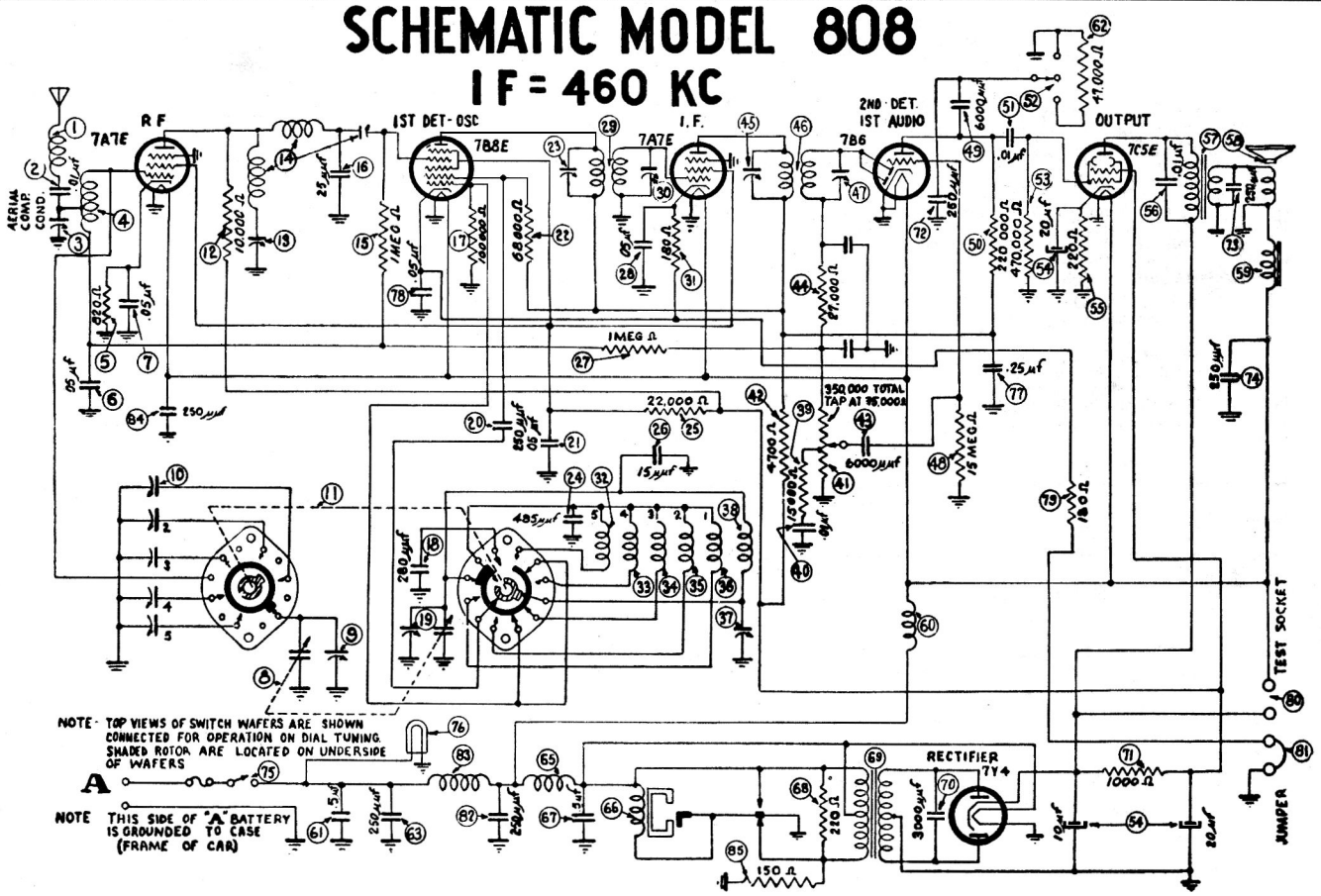
RADIO MANUFACTURERS SERVICE — Your Guarantee of Best Radio Service — A PHILCO SERVICE PLAN

