

MODELS 40-501, Code 121; and 40-502, Codes 121-122

SPECIFICATIONS

Models 40-501, Code 121 and 40-502, Codes 121 and 122 are radio-phonograph combinations employing a five tube super-heterodyne receiver and a manually operated crystal pickup. These models are similar with the exception of the cabinets, phonograph motors, phonograph tone control and crystal pickups. The same radio receiver is used in each model.

The Phonograph will play 10 inch and 12 inch records manually and contains an automatic switch which starts the motor when the needle is placed on the record. An additional feature of the phonograph in the Model 40-502, Codes 121 and

122 (not incorporated in Model 40-501) is a tone control. This control is in the third position on the Radio-Phono Switch.

POWER SUPPLY: 115 volts, 60 cycle A. C.

FREQUENCY TUNING RANGE: 540 to 1720 K. C.

INTERMEDIATE FREQUENCY: 455 K. C.

AUDIO OUTPUT: One watt.

PHILCO TUBES USED: 7A8, Converter; 7B7, I. F.; 7C6, Detector—First Audio—A. V. C.; 35A5, Audio Output, and a 35Z3, Rectifier.

ALIGNING COMPENSATORS

EQUIPMENT REQUIRED

Signal Generator, Philco Model 077 or 177 are recommended. Aligning Indicator, Philco Model 027 and Model 028 Circuit Testers, which contain an audio output meter and vacuum tube voltmeter. Either the vacuum tube voltmeter or the audio

output meters may be used as an aligning indicator and are connected as given under "Connecting Aligning Instruments".

Tools: Fibre handle aligning screw driver. Philco Part No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

Audio Output Meter: If an aligning indicator of this type is used, connect it to the plate and screen terminals of the output tube.

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator, make the following connections:

Attach the negative terminal of the voltmeter to any point in the circuit where the A. V. C. voltage can be obtained. Connect the positive (+) terminal of the vacuum tube voltmeter to the B— of the receiver (Cathode 7C6).

An aligning adaptor, Philco Part No. 45-2767, may be used with the vacuum tube voltmeter. To use the adaptor, remove the second detector tube from its socket and insert the aligning adaptor in the socket, then replace the tube in the adaptor. Connect the negative terminal of the vacuum tube voltmeter to the light-colored wire which protrudes from the side of the

adaptor. Attach the positive terminal of the vacuum tube voltmeter to the black wire of the adaptor.

Signal Generator: When adjusting the I. F. padders, the high side of the signal generator is connected through a .004 mfd. condenser to the antenna section of the tuning condenser. Connect the ground or low side of the generator to the chassis. Reverse the power plug of the Receiver to eliminate hum.

The R. F. and oscillator padders are aligned with the high side of the signal generator connected to the antenna of the receiver through a 100 mmfd. condenser.

After connecting the aligning instruments, adjust the compensators as shown in the tabulation below. The first and second I. F. transformers are located on the top and bottom sections of the chassis respectively. The antenna and oscillator padders are located on the tuning condenser.

Operations in Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order	
1	Ant. Section of Tuning Cond.	470 K. C.	540 K. C. Tuning Cond. Closed	Vol. Max.	11A, 11B 10A, 10B	
2	Ant. Ter.	1700 K. C.	1700 K. C.	Vol. Max.	5B	Note A
3	Ant. Ter.	1500 K. C.	1500 K. C.	Vol. Max.	5A	

NOTE A—DIAL CALIBRATION: The dial pointer is adjusted by closing the tuning condenser (plates fully meshed) and setting the pointer on the dot below 55 on the dial.

PRODUCTION CHANGES

MODELS 40-501, CODE 121; 40-502, CODES 121-122

Beginning with sets marked Run 2, resistor (6) 47000 ohms, Part No. 33-347339 was changed to 22000 ohms, Part No.

33-322339. This change was made to stabilize oscillator circuit. Output Transformer for Speaker Part No. 35-1469-1 listed as Part No. 32-8057 should be Part No. 32-8047.

