

MODELS 41-705 AND 41-708

SPECIFICATIONS

Model 41-705

TYPE OF CIRCUIT: Five (5) tube A. C. or D. C. operated super-heterodyne circuit with three tuning ranges. Other features included are: Automatic Volume Control; Ballast Resistor for selecting operating voltages and a Bakelite Cabinet.

TUNING RANGES: 540 to 1600 K. C.; 2.3 to 7.2 M. C.; 7.0 to 24 M. C.

INTERMEDIATE FREQUENCY: 455 K. C.

POWER SUPPLY: 110 or 220 Volts, A. C. or D. C. The ballast lamp socket will receive the ballast lamp in either of two positions. To permit operation of the set on either of the two rated supply voltages, the ballast lamp should be inserted with its arrow pointing to the correct voltage.

AUDIO OUTPUT: 1 Watt

CABINET DIMENSIONS: 8" high, 12" wide, 6 1/4" deep.

Model 41-708

TYPES OF CIRCUIT: Four tube, super-heterodyne circuit with three tuning ranges, and designed to operate from a six (6) volt storage battery. The high voltage D. C. is obtained through the use of a synchronous vibrator. Other features included are: Three point tone control; Bass Compensation and Automatic Volume Control.

TUNING RANGES: 540 to 1600 K. C.; 2.3 to 7.1 M. C.; 7.0 to 24 M. C.

INTERMEDIATE FREQUENCY: 455 K. C.

POWER SUPPLY: 6 Volt Storage Battery

PHILCO TUBES USED: 7A8E, converter; 7B7E, I. F. amplifier; 7C6, second detector, first audio, A. V. C.; 7B5E, audio output.

AUDIO OUTPUT: 1 Watt

CABINET DIMENSIONS: 10 1/2" high, 13 7/8" wide, 6 5/8" deep.

AERIAL AND GROUND: To obtain maximum operating performance, an "L" type aerial such as Philco Part No. 40-6383, is recommended. A good ground connection to a water pipe or any other metal object in moist earth should also be used.

ALIGNING R. F. AND I. F. COMPENSATORS

The procedure is the same for both models.

EQUIPMENT REQUIRED

1. Signal Generator, such as Philco Models 077 A. C. operated or Model 177 battery operated. These signal generators cover a frequency range from 115 to 36000 K. C.
2. Indicating Device: To obtain maximum signal strength and accurate adjustment of the padders, a vacuum tube voltmeter similar to Philco Models 027 and 028 are recommended. These instruments also contain an audio output meter which may be used as an indicating device. The method of connecting either of these instruments is listed below.
3. Aligning Tools: Fibre handle screwdriver, Philco Part No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator, it should be connected to the A. V. C. circuit as follows:

1. Connect the negative (—) terminal of the vacuum tube voltmeter through a 2 megohm resistor to any point in the circuit where the A. V. C. voltage can be measured.
2. Connect the positive (+) terminal to the chassis ground terminal.

Audio Output Meter: If this type of meter is used as an aligning indicator, it should be connected to the plate and

screen terminals of the 35A5E tube, Model 41-705; 7B5E, Model 41-708. Adjust the meter for the 0 to 30 volt A. C. scale.

After connecting the aligning meter, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown in the schematic diagrams and part locations.

