PHILCO . . . Model 39-317—Codes 121 & 122

SERVICE BULLETIN No. 300 for members of RADIO MANUFACTURERS SERVICE

A PHILCO Service Plan

SPECIFICATIONS

TYPE OF CIRCUIT: A. C. operated; superheterodyne circuit, covering standard broadcast band (540 K. C. to 1720 K. C.); Automatic Volume Control; and pentode output.

Codes 121 and 122 chassis of this model are similar with the exception of Speaker and Cabinet.

The receiver is designed to operate from a "Philco Safety Aerial," part No. 40-6370. This aerial system should be used to obtain maximum performance from the receiver.

POWER SUPPLY: Voltage—115 volts. Frequency—25-60 cycles. Power consumption—40 watts.

INTERMEDIATE FREQUENCY: 460 K. C.

TUNING RANGE: 540 to 1720 K. C.

AUDIO OUTPUT: 2 watts.

TUBES USED: Five tubes: 1-6A7E, 1st detector and oscillator; 1-78E, I. F.; 1-75, 2nd detector, Automatic Volume Control, and 1st audio; 1-41E, Output; and 1-84, Rectifier.

TUNING MECHANISM: Pulley and cable drive for Manual Tuning. Push-Button for Automatic Tuning. The procedure for adjusting and operating the Automatic Tuning Push-Buttons will be found in the instructions supplied with each set.

CABINETS: Code 121 chassis in type "T" cabinet
Code 122 chassis in type "F" cabinet

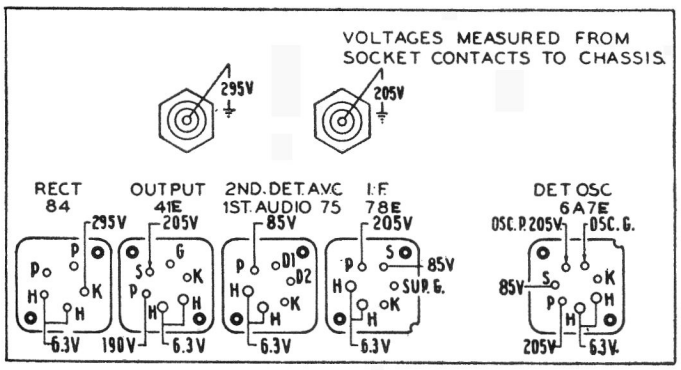

Fig. 1. Socket Voltage—Underside of Chassis View

The voltages indicated by arrows were measured with a Philco 026 Circuit Tester, which contains a sensitive voltmeter. Volume Control at minimum—Tuning Condenser set for no signal—line voltage 115 A. C.

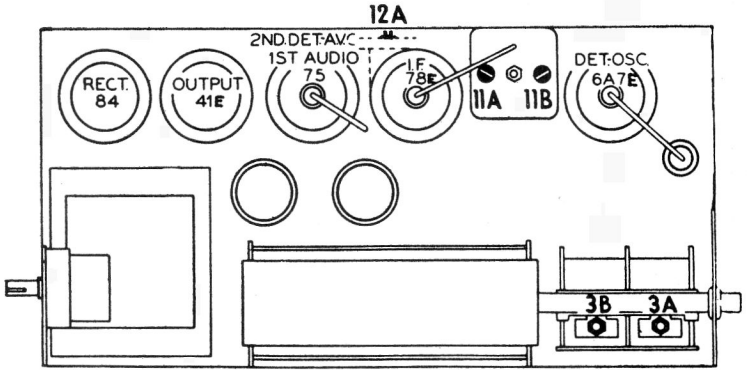

Fig. 2. Locations of Compensators

ALIGNMENT OF COMPENSATORS

EQUIPMENT REQUIRED: (1) Signal Generator, Philco Model 177 Signal Generator which has a fundamental frequency range from 115 to 32,500 K. C. is the correct instrument for this purpose. (2) Output meter: Philco Model 026 Circuit Tester, incorporates a sensitive output meter and is recommended. (3) Philco Fibre Handle Screw Driver, part No. 27-7059 and Fibre Wrench, part No. 7696.

OUTPUT METER: The Philco 026 Output Meter is connected to the plate and cathode terminals of the type 41E tube. Set the meter to use the 0-30 volt scale.

