

# PHILCO SERVICEMAN

• RADIO • MANUFACTURERS • SERVICE • NEWS •

JULY, 1933

## PHILCO and the SERVICEMAN

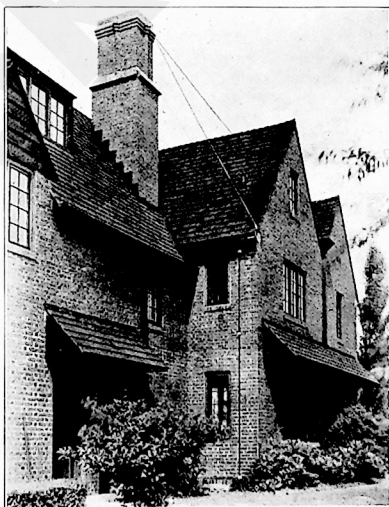
THE status of the radio serviceman has often been a point of discussion in the radio industry. Sometimes service and the serviceman have been regarded as necessary evils of the radio business and are treated as such. In other cases, where more consideration is given to the factors behind the scenes, service and the serviceman have been regarded as most important to the success of sales.

Philco has always been a friend of the serviceman and has tried in every way possible to assist him. Through its nationwide distributor organization Philco has made it possible for servicemen to obtain copies of service bulletins and parts catalogs. In the preparation of this literature Philco has always had in mind the problems of the serviceman and has tried to put out the information in such a form that it can be used to best advantage by the most servicemen.

Philco has designed special and unusual test equipment, which has been made available to the serviceman at extremely low prices. Philco has made it possible for servicemen to purchase genuine factory parts of the same quality as those in Philco Radio at prices lower than ordinarily paid for inferior material.

Philco builds its radio sets well. They are built to give lasting performance, and Philco looks toward the serviceman to keep these sets in such a condition that they will continue to give the customer satisfactory performance. One of the best advertisements that anyone in the radio industry can possibly have, from the manufacturer down to the dealer and the serviceman, is a properly operating radio set. When the radio is performing as it should, the customer is pleased with his purchase, and his friends, who may be possible prospects, are likewise pleased.

It is Philco's intention to continue its policy of active support and assistance to the serviceman. Not only is it the plan to continue as in the past, but to expand this policy just as much as possible. There are many plans under way whereby the serviceman who connects himself with Philco will find it a profitable and pleasant association. From time to time there will be new announcements from Philco of utmost interest to the serviceman. Right now is one of these times, and if you will turn to the inside pages you will read one of the most important service announcements in years.



*A typical suburban home installation of the Philco Three Purpose Antenna System. The lead-in transmission wire enters the house through the casing of a basement window. Several extra outlets are provided inside the house for connecting additional radio sets.*

# A NEW DEAL FOR THE

## The Greatest Service Offer

Read All of The

# RADIO MANUFACTURERS

A PHILCO SERVICE

PHILCO, appreciating the possibilities of proper organization and the importance of improving service conditions, announces the formation of a national organization to be called RADIO MANUFACTURERS SERVICE. There will be a local unit of this group organized by the Philco Distributor in your territory. We are looking for the 25,000 best servicemen in this country to join and work with us in building up a service organization which will accomplish the following purposes:

### GIVE YOU THE BACKING OF TREMENDOUS PHILCO MERCHANDISING AND ADVERTISING

The Philco Distributor in your territory is co-operating with us in organizing your local group. Only one qualification is necessary to enable you to become a member. You must be a capable serviceman, with sufficient experience to carry out the guarantee which Philco is entrusting to you. Your application must be made to the Philco distributor's service manager, who will forward it to the Philco Service Engineer at the factory for formal acceptance. You will receive from the Philco factory your signed certificate of membership, suitable for framing or for display in your shop. Philco Radio is the most powerful merchandising plan operating in your community. Your connection with this organization means a definite accepted trade name to radio owners everywhere.

We plan to give you service calls which come into Philco distributors at absolutely no cost to you. We plan to advertise RADIO MANUFACTURERS SERVICE nationally in many ways which will bring business into your shop. Certainly no other service organization ever offered such an opportunity to the serviceman.

