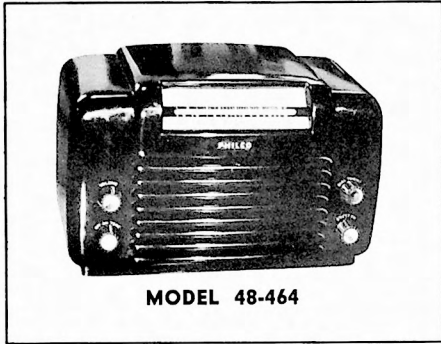


PHILCO RADIO, MODEL 48-464



SPECIFICATIONS

CABINET	Bakelite, brown
CIRCUIT	Six-tube superheterodyne
FREQUENCY RANGES	
Broadcast	540 — 1720 kc
Short wave	9 — 15.5 mc
AUDIO OUTPUT	1 watt
OPERATING VOLTAGE	115 volts, a.c. or d.c.
POWER CONSUMPTION	30 watts
AERIAL	Built-in loop; terminal also provided for external aerial
INTERMEDIATE FREQUENCY	455 kc
SPEAKER	Dynamic, permanent magnet, 4" x 6"; voice-coil impedance, 3.4 ohms
PHILCO TUBES (6)	14AF7, 7B7 (2), 7C6, 50A5, 35Y4

TP-848

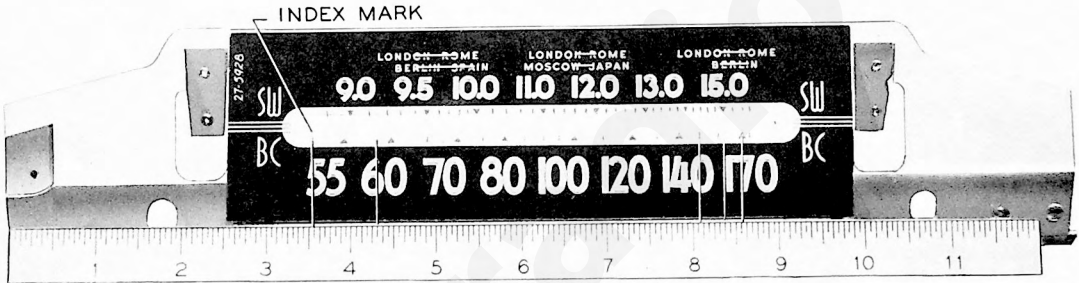


FIGURE 1. COMPOSITE DIAL AND BACKPLATE, CALIBRATION DETAILS.

TP-3454

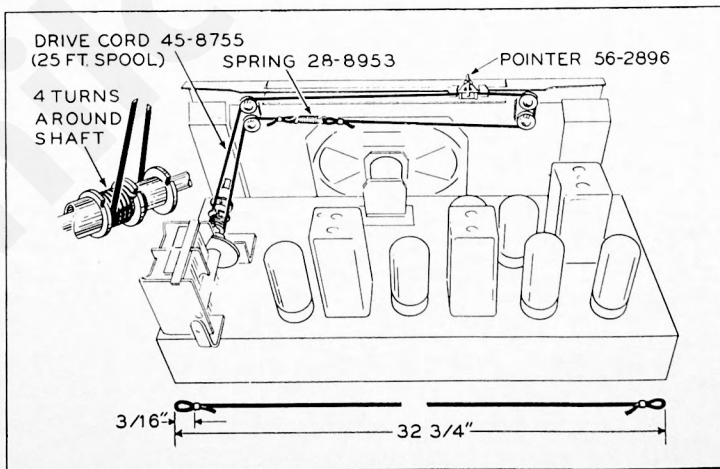


FIGURE 2. DRIVE-CORD INSTALLATION DETAILS.

TP-3372E

ALIGNMENT PROCEDURE

NOTE: Make alignment with loop connected to radio.

CONTROLS — Set volume control to maximum, tone control nearly "off", and wafer switch as indicated in chart.

SIGNAL GENERATOR—Connect as indicated in chart.

OUTPUT LEVEL — During alignment, adjust signal-generator output to maintain output-meter indication below 1.25 volts.