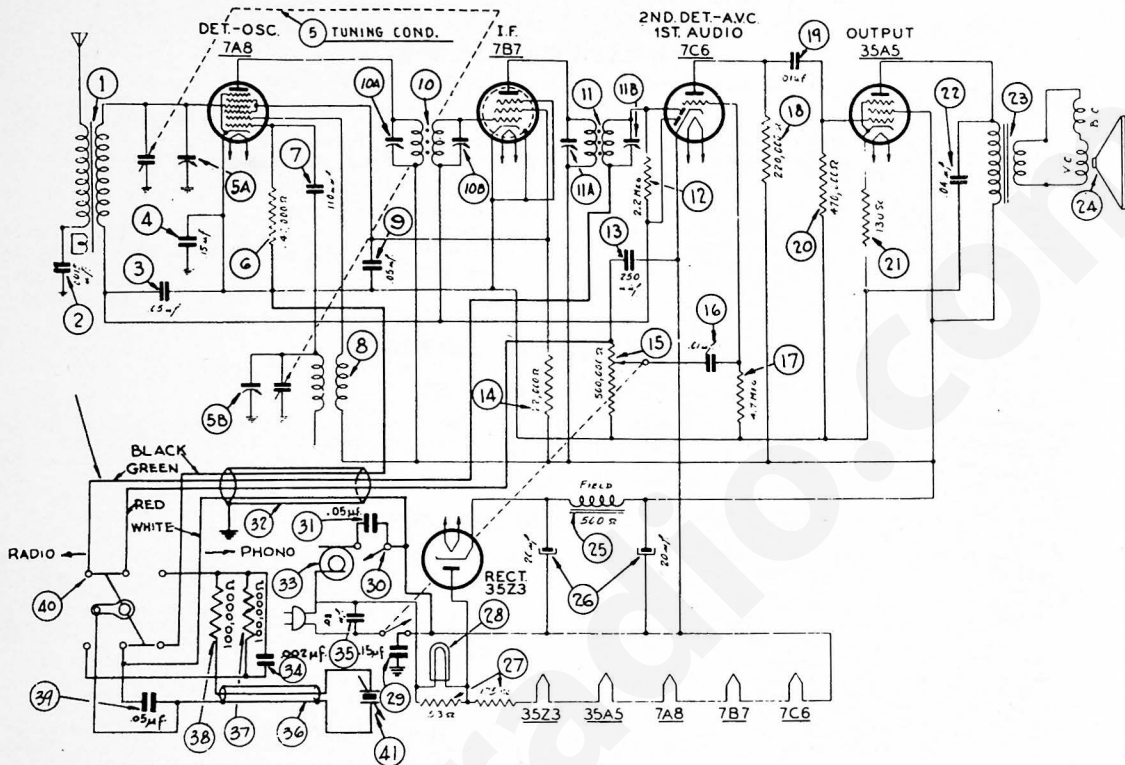
MODEL 40-502, Code 122

Motor (33) 115 volts, 60 cycle, Part No. 35-1216 changed to Part No. 35-1222. The turntable for the new motor is Part No. 35-3044.

MISCELLANEOUS PARTS

SCHE. No.	DESCRIPTION	PART No.	SCHE. No.	DESCRIPTION	PART No.	SCHE. No.	DESCRIPTION	PART No.
	Cabinet (40-501)	10404-A		Spring Drive Assembly	28-8751		Snap Fastener Dial Scale	58-1387
	Cabinet (40-502, Code 121)	10405-A		Speaker Assembly	36-1469		Screw (Motor Mounting)	
	Cabinet (40-502, Code 122)	10408-B		Sieve (Motor Mounting)	28-2258		Models 40-501, 40-502, Code 121	W-999
	Dial Scale	27-5536		Sockets Luxtal Tubes	27-8130		Model 40-502, Code 122	W-218
	Dial Pointer	56-1326		Socket (Pilot Lamp)	38-8225		Nut "T" (Motor Mounting)	W-1758
	Drive Drum	28-6662		Tone Arm Assem. Complete with Crystal (Models 40-501, 40-502, Code 121)	35-2042		Screw (Chassis Mounting)	
	Drive Shaft Assembly	31-2355		(Model 40-502, Code 122)	35-2044		Model 40-502, Code 122	W-2030
	Drive Cord	27-4332		Tone Arm Assembly (Model 40-502, Code 122)	35-2044		Models 40-501, 40-502, Code 121	W-2017
	Knob (Phono Switch)	27-4809		Turntable (Models 40-501, Code 121, 40-502, Code 121)	315-1000		Cover (Radio-Phono Switch)	
	Knob (Tuning and Volume)	L-3199		Turntable (Model 40-502, Code 122)	35-1217		Model 40-501	27-8428
	Power Cord						Model 40-502, Code 121-122	27-9438
							Nut (Radio-Phono Switch Mtg.)	W-984

MODELS 40-501, Code 121; and 40-502, Codes 121-122



SCHEMATIC DIAGRAM MODELS 40-501 CODE 121

THE PHONOGRAPH PICKUP WIRING AS SHOWN IN THE ABOVE DIAGRAM IS FOR MODEL 40-501 CODE 121
THE PICKUP WIRING FOR MODELS 40-502 CODE 121-122 IS SHOWN IN FIGURES 1 & 2

