# Model 37-116 - Codes 121-122

### **Electrical Specifications**

Type Circuit: Superheterodyne, with magnetic tuning; Fidelity-Selectivity control in the intermediate frequency circuit and pushpull class "A" audio output. The Code 122 Receiver uses the Philco Automatic Dial tuning system.

Power Supply: 115 Volts A.C. 50 to 60 cycles. For 25 to 40 cycle operation use power transformer listed in the parts list for this purpose.

Power Consumption: 165 Watts. Intermediate Frequency: 470 K. C. Undistorted Output: 15 Watts.

Philco Tubes Used: 4-6K7G; 3-6J5G; 1-6L7G; 1-6N7G; 1-6A8G; 1-6H6G; 2-6B4G; 1-6F6G; 1-5U4G.

Tuning Ranges: Five. Range 1—530 to 1600 K.C.; Range 2— 1.88 to 4.75 M.C.; Range 3—4.7 to 7.4 M.C.; Range 4—7.35 to 11.6 M.C.; Range 5—11.5 to 18.2 M.C.

Speaker: "W" High-Fidelity Cathedral type.

### Precaution

DO NOT APPLY POWER TO THE RECEIVER WITH THE SPEAKER UNIT DISCONNECTED

### Replacing Dial Control Screws

REMOVING CONTROL SCREWS

A. First remove the tuning knobs, then detach the metal plate, covering the control handle by removing the three screws in the center of the plate.

B. When the metal cover is removed, two screws will be noted holding the indexing handle to the rotary hub. Remove these screws and detach the handle. See Fig. 1.

C. Referring to Fig. 1, five screws will be seen which hold the dial escutcheon to the dial body. Remove these screws and lift the escut escut from the dial body.

D. After removing the dial cover insert a screw-driver blade into the control (indexing) screw, then push in and turn the control screw until the indexing pin on the side end of the screw is centered in the small semi-circular slot on the housing adjacent to the hole. When the screw is in this position release the tension on the screw-driver and lift the screw from the hole.

NOTE: It may be necessary to move the screw slightly to the right or left to mesh the teeth on the screw with those in the screw hole.

### REPLACING THE CONTROL SCREWS

A. Insert the control screw in the screw hole. After it is inserted press the screw in and turn it 180 degrees, until the stop on the side of the screw will be in a position to clear the stopping shoulder in the dial cover hole of this screw. When the screw is in position replace the dial escutcheon and Indexing Handle.

# REPLACING THE DIAL OR MASK ARM ASSEMBLY Code 122

To replace the dial or mask arm assembly, remove the chassis from the cabinet. Then remove the tuning knobs, indexing handle, handle cover and dial cover as given in the procedure for the removal of the indexing screw.

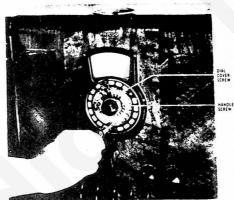


Fig. 1-Automatic Tuning Dial, Code 122, Receiver

With these parts removed the scale may be lifted from the dial housing.

#### MASK ASSEMBLY Code 122

The removal of the mask and arm assembly necessitates the removal of the two fibre and one metal rings around the outer edge of the dial housing. The mask arm can then be slipped off. Care should be taken on replacing the metal ring to have the spring located along the bottom edge of the ring in position, otherwise the mask will vibrate.

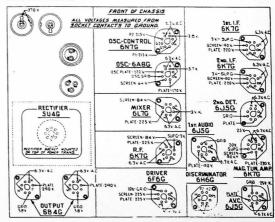
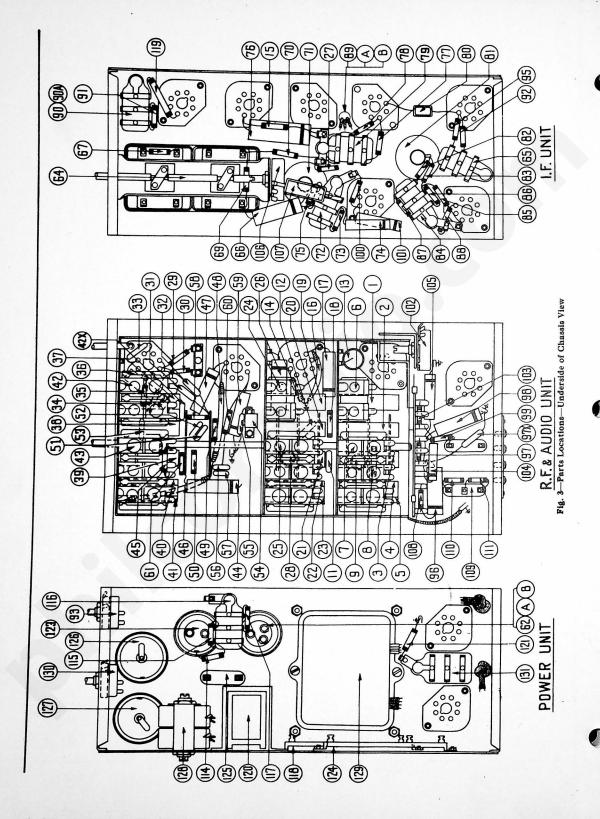


