when you want it to."

October 18, 1935

"... and if your radio set is kept in the proper condition all the time, you can follow the happenings of these fast days as they happen the world over. And PHILCO-trained Radio Manufacturers Servicemen are the experts who can keep any kind of radio in tip-top condition. It's a service organization running from coast to coast. One simply has to call any PHILCO dealer and ask for an R. M. S. man—he'll see that your radio gives the best that's in it, and his charges are reasonable and standard ones. And the man who sees his set is always taken care of is the man who hears the most and hears it the clearest."

Remember These Points

1. Your customer actually saves money when he replaces a complete set of tubes, because he avoids the cost of additional service calls.
2. You make more money when you sell a complete new set of PHILCO tubes together with the R. M. S. tune-up.
3. There are 60,000,000 tubes in use in PHILCO sets alone.
4. You, as an R. M. S. member, can buy PHILCO tubes in any quantity at a special R. M. S. discount.
5. The new PHILCO tube wall chart has been designed to help you sell a complete set of PHILCO tubes. Be sure to display it prominently.

Bottom Shields Often Effective

IN some cases of interference, it may be found necessary to use a metal shield on the under side of the chassis. Under ordinary circumstances, such shielding is not required, since all of the wires and coils which might have a tendency to pick up interference are already shielded sufficiently.

When a set is being operated in the vicinity of a powerful local station and the use of broadcast frequency wave traps in the antenna circuit does not eliminate pick-up of the unwanted station, the shield will very often solve the problem. Such a shield can be made from a solid sheet of metal, usually galvanized iron. The best ground connection between the shield and the chassis is an actual connection with bolts and nuts between lugs which have been cut into the shield and holes which have been drilled into the corners of the chassis.

It sometimes happens that it is necessary to operate a radio set in the field of a strong source of man-made static interference. For example, one case which was reported was that of a new model PHILCO, which was being operated approximately 400 feet away from a building that housed a tele-type machine. The aerial was placed at various angles and locations, but due to the fact that the interference field was so intense, it was impossible to eliminate all of the noise, although the use of the PHILCO All-Wave Aerial reduced this noise considerably. By placing a metal shield under the chassis and grounding the shield to the chassis, practically all of the residual noise was eliminated.

Radio sets without shields on the under side are much more serviceable than those with the shield. In those rare cases, however, where excessive interference is present, a metal shield, such as that described above, will be effective.

Let Them Know —

THE average person who has not purchased new tubes for two or three years thinks in terms of fifteen dollars for a complete set of tubes. The average list price of a complete new set of PHILCO tubes is \$4.20. Be sure to let your customer know how much added performance they can now buy for so little money.

Black Bakelite Quality Stands Test

A NUMBER of years ago, some PHILCO sets experienced considerable difficulty with a certain type of black bakelite condenser which was used in the Models 70 and 90. In this particular condenser a fine solid wire ran between the terminal lugs of the condenser and the ends of the internal condenser unit, the wire being soldered to the end of the tin foil. One particular type, a .01 mfd. capacity, which was used in the audio coupling circuit, gave particular annoyance because it made sets intermittent. As soon as this trouble was discovered in the factory, the solid-wire type of condensers were eliminated and a stranded wire was substituted. In the stranded wire it was possible to obtain contacts to the ends of the tin foil at seven points instead of at one point. Since this change was made, the failures on PHILCO black bakelite condensers have been fewer than those of any other type of similarly rated condenser on the market.

Beat Frequency Oscillator Parts Available

IN THE July issue of the PHILCO SERVICEMAN we published an article on a beat frequency oscillator for speaker testing. The interest on the part of servicemen and dealers in this tester has been so great that PHILCO has decided to make available a complete kit of all the necessary parts to construct the beat frequency oscillator.

This kit comprises a steel sub-base specially designed for the purpose and all of the necessary condensers, resistors, chokes, sockets, transformers, etc. Complete wiring instructions are furnished with the kit. The entire group of parts sells at a very low price. You can obtain these parts now from your PHILCO distributor's parts store.

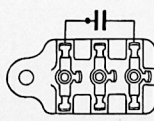
New Philco Black Bakelite Condenser Types Designated

MOST servicemen have noticed the new method of designating the part numbers of the black bakelite condensers in new PHILCO models. In the past, there were many different part numbers with a letter following the number to designate different capacities, combinations of capacity and different lug arrangements. The reason for the various lug arrangements was to facilitate wiring in production. In order to standardize and thus eliminate a large number of these special condensers, PHILCO has devised a new part number designation for the black bakelite condensers.

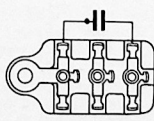
Shown on this page are four different arrangements. Reading from left to right, the type SU indicates single capacity ungrounded. The type SG indicates single capacity with the mounting lug grounded. The type DU indicates twin capacity ungrounded, and the type DG indicates twin capacity with the mounting lug grounded. All condensers of a given capacity have the same part number, but the letters following the number designate whether or not the condenser is a single unit ungrounded, single unit grounded, etc. For example, whenever you see a black bakelite condenser Part No. 6287, you will know that it is .15 mfd. capacity, and the letters following the number will tell you the arrangement of the condenser. In addition to these letters, some condensers have the letter "O" in front of "S." For example, 3615-OSG. This letter "O" designates a special high-melting-point wax impregnation, and this condenser is designed for operation under more severe conditions of heat than the ordinary condenser without the letter "O" following the numerals.