PHILCO AUTO RADIO

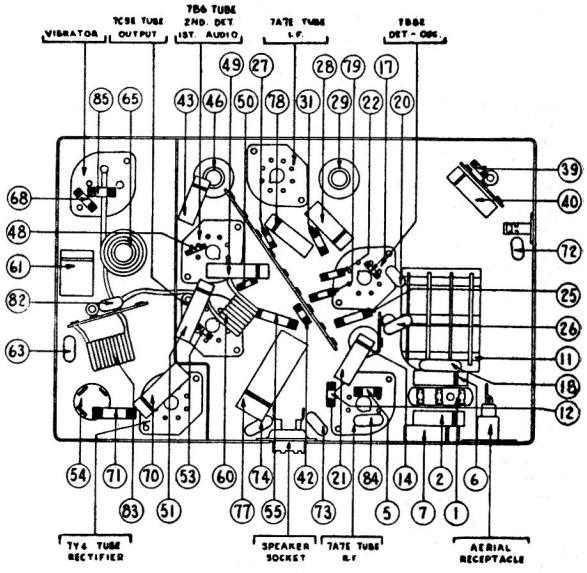
PHILCO MODEL 808

SCHEMATIC MODEL 808

I F = 460 KC



Schem. No.	Description	Part No.
1	Antenna Choke	12-0045
2	Tub. Con. (.01 mfd, 200v)	61-0114
3	Aerial Compensator (Part of 10)	
4	Antenna Transformer	65-0323
5	Res. (820 ohms, ½ watt)	33-182336
6	Tub. Cond. (.05 mfd, 200v)	61-0101
7	Tub. Cond. (.05 mfd, 200v)	61-0111
8	Tuning Condenser	63-0047
9	Ant. Padder (on Tun. Cond.)	
10	Ant. Padder Assembly (for Pushbuttons)	77-0512
11	Wafer Switch Assembly	77-0506
12	Res. (10,000 ohms, ½w)	33-310354
13	Wave Trap Padder (Part of 14)	
14	R.F. Transformer	65-0321
15	Res. (1 megohm, ⅓w)	33-510254
16	Mica Cond. (25 mmfd,) (Part of 14)	
17	Res. (68,000 ohms, ½w)	33-368254
18	Silver Mica Condenser (280 mmfd.)	61-0043
19	High Freq. Padder (on Tun. Cond.)	
20	Mica Cond. (250 mmfd,)	60-125157
21	Tub. Cond. (.05 mfd, 200v)	61-0101
22	Res. (68,000 ohms, ½w)	33-368354
23	Padder (Prim. 1st I.F. Trans.)	
24	Silver Mica Condenser (485 mmfd.)	61-0144
25	Res. (22,000 ohms, 1w)	33-322454
26	Mica Cond. (15 mmfd.)	60-015327
27	Res. (1 megohm, ⅓w)	33-510254
28	Tub. Cond. (.05 mfd. 200v)	61-0101
29	1st I.F. Transformer	65-0319
30	Padder (Sec. 1st I.F. Trans.)	
31	Res. (180 ohms, ½ watt)	33-118336
32	Osc. Trans. (550-1065 KC)	65-0173
33	Osc. Trans. (600-1165 KC)	65-0172
34	Osc. Trans. (660-1240 KC)	65-0171
35	Osc. Trans. (750-1410 KC)	65-0170
36	Osc. Trans. (855-1580 KC)	65-0169
37	Low Frequency Padder	63-0048
38	Manual Osc. Transformer	65-0420
39	Res. (15,000 ohms, ⅓w)	33-315254
40	Tub. Cond. (.01 mfd, 200v)	61-0114
41	Vol. Con. (350,000 ohms)	67-0032
42	Res. (4700 ohms, ½w)	33-247254
43	Tub. Cond. (.006 mfd, 400v)	61-0155
44	Res. (27,000 ohms, ⅓w)	33-327154
45	Padder (Pri. 2nd I.F. Trans.)	
46	Second I.F. Transformer	65-0320
47	Padder (Sec. 2nd I.F. Trans.)	
48	Res. (15 meg, ⅓ watt)	33-615254
49	Tub. Cond. (.006 mfd, 400v)	61-0155
50	Res. (220,000 ohms, ⅓w)	33-422254
51	Tub. Cond. (.01 mfd, 600v)	61-0120
52	Tone Switch	77-0733
53	Res. (470,000 ohms, ⅓w)	33-447254