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

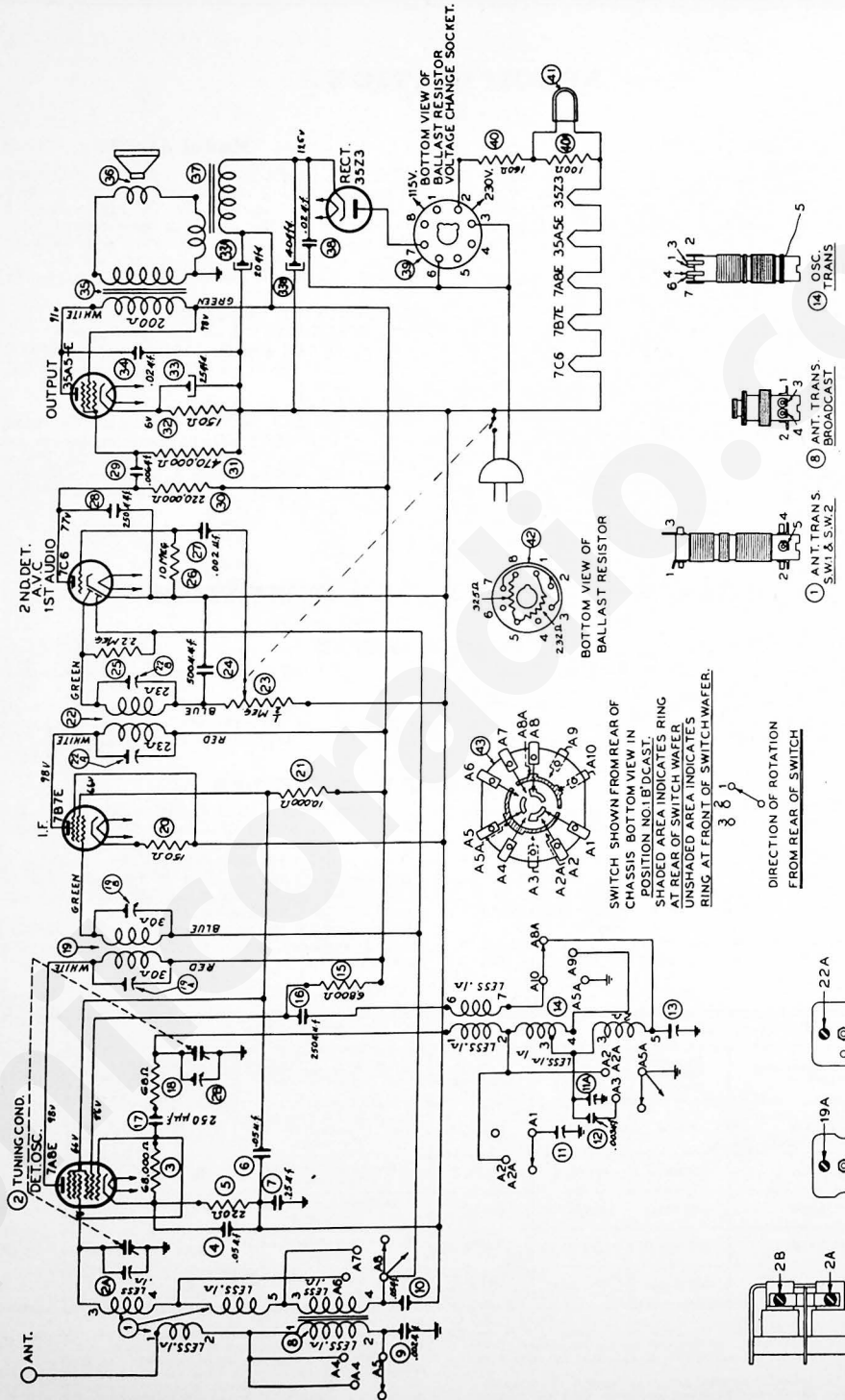
Operations in Order	SIGNAL GENERATOR			RECEIVER				SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dummy Antenna Note A	Dial Setting	Dial Setting	Control Settings	Adjust Compensators		
						41-705	41-708	
1	Lug of Ant. Tuning Condenser Front Section	.1 mfd.	455 K. C.	580 K. C.	Range Switch Broadcast (Position 1) Vol. Max.	19A, 19B 22A, 22B	14A, 14B 18A	
2	Ant. Lead	400 ohms	21 M. C.	21 M. C.	Range Switch S. W. Position 3	2B, 2A	4B, 4A	Note B Note C
3	Ant. Lead	400 ohms	6.0 M. C.	6.0 M. C.	Range Switch S. W. Position 2	11	10	Roll Gang
4	Ant. Lead	200 mmfd.	1500 K. C.	1500 K. C.	Range Switch Broadcast Position 1	11A	10A	Roll Gang
5	Ant. Lead	200 mmfd.	580 K. C.	580 K. C.	Range Switch Broadcast Position 1	13	11	Roll Gang

NOTE A—The "Dummy Antenna" consists of a condenser or resistance connected in series with the signal generator output lead (high side). Use the capacity or resistance 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 tuning

condenser closed (maximum capacity) set the dial pointer on the first mark on the left edge (low frequency end) of the broadcast scale.
NOTE C—When adjusting compensator (4B), Model 41-708; (2B), Model 41-705 be sure to tune in the fundamental signal (21 M. C.) instead of the image signal. If the compensator is correctly adjusted the image signal will be found by turning dial 910 K. C. below the fundamental signal, which will be 20,090 M. C.