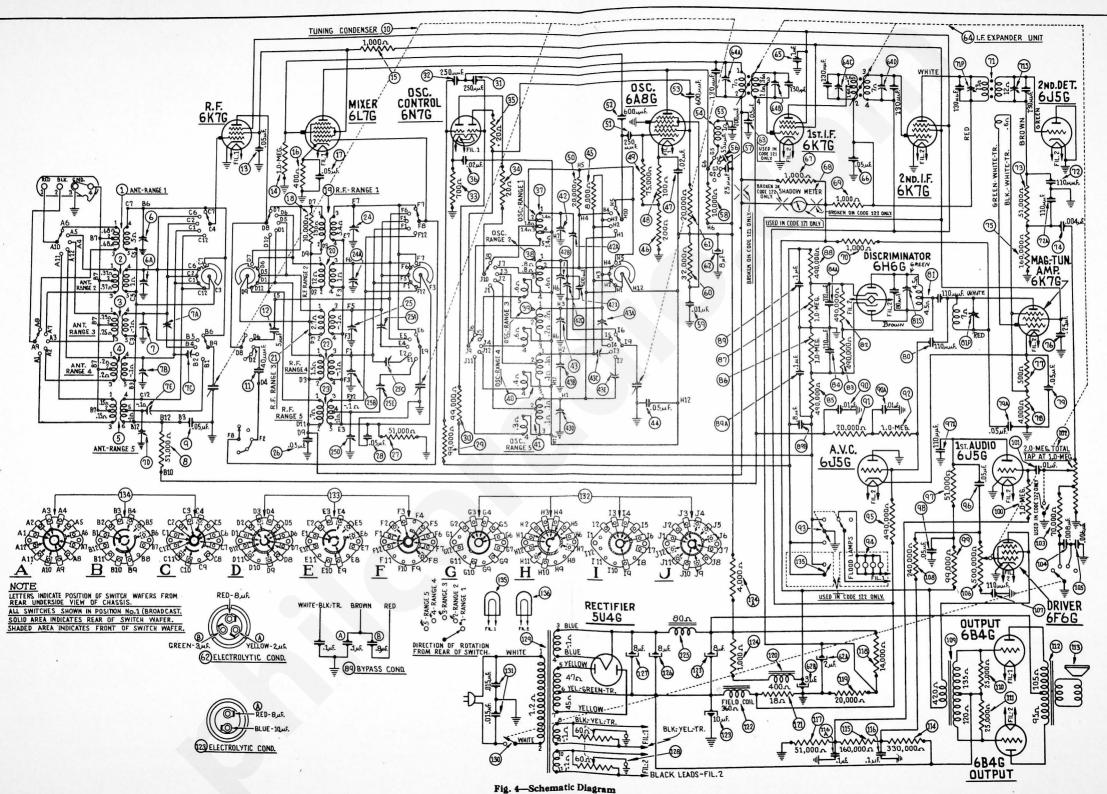
Fig. 2-Socket Voltages, Measured from Underside of Chassis

The voltages indicated by arrows were measured with a Philoo 025 Circuit Tester which contains a voltmeter having a resistance of 1000 ohms per volt. Volume Control at minimum, range switch in broadcast position, line voltage 115 A. C.



