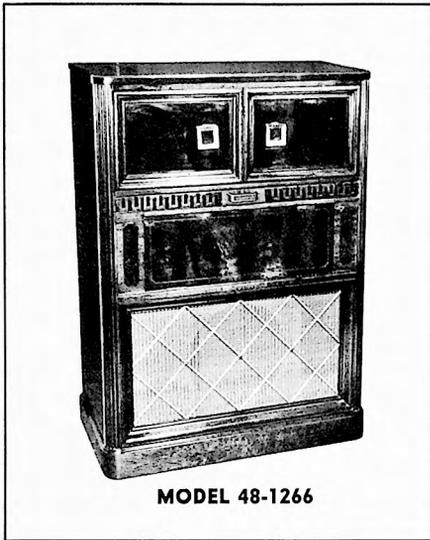


PHILCO RADIO-PHONOGRAPH MODEL 48-1266

SPECIFICATIONS

CABINET Wood, walnut finish
 CIRCUIT Nine-tube superheterodyne
 FREQUENCY RANGES
 Broadcast 540—1720 kc.
 Short Wave 9.3—15.5 mc.
 FM 88—108 mc.
 AUDIO OUTPUT 10 watts
 PUSH BUTTONS Six: Five for broadcast stations; one for phono operation
 OPERATING VOLTAGE .. 105—120 volts, 60 cycles, a. c.
 POWER CONSUMPTION
 Radio 110 watts
 Phonograph 20 watts
 AERIALS Built-in low-impedance loop, and FM dipole; provision for external aerial
 INTERMEDIATE FREQUENCIES
 AM 455 kc.
 FM 9.1 mc.
 PHONOGRAPH Philco Automatic Record Changer, Model D-10 (for service information, see manual PR-1522)
 PHILCO TUBES (9) 6AG5, 7F8, 6BA6, 7R7, 7X7, 7A4, 6V6GT (2), 5AZ4

TP-3632



CALIBRATING DIAL BACKPLATE

When the radio chassis has been removed from the cabinet, dial calibration and alignment points should be marked on the dial backplate below the pointer.

The method of measuring for these points is illustrated in figure 1. Hold a ruler against the scale backplate, as shown, and mark pencil dots at the proper

points for the required frequency settings. When the ruler is correctly placed, the index mark is $1\frac{1}{2}$ inches from the left-hand edge of the backplate, as indicated in figure 1.

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

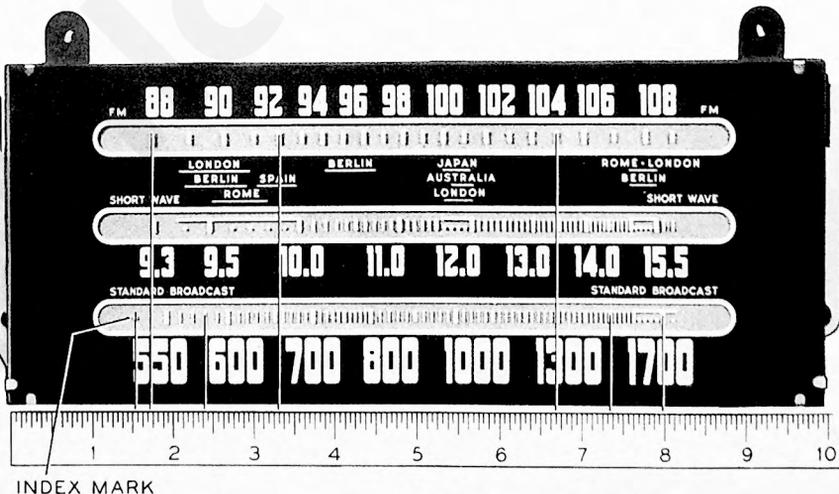


FIGURE 1. DIAL-BACKPLATE CALIBRATION MEASUREMENTS

TP-2828

SYMBOLIZATION

The components in the radio circuit are symbolized according to the types of parts and the sections of the radio in which the parts are located. The prefix letter of the symbol designates the type of part, as follows:

C —condenser	LA—loop aerial	S —switch
I —pilot lamp	LS—loud-speaker	T —transformer
L —choke or coil	R —resistor	WS—wafer switch
		Z —electrical assembly

The number of the symbol designates the section in which the part is located, as follows:

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

200-series components are in Section 2 — the audio circuits.

300-series components are in Section 3 — the i-f amplifier, FM and AM detectors, and a-v-c circuits.

400-series components are in Section 4 — the aerial, r-f, and oscillator circuits.

