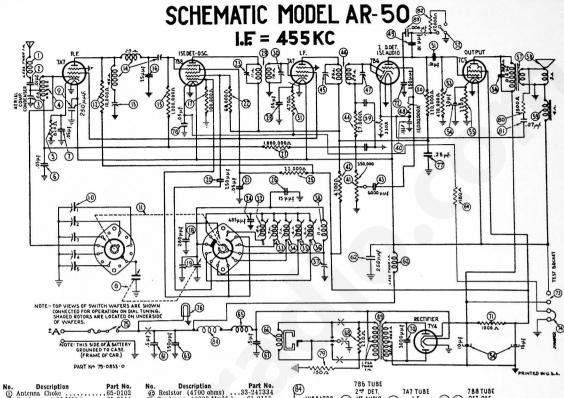
## MODEL AR-50



O Antenna Choke   65-0102     Condenser (.01 Mfd.)   61-0114     O Artial Compensator   Part of (9)     O Antenna Transformer   65-032     O Antenna Transformer   65-032     O Condenser (.05 Mfd.)   61-0101     C Condenser (.05 Mfd.)   61-0101     C Condenser (.05 Mfd.)   61-0101     O CONDENSER (.05 Mfd
(2) Condenser (.01 Mfd.)61-0114
(3) Aerial Compensator Part of (6)
Antenna Transformer65-0323
(6) Resistor (820 ohms)33-182336
(6) Condenser (.05 Mfd.)61-0101
(7) Condenser (.05 Mfd.)61-0101
® Tuning Condenser63-0047
(ii) Antenna Padder Assembly77-0512
(ii) Wafer Switch
@ Resistor (10,000 ohms) .33-310334
Wafer Switch
(A) R. F. Transformer65-0321
(5) Resistor
@ Condenser (25 Mmfd.)30-1067
© Condenser (25 Mmfd.)30-1067 © Resistor (100,000 ohms) 33-410154
(280 Mmfd.)
(280 Mmfd.)61-0043
(9) Oscillator Padder (on Tun. Cond.)
© Condenser (250 Mmfd.) .60-125157
(a) Condenser (.05 Mrd.)61-0101
Resistor (68,000 ohms) .33-368334
Padder (Pri. 1st I. F. Trans.)
Silver Mica Condenser
(485 Mmfd.)61-0144
Resistor (22,000 ohms) .33-322434
(a) Oscillator Padder (on Tun. Cond.) (b) Condenser (250 Mmfd.) 60-125157 (c) Condenser (.0.5 Mrd.) 61-0101 (d) Resistor (68,000 ohms) 33-368334 (e) Padder (Prl. 1st I. F. Trans.) (e) Silver Mica Condenser (485 Mmfd.) 61-0144 (f) Resistor (22,000 ohms) 33-322434 (g) Condenser (15 Mmfd.) 60-015327 (g) Pasistor (22,000 ohms) 61-0144 (g) Pasistor (22,000 ohms) 61-015327 (g) Pasistor (15 Mmfd.) 60-015327
Resistor
(1,000,000 ohms)33-510154 © Condenser (.05 Mfd.)61-0101
(a) Condenser (.05 Mfd.)61-0101
First I. F. Transformer 65-0319 Padder (Sec. 1st. I. F. Trans.)
Padder (Sec. 1st. I. F. Trans.)
© Resistor (470 ohms)33-147336 © Oscillator Transformer (550-1065 KC)65-0173
② Oscillator Transformer
(550-1065 KC)65-0173
Oscillator Transformer
Oscillator Transformer     (600-1165 KC)65-0172
© Oscillator Transformer (660-1240 KC)65-0171
(660-1240 KC)65-0171
Oscillator Transformer     (750 1410 KC) 65-0170
(750 1410 KC)65-0170
M Oscillator Transformer
(855-1580 KC)65-0169
D Low Frequency Padder63-0048 Manual Oscillator
Manual Oscillator
Transformer65-0420 Resistor (330 ohms)33-133334
@ Resistor (330 ohms)33-133334
60 Condenser (.1 Mfd.)61-0104
Volume Control
(350,000 ohms)67-0043

