

PHILCO RADIO-PHONOGRAPH MODEL 49-1613



SPECIFICATIONS

- CABINETWood, mahogany or light finish
- CIRCUIT11-tube superheterodyne
- FREQUENCY RANGES
 Broadcast540—1720 kc.
 FM88—108 mc.
- AUDIO OUTPUT7 watts
- OPERATING VOLTAGE105—120 volts, 60 cycles, a.c.
- POWER CONSUMPTION
 Radio110 watts
 Phonograph125 watts
- AERIALSBuilt-in loop and FM cabinet dipole; external aerial also may be used
- INTERMEDIATE FREQUENCIES
 AM455 kc.
 FM9.1 mc.
- PHILCO TUBES (11) ...6AU6, 7F8, 6BA6, 7R7, 7X7, 6J5GT, 6K6GT (2), 7E7, 7F7, 5AZ4
- PHONOGRAPHPhilco Automatic Record Changer, Model M-12C (for service information, refer to Page 532)

TP-5849

CALIBRATING DIAL BACKPLATE

When the radio chassis has been removed from the cabinet, dial calibration and alignment points may be marked on the dial (chassis) backplate at the end of the pointer with a pencil. The method of measuring

for these points is illustrated 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.

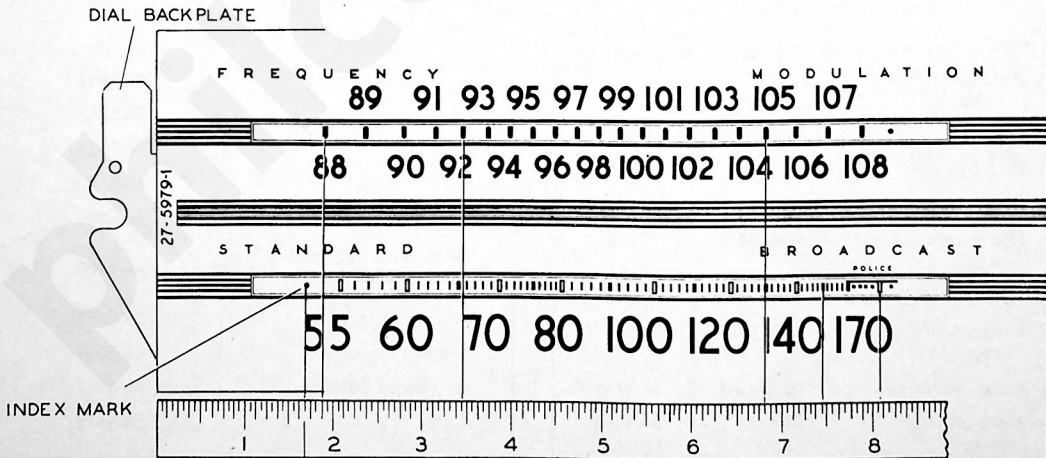


Figure 1. Dial-Backplate Calibration Measurements

TP-6503

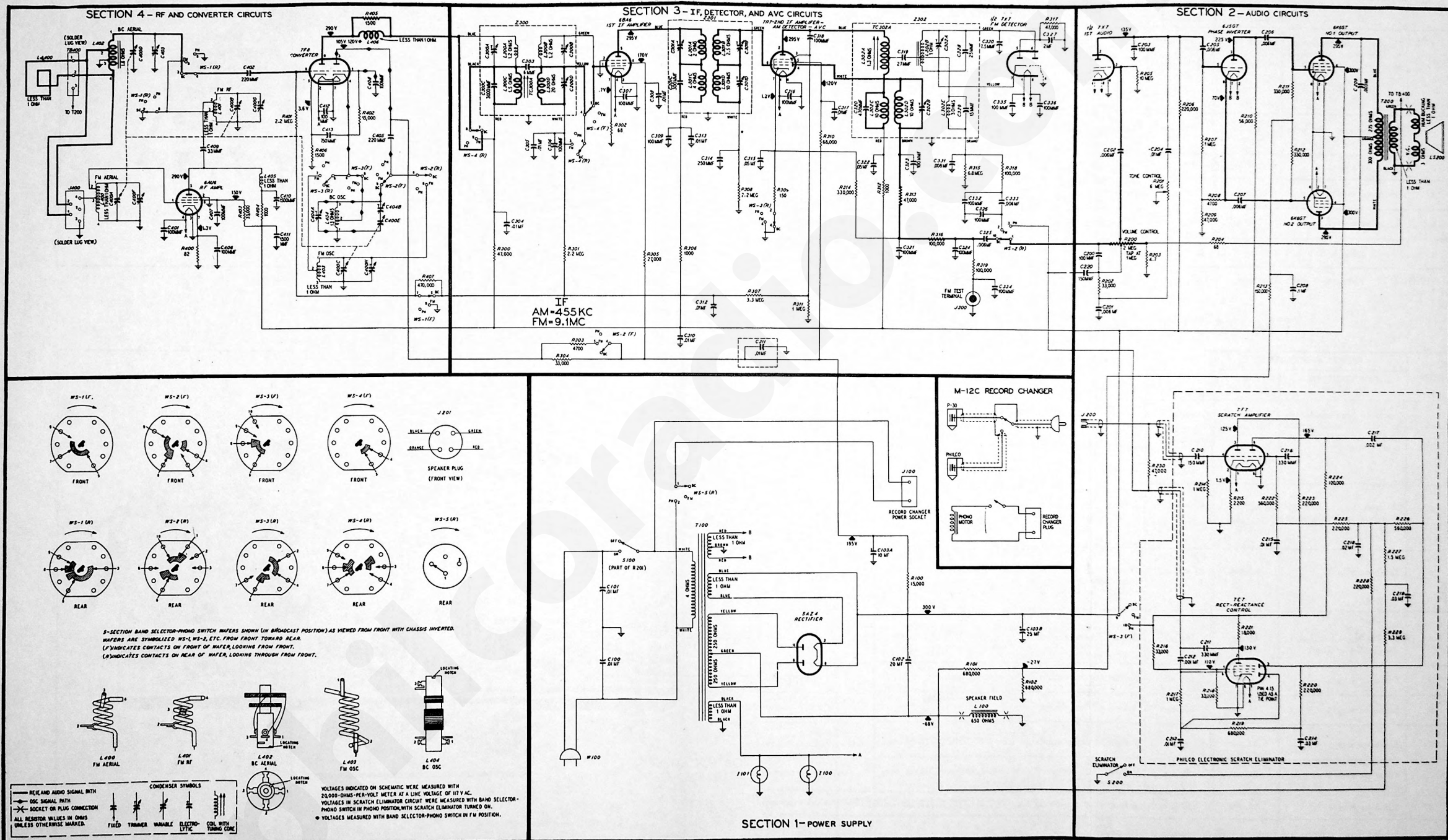


Figure 2. Philco Radio-Phonograph Model 49-1613, Sectionalized Schematic Diagram.

AM ALIGNMENT CHART

MODEL 49-1613

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to terminal 1 of aerial terminal panel, TB403.	455 kc.	540 kc.	Adjust, in order given, for maximum output.	C302B—3rd i-f sec. C301D—2nd i-f sec. C300D—1st i-f sec. TC300A—1st i-f pri.
2	Radiating loop (see note below).	580 kc.	580 kc.	Adjust for maximum while rocking tuning control.	C404B—Osc. (series)
3	Same as step 2.	1700 kc.	1700 kc.	Adjust for maximum.	C404A—Osc. (shunt)
4	Same as step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C403—Aerial
5	Same as step 2.	580 kc.	580 kc.	Adjust for maximum while rocking tuning control.	C404B—Osc. (series)
6	Repeat steps 2, 3, and 4 until no further improvement is obtained.				

