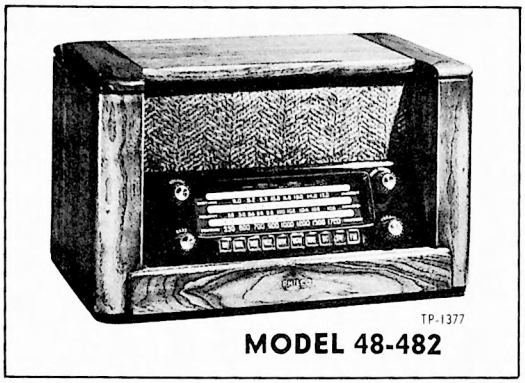
PHILCO RADIO MODEL 48-482



MODEL 48-482

SPECIFICATIONS

CABINET	Walnut-finish table model
CIRCUIT	Nine-tube superheterodyne
FREQUENCY RANGES	
Broadcast	540 — 1720 kc
Short wave	9.3 — 15.5 mc
FM	88 — 108 mc
POWER OUTPUT	3 watts
PUSH BUTTONS	Ten: One for OFF, six for broadcast-station selection, and three for band selection.
OPERATING VOLTAGE	105 to 120 volts, 60 cycles, A.C.
POWER CONSUMPTION	80 watts
AERIALS	Built-in cabinet loop, a-c line aerial (FM), or external aerial.
INTERMEDIATE FREQUENCIES	
AM	455 kc
FM	9.1 mc
PHILCO TUBES USED (9)	7W7, 7F8, 7H7 (2), 7B7, 6SQ7GT, FM1000, 6V6GT, 5Y3GT
PILOT LAMPS (2)	6—8-volt, Part No. 34-2040

CALIBRATING DIAL BACKPLATE

When the radio chassis has been removed from the cabinet, dial calibration and alignment points may be marked on the dial backplate below the pointer. The proper locations for the points may be determined as follows:

1. Hold a rule against the dial backplate as shown in figure 1.

2. Mark pencil dots at the proper points for the index mark and the desired frequency settings.

With the tuning gang fully meshed, the dial pointer on the drive cord should be adjusted to coincide with the index mark.

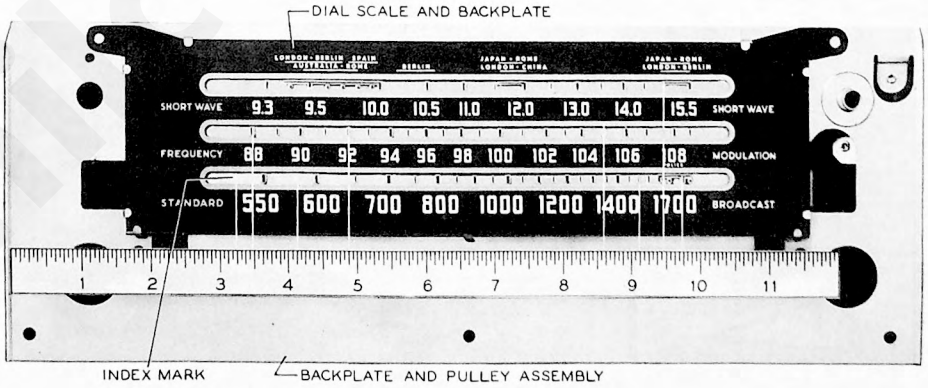


FIGURE 1. DIAL BACKPLATE CALIBRATION MEASUREMENTS. TP-2826

SYMBOLIZATION AND TERMINOLOGY

All components in the radio circuit are symbolized and located as follows:

C—condenser	LA—loop aerial	S—switch
I—pilot lamp	LS—loudspeaker	T—transformer
L—choke or coil	R—resistor	Z—electrical ass'y

100-series components are in Section 1 — the power supply

200-series components are in Section 2 — the audio amplifier

300-series components are in Section 3 — the FM detector

400-series components are in Section 4 — the AM detector, i-f stages, and a.v.c.

500-series components are in Section 5 — the aerial, r-f, and oscillator stages.

NOTE: The main switch assembly, commonly referred to in the past as a "Band Switch", is used, in many instances, for various purposes in addition to band switching. Therefore, in this manual, the main wafer-switch assembly is designated as a "Function Switch".

