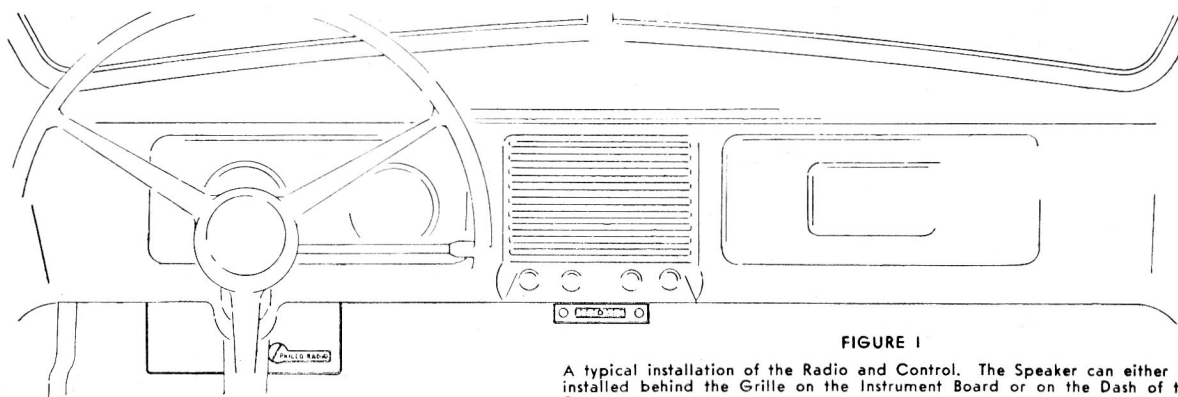


# Model 808 PHILCO AUTO RADIO

## Operating and Installation Instructions



### SPECIAL FEATURES

The Model 808 — new and exclusive. Improved in design . . . All electric superheterodyne auto radio . . . Six loktal tubes especially designed for auto radio service . . . Single push-button, automatic tuning, combined with a manual control dial tuning . . . Exceptional sensitivity . . . Automatic Volume Control . . . Separate large size electro-dynamic speaker . . . Choice of speaker mounting, either on the dash of the car or behind the grille on the instrument board . . . Two point Tone control . . . Push-button tuning is positive in action with separate, electrically tuned circuits for push-button operation . . . Push-button adjustments easily made with radio installed in car . . . Completely shielded and filtered against car ignition interference . . . can be easily and conveniently installed in practically all cars . . . a new control, easy reading and quick tuning. The control fits right under the edge of the instrument board, in the most convenient location, or in the space provided for radio control in the instrument board in practically all cars.

### OPERATION

**TO TURN THE RADIO "ON"**—Turn the left hand knob clockwise. The first range of motion operates the "On-Off" switch. From that point, it is the manual volume control.

**TO TUNE A BROADCAST STATION BY "DIAL" TUNING**—Push the right hand knob all the way in and release it. Repeat this until "D" appears in the dial indicator window, in the center of the control. Then turn the right hand knob to tune in the desired station. The dial is marked to indicate the frequency of the broadcast station. The radio must be tuned accurately for the best reception.

**TO TUNE IN PROGRAMS BY PUSH-BUTTON TUNING**—Simply push the right hand knob all the way in. To select another station, push the knob in again. There are provisions for tuning five different broadcast stations by push-button tuning and for changing from push-button to "DIAL" tuning. The push-button indicator is numbered 1 to 5 for the different stations and a letter "D" which indicates dial tuning.

**TO ADJUST THE VOLUME**—After the desired program has been tuned in, adjust the volume to a suitable level. Turn the left hand knob clockwise to increase the volume, and counter-clockwise to decrease the volume.

**TONE CONTROL**—The tone control is operated by pushing in the left hand knob. There are two positions—"BRIGHT" for speech and music, and "DEEP" for use in noisy locations or in case a deeper tone is desired for musical programs.

**TO TURN THE RADIO "OFF"**—Turn the left hand knob counter-clockwise until a slight click is heard and the dial light goes out.