The listing below is the complete group of all new type black bakelite condensers which have been used to date:

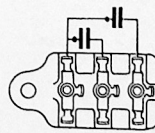
Part Number	Capacity	Part Number	Capacity
3615	.05	7653	.025
3793	.015	7762	.001
3903	.01	8035	.00011
4989	.09	8174	.0007
6287	.15	8206	.1
7296	.002	8317	.00025
7442	.005	8318	.03
7625	.006	8320	.003



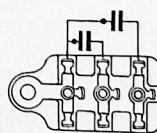
TYPE SU



TYPE SG



TYPE DU



TYPE DG

New Black Bakelite Numbering System

Questions and Answers

1. Q. What is the cause of audio oscillation in the Model 610?

A. This condition is usually caused by the plate wire from the output tube being arranged near the grid wire of the 75 detector and first audio tube. Capacity feedback results and produces an audio squeal or oscillation. The condition can be corrected by rearranging the plate wire away from the grid wire, usually running the former nearer the metal of the chassis.

2. Q. Can the PHILCO Crystal Signal Generator Model 091 be used for checking frequency of the 088?

A. Yes. The 091 has a fundamental frequency of 3600 K.C. The signal from the 088 and that from the 091 can both be picked up in a radio set and the 088 compensating condensers adjusted until both signals are heard simultaneously. When the 088 is properly adjusted, there will be no signal difference between the 088 and the 091 at 3600 K.C. The harmonics of the 091 appear at 7200 K.C. (7.2 megacycles), 10,800 K.C. (10.8 megacycles) and 18,000 K.C.

(18 megacycles). These can likewise be used for checking the 088.

3. Q. Is there any handy tool available for removing the coil shield in the current PHILCO models?

A. Yes. PHILCO has available a special tool which was developed for use in the PHILCO factory. It is known as Part No. 45-2146 and sells at a list price of \$6.65. The shield can removing device is somewhat similar to a special wrench. The cans are removed simply by applying the tool to the ends of the springs which hold the cans in position. A slight turn releases the spring tension and permits removal of the can.

4. Q. What is the cause of apparent speaker rattle in the Model 116?

A. When this model is operated at a volume level in excess of its rated 15-watt output, a slight rattle may be noticed if the tone control is set for "deep." This rattle, which sounds something like a speaker cone rattle, is actually an amplifier condition which takes place when the amplifier is operating above its rated output. The high-fidelity speaker reproduces this rattle more in comparison with an ordinary speaker since the distortion condition takes place at the higher audio frequencies. There is a tendency to increase the volume-control setting when operating with a tone-control set

for minimum highs. When demonstrating the Model 116, care should be exercised to see that the set is not played at a high overload volume level so as to produce this rattle.

A Pleased Customer

THERE is a certain amount of satisfaction for the serviceman from every job well done. Quality workmanship, quality parts and courtesy will always be reflected in a better satisfied customer. A letter which went to Boake Carter recently from a customer in Oklahoma City expresses this feeling so well that we are reproducing it below.

"Recently my radio—not a PHILCO, although my next one shall be—needed a thorough overhauling for a number of minor and major troubles. So, remembering your advice, I sent for a PHILCO repairman. I received just the prompt, courteous service you have said we would. I felt that my radio had been through a clinic. I was given a diagnosis of the trouble, an estimate of the cost and advised that the trouble could be corrected and that there was no present necessity for discarding the instrument. I thought it rather fine that no undue pressure was exerted to sell me a PHILCO at this particular time.

"The work was very satisfactory, and the company has a pleased customer and eventually a purchaser of a PHILCO."

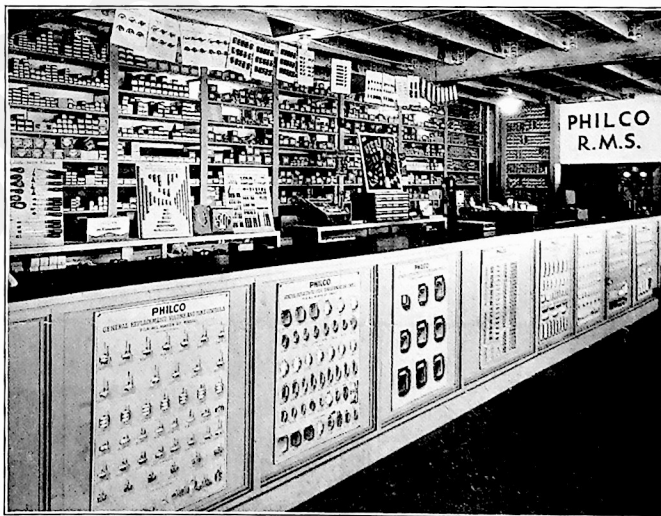
PROFIT INSURANCE

BEFORE DELIVERY

1. Check chassis.
 - a. Make secure tubes and tube shields.
 - b. Inspect pilot lamp.
 - c. Check shadow tuning.
 - d. Place knobs on shafts.
 - e. Check general performance on broadcast and short wave.
2. Inspect and polish cabinet.

AFTER DELIVERY

1. Install PHILCO All-Wave Aerial.
2. Loosen chassis hold-down bolts.
3. Check general performance and tune in a foreign station for customer's benefit.
4. Instruct customer by demonstrating correct tuning of standard and foreign stations, adjustment of volume control and general operation.
5. Leave recommended radio program guide issued by the Radio Institute of the Audible Arts.



Parts Department, Harry Moll, Inc., PHILCO Distributors in Denver, Colo.

DEVLIN-DREW COMPANY

1302 Van Ness

Fresno, California