

PHILCO

REG. U.S. PAT. OFF.

Service Bulletin—No. 86

Models 50 and 50-A Receivers

Model 50 Receivers are for operation on 100-130 volt, 50-60 cycle AC lines
Model 50-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
Type	Circuit						
24	1st R.F.	2.4	245	90	2.5	3.0	4.5
24	2nd R.F.	2.4	250	90	2.5	3.0	5.5
24	Det.	2.4	100	42	8.0	8.0	0
47	Output	2.4	175*	190*	1.0*	...	2.7*
80	Rect.	5.0	...	...	...	...	30/

Note—Volume Control on full; Station Selector turned to Low Frequency End.

*These readings must be taken from the underside of the chassis, using test prods and leads unless the set checker is specially equipped for testing pentode tubes.

Table 2—Power Transformer Voltages

Terminals	A.C. Volts		Color
1-2	105 to 125	Primary	Black (Small Gauge)
3-5	2.5	Filament of 24 and 47	Black
6-7	5.	Filament of 80	Light Blue
8-10	700.	Plates of 80	Yellow
4	.....	Center Tap of 3-5	Black, Yellow Tracer
9	.....	Center Tap of 8-10	Yellow, Green Tracer

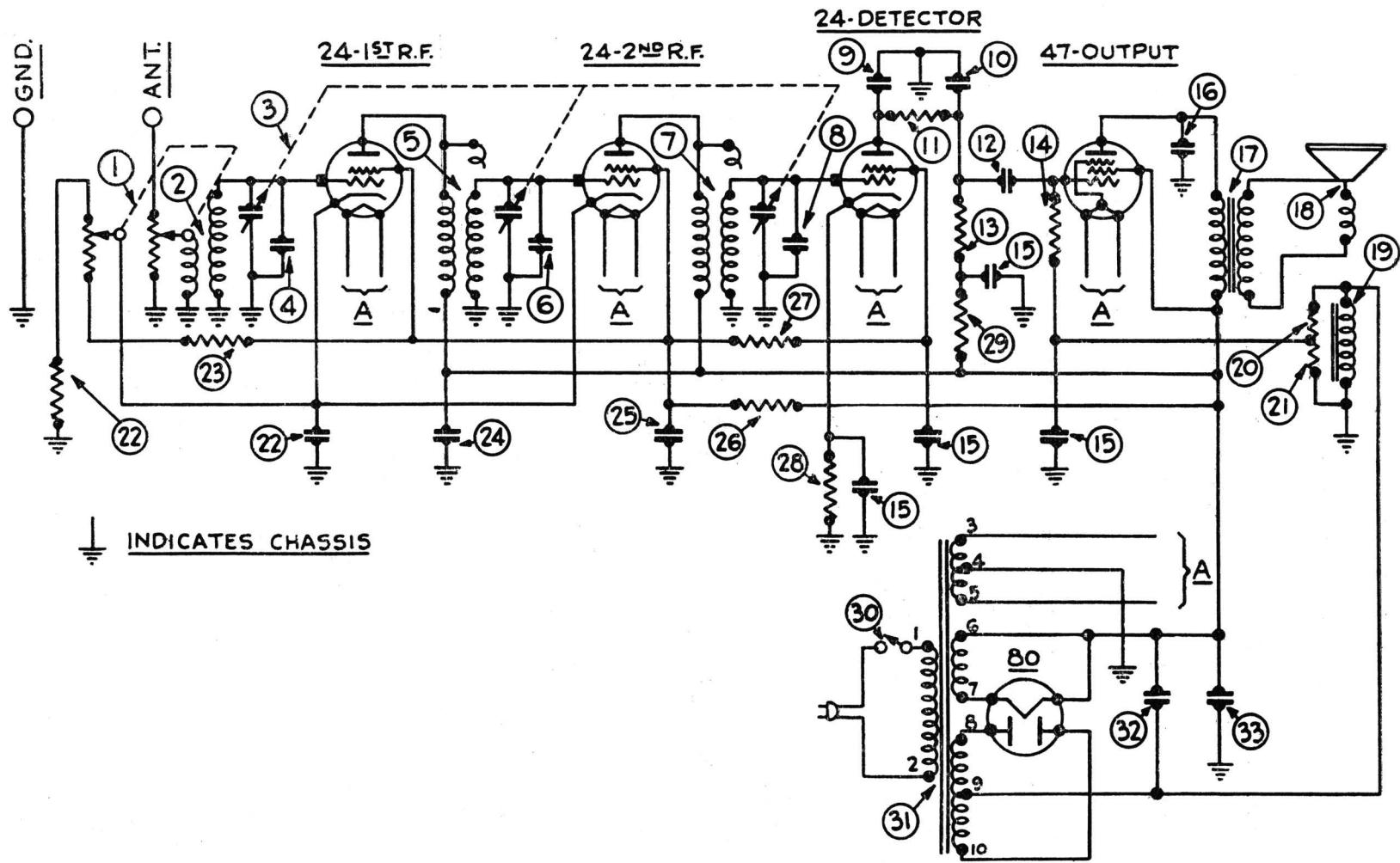
Table 3—Condenser Data

No. on Figs. 2 and 3	Capacity MFD	Container
(9) (10)	.00025	Yellow
(12) (16)	.01	Black Bakelite Container
(25)	.05	Black Bakelite Container
(22)	.05 and 150 Ohm resistor	Black Bakelite Container
(15)	.1, .15, .25, 2-.5 (50-60 cycles)	Metal Container
(24)	.05, .15, .25, 2-.5 (25-40 cycles)	
(33)	.05	
(34)	(50 to 60 cycles) 6.	Electrolytic
	(25 to 40 cycles) 10.	Electrolytic
	6.	Electrolytic

Table 4—Resistor Data

No. on Figs. 3 and 4	Power (Watts)	Resistance	Color		
			Body	Tip	Dot
(22)	...	150 and .05 Mfd.	Black	Bakelite Container	
(11)	.5	10,000	Brown	Black	Orange
(28)	1.	15,000	Brown	Green	Orange
(26)	1.	25,000	Red	Green	Orange
(28)	.5	32,000	Orange	Red	Orange
(27) (29)	.5	99,000	White	White	Orange
(21)	.5	160,000	Brown	Blue	Yellow
(13)	.5	240,000	Red	Yellow	Yellow
(14) (20)	.5	490,000	Yellow	White	Yellow

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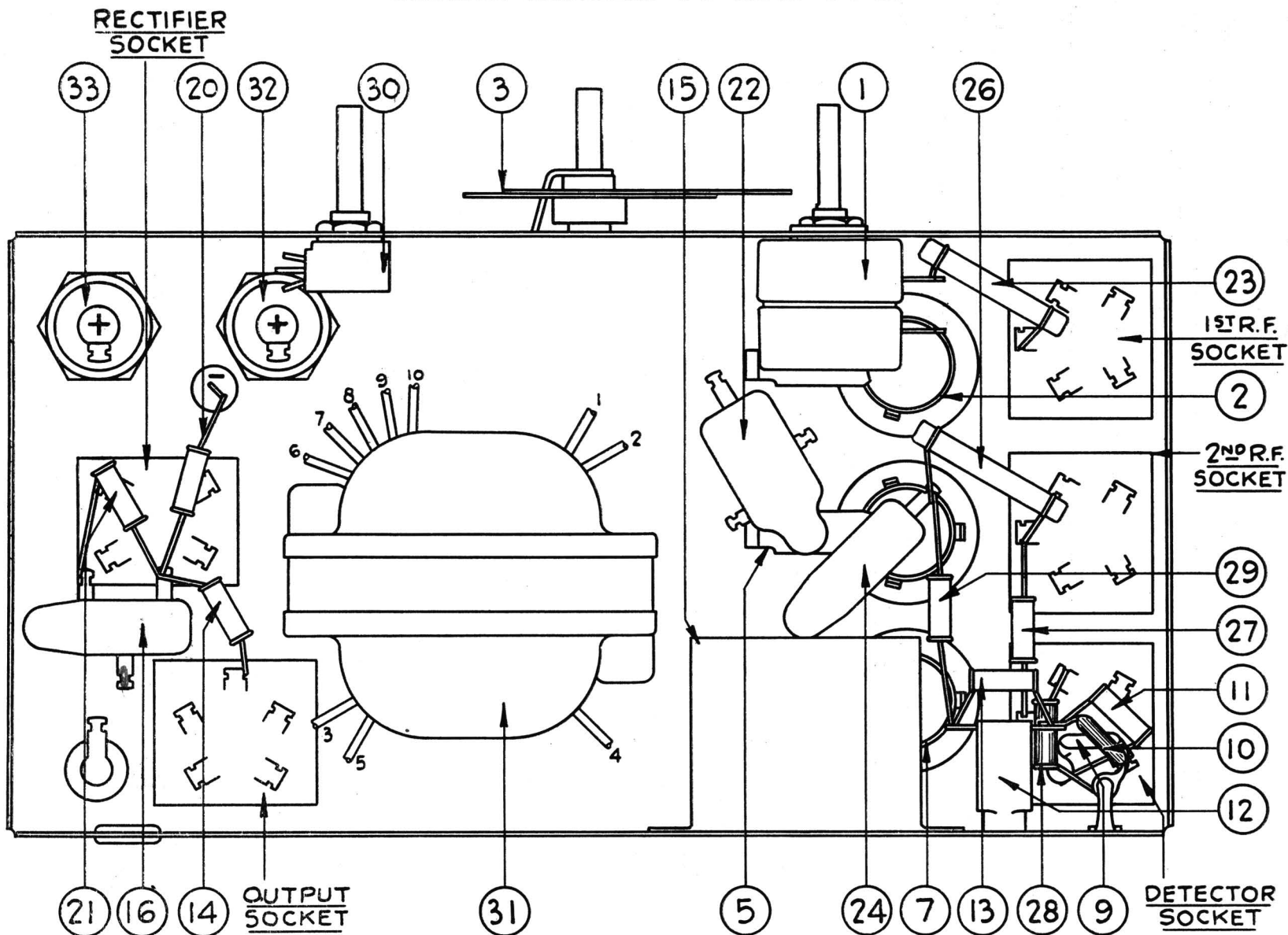