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	6A7E Grid	.1 mf.	460 KC	580 KC	Vol. Cont. (Max.)	(12A) (11A) (11B)	
2	Ant. Ter.	100 mmf.	1550 K. C.	1550 K. C.	Vol. Cont. (Max.)	(3B) (3A)	See Note B

NOTE A—The "Dummy Antenna" consists of a condenser connected in series with the signal generator output lead (high side). Use the capacity 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: With the push button unit disconnected from the gang, the pointer is to be set on the extreme left edge of the index line (low frequency end of the scale) with the gang closed. The gang is then opened until the pointer is at the right edge of the index line and, with the push button shaft at its closed stop, the push button coupling is tightened on the gang shaft.

REPLACEMENT PARTS
Model 39-317; Codes 121 & 122

Schem. Number	Description	Part No.
1	Antenna Transformer	32-3039
2	Condenser (.05 mfd)	30-4519
3	Tuning Condenser Ass'y	31-2265
4	Resistor (51000 ohms ½ watt)	33-351344
5	Condenser (110 mmfd.)	30-1031
6	Condenser (25 mmfd silver plated mica)	30-1112
7	Oscillator Transformer	32-3040
8	Resistor (3.0 meg.)	33-530344
9	Condenser (.03 Mfd.)	30-4449
10	Resistor (40,000 ohms, ½ watt)	33-340344
11	First I. F. Transformer	32-3075
12	Second I. F. Transformer	32-2944
13	Resistor (51,000 ohms, ½ watt)	33-351344
14	Volume control & on-off Switch	33-5276
15	Condenser (.01 mfd.)	30-4479
16	Condenser (250 mmfd.)	30-1032
17	Condenser (.01 mfd.)	30-4572
18	Resistor (160,000 ohms, ½ watt	33-416344
19	Resistor (1 meg. ½ watt)	33-510344
20	Resistor (4 meg. ½ watt)	33-540344
21	Condenser (.01 mfd.)	30-4572
22	Output Transformer	32-7980
23	†Cone & voice coil ass'y. for speaker part number 36-1426-1	36-4083
	for speaker part number 36-1426-3	36-4085
	for speaker part number 36-1440	36-4086
24	Resistor (250 ohms 1 watt)	33-125431
25	Resistor (70 ohm ½ watt)	33-070344
26	*Field Coil for speaker 36-1426 *Field Coil for speaker 36-1440	
27	Electrolytic Condenser (12 mfd.)	30-2319
28	Electrolytic Condenser (4 mfd.)	30-2236
29	Condenser (.03 mfd.) 60 cycle only	30-4449
	(.10 mfd.) 25 cycle only	30-4455
30	Power Transformer 60 cycle 115 V.	32-7974
	25 cycle 115 V.	32-7975
31	Condenser (.01-.01 mfd.)	3903DG
32	Pilot Lamp	34-2064
33	Pilot Lamp	34-2064
34	Automatic Tuning Unit (complete)	31-2282
	Bezel Ass'y. (Dial)	40-6364
	Bezel Gasket (Dial)	27-9174
	Bezel (push-buttons)	28-5929
	Bezel Gasket (push-buttons)	27-9218
	Bezel Clamp (Dial)	28-5153
	Power Cable & Plug	L-2839
	Dial & Frame Ass'y.	31-2283
	Dial Tuning Drum Ass'y.	31-2281
	Dial Tuning Cord Ass'y.	31-2275
	Dial Tuning Spring. (cord)	28-8919
	Clip (Mounting R. F. Coils) small	28-5002
	Clip (Mounting R. F. Coils) large	28-5003
	Escutcheon Plate (extension shafts for F. Cabinets)	56-1051
	Escutcheon Pin	W-950
	Knob (tuning)	27-4750
	Knob (volume)	27-4753
	Pilot Lamp Socket Ass'y.	38-9612
	Pointer (dial)	28-5934
	Push-Buttons	27-4749
	Shaft Extension (volume) code 122 only	38-9640
	Shaft Extension (tuning) code 122 only	28-6928
	Sleeve-long tuning shaft extension (code 122 only)	28-6935
	Sleeve-short tuning shaft	28-6887
	Spring (volume shaft retaining)	28-8915
	Socket (6 prong)	27-6036
	Socket (7 prong)	27-6107
	Socket (5 prong)	27-6035
	Speaker (F Cabinet)	36-1440
	†(T Cabinet) Optional	36-1426-1 36-1426-3
	Tab Kit	27-5431

* Parts not supplied. Replace Speaker.

† When ordering Speaker or Cone Assembly specify which of the small numbers (-1 or -3) following the part number is required.