A suffix letter identifies the part as a component of the assembly which bears an identical number without a suffix letter, and with perhaps a different prefix letter.

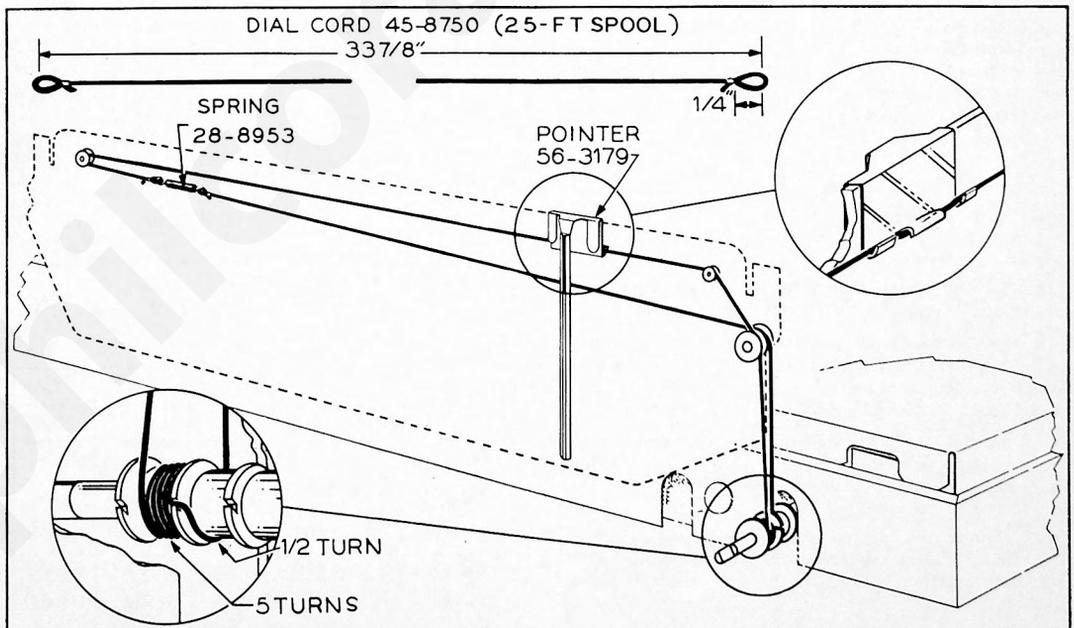


FIGURE 2. POINTER-DRIVE-CORD INSTALLATION DETAILS

TP-4088E

AM ALIGNMENT PROCEDURE

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

DIAL POINTER: With tuning-condenser plates fully meshed, adjust pointer to coincide with index mark at low-frequency end of scale. See CALIBRATING DIAL BACKPLATE.

VOLUME CONTROL: Set to maximum.

TONE CONTROL: Set to counterclockwise (near the "off") position.

AM R-F SIGNAL GENERATOR: Connect ground lead to radio chassis, and output lead as indicated in chart. Use modulated output.

OUTPUT METER: Connect between terminal 3 (voice-coil connection) of aerial terminal panel TB400, and chassis.

OUTPUT LEVEL: During alignment, input signal must be attenuated to hold output-meter reading below 1.5 volts.

RADIO WAFER SWITCH, RADIO DIAL, AND SIGNAL-GENERATOR DIAL: Set as indicated in chart.

FM ALIGNMENT PROCEDURE

MAKE AM ALIGNMENT FIRST

OUTPUT METER: Connect as for AM alignment (this meter is used only in step 3).

D-C VOLTMETER: Connect 20,000-ohms-per-volt meter across 2-mf. condenser, C320, in FM detector circuit — negative lead to pin 6 of 7X7 tube, and positive lead to chassis. Use 10-volt range.

AM R-F SIGNAL GENERATOR: Use modulated output for entire alignment. Generator must have sufficient output to give reading of approximately 9 volts on d-c meter, and signal should be attenuated during alignment to keep meter at this value. Connect generator ground lead to chassis, and output lead as indicated in chart.

VOLUME AND TONE CONTROLS: Same as for AM alignment.

RADIO WAFER SWITCH, RADIO DIAL, AND SIGNAL-GENERATOR DIAL: Set as indicated in chart. Allow radio and generator to warm up for 15 minutes before starting alignment.

R-F-COIL NOTE: The resonance of the circuits using coils L406, L405, and L402 may be checked with a powdered-iron tuning core, such as Part No. 56-6100. If the signal strength (meter reading) increases when the iron end is inserted in the coil, compress the turns slightly. If the signal increases when the threaded brass end is inserted, spread the turns. Do not compress or spread the turns excessively; only a small change is required at these frequencies.

