

PHILCO SERVICEMAN



RADIO • MANUFACTURERS • SERVICE • NEWS

AUGUST, 1941



EDITORIAL

Profession Insurance

Almost every time we pick up a newspaper or magazine we can read about some marvellous new medical discovery which prolongs life or relieves human suffering. Most of us today, particularly those of us with a scientific trend of mind, have no use for the old-fashioned pill doctor, but we have the most profound respect for the physician whose heart is in his work sufficiently to keep up with the times in a medical way. Certainly he is the one who is going to do us the most good when illness strikes.

New Ideas for Old

Yet there are endless cases of one-time good doctors who have become mediocre, or even quacks because they hadn't the ambition and energy to keep up with their profession. And the same applies to radio men. The radio profession is just like medicine — constantly changing — constantly improving, and constantly moving forward to new heights of applied knowledge. Through never-ending research, old ideas are being discarded for new ones. Old methods are being thrown out because new and superior ones have been found. Circuit theories, whether they be complicated circuits of the human body or the complicated circuits of modern radio, are ever-changing for the sake of improvement.

Moves Fast

A frequent excuse for the professional man who allows himself to fall back into mediocrity is that he is so busy he hasn't the time to devote to a study of new things. This is perfectly understandable, but as time goes on, he will have lost so many cases that the first thing he knows he won't have any practice left. It is only through constant study and reading that a serviceman can hope to keep up with a profession which changes and moves as fast as radio. The time which he takes for such study today is his guarantee of a continued profitable and enjoyable career next year and for the years to come.

New Tube Tester Eliminates Obsolescence Factor

Features Merchandising Appeal with Accurate Testing

Philco has just introduced a new tube tester which already promises to be the most popular and the fastest-selling tube tester and tube merchandiser on the market.

In line with Philco's policy of making all test equipment basic so that it does not become obsolete, the new Model 050 is the first quality tube tester to be introduced which is completely basic in design so that it will never be out of date.

Never Obsolete

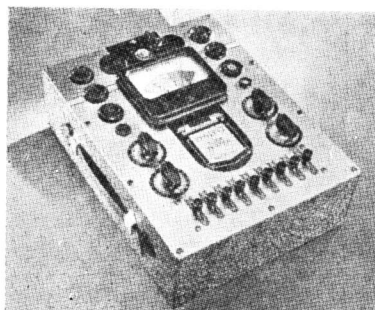
The test buttons or switches are so arranged that they can be connected to the terminals in the socket in any possible combination; thus the tester can be used on all types of tubes both present and future, regardless of the arrangement of the elements with respect to the socket terminals. Two blanks are provided in the tester panel for the addition of extra sockets should these ever be required in the future.

Simple Operation

The new tester is extremely simple in operation, and affords an excellent means of showing the customer the exact condition of the tube. The meter is calibrated in three sections of "POOR", "QUESTIONABLE", and "GOOD". A complete and handy chart is supplied with the tester to show the exact settings of the controls for each type tube now on the market, including the XXL, 1LE3 and 1LB4.

Low Price

Best of all, the price of the Model 050 Tube Tester is low—only \$44.50 net to the serviceman and dealer. The Model 050 is another in the long line of Philco engineering achievements. It is a tube tester which the dealer will use for years because it is entirely free from obsolescence.



Philco Tube Tester Model 050

IVORY CABINET TOUCH-UP SIMPLIFIED

Touching-up ivory lacquer enamel finishes on some of the small Philco radio table model cabinets can be accomplished readily by using Philco Ivory Lacquer Enamel, Philco Part No. 80557.

In the case of small mars or scratches the touch-up can be accomplished with a knife, a tooth pick or a small camel's hair brush. It is unnecessary that the damaged area be sanded, although it should be free from grit or dirt of any kind. The spot to be repaired should be filled in with a pointed object or a fine brush using the Ivory Lacquer full strength, and dipping the touch-up instrument in thinner, Philco Part No. 80134, to prevent its disturbing the material in the damaged area while smoothing out the small patch. The repair should be allowed to dry for five hours before packing the cabinet.

If a scratch or a mar is particularly large or long and in a prominent position, the touch-up should be carried out with the use of a spray gun. Carefully sand the affected area with No. 400 waterproof sandpaper moistened with water until the edges of the damaged cabinet are very thin and the spot feather edged. Do not make the area larger than necessary. Sand with a light rotary motion on flat surfaces and with a straight sanding motion on edges or corners. Clean the sanded area and around it with a clean cloth dampened with lacquer thinner.

