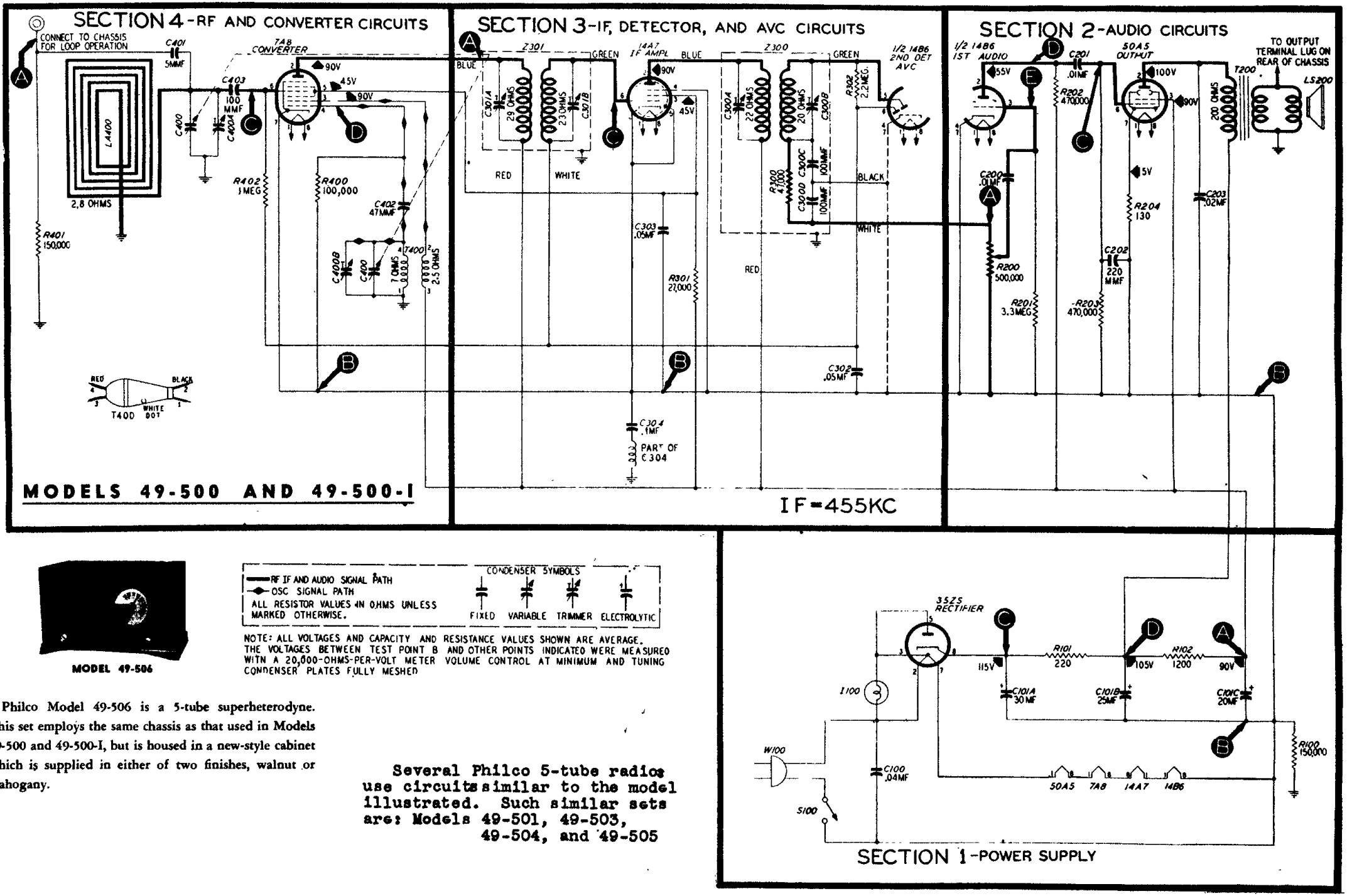

MODEL 49-506

Philco Model 49-506 is a 5-tube superheterodyne. This set employs the same chassis as that used in Models 49-500 and 49-500-I, but is housed in a new-style cabinet which is supplied in either of two finishes, walnut or mahogany.