SETTING PUSH BUTTONS

1. Turn on the power and set the tone control to its counterclockwise position. Allow the radio to warm up for 15 minutes.

2. Set the wafer switch to the PB position, and adjust the volume control for moderate volume.

3. Use an r-f signal generator to furnish test signals at the approximate frequencies of the desired stations. Couple the generator to the radio with a radiating loop, as described in the AM ALIGNMENT chart.

4. Starting with the lowest frequency desired, set the generator frequency, push the button, and adjust the associated oscillator tuning core and aerial trimmer for maximum output.

5. Detune the generator and make the final adjustment of the tuning core and trimmer while listening to the station for which the adjustment is being made.

NOTE: A useful tuning indicator, for accurate adjustment, may be had by connecting the posi-

tive lead of a 20,000-ohms-per-volt d-c voltmeter to the chassis, and the negative lead to test jack J200, thus obtaining the a-v-c voltage indication. Use the 0—10 volt range.

6. Repeat steps 4 and 5 for each of the remaining push buttons.

PUSH BUTTON NO. (Left to right, viewed from front)	FREQUENCY RANGE	OSC. TUNING CORE	AERIAL TRIM- MER
PB-1 (Phono)			
PB-2	540—1000 kc.	TC400A	C400A
PB-3	600—1200 kc.	TC400B	C400B
PB-4	650—1300 kc.	TC400C	C400C
PB-5	850—1500 kc.	TC400D	C400D
PB-6	900—1600 kc.	TC400E	C400E

AM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTIONS TO RADIO	DIAL	WAFER SWITCH	DIAL	SPECIAL INSTRUCTIONS	
1	Through .1-mf condenser to terminal 1 of TB400.	455 kc.	BDCST	540 kc.	Adjust for maximum output, once only, in order.	C302E C301D C300D TC300A
2	Radiating loop (see note below).	15 mc.	SW	15 mc.	Start with loose trimmer screw, and adjust for maximum on first signal heard. Image should be heard with generator set at 14.1 mc.	C415C
3	Same as step 2.	15 mc.	SW	15 mc.	Adjust for maximum while rocking tuning control.	C403B
4	Same as step 2.		BDCST		Preset C415A by tightening, then backing off 1/4 turn.	C415A
5	Same as step 2.	1700 kc.	BDCST	1700 kc.	Adjust for maximum.	C415B
6	Same as step 2.	1500 kc.	BDCST	1500 kc.	Adjust for maximum.	C403A
7	Same as step 2.	580 kc.	BDCST	580 kc.	Adjust for maximum while rocking tuning control.	C415A
8	Repeat steps 5, 6, and 7 until no further increase is obtained.					

RADIATING LOOP: Make up a coil of insulated wire, consisting of 6 to 8 turns, about 6" in diameter. Connect coil ends to signal-generator leads, and suspend coil near radio broadcast loop.