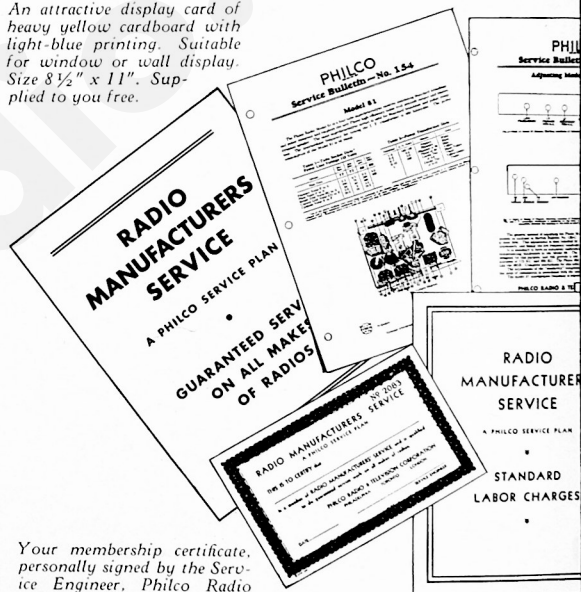
### ADVERTISING PROGRAM

As soon as sufficient members have been secured throughout the country, Philco will advertise RADIO MANUFACTURERS SERVICE organization to the public nationally and will co-operate through the distributor with your local group to secure service work in your community. Detailed plans of this advertising campaign will be worked out with the individual distributor. Where local advertising is run in newspapers it will be over members' names and will give the phone number of the Philco distributor, who will turn over calls received to the nearest member in the neighborhood.

### ASSIST YOU IN MEETING SERVICE PROBLEMS

The most serious problem confronting the serviceman is the unfair competition of "gypps" in the radio business. Hard times have forced many thousands of men to call themselves radio servicemen in spite of the fact that they have no training and little or no experience in this highly technical field. These men depend on cutting repair prices to secure business. Philco will help you earn a fair price for high-quality work well done. You will receive with your Membership Certificate a printed chart of Standard Radio Manu-

An attractive display card of heavy yellow cardboard with light-blue printing. Suitable for window or wall display. Size 8½" x 11". Supplied to you free.



Your membership certificate, personally signed by the Service Engineer, Philco Radio and Television Corporation.

A copy of the Standard Radio Manufacturers Service basis for service work, the customer's

Here Are Some of the It

facturers Service labor charges, which you are entitled to collect for the standard of work you have completed. This chart is to be shown to your service customers in explanation of your bill. RADIO MANUFACTURERS SERVICE members are entitled to collect the labor charge set up and established for members, plus the expense of the part used on the service job.

### PHILCO GUARANTEES THE PARTS

A serious result of poor workmanship has been the loss of public

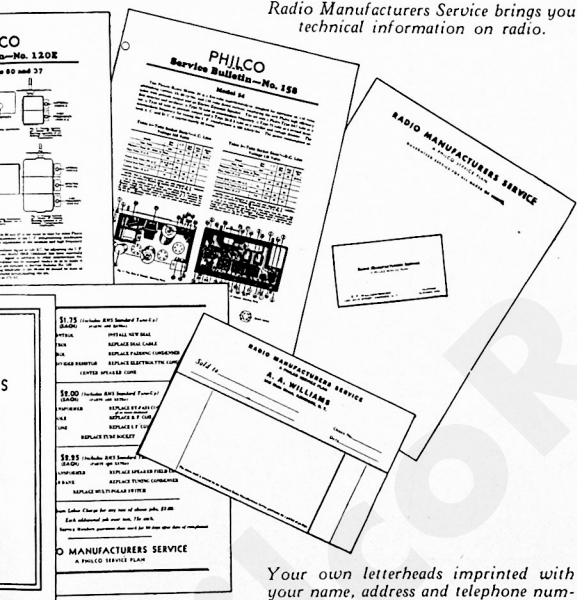
# E RADIO SERVICEMAN

Organization Ever Known

Details Now

## TURERS SERVICE

SERVICE PLAN



Radio Manufacturers Service brings you technical information on radio.