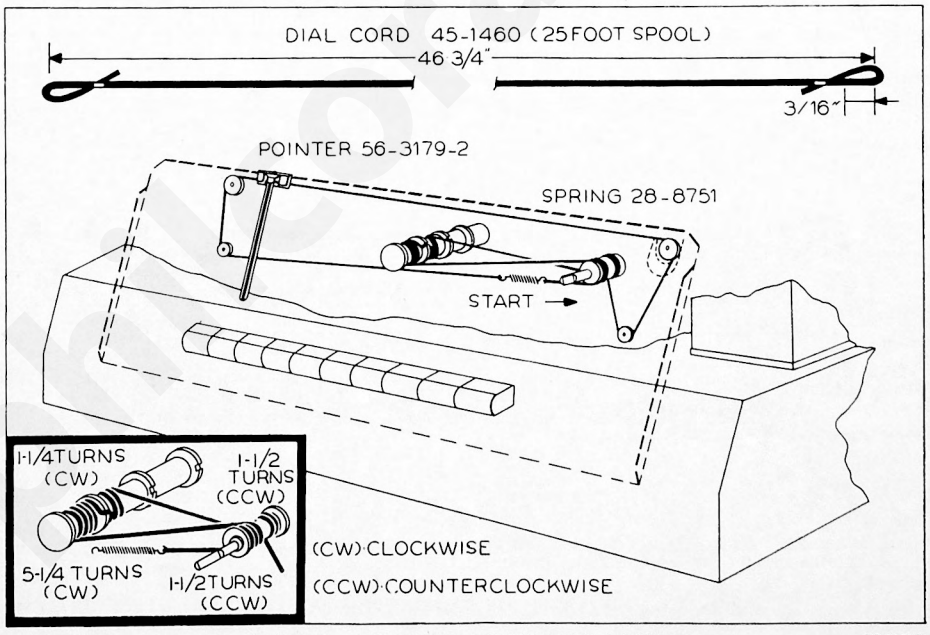


FIGURE 2. DRIVE-CORD INSTALLATION DETAILS. TP-2643-K

REPLACEMENT PARTS LIST

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

SECTION 1

Reference No.	Description	Service Part No.
C100	Condenser, .01 mf, line filter	61-0120*
C101	Condenser, .01 mf, line filter	61-0120*
C102	Condenser, electrolytic, 3 section	30-2570-1*
	C102A: Condenser, 10 mf, isolating filter	Part of C102
	C102B: Condenser, 15 mf, isolating filter	Part of C102
	C102C: Condenser, 30 mf, high-voltage filter	Part of C102
C103	Condenser, electrolytic, 2 section	30-2552*
	C103: Condenser, 10-mf section, high-voltage filter	Part of C103
	C306: Condenser, 15-mf section (see Section 3)	Part of C103
C104	Condenser, elec., 15 mf, high-voltage filter	30-2568-1*
C105	Condenser, .003 mf, r-f by-pass	61-0117*
C106	Condenser, .5 mf, bias filter	61-0133*
I100	Lamp, pilot	34-2040*
I101	Lamp, pilot	34-2040*
L100	Field, speaker	Part of LS200
R100	Resistor, 18,000 ohms, voltage dropping	66-3184340*
R101	Resistor, 15,000 ohms, voltage dropping	66-3154340*
R102	Resistor, 560,000 ohms, bias divider	66-4563340*
R103	Resistor, 220,000 ohms, bias divider	66-4223340*
R104	Resistor, 18,000 ohms, bias divider	66-3183340*
S100	Switch, a-c power (on push-button assembly)	
T100	Transformer, power	32-8281
W100	Cord, line	L-3199

SECTION 2

C200	Condenser, 220 mmf, r-f by-pass	60-10245307*
C201	Condenser, .01 mf, treble control	61-0120*
C202	Condenser, .02 mf, audio coupling	61-0108*
C203	Condenser, .006 mf, bass compensation	45-3500-7*
C204	Condenser, .006 mf, audio coupling	45-3500-7*
C205	Condenser, .006 mf, high a-f by-pass	61-0153
J200	Socket, single prong, FM test point	27-6180
LS200	Speaker	36-1608
R200	Potentiometer, 2 meg (tap at 1 meg), vol. cont.	33-5535-3
R201	Resistor, 4.7 ohms, divider, inverse feedback	66-9474360*
R202	Resistor, 1 meg, 1st-audio grid	66-5103340*
R203	Potentiometer, 500,000 ohms, treble control	33-5539-3
R204	Resistor, 220,000 ohms, plate loading	66-4223340*
R205	Resistor, 330,000 ohms, output-tube grid	66-4333340*
R206	Resistor, 33,000 ohms, divider, bass compensation	66-3333340*
R207	Potentiometer, 1 meg, bass control	33-5539-4*

SECTION 2 (Continued)

Reference No.	Description	Service Part No.
R208	Resistor, 100 ohms, divider, inverse feedback	66-1103340*
T200	Transformer, output	32-8249*

