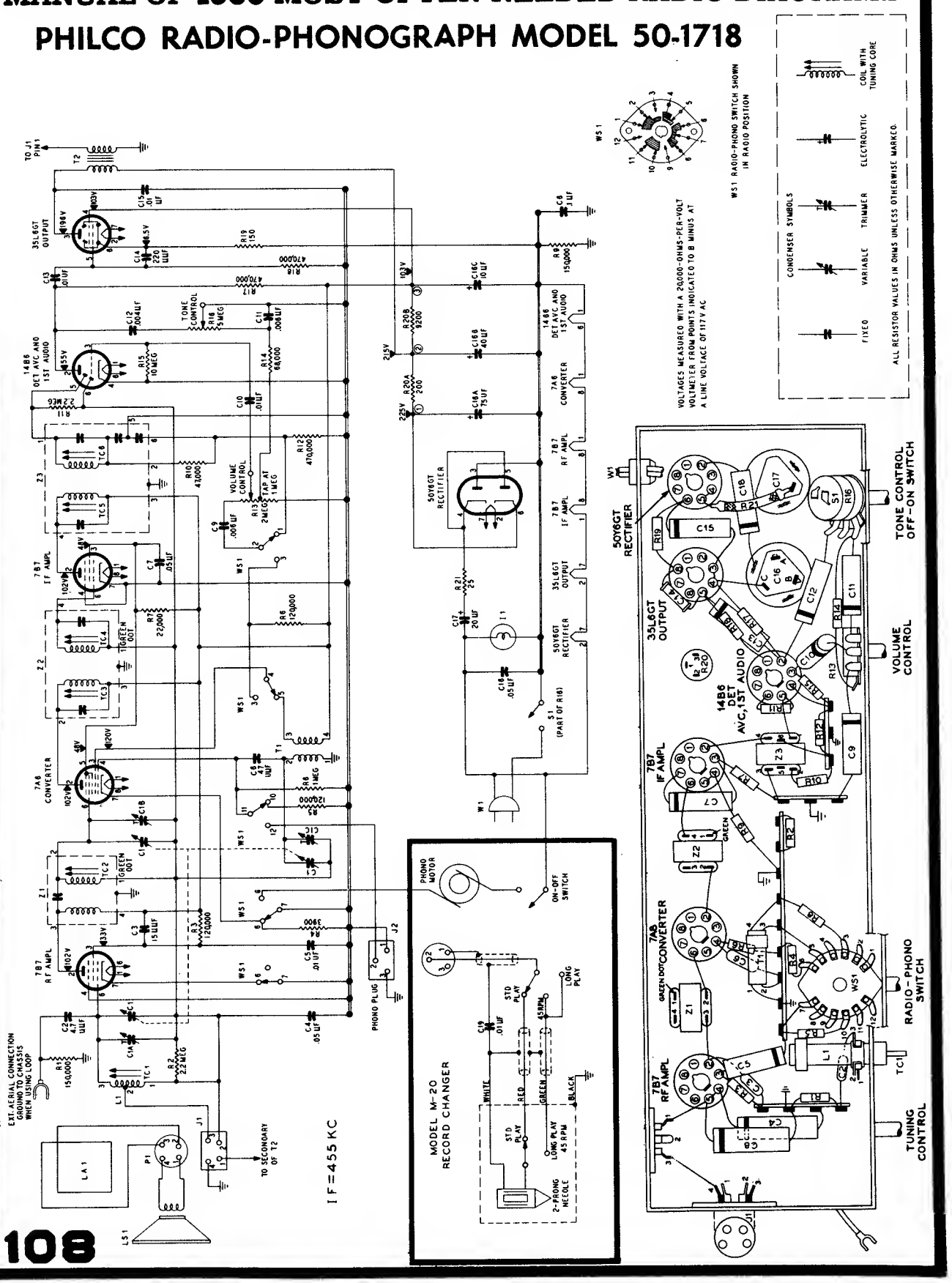
Philco Radio & Television Corp.