54	Elec. Con. (10-15-20 mfd.)	61-0089
55	Res. (220 ohms, 1 watt)	33-122436
56	Tub. Cond. (.01 mfd, 1000v)	61-0124
57	Output Transformer	65-0408
58	Cone & Voice Coil Ass.	91-0086
59	Speaker Field (Not Replaceable)	
60	Filament Choke	32-2729
61	Tub. Cond. (.5 mfd, 100v)	61-0106
62	Res. (47,000 ohms, ⅓w)	33-347254
63	Mica Cond. (250 mmfd.)	60-125157
65	Vibrator Choke	65-0433
66	Vibrator	83-0025
67	Tub. Cond. (.5 mfd, 100v)	61-0137
68	Res. (220 ohms, ½ watt)	33-122354
69	Power Transformer	65-0318
70	Tub. Cond. (.003 mfd, 1500v)	61-0115
71	Resistor (1000 ohms)	33-210434
72	Mica Cond. (250 mmfd.)	60-125157
73	Mica Cond. (250 mmfd.)	60-125157
74	Mica Cond. (250 mmfd.)	60-125157
75	"On-Off" Switch	85-0112
76	Pilot Lamp	34-2039
77	Tub. Cond. (.25 mfd, 400v)	61-0125
78	Tub. Con. (.05 mfd, 200v)	61-0101
79	Res. (180 ohms, ½ watt)	33-118336
80	Test Socket	55-1118
81	Test Link	57-1121
82	Mica Cond. (250 mmfd.)	60-125157
83	"A" Choke	32-1644
84	Mica Cond. (250 mmfd.)	60-125157
85	Res. (150 ohms, ½ watt)	33-115354
	Control Assembly	85-0133
	Dial	55-1194
	Drive Cord	55-0395
	Drive Cord Spring	57-1425
	Tuning Shaft	57-1385
	Volume Shaft	57-1384
	Push Button Shaft	57-1386
	Pointer	57-1899FCP
	Station Indicator Drum	77-0755
	Tone Control Lead	95-0135
	Hook Bolt (Rec. Mtg.)	57-1340FA3
	Lockwasher (Rec. Mtg.)	N1688FE7
	Nut (Receiver Mounting	W98FA3
	Cable Clamps	57-1429
	Interference Condenser	30-4007



Schem. No.	Description	Part No.
	Distributor Resistor	33-1196
	Tube Side Cover	318-2382
	Wiring Side Cover	57-1345FC59
	Padder Cover	57-1348FC59
	Speaker Socket	55-0443
	Loktal Socket	55-0575
	Vibrator Socket	07-0043
	Screw & Core Ass.	57-1363
	Coil Cups (Brass)	W-2032
	Volume Control Nut	W684FA3
	Tone Con. Sw. Shaft	57-1839FA3
	Speaker	73-0058

The following parts are for the dash speaker:

	Stud (Speaker Mtg.)	57-0892
	Washer (Speaker Mtg.)	2702FA3
	Lockwasher (Speak. Mtg.)	W338
	Nut (Speaker Mounting)	W55FA3
	Wood Spacer (Speak. Mtg.)	55-0642

The following parts are for the instrument board speaker:

