RADIO-PHONOGRAPH MODEL 41-602

SPECIFICATIONS

Model 41-602 is a radio-phonograph combination consisting of a five (5) tube superheterodyne radio, a manually operated rim drive turntable and a crystal pickup. A new type dual volume control and on-off switch combined in one unit is used to control the sound output of the radio and phonograph. The phonograph motor is automatically started when the pickup is lifted from its rest.

The radio includes the Philco built-in American and overseas loop aerial system, tuning band covering 540 to 1580 K. C., automatic volume control, pentode audio output, Philco Loktal tubes and a tone control.

INTERMEDIATE FREQUENCY: 455 K. C.

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

PHILCO TUBES USED: 7A8, converter; 7B7, I. F. amplifier; 7C6, 2nd detector, 1st audio, A. V. C.; 35A5, audio output; and a 35Z3, rectifier.

OUTSIDE AERIAL: Connections are also provided on the rear of the chassis for an outside aerial to be used in locations such as steel reinforced buildings and other shielded locations where signal strength is weak. For installations requiring an outside aerial the Philco Utility Aerial, Part No. 40-6384, is recommended.

ALIGNING R. F. AND I. F. COMPENSATORS

EQUIPMENT REQUIRED

1. SIGNAL GENERATOR: Covering the frequency range of the receiver, such as Philco Models 077 or 177.
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 35A5 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 the chassis.

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.

After connecting the aligning instruments adjust the compensators as shown in the tabulation below. Locations of the R. F. compensators are on top of the tuning condenser, oscillator on the front, and aerial on the rear. The 1st and 2nd I. F. transformers are on top of the chassis.

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. Range Switch Brdcst.	14A, 12A, 12B	
2	Loop see above instructions	1600 K. C.	1600 K. C.	Vol. Max. Range Switch Brdcst.	4A	Note A
3	Loop see above instructions	1500 K. C.	1500 K. C.	Vol. Max. Range Switch Brdcst.	5	

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 550 K. C.

PRODUCTION CHANGES

Two types of 115 volt, 60 cycle motors are used on this model, Part No. 35-1222 and 35-1240-12. Turntable 35-3044 is used on motor 35-1222 and turntable 35-3047-12 on motor 35-1240-12.

To operate on a 115 volt, 50 cycle power supply, a phonograph motor, Part No. 35-1250 must be used.

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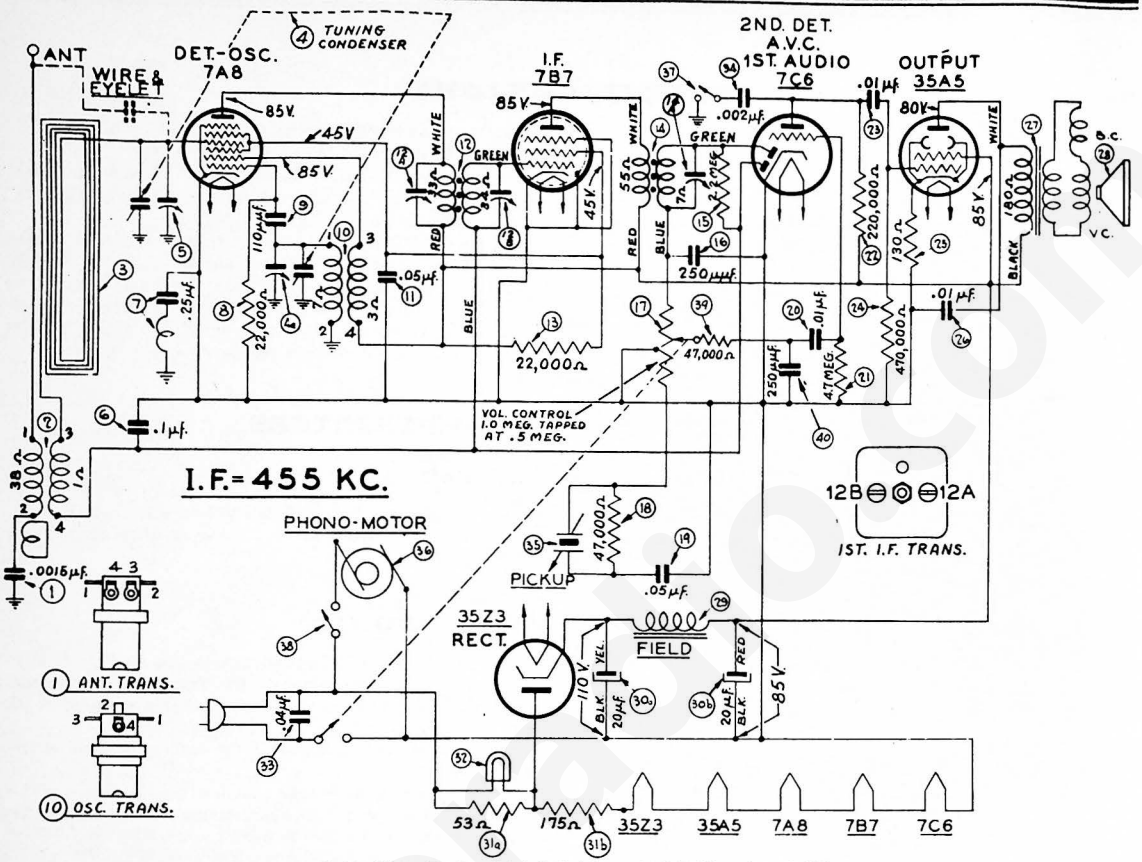


