

Models 40-180, 40-185, 40-190

Specifications-Models 40-180, 40-185, 40-190

TYPE OF CIRCUIT: Models 40-180, 40-185 and 40-190 are Electric Push-button and dial tuned radios incorporating the new Philco Built-in Super Aerial system which eliminates an outside aerial and reduces local static interference to a minimum. The models are also designed to receive the sound of a television program tuned in by special type Philco Television Sets.

PHILCO BUILT-IN SUPER AERIAL SYSTEM—Included in the built-in super aerial system is a statically shielded loop for broadcast band reception and a short wave receiving loop. A feature of the built-in broadcast band statically shielded loop is that it may be turned to the position in which it picks up a minimum amount of interference, or if interference is not present the loop may be set in the position where best reception is obtained.

In general, these models are similar with the exception of the number of tubes used and cabinet design. Model 40-180 employs a seven tube receiver. Models 40-185 and 40-190 employ eight tube receivers assembled in different type cabinets.

In addition, other features of design are: Continuously variable tone control; three tuning ranges covering the frequencies listed below; automatic bass compensation and degenerative push-pull pentode audio output circuit. Outside aerial connections are also provided for remote localities where station signal strength is very weak.

Each model is equipped with eight electric tuning push buttons for automatically selecting stations. Six of the push buttons are used for broadcast stations, one for selecting dial tuning and

one push button may be set up for use with a Philco wireless Record Player or the sound program tuned in by special Philco Television Sets.

POWER SUPPLY: 115 Volts, 25 and 60 cycle AC.

POWER CONSUMPTION: 60 watts.

FREQUENCY TUNING RANGES: Three.

540 to 1550 K. C. 1.5 to 3.4 K. C. 6.0 to 18 M. C.

INTERMEDIATE FREQUENCY: 455 K. C.

AUDIO OUTPUT: 2 watts.

PHILCO TUBES USED:

MODEL 40-180—1232, R. F.; 7J7, Converter; 7B7, I. F.; 7C6, Second Detector and First Audio; two 41, Audio Power Outputs; 84, Rectifier.

MODELS 40-185 AND 40-190—1232, R. F.; 7J7, Converter; 7B7, I. F.; 7A6, Detector; 7C6, First Audio; two 41, Power Outputs; 84, Rectifier.

CABINET DIMENSIONS:	Height	Width	Depth
Model 40-180, type "XF"	39½"	285/8"	133/4"
Model 40-185, type "XX"	38 "	291/2"	121/4"
Model 40-190, type "XF"	41 "	29 "	141/2"

Adjusting Electric Push Button Tuning

In order to adjust the electric push buttons accurately for reception of broadcast stations, a vacuum tube voltmeter such as Philoo Model 027 and 028 should be used. In addition, an insulated padding screw driver, Part No. 45-2610, and Loktal aligning adapter, Part No. 45-2767, are required. With this equipment at hand proceed as follows:

Select seven of the most popular stations received in the locality. Insert the station call letters into the windows above the buttons. The station with the lowest frequency is placed in the first button on the left and the highest frequency is placed in the seventh (7) push-button. Each push button is adjusted by two set screws located on the rear of the push button unit. Each set of screws is numbered and covers a frequency range as follows:

Push-Button	Frequency Range
1, 2, 3	540-1060 K. C.
4, 5	650-1110 K. C.
6, 7	920-1600 K. C.

Looking at the front of the cabinet, the first button on the left is adjusted by set screw No. 1. The next push button by set screw No. 2 and the remaining push buttons in order.

1. Remove the 7C6 A. F. tube from its socket and insert the aligning adaptor, then replace the tube in the adaptor. Connect the negative terminal of the vacuum tube voltmeter to the wire which protrudes from the side of the adaptor. Attach the positive terminal of the voltmeter to the chassis.

- 2. Turn the receiver on and set the tuning range knob to "Broadcast." Press "IN" "Dial" push-button (extreme right hand).
- 3. Set up the Model 077 Station Setter about 3 feet from the receiver and connect a loop constructed out of about 2 feet of wire to the high and ground output jacks of the signal generator. Turn the output controls to maximum and set the modulation control to "MOD. ON." Manually tune in the first station to be set up on push button No. 1. After doing this set the indicator of the 077 Signal Generator to the frequency of the station being received. As the indicator approaches the frequency of the station a whistle will be heard; leave the indicator at this point, then press "IN" No. 1 push-button. Using the insulated screw driver turn the No. 1 "Osc." screw until the broadcast station identified by the signal generator is heard; at this point, turn the indicator of the signal generator away from the frequency of the station. Readjust No. 1 "Osc." and "Ant." screws for maximum deflection of the vacuum tube voltmeter pointer. Station No. 1 is now adjusted properly. After setting up the first station the same procedure as outlined above is used for the remaining stations.

When this model is to be set up to receive the sound of a television program tuned in by the special type Philco Television Sets or when it is to be used in conjunction with a Philco Record Player, pushbutton No. 1 should be used. To tune in these programs, the same procedure as given for ordinary broadcast stations as outlined above is used.

Further details for setting up this receiver for operation with Philco Television Sets or Record Players are supplied with the instruments.

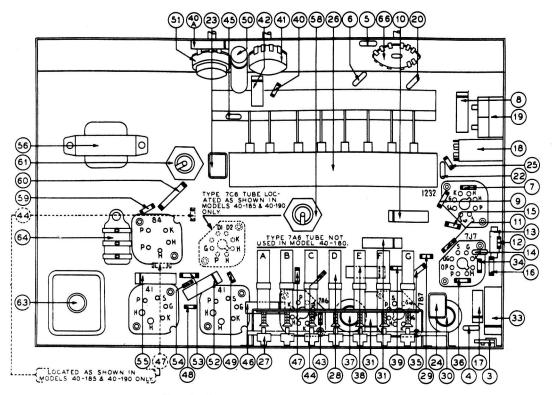
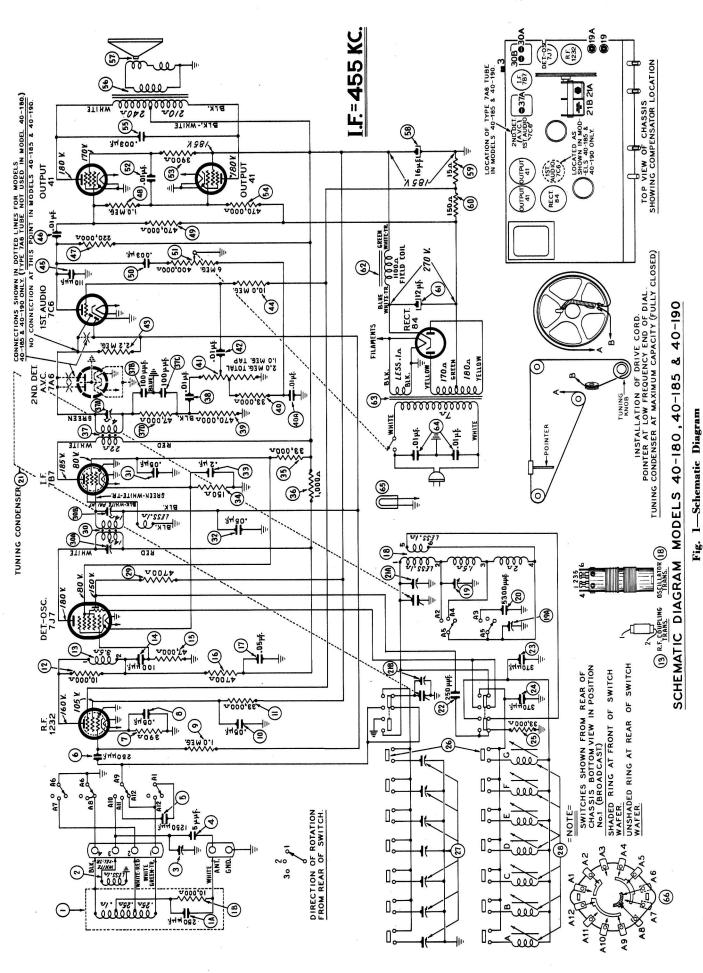