## Replacement Parts-Model 37-116

Schem. No.	Description	Part No.	List Price	Sche	m. Description	Part No.	List Price
1 Antenna Ti	anaformer (Range 3) anaformer (Range 3) anaformer (Range 3) anaformer (Range 3) anaformer (Range 4) anaformer (Range 3) anaformer (Range 3) anaformer (Range 3) anaformer (Range 3) anaformer (Range 4) (000 mmf 4	32-2108 32-2146	\$0.80	119	Resistor (20000 ohms, I watt). Choke (Pilter). Pield Coll (W. Spasker) (a and 10 mid.). Pield Coll (W. Spasker) (a and 10 mid.). Resistor (1000 and 4000 ohms). Choke (Pilter). Electrolytic Condenser (8 mid.). Potention (1000 and 4000 ohms). Potention (1000 and 4000 ohms). Power Transformer 118 Volts, 26 to 40 Cycle. Power Transformer 118 Volts, 26 to 40 Cycle. Power Transformer 118 Volts, 25 to 40 Cycle. Power Transformer 118 Volts, 25 to 40 Cycle. Power and Transformer 118 Volts, 25 to 40 Cycle. Romane Switch (Osc.). Range Switch (Osc.). Range Switch (Osc.). Range Switch (Osc.). Pilot Lamp (Codes 121-122). Shadowmeter Lamp (Code 121 only).	33-320439	\$0.20
3 Antenna Ti 4 Antenna Ti	ransformer (Range 3)	32-2183 32-2185	.60 .70	121 122	Resistor (18 ohms. 1/2 watt)	33-020439	.95 .20
5 Antenna Ti 6 Compensat	ransformer (Range 5)or, 2 Gang	32-2175 31-6093	.80 .40	123 124 125	Electrolytic Condenser (8 and 10 mfd.) Resistor (1000 and 4000 ohms)	30-2123	1.60
7 Compensat 8 Resistor (5)	or (6 Sections). 1000 ohms ½ watt).	33-351339	.80 .70 .80 .40 1.40 .20 .20	125 126 127	Choke (Filter). Electrolytic Condenser (8 mfd.)	32-7056	1.60 .50 2.20 1.05 1.05
10 Tuning Cor	(40 mmfd)	31-1892 30-1076	3.75	128 129	Potentiometer (Dual 60 ohms)	33-5176	7.50
12 Condenser 13 Condenser	(5 mmfd.) (.05 mfd. Tubular)	30-1077 30-4123		•••	Power Transformer 115 Volts, 25 to 40 Cycle	32-7639	
14 Resistor (1. 15 Resistor (10	megohm, 1/4 watt)	33-510339 33-210339	20 20 20 20 20 20 20 75 60 .60 .70 140 120 20 20 20 20 20 20 20 20 20 20 20 20 2	130 131 132 133 134 135 136	Power and Tone Switch Condenser (.015 mfd. Dual Bakelite)	42-1196 4989DG	.75
16 Resistor (40	0 ohms wirewound)	33-3016 30-4444	.20 .20	132 133	Range Switch (Osc)	42-1217	2.00 1.60 1.60 1.5 .15
18 Resistor (10	sformer (Range 1)	32-2105	.75 .75	135	Pilot Lamp (Codes 121-122)	34-2039	1.60
21 R. F. Trans	sformer (Range 3)	32-2177	.60	130	Bladowneter Lamp (Code 121 omy)	31-2039	
23 R. F. Trans 24 R. F. Com	sformer (Range 5) Densator (2 Section)	32-2176 31-6093	.70		USED ON CODES 121-122  Dial Screen Holder Assembly Coupling Assembly (Tuning Condenser) Screw Brace (Drive Mig.) Brace (Drive Mig.) Brace (Drive Mig.) Brace (Drive Mig.) Borten Brace (Drive Mig.) Borten Bocket (Power Transformer) Tube Shield Tube Shield Base (O) Tube Shield Base (O		
25 R. F. Comp 26 Condenser	ensator (6 Section) (.05 mfd. Tubular)	31-6113 30-4123	1.40		Dial Screen Holder Assembly Coupling Assembly (Tuning Condenser)	31-1900	.30
26 Condenser 27 Resistor (5 28 Condenser 29 Resistor (9) 30 Resistor (9) 31 Condenser 32 Condenser 33 Resistor (7)	1000 ohms, 14 watt) (.05 mfd. Tubular)	33-351339 30-4020	.20		Screw.	W-650 W-644	
