



# Radio Service Bulletin—No. 46

## Models 111 and 111-A Receivers

Model 111 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines  
 Model 111-A Receivers are for operation on 100-130 volt, 25-60 cycle AC lines

Table 1—Tube Socket Readings Taken with AC Set Tester AC Line—115 volts

Tube		Filament Volts	Plate Volts	Screen Grid Volts*	Control Grid Volts	Cathode Volts	Plate Milli-Amperes	Screen-Grid Milli-Amperes †
Type	Circuit							
24	1st R. F.	2.1	190	60	.2	5	1.7	1.75
27	Osc.	2.1	45	..	.7	7	1.6	....
24	1st Det.	2.1	180	62	4.6	8	.5†	.15
24	1st I. F.	2.1	185	65	..	5	1.5	1.7
24	2nd I. F.	2.1	190	82	2.2	5	3	1.85
27	Det. Rect.	2.2	..	..	.4	.5	....	....
27	Det. Amp.	2.2	35	..	.4	5	.20‡	....
27	1st A. F.	2.1	95	..	1.2	5	4.	....
45	2nd A. F.	2.2	255	..	50	..	32.5	....
45	2nd A. F.	2.2	255	..	50	..	32.5	....
80	Rect.	4.9	..	..	..	..	50/Plate	....

\*Read with C 100 Scale.  
 †Read with 20 Mil. Scale.  
 ‡Read with 2 Mil. Scale.

Note—Volume Control Off; Station Selector turned to Low Frequency End; Range Switch set in "Normal" Position.

Table 2—Power Transformer Voltages

Terminals	A.C. Volts	
1—2		Primary
3		Center Tap 80 Tube
4		Center Tap 45 Tubes
5—6	2.67	Heaters for 24 and 27 Tubes
7—8	2.68	Filaments for 45 Tubes
9—12	750.	Plates 80 Tube
10—11	5.0	Filament 80 Tube
Rubber Covered Lead		Center Tap for 24 and 27 Tubes

Table 3—Condenser Data  
 (Other Than Filter Condenser)

No. on Figs. 3 and 4	Capacity
6	.05
10 11	.05 and 250 Ohm Resistor
17	.25 (two sections)
19 23 27 33 38	.00011
21	.0007
28	.05
29	.05 and 250 Ohm Resistor
35	.00005
40	.5
42	.00025
43	.015
45	.05
61	.015 (two sections)
67	.05

Table 4—Resistor Data

No. on Figs. 3 and 4	Resistance	Color
1	10,000	Black
8 39 41 66 68	100,000	Silver Gray—Yellow Tip
16	50,000	Orange
18	13,000	Belgium Blue
20	1,000	Brown Body—Black Tip—Red Dot
34	500,000	Battleship Gray
44	500,000	Battleship Gray
46	250,000	White
48—64	70,000	Jade Green
51—52	25,000	Auto Brown—Yellow Tip
57	10,000	Long Tubular
58	70	Flat Wire Wound (two sections)
59	800	Short Tubular

Model 111 Condenser Block Part No. 3754    Model 111-A Condenser Block Part No. 3755