REPLACEMENT PARTS

MODELS 40-501, CODE 121 AND
40-502, CODES 121 AND 122

SCH. No.	DESCRIPTION	PART No.
1	Antenna Transformer	32-3151
2	Condenser (.0015 mfd., 200 volts)	30-4555
3	Condenser (.05 mfd., 400 volts)	30-4519
4	Condenser (.15 mfd., 400 volts)	30-4505
5	Tuning Condenser	31-2354
5A	Antenna Compensator, Part of 5.	
6	Resistor (47,000 ohms, Model 40-502)	33-347339
7	Condenser (.110 mfd.)	30-1130
8	Oscillator Transformer	32-3152
9	Condenser (.05 mfd., 200 volts)	30-4519
10	1st I. F. Transformer	32-1459
11	2nd I. F. Transformer	32-3150
12	Resistor (2.2 megohms)	33-522339
13	Condenser, Mica (.250 mfd.)	61-0033
14	Resistor (22,000 ohms, Model 40-502, Code 122)	33-322339
15	Volume Control	33-5306
16	Condenser (.01 mfd., 200 volts)	30-4479
17	Resistor (4.7 megohms, Model 40-502, Code 122)	33-547339
18	Resistor (220,000 ohms, Model 40-502, Code 122)	33-422339
19	Condenser, Tubular (.01 mfd., 400 volts)	30-4572
20	Resistor (470,000 ohms, Model 40-502, Code 122)	33-113339
21	Resistor (130 ohms)	33-447339
22	Condenser (.02 mfd., 400 volts)	30-4516
23	Output Transformer	
24	For use with Speaker 38-1469-1	32-8057
25	For use with Speaker 38-1469-2	32-8044
26	Cone Assembly for Speaker 38-1469-1	36-4115
27	Cone Assembly for Speaker 38-1469-2	36-4113
28	Field Coil—Replace Speaker 38-1469	
29	Electrical Condenser (20-20 mfd.)	30-2382
30	Pilot Lamp	33-2088
31	Condenser (.18 mfd.)	33-3367
32	Motor Switch (40-501, 121, 40-502, 121-122)	34-2088
33	Motor Switch (40-501, 121, 40-502, 121-122)	42-1821

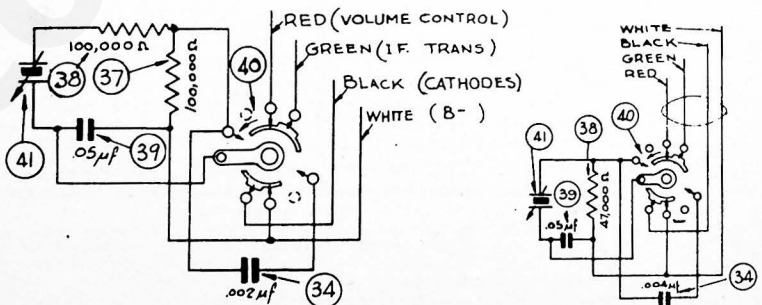


FIG. 1. PHONOGRAPH WIRING AS USED ON MODEL 40-502, CODE 121

FIG. 2. PHONOGRAPH WIRING AS USED ON MODEL 40-502, CODE 122

SCH. No.	DESCRIPTION	PART No.	SCH. No.	DESCRIPTION	PART No.
37	Resistor (100,000 ohms, 40-501, Code 121, 40-502, Code 121)	30-4518	37	Resistor (100,000 ohms, 40-501, Code 121, 40-502, Code 121)	33-410339
38	Resistor (100,000 ohms, 40-501, 40-502, Code 121)	L-3192	38	Resistor (100,000 ohms, 40-501, 40-502, Code 121)	33-410339
39	Condenser, Tubular (.05 mfd.)	L-3206	39	Resistor (47,000 ohms, 40-502, Code 122)	33-347339
40	Resistor (15 volts, 60 cycle)	35-1158	40	Condenser, Tubular (.05 mfd., 400 volts)	30-4519
41	Condenser (.004 mfd., 40-502, Code 121, 40-502, Code 122)	35-1238	40	Resistor (47,000 ohms, Model 40-501)	42-1523
34	Condenser (.002 mfd., 40-501, 40-502, Code 121)	30-4579	41	Condenser, Tubular (.05 mfd., 400 volts)	42-1524
35	Condenser (.03 mfd., 400 volts)	30-4449	41	Pickup Crystal Cartridge	30-4579
36	Pickup Cable		41	Condenser (.03 mfd., 400 volts)	30-4449
				Pickup Cable	35-2089