

Specifications

TYPE OF CIRCUIT: Model 39-71 is a portable, four tube, battery operated superheterodyne receiver designed with a built-in loop aerial. Connections are also provided for an external aerial and ground.

New Philco tubes which require very low current for operation and specially designed for battery sets are used in this receiver.

A new very efficient Philco speaker is also included which gives high sound output with small audio power.

TUNING RANGE: 530 to 1720 K. C.

INTERMEDIATE FREQUENCY: 470 K. C.

PHILCO TUBES USED: One 1A7G, First Detector Oscillator; one 1N5G, I. F. Amplifier; one 1H5G, Second Detector, first audio and Automatic Volume Control; one 1C5G, Audio Output.

BATTERIES REQUIRED: One (1) Philco "A" Pack, Part No. 41-8017; two (2) Philco "B" Packs, Part No. 41-8018.

BATTERY DRAIN: "A"—240 Ma.; "B" 8.5 Ma. Total current with no signal.

AERIAL AND GROUND: In localities where station signals are weak, an aerial and ground may be necessary. A terminal strip will be found underneath the cabinet marked "Ant" "Grd" for this purpose.

Alignment of Compensators

EQUIPMENT REQUIRED:

(1) Philco Model 077 A. C. operated Signal Generator or Model 177 Battery operated, which have a fundamental frequency range from 115 to 36,000 K. C. are the correct instruments for this purpose.

(2) Output Meter, Philco Model 027 Circuit Tester, incorporates a sensitive output meter and is recommended.

(3) Philco Fiber Handle Screw Driver, Part No. 45-2610 and Fiber Wrench, Part No. 3164.

OUTPUT METER: The Philco 027 Output Meter is connected to the plate and screen terminals of the 1C5G tube. Set the meter to use the 0-30 volt scale.

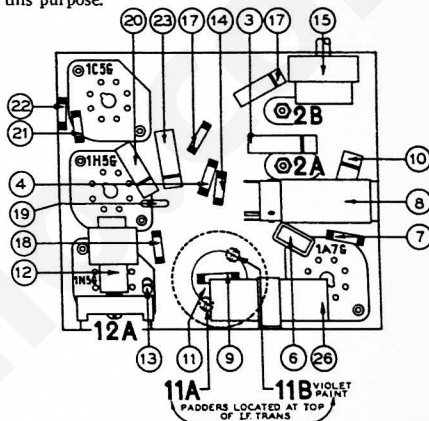


Fig. 1. Compensator and Part Locations Underside of Chassis

Operations in Order	SIGNAL GENERATOR			RECEIVER			Special Instructions
	Output Connections to Receiver	Dummy Antenna (Note A)	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in Order	
1	1A7G Grid	.1 mfd.	470 K. C.	580 K. C.	Vol. Cont. Max.	12A, 11B, 11A	Note C
2	Ant. & Grd. Terminals	400 ohms	1550 K. C.	1550 K. C.	Vol. Cont. Max.	2B, 2A	Note B Note C

NOTE A—The "Dummy Antenna" consists of a condenser or resistor connected in series with the signal generator output lead (high side). Use the capacity or resistance as specified in each step of the above procedure.

NOTE B—**DIAL CALIBRATION:** In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To adjust the dial proceed as follows: Turn the tuning condenser to maximum capacity (plates fully meshed). With tuning condenser in this position set the pointer to the small "black dot" at the low frequency end of the dial scale.

NOTE C—To adjust the I. F. compensators, remove the back from the cabinet, which is held in place by four screws. The chassis is then taken out by removing the four screws and two corks underneath the cabinet, and the Tuning and Volume knobs. The I. F. compensators are located on top of the I. F. transformers.

When adjusting the Antenna (2A) and Oscillator (2B) compensators, the chassis must be assembled in the cabinet with the batteries and loop in place. The Signal Generator output lead with the "Dummy Antenna" is then connected to the terminals marked "Ant" and "Grd" underneath the cabinet. The antenna and oscillator compensators are then adjusted through the holes in the bottom of the cabinet.

MODEL 39-71, CODE 121 PRODUCTION CHANGES

Condenser (5) on some early receiver consisted of two condensers part no. 30-1066 connected in series. When replacing use part no. 30-1095.

Beginning with run 2 the following circuit changes were made to increase the sensitivity. With these changes the code number was changed to 122.

Schematic No.	Orig. Part No.	New Part
(4) Resistor (2 meg.)	33-520339	33-540439 (4 meg.)
(12) 2nd I. F. Trans.	32-3081	32-3176
(12C) Condenser (100 mmfd. Part of Compensator)	30-1031	30-1031 110 mmfd.
(14) Resistor (2 meg)	33-520339	33-810344 10 meg.
(15) Volume Control & Switch	33-5301	33-5310
(16) Condenser (.01 mfd)	30-4572	30-4578 .004 mfd.
(17) Resistor (2 meg.)	33-520339	33-540439 4 meg.