	"U" Bracket	57-0720
	Side Brackets	57-1461
	Cardboard Baffle	55-0957
	Cardboard Spacers	55-0449
	Nuts (Speaker Mtg.)	W124FA3
	Screw (Speaker Mtg.)	W1582FA4
	Lockwasher (Speaker Mtg.)	W291
	Lockwasher (Speaker Mtg.)	W286
	Hook Bolt	97-0061FA3
	Hook Bolt Nut	W98FA3
	Bolt (Bracket Mtg.)	97-0120FA34

MODEL 808 — ADJUSTMENTS

All padding adjustments are carefully made at the factory and ordinarily no readjustments are necessary. However, when readjustments are required, the procedure given below must be followed in detail.

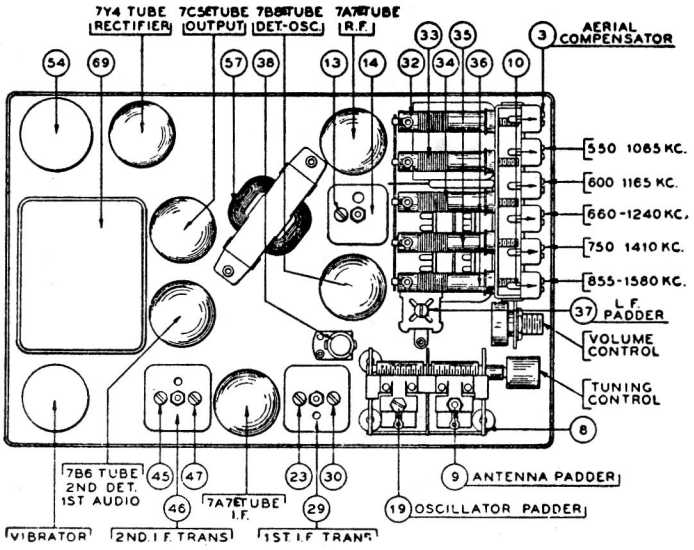
EQUIPMENT—Fully charged heavy duty storage battery or 6 volt power pack, 070 Philco Signal generator, 028 Philco Vacuum tube voltmeter and set tester or audio output meter, 45-2610 Padding screw driver.

GENERAL—VACUUM TUBE VOLTMETER. The model 028 Vacuum tube voltmeter is an extremely sensitive and accurate test instrument and is recommended for use when aligning and adjusting auto radios. Connect the negative (—) terminal of the Vacuum Tube Voltmeter to the high side (ungrounded side) of the volume control. Connect the positive (+) terminal to the radio housing. Connect the "AC" cord to a 110 volt AC socket. Press the VTVM button and the 10 volt button. Turn the "Set Zero Ohms—VTVM" control clockwise until a click is heard. Allow the tubes to heat up for a few minutes. Short the 150 meg VTVM terminals and adjust the "Set Zero 150 meg." control until the meter reads zero on the 0-10 range scale (bottom scale). The needle will deflect from left to right.

AUDIO OUTPUT METER. If an audio output meter is used, connect the leads across the voice coil of the speaker. Use the 0-30 volt scale.

With the Radio and signal generator set up for operation at the prescribed frequency, turn the Radio volume control on full and set the signal generator attenuator so that a half scale reading is obtained on the meter. The signal in the speaker should be audible but not loud.

The shielding on the generator output lead must be connected to the Radio housing.