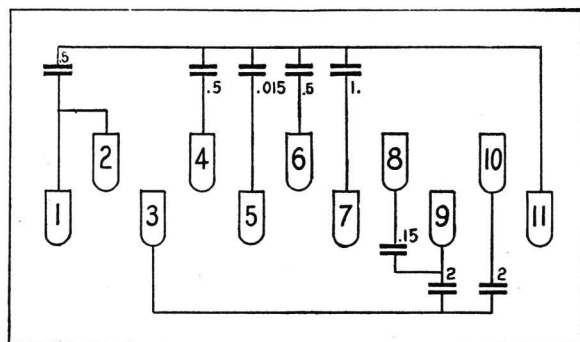


Fig. 1

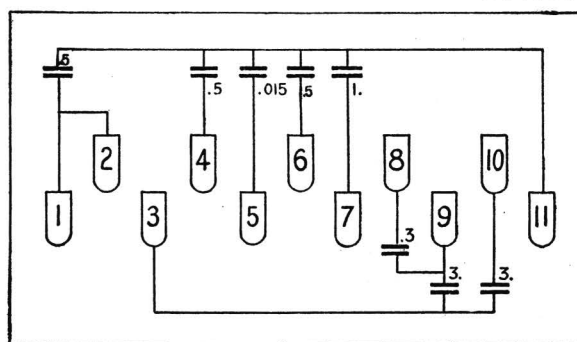


Fig. 2

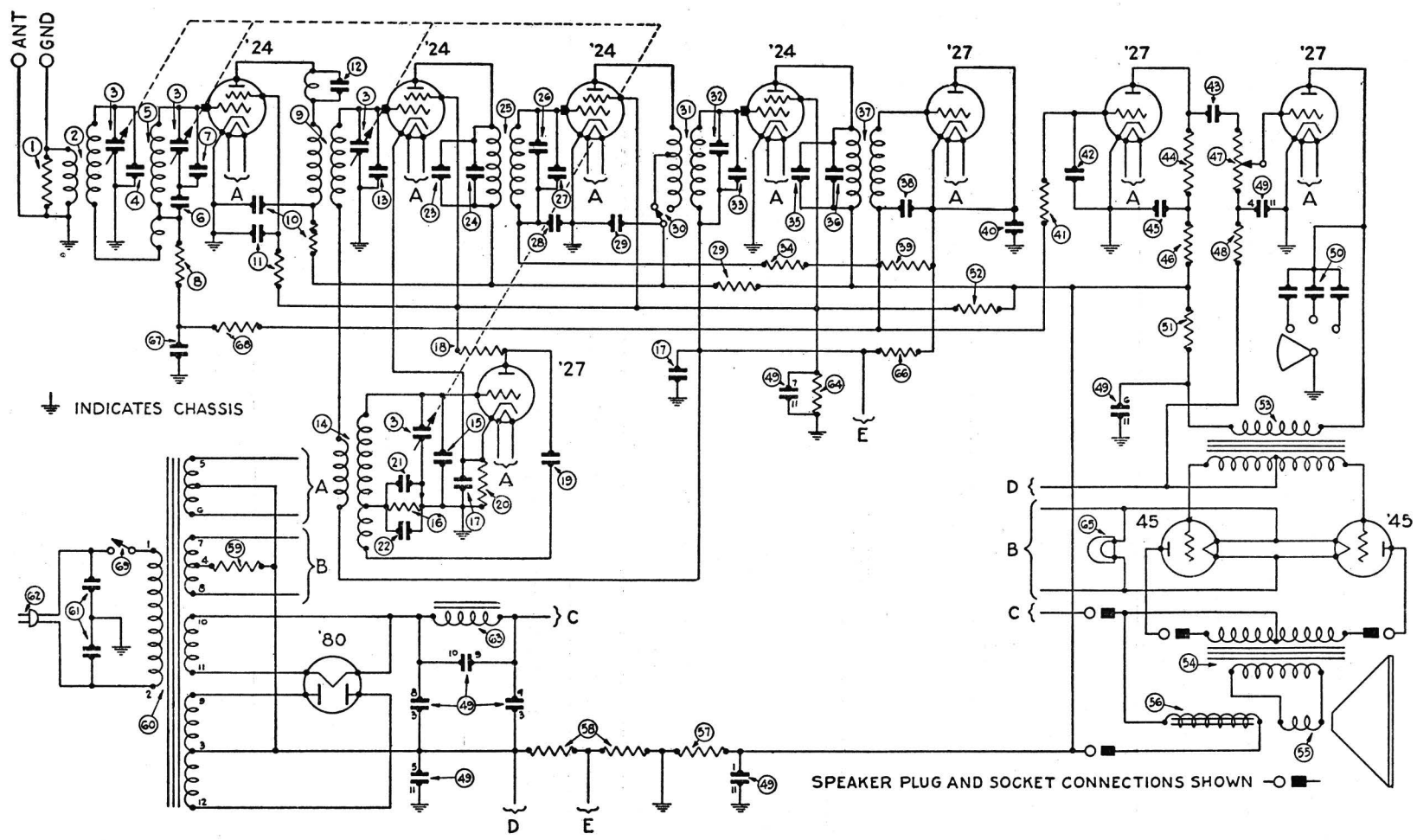


Fig. 3

NOTE: The connection shown between Condenser No. 7 and Condenser No. 6 should also be connected to ground.