## INSTALLATION

The Model 808 is designed to operate at maximum efficiency when used with one of the new Philco Auto Radio Aerials. Install the aerial before proceeding with the installation of the radio. The aerial lead and complete installation instructions are packed with each aerial.

**RECEIVER INSTALLATION** — The Receiver must be installed under the cowl, on the dash. Be sure that in the location selected, there is ample foot room and that it does not interfere with the operation of the pedals and ventilators. The Receiver can usually be installed on the left side of the dash, above the steering column. The Receiver can also be installed on the right side of the dash. The control couplings on the end of the Receiver housing must always be toward the center of the car. A cardboard template is furnished so that the mounting bolt hole locations can be easily and accurately marked on the dash. The Receiver fastens to the dash with two hook bolts. Two sets of mounting holes are provided in the sides of the Receiver. Drill two 7/16" holes in the dash and loosely assemble the hook bolts. Install the Receiver on the dash, placing the ends of the hook bolts in two of the holes provided in the sides of the Receiver. Tighten the Receiver securely in place (see Figure 2).

When drilling the holes in the dash, care should be taken not to drill through any tubing or cables that are strapped to the dash in the motor compartment.

**CONTROL UNIT** — The control can be installed in the space provided for radio control in practically all cars, or under the flange of the instrument board. Complete instructions are packed with the control adapter plate kit.

**FLEXIBLE SHAFTS** — Fasten the two clamps supplied with the radio over the "A" leads, tone control lead and flexible shafts. These clamps must be placed near the center of the shafts. Fasten the shafts to a bracket on the car, so that they will not move.

Arrange the shafts so that they are not bent or kinked. Turn the tuning control knob until the indicator on the

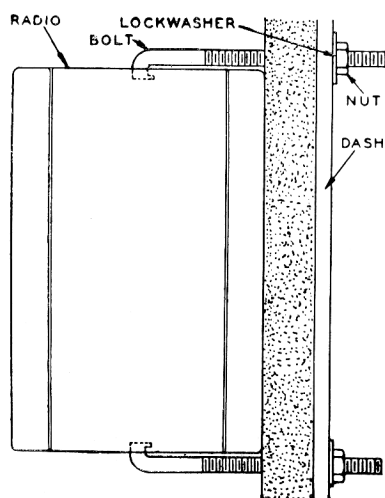


FIGURE 2

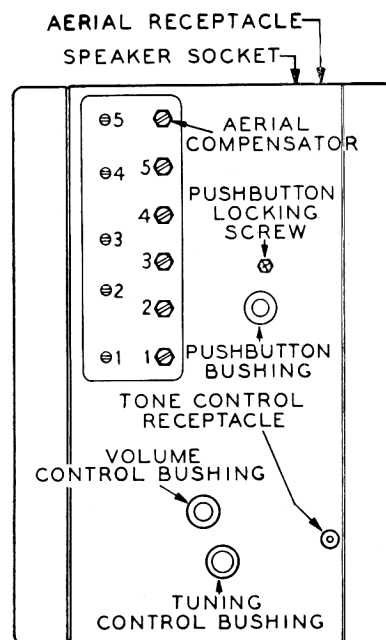


FIGURE 3

control is at the low end of the dial. Seat the tuning and volume control shaft ends in their respective shaft bushings on the end of the Receiver housing and snap the shaft casings in place. Push the right hand knob all the way in and release it. Repeat this until "D" appears in the dial indicator window in the center of the control. The wave change switch is set in the unlocked position. Loosen the screw over the push-button shaft opening about 3/8". Push back the shaft-casing button on the push button shaft. Grasp the flexible shaft casing and push the spline