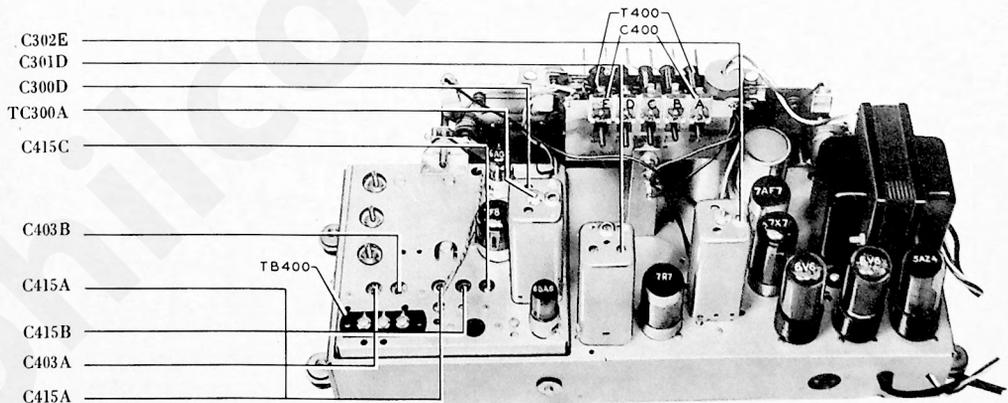


FIGURE 3. TOP VIEW, SHOWING AM TRIMMER LOCATIONS

TP-2293

FM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO			ADJUST
	CONNECTIONS TO RADIO	DIAL	WAFER SWITCH	DIAL	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to pin 1 of 6BA6	9.1 mc.	FM	88 mc.	Adjust for maximum voltmeter reading. Repeat until no further increase is obtained. After this step, do not touch any of these trimmers except C302B (step 3).	C302B TC302A C301B C301A
2	Through .1-mf. condenser to pin 8 of 7F8	9.1 mc.	FM	88 mc.	Adjust for maximum. Repeat until no further increase is obtained. After this step, do not touch either of these trimmers.	C300B C309A
3	Same as step 2.	9.1 mc.	FM	88 mc.	Double-check the adjustment of C302B to make certain that minimum audio output is obtained. Use output meter. This is a critical adjustment; turn trimmer very slowly.	C302B
4	To terminal 1 of J400.	105 mc.	FM	105 mc.	Adjust for maximum. This is the oscillator high-frequency trimmer adjustment.	C405C
5	Same as step 4.	105 mc.	FM	105 mc.	Adjust for maximum while rocking tuning control.	C405B
6	Same as step 4.	105 mc.	FM	105 mc.	Adjust for maximum.	C405A
7	Same as step 4.	92 mc.	FM	92 mc.	Adjust L406 for maximum (see r-f-coil note).	
8	Same as step 4.	92 mc.	FM	92 mc.	Adjust L405 for maximum while rocking tuning control (see r-f-coil note).	
9	Same as step 4.	92 mc.	FM	92 mc.	Adjust L402 for maximum (see r-f-coil note).	
10	Repeat steps 4 through 9 until no further increase is obtained.					