	Model: 50-1718	**Chassis:**	**Year:** Pre 1951
	Power:	**Circuit:**	**IF:**
	Tubes:		
	Bands:		

Resources
Beitmans 1950 108
Riders 21 (XXI) PHILCO 21-22
Riders 21 (XXI) PHILCO 21-23
Riders 21 (XXI) PHILCO 21-24
Riders 21 (XXI) PHILCO 21-25
Riders 21 (XXI) PHILCO 21-26

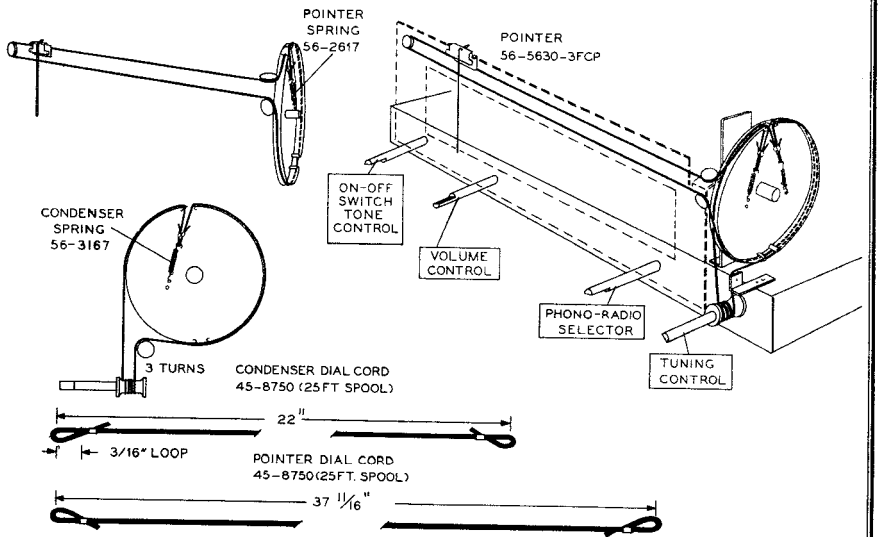
PHILCO RADIO-PHONOGRAPH MODEL 50-1718



MODEL 50-1718

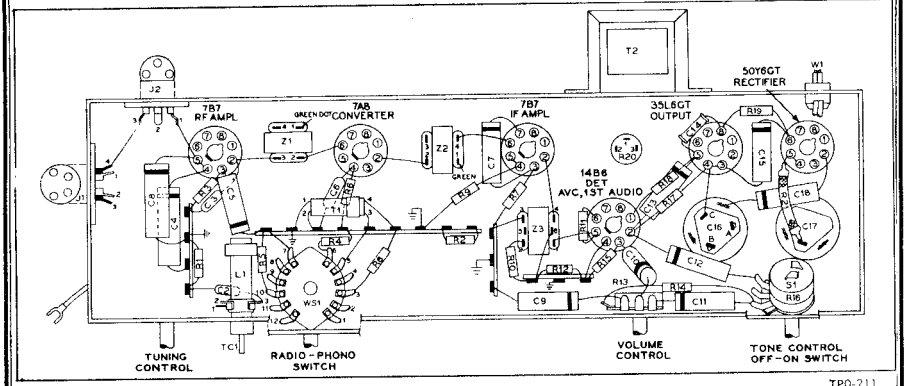
SPECIFICATIONS

CABINET	Wood console, mahogany finish
CIRCUIT	6-tube superheterodyne (with t-r-f stage)
FREQUENCY RANGE	540—1620 kc.
AUDIO OUTPUT	3 watts
OPERATING VOLTAGE	105—120 volts, 60 cycles, a.c.
POWER CONSUMPTION	
Radio	50 watts
Phonograph	65 watts, total
INTERMEDIATE FREQUENCY	455 kc.
AERIAL	Built-in low-impedance loop; provision for external aerial
PHILCO TUBES (6)	7B7 r-f ampl., 7B7 i-f ampl., 7A8 converter, 14B6 det.-a.v.c.-1st audio ampl., 35L6GT output, 50Y6GT rectifier
PHONOGRAPH	Philco Model M-20 All-Speed Automatic Record Changer. (For service information, refer to Service Manual PR-1731.)