Several Philco 5-tube radios use circuits similar to the model illustrated. Such similar sets are: Models 49-501, 49-503, 49-504, and 49-505

PHILCO RADIO-MODELS 49-500 AND 49-500-I, SECTIONALIZED SCHEMATIC DIAGRAM, SHOWING TEST POINTS

Section 1 — Power Supply TROUBLE SHOOTING

For the tests in this section, use a d-c voltmeter; connect the leads to the test points indicated in the chart. The voltages shown were taken with a 20,000-ohms-per-volt meter at a line voltage of 117 volts, 60 cycles.

Turn the volume control to minimum, and set the dial pointer at 540 kc.

If the "NORMAL INDICATION" is obtained in step 1, proceed with tests for Section 2 (audio circuits); if not, isolate and correct the trouble within this section.

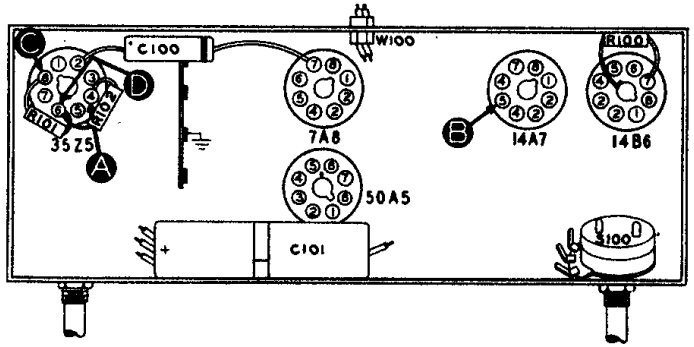

FIGURE 1. BOTTOM VIEW, SHOWING SECTION 1 TEST POINTS

STEP	TEST POINT	NORMAL INDICATION	ABNORMAL INDICATION	POSSIBLE CAUSE OF ABNORMAL INDICATION
1	A to B	90v		Trouble within this section; isolate by the following tests.
2	C to B	115v	No voltage Low voltage High voltage	Defective 35Z5GT. Shorted: C181A. Defective: 35Z5GT. Open: C101A or 1103. Leaky: C101A. Open: R101.
3	D to B	105v	No voltage Low voltage High voltage	Shorted: C181B. Open: C101B. Leaky: C101B or C203. Open: R102. T203. or R204.
4	A to B	80v	No voltage Low voltage High voltage	Shorted: C101C. Leaky: C101C. Open: R204.

Listening Test: Abnormal hum may be caused by open C101A, C101B, or C101C.

Section 2 — Audio Circuits TROUBLE SHOOTING

For the tests in this section, use an audio-signal generator. Connect the ground lead of the generator to B; connect the output lead through a .1-mf. condenser to the test points indicated in the chart. Set the volume control at maximum. If the "NORMAL INDICATION" is obtained in step 1, proceed with the tests for Section 3 (i-f, detector, and a-v-c circuits); if not, isolate and correct the trouble within this section.

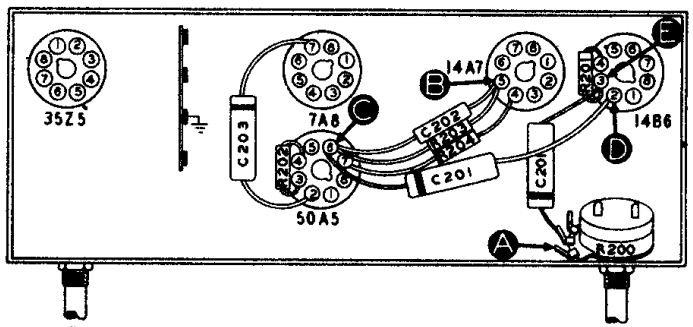

FIGURE 2. BOTTOM VIEW, SHOWING SECTION 2 TEST POINTS

STEP	TEST POINT	NORMAL INDICATION	POSSIBLE CAUSE OF ABNORMAL INDICATION
1	A	Loud, clear signal with weak signal-generator input.	Trouble within this section; isolate by the following tests.
2	C	Clear signal with weak signal-generator input.	No signal — Open or shorted: LS202 or T288. Shorted: C283. Open: R304. Defective: 50A5. Weak or distorted signal — Defective: 50A5 or LS200. Leaky: C202 or C281. Open: R383. Shorted: R204.
3	D	Same as step 2.	No signal — Open: C201. Weak or distorted signal — Leaky: C281.
4	E	Same as step 1.	No signal — Open: R202. Defective: 14B8. Weak or distorted signal — Shorted: C200. Open: R381. Defective: 14B6.
5	A	Same as step 1.	No signal — Open: C203. Shorted: C300D. Weak or distorted signal — Open: R203 (rotate through range).

