SERVICE DATA

Electrical Specifications

Type Circuit: Superheterodyne, with push-pull pentode audio output, battery

operator.

Batteries Required:
"A" supply—Philoo 172R 2 volt storage battery or a dry A battery Philoo Part
No. 41-8911. If a dry A supply is used, a ballast lamp (Philoo Part No. 1Y1)
must be inserted in the socket provided in the dry A battery Part No. 41-8911.
This lamp acts as a voltage regulator, and maintains a constant potential of two
volts on the filaments of the receiver tubes.

"A" when the provided in the provided in the dry a battery Part No. 41-8021 is used to a unply R and C volt.

"BC" supply—Philco battery Part No. 41-8007 is used to supply B and C voltages. This battery contains a socket into which the receiver battery cable plug is inserted.

Current Drain: A Battery, 540MA. B Battery, 13MA.

Philico Tubes Used: 1D7G, Detector Oscillator; 1D5G, I.F. Amplifier; 1H6G, 2nd Detector, 1st audio; 1H4G, Phase inverter; and 1E7G, Output.

Frequency Range: 530-1720 K.C. Intermediate Frequency: 470 K.C. Speaker: Permanent Magnet Model L2B.

Aligning Compensators

To accurately adjust this receiver precision test equipment is necessary. A signal generator such as the Philico Model 688, "overing from 110 to 20,000 K.C. is recommended for adjusting the various compensators at the frequencies specified. A visual indication of the receiver output is also necessary, Philico Model 625 Circuit Teater contains a sensitive output method of this commended for this

Philos fibre handle screw-driver No. 27-7859 and wrench Part No. 3164 complete the equipment necessary for the following adjustments. The locations of the various compensators are shown in Fig. (2).

OUTPUT METER—The 025 Output Meter is connected between one of the plate contacts of the 1E7G tube and ground. Adjust the meter to use the (0-30) volt scale.

INTERMEDIATE PREQUENCY CIRCUIT Frequency 470 K. C.

1. Connect the 088 Signal Generator output lead through a .1 mid. condenser to the control grid of the 1CTG tube; and the ground connection of the output lead to the chassis. Then turn the tuning condenser to approximately 580 K.C. and adjust the signal generator for 470 K.C.

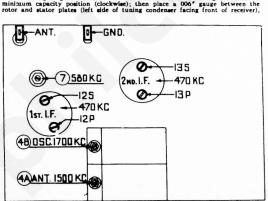
2. Now adjust compensators @s., 2nd I. F. Sec., @p 2nd I. F. Pri., @s 1st I. F. Sec., and @p 1st I. F. Pri. for maximum output.

RADIO FREQUENCY, CIRCUIT

530 to 1720 K.C.

Remove the signal generator output lead from the 1C7G tube and connect through a 200 mm/d. condenser to the antenna post of the receiver, and the generator ground lead to the chassis.

2. Turn signal generator to 1700 K.C. Rotate receiver tuning condenser to minimum capacity position (clockwise); then place a 006 gauge between the rotor and stator plates (left side of tuning condenser facing front of receiver).



of Compensators

Fig. 2.-Locations

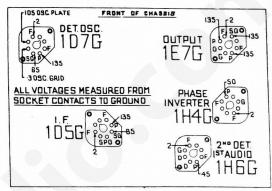


Fig. 1.-View of Sockets from Underside Chaesis

The voltages indicated by arrows were measured with a Phileo 25 Circuit Teater which contains a voltmeter having a resistance of 1000 ohms per volt. Volume Control at minimum.

and turn condenser until rotor and stator gauge touch gauge. Now remove gauge without disturbing setting of the plates. Compensators ①b Osc. and ①a Antare then adjusted for maximum output.

3. Turn signal generator and receiver dials to 580 K.C. and adjust compensator To as follows:

First tune compensator () for maximum output. Then vary the tuning condenser for maximum output. Now retune compensator () and again vary the tuning condenser back and forth about \$80 K.C. for maximum output. This operation of first tuning the compensator, then the tuning condenser is continued maximum output is obtained at the 580 K.C. frequency.

4. Readjust the 1700 K.C. end of dial as given in paragraph 2 above

Then turn signal generator and receiver dials to 1500 K.C. and adjust com-ensator oa Ant. for maximum output.