SECTION 3

C301	Condenser, 33 mmf, osc. grid (FM det.)	
C302	Condenser, .01 mf, fil. by-pass	61-0120*
C303	Condenser, .01 mf, r-f by-pass	61-0120*
C304	Condenser, .03 mf, audio coupling	45-3500-1*
C305	Condenser, 1500 mmf, r-f by-pass	60-20155404*
C306	Condenser, elec., 15 mf, filter	Part of C103
C307	Condenser, .01 mf, r-f by-pass	61-0120*
L300	Choke, r-f osc. cathode (FM det.)	32-3352
R301	Resistor, 15,000 ohms, osc. grid leak (FM det.)	66-3153340*
R302	Resistor, 47,000 ohms, audio load (FM det.)	66-3473340*
R303	Resistor, 100,000 ohms, r-f choke	66-4103340*
R304	Resistor, 15,000 ohms, voltage dropping	66-3153340*
R305	Resistor, 56,000 ohms, voltage dropping	66-3563340*
R306	Resistor, 22 ohms, parasitic suppressor	
Z300	Transformer, FM detector	32-4004
	C300A: Condenser, fixed, 15 mf	Part of Z300
	C300B: Condenser, trimmer (9.1 mc), FM det.	Part of Z300
	C300C: Condenser, 33 mmf, r-f voltage divider	Part of Z300
	C300D: Condenser, 68 mmf, r-f voltage divider	Part of Z300
	R300A: Resistor, 6800 ohms, damping	Part of Z300
	TC300: Core, tuning (9.1 mc), FM det.	Part of Z300

SECTION 4

C405	Condenser, .01 mf, r-f by-pass	61-0120*
C406	Condenser, .01 mf, fil. by-pass	61-0120*
C407	Condenser, 220 mmf, r-f by-pass	60-10245307*
C408	Condenser, .01 mf, r-f by-pass	61-0120*
C409	Condenser, .01 mf, r-f by-pass	61-0120*
C410	Condenser, .01 mf, r-f by-pass	61-0120*
C411	Condenser, .01 mf, r-f by-pass	61-0120*
C412	Condenser, .01 mf, fil. by-pass	61-0120*
C413	Condenser, .01 mf, r-f by-pass	61-0120*
C414	Condenser, 220 mmf, r-f by-pass	60-10245307*
C415	Condenser, .01 mf, r-f by-pass	61-0120*
C416	Condenser, .01 mf, B + by-pass	61-0120*
C417	Condenser, .05 mf, a-v-c filter	61-0122*
C418	Condenser, .01 mf, r-f by-pass	61-0120*
C419	Condenser, .01 mf, r-f by-pass	61-0120*

REPLACEMENT PARTS LIST — Continued

SECTION 4 (Continued)

Reference No.	Description	Service Part No.
C420	Condenser, .01 mf, r-f by-pass	61-0120*
C421	Condenser, 220 mmf, r-f by-pass	60-10245307*
C422	Condensor, 100 mmf, a-v-c diode coupling (FM)	60-10105407*
C423	Condenser, .01 mf, r-f by-pass	61-0120*
C424	Condenser, .006 mf, audio coupling	45-3500-7*
C425	Condenser, 100 mmf, r-f by-pass	60-10105407*
FS3 (R)	Switch, shorting, 1st i-f	Part of FS
R400	Resistor, 47,000 ohms, voltage dropping	66-3473340*
R401	Resistor, 1 meg, decoupling	66-5103340*
R402	Resistor, 180 ohms, degeneration	66-1183340*
R403	Resistor, 100,000 ohms, voltage dropping	66-4103340*
R404	Resistor, 3300 ohms, decoupling	66-2333340*
R405	Resistor, 180 ohms, degeneration	66-1183340*
R406	Resistor, 3300 ohms, bias (bc, sw)	66-2333340*
R407	Resistor, 1 meg, decoupling	66-5103340*
R408	Resistor, 100,000 ohms, bleeder (bc, sw), 7B7 screen	66-4103340*
R409	Resistor, 100,000 ohms, voltage dropping	66-4103340*
R410	Resistor, 3300 ohms, decoupling	66-2333340*
R411	Resistor, 180 ohms, degeneration	66-1183340*
R412	Resistor, 330,000 ohms, a-v-c filter	66-4333340*
R413	Resistor, 100 ohms, decoupling (FM)	66-1103340*
R414	Resistor, 82,000 ohms, voltage dropping	66-3823340*
R415	Resistor, 3300 ohms, decoupling	66-2333340*
R416	Resistor, 47,000 ohms, decoupling	66-3473340*
R417	Resistor, 1 meg, a-v-c filter	66-5103340*
R418	Resistor, 270,000 ohms, diode lead	66-4273340*
R419	Resistor, 100,000 ohms, r-f choke	66-4105340*
Z400	Transformer, 1st i-f	32-4020-1
	C400A: Condenser, trimmer (455 kc)	Part of Z400
	C400B: Condenser, fixed, 3000 mmf	Part of Z400
	C400C: Condenser, trimmer (9.1 mc)	Part of Z400
	C400D: Condenser, trimmer (9.1 mc)	Part of Z400
	C400E: Condenser, fixed, 9 mmf	Part of Z400
	TC400: Core, tuning (455 kc)	Part of Z400
Z401	Transformer, 2nd i-f	32-4001
	C401A: Condenser, trimmer (455 kc)	Part of Z401
	C401B: Condenser, trimmer (9.1 mc)	Part of Z401
	C401C: Condenser, trimmer (9.1 mc)	Part of Z401
Z402	Transformer, 3rd i-f	32-4002
	C402A: Condenser, trimmer (455 kc)	Part of Z402
	C402B: Condenser, fixed, 330 mmf	Part of Z402
	C402C: Condenser, trimmer (9.1 mc)	Part of Z402
	C402D: Condenser, trimmer (9.1 mc)	Part of Z402
	C402E: Condenser, fixed, 3 mmf	Part of Z402
	TC402: Core, tuning (455 kc)	Part of Z402
Z403	Transformer, 4th i-f	32-4003-2
	C403A: Condenser, trimmer (455 kc)	Part of Z403
	C403B: Condenser, trimmer (9.1 mc)	Part of Z403
	C403C: Condenser, trimmer (9.1 mc)	Part of Z403
	C403D: Condenser, fixed, 270 mmf	Part of Z403
Z404	Condenser (.01 mf) and choke assembly, i-f by-pass	38-9851-3