TPO-210

Figure 1. Drive-Cord Installation Details



TPO-211

Figure 2. Symbolized Chassis, Showing Parts Placement

REPLACEMENT PARTS LIST

Reference Symbol	Description	Service Part No.
C1	Condenser, tuning gang, 3-section	31-2748-2
C1A	Condenser, aerial trimmer	Part of C1
C1B	Condenser, r-f trimmer	Part of C1
C1C	Condenser, oscillator trimmer	Part of C1
C2	Condenser, aerial (external) coupling, 4.7 μμf.	30-1221-5*
C3	Condenser, fixed trimmer, 15 μμf.	60-00155407*
C4	Condenser, a-v-c filter, .05 μf.	61-0122*
C5	Condenser, screen by-pass, .01 μf.	61-0120*
C6	Condenser, d-c blocking, 47 μμf.	60-00475417*
C7	Condenser, screen by-pass, .05 μf.	61-0122*
C8	Condenser, by-pass, B– to ground, .1 μf.	61-0113*
C9	Condenser, d-c blocking, .006 μf.	45-3500-7*
C10	Condenser, d-c blocking, .01 μf.	61-0120*
C11	Condenser, tone compensation, .006 μf.	45-3500-7*
C12	Condenser, tone compensation, high-cut, .004 μf.	61-0179*
C13	Condenser, d-c blocking, .01 μf.	61-0120*
C14	Condenser, grid by-pass, 220 μμf.	62-1220010O1*
C15	Condenser, tone compensation, .01 μf.	61-0120*
C16	Condenser, electrolytic, 3-section	30-2568-38
C16A	Condenser, filter, 75 μf., 250v	Part of C16
C16B	Condenser, filter, 40 μf., 250v	Part of C16
C16C	Condenser, filter, 10 μf., 25[illegible]	Part of C16
C17	Condenser, electrolytic, voltage doubler, 20 μf., 150v	30-2568-22
C18	Condenser, line by-pass, .05 μf.	61-0122*
C19	Condenser, d-c blocking, phono coupling, .01 μf.	61-0120*
I1	Pilot lamp, 110 volts, 7 watts	34-2605
J1	Socket, aerial input and speaker	27-6214-1
J2	Socket, phono input	27-6126*
L1	Coil, aerial	32-4413-1
LA1	Loop aerial	32-4394-8
LS1	Speaker, 8-inch, p-m	36-1626-1
P1	Cable-and-plug assembly, speaker and loop	41-3948-1
R1	Resistor, aerial isolating, 150,000 ohms	66-4158340*
R2	Resistor, a-v-c filter, 2.2 megohms	66-5228340*
R3	Resistor, screen dropping, 120,000 ohms	66-4128340*
R4	Resistor, cathode bias (phono), 3900 ohms	66-2398340*
R5	Resistor, grid return, 120,000 ohms	66-4128340*
R6	Resistor, grid return (phono), 1 megohm	66-5108340*
R7	Resistor, dropping, 22,000 ohms	66-3228340*
R8	Resistor, plate load (phono), 120,000 ohms	66-4128340*
R9	Resistor, leakage, 150,000 ohms	66-4158340*
R10	Resistor, i-f filter, 47,000 ohms	66-3478340*
R11	Resistor, a-v-c diode load, 2.2 megohms	66-5228340*
R12	Resistor, diode load, 470,000 ohms	66-4478340*
R13	Volume control, 2 megohms, tapped at 1 megohm	33-5535-29
R14	Resistor, tone compensation, 68,000 ohms	66-3688340*
R15	Resistor, grid return, 10 megohms	66-6108340*
R16	Tone control (with off-on switch), 5 meg-ohms	33-5566-19
R17	Resistor, plate load, 470,000 ohms	66-4478340*
R18	Resistor, grid return, 470,000 ohms	66-4478340*
R19	Resistor, cathode bias, 150 ohms	66-1154340*
R20	Resistor, 2-section, wire-wound	33-3445-1
R20A	Resistor, filter, 200 ohms 2 watts	Part of R20
R20B	Resistor, filter, 9200 ohms, 4 watts	Part of R20
R21	Resistor, current limiting, 25 ohms	33-13334-5
S1	Switch, off-on	Part of R16
T1	Transformer, oscillator	32-4263
T2	Transformer, output	32-8242-3*
W1	Line cord	L-2183*
WS1	Switch, wafer, radio-phono	42-1926
Z1	Transformer, r-f	32-4399-2A
Z2	Transformer, 1st i-f	32-4160A
Z3	Transformer, 2nd i-f	32-4240A