Fig. 2—Part locations underside of chassis

Replacement Parts-Models 40-180, 40-185, 40-190

Loop Ass'y (Broadcast)	No.	Description	Part No.	No.	Description	Part No.
Mica Cond. (250 mmfd.)	1	Loop Ass'v (Broadcast)	38,9880	44	Tubular Cond (01 mfd.)	30-4572
Resistor (10,000 ohms, ½ watt)	1A	Mica Cond. (250 mmfd.)	61-0033		Resistor (220 000 ohms 1/2 watt)	33.422339
2 Loop Ass'y (Short Wave)	1 B	Resistor (10.000 ohms, 1/2 watt)	33-310339		Resistor (1.0 meg 1/2 watt)	33.510330
** Mics. Cond. (3 minto.)	2	Loop Ass'y (Short Wave)	38-9884		Resistor (470,000 ohms. 1/2 watt)	33-447339
** Mics. Cond. (3 minto.)	3	Compensator	31-6308		Tubular Cond. (003 mfd.)	30-4469
5 Mica Cond. (1250 mmfd.). 5886 52 Tubular Cond. (20 mfd.). 30-4572 6 Mica Cond. (250 mmfd.). 61-093 53 Resistor (3900 ohms, ½ watt). 33-239339 7 Resistor Cond. (30 mfd.). 33-193339 54 Resistor (4700 ohms, ½ watt). 33-3447339 10 Tubular Cond. (.05 mfd.). 30-44439 55 Tubular Cond. (.05 mfd.). 30-44439 11 Resistor (3,000 ohms, ½ watt). 33-33339 54 Resistor (2000 ohms, ½ watt). 33-24033 12 Resistor (10,000 ohms, ½ watt). 33-33339 (Spkr. Part No. 36-1479-2). 36-4089 12 Resistor (10,000 ohms, ½ watt). 33-310339 (Spkr. Part No. 36-1479-2). 36-4189 14 Mice Cond. (100 mmsl.). 30-1223 55 Electrolytic Cond. (10 mfd.). 30-2406 15 Resistor (10,000 ohms, ½ watt). 33-247339 41 Electrolytic Cond. (10 mfd.). 30-1221 16 Resistor (4700 ohms.). 30-1223 55 Electrolytic Cond. (20 mfd.). 30-123 17 Tubular Cond. (20 mfd.). 3	4	Mica Cond. (5 mmfd.)	30-1097		Tone Control & On-Off Switch	33-5314
6 Mica Cond. (250 mmfd.). 61-0033 53 Resistor (3900 ohms, ½ watt). 33-23933 67 Resistor (340 ohms, ½ watt). 33-23933 54 Resistor (340,000 ohms, ½ watt). 33-24639 67 Tubular Cond. (25 mfd.). 30-4443 55 Tubular Cond. (25 mfd.). 30-4443 55 Tubular Cond. (35 mfd.). 30-4423 57 Cubular Cond. (30 mfd.). 30-4463 57 Cubular Cond. (30 mfd.). 30-4403 57 Cubular Cond. (36 mfd.). 30-4403 57 Cubular Cond. (30 mfd.). 30-4403 57 Cubular	5	Mica Cond. (1250 mmfd.)	5886		Tubular Cond. (01 mfd.)	30-4572
7 Resistor (390 ohms, ½ watt) 33.193339 54 Resistor (470,000 ohms, ½ watt) 33.193339 57 Come (200.000 ohms, ½ watt) 33.193339 58 Cutput Trans. 32.23194 33.510339 57 Come (200.000 ohms, ½ watt) 33.510339 57 Come (200.000 ohms, ½ watt) 33.510339 57 Come (200.000 ohms, ½ watt) 33.310339 58 Cutput Trans. 32.3194 33.510339 58 Cutput Trans. 32.3194 58 Cutput Trans. 33.510339 58 Cutput Trans. 33.510339 58 Cutput Trans. 33.510339 59 Cutput Trans. 33.51039 59 Cutput	6	Mica Cond. (250 mmfd.)	61-0033	53	Resistor (3900 ohms 1/2 watt)	33-239339
8 Tubular Cond. (03 mfd.) 30-4449 9 Resistor (1.0 meg. // watt) 33-510339 10 Tubular Cond. (05 mfd.) 104123 11 Tubular Cond. (05 mfd.) 104123 12 Resistor (3.0 meg. // watt) 33-310339 13 Resistor (3.0 meg. // watt) 33-31039 14 Mica Cond. (100 mmfd.) 30-1128 15 Resistor (47,000 hms, // watt) 33-347339 16 Resistor (47,000 hms, // watt) 33-347339 17 Tubular Cond. (05 mfd.) 105-1128 18 Resistor (47,000 hms, // watt) 33-347339 19 Tubular Cond. (10 mfd.) 105-1128 10 Resistor (470 hms, // watt) 105-1128 10 Resistor (470 hms, // watt) 105-1128 11 Resistor (470 hms, // watt) 105-1128 11 Resistor (470 hms, // watt) 105-1128 11 Tubular Cond. (05 mfd.) 105-1128 12 Tubular Cond. (05 mfd.) 105-1128 13 Tubular Cond. (05 mfd.) 105-1128 14 December Trans. (115 Volts, 30 to 60 Cycle) 30-2405 15 Tubular Cond. (300 mmfd.) 30-1128 16 Period (300 mmfd.) 30-1134 17 Tubular Cond. (300 mmfd.) 30-1134 18 Tubular Cond. (300 mmfd.) 30-1134 20 Mica Cond. (300 mmfd.) 30-1134 21 Tubular Cond. (370 mmfd.) 30-1110 22 Silver Mica Cond. (370 mmfd.) 30-1110 23 Silver Mica Cond. (370 mmfd.) 30-1110 24 Silver Mica Cond. (370 mmfd.) 30-1110 25 Padder Strip (Push Buttons) 31-6299 26 Push Button Switchs. // watt) 33-33-33 27 Resistor (10 hms, // watt) 33-33-33 28 Coil No. 1	7	Resistor (390 ohms, ½ watt)	33-139339		Resistor (470,000 ohms. 1/2 watt)	
Nesistor (1.0 meg., ½ watt)	8	Tubular Cond. (.05 mfd.)	30-4444		Tubular Cond. (.003 mfd.)	30-4469
10	9	Resistor (1.0 meg., ½ watt)	33-510339	56	Output Trans.	32-8053
Resistor (13,000 ohms, ½ watt)	10	Tubular Cond. (.05 mtd.)	.30-4123	57	Cone & Voice Coil Ass'v	
12 Resistor (10,000 ohms, ½ watt) 33-310339 (Spkr. Part No. 36-1479-4) 30-2406 13 R.F. Coupling Trans. 32-3194 58 Electrolytic Cond. (16 mfd., 200 V.) 30-2406 14 Mica Cond. (100 mmfd.) 30-1128 57 Resistor (15 ohms, ½ watt) 33-24131 15 Resistor (47,00 ohms, ½ watt) 33-247339 60 Resistor (15 ohms, ½ watt) 33-115351 16 Resistor (47,00 ohms, ½ watt) 33-247339 61 Electrolytic Cond. (12 mfd., 350 V.) 30-2405 15 Resistor (47,00 ohms, ½ watt) 33-247339 61 Electrolytic Cond. (12 mfd., 350 V.) 30-2405 16 Compensator (2 Section) 31-6298 64 Electrolytic Cond. (12 mfd., 350 V.) 30-2405 17 Compensator (2 Section) 31-6298 64 Line Cond. (Bakelite, 01-01 mfd.) 390-3-052 18 Cond. (300 mmfd.) 30-1134 65 Wave Switch 42-1490 19 Compensator (2 Section) 30-134 65 Wave Switch 42-1490 20 Mica Cond. (370 mmfd.) 30-1134 65 Wave Switch 42-1490 21 Tuning Cond. Ass'y 31-2391 66 Wave Switch 42-1490 22 Mica Cond. (370 mmfd.) 30-1110 MISCELLANEOUS PARTS 23 Silver Mica Cond. (370 mmfd.) 30-1110 Section Mich. 30-1110 Section Mich. 30-1110 Section Mich. 30-110 Section M		Resistor (33,000 ohms, ½ watt)	33-333339		(Spkr. Part No. 36-1479-2)	36-4089
13	12	Resistor (10.000 ohms, 1/2 watt)	33-310339			
Mica Cond. (100 mmfd.) 30-1128 59 Resistor (150 ohms, ½ watt) 33-015351		R. F. Coupling Trans	32-3194	58	Electrolytic Cond. (16 mfd., 200 V.)	30-2406