SCHEMATIC DIAGRAM MODEL 41-602

Replacement Parts — Model 41-602

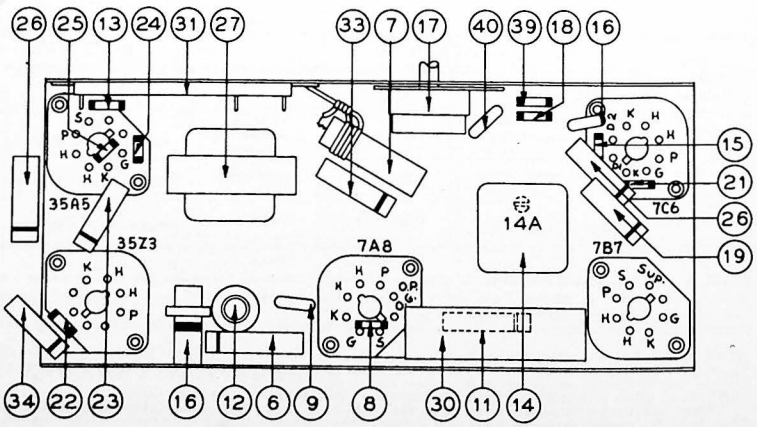
SCHE. No.	DESCRIPTION	PART No.
1	Condenser (.0015 mfd., 200 volts)	30-4555
2	Aerial Transformer	32-3394
3	Loop Aerial	32-8040
4	Tuning Condenser	31-2464
	Spring (Drive Cord)	28-8955
	Drive Cord	31-2358
	Drive Shaft	31-2370
5	Compensator (Loop Tuning)	
6	Condenser (.1 mfd., 200 volts)	30-4499
7	Condenser (.25 mfd. and Choke Assembly	76-1019
8	Resistor (22,000 ohms)	33-322339
9	Mica Condenser (110 mmfd.)	30-1130
10	Oscillator Transformer	32-3182
11	Condenser (.05 mfd., 200 volts)	30-4519
12	1st I. F. Transformer	32-3390
13	Resistor (22,000 ohms)	33-322339
14	2nd I. F. Transformer	32-3391
15	Resistor (2.2 megohms)	33-522339
16	Mica Condenser (250 mmfd.)	61-0033
17	Volume Control	33-5396
18	Resistor (47,000 ohms)	33-347339
19	Condenser (.05 mfd., 200 volts)	30-4519
20	Condenser (.01 mfd., 200 volts)	30-4479
21	Resistor (4.7 megohms)	33-547339
22	Resistor (220,000 ohms)	33-322339
23	Condenser (.01 mfd., 400 volts)	30-4572
24	Resistor (470,000 ohms)	33-447339
25	Resistor (130 ohms)	33-113358
26	Condenser (.01 mfd., 400 volts)	30-4572
27	Output Trans. (for Speaker 36-1469-1)	32-8047
	Output Trans. (for Speaker 36-1469-9)	32-8044
	Output Trans. (for Speaker 36-1469-2)	32-8044
28	Cone (for Speaker 36-1469-1)	36-4118
	Cone (for Speaker 36-1469-9)	36-4113
	Cone (for Speaker 36-1469-2)	36-4132
29	Field Coil (Replace Speaker 36-1469)	
30	Electrolytic Condenser (20-20 mfd.)	30-2382
31	Resistor (53,175 ohms)	33-3367
32	Pilot Lamp	34-2048
33	Condenser (.04 mfd., 400 volts)	30-4519
34	Condenser (.002 mfd., 200 volts)	30-4579
35	Pickup and Tone Arm Complete	35-3169
	Pickup Lead	41-3808
	Crystal Cartridge	35-3204
36	Phonograph Motor (115 volts, 60 cycle)	35-1222
	Turntable	35-3044
	Screw (Mounting Motor)	W-89
37	Tone Control Switch	42-1562
38	Motor Switch	42-1521
39	Resistor (47,000 ohms)	33-347339
40	Mica Condenser (250 mmfd.)	61-0033

SCHE. No.	DESCRIPTION	PART No.
	Felt (Speaker)	27-9315
	Dial	27-5573
	Dial Snap Fastener	58-1387
	Knob (Tuning)	27-4809
	Knob (Volume)	54-4005

SCHE. No.	DESCRIPTION	PART No.
	Plate (Motor Switch)	56-1793
	Plate Screw	W-560
	Socket Assembly (Pilot Lamp)	38-9825
	Sockets (Tubes)	27-6130
	Screw (Chassis Mounting)	W-2017

MISCELLANEOUS PARTS

Cord (Power)	L-3199
Cabinet	10802A
Clamp (Electrolytic Condenser)	56-1346
Clip (Coil Mounting)	28-5002



PART LOCATIONS, UNDERSIDE OF CHASSIS