



Models 40-130, 40-135

SPECIFICATIONS

TYPE OF CIRCUIT: Models 40-130 and 40-135 are six (6) tube alternating current operating superheterodyne receivers employing the new Philco built-in aerial system which eliminates an outside aerial and reduces local interference to a minimum. One feature of the built-in super aerial system is that a statically shielded loop is used. This permits the receiver to be turned to the position where the minimum amount of interference is picked up or, if interference is not present, the receiver may be set in the position where best reception is obtained.

In addition, other features of design are: Two tuning ranges; Philco high efficiency Loktal tubes; special high gain R. F. stage; automatic volume control, tone control and a Beam power audio output stage. In general, these models are similar but differ in their tuning mechanisms and cabinets.

Model 40-130 is dial tuned and assembled in cabinet type "T".

Model 40-135 is equipped with six electric push buttons for automatically selecting stations in addition to dial tuning. Five push buttons are used for stations one of which can be used in combination with Special type PHILCO TELEVISION receivers for reception of television sound programs. The sixth

push button selects dial tuning. The push buttons in this model cover frequency ranges as follows:

540 to 1030 K. C.	740 to 1300 K. C.
650 to 1100 K. C.	900 to 1470 K. C.
	1160 to 1600 K. C.

The procedure for adjusting the push buttons for reception of stations is similar to the method described in Service Bulletin No. 325, the only difference being that the frequency range of each button is different.

Philco television sets and record players contain instructions for setting up and adjusting the push-button in model 40-135.

TUNING RANGES: 540 to 1550 K. C.; 1.5 to 3.3 M. C.

INTERMEDIATE FREQUENCY: 455 K. C.

POWER SUPPLY: 115 volts A. C., 60 cycles.

POWER CONSUMPTION: 35 watts.

AUDIO OUTPUT: 1½ watts.

PHILCO TUBES USED: 7C7, R. F.; 7A8, Oscillator and Detector; 7B7, I. F.; 7C6, Second Detector, First Audio; 7B5, Output; 7Y4, Rectifier.

CABINET DIMENSIONS:

Height, 10¼"; Width, 14½"; Depth, 8¾".

ALIGNMENT OF COMPENSATORS

EQUIPMENT REQUIRED

(1) **Signal Generator:** Philco Model 077 Signal Generator which has a fundamental frequency range from 115 to 36,000 K. C. is the correct instrument for this purpose.

(2) **Aligning Indicator:** Philco Models 027 or 028 Vacuum Tube

Voltmeters and Circuit Testers incorporate sensitive vacuum tube voltmeters and audio output meters and are recommended.

(3) Philco Fiber Handle Screw Driver, Part No. 45-2610. Aligning adaptor Part No. 45-2767, when using the vacuum tube voltmeter for alignment.

CONNECTING ALIGNING METERS

Audio Output Meter: Philco Model 027 or 028 Audio Output Meters is connected to the voice coil terminals of the speaker or the plate and screen of the 7B5 tube and adjusted for the 0 to 10 volt A. C. scale.

Vacuum Tube Voltmeter: To use the Vacuum Tube Voltmeter as an alignment indicator make the following connections:

(1) **Adjusting I. F. Circuit:** Remove the 7C7 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 light colored wire which protrudes from the side of the adaptor. Attach the positive terminal of the vacuum tube voltmeter to the black wire of the adaptor.

(2) **Adjusting R. F. Circuit:** To adjust the R. F. circuit, the aligning adaptor is inserted in the 7C6 second detector tube socket. The vacuum tube voltmeter remains connected to the adaptor as given in the paragraph above. With the voltmeter connected in this manner a very sensitive indication of the A. V. C. voltage is obtained when the padders are adjusted.

After connecting the aligning adaptors, adjust the compensators as shown in the tabulation below. Locations of the compensators are shown in Fig. 1. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

Operations in Order	SIGNAL GENERATOR		RECEIVER			SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Settings	Adjust Compensators in Order	
1	No. 1 Ter. on Panel Note B	455 K. C.	580 K. C.	Vol. Cont. Max. Range Switch "Brdcst"	21B, 21A, 18B, 18A	Dial Push-Button "In" Model 40-125
2	Loop Note C	1500 K. C.	1500 K. C.	Vol. Cont. Max. Range Switch "Brdcst"	9A, 1A Note D	Note A