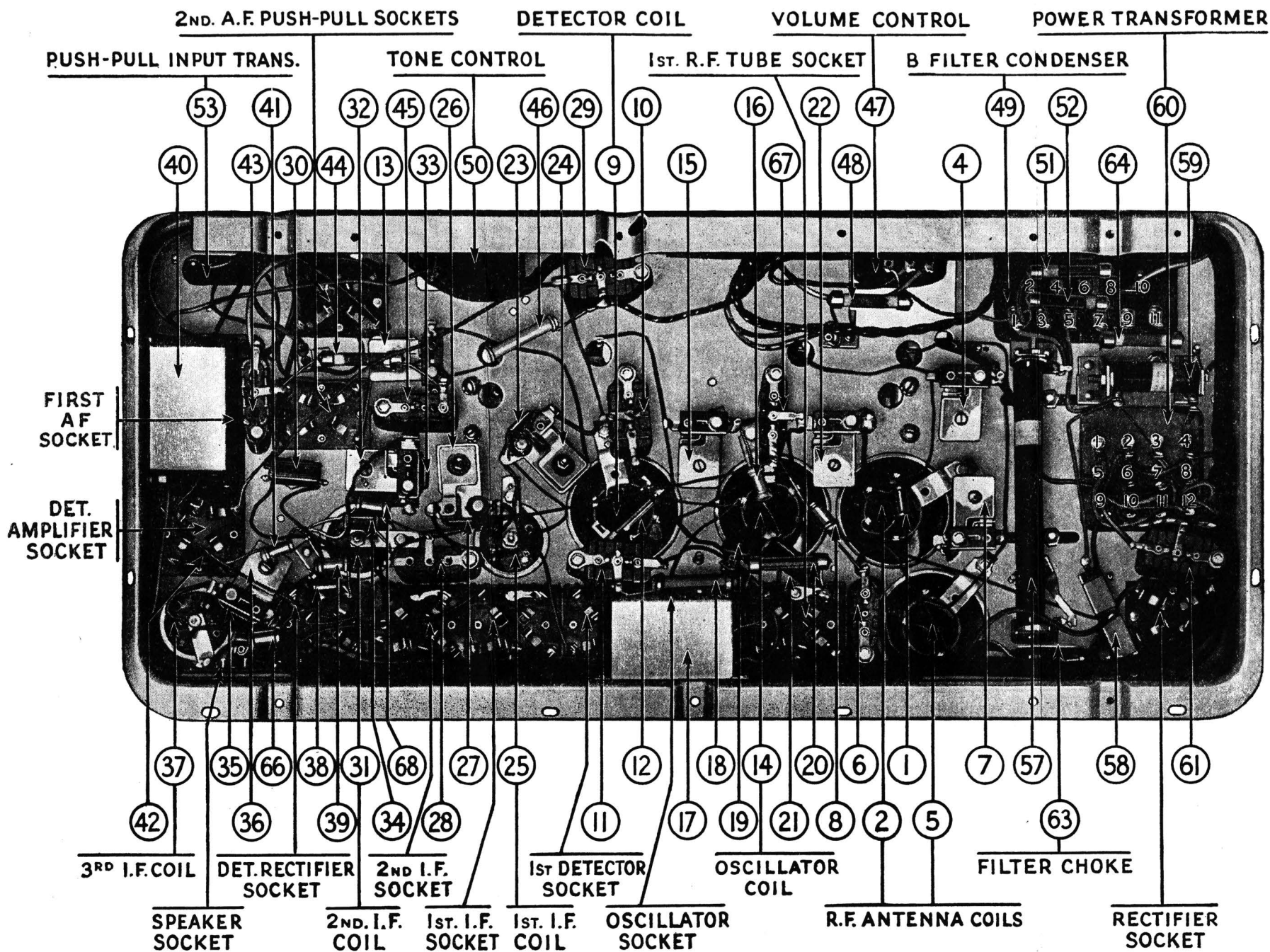


Fig. 4



## ADJUSTMENT OF MODELS 111 AND 111-A

These Receivers are accurately adjusted at the Factory prior to their shipment. Under no circumstances are the adjusting condensers to be changed in the field. This alignment requires special oscillator equipment, which all Philco Distributors have. If for any reason the Receiver needs adjustment it must be returned to the Distributor's Service Department.

## RANGE SWITCH

The Range Switch, No. ③⑩ in Fig. 3, is placed in the NORMAL position when the Receiver is shipped. This gives great distance range and is the setting which will be found most satisfactory in practically all locations. In places far from broadcasting stations, however, the Range Switch may be changed to the MAXIMUM position. This will make the Receiver super-sensitive and will give extreme distance range. Do not use the Range Switch in the MAXIMUM position if there are one or more powerful broadcasting stations near you. In any location there will be less noise between stations with the Range Switch in the NORMAL position.