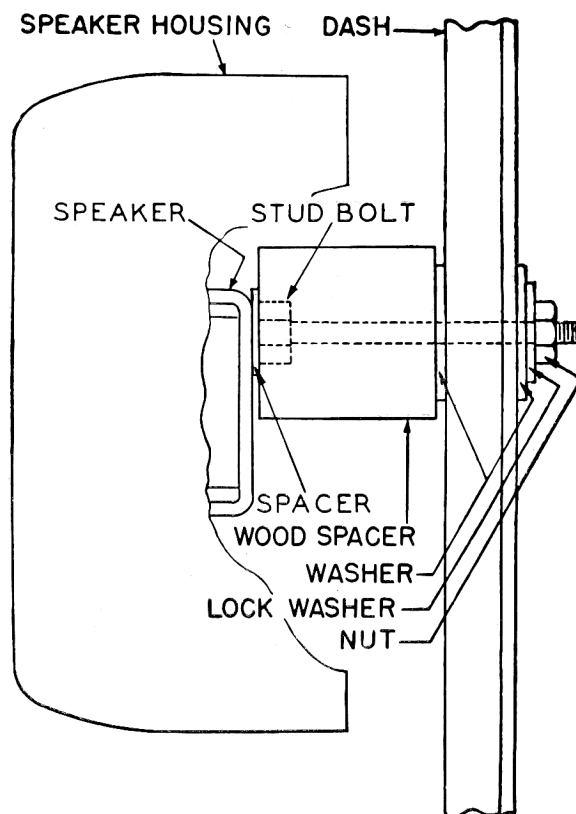


FIGURE 4 — SIDE VIEW

into the rubber coupling as far as it will go. Snap the shaft casing button in place and tighten the screw. Tightening this screw unlocks the wafer switch so that the control can be operated for push-button tuning. Be sure the flexible shafts are not moved after being placed in position. If for any reason, the shafts are moved after the installation, and the control and wafer switch are not synchronized properly, loosen the screw on the end of the housing which is over the push-button shaft and push the right hand knob on the control until the locking spring on the wafer switch snaps into the dial position. A click will be heard when this is done. Then remove the flexible push-button shaft from the Receiver housing and push the right hand knob on the control until "D" appears in the station indicator window. Insert the flexible shaft again and tighten the screw.

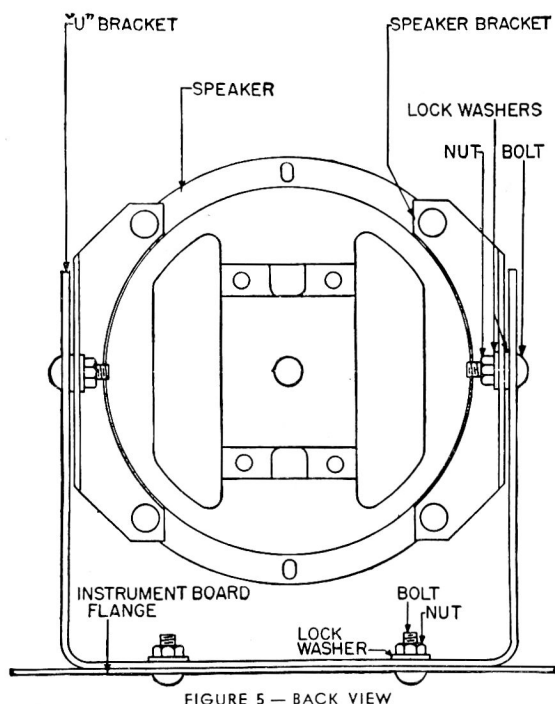


FIGURE 5 — BACK VIEW

**"A" LEAD CONNECTIONS**—Couple the long "A" lead from the control to the "A" lead on the left end of the Receiver. Connect the remaining "A" lead on the control to the ammeter stud on the rear of the instrument board.

**TONE CONTROL**—Insert the tone control lead from the control, in the tone control receptacle on the end of the Receiver.

**DASH SPEAKER INSTALLATIONS** — (Kit Part No. 91-0187). Install the speaker on the dash in a convenient location. Locate and drill a 3/8" hole in the dash. Screw the short end of the mounting stud into the back of the speaker. Place the wood spacer block on the stud and then the washer. Bolt the speaker securely to the dash with the washer, lockwasher and nut (see Figure 4). Connect the speaker cable plug in the speaker socket on top of the Receiver housing.