Your own letterheads imprinted with your name, address and telephone number. Also your billheads and business cards. Supplied to you at extremely low prices.

ard Labor Charges of the Service. A suggested price Something you can show ner if desired.

### ems Which You Receive

confidence in servicemen and organizations. You will be selected because of your ability as a serviceman. Philco will advertise that your work and the parts you use in servicing receivers carry a standard RADIO MANUFACTURERS SERVICE guarantee for ninety days after the job has been completed. This guarantee will be maintained on a co-operative basis. Philco parts are guaranteed for ninety days. We will require RADIO MANUFACTURERS SERVICE members to enforce the terms of this ninety-day warranty and supply the labor that will be required in those few cases where warranty

adjustments are necessary. Service work which is not satisfactorily completed and which is not remedied by the serviceman will result in loss of membership in RADIO MANUFACTURERS SERVICE. High-quality workmanship will be rewarded with additional work given out by the Philco distributors. Think of the advantages you are given through public advertising of "guaranteed service."

### MEMBERS OF RADIO MANUFACTURERS SERVICE RECEIVE COMPLETE TECHNICAL INFORMATION

You will receive from the Philco distributor a copy of the monthly RADIO MANUFACTURERS SERVICE NEWS—the PHILCO SERVICEMAN. You will receive bulletins on service work, giving as many helpful suggestions as possible which will assist you in working on radios of all types. You will receive complete technical information on tubes and service bulletins dealing with general service problems. When our present plans are completed all RADIO MANUFACTURERS SERVICE members will receive lessons dealing with radio servicing prepared by the Philco Engineering Department. You will receive instructions on cabinet repairing and touch-up, complete listing of Philco general replacement parts and all technical information released by Philco for the use of servicemen.

With your membership certificates you will receive an attractive 8½" x 11" sign for display in your window, advertising your membership in RADIO MANUFACTURERS SERVICE and your copy of "STANDARD RADIO MANUFACTURERS SERVICE LABOR CHARGES."

In addition to the national and local advertising program, hundreds of thousands of Philco owners are being told to call upon RADIO MANUFACTURERS SERVICE members for radio service.

In addition to being a source of technical help on service problems, RADIO MANUFACTURERS SERVICE is a merchandising organization set up to bring business to you and enable you to sell your services at a real profit.

### HOW TO BECOME A MEMBER OF RADIO MANUFACTURERS SERVICE

The Philco distributor in your territory has been supplied with Membership Applications. His service manager will explain in detail the requirements necessary for membership. Go at once to the Philco distributor and fill in your application form. If accepted, your membership certificate and the equipment described above will be forwarded promptly to the address on your application. And now, most important of all, we want to tell you that IT COSTS ABSOLUTELY NOTHING TO JOIN THE MOST SUCCESSFUL SERVICE ORGANIZATION EVER STARTED. There are no membership dues, no initiation fees and no costs connected with RADIO MANUFACTURERS SERVICE. Honestly, we feel that this is a new deal for the serviceman.

## AVERAGE CHARACTERISTICS—PHILCO TUBES

In last month's issue of the PHILCO SERVICEMAN we published layouts of all Philco Tubes. This month we give average characteristics of all Philco Tubes in the 6.3 volt series. The diagrams below illustrate the type of bulb used in all the different tubes listed. Next month we will publish average characteristics on additional tubes of the Philco line.