15 Resistor (47,000 ohms, ½ watt) 33-347439 60 Resistor (150 ohms, 1 watt) 33-115451 16 Resistor (47,000 ohms, ½ watt) 33-347439 61 Electrolytic Cond. (12 mfd., 350 V.) 30-2405 17 Tubular Cond. (.05 mfd.) 30-4123 42 Field Coil (Replace Spkr., Part No. 36-1479) 18 Resistor (47,000 ohms, ½ watt) 31-6299 62 Power Trans. (.115 Volts, 50 to 60 Cycle) 32-8052 19 Resistor (47,000 ohms, ½ watt) 31-6299 62 Power Trans. (.115 Volts, 50 to 60 Cycle) 32-8052 19 Resistor (37,000 ohmfd.) 31-6299 64 Line Cond. (Bakelite, 01-01 mfd.) 3903-BIG Marcond. (250 mmfd.) 30-3419 64 Resistor (30,000 ohms, ½ watt) 33-33339 64 Resistor (33,000 ohms, ½ watt) 33-33339 84 Resistor (33,000 ohms, ½ watt) 33-33339 84 Resistor (30,000 ohms, ½ watt) 31-6299 Rezel Ass'y 40-6489 28 Coil No. 2 Solon No. 3	14	Mica Cond. (100 mmfd.)	30-1128	59	Resistor (15 ohms, 1/2 watt)	
17		Resistor (47,000 ohms, ½ watt)	33-347339	60	Resistor (150 ohms, 1 watt)	
17		Resistor (4700 ohms, 1/2 watt)	33-247339	61		30-2405
18		Tubular Cond. (.05 mtd.)	30-4123		Field Coil (Replace Spkr., Part No. 36-1479)	
Compensator (2 Section) 31-6298 34 Line Cond. (Bakelite, 01-01 mfd.) 3903-DG		Oscillator Trans	. 32-3195		Power Trans. (115 Volts, 50 to 60 Cycle)	32-8052
Tuning Cond. Ass'y. 31-239 66 Wave Switch. 42-1490		Compensator (2 Section)	. 31-6298		Line Cond. (Bakelite, .0101 mfd.)	3903-DG
Miscellaneous Parts Miscellaneous Parts Miscellaneous Parts	20	Mica Cond. (5300 mmfd.)	. 30-1134		Pilot Lamp	34-2210
Silver Mica Cond. (370 mmfd.) 30-1110		Tuning Cond. Ass'y	31-2391	66	Wave Switch	42-1490
24 Silver Mica Cond. (370 mmfd.) 30-1110 25 Resistor (133,000 ahms, ½ watt) 33-3333339 26 Push Button Switch 42-1489 27 Padder Strip (Push Buttons) 31-6299 28 Coil No. 2 28 Coil No. 2 28 Coil No. 2 29 Cable & Plug (Power Supply) Cable & Plug (Power Supply Cable	22	Mica Cond. (250 mmfd.)	61-0033			
27	23	Silver Mica Cond. (370 mmfd.)	30-1110		MISCELLANEOUS PARTS	
27	24	Baristan (32 000 almost March 1)	. 30-1110	D	escription	Part No.
27 Padder Strip (Push Buttons) 31-6299 Bezel Gasket 27-9175 28 Coil Strip Ass'y Cable & Plug (Power Supply) L-3199 28B Coil No. 1 Cabinet Model 40-180. 10372B 28B Coil No. 2 540-1060 K. C. 32-3042 Cabinet Model 40-185. 10400A 28D Coil No. 5 650-1110 K. C. 32-3042 Clip (Coil mtg.) 28-5003 28F Coil No. 6 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y 38-9856 28G Coil No. 7 920-1600 K. C. 32-3041 Drive Cord Ass'y. 31-2383 29 Resistor (4700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4852 30 1st I. F. Trans. Ass'y. 32-3245 Knobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.05 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 34 Resistor (150 ohms, ½ watt) 33-115339 Spring (Dire Cord) 28-8918 35 Resistor (33,000 ohms, ½ watt) 33-333339 Spring (Dial Background Plate mtg.) 28-8913	25	Resistor (33,000 ohms, ½ watt)	33-333339			
28 Coil Strip Ass'y Cable & Plug (Power Supply) L. 3199 28B Coil No. 2 5 40-1060 K. C. 32-3042 Cabinet Model 40-185. 10400A 28C Coil No. 3 Coil No. 4 Cabinet Model 40-185. 10490A 28E Coil No. 5 550-1110 K. C. 32-3042 Cabinet Model 40-190. 10391A 28F Coil No. 6 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y 38-9856 28G Coil No. 7 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y 38-9856 28G Coil No. 7 920-1600 K. C. 32-3041 Drive Cord Ass'y 38-9856 29 Resistor (4700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4332 31 Tubular Cond. (0.5 mfd.) 30-4536 Screw (Pushbuttons) 27-4852 32 Tubular Cond. (0.2 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 34 Resistor (150 ohms, ½ watt) 33-3115339 Spring (Drive Cord) 28-8913 35 Resistor (1000 ohms, ½ watt) 33-333		Padden Stain (Duck Parterns)	42-1489			
28B Coil No. 2 540-1060 K. C. 32-3042 Cabinet Model 40-180. 10372B 28C Coil No. 3 Cabinet Model 40-185. 10400A 28D Coil No. 4 650-1110 K. C. 32-3042 Clip (Coil mtg.) 28-5003 28F Coil No. 5 920-1600 K. C. 32-3041 Dial 27-5508 28F Coil No. 7 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y. 38-9856 29F Resistor (4700 ohms, ½ watt). 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4332 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.05 mfd.) 30-4519 Pointer 56-1516 33 Tubular Cond. (.05 mfd.) 30-4536 Screws (Bezel mtg.) W1834FG1 34 Resistor (150 ohms, ½ watt) 33-33331 Spring (Drive Cord) 28-8913 35 Resistor (150 ohms, ½ watt) 33-33331 Spring (Dial Background Plate mtg.) 28-8913 36 Resistor (1000 ohms, ½ watt) 33-333339 Spring (Coil Strip (Push Buttons)	31-6299			
28B Coil No. 2 540-1060 K. C. 32-3042 Cabinet Model 40-185. 10400A 28D Coil No. 3 Coil No. 4 650-1110 K. C. 32-3042 Clip (Coil mtg.) 28-5003 28F Coil No. 6 650-1110 K. C. 32-3042 Dial 22-5508 28F Coil No. 6 920-1600 K. C. 32-3041 Drive Cord Ass'y. 38-9856 28G Coil No. 7 920-1600 K. C. 32-3041 Drive Cord Ass'y. 31-2383 29 Resistor (4700 ohms, ½ watt). 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 22-74332 30 1st I. F. Trans. Ass'y. 32-3245 Knobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.2 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 34 Resistor (150 ohms, ½ watt) 33-33339 Spring (Dial Background Plate mtg.) 28-8913 35 Resistor (130,000 ohms, ½ watt) 33-315339 Spring (Dial Background Plate mtg.) 22-6036		Coil No. 1		Cable &	Madal 40 190	10272P
28C Coil No. 3 Cabinet Model 40-190 10.391A 28E Coil No. 5 650-1110 K. C. 32-3042 Clip (Coil mg.) 28-5003 28F Coil No. 6 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y 38-9856 28G Coil No. 7 920-1600 K. C. 32-3041 Drive Cord Ass'y. 31-2383 29 Resistor (4700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4332 30 1st I. F. Trans, Ass'y. 32-345 Knobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.05 mfd.) 30-4519 Pointer 56-1516 33 Tubular Cond. (.05 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 34 Resistor (150 ohms, ½ watt) 33-315339 Spring (Drive Cord) 28-8908 35 Resistor (150 ohms, ½ watt) 33-33339 Spring (Dial Background Plate mtg.) 28-8908 36 Resistor (10000 ohms, ½ watt) 33-210339 Socket (Type 44 Tu					Wiodel 40-180	