SECTION 5

Reference No.	Description	Service Part No.
C501	Condenser, main tuning gang	31-2694
	C501A: Condenser, FM aerial-coil trimmer	Part of C501
	C501B: Condenser, FM r-f-coil trimmer	Part of C501
	C501C: Condenser, FM osc. coil trimmer	Part of C501
C502	Condenser, 3-section, trimmer assembly	31-6477
	C502A: Condenser, shunt trimmer, bc aerial	Part of C502
	C502B: Condenser, shunt trimmer, bc osc.	Part of C502
	C502C: Condenser, shunt trimmer, s-w osc.	Part of C502
C503	Condenser, shunt trimmer, s-w aerial	31-6473-2
C504	Condenser, 10 mmf, coupling, r-f tube grid (FM)	60-00105407*
C505	Condenser, 220 mmf, fil. r-f by-pass	60-10245307*
C506	Condenser, 510 mmf, r-f by-pass	60-10515307*
C507	Condenser, 510 mmf, r-f by-pass	60-10515307*
C508	Condenser, series trimmer, bc osc.	31-6473-3
C509	Condenser, 47 mmf, output coupling (FM r-f)	60-00515307*
C510	Condenser, 255 mmf, spread tuning, s-w aerial coil	60-10255307*
C511	Condenser, 22 mmf, coupling (bc), mixer grid	60-00205307*
C512	Condenser, 10 mmf, mixer neutralizing (sw)	60-00105407*
C513	Condenser, 750 mmf, oscillator-to-mixer coupling	60-10755301*
C514	Condenser, 100 mmf, osc. grid feedback	60-10105407*
C515	Condenser, 220 mmf, osc. plate feedback (FM)	60-10245307*
C516	Condenser, 220 mmf, r-f filter, osc. plate circuit	60-10245307*
C517	Condenser, 510 mmf, osc. plate feedback (bc, sw)	60-10515307*
C518	Condenser, 220 mmf, r-f filter, osc. plate circuit	60-10245307*
C519	Condenser, 255 mmf, spread tuning, s-w osc. coil	60-10255307*
C520	Condenser, 285 mmf, r-f voltage divider, osc. (pb)	30-1224-14
C521	Condenser, 485 mmf, r-f voltage divider, osc. (pb)	30-1224-15
C522	Condenser, 510 mmf, r-f B+ by-pass	60-10515307*
FS	Rotary function switch, 3-section	76-2211
	FS 1: switch section	Part of FS
	FS 2: switch section	Part of FS
	FS 3: switch section	Part of FS
J500	Socket, aerial	27-6214-1
L501A	Coil, FM aerial	32-3993
L501B	Coil, FM r-f	32-3992
L501C	Coil, FM oscillator	32-3994
L502	Coil, bc aerial	32-4049
L503	Coil, s-w aerial	32-4050
L504	Coil, s-w oscillator	32-3996
L505	Coil, bc oscillator	32-4019-2
L506	Choke, r-f, parasitic suppressor, osc. plate (bc, sw)	32-4089
L507	Choke, r-f, s-w aerial trimmer	32-4111

REPLACEMENT PARTS LIST — Continued

SECTION 5 (Continued)