### 6.3 VOLT SERIES

Type	Use	Base	Bulb	Type of Cathode	RATING			Plate Volts	Grid Volts	Screen Volts	Plate Current (M.A.)	Screen Current (M.A.)	Mutual Conductance Micromhos	Plate Resistance (Ohms)	Amp. Factor	Ohms Load for Output	Undistorted Power Output (Milliwatts)	
					Fil. Amps.	Max. Plate Volts	Max. Screen Volts											
36	R.F.	5B	ST12C	Heater	0.3	275	90	90	-1.5	55	1.8	Not over	850	250,000	215	.....	.....	
						135	135	135	-1.5	67	2.8	1050	300,000	315	.....	.....		
						180	180	180	-3.0	90	3.5	1050	350,000	370	.....	.....		
36	Det.	5B	ST12C	Heater	0.3	275	90	250	-6	20/45	Plate current to be adjusted to 0.1 Ma.	800	11,500	9.2	17,500	30		
						135	135	135	-9	.....	4.1	925	10,000	9.2	14,000	80		
						180	180	180	-13.5	.....	4.3	900	10,000	9.2	20,000	175		
37	Det. Amp.	5A	ST12	Heater	0.3	275	90	250	-6	20/45	Plate current to be adjusted to 0.1 Ma.	800	11,500	9.2	17,500	30		
						135	135	135	-9	.....	4.1	925	10,000	9.2	14,000	80		
						180	180	180	-13.5	.....	4.3	900	10,000	9.2	20,000	175		
38	Power Amp.	5C	ST12C	Heater	0.3	180	180	125	-10	135	9.0	2.5	975	102,000	100	13,500	525	
						250	90	90	-3	90	4.4	1.3	960	375,000	360	.....	.....	
						135	135	135	-3	90	4.4	1.2	980	540,000	530	.....	.....	
39	R.F. Super Control	5C	ST12C	Heater	0.3	275	90	180	-3	90	4.5	1.2	1000	750,000	750	.....	.....	
						135	135	135	-3	90	4.5	1.2	1000	1,000,000	1000	.....	.....	
						180	180	180	-3	90	4.5	1.2	1000	1,000,000	1000	.....	.....	
41	Power Amp.	6C	ST12	Heater	0.4	200	200	125	-10	135	9.0	2.5	1400	150,000	210	10,000	650	
						167.5	167.5	167.5	-12.5	167.5	16.5	2.5	1700	120,000	205	10,000	1,250	
						180	180	180	-14	180	19.0	3.5	1800	120,000	215	10,000	1,500	
42	Power Amp.	6C	ST16	Heater	0.65	250	250	250	-16.5	250	34	7.5	2200	100,000	220	9,000	3,000	
						135	135	135	-3	90	6.0	.....	1010	150,000	152	.....	.....	
						180	180	180	-3	90	6.25	.....	1030	250,000	257	.....	.....	
44	R.F. Super Control	5C	ST12C	Heater	0.3	275	90	250	-3	90	6.0	.....	1040	410,000	426	.....	.....	
						135	135	135	-3	90	6.5	.....	1050	600,000	630	.....	.....	
						180	180	180	-3	90	6.5	.....	1050	600,000	630	.....	.....	
69	Det.	6B	S12	Heater	0.3	275	.....	180	-3	90	4.5	.....	1450	20,700	30	.....	.....	
						135	.....	135	-2	.....	5.0	.....	1100	91,000	100	.....	.....	
						180	.....	180	-3	100	5.5	.....	1450	9,500	13.8	.....	.....	
75	Det. Amp.	6A	ST12C	Heater	0.3	250	100	250	-2	.....	.....	.....	1250	1,500,000	1500	.....	.....	
						135	100	135	-3	100	2.3	6	.....	.....	.....	.....	.....	
						180	100	180	-6	100	.....	.....	.....	.....	.....	.....	.....	
77	R.F. Super Control	6A	ST12C	Heater	0.3	250	100	250	-6	100	Plate current to be adjusted to 0.1 Ma.	1100	1,000,000	1100	.....	.....		
						135	100	135	-3	75	4	1450	800,000	1160	.....	.....		
						180	100	180	-3	125	10.5	1650	600,000	990	.....	.....		
78	R.F. Super Control	6A	ST12C	Heater	0.3	250	100	180	-3	75	4	.....	1100	1,000,000	1100	.....	.....	
						135	100	135	-3	125	10.5	.....	1100	1,000,000	1100	.....	.....	
						180	100	180	-3	125	10.5	.....	1100	1,000,000	1100	.....	.....	
79	Power Amp.	6F	ST12C	Heater	0.6	180	.....	180	0	.....	7.5	.....	1100	7,500	8.3	20,000	200	
						135	.....	135	0	.....	44.0	.....	1570	3,000	4.7	7,000	300*	
						180	.....	180	0	.....	44.0	.....	1575	90,000	125	9,000	1,250**	
85	Det. Amp.	6D	ST12C	Heater	0.3	250	180	250	-20	.....	8.0	.....	1635	82,500	135	8,000	1,500**	
						135	180	135	-20	.....	8.0	.....	1635	82,500	135	8,000	1,500**	
						180	180	180	-20	.....	8.0	.....	1635	82,500	135	8,000	1,500**	
88	Power Amp.	6A	ST12C	Heater	0.4	180	180	180	0	.....	52.5	.....	1635	82,500	135	8,000	1,500**	
						135	180	135	0	.....	52.5	.....	1635	82,500	135	8,000	1,500**	
						180	180	180	0	.....	52.5	.....	1635	82,500	135	8,000	1,500**	
6A7	Det. Osc.	Small 7B	ST12C	Heater	0.3	250	100	250	G4	G3&5	.....	.....	.....	.....	.....	.....	.....	
						135	100	135	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
						180	100	180	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6B7	Duplex Diode Pentode	Small 7C	ST12C	Heater	0.3	250	125	100	-3	100	5.8	3	950	300,000	285	.....	.....	
						135	125	135	-3	75	3.4	1.0	840	1,000,000	840	.....	.....	
						180	125	180	-3	100	6.0	8	1000	800,000	800	.....	.....	