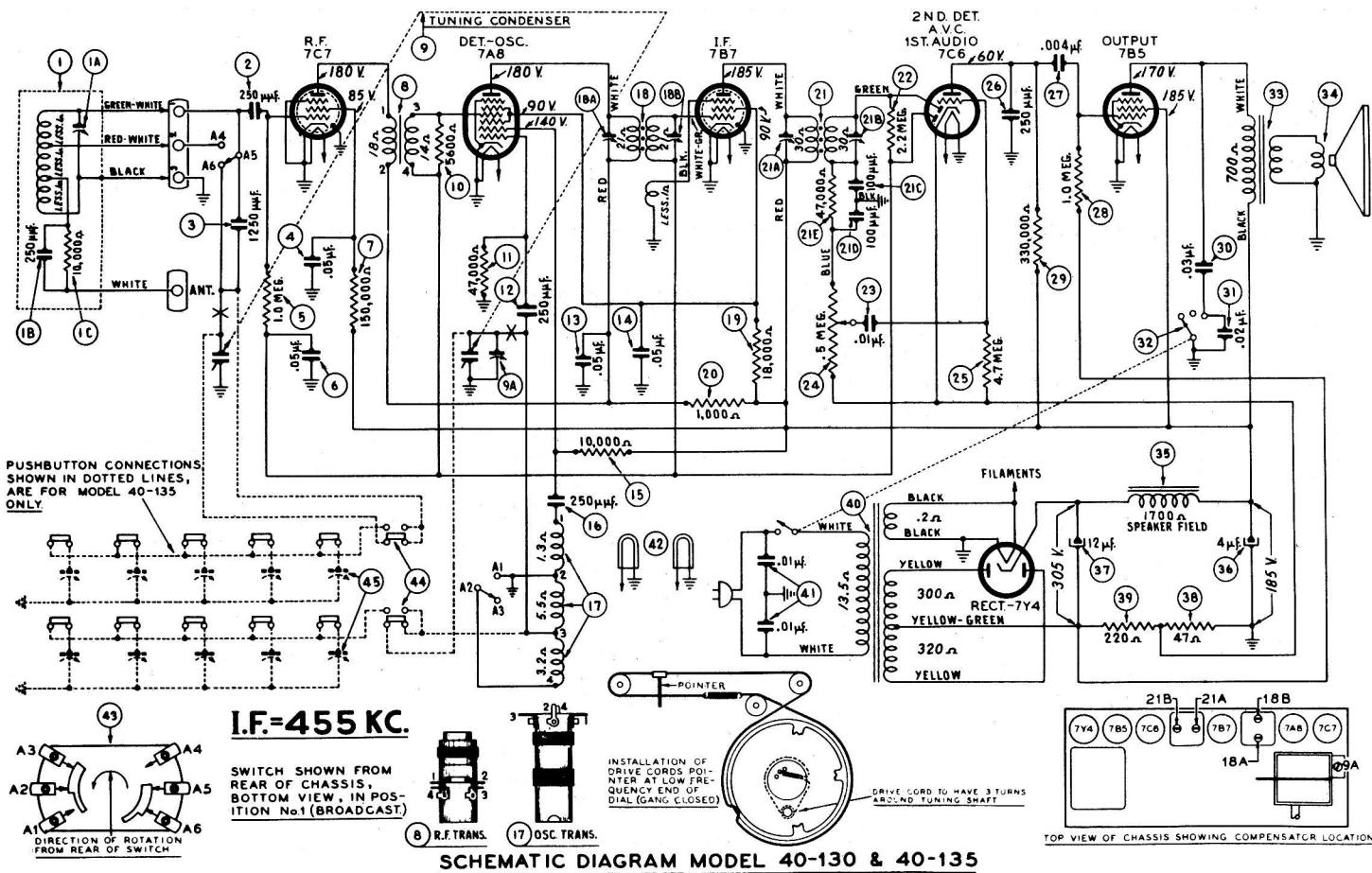
NOTE A—DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To do this, proceed as follows: Turn the tuning condenser to the maximum capacity position (plates fully meshed). With the condenser in this position, set the tuning pointer on the extreme left index line at the low frequency end of the broadcast scale.

NOTE B—When adjusting the I. F. padders the high side of the signal generator output 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 generator is connected to the chassis of the receiver.

NOTE C—When aligning the R. F. a loop is made from a few turns of wire and connected to the signal generator output terminals; the signal generator is then placed two or three feet from the loop in the cabinet.

NOTE D—Oscillator compensator (9A) is located on top of the tuning condenser. Antenna compensator (1A) is located on the loop. When adjusting the "ANT" compensators the receiver loop should be held in place against the back of the cabinet.