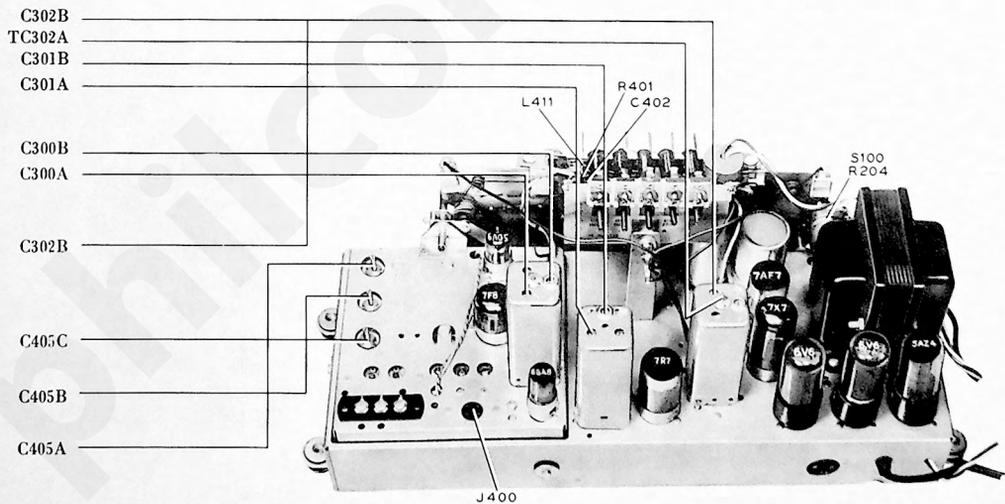


FIGURE 4. TOP VIEW, SHOWING FM TRIMMER LOCATIONS

TP-2293

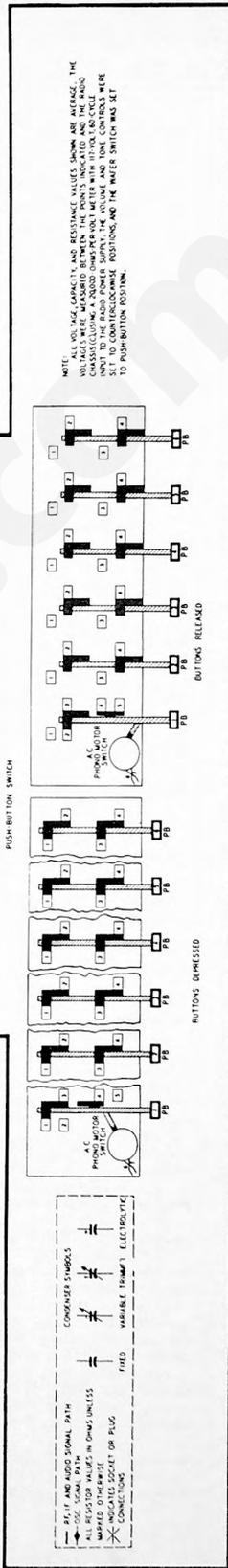
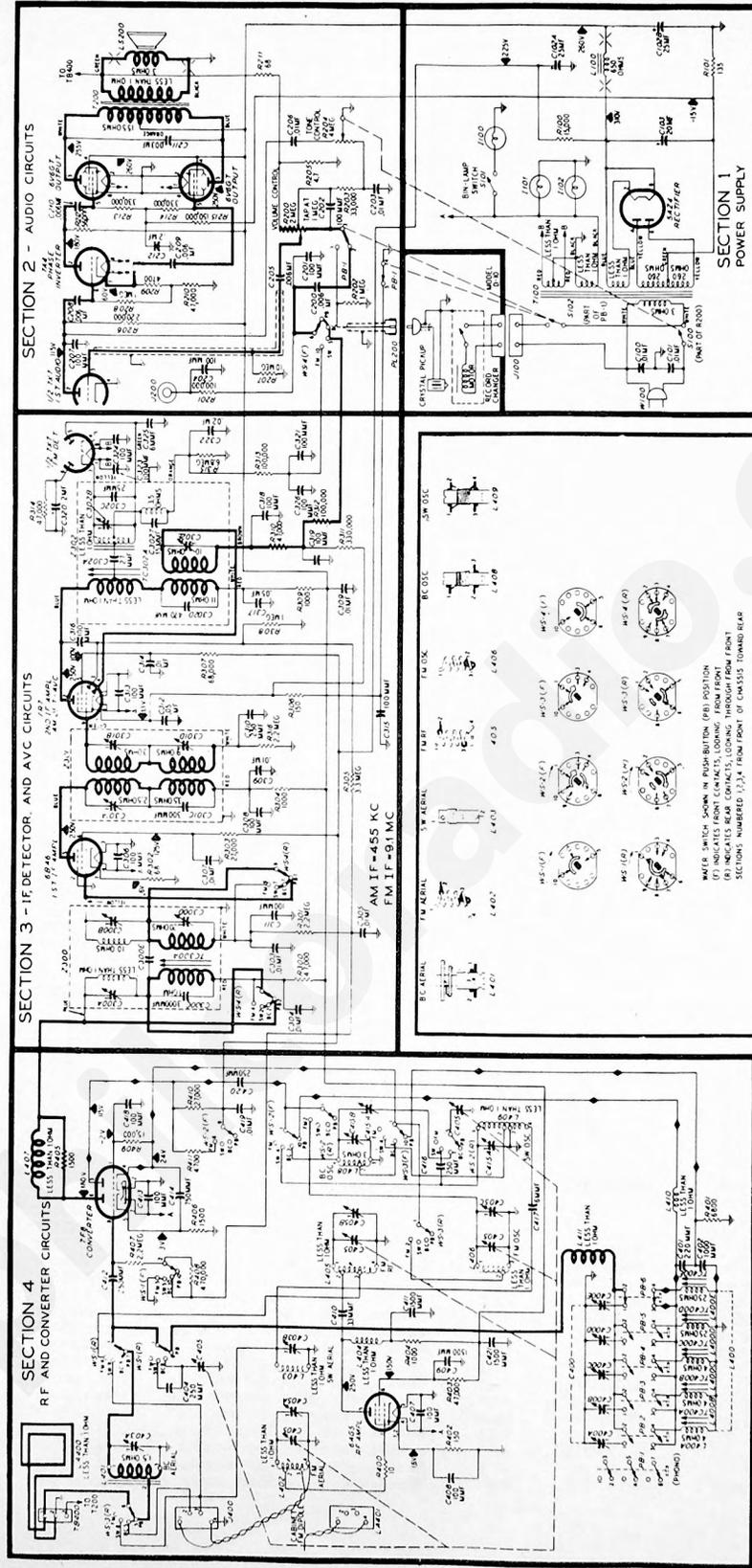


FIGURE 5. PHILCO RADIO-PHONOGRAPH, MODEL 48-1266, SECTIONALIZED SCHEMATIC DIAGRAM.