Reference No.	Description	Service Part No.
LA500	Loop, bc	76-2237
P500	Plug, a-c line aerial (FM) connector	27-4788
PB	Push-button switch assembly (including a-c switch)	42-1774
	C500: Push-button padder-strip assembly (C500A to C500F)	
	L500: Push-button coils (L500A to L500F)	
	L500A, L500B, L500C: coils, push button	32-4059
	L500D, L500E, L500F: coils, push button	32-4059-1
R500	Resistor, 1 meg, grid isolating, r-f stage	66-5103340*
R501	Resistor, 100,000 ohms, voltage dropping	66-4103340*
R502	Resistor, 33,000 ohms, plate loading	66-3333340*
R503	Resistor, 3300 ohms, decoupling, r-f plate	66-2333340*
R504	Resistor, 10 ohms, parasitic suppressor	66-0103340*

SECTION 5 (Continued)

Reference No.	Description	Service Part No.
R505	Resistor, 2200 ohms, mixer cathode	66-222340*
R506	Resistor, 4.7 meg, a-v-c divider (converter)	66-5473340*
R507	Resistor, 4.7 meg, a-v-c divider (converter)	66-5473340*
R508	Resistor, 22,000 ohms, osc. grid leak	66-3223340*
R509	Resistor, 22,000 ohms, osc. plate dropping (FM)	66-3223340*
R510	Resistor, 22,000 ohms, osc. plate dropping (bc, sw)	66-3223340*
R511	Resistor, 100 ohms, parasitic suppressor osc. (bc, sw)	66-1103340*
R512	Resistor, 180 ohms, degeneration (bc osc.)	66-1183340*
R513	Resistor, 10,000 ohms, osc. (push-button) cathode choke	66-3103340*
TB500	Terminal panel, loop aerial	38-9942

MISCELLANEOUS

Description	Service Part No.
Cabinet, complete	10651A
Cabinet Parts and Hardware	
Nut, (4) speaker mtg.	1W19988FA3
Baffle and grille cloth assembly	40-6783
Dial scale-and-backplate assembly	76-2267
Bolt (2) speaker mtg.	W1695
Bolt (2) speaker mtg.	W2123FA3
Cable and plug, speaker	41-3734
Chassis Mounting Hardware	
Screw (4)	1W17323FA3
Washer (4)	1W52540FA3
Clip, bc ant. coil mtg.	28-5002FA1
Dial-Scale Hardware	
Backplate and pulley assembly	76-2254
Drive-cord (25-ft. spool, with clips)	45-1460
Pointer	56-3179-2
Screw (5) backplate mtg.	1W19670FA3
Shaft, tuning drive	76-2258
Spring, drive cord	28-8751
Function-Switch Hardware	
Fulcrum assembly	76-2206
Fasteners (2), mtg. switch to fulcrum	28-4279FA1
Link, switch to fulcrum	54-7169
Screw (2), fulcrum mtg.	1W19644FA3
Knob (4), control	54-4227
Knob (10), push button	54-4292

Description	Service Part No.
Push-Button-Assembly Hardware	
Cap (10), push button	54-4294
Clip (6), coil holding	
Core (6), tuning	56-6100
Grommet (2), rubber, p-b switch mtg.	27-4596
Screw (2), p-b switch mtg.	1W19674FA3
Spring (6) tension	
Switch assembly, push button (including a-c switch)	42-1774
Tab kit assembly (call letters)	
Tab, BC	
Tab, FM	
Tab, OFF	
Tab, SW	
Trimmer condenser and bracket assembly	31-6449-1
R-F Unit Mounting Hardware	
Grommet (3), rubber	54-4295
Screw (3)	1W19674FA3
Spacer (3)	1W29158FA3
Washer (3)	1W52224FA3
Shield, FM 1000 tube	56-2731
Shield, 6SQ7GT	
Socket assembly, dial light	76-2109
Socket assembly (3½" lead), dial lamp	76-2109-1
Socket (3), Loktal, main chassis	27-6138
Socket (3), octal, main chassis	27-6174
Socket (2), Loktal, r-f unit	27-6213
Socket, Loktal, r-f unit	27-6138

ALIGNMENT PROCEDURE

ALIGNMENT OF AM CIRCUITS

When the complete AM and FM alignment is to be made, the AM alignment should be made FIRST; however, if FM alignment is not required, the AM alignment alone may be made.

OUTPUT METER: Connect between terminal No. 3 (voice-coil connection) of aerial terminal panel and chassis.

AM SIGNAL GENERATOR: Connect ground lead to radio chassis, and output lead as indicated in chart.

DIAL POINTER: With tuning condenser fully closed, the dial pointer must coincide with the index mark at the low-frequency end of the scale. See CALIBRATING DIAL BACKPLATE, page 3.

CONTROLS: Set volume control at maximum, bass tone control fully counterclockwise, and treble tone control fully clockwise; set the radio band push button, radio dial, and signal-generator dial as indicated in the chart.

OUTPUT LEVEL: During alignment, the signal-generator output must be attenuated to maintain the radio output below 1.5 volts, as indicated by the output meter.

ALIGNMENT OF FM CIRCUITS

Align the AM circuits first.