Section 3 — I-F, Detector, and A-V-C Circuits TROUBLE SHOOTING

For the tests in this section, use an r-f signal generator, with modulated output; set to 455 kc. Connect the ground lead of the signal generator to B; connect the output lead through a .1-mf. condenser to the test points indicated in the chart. Set the volume control at maximum. If the "NORMAL INDICATION" is obtained in step 1, proceed with the tests for Section 4 (r-f and converter circuits); if not, isolate and correct the trouble within this section.

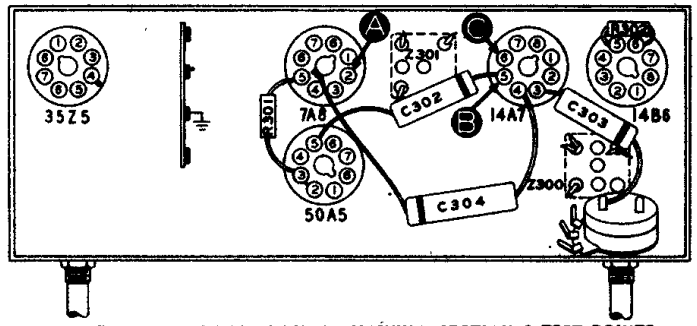

FIGURE 3. BOTTOM VIEW, SHOWING SECTION 3 TSST POINTS

STEP	TEST POINT	NORMAL INDICATION	POSSIBLE CAUSE OF ABNORMAL INDICATION
1	A	Clear signal with weak signal-generator input.	Trouble within this section; isolate by the following tests.
2	C	Same as step 1.	No signal — Open or shorted: Z300. Defective: 14B6 or 14A7. Open: R301. Shorted: C303. Weak or distorted signal — Leaky: C383. Open: C383 or C304. Defective: 14B6 or 14A7. Misaligned: Z300. Leaky or open: C302.
3	A	Same as step 1.	No signal — Open or shorted: Z381. Weak or distorted signal — Misaligned: Z301.

Section 4 — R-F and Converter Circuits TROUBLE SHOOTING

For the tests in this section, use an r-f signal generator, with modulated output. Connect the generator ground lead to B; connect the output lead through a .1-mf. condenser to the test points indicated in the chart.

Inspect the tuning condensers for bent plates, dirt, or poor wiper contacts; any or all of these will cause noise. If the "NORMAL INDICATION" is not obtained in step 1, isolate the trouble by following the remaining steps.

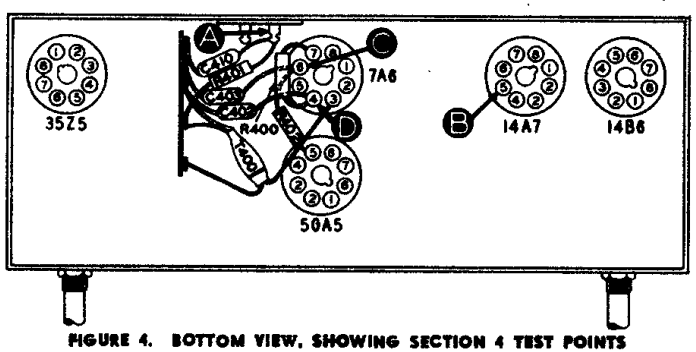

FIGURE 4. BOTTOM VIEW, SHOWING SECTION 4 TEST POINTS

STEP	TEST POINT	DIAL SETTINGS		NORMAL INDICATION	POSSIBLE CAUSE OF ABNORMAL INDICATION
		SIG. GEN.	RADIO		
1	A	540 kc.	540 kc.	Clear signal with weak signal-generator input.	Trouble within this section; isolate by the following tests.
2	D (Osc. test; see note below.)		540 to 1620 kc.	Negative 9 to 12 volts.	Open or shorted: T400, C402, or R400. Shorted: C408 or C400B. Defective: 7A8.
3	C	548 kc.	548 kc.	Same as step 1.	No signal — Open or shorted: Z301. Shorted: C402 or C402A. Defective 7A8. Weak or distorted signal — Shorted or open: LA400. Defective: 7A8.
4	A	548 kc.	540 kc.	Same as step 1.	Weak signal — Open: C401.

OSCILLATOR-TEST NOTE: Connect positive lead of a 20,000-ohms-per-volt meter to B; connect prod end of negative lead through a 100,000-ohm isolating resistor to test point D. Proper operation of oscillator is indicated by a negative voltage of 8 to 12 volts throughout range of tuning condenser.