SIGNAL GENERATOR			RADIO			
STEP	CONNECTIONS TO RADIO	DIAL SETTING	WAFER SWITCH	DIAL SETTING	SPECIAL INSTRUCTIONS	ADJUST
1	Ground lead to B-; output lead through .1-mf condenser to tuning-condenser stator (ant. section).	455 kc	BC	540 kc	Adjust trimmers once only, in order given, for maximum output.	C302A C301A TC300 C300B
2	Radiating loop (see Note below).	580 kc	BC	580 kc	Adjust for maximum.	C400C
3	Same as step 2.	1700 kc	BC	1700 kc	Adjust for maximum.	C402E
4	Same as step 2.	1500 kc	BC	1500 kc	Adjust for maximum.	C402A
5	Same as step 2.	580 kc	BC	580 kc	Adjust for maximum while rocking tuning control.	C400C
6	Same as step 2.				Repeat steps 3, 4, and 5 until no further improvement is noted; then repeat step 3.	
7	Same as step 2.	15 mc	SW	15 mc	Adjust for maximum on first peak from loose position. Check for image with sig. gen. at 14.1 mc.	C400B
8	Same as step 2.	15 mc	SW	15 mc	Adjust for maximum while rocking tuning control.	C400A

NOTE: Make up a six-to-eight-turn, 6-inch diameter loop, using insulated wire; connect to signal-generator leads and place near radio loop.

DIAL — Alignment points should be marked on the dial backplate. Measurements for these points are shown in the composite dial-and-backplate photo, figure 1.

With tuning condensers fully meshed, set dial pointer to index mark.

OUTPUT METER — Connect to terminals indicated in figure 4.

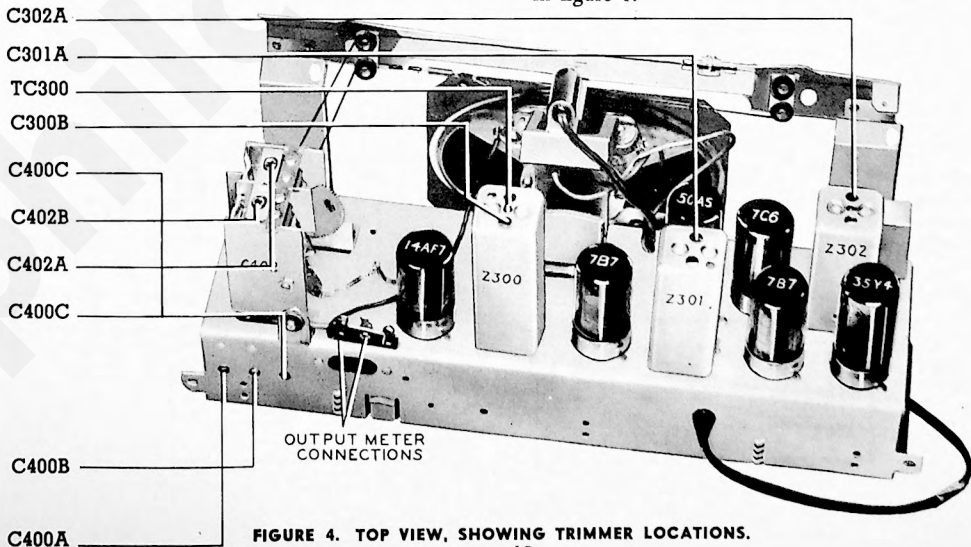


FIGURE 4. TOP VIEW, SHOWING TRIMMER LOCATIONS.