## REPLACEMENT PARTS

No. on Figs. 3 and 4	Description	Part No.	No. on Figs. 3 and 4	Description	Part No.
①	Resistor—10,000 Ohms . . . . .	4412	④⑩	Condenser—.5 . . . . .	3583
②	1st R. F. Coil . . . . .	3884-J	④⑪	Resistor—100,000 Ohms . . . . .	4411
③	Tuning Condenser . . . . .	4000-D	④⑫	Condenser—.00025 . . . . .	3082
④	Compensating Condenser . . . . .	3772-A	④⑬	Condenser—.015 . . . . .	3793-B
⑤	2nd R. F. Coil . . . . .	3884-T	④⑭	Resistor—500,000 Ohms . . . . .	3769
⑥	Condenser—.05 . . . . .	3615-L	④⑮	Condenser—.05 . . . . .	3615-S
⑦	Compensating Condenser . . . . .	3968-A	④⑯	Resistor—250,000 Ohms . . . . .	3768
⑧	Resistor—100,000 Ohms . . . . .	4411	④⑰	Volume Control . . . . .	4093
⑨	1st Detector Coil . . . . .	3884-V	④⑱	Resistor—70,000 Ohms . . . . .	3542
⑩	Condenser—.05 and 250 Ohms . . . . .	3615-C	④⑲	B Filter Condenser Block—60 cycles . . . . .	3754
⑪	Condenser—.05 and 250 Ohms . . . . .	3615-C		B Filter Condenser Block—25 cycles . . . . .	3755
⑫	Coupling Condenser . . . . .	3892-A	⑤①	Tone Control . . . . .	4037-A
⑬	Compensating Condenser . . . . .	3968-A	⑤②	Resistor—25,000 Ohms . . . . .	3656
⑭	Oscillator Coil . . . . .	3884-U	⑤③	Resistor—25,000 Ohms . . . . .	3656
⑮	Compensating Condenser . . . . .	3968-A	⑤④	Push-pull Input Transformer . . . . .	3537
⑯	Resistor—50,000 Ohms . . . . .	4518	⑤⑤	Push-pull Output Transformer . . . . .	2848
⑰	Condenser—.25 double . . . . .	3557	⑤⑥	Voice Coil and Cone Assembly . . . . .	2794-B
⑱	Resistor—13,000 Ohms . . . . .	3766	⑤⑦	Field Coil . . . . .	2850
⑲	Condenser—.00011 . . . . .	4519	⑤⑧	B Resistor—10,000 Ohms . . . . .	4532
⑳	Resistor—1,000 Ohms . . . . .	4590	⑤⑨	C Resistor . . . . .	3764
㉑	Condenser—.0007 . . . . .	4520	⑤⑩	C Resistor—800 Ohms . . . . .	3763
㉒	Compensating Condenser . . . . .	3772-B	⑤⑪	Power Transformer—60 cycles . . . . .	4446
㉓	Condenser—.00011 . . . . .	4519	⑤⑫	Power Transformer—25 cycles . . . . .	4447
㉔	Compensating Condenser . . . . .	3772-C	⑤⑬	Condenser—.015 double . . . . .	3793-E
㉕	1st I. F. Coil . . . . .	4501-B	⑤⑭	A C Cord and Plug . . . . .	L-943-A
㉖	Compensating Condenser . . . . .	3772-C	⑤⑮	Filter Choke . . . . .	3422
㉗	Condenser—.0001 . . . . .	4519	⑤⑯	Resistor—70,000 Ohms . . . . .	3542
㉘	Condenser—.05 . . . . .	3615-J	⑤⑰	Pilot Lamp . . . . .	3463
㉙	Condenser—.05 and 250 Ohms . . . . .	3615-B	⑤⑱	Resistor—100,000 Ohms . . . . .	4411
㉚	Range Switch . . . . .	3116	⑤⑲	Condenser—.05 . . . . .	3615-D
㉛	2nd I. F. Coil . . . . .	4501-C	⑤⑳	Resistor—100,000 Ohms . . . . .	4411
㉜	Compensating Condenser . . . . .	3772-C	⑤㉑	On-Off Switch . . . . .	4095
㉝	Condenser—.00011 . . . . .	4519		Insulator for Part Nos. 3557-3583 . . . . .	4105
㉞	Resistor—500,000 Ohms . . . . .	4517		Pilot Bracket Assembly . . . . .	4027-A
㉟	Condenser—.00005 . . . . .	4587		Bolt for Pilot Bracket Assembly . . . . .	W-439
㊱	Compensating Condenser . . . . .	3772-D		Tone Control Nut . . . . .	W-434
㊲	3rd I. F. Coil . . . . .	4501-D		By-pass Condenser Mounting Bolt . . . . .	W-443
㊳	Condenser—.00011 . . . . .	4519		Bottom Shield Bolt . . . . .	W-453
㊴	Resistor—100,000 Ohms . . . . .	4411		Chassis Mounting Bolt . . . . .	W-468

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