AM SIGNAL GENERATOR: Connect the generator ground lead to the radio chassis; connect the output lead through a .1-mf condenser to the points specified in the chart.

OUTPUT METER: Connect the output meter between terminal No. 3 of the aerial terminal panel and the radio chassis.

CONTROLS: Set volume control at maximum, bass tone control fully counterclockwise, and treble tone control fully clockwise. Depress FM push button.

LOCATION OF FM COILS: For the location of coils L501A, L501B, and L501C (steps 11 and 15), refer to the base layout of Section 5, figure 7.

FM ALIGNMENT NOTES

1. When pin No. 2 of the FM1000 tube is connected to the chassis, the oscillator section of the tube is made inoperative, thereby converting the circuit from an FM to an AM detector.

2. Make the loading network by connecting a 4700-ohm resistor and a .1-mf condenser in series. Attach an alligator clip to each free end of the network. When this network is connected across the primary or secondary circuit of an i-f transformer, the network loads the circuit so that the transformer is effectively below critical coupling; the unloaded winding may then be correctly peaked at the intermediate frequency.

3. The top of padder C403B can be reached only from the top of the shield can. Slide a length of flattened solder or wire down between the ceramic form and the edge of the trimmer plate. Attach the loading network between this connection and the chassis.

4. It is essential that the output from the generator be kept below the point where the detector-oscillator locks in, otherwise an erroneous zero-beat will be obtained. When a single very sharp zero-beat point is obtained, the adjustment is correct.

5. The use of a signal generator for steps 10 to 16 is recommended only if the available generator is sufficiently accurate to insure correct frequency settings. Otherwise, an alternate procedure employing FM broadcast station signals in place of a signal generator is recommended. For adjustment at the high-frequency end of the band, use the station nearest 105 mc; for the low-frequency adjustments, use the stations nearest 88 and 92 mc. If the radio is greatly misaligned, it may be necessary to adjust the padders and coils for maximum noise at each end of the band before station signals can be heard. The oscillator section of the FM detector must be made inoperative, as given in step 10 of FM circuit alignment.

6. Check all coil adjustments with a tuning wand. If inserting the brass end in or near the coil increases the output-meter reading, spread the turns; if the powdered-iron end increases the output reading, compress the turns. If both ends cause a decrease in output, the coil is correctly tuned. Do not change the coils excessively, since only a small adjustment is required at these frequencies.

7. Make two simple dipole aerials to feed signals from the signal generator to the radio. Each dipole aerial may consist of two 30-inch lengths of rubber-covered wire. Connect one dipole aerial to terminal Nos. 1 and 2 on the radio FM aerial socket J500. Connect the other dipole to the output of the signal generator. Space the two dipoles several feet apart.

FM ALIGNMENT CHART

SIGNAL GENERATOR			RADIO		
STEP	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	ADJUST TRIMMER
1	To terminal 3 of L501B (figure 3)	9.1mc (Mod. on)	Gang fully closed	Connect jumper between pin No. 2 of FM1000 tube and chassis (Note 1). Connect loading network (Note 2) between top of padder C403B and chassis (Note 3).	C403C
2	Same	Same	Same	Connect loading network between pin No. 2 (blue lead) of third i-f tube and chassis.	C403B
3	Same	Same	Same	Connect loading network between pin No. 6 (green lead) of third i-f tube and chassis.	C402D
4	Same	Same	Same	Connect loading network between pin No. 2 (blue lead) of second i-f tube and chassis.	C402C
5	Same	Same	Same	Connect loading network between pin No. 6 (green lead) of second i-f tube and chassis.	C401C
6	Same	Same	Same	Connect loading network between pin No. 2 (blue lead) of first i-f tube and chassis.	C401D
7	Same	Same	Same	Leave loading network connected as in step 6.	C400C C400D
8	To grid (pin No. 6) of third i-f amplifier	9.1 mc (Mod. off)	Same	Remove loading network, and remove jumper from pin No. 2 of FM1000 tube and chassis. Connect jumper between pin No. 4 (blue lead) of FM1000 tube and junction of R302 and red lead of Z300. Adjust trimmer for zero beat.	C300D
9	Same as step 8	Same	Same	Remove jumper used in step 8. Adjust trimmer for zero beat (see Note 4).	TC30C
10	To terminal No. 2 of J500 (see Note 5)	105 mc (Mod. on)	105 mc	Connect jumper between pin No. 2 of FM1000 tube and chassis. Adjust for maximum output.	C501C
11	Same as step 10	88 mc	88 mc	Adjust coil L501C for maximum output (Note 6).	
12	Repeat steps 10 and 11 until no further improvement is noted.				
13	Same as step 10	105 mc	105 mc	Adjust for maximum output (rock tuning control).	C501B
14	See Note 7	105 mc	105 mc	Adjust for maximum output.	C501A
15	Same as step 14	92 mc	92 mc	Adjust coil L501B, then L501A, for maximum output.	
16	Repeat steps 13, 14 and 15 until no further improvement in sensitivity can be obtained.				