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, line filter, .01 mf.	61-0120*
C101		Condenser, line filter, .01 mf.	61-0120*
C102		Condenser, electrolytic, 2-section	30-2570-11
C102A		Condenser, filter, 25 mf.	Part of C102
C102B		Condenser, filter, 25 mf.	Part of C102
C103		Condenser, electrolytic, filter, 20 mf.	30-2555
I100		Lamp, bin	34-2039
I101		Lamp, panel	34-2064
I102		Lamp, panel	34-2064
J100		Socket, record-changer power	27-6200
L100		Field, speaker	Part of LS200
R100		Resistor, filter, 15,000 ohms	66-3153340
R101		Resistor, bias, 135 ohms	33-3435-2
S100		Switch, power on-off (see Section 2)	Part of R204
S101		Switch, bin lamp	42-1702
S102		Switch, phono motor (see Section 4)	Part of PB
T100		Power transformer	32-8248
W100		Line cord and plug	41-3755-12

SECTION 2

C200		Condenser, d-c blocking, .006 mf.	45-3500-7*
C201		Condenser, r-f by-pass, 100 mmf.	60-10105237*
C202		Condenser, tone compensation, 100 mmf.	60-10105237*
C203		Condenser, tone compensation, .01 mf.	61-0120*
C204		Condenser, r-f by-pass, 100 mmf.	60-10105237*
C205		Condenser, d-c blocking, .006 mf.	45-3500-7*
C206		Condenser, tone compensation, .01 mf.	61-0120*
C207		Condenser, r-f by-pass, 100 mmf.	60-10105237*
C208		Condenser, d-c blocking, .006 mf.	45-3500-7*
C209		Condenser, d-c blocking, .006 mf.	45-3500-7*
C210		Condenser, d-c blocking, .006 mf.	45-3500-7*
C211		Condenser, tone compensation, .003 mf.	61-0117*
C212		Condenser, filter, .2 mf.	45-3500-3
J200		Socket, FM test	27-6180
PB-1		Push-button switch, phono, (see Section 4)	Part of PB
PL200		Plug-and-cable assembly, phono input	41-3735-2
R200		Volume control, 2 megohms (tap at 1 megohm)	33-5535-1
R201		Resistor, decoupling, 100,000 ohms	66-4103340*
R202		Resistor, crystal load, 1 megohm	66-5103340*
R203		Resistor, tone compensation, 33,000 ohms	66-3333340*
R204		Tone control (with power on-off switch), 4 megohms	33-5538-1
R205		Resistor, feedback voltage divider, 4.7 ohms	66-9474360*
R206		Resistor, plate load, 220,000 ohms	66-4223340*
R207		Resistor, grid return, 10 megohms	66-6103340*
R208		Resistor, grid return, 1 megohm	66-5103340*
R209		Resistor, cathode bias, 4700 ohms	66-2473340*
R210		Resistor, cathode load, 47,000 ohms	66-3473340*
R211		Resistor, feedback voltage divider, 68 ohms	66-0683340*
R212		Resistor, plate load, 56,000 ohms	66-3563340*
R213		Resistor, grid return, 330,000 ohms	66-4333340*
R214		Resistor, grid return, 330,000 ohms	66-4333340*
R215		Resistor, decoupling, 150,000 ohms	66-4153340*
T200		Transformer, output	32-8274
LS200		Loud-speaker	36-1595
WS-4 (F)		Wafer-switch section (see Section 4)	Part of WS