DIAL CALIBRATION—After the above adjustments have been performed, the dial pointer is adjusted to track properly with the tuning condenser. To do this turn signal generator to 1000 K.C. and tune the receiver tuning condenser for maximum output at this frequency. When maximum output is obtained dial pointer is adjusted to the 1000 K.C. mark on dial.

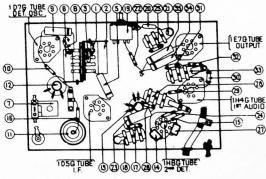
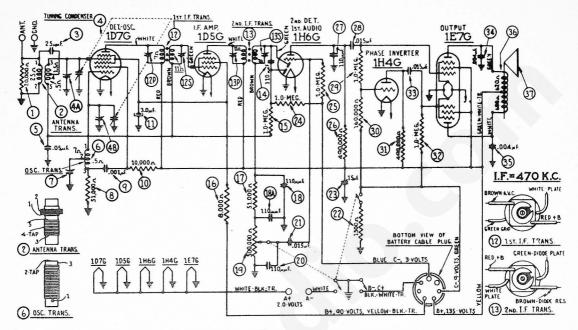


Fig. 3.-Parts Location. Underside of Chassis View



Pig. 4-Schematic Diagram

Replacement Parts - Model 37-33

	shers. No. Description	Part No.	List Price	Sobert. No. Description	Part No.	List Price	Solvern. No. Description	Part No.	List Price	
	2001 C.C.C.C.C.E.C.C.C.C.	33-320339	20 20	27 Condensor (110 mmfd., mica)	30-1031	\$0.20		27-6957	\$0.11	
		88-2312	1.20	28 Condesser (.015 mfd., bakelite)	37938U	.85		27-6058	.11	
- 1	Tibulation in the control of the con	30-1067	.20		23-510339	.20	Shield Base	28 3898	.03	
		21-1902	3.00		38-416839	.20	Shield	28-2726	.10	
		20-4444	.20		33-449339	.20	Fahnstock Clip	L-1126	1.25 C	
		82-2213	.55		88-510889	.20	Washer	4243	.01	
		040006	.85		37938U	.35	Washer	27-7414	70 C	
3	Combonance (ago seron)				30-4185	.25	Lues	L-1125	75 C	
		33-351339	.20	84 CONGRESS (1004 mm), 124 mm)	30-4185	25	B Battery	41-8007		
	000000000000000000000000000000000000000	30-4201	.20		26-1256	6.50	A Battery (Wet)			
16		33-310339	.20	39 Openator Land, D and a Cultural	45-2315	0.00	A Battery (Dry)			
11	200000000000000000000000000000000000000	20-2158	.90	31 Cons Amenday	27-5248	.15	Ballast Lamp			
12		82-2100	1.50			.01	Mounting Serow (Chassis)		3.00 C	
18		32-2102	1.50	Pointer		.60 C	Mounting Wisher (Chaesis)		.50 C	
14		30-1081	.20	7 W. H	27-7907			W-124	.35 C	
16	Resistor (1 megohm, 1/2 watt)	33-510839	.20		27-4283	.10	Mounting Belt (Speaker)		.50 C	
16	Resistor (8,000 ohm, 1/2 watt)	38-280889	.20	Vernier Drive					.35 C	
17	Resistor (\$1,000 ohm, 1/2 watt)	33-351389	.20	Pilot Lamp		.23	Nut (Speaker)	H-134	.00 0	
15	Condensor (110 mmfd., double bakelite)	8035 DG	:26	Pilot Lamp Assembly		.45				
19	Volume Control & Power Switch	33-5169	1.45		41-3208	1.40	B CABINET			
24	Condenser (110 mmfd., mics)	30-1081	.20	Clamp	28-2845	.60 C	Ro Se Silk Assembly	40-5988	.30	
21		37938U	.35	Terminal Panel R.F.	38-7963	.95	Dame Dill Assentuty	10 0000		
22		23-215239	.20	Spacers	28-4991	.35 C				
22	Condenser (.15 mfd., tubular)		.25	Washers		.20 C	F CABINET			
-	Resistor (1 megohm, ½ watt)		.20	Mounting Plate (Coil)		.62	Baffe Silk Assembly	40-8933	.75	
-		3-510839	.20		27-8328	.01	Bottom Shield	27-8440	.08	
=		13-149239	.20		W-1635	.30 C				

Pigures in black type indicate circled figures in base view.