PHILCO

Radio Service Bulletin—No. 29

Model 30 Receiver

The Model 30 Receiver is designed for use with the latest 2-volt filament type tubes only.

Table 1—Tube Socket Readings Taken with Average Set Checker

Tube	Circuit	Filament Volts	Plate Volts	Grid Volts	Plate Current Milliamperes	Screen Grid Volts
32	1st R. F.	2.0	150	..	.0015	60
32	2d R. F.	2.0	150	..	.0015	58
32	3d R. F.	2.0	150	..	.0015	58
30	Detector Rectifier	2.0	...	..	....	..
30	Detector Amplifier	2.0	15	..	....	..
30	1st Audio	2.0	90	Note 1	.002	..
31	2d Audio	2.0*	150	24	.008	..
31	Push-Pull	2.0*	150	24	.008	..

*These readings reversed with respect to other Filament Voltage readings.

NOTE 1. With volume control in "Off" position, approximately 4 volts; with volume control full on, less than 1 volt.

Always use high-resistance voltmeter, preferably 1000 ohms per volt, when checking voltages in the Receiver. For reading plate and screen voltages, use a 250- or 300-volt scale. Voltage readings taken with meters having less than 250,000 ohms resistance will be lower than voltages given in the table.

When testing a Model 30 Receiver, all tubes must be in their proper sockets. The speaker must be connected and the tube shield must be fastened in place. The readings in Table 1 were taken using "A," "B" and "C" batteries.

Table 2—Resistor Data

No. on Figs. 1 and 2	Color	Resistance Ohms
(1) (40) (6) (26) (27) (28) (19) (29) (32) (35)	Golden Yellow	5,000
	Auto Buff	25,000
	Jade Green	70,000
	Silver Gray	100,000
	White	250,000
	Battleship Gray	500,000
	Tubular (two section)	250 / 800

Table 3—Condenser Data

No. on Figs. 1 and 2	Capacity—MFD.
(24)	.00005
(30) (31)	.000250
(33)	.01
(3) (9) (15)	.05
(11) (12) (20) (21)	.05 with 250-ohm resistor winding
(39)	.25 single section
(22)	.25 two sections