**INSTRUMENT BOARD SPEAKER** — (Kit Part No. 91-0140). Using the "U" bracket as a template, locate and drill two 1/4" holes in the flange of the instrument board, so that when the speaker is assembled to the bracket, it will line up behind the speaker opening in the grille. Loosely assemble the "U" brackets and the adjustable side brackets. Bolt the speaker to the side brackets, placing the screen with the rubber gasket attached, against the face of the speaker and bend the four ears of the screen over the edge of the speaker. Cut the cardboard baffle to size and place it against the inside of the speaker grille. Hold the speaker and bracket in position, behind the grille, and adjust the side brackets so that the speaker comes directly behind the speaker opening. Use enough cardboard spacers under the "U" bracket to clear any obstruction on the inside flange of the instrument board. Then bolt the "U" bracket in place on the instrument board flange (see Figures 5 and 6). Fasten the side brackets securely in position. Complete instructions are packed with each speaker kit.

Connect the speaker cable plug in the speaker socket on top of the Receiver.

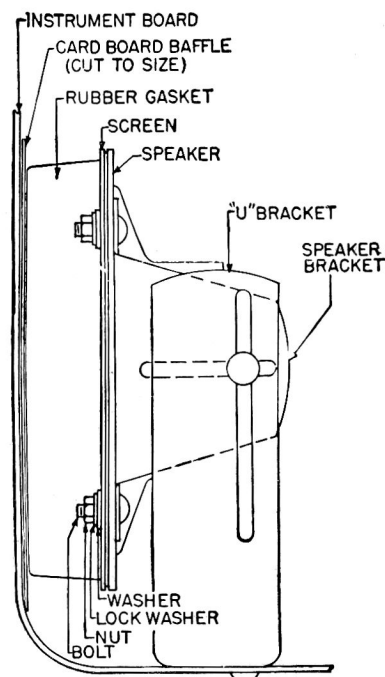


FIGURE 6 — SIDE VIEW

**AERIAL CONNECTION** — Connect the aerial lead in the aerial receptacle on the top of the Receiver housing.

**TUNING AND VOLUME CONTROL ADJUSTMENTS** — To adjust the setting of the tuning control, turn the tuning knob first one way as far as it will go, and then the other way.

To adjust the Volume Control, turn the volume control knob clockwise as far as it will go.

**AERIAL COMPENSATOR** — There is an aerial compensator on the control end of the Receiver housing, to balance the radio and the Philco Aerial. With the radio turned "On" tune in a weak signal between 1200 and 1400 K.C., on the dial. The volume control should be turned well up. With a small screw driver, adjust the aerial compensator for maximum signal.

## MOTOR INTERFERENCE SUPPRESSION

Remove the coil-to-distributor high tension lead from the distributor. Cut the lead two inches from the end and screw the distributor resistor on the coil lead (see Figure 7). Then screw on the short length and plug the cable into the distributor cap. Cars equipped with two ignition coils require two distributor resistors. Extra resistors can be obtained from the nearest Philco Auto Radio dealer or distributor.

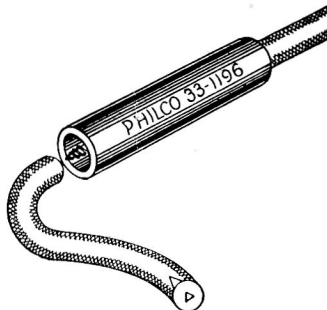


FIGURE 7  
Screw the Distributor Resistor  
on the Coil Lead

Two interference condensers are furnished—one must be connected to the generator side of the cut-out, the other to the battery side of the primary of the ignition coil or to the ignition switch. The condenser bracket must be fastened securely to a grounded metal part of the car. The condenser on the generator usually can be fastened to the generator housing under the same screw that holds the cut-out (see Figure 8), while the coil condenser can usually be fastened under the coil mounting bolts. In some cases it may be necessary to connect an additional condenser to