MISCELLANEOUS

Description	Service Part No.
Aerial lead assembly	76-1472-1
Cabinet	10713-2
Back	54-7603
Baffle and cloth	40-7512-1
Baffle, wood	219-119
Bezel and scale	54-5088
Bin mechanism, l.h.	76-3223-5
Bin mechanism, r.h.	76-3223-6
Dome (4)	45-6190
Door pull	56-7246
Frame, changer mounting	78-4104
Hinge (2)	56-5765
Dial Backplate Assembly	76-5723
Bracket-and-pulley assembly	76-4003
Bumper, rubber (2)	54-4181
Diffusing panel	54-7606-1

MODEL 50-1718

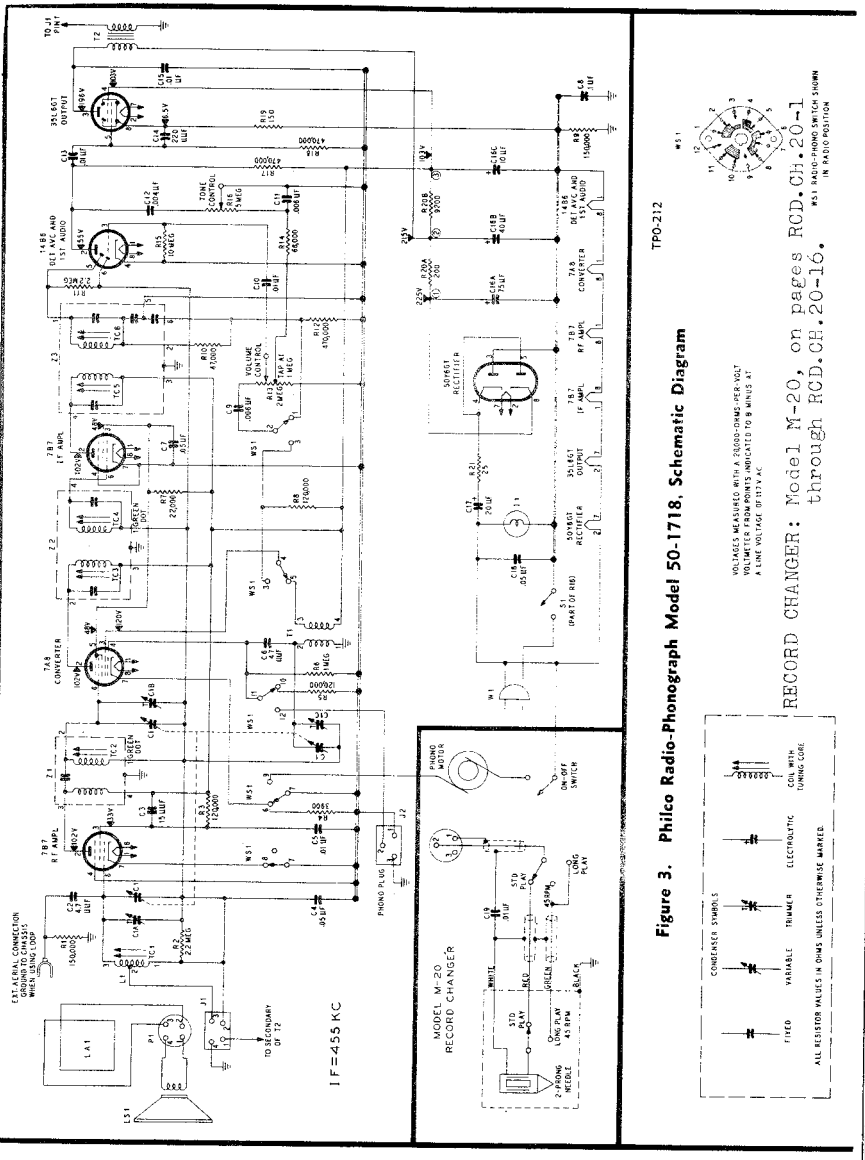


Figure 3. Philco Radio-Phonograph Model 50-1718, Schematic Diagram

ALIGNMENT PROCEDURE

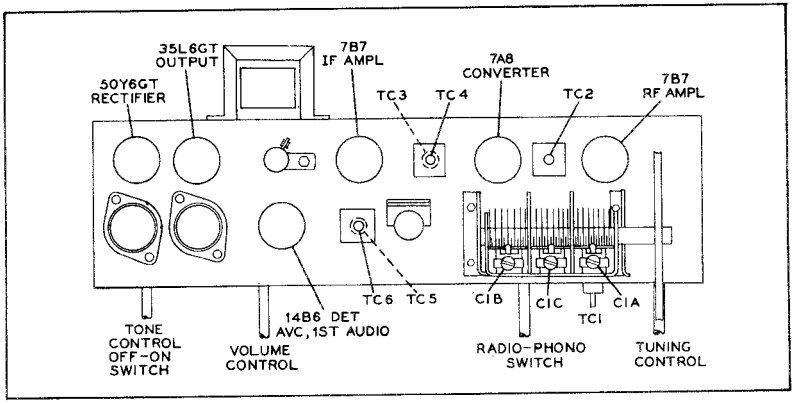
DIAL POINTER—With tuning gang fully meshed, set pointer to coincide with the first scribe mark from the left on the dial backplate.

RADIO CONTROLS—Set volume control to maximum, tone control fully counterclockwise, and RADIO-PHONO switch to RADIO position.

OUTPUT METER—Connect across voice-coil terminals.

SIGNAL GENERATOR—Connect ground lead to B−. Connect output lead as indicated in chart. Use modulated output.

OUTPUT LEVEL—During alignment, attenuate input signal to maintain an output-meter indication of 1.25 volts.



TPO-213

Figure 4. Top View, Showing Trimmer Locations

STEP	SIGNAL GENERATOR		RADIO		ADJUST
	CONNECTION TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	
1	Through a .1-uf. condenser to r-f-ampl. section of C1.	455 kc.	Gang fully meshed.	Adjust, in order given, for maximum output.	TC6—2nd i-f sec. TC5—2nd i-f pri. TC4—1st i-f sec. TC3—1st i-f pri.
2	Radiating loop (see note below).	1620 kc.	1620 kc.	Adjust for maximum.	C1C—osc. trimmer
3	Same as Step 2.	1500 kc.	1500 kc.	Adjust for maximum.	C1B—r-f trimmer C1A—ant. trimmer
4	Same as Step 2.	580 kc.	580 kc.	Adjust for maximum while rocking tuning control.	TC2—r-f core TC1—ant. core*

RADIATING LOOP: Make up a 6-to-8-turn, 6-inch diameter loop of insulated wire; connect to signal-generator output leads, and place near radio loop.

* The aerial tuning core, TC1, should not be adjusted unless the coil has been replaced.