Model 30

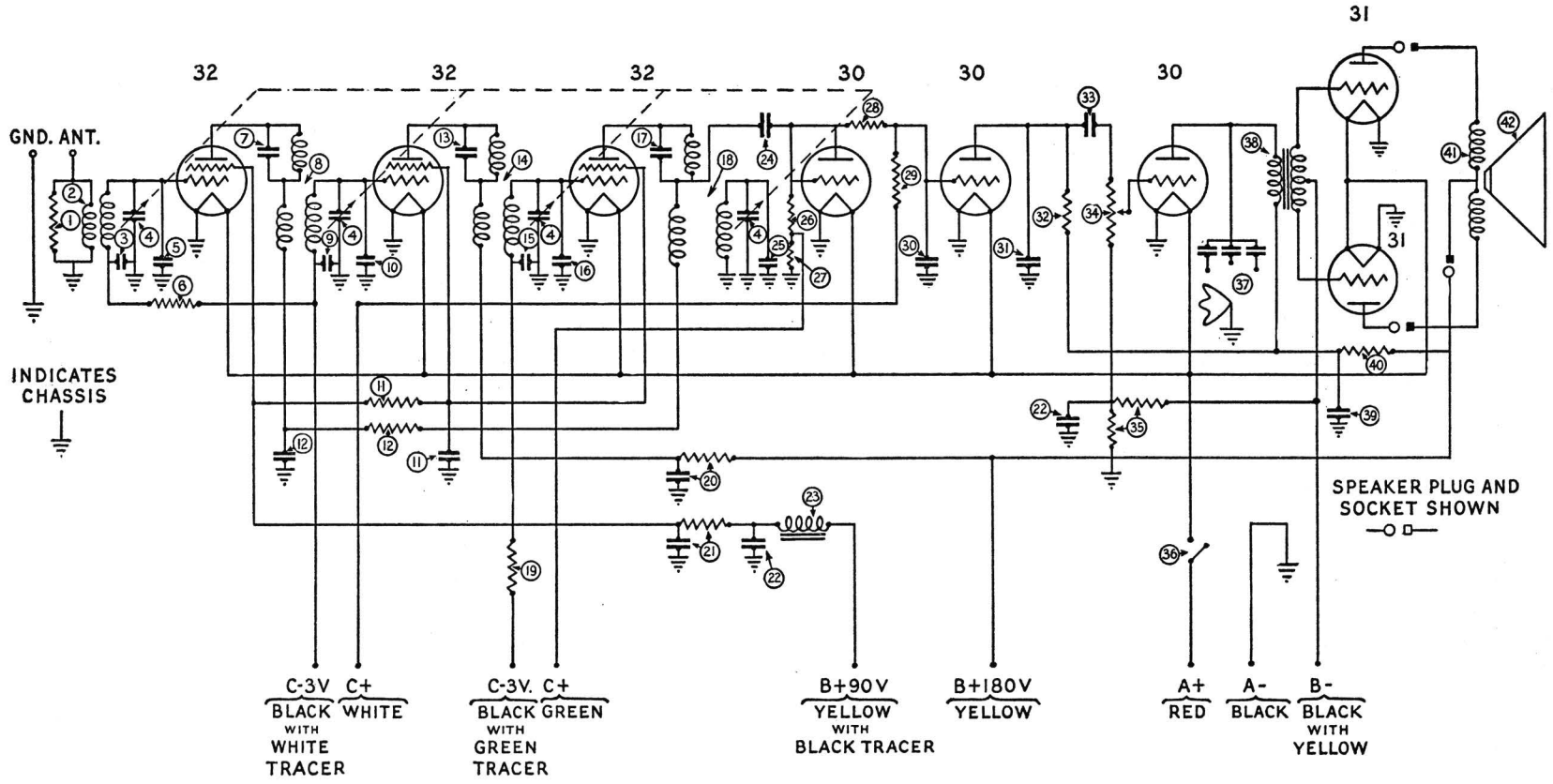

Fig. 1

Model 30

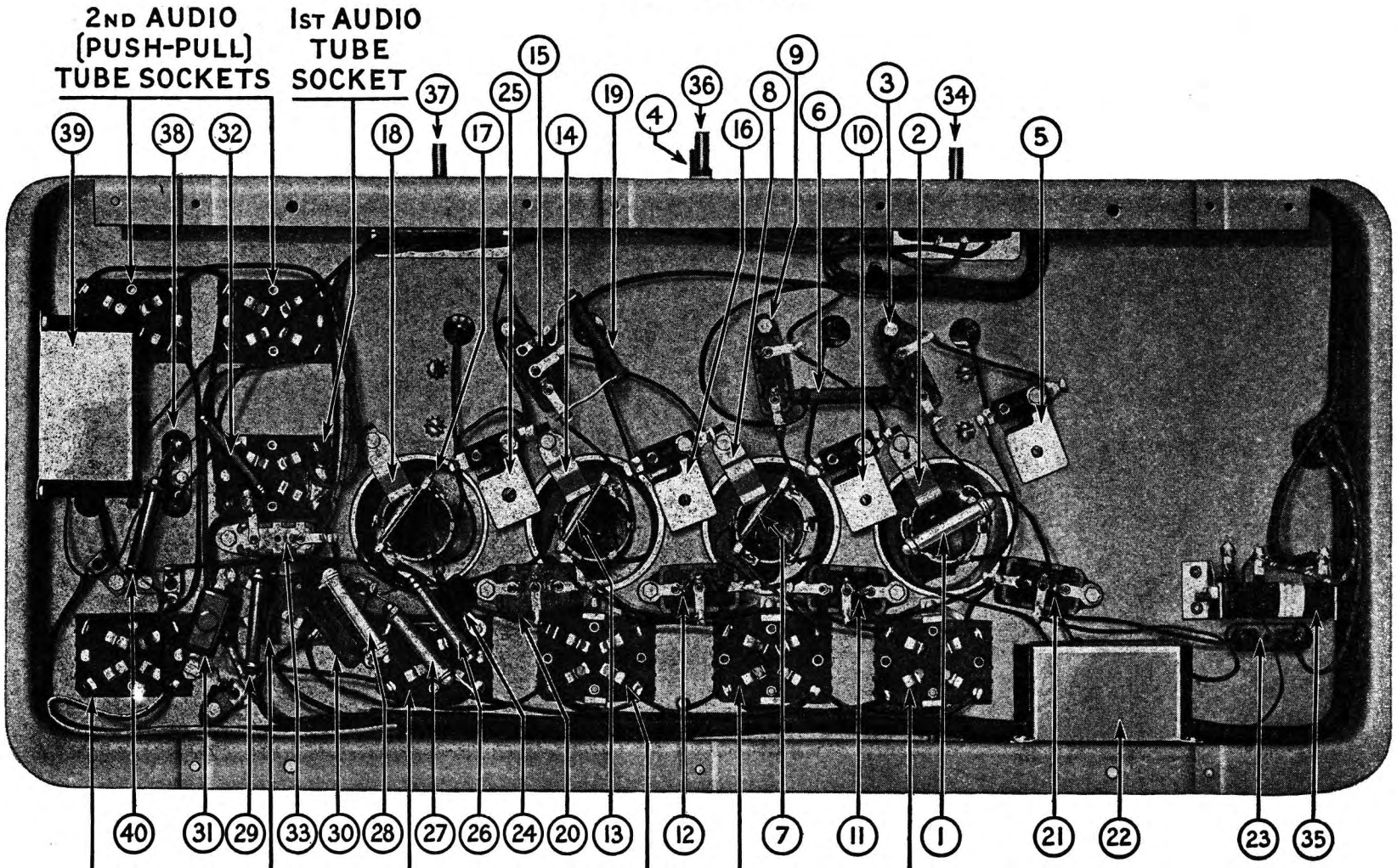

Fig. 2

COMPENSATING

Compensate the Model 30 in the usual manner. Use a good D.C. oscillator for the R. F. signal, connecting the oscillator lead to the ANT terminal of the Receiver. A good ground should be connected to the GND terminal of the Receiver.

Either the ear method or an output meter can be used while adjusting.

With the Receiver set up for operation, adjust the oscillator signal to a frequency between 1200 and 1300 kilocycles. This corresponds to 120 and 130 on the Receiver tuning scale.

Use a weak signal and tune the Receiver sharply to the oscillator note. The volume control should be turned on "full."

Adjust the compensating condensers, starting with the fourth condenser ㉕ in (Fig. 2.) If using the ear method, adjust the condenser to the loudest signal. If using an output meter, adjust for the maximum reading.

Next adjust the third, then the second, and finally the first. It will not be necessary to reduce the oscillator signal as the successive condensers are adjusted. Reduce the volume of the Receiver with the volume control.

In each step, always adjust for the maximum signal or reading.

REPLACEMENT PARTS LIST

No. on Figs. 1 and 2	Description	Part No.
①	Resistor (5000)	3526
②	Antenna Coil	4182-A
③	By-Pass Condenser (.05)	3615-E
④	Tuning Condenser	4000-G
⑤	Compensating Condenser	3968-A
⑥	Resistor (70,000)	3542