Apply one or two coats of Ivory Lacquer as required allowing about fifteen minutes between coats. When spraying, reduce the lacquer with thinner to the consistency of a thin syrup. In all cases of touch-up with a spray gun, low air pressure and a fine spray should be employed. In repairing a damaged area on the top or side of a cabinet, the whole surface should be coated with this touch-up lacquer so that there will be no color variation between different areas on the same surface. Dry for five hours before packing the cabinet.

PHILCO MICA CONDENSERS

The capacity value of new type Philco mica condensers bearing a part number prefixed by the number 60 and followed by a body of six numbers (60-000000), can be identified by the part number. The prefix number 60 before the body of six numbers classifies the condenser as being of the mica type. The capacity value is obtained by the part number as follows. At a later date, the standard R.M.A. colour code may be applied to determine the capacity value also.

First No. after 60 indicates the number of zeros following the two figures of the capacity value in mmfd.

Second No. after 60 indicates the first number of the capacity value in mmfd.

Third No. after 60 indicates the second number of the capacity value in mmfd.

Fourth, fifth and sixth numbers after 60 are indicative of factory construction codes not used in service.

Example—60-150457

This part number indicates the capacity of the condenser as being 500 mmfd.

Reading Value by Colour Code

First number of the capacity value is indicated by the colour at point "A" in sketch below.

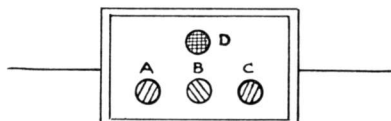
Second number of capacity value is indicated by the colour at point "B" in sketch below.

The number of zeros after the first two numbers of the capacity value is indicated by the "C" Colour.

Colour "D" is a factory construction code not used in service.

R.M.A. Colour Code

- | | |
|-----------|-----------|
| 1. Brown | 6. Blue |
| 2. Red | 7. Violet |
| 3. Orange | 8. Gray |
| 4. Yellow | 9. White |
| 5. Green | 0. Black |



PHILCO AUTO RADIO INSTALLATION GUIDE

Custom Built Panel Plates and Optional Aerials for All 1941 Cars

Use Philco Auto Radio Aerials for Higher Quality at Lower Cost

- Salt-spray-Life-tested plating
- High "Q" Lead-ins with "Push-in" Plugs
- Bayonet Adapters at no extra cost.
- Waterproof lead-in sections with model adapted for fender installations. (Duoflex)
- Anti-Rattle Construction

1941 CARS	Philco Control Kit	3 Way Mount. Aerial 91-0216	Duo Flex Aerial 91-0217	Streamlined 3 Section Cowl Aerial 91-0219	Streamlined 4 Section Cowl Aerial 91-0220
Buick	P411		X		
Cadillac	P412		X		
Chevrolet	P413	X	X		
Chrysler	P414		X	X	X
De Soto	P415		X	X	X
Dodge	P416		X	X	X
Ford	P417	X	X	X	X
Hudson	P418	X	X	X	X
Lincoln-Zephyr	P4112		X	X	X
Mercury	P417	X	X	X	X
Nash	P4113	X	X	X	X
Oldsmobile	P4114 (early '41)		X		
	P4114A (late '41)		X		
Plymouth	P4116A (Std. & DeLuxe)		X		
	P4116B (Spec. DeLuxe)		X		
	P4115	X	X	X	X
Packard	P4115A (clipper)	X	X	X	X
Pontiac	P4117	X	X		
Studebaker	P4118	X	X		

To install Control beneath instrument panels of all cars, use standard control mounting kit that is part of all Philco Auto Radio models 804, 805, 807, 808, 809.

Warranty Service Stations Advertised to Philco Family

The Philco Warranty Service Stations again come in for attention as a part of the extensive Philco organization which has been built up to merchandise radio and radio service.

The Philco Warranty Service organization represents the largest and most capable auto radio service setup in existence. The warranty service stations are a definite part of the big Philco picture. They are close to Philco distributors and to the factory, and are in a position to give the best of service and installation facilities on both the custom-built car manufacturer's models as well as the standard distributor models of Philco auto radio. Every Philco dealer regardless of whether he sells auto radios at the present time or not can utilize the services of the Philco Warranty Service Station to take care of installation and service requirements on auto radios.

New Instrument Panel Control Kit

Philco has just announced another new instrument panel control kit, to be used with installations of all 1941 Philco Auto Radio models (except the 810) in late 1941 model Oldsmobile cars having wood grained grilles.

The kit is known as P4114A Olds, and lists at \$2.50. Available through Philco distributors.

New Philco Tube Types

Two new Philco Tube Types have just been announced by Philco at attractive prices. These are the

1LB4E	\$3.10 list	\$1.66 dealer net
1LE3	3.10 list	1.66 dealer net
		(tax incl.)