30 Resistor (9)	9000 ohms, 1/2 watt)	33-399339	.20		Brace (Drive Mtg.) Volume Control Shaft	28-4119	.05
32 Condenser	(250 mmfd, Mica) (250 mmfd, Mica)	30-1032	.25		Retaining Clip.	28-4394	Per C .40
34 Resistor (20	ohms 14 watt)	33-020339	.20		Socket (8 Prong)	27-6058	.50 .11 .11
34 Resistor (20 35 Resistor (20 36 Condenser 37 Oscillator T 38 Oscillator T 39 Oscillator T	(.02 mfd. Tubular)	30-4481 32-2191			Bocket (Prover Transformer)	27-6061	iò.
38 Oscillator T 39 Oscillator T	ransformer (Range 2)	32-2194 32-2197	.80 .50		Tube Shield Base	28-3898	.03
40 Oscillator T 41 Oscillator T	ransformer (Range 4)	32-2198 32-2199	.50		Tube Shield Base (6N7G)	8004 27-4317	.03 .10 .03
42 Compensate 42X Condenser	or Oscillator (4 Section)	31-6124 30-1049	1.00		Mtg. Sleeve (R. F. Unit)	28-2257 W-729	.01 Per C .45 Per C .40
43 Compensat	or Oscillator (6 Section). (05 mfd. Tubular)	30-4123	.20		Mtg. Spacer (R. F. Unit) Code 121	27-8339	Per C .40
46 Resistor (20 47 Condenser 48 Resistor (10	00 ohms Wirewound)	7217	.20		Mtg. Washer Mtg. Rubber Tuning Condenser	29-3927	.01
48 Resistor (10	00 ohms Wirewound)	33-3023	.25		Mtg. Plate (R. F. Transformer)	23-3808	Per C .70 .02 .01
50 Resistor (20 51 Condenser	0000 ohms. 35 watt)	33-320339	20 20 20 20 25 25 25 25 25 25 25 25 26 25 26 27 28 28 28 28 29 28 28 28 28 28 28 28 28 28 28 28 28 28		Mtg. Screw (R. F. Transformer)	W-1635	Per C .30
52 Condenser 53 Condenser	(600 mmfd. Mica) (600 mmfd. Mica)	30-1049 30-1049	.25		Terminal Cover (Speaker)	36-3872 27-4330	.18 .15 .10
54 Coll (Osc. I 55 Condenser	Plate) (200 mmfd. Mica)	32-2242 30-1047	.25 .25		Knob Knob	27-4331 27-4332	.10
56 Condenser 57 Condenser	(55 mmfd. Mica) (25 mmfd. Mica)	. 30-1045 . 30-1067	.20 .20		Knob	27-4326	.50
58 Resistor (10 59 Condenser	(01 mfd. Tubular)	33-310339	.20		A. C. Plug and Cord.	L-2288 45-2046	::::
60 Resistor (3: 61 Resistor (20 62 Electrolytic	0000 ohms, 14 watt)	33-320339	.20 .20 1.60		Chassis Mtg. Rubber Rubber Bushing (Small)	3558	
63 Condenser	(.05 mfd. Tubular—Code 121 only)	30-4123			Speaker, W.	36-1219	- ::::
64 Expander U 65 Condenser 66 Condenser 67 Resistor (19	(.1 mfd. Bakelite) (.05 mfd. Tubular)	49898G 30-4123	.35 .20 .20		Acoustic Clarifier (Type K)	36-1155	::::
67 Resistor (1) 68 Shadowmet	000 ohms, 1/2 watt)	. 33-210339 43-2189			Snap Fasteners.	28-4279	
68 Shadowmet 69 Resistor (11 70 Resistor (11 71 Third I. F. 72 Condenser 73 Resistor (5 74 Condenser 75 Resistor (11 76 Condenser 77 Resistor (41 79 Condenser 80 Condenser	000 ohms, 14 watt)	33-210339 33-210339	.20 .20		The bally reaction,	65 1000	
71 Third I. F. 72 Condenser	Transformer (110 mmfd. Dual Bakelite)	32-2215 8035DG	.25		CODE 121  Dial  Bib  Clamp Set Screw Gear (Dial) Gear Drive Gear Drive Thrust Washer C Washer Mask Amm and Link Assembly Mask Washer Mask Washer Mask Basembly Warler Drive Mounting Assembly Varniler Drive Mounting Assembly Carlier Rive Gasket Gasket		
