Radio-Phonograph Model 42-1006, Code 122

SPECIFICATIONS

Model 42-1006, Code 122, is an alternating current operated seven (7) tube superheterodyne radio-phonograph combination covering standard broadcast frequencies.

PHONOGRAPH SECTION

The phonograph incorporates an automatic record changer, Part No. 35-1293, with a permanent jewel crystal pickup and a variable speed (78 RPM and 33⅓ to 39 RPM) induction motor. The record changer plays ten 12-inch or twelve 10-inch records at one loading. The crystal pickup operates through a special amplifier and the audio system of the radio. The induction motor is designed to operate on 115 volts, 60 cycles, A.C. For operation on 115 volts, 50 cycle A.C. power supplies a special motor is available.

RADIO SECTION

The radio includes a built-in Philco Super Aerial System, automatic volume control; two-position tone control, mounted on the motor board; beam power pentode audio output stage; Philco LOKTAL tubes and a 10-inch electrodynamic speaker.

Tuning Band Frequencies: 540 to 1600 K.C.

Intermediate Frequency: 455 K.C.

Audio Output: 1.5 watts.

Power Supply: 115 volts, 60 cycle A.C.

Philco Tubes: 7C7, R.F. amplifier; 7A8, oscillator-converter; 7B7, I.F. amplifier; 7C6, second detector, A.V.C., 1st audio; 7B7, phono-pre-amplifier; 35L6GT, audio output; 50Y6GT, rectifier.

EXTERNAL AERIAL CONNECTIONS

The built-in low-impedance loop aerial system of this model is designed to operate without an outside aerial or ground, and to give exceptional receiving performance under average conditions.

To operate the radio, however, in steel reinforced buildings and other shielded locations, where signal strength is weak, the Philco outdoor aerial, Part No. 45-2817, is recommended for maximum receiving performance. The outdoor aerial can be easily connected to the radio by inserting the plug attached to the transformer (supplied with the aerial) into the socket provided at the rear of the radio. This aerial can be obtained from your local Philco Distributor.

AUTOMATIC RECORD CHANGER MECHANICAL ADJUSTMENTS

The automatic Record Changer mechanical adjustments will be found in Radio Service Bulletin No. 409.

ALIGNING R. F. AND I. F. COMPENSATORS

EQUIPMENT REQUIRED

1. **SIGNAL GENERATOR:** Covering the frequency range of the receiver, such as Philco Model 070.
2. **ALIGNING INDICATOR:** Either a vacuum tube voltmeter or an audio output meter may be used as an aligning indicator. Philco Models 027 and 028 circuit testers contain both these meters.
3. **TOOLS:** Philco Fiber Screw Driver, Part. No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

Audio Output Meter: If this type of aligning meter is used, connect it to the voice coil terminals of the speaker or from the plate of the 35L6GT tube to the chassis. Adjust the meter for the 0 to 10 volt scale.

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 electrical ground ("B" negative).

Signal Generator: When adjusting the I.F. padders, the high side of the signal generator is connected through a .1 mfd. condenser to the antenna section of the tuning condenser. Connect the ground or low side of the generator to the chassis.

When aligning the R.F. padders a loop is made from a few turns of wire and connected to the signal generator output terminals; the signal generator is then placed close to the loop of the radio.

The receiver can be adjusted in the cabinet or removed from the cabinet.

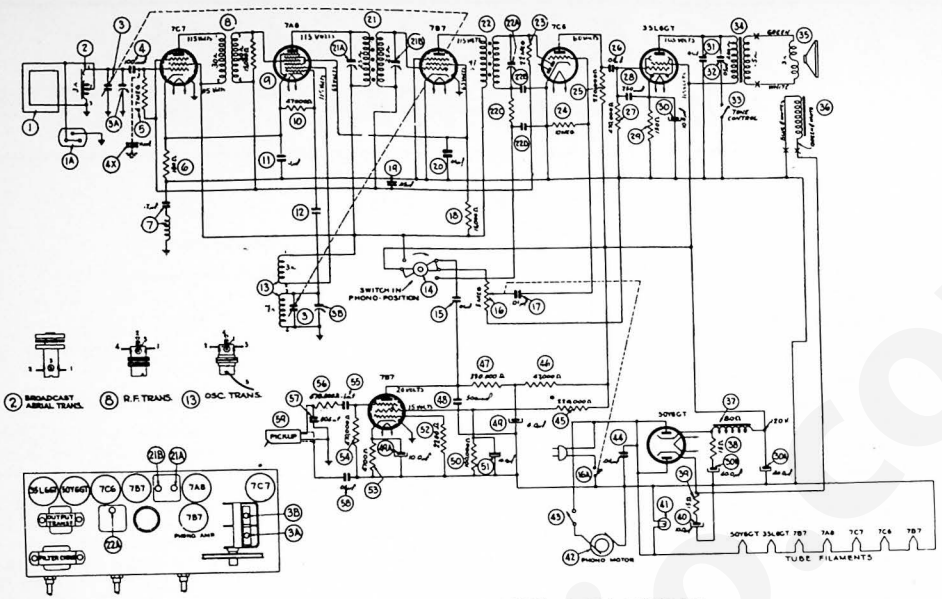
When adjusting the radio outside the cabinet the loop aerial should be placed in approximately the same position around or near the chassis as when assembled. A paper aligning scale, Part No. 27-9985, is also attached to the metal dial plate for adjusting the radio outside of the cabinet. The scale is marked with three lines indicating from left to right—"Dial Calibration Point," "580 K.C." and "1500 K.C."