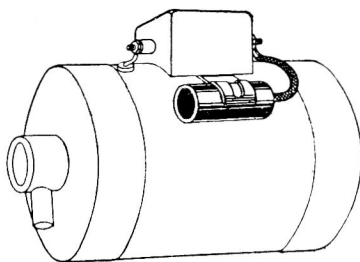


FIGURE 8  
Connect the Interference Condenser  
to the Generator Cut-Out

the ammeter or to the ignition switch. On some cars, a condenser can be used to advantage on the electric oil gauge or on the gas gauge. Connect the condenser to the terminal of the gauge and bolt the condenser securely to the frame or some other grounded part of the car.

In some particularly stubborn cases of motor interference, bonding the steering column to the dash with a short lead will be effective. Clean the paint from the steering column at the dash where it enters the motor compartment and solder on a short piece of braid, grounding this to the dash.

In other cases it may be necessary to ground the tubing and rods coming thru the dash in order to reduce the interference. Clean them with emery cloth and spot solder the braid, fastening the end under a convenient screw (see Figure 9). When an under-car aerial is used it may be necessary to ground the exhaust pipe to the frame of the car with a piece of copper braid. The ground connection should be made ahead of the dash.

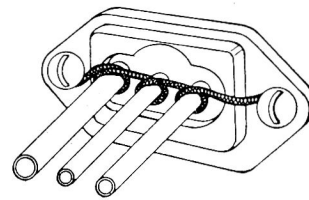


FIGURE 9  
Ground the Tubing and Rods  
coming thru the Dash

On cars equipped with a voltage regulator in place of the generator cut-out, it will be necessary to use the condenser formerly connected to the generator on the voltage regulator. This should be connected to the battery terminal of the voltage regulator and mounted under one of the mounting screws holding the voltage regulator in place.

Interference from electric clocks can be eliminated by connecting an interference condenser to the ammeter terminal.

## INSTRUCTIONS FOR SETTING UP THE AUTOMATIC PUSH-BUTTON TUNING

Turn on the radio and allow it to 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:

855 KC to	750 KC to	660 KC to	600 KC to	550 KC to
1580 KC	1410 KC	1240 KC	1165 KC	1065 KC
1	2	3	4	5

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

4. Tune 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 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 the bottom to the 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.