Figure 3. Top View, Showing AM Trimmer Locations

TP-5132-1

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

FM ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through .1-mf. condenser to grid of 1st i-f ampl., 6BA6 (top plate of trimmer C300B*).	9.1 mc.	88 mc.	Adjust for maximum signal strength, as indicated by d.c. voltmeter. Repeat until no further increase is obtained. After this step, do not disturb any of these settings except that of C302A, as directed in step 3.	C302A—Det. balance TC302A—Det. pri. C301B—2nd i-f sec. C301A—2nd i-f pri.
2	Through .1-mf. condenser to mixer grid (pin 8) of 7F8.	9.1 mc.	88 mc.	Adjust for maximum. After this step, do not disturb either of these settings.	C300B—1st i-f sec. C300A—1st i-f pri.
3	Same as step 2.	9.1 mc.	88 mc.	Double-check the adjustment of C302A to make certain that audio output is at minimum. Use output meter. The setting is critical; adjust carefully.	C302A—Det. balance
4	To FM aerial terminal (terminal 4 of J400).	105 mc.	105 mc.	Adjust for maximum.	C400H—Osc.
5	Same as step 4.	105 mc.	105 mc.	Adjust for maximum while rocking tuning control.	C400G—R.f.
6	Same as step 4.	105 mc.	105 mc.	Adjust for maximum.	C400F—Aerial
7	Same as step 4.	92 mc.	92 mc.	Adjust L403 for maximum (see R-F COIL NOTE above).	L403—(Osc. tracking)
8	Same as step 4.	92 mc.	92 mc.	Adjust L401 for maximum while rocking tuning control (see R-F COIL NOTE above).	L401—(R-f tracking)
9	Same as step 4.	92 mc.	92 mc.	Adjust L400 for maximum (see R-F COIL NOTE above).	L400—(Aerial tracking)
10	Repeat steps 4 through 9 until no further increase is obtained.				

Figure 4. Top View, Showing FM Trimmer Locations

TP-5132-1

* Make this connection by sliding a piece of flattened wire solder down through alignment slot (see figure 9) in top of i-f transformer can.

ALIGNMENT PROCEDURE

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

ALIGNMENT OF AM CIRCUITS

DIAL POINTER: With tuning condensers fully meshed, dial pointer must coincide with index mark at low-frequency end of dial.

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

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

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

CONTROLS: Set band switch to broadcast position. Set volume control to maximum, and tone control fully counterclockwise. Set signal-generator frequency and radio tuning dial as indicated in chart.

ALIGNMENT OF FM CIRCUITS

Make AM alignment (if required) first.

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

D-C METER: Connect 20,000-ohms-per-volt meter across 2-mf. condenser, C327, 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 BAND 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: When making the tracking adjustments, the resonance of the circuits using coils L400, L401, and L403 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 placed in, or near, the coil, compress the turns slightly. If the threaded brass end causes an increase in signal strength, spread the turns. Do not compress or spread the turns excessively; only a small change is required at these frequencies.

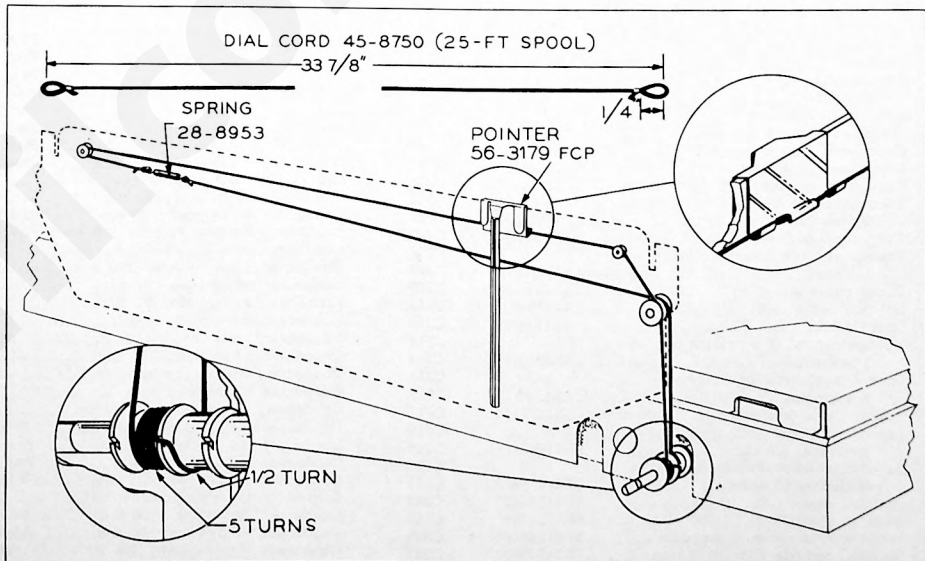


Figure 5. Drive-Cord Installation Details

TP-4058E

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 L—choke or coil LS—loud-speaker S—switch WS—wafer (band selector-phonograph) switch
- I—pilot lamp LA—loop aerial R—resistor T—transformer Z—electrical assembly

The number of the symbol, except when the number is less than 100, 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, detector, and a-v-c circuits
- 400-series components are in Section 4—the r-f and converter circuits