© Condenser (6000 Mmfd.)61-0155 © Resistor (27,000 ohms) .33-327154
(27.000 ohms) .33-327154
(S) Padder (Pri. 2nd I. F. Trans.)
Second I. F. Transformer65-0320
(1) Padder (Sec. 2nd I. F. Trans.)
(A) Recistor
(15,000,000 ohms)33-615154
(9) Condenser (.01 Mfd.)61-0114
Resistor (220,000 ohms) 33-422334
65 Condensor ( 01 Mfd ) 61-0120
@ Tone Control Switch Wafer 77-0733
@ Rusistor (470 000 ohms) 33-447154
(a) Tone Control Switch Wafer 77-0733 (b) Resistor (470,000 ohms) 33-447154 (c) Filter Condenser (10-15-20 Mfd) 61-0089
(10-15-20 Mfd.)61-0089  (Resistor (220 ohms)33-122436  (Condenser (.015 Mfd.)61-0138
@ Pacietor (220 ahms) 33-122436
(2) Condensor ( 015 Mfd ) 61-0138
Output Transformer 65 0110
© Resistor (220 ohms)33-122436 © Condenser (.015 Mfd.)61-0138 © Output Transformer65-0419 © Replacement Cone
(For 73-0059-4 Speaker) 91-0209 (For 73-0059-9 Speaker) 91-0213
(For 13-0039-9 Speaker) 91-0213
Field CoilNot Replaceable Filament Choke65-0452
60 Filament Choke
© Filament Choke
@ Condenser (250 Mfd.)60-125157
© Condenser (250 Mmfd.) .60-125157
(a) Condenser (.5 Mfd.)
(3) Vibrator Choke65-0075
(i) Vibrator
(i) Condenser (.5 Mfd.) (61-0137) (ii) Resistor (220 ohms)33-122334 (iii) Power Transformer (65-0318) (iii) Condenser (3000 Mmfd.) (61-0115)
® Resistor (220 ohms)33-122334
Power Transformer65-0318
(5) Condenser (3000 Mmfd.) 61-0115 (6) Resistor (1000 ohms) 33-210434 (7) Condenser (250 Mmfd.) 60-125157
(ii) Resistor (1000 ohms)33-210434
(250 Mmfd.) .60-125157
(3) Test Socket
@ Test Link
an On Off Cultab 95.0119
(3) 01-01 Camp 34-2039 (3) 10 Condenser (.25 Mfd.)
@ Condenser (.25 Mfd.)61-0125
© Condenser (.05 Mfd.)61-0101
® Resistor (150 ohms)33-115334
@ Resistor (1500 ohms) 33-215334
(i) Condenser (.07 Mfd.)61-0152
© Condenser (.07 Mfd.)61-0152 © Resistor (47,000 ohms) .33-347334
@ Condensar (8000 Mmfd ) 81-0155
0 "A" Chales 65.0037
Radio Housing 77,0752FC59
Control Assembly85-0133
Dial
6 "A" Choke
Tuning Shaft
tuning offatt

PRINTED HU S.A.
786 TUBE 2 → DET. 787 TUBE 788 TUBE VIBRATOR, (18) (14" AUDIO, (19) (1.F) (2) (3) (25 (35 (35 (35 (35 (35 (35 (35 (35 (35 (3
(a) (b) (a) (40 (a)
(80) (51) (71) (71) (81) (81) (82) (74) (81) (82) (74) (81) (82) (74) (81) (82) (74) (81) (82) (74) (81) (82) (74) (81) (82) (74) (82) (82) (82) (82) (82) (82) (82) (82
No.   Description   Part No.   No.   Description   Part No.   Volume Shaft   57-1384   Push Button Shaft   57-1384   Speaker Cover   57-1942PC59   Station Indicator Drum   77-075   Tone Control Lead   95-0135   Cable Cover   57-1348PC59   Padder Cover   57-1348PC59   Cable Cover

## MODEL AR-50 - ADJUSTMENTS

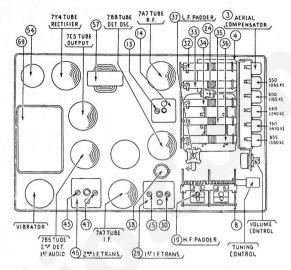
All padding adjustments are carefully made at the factory and ordinarily no readjustments are necessary. However, when readjustments are required, the procedure given below must be followed in detail.

EQUIPMENT — Fully charged heavy duty storage battery or 6 volt power pack, 077 or 177 Philco Signal generator, 027 Philco Vacuum tube voltmeter and set tester or audio output meter, 45-2610 Padding screw driver.

GENERAL - VACUUM TUBE VOLTMETER. The model 027 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 ohms VTVM" control until the meter reads zero on the 0-10 range scale (green scale). The needle will deflect from right to left.

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		DULLING OLDSOITS	CRECIAL INCERNATIONS	ADJUST PADDER	
	FREQUENCY	CONNECTION	DUMMY CAPACITY SPECIAL INSTRUCTION			
I	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	455 K.C.	To Aerial Receptacle on Radio	.I Mfd.	Note 2	###   ###   #########################	
3	455 K.C.	To Aerial Receptacle on Radio	.1 Mfd.	Note 2	® For Minimum Signal	
4	1580 K.C.	To Aerial Receptacle on Radio	See Note I	Note 2	19	
5	1400 K.C.	To Aerial Receptacle on Radio	See Note I	Set Tuning Condenser at 1400 K.C.	9 Note 4	
6	580 K.C.	To Aerial Receptacle on Radio	See Note I	Set Tuning Condenser at 580 K.C.	Ø Note 3	
7	1580 K.C.	To Aerial Receptacle on Radio	See Note 1	Note 2	19 9	
8	1400 K.C.	To Aerial Receptacle on Radio	See Note I	Set Tuning Condenser at 1400 K.C.	Note 4	
9	580 K.C.	To Aerial Receptacle on Radio	Sec Note I	Set Tuning Condenser at 580 K.C.	Ø Note 3	
10	1200 to 1400 K.C.	Note 5	Note 5	Note 5	3	

Make all adjustments for maximum reading on the output meter.

NOTE I — 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 neerial 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 in-stalled 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 Kilocycles on the control scale. Remove the plug button on the end of the radio and adjust the aerial compensator @ (See Figure 3) for maximum signal.

## 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:

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 1580 KC 750 KC to 550 KC to 1410 KC 1240 KC 1165 KC 1065 KC 2 3

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 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. I appears in the station indicator window.

No. I 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.