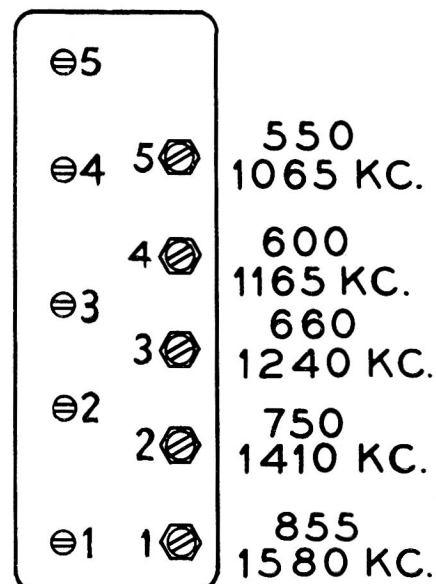
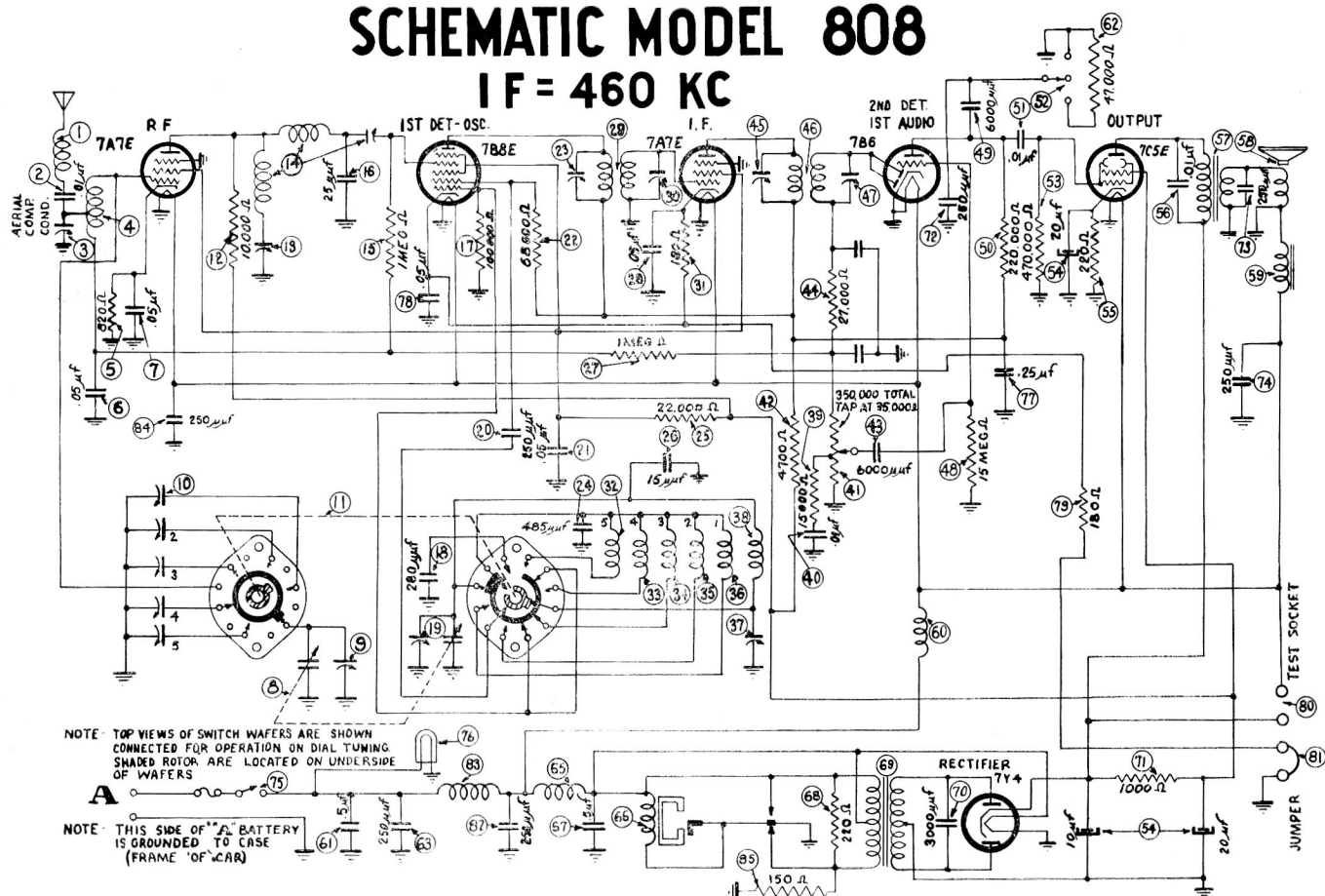


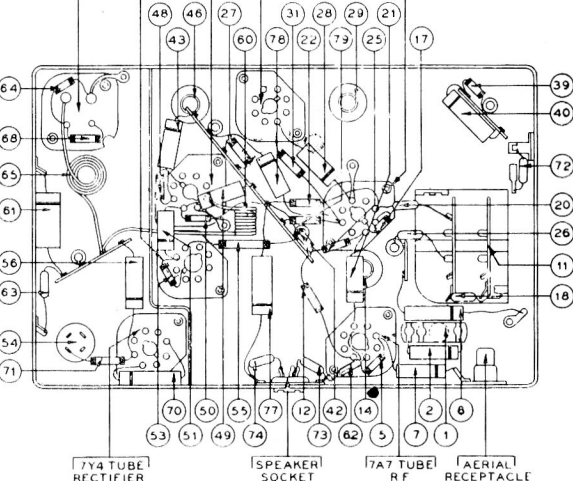
FIGURE 10  
Station Selector Adjusting Screws