Type 1LB4E is a power pentode with loktal base, 1.4 volt filament, for use as a class "A" amplifier in portable battery radios.

Type 1LE3 is a triode voltage amplifier with loktal base, 1.4 volt filament for use with portable battery radios.

Three Wire Transmission Line for New Philcophone

The new Philcophone comes equipped with fifty feet of special 3 wire transmission line.

Additional wire is available in fifty foot or 100 foot rolls.

Part No.	List Price
L3278 50 foot roll	\$3.00
L3283 100 foot roll	5.65

SERIOUS RADIO COMPLAINTS TRACED TO INFERIOR AERIALS

So much has been said about the importance of using genuine Philco Aerials with Philco Radios, that we know there will be keen interest in the comparison between a Philco Aerial engineered for a Philco Radio and a cheap imitation thrown together by a disinterested aerial manufacturer.

This particular test concerns the Philco farm radio aerial although similar contrasts can be found in the field of auto radio aerials and electric home set aerials. The Philco Farm Radio Aerial is not a high-priced, deluxe kit. It comprises the minimum material required for satisfactory reception under average conditions and is available to dealers at the low net price of \$1.44.

To save a few cents of this cost, a large dealer recently asked a manufacturer to "duplicate" the Philco Aerial at a lower price. Following are a few excerpts from the report of our Engineering Department covering a complete analysis of the contents of one of these kits.

"AERIAL WIRE—Three sizes smaller than the wire used in the Philco Farm Radio Aerial—began stretching in strain testing instrument at 30 pounds and broke at 55 pounds."

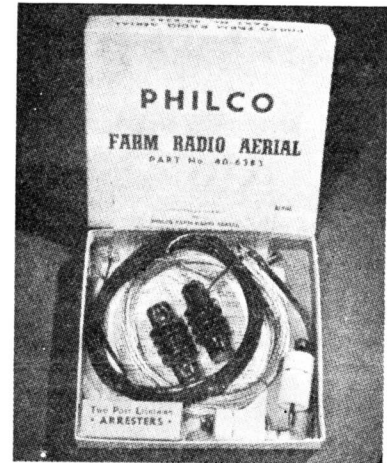
A pull of 35 to 50 pounds is often required to draw a 60 foot span of aerial wire into a horizontal position, which means that this inadequate material could hardly survive installation. Furthermore, contraction in cold weather causes a pull on aerial installations sometimes exceeding 100 pounds. In addition to having low tensile strength, the competitive wire, because of its high resistance to radio signal currents reduces the efficiency of the aerial installation to less than one half! . . . Imagine such a sacrifice in the performance of a fine radio receiver to save a few pennies worth of copper! (The tensile strength of the aerial wire in the Philco kit is 130 pounds.)

"LEAD-IN WIRE — 40 feet supplied with Philco Aerial—20 feet with competitive aerial."

The shorter length is totally inadequate for any farm radio installation. It would require placing the set on an upper floor and close to a window to make the wire reach to the aerial terminal.

"JOINTS—Aerial and lead-in wire in Philco kit connected and soldered together at factory. No connection between these wires in competitive kit."

The aerial and lead-in wires are already soldered together in the Philco aerial because of the difficulty in performing this operation during installation. There is no convenient way of heating a soldering iron on the average farm. If the aerial and lead-in wires



are left unsoldered, corrosion after a short period of time effectively disconnects them from each other, impairing reception and introducing noise similar to static when the imperfect connection is moved through swaying of the aerial.

"INSULATORS—Strain insulators supplied with the Philco Aerial are twice the size of those included in the competitive "copy". The use of porous coarse grain porcelain in strain insulators in the noncompetitive kit increases moisture and dirt absorption resulting in gradual elimination of insulating value. One of these insulators broke while being inserted in strain testing machine before any strain was applied. The other insulator from the competitive kit broke at one half the tension written into the specifications for the insulators used in the Philco Farm Radio Aerial."

Without going through the remainder of the laboratory report covering the comparison of the other components of the two aerial kits, we believe dealers can draw their own conclusions as to the fallacy of trying to substitute "loft price cutting" for Philco engineering. We believe that every Philco dealer for his own protection as well as that of his customer should adhere rigidly to the policy of selling a Philco Aerial with every Philco Radio. Substitutions in the absence of complete engineering specifications, leading ultimately to unsatisfactory results from the radio are reflections against the radio dealer as well as the manufacturer. We know from experience in handling complaints caused by the application of inferior, substitute aerials that the question of responsibility on the part of a disinterested aerial manufacturer is never taken into account by the consumer.

Correspondence From R. M. S. Members

We wish to acknowledge and thank the following R.M.S. members for their kind words of appreciation.