SECTION 3

Reference	Symbol	Description	Service Part No.
C300A		Condenser, trimmer	Part of Z300
C300B		Condenser, trimmer	Part of Z300
C300C		Condenser, fixed trimmer, 3000 mmf., Part of Z300	60-20305304*
C300D		Condenser, trimmer	Part of Z300
C301A		Condenser, trimmer	Part of Z301
C301B		Condenser, trimmer	Part of Z301
C301C		Condenser, fixed trimmer, 300 mmf., part of Z301	60-10305307*
C301D		Condenser, trimmer	Part of Z301
C302A		Condenser, d-c blocking, 27 mmf.	Part of Z302
C302B		Condenser, trimmer	Part of Z302
C302C		Condenser, fixed trimmer, 25 mmf.	Part of Z302
C302D		Condenser, fixed trimmer, 470 mmf., part of Z302	62-147001001*
C302E		Condenser, trimmer	Part of Z302
C302F		Condenser, fixed trimmer, 15 mmf., part of Z302	30-1223-3*
C303		Condenser, r-f by-pass, .01 mf.	61-0120*
C304		Condenser, r-f by-pass, .01 mf.	61-0120*
C305		Condenser, a-v-c filter, .01 mf.	61-0120*
C306		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C307		Condenser, r-f by-pass, .01 mf.	61-0120*
C308		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C309		Condenser, r-f by-pass, .01 mf.	61-0120*
C310		Condenser, r-f by-pass, 250 mmf.	60-10255237*
C311		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C312		Condenser, r-f by-pass, .05 mf.	61-0170*
C313		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C314		Condenser, r-f by-pass, .01 mf.	61-0120*
C315		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C316		Condenser, d-c blocking, 100 mmf.	60-10105237*
C317		Condenser, r-f by-pass, .05 mf.	61-0170*
C318		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C319		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C320		Condenser, electrolytic, noise suppressor, 2 mf.	30-2417-7
C321		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C322		Condenser, tone compensation, .02 mf.	61-0108
C323		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C324		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
C325		Condenser, coupling, 6 mmf.	30-1224-9
C326		Condenser, r-f by-pass, 100 mmf.	30-1225-2*
R300		Resistor, plate dropping, 47,000 ohms	66-3473340*
R301		Resistor, a-v-c decoupling, 2.2 megohms	66-5223340*
R302		Resistor, cathode bias, 68 ohms	66-0683340*
R303		Resistor, screen dropping, 27,000 ohms	66-3273340*
R304		Resistor, decoupling, 1000 ohms	66-2103340*
R305		Resistor, a-v-c filter, 3.3 megohms	66-5333340*
R306		Resistor, cathode bias, 150 ohms	66-1153340*
R307		Resistor, screen dropping, 68,000 ohms	66-3683340*
R308		Resistor, a-v-c diode load, 1 megohm	66-5103340*
R309		Resistor, decoupling, 1000 ohms	66-2103340*
R310		Resistor, decoupling, 47,000 ohms	66-3473340*
R311		Resistor, diode load, 330,000 ohms	66-4333340*
R312		Resistor, decoupling, 100,000 ohms	66-4103340*
R313		Resistor, decoupling, 100,000 ohms	66-4103340*
R314		Resistor, diode load, 47,003 ohms	66-3473340*
R315		Resistor, diode load, 6.8 megohms	66-5683340*
R316		Resistor, grid return, 2.2 megohms	66-5223340*
WS-4 (F)		Wafer-switch section (see Section 4)	Part of WS

REPLACEMENT PARTS LIST

SECTION 3 (Continued)

Reference	Symbol	Description	Service Part No.
WS-4 (R)		Waler-switch section (see Section 4)	Part of WS
Z300		Transformer, 1st i-f	32-4146
Z301		Transformer, 2nd i-f	32-4156
Z302		Transformer, 3rd i-f	32-4147

SECTION 4

C400		Push-button padder-strip assembly	31-6479-1
C401		Condenser, r-f voltage divider, 220 mmf.	30-1220-4
C402		Condenser, r-f voltage divider, 1000 mmf.	30-1225
C403		Condenser, trimmer, 2-section	31-6476
C403A		Condenser, trimmer, bc. aerial	Part of C403
C403B		Condenser, trimmer, s-w aerial	Part of C403
C404		Condenser, fixed padder, 250 mmf.	60-10255237*
C405		Condenser, main tuning gang	31-2703-2
C405A		Condenser, trimmer, FM aerial	Part of C405
C405B		Condenser, trimmer, FM r.f.	Part of C405
C405C		Condenser, trimmer, FM oscillator	Part of C405
C406		Not used	
C407		Condenser, r-f by-pass, 100 mmf.	60-10105237*
C408		Condenser, r-f by-pass, 100 mmf.	60-10105237*
C409		Condenser, r-f by-pass, 1500 mmf.	60-20155404*
C410		Condenser, d-c blocking, 33 mmf.	30-1223-6*
C411		Condenser, r-f by-pass, 1500 mmf.	60-20155404*
C412		Condenser, d-c blocking, 250 mmf.	60-10255237*
C413		Condenser, r-f by-pass, 100 mmf.	60-10105237*
C414		Condenser, d-c blocking, 750 mmf.	60-10755301*
C415		Condenser, trimmer, 3-section	31-6464
C415A		Condenser, padder, bc. oscillator	Part of C415
C415B		Condenser, trimmer, bc. oscillator	Part of C415
C415C		Condenser, trimmer, s-w oscillator	Part of C415
C416		Condenser, fixed padder, 250 mmf.	60-10255237*
C417		Condenser, neutralizing, 6 mmf.	30-1224-9
C418		Condenser, grid blocking, 100 mmf.	60-10105237*
C419		Condenser, r-f by-pass, .01 mf.	30-4641
C420		Condenser, d-c blocking, 250 mmf.	60-10255237*
C421		Condenser, r-f by-pass, 1500 mmf.	60-20155404*
J400		Socket, external aerial	27-6214-1
L400		Coils, push-button oscillator	
L400A		Coil, push-button oscillator	32-4059-2
L400B		Coil, push-button oscillator	32-4059-2
L400C		Coil, push-button oscillator	32-4059-2
L400D		Coil, push-button oscillator	32-3779
L400E		Coil, push-button oscillator	32-3779
L401		Coil, bc. aerial	32-4033-1
L402		Coil, FM aerial	32-4158
L403		Coil, s-w aerial	32-4050-3
L404		Coil, plate load, (FM r.f.)	32-4061-2
L405		Coil, FM r.f.	32-4159
L406		Coil, FM oscillator	32-4018-2
L407		Coil, (with resistor R405), choke, parasitic suppressor	32-4157
L408		Coil, bc. oscillator	32-4019-4
L409		Coil, s-w oscillator	32-4113
L410		Coil, FM choke	32-4061-2
L411		Coil, FM choke	32-4111
L4400		Loop assembly, bc. and s-w	76-1989-3
PB		Push-button switch assembly	42-1756
PB-2, -3, -4, -5, -6		Push-button switches, station selectors	Part of PB
R400		Resistor, FM parasitic suppressor, 10 ohms	66-0103340*
R401		Resistor, cathode return, push-button osc., 6800 ohms	66-2683340*
R402		Resistor, cathode bias, 150 ohms	66-1153340*
R403		Resistor, screen dropping, 47,000 ohms	66-3473340*
R404		Resistor, plate decoupling, 1000 ohms	66-2103340*
R405		Resistor, parasitic suppressor, 1500 ohms	Part of L407
R406		Resistor, cathode bias, 1500 ohms	66-2153340*
R407		Resistor, grid return, 2.2 megohms	66-5223340*
R408		Resistor, a-v-c voltage divider, 470,000 ohms	66-4473340*