28D Coil No. 4 Coil No. 5 650-1110 K. C. 32-3042 Clip (Coil mig.) 28-5003 28F Coil No. 6 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y 38-9856 28G Coil No. 7 920-1600 K. C. 32-3041 Drive Cord Ass'y. 31-2383 29 Resistor (4700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4332 30 1st I. F. Trans. Ass'y. 32-3245 Knobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4512 Pointer 56-1516 32 Tubular Cond. (.2 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 34 Resistor (150 ohms, ½ watt) 33-313339 Spring (Drive Cord) 28-8913 35 Resistor (1000 ohms, ½ watt) 33-313339 Spring (Dial Background Plate mtg.) 28-8913 36 Resistor (1000 ohms, ½ watt) 33-210339 Socket (Type 84 Tube) 27-6035 37 Zud I. F. Trans. Ass'y. 33-447339 Socket (Loktal, Type 7J7 Tube) 27-6129 38 Tubular C	288	Coil No. 2 > 540-1060 K C	22 2042	Cabinat	Madel 40 105	10400 4
28E Coil No. 5 650-1110 K.C. 32-3042 Dial Tuning Drum Ass'y 27-5508 28F Coil No. 6 920-1600 K.C. 32-3041 Dial Tuning Drum Ass'y 38-9856 29 Resistor (4700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4332 30 1st I. F. Trans. Ass'y. 32-3245 Knobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.2 mfd.) 30-4519 Pointer 56-1516 34 Resistor (150 ohms, ½ watt) 33-115339 Spring (Drive Cord) 28-8913 35 Resistor (150 ohms, ½ watt) 33-33339 Spring (Dial Background Plate mtg.) 28-8908 36 Resistor (1000 ohms, ½ watt) 33-210339 Socket (Type 84 Tube) 27-6035 37 2nd I. F. Trans. Ass'y. 32-3246 Socket (Type 41 Tube) 27-6036 38 Tubular Cond. (.01 mfd.) 30-4479 Socket (Loktal, Type 7J7 Tube) 27-6129 39 Resistor (33.000 ohms, ½ watt) 33-33339 Speaker 36-1479 40 Resistor (33.000 ohms, ½ watt) 33-347339 <t< th=""><th></th><th>Coil No. 2 540-1060 K. C</th><th>. 32-3042</th><th>Cabinet</th><th>Model 40-185</th><th>10400A</th></t<>		Coil No. 2 540-1060 K. C	. 32-3042	Cabinet	Model 40-185	10400A
28F Coil No. 6 Ocil No. 7 920-1600 K. C. 32-3041 Dial Tuning Drum Ass'y 38-9856 29 Resistor (4700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 22-4332 30 1st I. F. Trans, Ass'y 32-3245 Knobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y 38-9607 32 Tubular Cond. (.05 mfd.) 30-4519 Pointer 56-1516 33 Tubular Cond. (.05 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 34 Resistor (150 ohms, ½ watt) 33-115339 Spring (Drive Cord) 28-8913 35 Resistor (33,000 ohms, ½ watt) 33-210339 Sopring (Drive Cord) 28-8913 36 Resistor (1000 ohms, ½ watt) 33-210339 Sorket (Type 84 Tube) 27-6035 37 2nd I. F. Trans. Ass'y 32-3246 Socket (Type 41 Tube) 27-6036 38 Tubular Cond. (.01 mfd.) 33-447339 Socket (Loktal, Type 77 Tube) 27-6131 40 Resistor (37,000 ohms, ½ watt) 33-	28C	Coil No. 3		Cabinet Cabinet	Model 40-190	10391A
28G Coil No. 7 920-1600 K.C. 32-3041 Drive Cord Ass'y. 31-2383 29 Resistor (4700 ohms, ½ watt). 32-347339 Knobs (Tuning, Tone, Volume, Wave Switch). 227-4852 30 1st I. F. Trans. Ass'y. 32-3245 Knobs (Pushbuttons). 227-4852 31 Tubular Cond. (.05 mfd.). 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.2 mfd.). 30-4519 Pointer 56-1516 33 Tubular Cond. (.2 mfd.). 30-4536 Screws (Bezel mtg.). W-1834FG1 34 Resistor (33,000 ohms, ½ watt). 33-313339 Spring (Dial Background Plate mtg.). 28-8913 35 Resistor (1000 ohms, ½ watt). 33-313339 Spring (Dial Background Plate mtg.). 28-8908 36 Resistor (1000 ohms, ½ watt). 33-210339 Socket (Type 84 Tube). 27-6035 37 2nd I. F. Trans. Ass'y. 32-346 Socket (Loktal, Type 7J7 Tube). 27-6136 38 Tubular Cond. (.01 mfd.). 30-4479 Socket (Loktal, Type 7A6, 7C6 Tubes). 27-6136 40 Resistor (33,000 ohms	28C 28D	Coil No. 3) Coil No. 4		Cabinet Cabinet Clip (C	Model 40-190oil mtg.)	10391A 28-5003
Resistor (4/700 ohms, ½ watt) 33-247339 Knobs (Tuning, Tone, Volume, Wave Switch) 27-4332 30	28C 28D 28E	Coil No. 3) Coil No. 4 650-1110 K. C	.32-3042	Cabinet Cabinet Clip (C Dial	Model 40:190oil mtg.)	
St. I. F. Trans. Ass'y. 32-3245 St. Nobs (Pushbuttons) 27-4852 31 Tubular Cond. (.05 mfd.) 30-4123 Pilot Lamp Socket Ass'y. 38-9607 32 Tubular Cond. (.05 mfd.) 30-4519 Pointer 56-1516 31 Tubular Cond. (.05 mfd.) 30-4536 Screws (Bezel mtg.) W-1834FG1 32-3246 Screws (Bezel mtg.) W-1834FG1 33-115339 Spring (Drive Cord) 28-8913 Spring (Drive Cord) Spring (Drive Cord	28C 28D 28E 28F	Coil No. 3) Coil No. 4 650-1110 K. C. 650-1110 K. 650-1110 K. 650-1110 K. 650-1110 K. 650-1110	.32-3042	Cabinet Cabinet Clip (C Dial Dial Tu	Model 40-190	10391A 28-5003 27-5508 38-9856
31 Tubular Cond. (.05 mfd.) 30.4123 Pilot Lamp Socket Ass'y 38.9607 32 Tubular Cond. (.05 mfd.) 30.4519 Pointer 56.1516 33 Tubular Cond. (.2 mfd.) 30.4536 Screws (Bezel mtg.) W.1834FG1 34 Resistor (150 ohms, ½ watt) 33.313339 Spring (Dir Ve Cord) 28.8913 35 Resistor (1000 ohms, ½ watt) 33.210339 Spring (Dial Background Plate mtg.) 228.8908 36 Resistor (1000 ohms, ½ watt) 33.210339 Socket (Type 84 Tube) 27.6035 37 2nd I. F. Trans. Ass'y 32.246 Socket (Type 41 Tube) 27.6035 38 Tubular Cond. (.01 mfd.) 30.4479 Socket (Loktal, Type 7J7 Tube) 27.6131 40 Resistor (470,000 ohms, ½ watt) 33.33339 Speaker 36.1479 40 Tubular Cond. (.01 mfd.) 30.4479 Tab (Dial) 27.5530 41 Volume Control (2.0 meg.) 33.52253 Tab (Television) 27.9449 42 Tubular Cond. (.01 mfd.) 30.4479 Tab Kit 40.6475	28C 28D 28E 28F 28G	Coil No. 3) Coil No. 4 650-1110 K. C. 650-1110 K. 650-1110 K. 650-1110 K. 650-1110 K. 650-1110	.32-3042	Cabinet Cabinet Clip (C Dial Dial Tu Drive C	Model 40-190. oil mtg.) ining Drum Ass'y. Ord Ass'y.	10391A 28-5003 27-5508 38-9856 31-2383
32 Tubular Cond. (.05 mfd.) 30.4519 Pointer 56.1516 33 Tubular Cond. (.2 mfd.) 30.4536 Screws (Bezel mtg.) W.1834FG1 34 Resistor (150 ohms, ½ watt) 33.115339 Spring (Drive Cord) 28.8913 35 Resistor (33,000 ohms, ½ watt) 33.210339 Socket (Dial Background Plate mtg.) 28.8908 36 Resistor (1000 ohms, ½ watt) 33.210339 Socket (Type 84 Tube) 27.6035 37 2nd I. F. Trans. Ass'y 32.3246 Socket (Type 41 Tube) 27.6036 38 Tubular Cond. (.01 mfd.) 30.4479 Socket (Loktal, Type 7J7 Tube) 27.6131 40 Resistor (33,000 ohms, ½ watt) 33.33339 Speaker 36.1479 40A Tubular Cond. (.01 mfd.) 30.4479 Tab (Dial) 27.5530 41 Volume Control (2.0 meg.) 33.5275 Tab (Television) 27.9449 42 Tubular Cond. (.01 mfd.) 30.4479 Tab Kit 40.6475 43 Resistor (2.2 megs. ½ watt) 33.522339 Tuning Shaft Ass'y 38.9874	28C 28D 28E 28F 28G 29	Coil No. 3 Coil No. 5 Coil No. 5 Coil No. 6 Coil No. 7 Pesistor (4700 ohms, ½ watt) 1st I. F. Trans. Ass'y.	.32-3042 .32-3041 .33-247339 .32-3245	Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Model 40-190 oil mtg.). uning Drum Ass'y. Cord Ass'y. Tuning Tone, Volume, Wave Switch).	
