

# PHILCO

REG. U. S. PAT. OFF.

## Service Bulletin—No. 172-A

### Radio-Phonograph Model 503

PHILCO MODEL 503 is a radio-phonograph using the same radio receiver chassis as the Model 18 superheterodyne.

Except for the additional wiring of the phonograph, the circuits are the same as those of Model 18. The audio system of the radio chassis takes care of the amplification of the pick-up currents.

The power consumption of Model 503, with motor running, is 140 watts.

Complete schematic wiring diagram of Model 503 is given in Fig. 1 of this Bulletin.

Refer to Service Bulletin No. 172 (Model 18) for data on the radio chassis, including the adjustment of the compensating condensers. Replacement parts for the radio receiver and for the speaker unit are included in Bulletin No. 172. The additional *phonograph* parts are:

#### These Prices are Effective September 15, 1933

No. on Fig. 1	Description	Part No.	List Price
⑥⑥	Phonograph Motor (115-volt, 60-cycle) .....	6336	\$27.00
	Phonograph Motor (115-volt, 50-cycle) .....	6338	27.00
	Phonograph Motor (115-volt, 40-cycle) .....	6339	31.80
⑥⑦	Automatic-Stop Switch (Motor) .....	6345	3.30
⑥⑧	Phonograph-Radio Switch .....	42-1053	
⑥⑨	Pick-up Unit (only) .....	35-2004	
⑦①	Pick-up Bucking Coil .....	32-1293	
	Tone Arm and Bucking Coil Assembly .....	35-2003	
⑦②	Resistor (3,300 ohms) (Orange-Orange-Red) ...	7238	.24
⑦③	By-pass Condenser (.05 Mfd.) .....	3615-AX	.24
	Phonograph-Radio Switch Indicator .....	4277	.02
	Phonograph-Radio Switch Cover .....	27-7285	
	Phonograph-Radio Switch Plate .....	6444	.10
	Motor Board .....	32516	
	Motor Board Mounting Screw .....	W-461	.01
	Motor Board Mounting Washer .....	W-464	1.44 per C.
	Motor Board Mounting Washer .....	W-410	.48 per C.
	Motor Board Mounting Nut .....	W-149	.48 per C.
	Motor Board <i>Rubber</i> Washer .....	4074	.06
	Motor Mounting Screw .....	W-694	1.20 per C.
	Motor Mounting Washer .....	W-410	.48 per C.
	Motor Mounting Nut .....	W-139	.48 per C.
	Turntable .....	6344	3.00
	Pick-up Mounting Screw .....	W-695	.24 per C.
	Pick-up Mounting Washer .....	W-410	.48 per C.
	Pick-up Mounting Nut .....	W-696	.30 per C.
	Pick-up Needle Screw .....	4108	.17
	Speed Change Plate .....	6347	.10
	Speed Change Plate Pin.....	W-976	.06 per C.
	Cord-Connector Plug .....	4091	.30
	Needle Cup .....	4101	.19
	Needle Box .....	4102	.36