74 Condenser	(.004 mfd. Tubular)	. 30-4185	25 20 25 20 25 20 25 20 20 20 20		Dial Hub	27-5249	.40 .12 .10 .02 .10
76 Condenser	(.25 mfd. Tubular)	30-4134	.25		Clamp Set Screw	28-2837 W-1641	.03
78 Resistor (4)	000 ohms, 14 watt).	. 33-240339 3615DG	.20		Gear (Dial)	31-1884	.10
80 Condenser 81 Magnet Tu 82 Resistor (4)	(110 mmfd. Mica)ning Transformer	30-1031 32-2217			Thrust Washer	28-3976	Per C . 30 .01 .30 .50 Per C .50
82 Resistor (4) 83 Resistor (4)	90,000 ohms, 14 watt)	. 33-449339 . 33-449339	.20 .20		Mask Arm and Link Assembly	27-5206	30
84 Condenser 85 Resistor (4)	(110 mmfd. Dual Bakelite)	. 8035DG . 33-449339	.25 .20		Mask Washer. Mask Guide and Bracket.	27-8318 38-7876	Per C .50
83 Resistor (4 84 Condenser 85 Resistor (4 86 Resistor (1 87 Resistor (1 88 Resistor (4 89 Condenser 90 Condenser 91 Resistor (2 92 Resistor (1	meg. ohm, 14 watt)	33-510339	.20 .20 .25 .20 .20 .20 .20 1.40 .30 .20 .20		Drive Mounting Assembly	31-1901	
89 Condenser	(Three section 1, 1, 8 mfd.)	. 30-4466	1.40		Besel Frame and Plate Assembly (Cabinet)	40-5948	.80 .06 .45
91 Resistor (2)	0.000 ohms, 14 watt)	33-320339	.20		Ring. Gasket	28-3988 27-8313	.45
93 Switch (Ma	ng. Tuning) p (Code 122)	42-1216					
93 Switch (Ma 94 Flood Lam 95 Resistor (4 96 Condenser 97 Resistor (5	90,000 ohms, 1/4 watt)	. 33-449000 . 30-4123	.20 .20 .20		CODE 122		
97 Resistor (5 97X Condenser 98 Condenser	1,000 ohms, 14 watt)	. 33-351339 . 30-1031			Auto Dial Tuning Assembly Complete Dial Beale	27-5207	
98 Conjenser 99 Resistor (9	(.05 mfd. Tubular) 9,000 ohms, 14 watt)	. 33-399339	.20 .20		Mask and Link Assembly	27-8398 45-2328	
100 Resistor (1	(.01 mfd. Tubular)	33-510339	.20		Ring (Retaining Mask Assembly)	28-7195	
102 Volume Co 103 Resistor (7)	0,000 ohms, 14 watt)	33-370339	.20 .20 .25 1.00 .20 .20 .20		Auto Diai Tuning Assembly Complete. Diai Beale. Gasket (Diai Scale). Mask and Link Assembly Mask Quide. Mask Chaile Mask Assembly Bering (Retaining Mask Assembly). Bering (Retaining Mask Assembly). Indexing Flunger Plunger Stop and Switch Assembly. Fell Washer. Sanp Pastener Washer. Banp Pastener Indexing Handle. Bask Grows Serdwa (Cover) Diai Szeutcheon Assembly Besel Garden Besel Garden Besel Garden Besel Grane	31-1898	::::
105 Condenser	(.006 mfd. Tubular)	30-4445	20		Range Switch Shaft Coupling	28-7198 27-8399	
107 Condenser 108 Resistor (2	(100 mmfd. Mica)	30-1035	.20		Washer Snap Fastener	W-495 28-4279	
109 Input Audi 110 Resistor (2	o Transformer. 5,000 ohms, 1/2 watt)	. 32-7057 . 33-325339	3.50		Indexing Handle	45-2329	::::
111 Resistor (2 112 Output Tre	5,000 ohms, 35 watt)	. 33-325339 . 32-7717	2.00		Set Screws	28-6493 W-1666	::::
113 Cone and V	Joice Coll	. 36-3647	2.25		Plai Escutcheon Assembly	38-7937	::::
115 Resistor (1	60,000 ohms, 14 watt) (.1 mfd. Dual Bakelite)	. 33-416339 . 4989DG	20 3.50 .20 2.00 2.25 .20 .20 .20 .20		Besel Gasket	27-8517	· ::::
117 Resistor (5 118 Resistor (1	4,000 ohms, 1 watt)	33-351339	.20		Station Tab Kit	40-6013	



Model 37-116-Codes 121-122

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