33 Tubular Cond. (2 mfd.). 30-4536 Screws (Bezel mtg.). W.1834FG1 34 Resistor (150 ohms, ½ watt). 33-115339 Spring (Drive Cord). 28-8913 35 Resistor (33,000 ohms, ½ watt). 33-33339 Spring (Dial Background Plate mtg.). 28-8908 36 Resistor (1000 ohms, ½ watt). 33-210339 Socket (Type 84 Tube). 27-6035 37 Znd I. F. Trans. Ass'y. 32-21246 Socket (Type 41 Tube). 27-6136 38 Tubular Cond. (01 mfd.). 30-4479 Socket (Loktal, Type 7J7 Tube). 27-6129 39 Resistor (33,000 ohms, ½ watt). 33-447339 Speaker Socket (Loktal, Type 7A6, 7C6 Tubes). 27-6131 40 Resistor (20 meg.) 33-33339 Speaker Tab (Dial) 27-530 41 Volume Control (2.0 meg.) 33-5275 Tab (Television) 27-9449 42 Tubular Cond. (01 mfd.) 30-4479 Tab Ki Xi 40-6475 43 Resistor (2.2 megs. ½ watt) 33-522339 Tuning Shaft Ass'y. 38-984 44 Resistor (10.0 megs. ½ wa	28C 28D 28E 28F 28G 29 30	Coil No. 3 Coil No. 5 Coil No. 5 Coil No. 5 Coil No. 7 Pour 100 K. C. Resistor (4700 ohms, ½ watt) 1st I. F. Trans. Assy. Tubular Cond. (.05 mfd.).	32-3042 .32-3041 .33-247339 .32-3245 .30-4123	Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Model 40-190 oil mtg.). ning Drum Ass'y. Ord Ass'y. (Tuning, Tone, Volume, Wave Switch). Pushbuttons)	
34 Resistor (150 ohms, ½ watt) 33-115339 Spring (Drive Cord) 28-8913 35 Resistor (33,000 ohms, ½ watt) 33-33339 Spring (Dial Background Plate mtg.) 28-8908 36 Resistor (1000 ohms, ½ watt) 33-210339 Socket (Type 84 Tube) 27-6035 37 2nd I. F. Trans. Ass'y 32-246 Socket (Type 41 Tube) 27-6036 38 Tubular Cond. (.01 mfd.) 30-4479 Socket (Loktal, Type 7J7 Tube) 27-6129 39 Resistor (470,000 ohms, ½ watt) 33-447339 Socket (Loktal, Type 7A6, 7C6 Tubes) 27-6131 40 Resistor (33,000 ohms, ½ watt) 33-33339 Speaker 36-1479 40A Tubular Cond. (.01 mfd.) 30-4479 Tab (Dial) 27-5530 41 Volume Control (2.0 meg.) 33-5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs. ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-610339 Washer ("C" Type Tuning Shaft Ass	28C 28D 28E 28F 28G 29 30 31	Coil No. 3 Coil No. 4 650-1110 K. C. Coil No. 5 650-1110 K. C. Coil No. 7 920-1600 K. C. Resistor (4700 ohms, ½ watt) 1st I. F. Trans. Ass'y. Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.	32-3042 32-3041 33-247339 32-3245 30-4123 30-4119	Cabinet Cabinet Clip (C. Dial Dial Tu Drive C Knobs (Knobs (Pilot La Pointer	Model 40-190. oil mtg.). uning Drum Ass'y. ord Ass'y. Tuning, Tone, Volume, Wave Switch). Pushbuttons) unp Socket Ass'y.	. 10391 A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516
35 Resistor (33,000 ohms, ½ watt) 33.333339 Spring (Dial Background Plate mtg.) 28.8908 36 Resistor (1000 ohms, ½ watt) 33.210339 Socket (Type 84 Tube) 27.6035 37 2nd I. F. Trans. Ass'y 32.3246 Socket (Type 41 Tube) 27.6036 38 Tubular Cond. (.01 mfd.) 30.4479 Socket (Loktal, Type 7J7 Tube) 27.6129 40 Resistor (33,000 ohms, ½ watt) 33.447339 Socket (Loktal, Type 7A6, 7C6 Tubes) 27.6131 40 Resistor (2.0 meg.) 33.333339 Speaker 36.1479 40A Tubular Cond. (.01 mfd.) 30.4479 Tab (Dial) 27.5530 41 Volume Control (2.0 meg.) 33.5275 Tab (Television) 27.9449 42 Tubular Cond. (.01 mfd.) 30.4479 Tab Kit 40.6475 43 Resistor (2.2 megs.) 34.0030 Washer ("C" Type Tuping Shaft Ass'y) 38.9874 44 Resistor (10.0 megs. ½ watt) 33.522339 Tuning Shaft Ass'y 38.9874 44 Resistor (10.0 megs. ½ watt) 33.610339 Washer ("C" Type Tuping Shaft Ass	28C 28D 28E 28F 28G 29 30 31 32 33	Coil No. 3 Coil No. 5 Coil No. 5 Coil No. 6 Coil No. 6 P20-1600 K. C. Resistor (4700 ohms, ½ watt) 1st I. F. Trans. Ass'y. Tubular Cond. (05 mfd.) Tubular Cond. (05 mfd.) Tubular Cond. (2 mfd.)	32-3042 .32-3041 .33-247339 .32-3245 .30-4123 .30-4519 .30-4536	Cabinet Cabinet Clip (C. Dial Dial Tu Drive C Knobs (Filot La Pointer Screws	Model 40-190 oil mtg.) ming Drum Ass'y Ord Ass'y. Tuning, Tone, Volume, Wave Switch) Pushbuttons) unp Socket Ass'y. (Bezel mtg.)	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W-1834FG1
37 2nd I. F. Trans. Ass'y 32-3246 Socket (Type 41 Tube) 27-6036 38 Tubular Cond. (.01 mfd.) 30-4479 Socket (Loktal, Type 7J7 Tube) 27-6129 39 Resistor (470,000 ohms, ½ watt) 33-447319 Socket (Loktal, Type 7A6, 7C6 Tubes) 27-6131 40 Resistor (33,000 ohms, ½ watt) 33-333339 Speaker 36-1479 40A Tubular Cond. (.01 mfd.) 30-4479 Tab (Dial) 27-5530 41 Volume Control (2.0 meg.) 33-5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs., ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874	28C 28D 28E 28F 28G 29 30 31 32 33	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Coil No. 6 Coil No. 7 Pesistor (4700 ohms, ½ watt) Ist I. F. Trans. Ass'y. Tubular Cond. (.05 mfd.). Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms. ½ watt)	32-3042 .32-3041 .33-247.339 .32-3245 .30-4123 .30-4516 .30-4536 .33-115.339	Cabinet Cabinet Clip (C. Dial Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring	Model 40-190 oil mtg.) ning Drum Ass'y Cord Ass'y Tuning, Tone, Volume, Wave Switch) Pushbuttons) amp Socket Ass'y (Bezel mtg.) ((Drive Cord)	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W-1834FG1 28-8913