# Radio-Phonograph Model 503

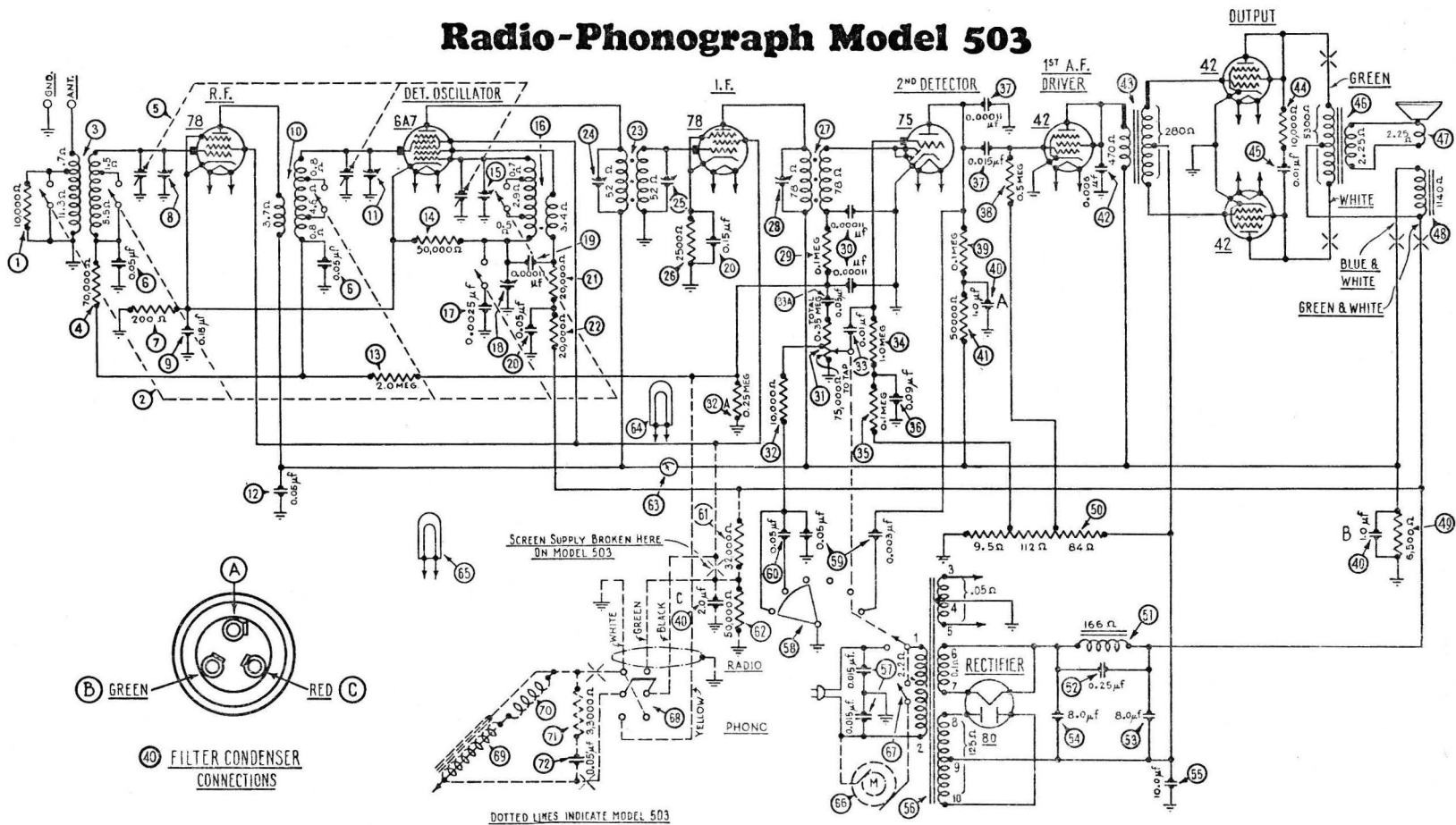


Fig. 1—Schematic Wiring Diagram. Numbers on this figure from ① to ⑥⑤, inclusive, are the same as in Fig. 3, Service Bulletin No. 172.

NOTE: Primary and secondary winding values of ④⑥ Output Transformer, and value of ④⑦ Voice Coil are given in impedance at 200 cycles, 30 volts. The D. C. resistance of the primary winding is 350 ohms; of the secondary, .09 ohm. The D. C. resistance of ④⑦ is 1.11 ohms.

NOTE: ⑦① and ⑦② form the Scratch Filter, Part No. 85-5001.

The electric motor of Model 503 is of the self-starting, synchronous type, depending on the power line frequency (cycles) for its correct speed. If the motor should develop trouble, do not attempt to repair it. Replace it, and communicate with your Distributor with regard to the faulty one. The motor should be lubricated at least once every six months. To do this, take off the turntable and put a few drops of a good grade of light machine oil in the oil-hole in the motor top-plate.

The pick-up is of the high impedance type. The

impedance of the pick-up is approximately 2500 ohms, measured at 1000 cycles. The D.C. resistance is 600 ohms. Adjustment of the pick-up is described in Service Bulletin No. 89, "Adjusting the Electric Pick-up." The D.C. resistance of the pick-up bucking coil is 230 ohms. If the bucking coil is disconnected, be sure it is re-connected correctly. The direction of current flow is very important.

The tone arm must be free to rotate upon its axis at all times. Damage to the records will result if it is not.

The speaker unit is Type H-13.

**PHILCO RADIO & TELEVISION CORPORATION**

Service Department

October, 1938  
Printed in U. S. A.