REPLACEMENT PARTS LIST

NOTE: Parts 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
POWER SUPPLY**

Reference Symbol	Description	Service Part No.
C100	Condenser, line filter, .01 mf.	30-1226-1
C101	Condenser, line filter, .01 mf.	30-1226-1
C102	Condenser, electrolytic, input filter, 20 mf., 450v.	30-2568-8
C103	Condenser, electrolytic, 2-section	30-2556
C103A	Condenser, filter, 10 mf., 450v.	Part of C103
C103B	Condenser, filter, 25 mf., 450v.	Part of C103
I100	Lamp, pilot	34-2064
I101	Lamp, pilot	34-2064
J100	Socket, phono power	27-6200
L100	Speaker, field	Part of LS200
R100	Resistor, filter, 15,000 ohms	66-3155340*
R101	Resistor, bias divider, 680,000 ohms	66-4683340*
R102	Resistor, bias divider, 680,000 ohms	66-4683340*
S100	Switch, on-off	Part of R201
T100	Transformer, power	32-8248
W100	Power cord and plug	L2183
WS-5 (R)	Switch-wafer section, phono power	Part of 42-1803-1*

**SECTION 2
AUDIO CIRCUITS**

C200	Condenser, tone compensation, 100 mmf.	60-10105407*
C201	Condenser, tone compensation, .006 mf.	45-3500-7*
C202	Condenser, d-c blocking, .006 mf.	45-3500-7*
C203	Condenser, r-f by-pass, 100 mmf.	60-10105407*
C204	Condenser, tone control, .01 mf.	60-0120*
C205	Condenser, d-c blocking, .006 mf.	45-3500-7*
C206	Condenser, d-c blocking, .006 mf.	45-3500-7*
C207	Condenser, d-c blocking, .006 mf.	45-3500-7*
C208	Condenser, bias filter, .1 mf.	61-0113*
C209	Condenser, tone compensation, .003 mf.	61-0117*
C210	Condenser, high-pass filter, 150 mmf.	60-10155407*
C211	Condenser, reactance-feedback, 330 mmf.	60-10335407*
C212	Condenser, d-c blocking, .001 mf.	45-3500-5*
C213	Condenser, bias filter, .01 mf.	61-0120*
C214	Condenser, bias filter, .03 mf.	45-3500-1*
C215	Condenser, bias filter, .01 mf.	61-0120*
C216	Condenser, d-c blocking, 330 mmf.	60-10335407*
C217	Condenser, d-c blocking, .002 mf.	61-0062*
C218	Condenser, bias filter, .01 mf.	61-0108*
C219	Condenser, bias filter, .03 mf.	45-3500-1*
C220	Condenser, tone compensation, 150 mmf.	60-10155407*
J200	Phono cable and plug	41-3735-2
J201	Speaker cable and plug	41-3734-9
LS200	Speaker	36-1611-3
R200	Volume control, 2 megohms (tap at 1 megohm)	33-5535-1
R201	Tone control (with on-off switch), 6 megohms	33-5538-1
R202	Resistor, tone compensation, 33,000 ohms	66-3333340*
R203	Resistor, voltage divider, inverse feedback, 4.7 ohms	66-9473340*
R204	Resistor, voltage divider, inverse feedback, 68 ohms	66-0683340*
R205	Resistor, grid return, 10 megohms	66-6103340*
R206	Resistor, plate load, 220,000 ohms	66-4223340*
R207	Resistor, grid return, 1 megohm	66-5103340*
R208	Resistor, cathode bias, 4700 ohms	66-2473340*
R209	Resistor, cathode load, 47,000 ohms	66-3473340*