38 Tubular Cond. (.01 mfd.) 30.4479 Socket (Loktal, Type 7J7 Tube) 27-6129 39 Resistor (47,000 ohms, ½ watt) 33-4479 Socket (Loktal, Type 7A6, 7C6 Tubes) 27-6129 40 Resistor (33,000 ohms, ½ watt) 33-33339 Speaker 36-1479 40A Tubular Cond. (.01 mfd.) 30-4479 Tab (Dial) 27-530 41 Volume Control (2.0 meg.) 33-5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs. ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-610339 Washer ("C" Type Tuning Shaft Ass'y) 28-2043	28C 28B 28E 28F 28G 29 30 31 32 33 34	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Coil No. 7 P20-1600 K. C. Resistor (4700 ohms, ½ watt) 1st I. F. Trans. Ass'y. Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (133,000 ohms, ½ watt) Resistor (33,000 ohms, ½ watt)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4536 33-115339 33-3333339	Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring Spring	Model 40-190 oil mtg.) ming Drum Ass'y Ord Ass'y, Tuning, Tone, Volume, Wave Switch) Pushbuttons) amp Socket Ass'y (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.)	
37 Resistor (470,000 ohms, ½ watt) 33.447339 Socket (Loktal, Type 7A6, 7C6 Tubes) 27-6131 40 Resistor (33,000 ohms, ½ watt) 33.33339 Speaker 36-1479 40A Tubular Cond. (.01 mfd.) 30-4479 Tab (Dial) 27-5530 41 Volume Control (2.0 meg.) 33.5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs. ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-610339 Washer ("C" Type Tuning Shaft Ass'y) 28-2043	28C 28B 28BF 28F 29 30 31 32 33 34 35	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Coil No. 6 Pozor No. 6 Pozor No. 7 Resistor (4700 ohms, ½ watt) Ist I. F. Trans. Assy. Tubular Cond. (.05 mfd.). Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt)	32-3042 32-3041 33-247339 32-3245 30-4519 30-4536 33-115339 33-333339 33-313339	Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring Spring Special	Model 40-190 oil mtg.) ining Drum Ass'y Tuning, Tone, Volume, Wave Switch) Pushbuttons) amp Socket Ass'y (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.) (Type 84 Tube)	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W.1834FG1 28-8913 28-8908 27-6035
37 Resistor (470,000 ohms, ½ watt) 33.447339 Socket (Loktal, Type 7A6, 7C6 Tubes) 27-6131 40 Resistor (33,000 ohms, ½ watt) 33.33339 Speaker 36-1479 40A Tubular Cond. (.01 mfd.) 30-4479 Tab (Dial) 27-5530 41 Volume Control (2.0 meg.) 33.5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs. ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-610339 Washer ("C" Type Tuning Shaft Ass'y) 28-2043	28C 28B 28B 28F 29 30 31 33 34 35 36 37	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Coil No. 7 Periode No. 7 Resistor (4700 ohms, ½ watt) Subular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 33-115339 33-3333339 33-210339	Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Pilot La Pointer Screws Spring Spring Socket (Socket (Model 40-190 oil mtg.). ming Drum Ass'y. Cord Ass'y. Tuning, Tone, Volume, Wave Switch). Pushbuttons) amp Socket Ass'y. (Bezel mtg.). (Drive Cord). (Dial Background Plate mtg.). (Type 84 Tube). Type 84 Tube).	10391 A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4352 38-9607 56-1516 W-1834FG1 28-8913 28-8908 27-6035 27-6036
41 Volume Control (2.0 meg.) 33-5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs., ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-610339 Washer ("C" Type Tuning Shaft Ass'y) 28-2043	28C 28BE 28BE 28BG 29 31 32 334 35 36 378	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Pool 100 K. C. Coil No. 7 Resistor (4700 ohms, ½ watt) St I. F. Trans. Ass'y Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1700 ohms, ½ watt) Resistor (1700 ohms, ½ watt) Tubular Cond. (.2 mfd.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 30-4536 33-115339 33-333339 33-210339 32-3246	Cabinet Cabinet Calp (C Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring Spring Socket (Socket (Socket (Model 40-190 oil mtg.) ining Drum Ass'y .ord Ass'yTuning, Tone, Volume, Wave Switch) Pushbuttons) imp Socket Ass'y (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.) (Type 84 Tube) (Loktal. Type 71 Tube)	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W-1834FG1 28-8913 28-8908 27-6035 27-6035 27-6129
41 Volume Control (2.0 meg.) 33-5275 Tab (Television) 27-9449 42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs., ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-610339 Washer ("C" Type Tuning Shaft Ass'y) 28-2043	28C 28BE 28BE 28G 29 31 32 33 34 35 36 37 38	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Pool 100 K. C. Coil No. 7 Resistor (4700 ohms, ½ watt) St I. F. Trans. Ass'y Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1700 ohms, ½ watt) Resistor (1700 ohms, ½ watt) Tubular Cond. (.2 mfd.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 30-4536 33-115339 33-333339 33-210339 32-3246	Cabinet Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Filot La Pointer Screws Spring Spring Spring Socket (Socket (Socket (Socket (Model 40-190 oil mtg.) ining Drum Ass'y. Ord Ass'y. Tuning, Tone, Volume, Wave Switch). Pushbuttons) amp Socket Ass'y. (Bezel mtg.) (Drive Cord). Dial Background Plate mtg.) (Type 84 Tube). (Loktal, Type 717 Tube) (Loktal, Type 746, 7C6 Tubes).	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W.1834FG1 28-8913 28-8908 27-6035 27-6036 27-6129 27-6131
42 Tubular Cond. (.01 mfd.) 30-4479 Tab Kit 40-6475 43 Resistor (2.2 megs., ½ watt) 33-522339 Tuning Shaft Ass'y 38-9874 44 Resistor (10.0 megs. ½ watt) 33-522339 Tuning Shaft Ass'y 28-2043	28CD 28EE 28EF 289 290 31 323 344 356 378 389 40	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 5 Pool 100 K. C. Coil No. 7 Resistor (4700 ohms, ½ watt) St I. F. Trans. Ass'y Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1700 ohms, ½ watt) Resistor (1700 ohms, ½ watt) Tubular Cond. (.2 mfd.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 30-4536 33-115339 33-333339 33-210339 32-3246	Cabinet Cabinet Clip (C Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring Spring Socket (Model 40-190 oil mtg.) ming Drum Ass'y Ord Ass'y. Tuning, Tone, Volume, Wave Switch) Pushbuttons) unp Socket Ass'y. (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.) (Type 84 Tube) Type 41 Tube) (Loktal, Type 7A6, 7C6 Tubes)	