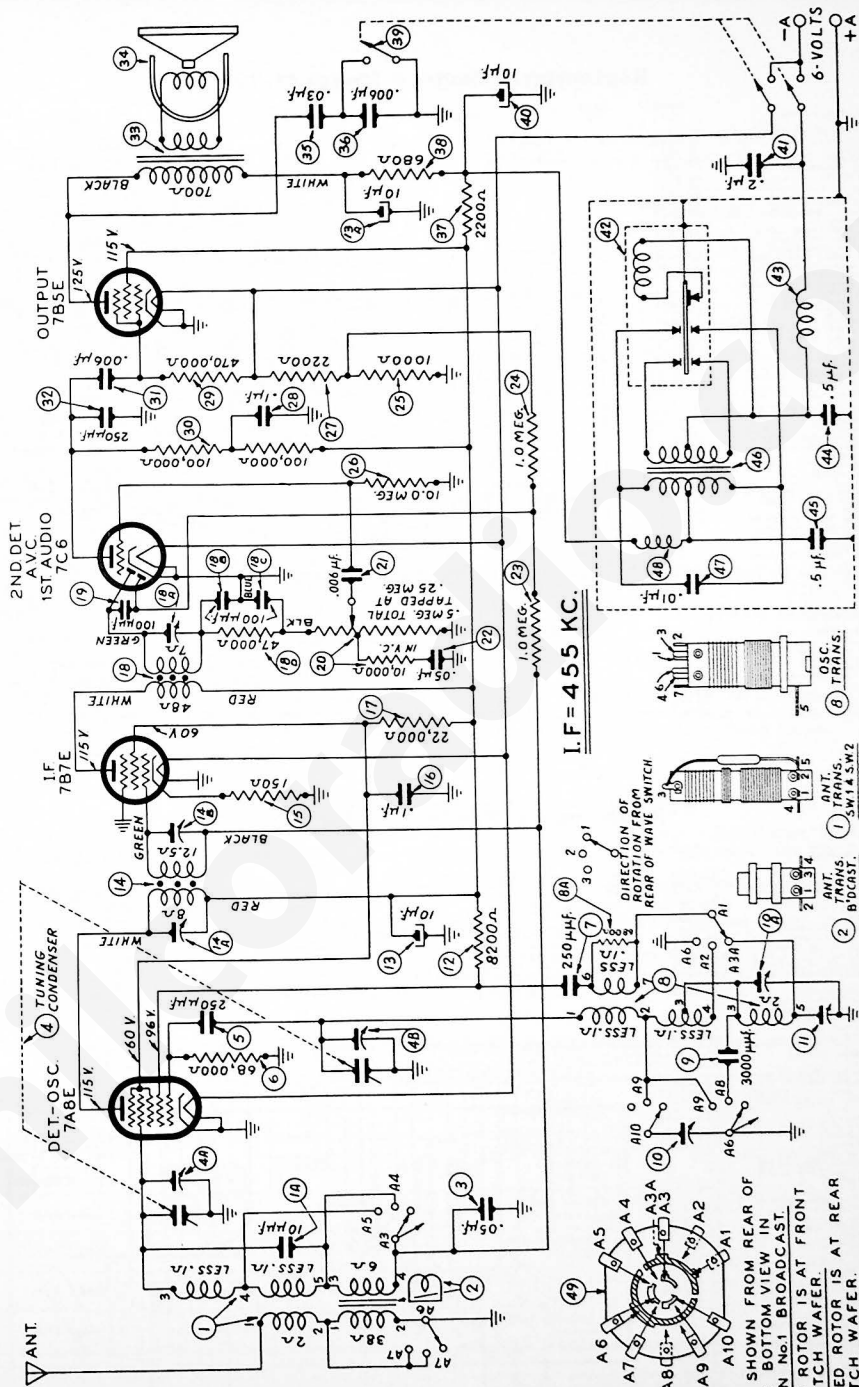
MODELS 41-705 AND 41-708 (CONTINUED)



I.F. = 455 KC.