Operation	SIGNAL GENERATOR FREQUENCY	SIGNAL GENERATOR CONNECTION	DUMMY CAPACITY	SPECIAL INSTRUCTIONS	ADJUST PADDER
1	PUSH IN THE RIGHT KNOB ON THE CONTROL UNTIL "D" APPEARS IN THE STATION INDICATOR WINDOW AND STATIONS CAN BE TUNED IN BY MANUAL TUNING ADJUST THE AERIAL COMPENSATOR (3) TWO TURNS FROM TIGHT.				
2	460 K.C.	To Aerial Receptacle on Radio	.1 Mfd.	Note 2	(47) (45) (30) (23)
3	460 K.C.	To Aerial Receptacle on Radio	.1 Mfd.	Note 2	(47) (45) (30) (23) (13) For Minimum Signal
4	1580 K.C.	To Aerial Receptacle on Radio	See Note 1	Note 2	(19)
5	1400 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Condenser at 1400 K.C.	(9) NOTE 4
6	580 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Condenser at 580 K.C.	(37)
7	1580 K.C.	To Aerial Receptacle on Radio	See Note 1	Note 2	NOTE 3 (19)
8	1400 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Condenser at 1400 K.C.	(9) NOTE 4
9	580 K.C.	To Aerial Receptacle on Radio	See Note 1	Set Tuning Condenser at 580 K.C.	(37)
10	1200 to 1400 K.C.	Note 5	Note 5	Note 5	NOTE 3 (3)

Make all adjustments for maximum reading on the output meter.

NOTE 1—Connect the aerial lead, Part No. 95-0185, to the aerial receptacle in the radio. Connect a 10 Mmfd. Condenser in series between the signal generator and the aerial lead.

NOTE 2—Turn the condenser rotor plates completely out of mesh as far as they will go.

NOTE 3—Rock the tuning condenser while adjusting the low frequency padder. Tune the condenser to the signal and adjust the padder for maximum output. Rotate the tuning condenser back and forth slightly for maximum output. Then readjust the padder for maximum output. Repeat this procedure until no further improvement is noticed.

NOTE 4—When the aerial stage adjustment is made with the Radio installed in the car, the Radio aerial lead must be connected to the car aerial in the usual manner. Connect the signal generator output lead to a wire placed near the car aerial but not connected to it.

NOTE 5—When installing the radio in the car, follow the installation instructions carefully. Tune in a weak broadcast signal between 1200 and 1400 ilocycles on the control scale. Remove the plug button on the end of the radio and adjust the aerial compensator (3) (See Figure 3) for maximum signal.

INSTRUCTIONS FOR SETTING UP THE AUTOMATIC PUSH BUTTON TUNING

Turn on the radio and allow it operate for twenty minutes or longer if possible. During this time, proceed as follows:

1. Remove the plate on the end of the radio which covers the adjusting screws. This is held by two screws.

2. Select five popular local stations whose frequencies come within the ranges of the five automatic tuning circuits, and list them on the Owner's Reference Label. List the highest frequency station as 1, and so on down to the lowest frequency station, which should be 5. The range of each automatic tuning circuit is given below:

850 KC to 1580 KC	750 KC to 1410 KC	660 KC to 1240 KC	600 K.C. to 1165 KC	550 KC to 1065 KC
1	2	3	4	5

3. Push in the right knob until "D" appears in the station indicator window. Thiis adjusts the Radio so that it can be tuned with the tuning control knob in the conventional manner.

4. Tuning in with the dial tuning control knob, the station having the highest frequency, and note the program. Now push in the right hand knob until No. 1 appears in the station indicator window.

With a small screw driver, turn the bottom adjusting screw (number one) in the left column to the right or left until the same station is tuned in. Then adjust the corresponding screw in the right column, turning right or left until maximum volume is obtained. If in doubt as to the station, push the right hand knob until "D" appears and recheck. The adjustment on strong signals can be made best inside a shielded area such as in a reinforced steel building or under a viaduct.

Continue the above procedure for the stations selected for Nos. 2, 3, 4 and 5 position in the given order, working from left to right, and adjusting each pair of corresponding adjusting screws from bottom to top until all five stations are set up. It is advisable to repeat the entire adjustment procedure to be sure the settings are correct.

The automatic tuning adjustments may be made before installing the radio in the car, but FINAL adjustments must be made with the radio installed and operating on the aerial in the car.

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