Mr. H. Robinson of Box 295 Regina, Sask. writes:

"For several years the writer has enjoyed the service of your regular issues of radio service bulletins and have found them very valuable in the course of my work. For this service I wish to thank you."

Mr. J. E. Koch of Montebello, P.Q. writes: "I am taking this opportunity to thank you for the many instruction sheets and the instructive materials I have received and hope to receive for years to come."

Mr. C. Audet of Sherbrooke, P.Q. writes: "I wish to thank you once again for the mailings that I am receiving from your Radio Manufacturers Service. It certainly is a help to the serviceman. I am always looking forward to them."

Hoping that you keep up the good work and wishing you the best of luck."

Mr. S. G. Culbertson of Weyburn, Sask., says: "We have been an R.M.S. member for a number of years and greatly appreciate the help given members through the Philco Serviceman."



O. BONSER, *Service Manager,*
Bowman Bros. Ltd.,
Saskatoon, Sask.

INTERCHANGEABLE TUBE TYPES

Tube Type	Use Philco	Tube Type	Use Philco	Tube Type	Use Philco
1	1V	6R7GT	6R7	57S	57E
1A4P	1A4E	6R7M	6R7	58S	58E
1A4T	1A4E	6R7MG	6R7G	71	71A
1B4P	1B4E	6SF5GT	6SF5	71B	71A
1B4T	1B4E	6SQ7G	6SQ7	75S	75
1B5	1B5/25S	6SQ7GT	6SQ7	77M	6J7E
1D5GP	1D5EG	6V6GT	6V6E	80M	83
1D5GT	1D5EG	6X5GT	6X5	81M	81
1E5GP	1E5EG	6Z3	1V	82V	82
1E5GT	1E5EG	6Z4	84	84M	6X5G
1G6G	1G6GT/G	7G7	1232E	84S	84
1KR1	1V	12Q7G	12Q7GT	85S	85
2A3H	2A3	12SQ7GT	12SQ7	86S	76
5W4G	5W4	13	80	88	83
5Z4G	5V4G	14Z3	12Z3	88M	6K7E
5Z4MG	5Z4	16	81	89S	89
6A4/LA	6A4E	16B	81	95	2A5E
6A7M	6A8E	22AC	24E	96	1V
6A8GT	6A8E	25A6GT	25A6E	98	84
6A8MG	6A8EG	25S	1B5/25S	288	83V
6AB6G	6N6G	25Z5MG	25Z6G	482A	71A
6B6G	6Q7G	27HM	56	585	50
6C5GT	6C5	27S	27	586	50
6C5MG	6C5G	30S	30	950	1F4E
6F5GT	6F5	33S	33E	951	1B4E
6F5M	6F5	35Z5G	35Z5GT/G	986	83
6F5MG	6F5G	36A	36E	AD	1V
6F6MG	6F6EG	37A	37	AF	82
6H6GT	6H6	38A	38E	AG	83
6H6MG	6H6G	39	39/44E	AX	01A
6J5GT	6J5	39A	39/44E	D½	81
6J5M	6J5	41M	6K6EG	DE1	27
6J7GT	6J7E	41S	41E	G	40
6J7M	6J7E	42S	42E	HZ50	12Z3
6J7MG	6J7EG	43MG	25A6E	KR5	6A4E
6K7GT	6K7E	44	39/44E	KR25	2A5E
6K7M	6K7E	45A	45	KR28	84
6K7MG	6K7EG	46S	46	LA	6A4E
6L7MG	6L7EG	47S	47E	P861	84
6N6MG	6N6G	51	35E	PZ	47E
6Q6G	6T7G	55S	55	RE1	80
6Q7GT	6Q7	56S	56	RE2	81
				SO2	50

The following types may be substituted where sufficient space exists for a slightly larger tube.

Tube Type	Use Philco	Tube Type	Use Philco	Tube Type	Use Philco
0Z4	0Z4G	6F6M	6F6EG	6N6	6N6G
5Y3	5Y3G	6J7	6J7EG	6Q6	6T7G
5Y4	5Y4G	6K5GT	6K5G	6S7	6S7EG
6A8	6A8EG	6K6GT	6K6EG	6V6	6V6EG
6B6	6Q7G	6K7	6K7EG	6Y6GT	6Y6G
6B8	6B8EG	6K8	6A8E	25A6	25A6EG
6F6	6F6EG	6L6	6L6EG	25AC5GT	25AC5G
6F6GT	6F6EG	6L7	6L7EG	25L6	25L6EG

PHILCO CORPORATION of Canada Limited

PARTS AND SERVICE DIVISION
TORONTO

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