# SCHEMATIC MODEL 808

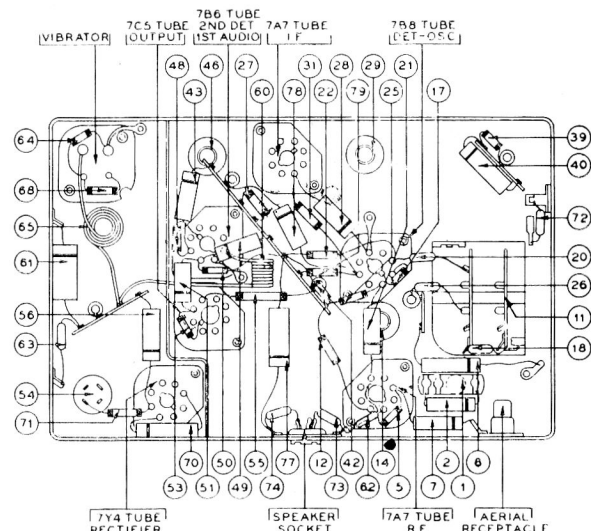
## IF = 460 KC



### Parts List - 808

No.	Description	Part No.	No.	Description	Part No.												
(1)	Antenna Choke	12-0045	(37)	Low Frequency Padder	63-0048												
(2)	Condenser .01 Mfd.	61-0114	(38)	Manual Osc. Trans.	65-0420												
(3)	Aerial Compensator (Part of 10)		(39)	Resistor 15000 Ohms	33-315254												
(4)	Antenna Transformer	65-0323	(40)	Cond. .01 Mfd.	61-0114												
(5)	Resistor 820 Ohms	33-182336	(41)	Volume Control	67-0032												
(6)	Condenser .05 Mfd.	61-0101	(42)	Resistor 4700 Ohms	33-247354												
(7)	Condenser .05 Mfd.	61-0111	(43)	Condenser .006 Mfd.	61-0155												
(8)	Tuning Condenser	63-0047	(44)	Resistor 27000 Ohms	33-327254												
(9)	Antenna Padder (On Tun. Cond.)		(45)	Padder (Primary 2nd I.F. Transformer)													
(10)	Antenna Padder Ass'y	77-0512	(46)	Second I.F. Transformer	65-0320												
(11)	Wafer Switch	77-0506	(47)	Padder (Sec. 2nd. I.F. Transformer)													
(12)	Resistor 10000 Ohms	33-310354	(48)	Resistor 15 Megohms	33-615254												
(13)	Wave Trap Padder (Part of 14)		(49)	Condenser .006 Mfd.	61-0155												
(14)	R.F. Transformer	65-0321	(50)	Resistor 220000 Ohms	33-422254												
(15)	Resistor 1 Megohm	33-510254	(51)	Condenser .01 Mfd.	61-0120												
(16)	Mica Condenser 25 Mmfd.	60-025157	(52)	Tone Control Switch	77-0733												
(17)	Resistor 100000 Ohms	33-410254	(53)	Resistor 470000 Ohms	33-447254												
(18)	Condenser 280 Mmfd.	61-0043	(54)	Elec. Con. 10-15-20 Mfd.	61-0089												
(19)	Padder (on Tuning Condenser)		(55)	Resistor 220 Ohms	33-122436												
(20)	Condenser 250 Mmfd.	60-125157	(56)	Condenser .01 Mfd.	61-0124												
(21)	Condenser .05 Mfd.	61-0101	(57)	Output Trans.	65-0408												
(22)	Resistor 68000 Ohms	33-368354	(58)	Replacement Cone	91-0086												
(23)	Padder (Primary 1st I.F. Trans.)			73-0047 Speaker	91-0086												
(24)	Condenser 485 Mmfd.	61-0144		73-0058 Speaker	91-0086												
(25)	Resistor 22000 Ohms	33-322454	(59)	Field Coil (Not Replaceable)													
(26)	Condenser 15 Mmfd.	60-015327	(60)	Filament Choke	32-2729												
(27)	Resistor 1 Megohm	33-510254	(61)	Condenser .5 Mfd.	61-0106												
(28)	Condenser .05 Mfd.	61-0101	(62)	Resistor 47000 Ohms	33-347254												
(29)	First I.F. Transformer	65-0319	(63)	Condenser 250 Mmfd.	60-125157												
(30)	Padder Sec. 1st I.F. Transformer		(64)														
(31)	Resistor 180 Ohms	33-118336	(65)	Vibrator-Choke	65-0433												
(32)	Osc. Trans. (550 to 1065 K.C.)	65-0173	(66)	Vibrator	83-0025												
(33)	Osc. Trans. (600 to 1165 K.C.)	65-0172	(67)	Condenser .5 Mfd.	61-0137												
(34)	Osc. Trans. (660 to 1240 K.C.)	65-0171	(68)	Resistor 220 Ohms	33-122354												
(35)	Osc. Trans. (750 to 1410 K.C.)	65-0170	(69)	Power Transformer	65-0318												
(36)	Osc. Trans. (855 to 1580 K.C.)	65-0169	(70)	Condenser .003 Mfd.	61-0115												
			(71)	Resistor 1000 Ohms	33-210434												
			(72)	Condenser 250 Mmfd.	60-125157												
			(73)	Condenser 250 Mmfd.	60-125157												
			(74)	Condenser 250 Mmfd.	60-125157												