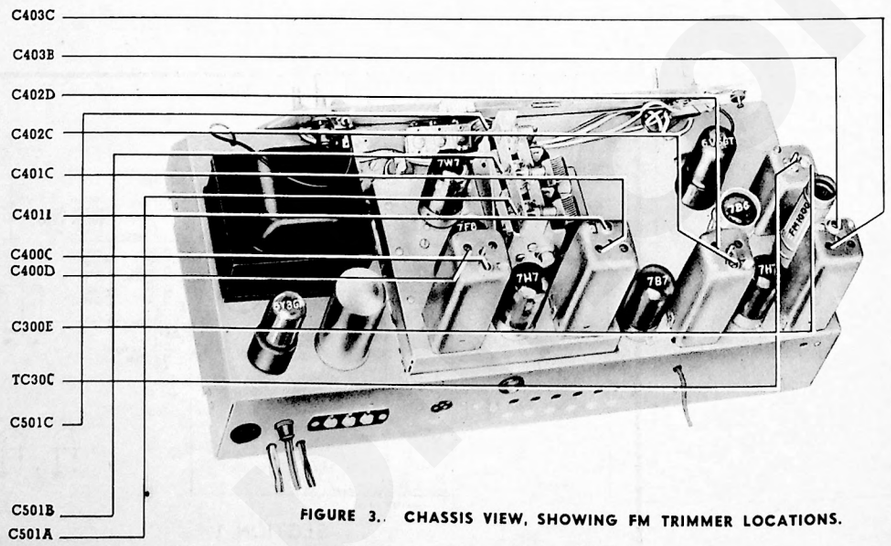


FIGURE 3. CHASSIS VIEW, SHOWING FM TRIMMER LOCATIONS.

AM ALIGNMENT CHART

SIGNAL GENERATOR			RADIO			
STEP	CONNECTIONS TO RADIO	DIAL SETTING	BAND PUSH BUTTON	DIAL SETTING	SPECIAL INSTRUCTIONS	ADJUST TRIMMER
1	Through .1-mf condenser to stator of ant. section of tuning gang	455 kc	BC	1700 kc	Adjust each trimmer, in order, for maximum output. Do not repeat adjustments.	C403A C402A TC402 C401A C400A TC400
2	Loosely coupled with loop (see Note below)	15 mc	SW	15 mc	Adjust for maximum output. Check for image at 14.1 mc.	C502C
3	Same	15 mc	SW	15 mc	Adjust for maximum output (rock tuning control).	C502
4	Same	1700 kc	BC	1700 kc	Adjust for maximum output.	C502F
5	Same	1500 kc	BC	1500 kc	Adjust for maximum output.	C502A
6	Same	580 kc	BC	580 kc	Adjust for maximum output (rock tuning control).	C508
7	Repeat steps 4, 5 and 6 in order until no further increase is noted. Then repeat step 4.					

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

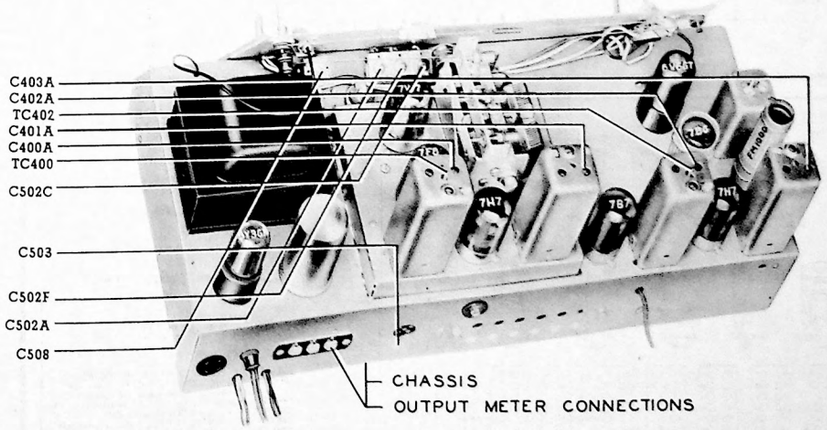


FIGURE 4. CHASSIS VIEW, SHOWING AM TRIMMER LOCATIONS.