REPLACEMENT PARTS LIST (Continued)

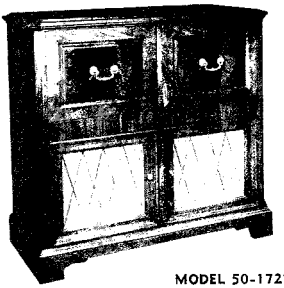
MISCELLANEOUS (Continued)

Description	Service Part No.
Fastener, snap	28-4342FA3
Spring (2)	56-3841
Drive cord, 25-foot spool	45-8750
Pointer	56-5630-3FCP
Spring, pointer drive	56-2617
Fish paper	27-9111
Knob (1)	54-4718-12
Knob (3)	54-4718-6
Mount, rubber, gang mounting (4)	27-4771-1
Pilot-lamp bracket-and-clip assembly	76-5722
Pilot-lamp-socket assembly	27-6233-53
Shaft-and-pulley assembly, drive	76-3959-3

MISCELLANEOUS (Continued)

Description	Service Part No.
Bushing	27-9437
Spring, hairpin (2)	57-1468FA1
Spring, hairpin	57-0985FA1
Sleeve, changer mounting (3)	54-7798
Socket, Loktal (4)	27-6207
Soctal, octal (2)	27-6174
Speed nut, changer mounting (3)	W-2554FCP
Spring, changer mounting, heavy (3)	56-7058FA9
Spring, changer mounting, light (3)	56-7059-1F147
Spring, gang drive	56-3167
Wafer, electrolytic mtg. (2)	27-9508

MODEL 50-1727



MODEL 50-1727

SPECIFICATIONS

CABINET .....Wood console, mahogany finish, Georgian style

CIRCUIT .....11-tube superheterodyne

FREQUENCY RANGES
Broadcast .....540—1620 kc.
FM .....88—108 mc.

AUDIO OUTPUT .....10 watts

PUSH BUTTONS .....Six: Five for broadcast stations, one for power on-off

OPERATING VOLTAGE ..105—125 volts, 60 cycles, a.c.

POWER CONSUMPTION
Radio .....110 watts
Phonograph .....125 watts

AERIALS .....Low-impedance broadcast loop; FM line-cord aerial; provision for external aerial

INTERMEDIATE FREQUENCIES
AM .....455 kc.
FM .....9.1 mc.

PHONOGRAPH ..... Philco Automatic Record Changer, Model M-20 (for service information, refer to service manual PR-1731).

PHILCO TUBES (11) .... 6AU6, 7F8, 6BJ6(2), 6T8, 7A4, 6V6GT(2), 7E7, 7F7, 5U4G

TP-6098

CIRCUIT DESCRIPTION

Philco Radio-Phonograph Model 50-1727 consists of an 11-tube superheterodyne and a Model M-20 Philco Automatic Record Changer.

A low-impedance loop aerial within the cabinet normally provides adequate signal pickup on the standard broadcast band. In most localities, the built-in FM line-cord aerial provides satisfactory FM reception. In areas where FM signals are weak, an outdoor dipole aerial, such as Philco Part No. 45-1462, will provide additional pickup. To increase the pickup on both bands, use the Philco Aerial Coupler, Part No. 76-2353-1, with the outdoor dipole aerial. For increased signal pickup on the standard broadcast band only, use the coupler with an external aerial of the single-wire type, such as Philco Part No. 45-1494.

The r-f stage (FM only), the converter, and the 1st i-f amplifier are mounted on a separate chassis for improved operation at high frequencies. A 6AU6 high-frequency pentode is used as the FM r-f amplifier. A 7F8 high-frequency dual triode is employed as the converter. There are two transformer-coupled i-f stages using 6BJ6 high-frequency pentodes. Each i-f stage has a double set of transformers; one is tuned to 9.1 mc., the FM intermediate frequency, and the other is tuned to 455 kc., the AM intermediate frequency. The use of individual transformers for FM and AM gives better stability and allows more complete shielding. In FM operation, the primary and secondary of the first AM i-f transformer are shorted out, to attenuate undesirable beat frequencies; switching of other windings is unnecessary.

The multi-purpose 6T8 provides AM and FM detection and functions as the first audio amplifier. Two diodes of this tube operate in a ratio detector circuit.