**SECTION 2 (Continued)
AUDIO CIRCUITS**

Reference Symbol	Description	Service Part No.
R210	Resistor, plate load, 56,000 ohms	66-3563340*
R211	Resistor, grid return, 330,000 ohms	66-4333340*
R212	Resistor, grid return, 330,000 ohms	66-4333340*
R213	Resistor, bias filter, 150,000 ohms	66-4153340*
R214	Resistor, grid return, 1 megohm	66-5103340*
R215	Resistor, cathode bias, 2200 ohms	66-2223340*
R216	Resistor, screen voltage divider, 33,000 ohms	66-3333340*
R217	Resistor, grid return, 1 megohm	66-5103340*
R218	Resistor, screen voltage divider, 33,000 ohms	66-3333340*
R219	Resistor, bias filter, 680,000 ohms	66-4683340*
R220	Resistor, bias filter, 220,000 ohms	66-4223340*
R221	Resistor, plate load, 18,000 ohms	66-3185340*
R222	Resistor, grid return, 560,000 ohms	66-4563340*
R223	Resistor, plate load, 220,000 ohms	66-4223340*
R224	Resistor, plate load, 100,000 ohms	66-4103340*
R225	Resistor, bias filter, 220,000 ohms	66-4223340*
R226	Resistor, diode load, 560,000 ohms	66-4563340*
R227	Resistor, bias filter, 1.5 megohms	66-5153340*
R228	Resistor, diode load, 220,000 ohms	66-4223340*
R229	Resistor, bias filter, 3.3 megohms	66-5333340*
R230	Resistor, low-pass filter, 47,000 ohms	66-3473340*
S200	Switch, on-off, scratch eliminator	42-1848
T200	Transformer, output	32-8274
WS-3 (F)	Switch-wafer section	Part of 42-1803-1*

**SECTION 3
I-F, DETECTOR, AND A-V-C CIRCUITS**

C300A	Condenser, trimmer	Part of Z300
C300B	Condenser, trimmer	Part of Z300
C300C	Condenser, shunt, 3000 mmf.	Part of Z300
C300D	Condenser, trimmer	Part of Z300
C301A	Condenser, trimmer	Part of Z301
C301B	Condenser, trimmer	Part of Z301
C301C	Condenser, shunt, 300 mmf.	Part of Z301
C301D	Condenser, trimmer	Part of Z301
C302A	Condenser, trimmer	Part of Z302
C302B	Condenser, trimmer	Part of Z302
C303	Condenser, d-c blocking, 6 mmf.	Part of Z300
C304	Condenser, plate by-pass, .01 mf.	61-0120*
C305	Condenser, r-f by-pass, .01 mf.	61-0120*
C306	Condenser, r-f by-pass, 100 mmf.	62-110009001*
C307	Condenser, filament by-pass, 100 mmf.	62-110009001*
C308	Condenser, screen by-pass, .01 mf.	61-0120*
C309	Condenser, plate by-pass, 100 mmf.	62-110009001*
C310	Condenser, r-f by-pass, .01 mf.	61-0120*
C311	Condenser, r-f by-pass, .01 mf.	30-4641
C312	Condenser, a-v-c filter, .01 mf.	61-0120*
C313	Condenser, plate by-pass, .01 mf.	61-0120*
C314	Condenser, r-f by-pass, 250 mmf.	62-122001001*
C315	Condenser, cathode by-pass, .05 mf.	61-0122*
C316	Condenser, filament by-pass, 100 mmf.	62-110009001*
C317	Condenser, screen by-pass, .01 mf.	61-0120*
C318	Condenser, d-c blocking, 100 mmf.	60-10105407*
C319	Condenser, d-c blocking, 27 mmf.	Part of Z302
C320	Condenser, shunt, 470 mmf.	Part of Z302
C321	Condenser, r-f by-pass, 100 mmf.	62-110009001*
C322	Condenser, plate by-pass, .05 mf.	61-0122*
C323	Condenser, r-f by-pass, 100 mmf.	60-10105407*
C324	Condenser, r-f by-pass, 100 mmf.	60-10105407*
C325	Condenser, d-c blocking, .006 mf.	45-3500-7*
C326	Condenser, r-f by-pass, 100 mmf.	62-110009001*

