

Radio Service Bulletin — No. 54

Models 112 and 112-A Receivers

Model 112 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines
 Model 112-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	2.67	Primary
3		
4		
5—6		
7—8		
9—12	750.	Center Tap 80 Tube
10—11	5.0	Center Tap 45 Tubes
Rubber Covered Lead		Heaters for 24 and 27 Tubes
		Filaments for 45 Tubes
		Plates 80 Tube
		Filament 80 Tube
		Center Tap for 24 and 27 Tubes

Table 3—Condenser Data
 (Other Than Filter Condenser)

No. on Figs.	CAPACITY	COLOR
6	.05	Bakelite Container
10 (11)	.05 and 250 Ohm Resistor	Bakelite Container
17	.25 (two sections)	Metal Container
19 (28) (27) (33) (38)	.00011	Blue, Golden Yellow
21	.0007	White, Golden Yellow
28	.05	Bakelite Container
29	.05 and 250 Ohm Resistor	Bakelite Container
35	.00005	Light Blue, White
40	.5	Metal Container
42	.00025	Yellow
43	.015	Bakelite Container
45	.05	Bakelite Container
61	.015 (two sections)	Bakelite Container
67	.05	Bakelite Container

Table 4—Resistor Data

No. on Figs.	Power (Watts)	Resistance	Body	COLOR Tip	Dot
20	1.	1,000	Brown	—Black	—Red
1	.5	10,000	Brown	—Black	—Orange
18	1.	13,000	Brown	—Orange	—Orange
51 (52)	1.	25,000	Red	—Green	—Orange
16 (39) (70)	.5	50,000	Green	—Brown	—Orange
48 (64)	1.	70,000	Violet	—Black	—Orange
8 (41) (66) (68)	.5	100,000	White	—White	—White
46	1.	250,000	Red	—Yellow	—Yellow
34	.5	500,000	Yellow	—White	—Yellow
44	1.	500,000	Yellow	—White	—Yellow
68		70	Flat Wire Wound (two sections)		
59		800	Short Tubular		
57		10,000	Long Tubular		