43 Resistor (2.2 megs., ½ watt). 33-522339 Tuning Shaft Ass'y. 38-9874 44 Resistor (10.0 megs. ½ watt). 33-510339 Washer ("C" Type Tuning Shaft Ass'y) 28-2043	28CD 28BE 288FG 288FG 312 331 335 336 337 400 400	Coil No. 3 Coil No. 5 Coil No. 5 Coil No. 5 Coil No. 7 Pool 100 K. C. Resistor (4700 ohms, ½ watt) Ist I. F. Trans. Ass'y Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Tubular Cond. (.01 mfd.) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (33,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Tubular Cond. (.01 mfd.) Resistor (33,000 ohms, ½ watt) Tubular Cond. (.01 mfd.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 30-4536 33-115339 33-333339 32-3246 30-4479 33-447339 33-333339	Cabinet Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Pilot La Pointer Screws Spring Spring Spring Socket (Socket (Socket (Socket (Speaker Tab (D)	Model 40-190 oil mtg.) ining Drum Ass'y. Tuning, Tone, Volume, Wave Switch). Pushbuttons) amp Socket Ass'y. (Bezel mtg.). (Drive Cord). Dial Background Plate mtg.). (Type 84 Tube). (Loktal, Type 746, 7C6 Tubes).	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W.1834FG1 28-8913 28-8908 27-6035 27-6036 27-6129 27-6131 36-1479 27-5530
44 Resistor (2.2 megs., 72 watt). 33-522359 Tuning Shaft Ass'y. 38-9874 44 Resistor (10.0 megs., ½ watt). 33-610339 Washer ("C" Type, Tuning Shaft Ass'y). 28-2043 45 Mica Cond. (110 mmfd.). 30-1130 Washer (Spring Type, Tuning Shaft Ass'y). 28-4186	28C 28E 28F 28G 29 30 31 32 33 34 35 36 37 38 39 40 40 40 41	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 6 P20-1600 K. C. Resistor (4700 ohms, ½ watt) Subular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (43,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (33,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Control (20 mgc.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 30-453 33-115339 33-210339 33-210339 33-23246 33-447339 33-447339 33-447339 33-447339	Cabinet Cabinet Cabinet Clip (C Dial Dial Tu Drive C Knobs (Pilot La Pointer Screws Spring Socket (Socket (Socket (Socket (Speaker Tab (D) Tab (Te	Model 40-190 oil mtg.). ining Drum Ass'y. Cord Ass'y. (Tuning, Tone, Volume, Wave Switch). Pushbuttons) amp Socket Ass'y. (Bezel mtg.) (Drive Cord). (Dial Background Plate mtg.) (Type 84 Tube). (Type 84 Tube). (Loktal, Type 7J7 Tube). (Loktal, Type 7A6, 7C6 Tubes). ial) elevision).	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4332 27-4852 38-9607 56-1516 W-1834FG1 28-8913 28-8908 27-6035 27-6036 27-6131 36-1479 27-5330 27-9449
45 Mica Cond. (110 mmfd.)	28C 28D 28E 28F 28G 30 31 32 33 34 35 36 37 38 39 40 40 41 41	Coil No. 3 Coil No. 5 Coil No. 5 Coil No. 5 Pool 100 F. Resistor (4700 ohms, ½ watt) Subular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Tubular Cond. (.01 mfd.) Resistor (470,000 ohms, ½ watt) Tubular Cond. (.01 mfd.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 33-333339 33-333339 33-210339 32-3246 30-4479 33-447339 33-333339 33-3275 30-4479	Cabinet Cabinet Cabinet Clip (C Dial 1: Dial Tu Drive C Knobs (Pilot La Pointer Screws Spring Socket (Socket (Socket (Socket (Socket (Tab (D Tab (Tab	Model 40-190 oil mtg.) ming Drum Ass'y Ord Ass'y. Tuning, Tone, Volume, Wave Switch) Pushbuttons) mp Socket Ass'y. (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.) (Type 84 Tube) Type 41 Tube) (Loktal, Type 777 Tube) (Loktal, Type 786, 7C6 Tubes) ial) elevision)	10391A 28.5003 27.5508 38.9856 31.2383 27.4332 27.4852 38.9607 56.1516 W.1834FG1 28.8913 28.8908 27.6035 27.6129 27.6131 36.1479 27.5530 27.9449 40.6475
Washer (Spring Type, Tuning Shart Ass'y)28-4186	28C 28E 28E 28F 29 30 31 32 33 34 35 36 37 38 40 41 41 42 43	Coil No. 3 Coil No. 5 Coil No. 5 Coil No. 5 Pool 100 F. Resistor (4700 ohms, ½ watt) Subular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Tubular Cond. (.01 mfd.) Resistor (470,000 ohms, ½ watt) Tubular Cond. (.01 mfd.)	32-3042 32-3041 33-247339 32-3245 30-4123 30-4519 33-333339 33-333339 33-210339 32-3246 30-4479 33-447339 33-333339 33-3275 30-4479	Cabinet Cabinet Cabinet Clip (C Dial 1 Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring Socket (Socket (Socket (Socket (Socket (Tab (D Tab (T Tab Kit	Model 40-190 oil mtg.) ining Drum Ass'y Ord Ass'y. Tuning, Tone, Volume, Wave Switch) Pushbuttons) amp Socket Ass'y. (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.) (Type 84 Tube) (Type 84 Tube) (Loktal, Type 7J7 Tube) (Loktal, Type 7J6, 7C6 Tubes) ial) elevision) Shoft Ass'y	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W-1834FG1 28-8913 28-8908 27-6035 27-6136 27-6139 27-6131 36-1479 27-5530 27-9449 40-6475
	28C 28B 28F 28F 29F 30 31 32 33 34 35 36 40 40 40 41 42 43	Coil No. 3 Coil No. 4 Coil No. 5 Coil No. 6 P20-1600 K. C. Resistor (4700 ohms, ½ watt) Tubular Cond. (.05 mfd.) Tubular Cond. (.05 mfd.) Tubular Cond. (.2 mfd.) Resistor (150 ohms, ½ watt) Resistor (150 ohms, ½ watt) Resistor (1000 ohms, ½ watt) Tubular Cond. (.01 mfd.) Resistor (470,000 ohms, ½ watt) Resistor (470,000 ohms, ½ watt) Tubular Cond. (.01 mfd.) Tubular Cond. (.01 mfd.) Tubular Cond. (.01 mfd.) Resistor (2.2 megs. ½ watt) Resistor (2.2 megs. ½ watt)	32-3042 32-3041 33-247339 32-3245 30-4519 30-4536 33-115339 33-210339 33-210339 33-210339 33-44739 33-44739 33-44739 33-522339	Cabinet Cabinet Cabinet Clip (C Dial 1 Dial Tu Drive C Knobs (Knobs (Pilot La Pointer Screws Spring Spring Socket (Socket (Socket (Socket Tab (D Tab KT Tuning Washer	Model 40-190 oil mtg.) ming Drum Ass'y Ord Ass'y. Tuning, Tone, Volume, Wave Switch) Pushbuttons) amp Socket Ass'y. (Bezel mtg.) (Drive Cord) (Dial Background Plate mtg.) (Type 84 Tube) (Type 41 Tube) (Loktal, Type 7J7 Tube) (Loktal, Type 7A6, 7C6 Tubes) ial) elevision) Shaft Ass'y ("C" Type, Tuning Shaft Ass'y)	10391A 28-5003 27-5508 38-9856 31-2383 27-4332 27-4852 38-9607 56-1516 W-1834FG1 28-8913 28-8908 27-6035 27-6129 27-6131 36-1479 27-5530 27-9449 40-6475 38-9874 28-2043