⑦	Coupling Condenser	3892-A
⑧	Coil—2d R. F.	4182-B
⑨	By-Pass (.05)	3615-E
⑩	Compensating Condenser	3968-A
⑪	By-Pass Condenser (.05) and Resistor	3615-B
⑫	By-Pass Condenser (.05) and Resistor	3615-C
⑬	Coupling Condenser	3892-A
⑭	Coil—3d R. F.	4182-B
⑮	By-Pass Condenser (.05)	3615-F
⑯	Compensating Condenser	3968-A
⑰	Coupling Condenser	3892-A
⑱	Coil—4th R. F.	4182-B
⑲	Resistor (500,000)	3769
⑳	By-Pass Condenser (.05) and Resistor	3615-C
㉑	By-Pass Condenser (.05) and Resistor	3615-B
㉒	By-Pass Condenser (Double .25)	3557
㉓	Filter Choke	3518
㉔	Condenser (.00005)	3774
㉕	Compensating Condenser	3772-A
㉖	Resistor (100,000)	3767
㉗	Resistor (100,000)	3767
㉘	Resistor (250,000)	3768
㉙	Resistor (500,000)	3769
㉚	By-Pass Condenser (.000250)	3082
㉛	By-Pass Condenser (.000250)	3082
㉜	Resistor (500,000)	3769
㉝	By-Pass Condenser (.01)	3903-F
㉞	Volume Control	4093
㉟	Resistor	3864
㊱	On-Off Switch	4095
㊲	Tone Control	4037-A
㊳	Audio Transformer	3242
㊴	By-Pass Condenser (Single .25)	4264
㊵	Resistor (25,000)	3656
㊶	Speaker Motor	2761
㊷	Cone Assembly	2764-A
	Speaker Cord and Plug	L-1127-A
	Knob (Large)	3580-A
	Knob (Small)	3579-A
	Spring (For 3579 and 3580)	3305
	Knob (Switch)	4146-A
	Spring (For 4146)	4147
	Tuning Scale	4139
	Grid Clip	4060-A
	"A" Battery (2-volt) "Philco Drynamic 92-R"	
	Tube Socket (32 type tube) Assembly	3977-C
	Tube Socket	3977-A
	Speaker Socket	3977-B

PHILADELPHIA STORAGE BATTERY COMPANY
Ontario and C Streets, Philadelphia, Pa.

August, 1930 Form No. 2436 Printed in U. S. A.