SECTION 3 (Continued)
I-F, DETECTOR, AND A-V-C CIRCUITS

Reference	Symbol	Description	Service Part No.
C327		Condenser, electrolytic, noise suppressor (FM), 2 ml., 50v	30-2417-7
C328		Condenser, shunt, 25 mmf.	Part of Z302
C329		Condenser, shunt, 15 mmf.	Part of Z302
C330		Condenser, balancing, 7.5 mmf.	30-1224-8
C331		Condenser, tone compensation, .008 mf.	61-0174
C332		Condenser, r-f by-pass, 100 mmf.	60-10105407*
C333		Condenser, d-c blocking, .006 mf.	45-3500-7*
C334		Condenser, r-f by-pass, 100 mmf.	60-10105407*
C335		Condenser, filament by-pass, 100 mmf.	62-110009001*
C336		Condenser, filament by-pass, 100 mmf.	62-110009001*
J300		Test socket	27-6180
L300A		Transformer, primary (FM), 1st i-f	Part of Z300
L300B		Transformer, secondary (FM), 1st i-f	Part of Z300
L300C		Transformer, primary (AM), 1st i-f	Part of Z300
L300D		Transformer, secondary (AM), 1st i-f	Part of Z300
L301A		Transformer, primary (FM), 2nd i-f	Part of Z301
L301B		Transformer, secondary (FM), 2nd i-f	Part of Z301
L301C		Transformer, primary (AM), 2nd i-f	Part of Z301
L301D		Transformer, secondary (AM), 2nd i-f	Part of Z301
L302A		Transformer, primary (FM), 3rd i-f	Part of Z302
L302B		Transformer, secondary (FM), 3rd i-f	Part of Z302
L302C		Transformer, primary (AM), 3rd i-f	Part of Z302
L302D		Transformer, secondary (AM), 3rd i-f	Part of Z302
L302E		Transformer, winding, isolating, 3rd i-f	Part of Z302
R300		Resistor, plate dropping, 47,000 ohms	66-3473340*
R301		Resistor, a-v-c filter, 2.2 megohms	66-5223340*
R302		Resistor, cathode bias, 68 ohms	66-0683340*
R303		Resistor, plate dropping, 47,000 ohms	66-2473340*
R304		Resistor, plate dropping, 33,000 ohms	66-3333340*
R305		Resistor, screen dropping, 27,000 ohms	66-3273340*
R306		Resistor, plate decoupling, 1000 ohms	66-2103340*
R307		Resistor, a-v-c filter, 3.3 megohms	66-5333340*
R308		Resistor, grid return, 2.2 megohms	66-5223340*
R309		Resistor, cathode bias, 150 ohms	66-1153340*
R310		Resistor, screen dropping, 68,000 ohms	66-3683340*
R311		Resistor, a-v-c load, 1 megohm	66-5103340*
R312		Resistor, plate decoupling, 1000 ohms	66-2103340*
R313		Resistor, i-f filter, 47,000 ohms	66-3473340*
R314		Resistor, diode load, 330,000 ohms	66-4333340*
R315		Resistor, FM detector load, 6.8 megohms	66-5683340*
R316		Resistor, isolating, 100,000 ohms	66-4103340*
R317		Resistor, noise suppressor (FM), 47,000 ohms	66-3473340*
R318		Resistor, isolating, 100,000 ohms	66-4103340*
R319		Resistor, isolating, 100,000 ohms	66-4103340*
TC300A		Tuning core	Part of Z300
TC302A		Tuning core	Part of Z302
WS-2 (F)		Switch-wafer section	Part of 42-1803-1†
WS-2 (R)		Switch-wafer section	Part of 42-1803-1†
WS-3 (R)		Switch-wafer section	Part of 42-1803-1†
WS-4 (F)		Switch-wafer section	Part of 42-1803-1†
WS-4 (R)		Switch-wafer section	Part of 42-1803-1†
Z300		Transformer, 1st i-f	32-4146
Z301		Transformer, 2nd i-f	32-4156
Z302		Transformer, 3rd i-f	32-4147

SECTION 4
R-F AND CONVERTER CIRCUITS

C400		Condenser, tuning gang, 5-section	31-2703-2
C400A		Condenser, tuning, FM aerial	Part of C400
C400B		Condenser, tuning, FM r.f.	Part of C400
C400C		Condenser, tuning, FM osc.	Part of C400
C400D		Condenser, tuning, bc. aerial	Part of C400
C400E		Condenser, tuning, bc. osc.	Part of C400
C400F		Condenser, trimmer, FM aerial	Part of C400
C400G		Condenser, trimmer, FM r.f.	Part of C400
C400H		Condenser, trimmer, FM osc.	Part of C400
C401		Condenser, filament by-pass, 100 mmf.	62-110009001*
C402		Condenser, d-c blocking, 220 mmf.	62-122001001*
C403		Condenser, trimmer, bc. aerial	31-6473
C404		Condenser, trimmer assembly, 2-section	31-6476-5
C404A		Condenser, shunt trimmer, bc. osc.	Part of C404
C404B		Condenser, series padder, bc. osc.	Part of C404
C405		Condenser, d-c blocking, 220 mmf.	62-122001001*
C406		Condenser, cathode by-pass, 100 mmf.	62-110009001*
C407		Condenser, screen grid by-pass, 100 mmf.	62-110009001*
C408		Condenser, osc. grid, 100 mmf.	62-110009001*