After connecting the aligning instruments adjust the compensators as shown in the tabulation below. Locations of the compensators are shown on the schematic diagram.

If the indicating meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

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	455 K.C.	540 K.C. Tuning Cond. Closed	Vol. Max. Switch-Radio	22A, 21B, 21A	
2	Loop see above instructions	1600 K.C.	1600 K.C.	Vol. Max. Switch-Radio	3B, 3A	Note A

NOTE A:—Dial Calibration: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To do this, proceed as follows: Turn the tuning condenser to the maximum capacity position (plates fully meshed). With the condenser in this position, set the tuning pointer on the small dot below 540 K.C.

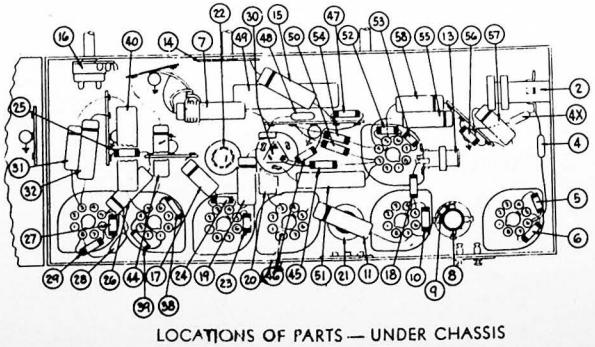


SCHEMATIC DIAGRAM — MODEL 42-1006, CODE 122

The D. C. voltages indicated at the tube elements in the above diagram were measured with a 1000 ohms per volt voltmeter, Philco Model 027. Line voltage, 117 volts A. C. No signal being received.