\*Triode connection. \*\*Pentode connection. †Two tubes with 40 volts applied signal. ‡Voltage on plate and anode grid. ††Cathode resistor for bias on G1=250 ohms. †††Tentative.

## Questions and Answers

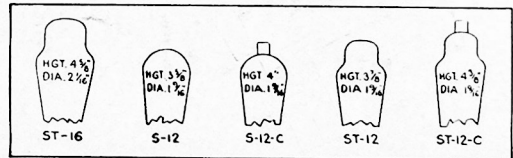
1.—Q. Has Philco provided an insulated screw driver for adjustment of the antenna and high-frequency condensers in some of the new models?

A. Yes. This screw driver is known as Philco part No. 27-7059. It is a fibre shank 7" long with a 1/4" steel blade riveted to the end. The diameter is approximately 7/16". The list price of this screw driver is 50c.

2.—Q. Can the 095 signal generator be equipped for a frequency of 460 K. C. to adjust certain of the later Philco Models?

A. Yes. It is recommended that the 450 K. C. adjustment on the side of the 095 be changed to 460 K. C. Any receivers which are now adjusted at 450 K. C. can be readjusted at any desired time to 460 K. C. without any ill effects. It should be remembered, however, that if one of the I. F. compensating condensers is readjusted at 460 K. C., all of the I. F.'s should be readjusted at the same point. The 460 calibration of the oscillator can be obtained by setting the dial of an accurately calibrated receiver to 920 K. C. and connecting the output of the signal generator to the radio set. The compensating condenser on the side of the 095 is then turned to the left until the maximum signal is heard in the radio set. The accuracy of this calibration can be checked by tuning the radio to 1380 K. C. and again listening for the signal generator note. In the first case the second harmonic of 460 is being received and in the second case the third harmonic is heard at 1380 K. C.

3.—Q. Is there any way other than that mentioned in the June issue of the PHILCO SERVICEMAN to strengthen the oscillator in the Models 71 and 91 between 800 K. C. and 1500 K. C.?



Bulb illustrations—HGT. designates maximum height of tube when seated in socket.

A. In the majority of cases the suggestions as mentioned in the June PHILCO SERVICEMAN will take care of any difficulty in this respect. In some instances it may be necessary to readjust the intermediate frequency to a lower value. For example, in the case of the 91 the 260 K. C. should be readjusted to 240 K. C. The strength of oscillation is thus increased and normal operation of the set is again restored.

4.—Q. At what points on the dial of the Models 57-C and 54-C can police reception be heard?

A. With the wave change switch in the police position, State police broadcasting stations will be heard between 55 and 58 on the dial. Municipal police broadcasting stations will be heard between 60 and 65 (1700 K. C.) and between 95 and 105 (2400 K. C.). Airplane and airport stations will be heard between 130 and 150 on the dial.

## JAMES S. REMICK COMPANY

909 Twelfth Street

Sacramento, Cal.

Printed in U. S. A.

CLIFFORD S. BOWMAN, Service Manager