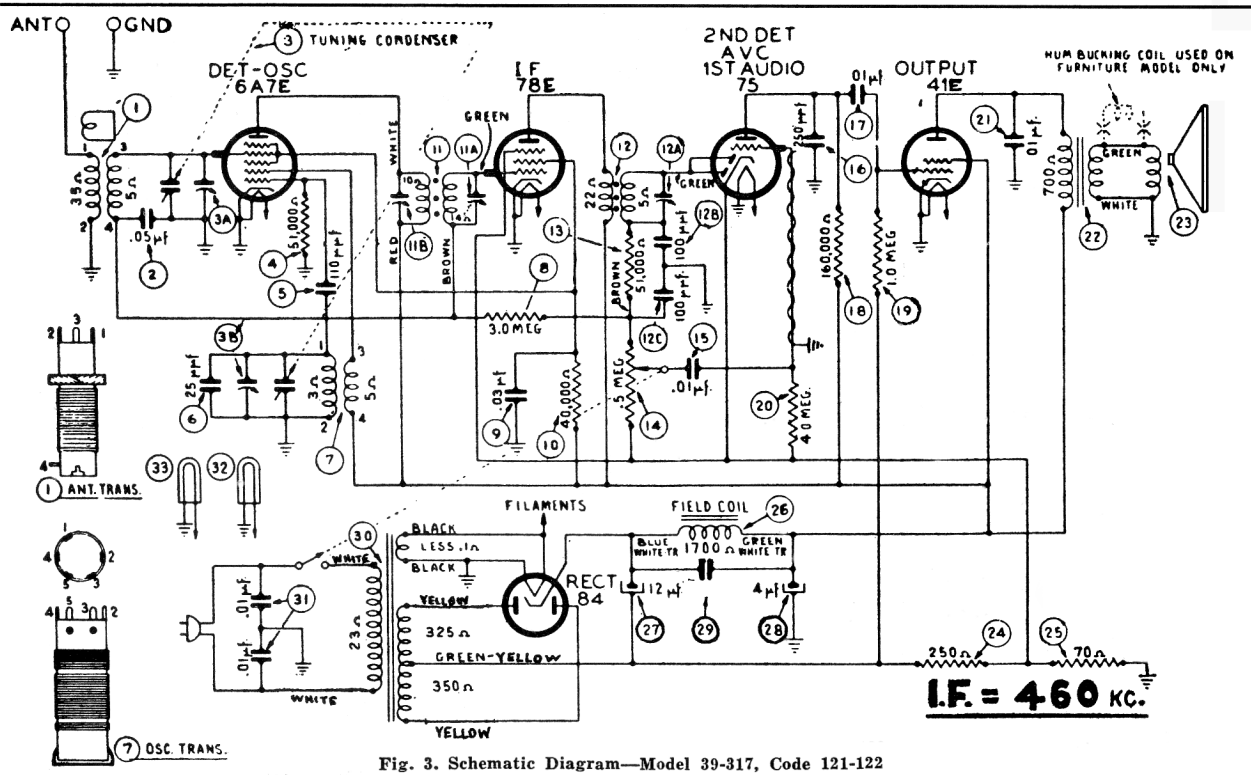

Fig. 3. Schematic Diagram—Model 39-317, Code 121-122

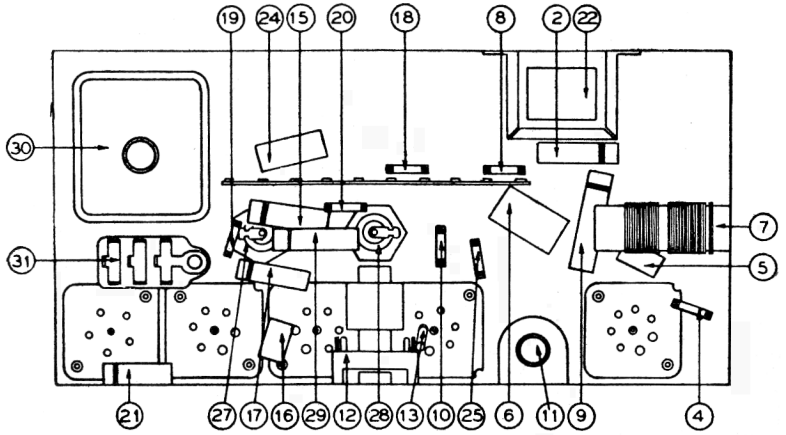

Fig. 4. Part Locations, Underside of Chassis

PHILCO PRODUCTS LIMITED
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