SECTION 4 (Continued)
R-F AND CONVERTER CIRCUITS

Reference	Symbol	Description	Service Part No.
C409		Condenser, d-c blocking, 33 mmf.	30-1224*
C410		Condenser, r-f by-pass, 1500 mmf.	62-215001011
C411		Condenser, r-f by-pass, 1500 mmf.	62-215001011
C412		Condenser, filament by-pass, 100 mmf.	62-110009001*
C413		Condenser, d-c blocking, 750 mmf.	60-107553001*
J400		Socket, FM aerial	27-6214-1
L400		Coil, FM aerial	32-4158
L401		Coil, FM r.f.	32-4159
L402		Coil, bc. aerial	32-4049-3
L403		Coil, FM osc.	32-4018-2
L404		Coil, bc. osc.	32-4221
L405		Coil, r-f choke (plate of 6AU6)	32-4061-2
L406		Coil (including H405), parasitic suppressor, (plate of 7F8)	32-4157
LA400		Loop aerial assembly	76-3593-6
R400		Resistor, cathode bias, 82 ohms	66-0823340*
R401		Resistor, grid return, 2.2 megohms	66-5223340*
R402		Resistor, grid return, 15,000 ohms	66-3153340*
R403		Resistor, screen dropping, 33,000 ohms	66-3333340*
R404		Resistor, plate decoupling, 1000 ohms	66-2103340*
R405		Resistor (with coil L406), parasitic suppressor, 150j ohms	Part of L406
R406		Resistor, cathode bias, 1500 ohms	66-2153340*
R407		Resistor, a-v-c voltage divider (FM), 470,000 ohms	66-4473340*
TB400		Terminal panel, bc. aerial	38-9942
WS-1 (F)		Switch-wafer section	Part of 42-1803-1†
WS-1 (R)		Switch-wafer section	Part of 42-1803-1†
WS-2 (F)		Switch-wafer section	Part of 42-1803-1†
WS-2 (R)		Switch-wafer section	Part of 42-1803-1†
WS-3 (F)		Switch-wafer section	Part of 42-1803-1†
WS-3 (R)		Switch-wafer section	Part of 42-1803-1†
† 42-1803-1		5-section wafer switch (band selector-phonon)	

MISCELLANEOUS
Description Service Part No.

Cabinet and Cabinet Hardware		
Bark, cabinet		54-7680
Baffle and Cloth Assembly		
For light cabinet, L.H.		40-7538-1
For light cabinet, R.H.		40-7592-1
For mahogany cabinet, L.H.		40-7538
For mahogany cabinet, R.H.		40-7592
Baffle, wood		219125
Bezel		56-4878
Bin mechanism, L.H.		76-3223-5
Bin mechanism, R.H.		76-3223-6
Bullet catch		45-6002-1
Dome (4)		45-6190
Door pull		56-4420-2
Frame assembly		76-4104
Hinge		
For light cabinet, L.H. (1)		56-5713-6
For light cabinet, R.H. (2)		56-5713-7
For light cabinet, R.H. (1)		56-5713-9
For mahogany cabinet, L.H. (1)		56-5713-8
For mahogany cabinet, R.H. (2)		56-5713-3
For mahogany cabinet, R.H. (1)		56-5713-2
Matched doors (M)		45-6470
Matched doors (L)		45-6471
Scale strap (2)		56-2234-1
Spring, bin mechanism (2)		56-4978
Strike plate		45-6003-1
Dial Scale and Scale Hardware		
Cord, drive (25-ft. spool)		45-8750*
Pointer		56-3179
Scale		76-3187-1
Spring, pointer		28-8953
Escutcheon		56-5491FA30
Knob (4)		54-4486
Knob (1)		54-4338-1
Scale plate assembly		76-3187-6
Shield, pilot lamp		56-2194FA3
Socket, assembly, pilot lamp (2)		76-2109
Socket, Loktal		27-6138
Socket, Loktal (7F8)		27-6213
Socket, miniature (6BA6)		27-6226
Socket, octal		27-6174
Wafer-Switch Hardware		
Link assembly		76-2186-6
Shaft		56-3298FA11
Back plate and pulley assembly		76-2005-3