Model 112 Condenser Block Part No. 3754

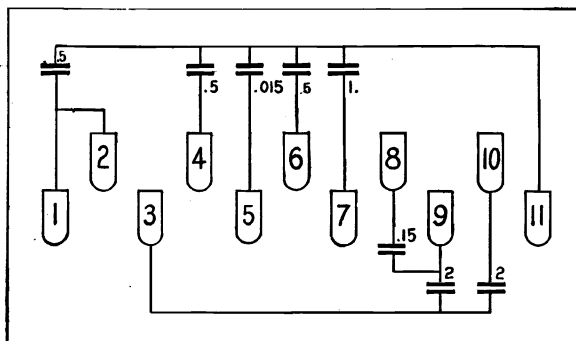


Fig. 1

Model 112-A Condenser Block Part No. 3755

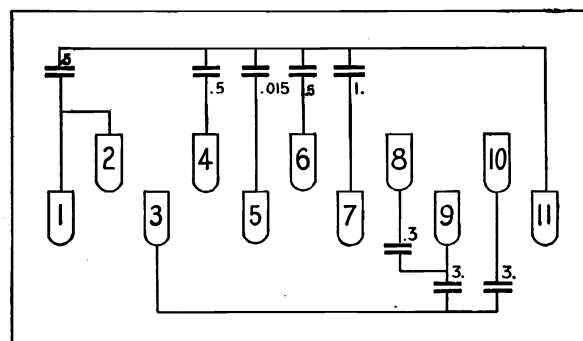


Fig. 2

MODELS 112 AND 112-A

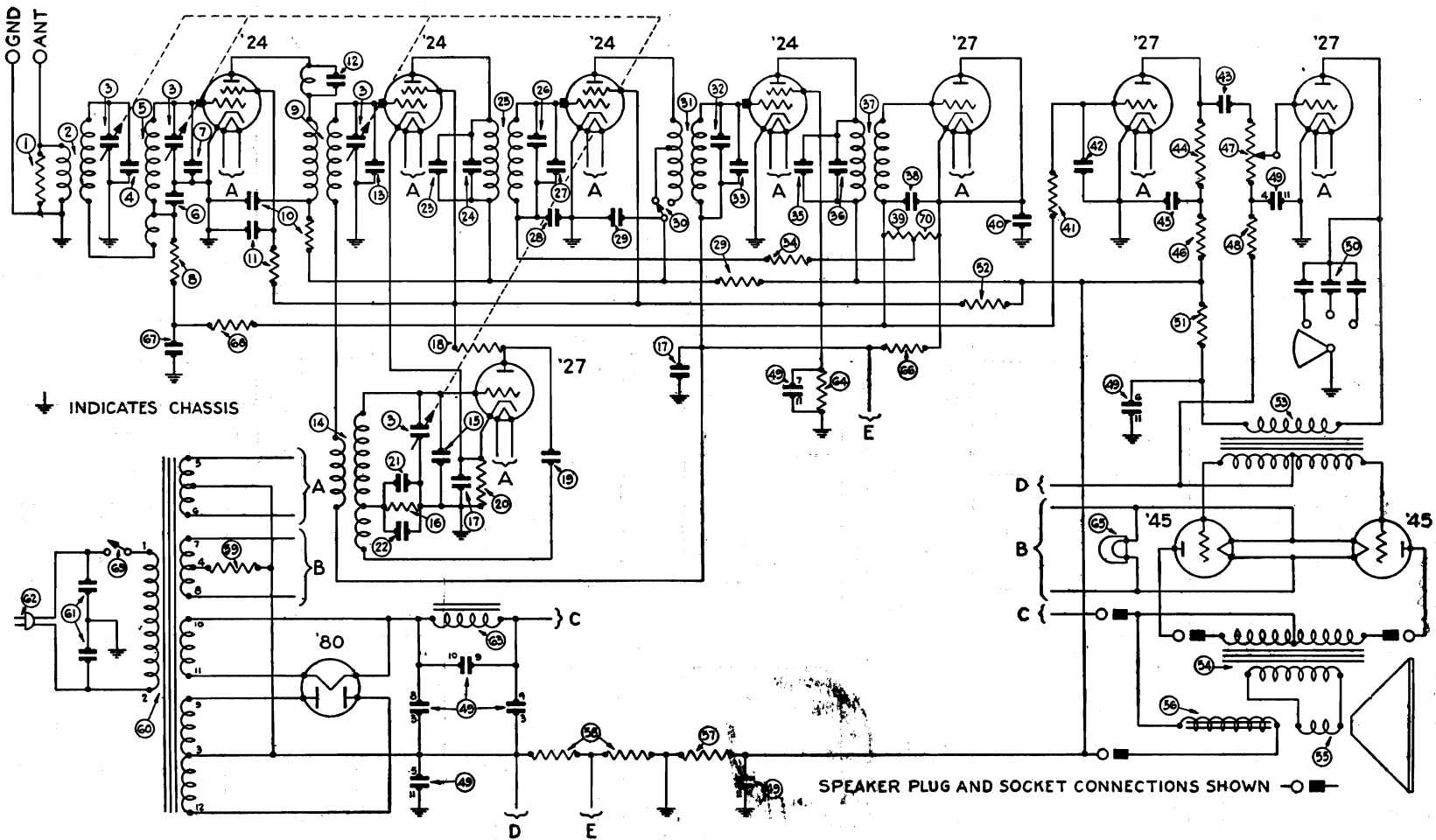


Fig. 3

MODELS 112 AND 112-A

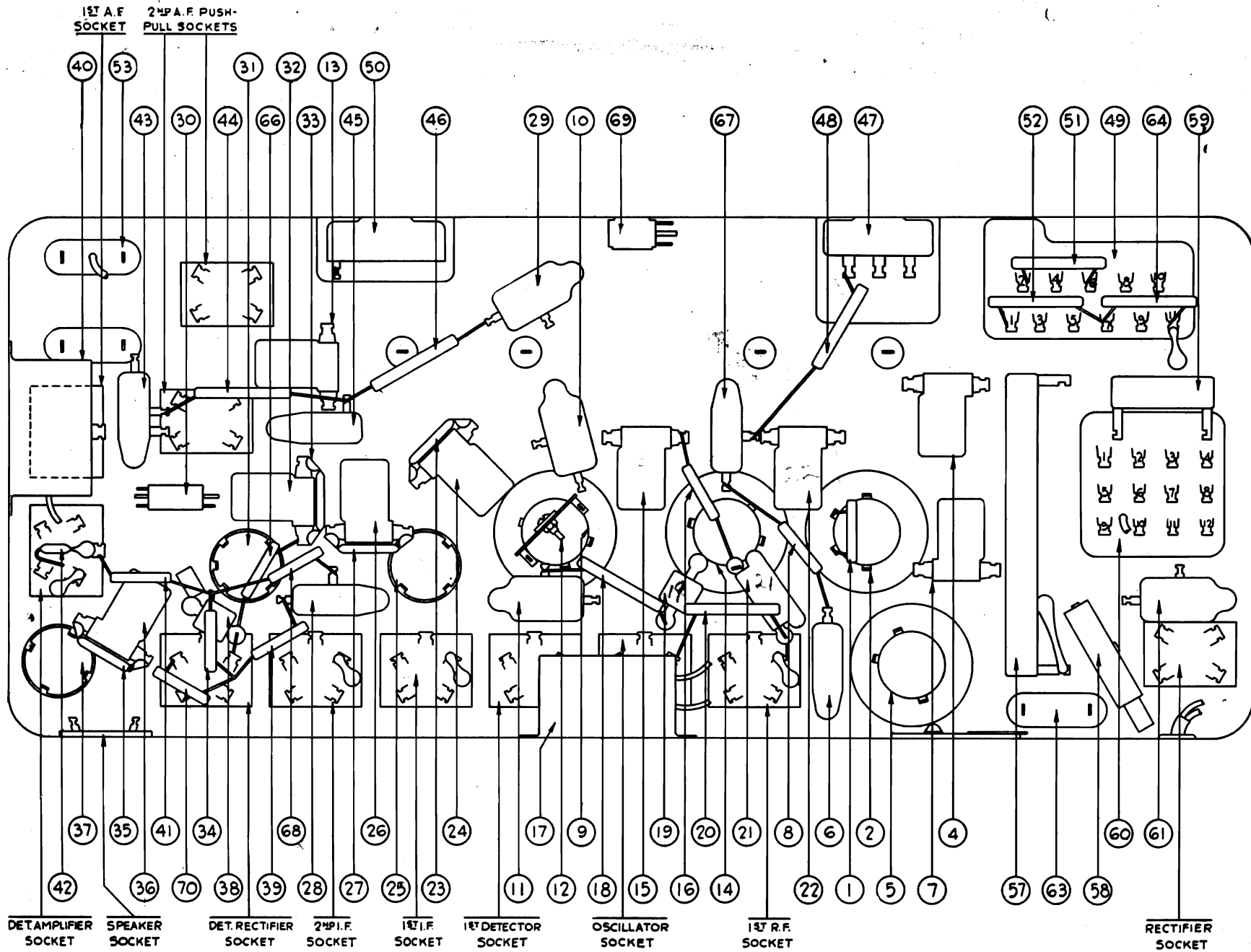


Fig. 4

ADJUSTMENT OF MODELS 112 AND 112-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. ⑩ 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	④①	Condenser—.5	3583
②	1st R. F. Coil	3884-J	④②	Resistor—100,000 Ohms	4411
③	Tuning Condenser	4000-D	④③	Condenser—.00025	3082
④	Compensating Condenser	3772-A	④④	Condenser—.015	3793-B
⑤	2nd R. F. Coil	3884-T	④⑤	Resistor—500,000 Ohms	3769
⑥	Condenser—.05	3615-L	④⑥	Condenser—.05	3615-S
⑦	Compensating Condenser	3968-A	④⑦	Resistor—250,000 Ohms	3768
⑧	Resistor—100,000 Ohms	4411	④⑧	Volume Control	4093
⑨	1st Detector Coil	3884-V	④⑨	Resistor—70,000 Ohms	3542
⑩	Condenser—.05 and 250 Ohms	3615-C	④⑩	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	④⑪	Tone Control	4037-A
⑬	Compensating Condenser	3968-A	④⑫	Resistor—25,000 Ohms	3656
⑭	Oscillator Coil	3884-U	④⑬	Resistor—25,000 Ohms	3656
⑮	Compensating Condenser	3968-A	④⑭	Push-pull Input Transformer	3537
⑯	Resistor—50,000 Ohms	4518	④⑮	Push-pull Output Transformer	2848
⑰	Condenser—.25 double	3557	④⑯	Voice Coil and Cone Assembly	2794-B