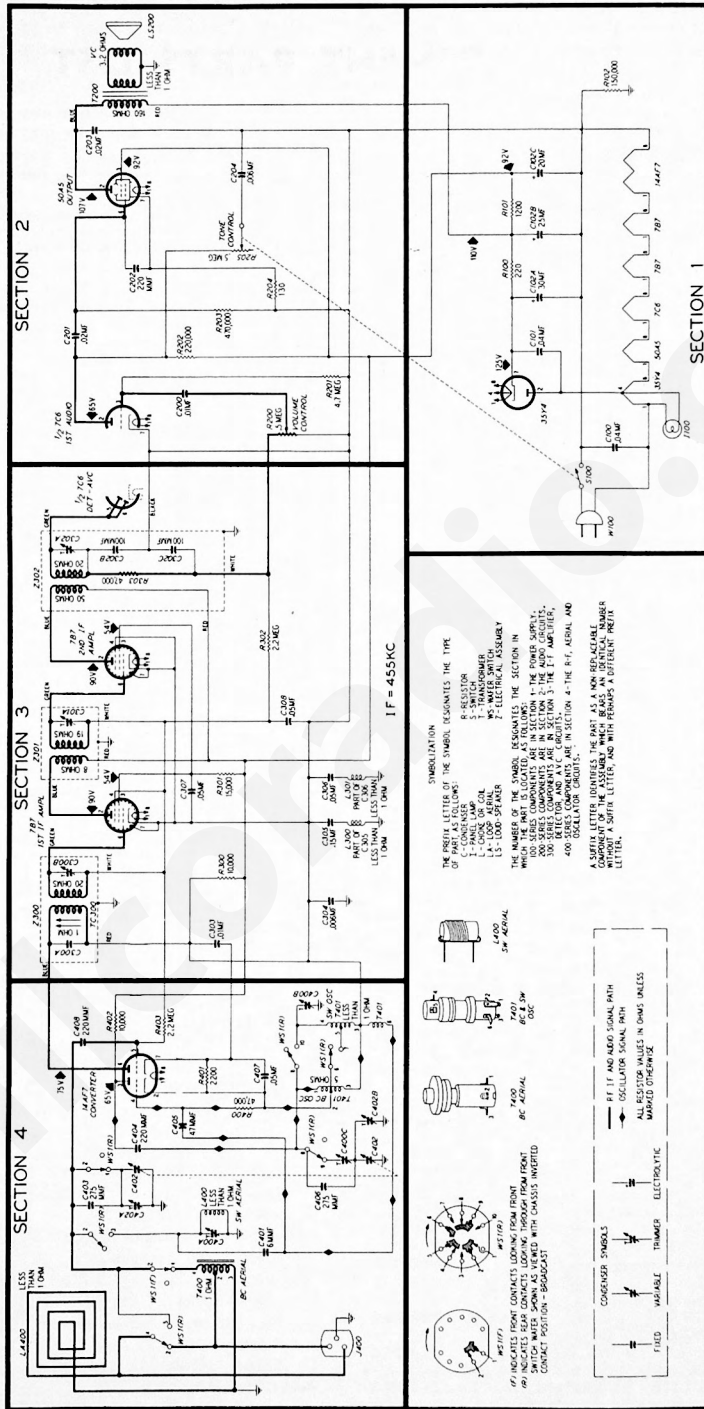


FIGURE 3. PHILCO RADIO MODEL 48-464, SECTIONALIZED SCHEMATIC.

REPLACEMENT PARTS LIST

NOTE: Part numbers marked with an asterisk (*) are general replacement items. These numbers may not be identical with those on factory assemblies; also, the electrical values of some replacement items may differ from the values indicated in the schematic diagram and parts list. The values substituted in any case are so chosen that the operation of the radio will be either unchanged or improved. When ordering replacements, use only the "Service Part No."

SECTION 1

Reference Symbol	Description	Service Part No.
C100	Condenser, by-pass, .04 mf	45-3500-2*
C101	Condenser, by-pass, .04 mf	45-3500-2*
C102	Condenser, electrolytic, 3-section	30-2573*
C102A:	Condenser, filter, 30 mf	Part of C102
C102B:	Condenser, filter, 25 mf	Part of C102
C102C:	Condenser, filter, 20 mf	Part of C102
I100	Panel lamp	34-2068
R100	Resistor, 1st B+ filter, 220 ohms	66-1224340
R101	Resistor, 2nd B+ filter, 1200 ohms	66-2123340
R102	Resistor, leakage, 150,000 ohms	66-4153340*
S100	Switch, a-c power	Part of R205
W100	Line cord	L3199

SECTION 2

C200	Condenser, coupling, .01 mf	61-0120*
C201	Condenser, coupling, .02 mf	61-0108*
C202	Condenser, r-f by-pass, 220 mmf	
C203	Condenser, tone compensation, .02 mf	61-0108*
C204	Condenser, tone compensation, .005 mf	45-3500-7*
LS200	Loud-speaker	36-1615-1
R200	Volume control, .5 megohm	33-5539-11
R201	Resistor, grid return, 4.7 megohms	66-5473340
R202	Resistor, plate load, 220,000 ohms	66-4223340
R203	Resistor, grid return, 470,000 ohms	66-4473340
R204	Resistor, cathode bias, 130 ohms	66-1123340
R205	Tone control, .5 megohm	33-5538-14
T200	Output transformer	Part of LS200