SCHEMATIC DIAGRAM MODEL 41-705

MODELS 41-705 AND 41-708 (CONTINUED)



SCHEMATIC DIAGRAM MODEL 41-708

NOTE
 SWITCH SHOWN FROM REAR OF CHASSIS BOTTOM VIEW IN POSITION No. 1 BROADCAST. SHADED ROTOR IS AT FRONT OF SWITCH WAFER. UNSHADED ROTOR IS AT REAR OF SWITCH WAFER.

MODELS 41-705 AND 41-708 (CONTINUED)

Replacement Parts — Model 41-705

SCH. No.	DESCRIPTION	PART No.	SCH. No.	DESCRIPTION	PART No.	SCH. No.	DESCRIPTION	PART No.
1	Aerial Transformer (Short Wave)	32-3295		Dial Cover	27-5370		Socket (Tubes)	27-6131
2	Tuning Condenser	31-2456		Speed Nut	28-5478		Socket Assembly (Pilot Lamp)	78-1120
3	Screw (Mounting)	W-1923		Knob (Tuning)	27-4632		Screw (Chassis Mounting)	W-1921
4	Sleeve (Mounting)	56-1307		Speaker	36-1505		Washer (Chassis Mounting)	W-410
5	Drum (Tuning Condenser)	28-8751						
6	Spring (Drive Cord)	31-2433						
7	Pointer	54-4013						
8	Resistor (68,000 ohms)	33-368339						
9	Condenser (.05 mfd., 200 volts)	30-4519						
10	Resistor (220 ohms)	33-122336						
11	Condenser (.05 mfd., 200 volts)	30-4519						
12	Condenser (.25 mfd., 400 volts)	30-4589						
13	Aerial Transformer (Broadcast)	32-3296						
14	Condenser (.002 mfd., 400 volts)	30-4579						
15	Compensator (Broadcast)	30-4609						
16	Compensator (Short Wave) Part of 11	31-6287						
17	Compensator (.003 mfd.)	60-230124						
18	Compensator (Broadcast, 580 K. C.)	31-6289						
19	Oscillator Transformer	32-3427						
20	Resistor (6800 ohms)	33-268339						
21	Mica Condenser (250 mmfd.)	60-125457						
22	Mica Condenser (250 mmfd.)	60-125457						
23	Resistor (68 ohms)	33-068339						
24	1st I. F. Transformer	32-3540						
25	Resistor (150 ohms)	33-115339						
26	Resistor (10,000 ohms)	33-310339						
27	2nd I. F. Transformer	32-3426						
28	Volume Control	33-5230						
29	Mica Condenser (.500 mmfd.)	W-2157						
30	Resistor (2 megohms)	60-150257						
31	Resistor (10 megohms)	33-523239						
32	Condenser (.002 mfd., 400 volts)	33-610339						
33	Mica Condenser (250 mmfd.)	30-4579						
34	Condenser (.006 mfd.)	30-4610						
35	Resistor (220,000 ohms)	33-422339						
36	Resistor (470,000 ohms)	33-447339						
37	Resistor (150 ohms)	33-115339						
38	Electrolytic Condenser (20-25.40 mfd.)	30-2463						
39	Condenser (.1 mfd., 400 volts)	33-115339						
40	Output Transformer	32-8162						
41	Cone Assembly (For Spkr. 36-1505)	36-4183						
42	Field Coil (For Spkr. 36-1505)	30-4599						
43	Condenser (.02 mfd., 600 volts)	33-115339						
44	Rear Bearing (Drive Shaft)	27-9432						
45	Filament Resistor (100-160 ohms)	33-36868E						
46	Pilot Lamp	33-3389						
47	Ballast Res. (Power Line, 115 230 v.)	42-1534						
48	Band Switch	W-881						
49	Pinout	27-5574						

MISCELLANEOUS PARTS	
Baffle and Silk Assembly	40-6544
Speed Nut	28-5477
Cord (Power)	L-2183
Plug	28-3275
Clip (Aerial Transformer)	28-5002
Clip (Oscillator Transformer)	28-5003
Cabinet Back	10313M
Screw	27-9515
Dial Rev.	W-881
Dial Rev.	27-5574