See Page 53 for Schematic Diagram

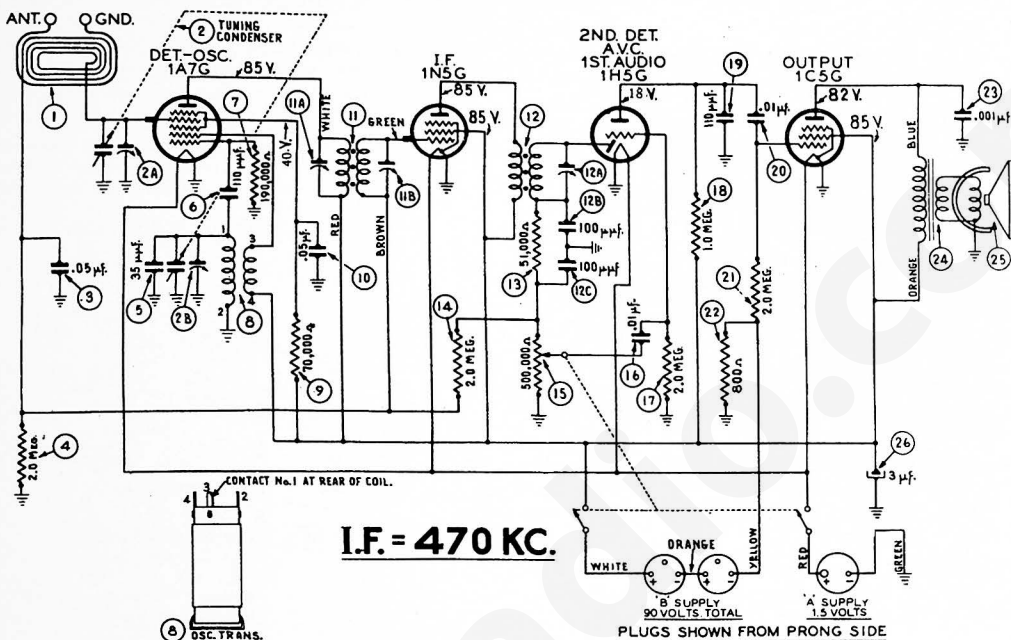


Fig. 2. Schematic Diagram and Tube Voltages

Replacement Parts

Code No.	Description	Part No.
1	Loop Assy.	40-6421
2	Tuning Cond.	31-2322
3	Tubular Cond. (.05 mf.)	30-4519
4	Resistor (2 megohm)	33-520339
5	Mica Cond. (35 mmf.)—mounted on top of tuning condenser	30-1095
6	Mica Cond. (110 mmf.)	30-1031
7	Resistor (190,000 ohms)	33-419339
8	Oscillator Trans.	32-3118
9	Resistor (70,000 ohms)	33-370339
10	Tubular Cond. (.05 mf.)	30-4444
11	1st I. F. Trans. Assy.	32-3103
12	2nd I. F. Trans. Assy.	32-3081
13	Resistor (51,000 ohms)	33-351339

Code No.	Description	Part No.
14	Resistor (2 megohms)	33-520339
15	Volume Control & Switch	33-5301
16	Tubular Cond. (.01 mf.)	30-4572
17	Resistor (2 megohm)	33-520339
18	Resistor (1 megohm)	33-510339
19	Mica Cond. (110 mmf.)	30-1031
20	Tubular Cond. (.01 mf.)	30-4572
21	Resistor (2 megohm)	33-520339
22	Resistor (800 ohms)	33-180339
23	Tubular Cond. (.001 mf.)	30-4201
24	Output Trans. for Speaker No. 36-1451-3	32-8036
25	Voice Coil Assy. for Speaker No. 36-1451-3	36-4090

Code No.	Description	Part No.
26	Electrolytic Cond. (3 mf.)	30-2359
	Bezel Window	27-5434
	Dial	31-2321
	Dial Pointer	28-5185
	Dial Drive Cord Assy.	31-2323
	Dial Tuning Shaft & Brkt. Assy.	31-2324
	Escutcheon (knobs)	56-1252
	Escutcheon (screws)	W-2129
	Knob (Tuning, Volume)	27-4331
	Loop Antenna	40-6421
	Pulley (Tuning Condenser)	28-6662
	Socket (6 prong)	27-6086
	Socket (7 prong)	27-6087
	Spring (Dial Cord)	28-8751
	Speaker	36-1451