The voltages indicated were measured with a Philco Model 027 Voltmeter (1000 ohms per volt) — Power supply 115 volts, 60 cycle — Volume control minimum — No signal being received — Range switch "Brdcst."

Aligning of Compensating Condensers Equipment Required

(1) Signal Generator. In order to properly adjust this receiver an accurately calibrated signal generator such as Philco Model 077 is required. This signal generator covers a frequency range of 540 to 36,000 K. C. (2) Indicating Device. To obtain maximum signal strength and accurate adjustment of the padders a vacuum tube voltmeter and circuit tester such as Philco Models 027 and 028 is

recommended. When using the vacuum tube voltmeter, an aligning adapter, Philco Part No. 45-2767, is necessary for connecting to the A. V. C. circuit. These testers also contain an audio output meter which may also be used as an indicating device. (3) Aligning Tools. Fiber handle screw driver, Philco Part No. 45-2610, and fiber wrench, Philco Part No. 7696.

Connecting Aligning Instruments

VACUUM TUBE VOLTMETER—To use the vacuum tube voltmeter as an alignment indicator make the following connections:

1. Adjusting I. F. Circuit.

Remove the 1232 R. F. tube from its socket and insert the aligning adaptor, then replace the tube in the adaptor. Connect the negative terminal of the vacuum tube voltmeter to the wire (light color) which protrudes from the side of the adaptor. Attach the positive terminal of the voltmeter to the black wire.

2. Adjusting R. F. Circuit.

To adjust the R. F. circuit, the aligning adaptor is inserted in the 7C6 A. F. tube socket. The vacuum tube voltmeter remains connected to the adaptor as given in the above paragraph.

With the voltmeter connected in this manner a very sensitive indication of the A. V. C. voltage is obtained when the padders are adjusted. If an audio output meter is used, connect it to the plate

and socket terminals of the 41 output tube and adjust the output meter for the 0 to $30\ A.\ C.$ scale.

After connecting the aligning indicator, adjust the compensators in the order as shown in the tabulation below. Locations of the compensators are shown on the schematic diagram, page No. 2. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

SIGNAL GENERATOR: When adjusting the I. F. padders, the high side of the signal generator is connected through a .1 mfd. condenser to terminal No. 1 of the loop terminal panel at the rear of the chassis. The ground or low side of the signal generator is connected to the chassis of the receiver.

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 loop is then placed two or three feet from the loop in the cabinet. Do not remove the receiver loop from the cabinet. It is necessary when adjusting the padders that the receiver be left in the cabinet.

40-180 - 185 - 190

	SIGNAL GE	NERATOR	RECEIVER			
Operations	Output Connections	Dial Frequency	Dial Frequency	Control Settings	Adjust Compensators for Max. Signal	Remarks
1	High Side to No. 1 Ter. Loop Panel	I. F. 455 K. C.	580 K. C. No Signal	Range Sw. "Brdcst." Volume "Max." Push-Button "Dial"	37A, 30, 30A	See Note A.
2	Use Loop on Generator	18 M. C.	18 M. C.	Range Sw. "SW." Volume "Max." Push-Button "Dial."	21A	Note B. Note D.
3	Use Loop on Generator	1400 K. C.	1400 K. C.	Range Sw. "Brdcst." Volume "Max."	19A, 21B	
4	Use Loop on Generator	580 K. C.	580 K. C.	Range Sw. "Brdcst." Volume "Max."	19	Roll Cond. Note C.
5	Use Loop on Generator	1400 K. C.	1400 K. C.	Range Sw. "Brdcst." Volume "Max."	19A, 21B	Roll Cond. Note C.
6	Use Loop on Generator	18 M. C.	18 M. C.	Range Sw. "SW."	3	Roll Cond. Note C.

NOTE A-A "Dummy Antenna" consisting of a .1 mfd. condenser is connected in series with the signal generator output lead (high side).

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 extreme left index line at the low frequency end of the broadcast scale. The arrangement of the drive cable in this position is shown in the schematic diagram.

NOTE C—When adjusting the low frequency compensator of Range One (Broadcast) or the antenna and R. F. compensators of the high frequency tuning ranges; the receiver Tuning Condenser must be adjusted (rolled) as follows: First tune the compensator for maximum output, then vary the tuning condenser of the receiver for maximum output. Now turn the

compensator slightly to the right or left and again vary the receiver tuning condenser for maximum output. This procedure of first setting the compensator and then varying the tuning condenser is continued until there is no further gain in output reading.

NOTE D—To accurately adjust the high frequency oscillator compensator to the fundamental instead of the image signal, turn the oscillator compensator to the maximum capacity position (clockwise). From this position slowly turn the compensator counter-clockwise until a second peak is obtained on the output meter. Adjust the compensator for maximum output at this second peak.

If the above procedure is correctly performed, the image signal will be found (much weaker) by turning the receiver dial 910 K. C. below the frequency being used on any high frequency range.

MANY OF THE PARTS IN THIS PHILCO, SUCH AS CONDENSERS AND RESISTORS, ARE HELD TO MUCH CLOSER TOLERANCE THAN STANDARD REPLACEMENT PARTS. GENUINE PHILCO REPLACEMENT PARTS MUST BE USED TO OBTAIN SATISFACTORY PERFORMANCE OF THIS MODEL.

PHILCO RADIO AND TELEVISION CORPORATION

Parts and Service Division, Philadelphia, Pa.