PART LOCATIONS — UNDERSIDE OF CHASSIS MODEL 41-705

Replacement Parts — Model 41-708

SCH. No.	DESCRIPTION	PART No.	SCH. No.	DESCRIPTION	PART No.	SCH. No.	DESCRIPTION	PART No.
1	Aerial Transformer (Short Wave)	32-3395	45	Condenser (.5 mfd., 200 volts)	30-4590		Cabinet Back	27-9661
2	Aerial Transformer (Broadcast)	32-3166	46	Power Transformer (Vibrator)	32-8128		Screw (Back Mounting)	W-2076
3	Condenser (.05 mfd., 200 volts)	30-4519	47	Condenser (.01 mfd., 1000 volts)	30-4598		Screw (Back Mounting)	W-2168
4	Tuning Condenser	31-2456	48	"B" Choke	32-3522		Dial Scale	27-5586
5	Drive Drum	31-2433	49	Band Switch	42-1560		Dial Pointer	56-1276
6	Drive Cord (Pointer)	31-2460					Straps (Mounting Scale)	56-1752
7	Drive Cord (Tuning Condenser)	31-2441					Screw (Mounting Scale)	W-2052
8	Spring (Pointer Drive Cord)	28-8751					Knob	27-4332
9	Rubber Connector (Drive Shaft)	27-9436					Rubber Cushion (Vibrator)	27-4607
10	Resistor (6800 ohms)	33-268339					Socket (Tubes)	55-0575
11	Compensator (Broadcast)	30-4609					Socket (Vibrator)	27-6036
12	Resistor (8200 ohms)	33-282339					Socket Assembly (Pilot Lamp)	38-9796
13	Electrolytic Condenser (10-10 mfd.)	30-2479					Screw (Chassis Mounting)	W-2067
14	1st I. F. Transformer	32-3398					Screw (Chassis Mounting)	W-1920
15	Condenser (.1 mfd., 200 volts)	30-4586						
16	Resistor (22,000 ohms)	33-222334						
17	2nd I. F. Transformer	33-3399						
18A	Compensator (Part of 18)							
18B	Compensator (1.10 mmfd.) Part of 18							
19	Condenser (.100 mmfd.)	60-110457						
20	Volume Control	33-5391						
21	Condenser (.006 mfd., 400 volts)	30-4591						
22	Condenser (.05 mfd., 200 volts)	30-4519						
23	Resistor (1 megohm)	33-510339						
24	Resistor (1 megohm)	33-103339						
25	Resistor (1000 ohms)	33-210339						
26	Resistor (10 m ohms)	33-222339						
27	Resistor (2,200 ohms)	33-222339						
28	Condenser (.1 mfd., 200 volts)	30-4586						
29	Resistor (470,000 ohms)	33-447339						
30A	Resistor (100,000 ohms)	33-410339						
31	Resistor (100,000 ohms)	33-103339						
32	Condenser (.006 mfd., 400 volts)	30-4610						
33	Condenser (250 mmfd.)	60-125457						
34	Output Transformer	32-8106						
35	Cone Assembly (For Spkr. 36-1520-4)	36-4180						
36	Field Coil (.03 mfd., 400 volts)	30-4599						
37	Condenser (.006 mfd., 400 volts)	30-4599						
38	Resistor (22,000 ohms)	33-222339						
39	Resistor (680 ohms)	33-168336						
40	Pinout	W-2157						
41	Electrolytic Condenser (10 mfd.)	30-2478						
42	Condenser (.2 mfd., 200 volts)	30-4587						
43	Vibrator	41-3653						
44	Speakers	28-8665						
45	"A" Choke	60-0151						
46	Condenser (.5 mfd., 200 volts)	30-4590						

MISCELLANEOUS PARTS	
Cabinet Back	27-9661
Screw (Back Mounting)	W-2076
Screw (Back Mounting)	W-2168
Dial Scale	27-5586
Dial Pointer	56-1276
Straps (Mounting Scale)	56-1752
Screw (Mounting Scale)	W-2052
Knob	27-4332
Rubber Cushion (Vibrator)	27-4607
Socket (Tubes)	55-0575
Socket (Vibrator)	27-6036
Socket Assembly (Pilot Lamp)	38-9796
Screw (Chassis Mounting)	W-2067
Screw (Chassis Mounting)	W-1920

PART LOCATIONS — UNDERSIDE OF CHASSIS MODEL 41-708