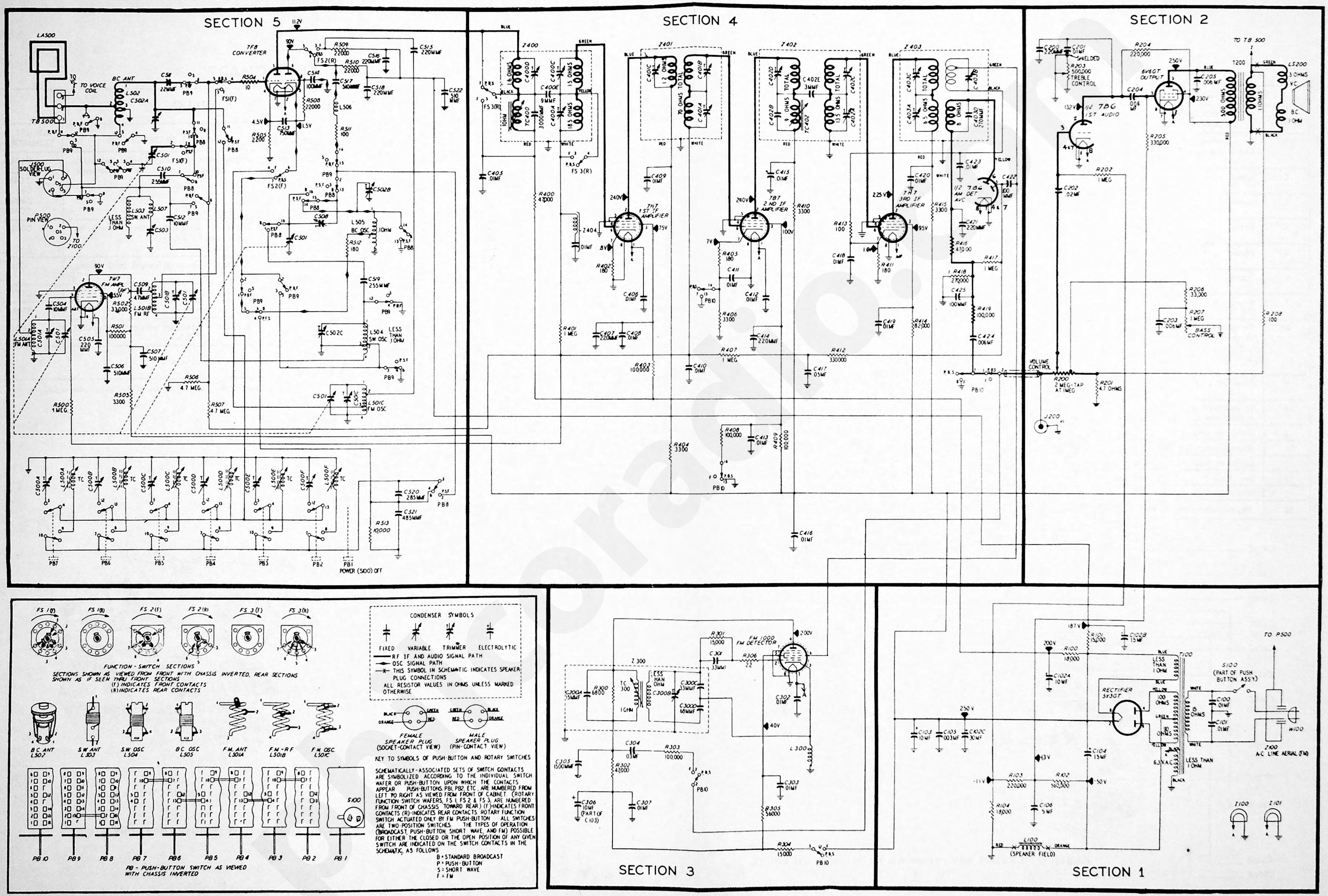


FIGURE 5. PHILCO MODEL 48-482; COMPLETE SECTIONALIZED SCHEMATIC.

REVISIONS TO 48-482 SERVICE MANUAL

Reference Symbol	Description	Service Part No.
	Parts List Corrections	
S100	Switch, a-c power (on push-button assembly)	42-1717
C301	Condenser, 33 mmf., osc. grid (FM det.)	60-00365307*
R306	Resistor, 22 ohms, parasitic suppressor	66-0223340*
	Clip (6), coil holding should be Coil mtg. terminal strip	56-2250
	Spring (6), tension should be Iron core screw stabilizer	56-2249
	Shield, 6SQ7GT should be Shield, 7B6	56-3358
	Tab kit assembly (call letters)	40-6943
	Tab, BC	54-4317-2
	Tab, FM	54-4317-4
	Tab, OFF	54-4317-1
	Tab, SW	54-4317-3

PRODUCTION CHANGES

Main Chassis, Run 2

C100 and C101 were changed from the paper tubular type to a dual bath-tub type, of the same capacitance. The new condenser is Part No. 39030DG.

Main Chassis, Run 3

To reverse tone-control rotation to agree with standard practice, resistor R206 and condenser C203 are wired to lug 1 of R207 instead of lug 3.

R-F Chassis

The entire production used Run 13 r-f chassis of Model 46-1213. No changes were made.