⑱	Resistor—13,000 Ohms	3766	④⑰	Field Coil	2850
⑲	Condenser—.00011	4519	④⑱	B Resistor—10,000 Ohms	4532
⑳	Resistor—1,000 Ohms	4590	④⑳	C Resistor	3764
㉑	Condenser—.0007	4520	⑤①	C Resistor—800 Ohms	3763
㉒	Compensating Condenser	3772-B	⑤②	Power Transformer—60 cycles	4446
㉓	Condenser—.00011	4519	⑤③	Power Transformer—25 cycles	4447
㉔	Compensating Condenser	3772-C	⑤④	Condenser—.015 double	3793-E
㉕	1st I. F. Coil	4501-B	⑤⑤	A C Cord and Plug	L-943-A
㉖	Compensating Condenser	3772-C	⑤⑥	Filter Choke	3422
㉗	Condenser—.0001	4519	⑤⑦	Resistor—70,000 Ohms	3542
㉘	Condenser—.05	3615-J	⑤⑧	Pilot Lamp	3463
㉙	Condenser—.05 and 250 Ohms	3615-B	⑤⑨	Resistor—100,000 Ohms	4411
㉚	Range Switch	3116	⑤⑩	Condenser—.05	3615-D
㉛	2nd I. F. Coil	4501-C	⑤⑪	Resistor—100,000 Ohms	4411
㉜	Compensating Condenser	3772-C	⑤⑫	On-Off Switch	4095
㉝	Condenser—.00011	4519	⑤⑬	Resistor 50,000 Ohms	4518
㉞	Resistor—500,000 Ohms	4517	⑤⑭	Insulator for Part Nos. 3557-3583	4105
㉟	Condenser—.00005	4587	⑤⑮	Pilot Bracket Assembly	4027-A
㊱	Compensating Condenser	3772-D	⑤⑯	Bolt for Pilot Bracket Assembly	W-439
㊲	3rd I. F. Coil	4501-D	⑤⑰	Tone Control Nut	W-434
㊳	Condenser—.00011	4519	⑤⑱	By-pass Condenser Mounting Bolt	W-443
㊴	Resistor—50,000 Ohms	4518	⑤⑳	Bottom Shield Bolt	W-453
				Chassis Mounting Bolt	W-468

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