REPLACEMENT PARTS — MODEL 42-1006, CODE 122

Schematic No.	Description	Part No.
1	Loop Aerial	76-1368
	Terminal Panel	38-6533
	Rivets	W-207
	Mtg. Sleeve	28-3806FA3
	Spring Washer	28-4186FE7
	Washer	W-425
	Mtg. Screw	W-722
1A	External Aerial Locket	27-6145
	Rivet	W-207
2	Broadcast Aerial Transformer	32-3776
	Mtg. Clip	28-5002
3	Tuning Condenser	31-2587
3A	Aerial Compensator (Part of 3)	
3B	Oscillator Compensator (Part of 3)	
	Drive Cord	31-2573
	Spring	28-8954
	Drive Shaft	31 2571
	Mtg. Nut	W-684
	Mtg. Grommet	27-4618
	Mtg. Sleeves	28-5583
	Mtg. Nut	W-1543
	Pointer	56-2076
	Washer	W-495
4	Mica Condenser (100 mmfd.)	60-110157
5	Resistor (4.7 megohms)	33-547339
6	Resistor (180 ohms)	33-118336
7	Condenser (.2 mfd.) and R. F. Choke	76-1161
8	R. F. Transformer	32-3595
	Mtg. Clip	28-5002
9	Resistor (15,000 ohms), Part of 8	33-315339
10	Resistor (47,000 ohms)	33-347339
11	Condenser (.1 mfd., 200 Volts)	30-4586
12	Condenser (Consists of capacity Winding in 13)	
13	Oscillator Transformer	32-3613
	Mtg. Clip	28-5002
14	Radio-Phono Switch	42-1709
	Mtg. Nut	W-2157
15	Condenser (.01 mfd., 400 Volts)	30-4572
16	Volume Control	33-5469
16A	ON-OFF Switch (Part of 16)	
	Mtg. Nut	W-2157
17	Condenser (.01 mfd., 400 Volts)	30-4572
18	Resistor (15,000 ohms)	33-315339
19	Condenser (.05 mfd., 200 Volts)	30-4519
20	Condenser (.05 mfd., 200 Volts)	30-4519
21	First I. F. Transformer	32-3777
21A	Primary Compensator (Part of 21)	
21B	Secondary Compensator (Part of 21)	
	Mtg. Nut	W-1949
22	Second I. F. Transformer	32-3618
22A	Secondary Compensator (Part of 21)	
22B	Condenser (Part of 22A)	
22C	Resistor (47,000 ohms, Part of 22)	33-347339
22D	Condenser (Part of 22A)	
	Bottom Shield	56-1640
	Mtg. Nut	W-1949
23	Resistor (2.2 megohms)	33-522339
24	Resistor (10 megohms)	33-610339
25	Resistor (220,000 ohms)	33-422339
26	Condenser (.01 mfd., 400 Volts)	30-4572
27	Resistor (470,000 ohms)	33-447339
28	Mica Condenser (250 mmfd.)	60-125157
29	Resistor (130 ohms)	33-113336
30	Electrolytic Condenser (10 mfd., 25 Volts)	30-2509
30A	Electrolytic Condenser (40 mfd., 150 Volts)	Part of 30
30B	Electrolytic Condenser (40 mfd., 150 Volts)	Part of 30
31	Condenser (.01 mfd., 400 Volts)	30-4572
32	Condenser (.05 mfd., 400 Volts)	30-4518
33	Tone Control Switch	42-1562-2
	Switch Cover	56-1880
	Switch Plate	56-1793
	Mtg. Screw	W-560FA4
34	Output Transformer	
	(Mounted on Top of Chassis)	32-8203
	Mtg. Rivet	97-0065
35	Speaker	36-1569
	Cone Assembly	36-4169
	Mtg. Grommet	27-4596
	Mtg. Washer	28-3320
	Mtg. Sleeve	56-2044
	Mtg. Nut	W-124
	Cable	41-3657
36	Field Coil (Replace Speaker 36-1569)	
37	Filter Choke (Mounted on Top of Chassis)	32-8202
	Mtg. Rivet	97-0065
38	Resistor (15 ohms)	33-015430
39	Resistor (15 ohms)	33-015430
40	Electrolytic Condenser (10 mfd., 150 Volts)	30-2396
41	Pilot Lamp	34-2477
	Socket Assembly	76-1282
42	Motor (115 Volts, 60 cycles)	
	Motor Cable	41-3667
43	Motor Switch	35-2606
44	Condenser (.04 mfd., 400 Volts)	30-4119
45	Resistor (220,000 ohms)	33-422339
46	Resistor (47,000 ohms)	33-347339
47	Resistor (330,000 ohms)	33-433339
48	Mica Condenser (500 mmfd.)	60-150157
49	Electrolytic Condenser (6 mfd.)	30-2533
49A	Electrolytic Condenser (10 mfd.) Part of 49	
	Mtg. Panel	27-9508
	Insulator Tube	27-9902
50	Resistor (100,000 ohms)	33-410339
51	Electrolytic Condenser (10 mfd., 150 Volts)	30-2396
52	Resistor (2200 ohms)	33-222339
53	Resistor (4700 ohms)	33-247339
54	Resistor (470,000 ohms)	33-447339
55	Condenser (.1 mfd., 200 Volts)	30-4586
56	Resistor (470,000 ohms)	33-447339
57	Condenser (.004 mfd., 600 Volts)	30-4623
58	Condenser (.05 mfd., 200 Volts)	30-4519
59	Crystal Pickup	35-2569
	Needle Assembly	76-1285
	Cable	41-3668
	MISCELLANEOUS PARTS	
	Bezel	54-4104
	Mtg. Screw	W-2073FA9
	Cord (Power)	L-3245
	Cabinet	10575A
	Dial Scale	27-5793
	Spring Retainer	56-6161
	Scale (Padding)	27-9985
	Knob (Vol., tuning)	54-4105
	Rubber Grommet (Chassis Mtg.)	3915
	Rubber Grommet (Chassis Mtg.)	27-4307
	Record Changer	35-1293
	Mtg. Cradle	76-1415
	Screw (Chassis Mtg.)	W-443FA3
	Socket (Tubes)	27-6177
	Rivets	W-239FA5
	Washer (Chassis Mtg.)	W-410



LOCATIONS OF PARTS — UNDER CHASSIS