Fig. 2

ADJUSTMENT OF MODELS 50 AND 50-A

Adjustment of the compensating condensers in the model 50 should be done with the aid of a good oscillator for the R.F. signal. The oscillator lead should be connected to the "ANT" terminal of the receiver. A good ground connection must be made from the receiver to the grounded side of the oscillator and to a water or radiator pipe.

Either the ear method or an output meter, connected across the speaker voice coil terminals can be used while adjusting.

When the Receiver is set up for operation, adjust the oscillator signal to a frequency which is approximately 1400 kilocycles.

With the volume control advanced to maximum, and using a weak oscillator signal, tune the receiver sharply to the oscillator note.

Adjust the third R. F. compensating condenser by means of the Philco fibre wrench, part 3164, for maximum output signal. If an output meter is being used, adjust for maximum reading.

Next adjust the second R. F. compensating condenser and finally the first. In each case, always adjust for maximum signal or reading.

REPLACEMENT PARTS MODELS 50 AND 50-A

No. on Figs. 3 and 4	Description	Part No.	No. on Figs. 3 and 4	Description	Part No.
①	Volume Control	5232	⑳	Resistor—15,000 Ohms	5278
②	First R. F. Transformer	03283	㉑	Bypass Condenser—.05 Mfd.	3615-L
③	Gang Condenser	03293	㉒	Bypass Condenser—(.05 Mfd.) (combined with ㉑)	
④	Compensating Condenser (Part of Gang Condenser Assembly)		㉓	Resistor—25,000 Ohms	3656
⑤	Second R. F. Transformer	03284	㉔	Resistor—99,000 Ohms	4411
⑥	Compensating Condenser (Part of Gang Condenser Assembly)		㉕	Resistor—32,000 Ohms	5279
⑦	Third R. F. Transformer	03284	㉖	Resistor—99,000 Ohms	4411
⑧	Compensating Condenser (Part of Gang Condenser Assembly)		㉗	On-Off Switch	5382
⑨	Condenser—250 Mmf.	3082	㉘	Power Transformer—50-60 cycles	5266
⑩	Condenser—250 Mmf.	3082		Power Transformer—25-40 cycles	5267
⑪	Resistor—10,000 Ohms	4412		Power Transformer—50-60 cycles 210-240 volts	5268
⑫	Condenser—.01 Mfd.	3903-L	㉙	Electrolytic Condenser—6 Mfd.— 50-60 cycles	4916
⑬	Resistor—240,000 Ohms	4410		Electrolytic Condenser—10 Mfd. 25-40 cycles	5142
⑭	Resistor—490,000 Ohms	4517	㉚	Electrolytic Condenser—6 Mfd.— 25-40 cycles and 50-60 cycles	4916
⑮	Bypass Condenser (.15 Mfd., .25 Mfd., 2-.5 Mfd., .1 Mfd.) 50-60 cycles	03459		Tube Shield	03390
	(.15 Mfd., .25 Mfd., 2-.5 Mfd., .05 Mfd.) 25-40 Cycles	03455		Knob (Large)	03064
⑯	Bypass Condenser—.01 Mfd.	3903-N		Knob (Small)	03427
⑰	Output Transformer	2660		Spring (For Dial Knobs) Small	4147
⑱	Voice Coil and Cone Assembly	02970		Spring (For Dial Knobs) Large	5262
	Speaker Field (Assembled with Pot and Frame)	02942		Grid Clip	4897
㉑	Resistor—490,000 Ohms.	4517		Five Prong Socket Assembly	4956
㉒	Resistor—160,000 Ohms.	5331		Four Prong Socket Assembly	5026
㉓	Resistor—150 Ohms and Con- denser—.05 Mfd.	3615-X		Dial Complete	03322
				Bezel	5383

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