SECTION 3

C300A	Condenser, fixed, primary	Part of Z300
C300B	Condenser, trimmer, secondary	Part of Z300
C301A	Condenser, trimmer, secondary	Part of Z301
C302A	Condenser, trimmer, secondary	Part of Z302
C302B	Condenser, i-f filter, 100 mmf	Part of Z302
C302C	Condenser, i-f filter, 100 mmf	Part of Z302
C303	Condenser, r-f by-pass, .01 mf	61-0120*
C304	Condenser, r-f by-pass, .006 mf	45-3500-7*
C305	Condenser-and-choke assembly, by-pass, .15 mf	38-9851-2
C306	Condenser-and-choke assembly, by-pass, .05 mf	76-2362
C307	Condenser, screen r-f by-pass, .05 mf	61-0122*
C308	Condenser, a-v-c filter, .05 mf	61-0122*
L300	Choke	Part of C305
L301	Choke	Part of C306
R300	Resistor, plate load, 10,000 ohms	66-3103340*
R301	Resistor, screen dropping, 15,000 ohms	66-3153340*
R302	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
R303	Resistor, i-f filter, 47,000 ohms	Part of Z302
Z300	Transformer, 1st i-f, 455 kc, including C300A and C300B	32-3956-2
Z301	Transformer, 2nd i-f, 455 kc, including C301A	32-3957-2
Z302	Transformer, 3rd i-f, 455 kc, including C302A, C302B, C302C, and R303	32-3955-2

SECTION 4

Reference Symbol	Description	Service Part No.
C400	Condenser strip, trimmer, 3-section	31-6477-2
C400A:	Condenser, shunt trimmer, s-w aerial	Part of C400
C400B:	Condenser, shunt trimmer, s-w oscillator	Part of C400
C400C:	Condenser, series padder, bc oscillator	Part of C400
C401	Condenser, feedback, 6 mmf	60-90505007*
C402	Condenser, main tuning gang	31-2715
C402A:	Condenser, shunt trimmer, bc aerial	Part of C402
C402B:	Condenser, shunt trimmer, bc oscillator	Part of C402
C403	Condenser, spread tuning, s-w aerial, 275 mmf	30-1220-7
C404	Condenser, plate feedback, 220 mmf	
C405	Condenser, oscillator grid, 47 mmf	
C406	Condenser, spread tuning, s-w oscillator, 275 mmf	30-1220-7
C407	Condenser, cathode coupling, .05 mf	61-0122*
C408	Condenser, grid coupling, 220 mmf	
J400	Aerial socket	27-6145
L400	Coil, shunt, s-w aerial	32-3517-1
LA400	Loop-aerial assembly	76-2436
R400	Resistor, oscillator grid, 47,000 ohms	66-3473340*
R401	Resistor, cathode bias, 2200 ohms	66-2223340
R402	Resistor, plate load, 10,000 ohms	66-3103340
R403	Resistor, grid return, 2.2 megohms	66-5223340*
T400	Coil, bc aerial	32-3846-1
T401	Coils, bc, and s-w oscillator	32-3715-1
WS1	Wafer (band) switch	42-1791
WS1(F):	Front contacts, wafer switch	Part of WS1
WS1(R):	Rear contacts, wafer switch	Part of WS1

MISCELLANEOUS

Description	Service Part No.
Cabinet	10618B
Back	54-7236
Baffle-and-cloth assembly	40-6822
Dial scale	27-5928
Band, rubber, scale mtg.	54-4025
Strap, scale mtg., l.h.	56-2671FA3
Strap, scale mtg., r.h.	56-2672FA3
Knob	
Stud, loop mtg.	
Dial-backplate assembly	76-2390
Bracket, dial backplate	56-2681FA3
Cord, drive (25-ft. spool)	45-8755
Light reflector	27-9816-1
Pilot-lamp-socket assembly	76-2142
Pointer	56-2896
Spring, drive cord	28-8953
Socket, Loktal	27-6138

REVISIONS TO 48-464 SERVICE MANUAL

Reference Symbol	Description	Service Part No.
Parts List Corrections		
C202	Condenser, r-f by-pass, 220 mmf.	62-122001001*
C404	Condenser, plate feedback, 220 mmf.	62-122001001*
C405	Condenser, oscillator grid, 47 mmf.	30-1227-5
C408	Condenser, grid coupling, 220 mmf.	62-122001001*
	Knob	54-4376
	Stud, loop mtg.	W-2235FA9

PRODUCTION CHANGES

First production of this model started with Run 2. No production changes were made.