SCHEMATIC DIAGRAM MODEL 40-130 & 40-135

Replacement Parts — Models 40-130 and 40-135

SCHE. No.	DESCRIPTION	PART No.	SCHE. No.	DESCRIPTION	PART No.	SCHE. No.	DESCRIPTION	PART No.
1	Loop Assembly	38-9891	28	Clip (R. F. and Osc. Trans. Mtg.)	28-5002	27	Rubber Bushing (Tuning Cond. Drive)	27-9432
1A	Compensator	31-6318	29	Dial	27-5506	28	Spring (Drive Cord, Tuning Cond.)	28-8751
1B	Mica Cond. (.250 mfd.)	61-0033	30	Drive Cord Assy. (Pointer)	31-2339	29	Spring (Drive Cord, Pointer)	28-8953
1C	Resistor (10,000 ohms, 1/2 watt)	33-310339	31	Drive Cord Assy. (Tuning Cond.)	31-2400	30	Spring (Tuning Shaft Assy.)	28-8955
2	Mica Cond. (.250 mfd.)	61-0032	32	Escutcheon (Pushbutton) (Model 40-135)	28-5742	31	Sparker	36-1478
3	Mica Cond. (.1250 mfd.)	30-4518	33	Escutcheon Pin (Model 40-135)	W-1074	32	Socket (Loktal, all tubes)	55-0575
4	Tubular Cond. (.05 mfd.)	30-4518	34	Insulating Bushing (Insulate Drive Shaft)	27-9437	33	Tuning Shaft	56-6052
5	Resistor (1.0 meg., 1/2 watt)	33-510339	35	Knobs (Tuning, Tone, Volume and Wave Switch)	27-4332	34	Tuning Drive Drum Assy.	38-9883
6	Tubular Cond. (.05 mfd.)	30-4518	36	Knobs (Pushbutton, Model 40-135)	27-4824	35	Tab (Dial, Model 40-135)	27-5526
7	Resistor (150,000 ohms, 1/2 watt)	33-415339	37	Pilot Lamp Socket Assy.	38-9904	36	Tab (Television, Model 40-135)	27-9450
8	R. F. Transformer	32-3283	38	Pointer	56-1532	37	Tab Kit (Model 40-135)	40-6473
9	Tuning Condenser	31-2374				38	Washer "C" Type, Tuning Shaft	28-2043
10	Resistor (500 ohms, 1/2 watt)	33-256339						
11	Resistor (47,000 ohms, 1/2 watt)	33-347339						
12	Mica Cond. (.250 mfd.)	61-0033						
13	Tubular Cond. (.05 mfd.)	30-4518						
14	Tubular Cond. (.05 mfd.)	30-4518						
15	Resistor (10,000 ohms, 1/2 watt)	33-310339						
16	Mica Cond. (.250 mfd.)	61-0033						
17	Oscillator Transformer	32-3212						
18	1st I. F. Trans. Assy.	32-3210						
19	Resistor (18,000 ohms, 1 watt)	33-218439						
20	Resistor (1,000 ohms, 1/2 watt)	33-210339						
21	2nd I. F. Trans. Assy.	32-3281						
22	Resistor (2.2 meg., 1/2 watt)	33-522339						
23	Tubular Cond. (.05 mfd.)	30-4572						
24	Volume Control (.5 meg.)	33-5332						
25	Resistor (4.7 meg., 1/2 watt)	33-547339						
26	Mica Cond. (.250 mfd.)	61-0033						
27	Tubular Cond. (.004 mfd.)	30-4578						
28	Resistor (1.0 meg., 1/2 watt)	33-510339						
29	Resistor (330,000 ohms, 1/2 watt)	33-433339						
30	Tubular Cond. (.03 mfd.)	30-4449						
31	Tubular Cond. (.02 mfd.)	30-4481						
32	Tone Control and On-Off Switch	42-1520						
33	Output Transformer	32-8063						
34	Cone and Voice Coil Assy. (Spkr. Part No. 36-1478-3)	36-4085						
35	Field Coil (Replace Spkr. Part No. 36-1478)	30-2401						
36	Electrolytic Cond. (4 mfd., 400 V.)	30-2409						
37	Electrolytic Cond. (12 mfd., 400 V.)	33-047331						
38	Resistor (47 ohms, 1/2 watt)	33-122431						
39	Resistor (220 ohms, 1 watt)	30-8064						
40	Power Trans. (115 V. 50-60 cycles)	3903-D6						
41	Bakelite Cond. (.01-.01 mfd.)	34-2064						
42	Pilot Lamps	42-1494						
43	Wave Switch	42-1528						
44	Pushbutton Switch (Model 40-135 only)	31-6315						
45	Padder Strip (Model 40-135 only)	L-3199						

MISCELLANEOUS PARTS
 Cabinet (Model 40-130) 10394A
 Cabinet (Model 40-135) 10394B
 Cable and Plug (Power Supply) L-3199

FIG. 1. PART LOCATIONS, UNDERSIDE OF CHASSIS.

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.