SECTION 4 (Continued)

Reference	Symbol	Description	Service Part No.
R409		Resistor, grid return, 15,000 ohms	66-3153340*
R410		Resistor, plate feed, 27,000 ohms	66-3273340*
R411		Resistor, plate feed, shunt, 4700 ohms	66-2473340*
TB400		Terminal board, aerial	38-9942
WS		Water switch	42-1801
WS-1 (F)		Water-switch section	Part of WS
WS-1 (R)		Water-switch section	Part of WS
WS-2 (F)		Water-switch section	Part of WS
WS-2 (R)		Water-switch section	Part of WS
WS-3 (F)		Water-switch section	Part of WS
WS-3 (R)		Water-switch section	Part of WS

MISCELLANEOUS

Description	Service Part No.
Backplate Assembly and Hardware	
Bracket, switch	56-3373FA3
Cord, pointer drive (25-ft. spool)	45-8750*
Pointer	56-3179
Scale backplate-and-pulley assembly	76-2005-2
Spacer, scale backplate	56-3279
Spring, pointer drive	28-8953
Bin Lamp and Hardware	
Bin lamp cable-and-socket assembly	27-6233-10
Spring	28-8991
Cabinet and Cabinet Hardware	
Baffle, wood	219089
Baffle-and-cloth assembly	40-6939
Bezel, metal	56-4878
Bin mechanism, left-hand	76-3223
Bin mechanism, right-hand	76-3223-1
Bullet catch	45-6002
Cabinet, (less scale)	10687
Dome	45-6042
Door handle	56-5029
Door pull, record compartment	56-4796-2
Grille, metal	56-4981
Hinge, butt	56-4980
Scale assembly	76-3187-2
Scale strap	56-4916
Strike plate	45-6003
Spring, bin mechanism	56-4978
Clip, coil mounting	28-5002FA1
Water-Switch Hardware	
Link assembly	76-2186-3
Shaft	56-3271-1FA3
Knob, tuning	54-4486
Lamp-socket assembly, pilot	76-2109
Push-Button Assembly	
Core, push-button tuning	56-6100
Knob, push-button	54-4217
Spring strip (tuning-core stabilizer)	56-2249
Switch assembly	42-1756
Tab cover	27-5737
Tab kit (station call letters)	40-6943
Tab, phono on-off	54-4317-5
Record-Changer Mounting Parts	
Bolt	56-3295-1FA15
Cradle assembly	76-3222
Grommet	54-4313
Nut, T	1W56643FA3
Pinnut	1W29061FA3
Spring	56-3043FA15
Shield, panel lamp	56-2194
Socket, loktal, 7F8	27-6213*
Socket, loktal	27-6138*
Socket, miniature	27-6226
Socket, octal	27-6174*
Speaker cable-and-plug assembly	41-3734-7
Water (metal), condenser mounting	45-8240
Water (fibre), condenser mounting	45-8239