No.	Description	Part No.	No.	Description	Part No.
(75)	On-Off Switch	85-0112	(75)	Distributor Resistor	33-1196
(76)	Pilot Lamp	34-2033	(76)	Padder Cover	57-1348FC59
(77)	Condenser .25 Mfd.	61-0125	(77)	Speaker Socket	55-0443
(78)	Condenser .05 Mfd.	61-0101	(78)	L-Rail Socket	55-0575
(79)	Resistor 180 Ohms	33-118336	(79)	Vibrator Socket	67-0045
(80)	Test Socket	55-1118	(80)	Screw and Core Assembly	57-1363
(81)	Test Link	57-1121	(81)	Coil Cups (Brass)	W-2032
(82)	Condenser 250 Mmfd.	60-125157	(82)	Tone Cont. switch shaft	57-1839FA3
(83)	A Choke	32-1644	The following parts are for the dash speaker:		
(84)	Condenser 250 Mmfd.	60-125157		Speaker unit	73-0058
(85)	Resistor 150 Ohms	33-115354		Stud Bolt	57-0892
	Control Assembly	85-0133		Wood Spacer	57-0642
	Dial	55-1194		Speaker Housing	57-1415FC59
	Drive Cord	55-0935		Screen	57-1865FCP
	Drive Cord Spring	57-1425FA3	The following parts are for the instrument panel speaker:		
	Tuning Shaft	57-1385		Speaker	73-0047
	Volume Shaft	57-1384		Baffle	55-0957
	Push Button Shaft	57-1386		Bracket	57-2162FA3
	Pointer	57-1889FCP		Rubber Gasket and Screen	55-1320
	Station Indicator Drum	77-0755		Side Brackets	57-1461FA3
	Hook Bolt	57-1340FA3		Cardboard Spacer	55-0449
	Cable Clamps	57-1429FA38			
	Interference Condenser	30-4007			



The following parts are for the dash speaker:

Speaker unit 73-0058  
Stud Bolt 57-0892  
Wood Spacer 57-0642  
Speaker Housing 57-1415FC59  
Screen 57-1865FCP

The following parts are for the instrument panel speaker:

Speaker 73-0047  
Baffle 55-0957  
U" Bracket 57-2162FA3  
Rubber Gasket and Screen 55-1320  
Side Brackets 57-1461FA3  
Cardboard Spacer 55-0449