

MODELS G-62, G-66, G-76 & G-77

Six and Seven Tube, Three Band, Keyboard Touch Tuning,
A-C, Superheterodyne Receivers

Electrical Specifications

FREQUENCY RANGES

"Standard Broadcast" (A) 540-1,720 kc
"Medium Wave" (B) 2.3-7 mc
"Short Wave" (C) 7-22 mc
"Short Wave" (C) 20 mc (osc., ant.)

R-F ALIGNMENT FREQUENCIES

"Medium Wave" (B) 6.1 mc (osc.)
"Standard Broadcast" (A) 1,500 kc (osc.)
Six Keyboard Touch Positions 550-1,500 kc
Intermediate Frequency 455 kc

2 stations between approximately 550- 950 kc
2 stations between approximately 680-1,180 kc
2 stations between approximately 890 1,500 kc

TUBE COMPLEMENT

(1) Type-6K8 First-Detector—Oscillator
(2) Type-6K7.... Intermediate-Frequency Amplifier
(3) Type-6H6..... Second-Detector and A.V.C.

(4) Type-6K5G Audio Voltage Amplifier
(5) Type-6F6G Audio Power Amplifier
(6) Type-5Y4G Full-Wave Rectifier
(7) Type-6U5 (Models G76 & G77)..... Tuning Tube

Pilot Lamps Mazda 47, 6.3 volts, .15 amp

POWER SUPPLY RATING

Rating A 105-125 volts, 50-60 cycles, 80 watts
Rating B 105-125 volts, 25-60 cycles, 80 watts

POWER OUTPUT

Undistorted 2.5 watts
Maximum 4.5 watts

LOUDSPEAKER

Type Electrodynamic
Voice-coil impedance 2.25 ohms at 400 cycles

Mechanical Specifications

Models	G-62	G-66	G-76	G-77
Height (inches)	11 $\frac{3}{8}$	39 $\frac{11}{16}$	24 $\frac{3}{16}$	41 $\frac{3}{8}$
Width (inches)	21 $\frac{5}{8}$	24 $\frac{7}{8}$	28	27 $\frac{1}{2}$
Depth (inches)	9 $\frac{1}{4}$	11 $\frac{7}{8}$	14 $\frac{1}{8}$	14 $\frac{11}{16}$
Net Weight (pounds)	23	56	42	60
Shipping Weight	27	62	50	78
Chassis Base Dimensions	13-in. wide, 6 $\frac{1}{2}$ -in. deep, 2 $\frac{1}{2}$ -in. high			
Over-all Chassis Height	6 inches			
Tuning Drive Ratio	12 to 1			

General Description

The seven-tube models have a Cathode Ray tuning tube and illuminated indicator to show when the set is being operated on Keyboard Touch Tuning. All models have Keyboard Touch Tuning for six stations in the standard broadcast range.

Features of design include: Magnetite-core electri-

tuning coils; magnetite-core i-f transformers; temperature-compensated capacitor in the oscillator circuit; aural-compensated volume control; high-frequency tone control; jack and switch for Record Player attachment; straight-line dial; dust-proof electrodynamic loudspeaker.

ALIGNMENT PROCEDURE

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the chassis drawing.

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

Dial-Indicator Adjustment.—With the gang condenser fully meshed, adjust the station selector indicator pointer on the indicator drive cord at the 530 kc mark.

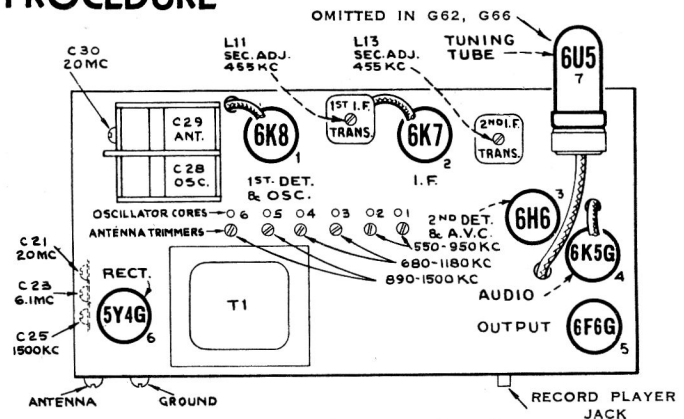


Figure 2—Tube and Trimmer Locations

Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	6K7 I-F grid cap, in series with .01 mfd.	455 kc	"A" band, Quiet Point between 550-750 kc	L12 and L13 (2nd I-F Trans.)
2	6K8 det. grid cap, in series with .01 mfd.	455 kc		L10 and L11 (1st I-F Trans.)
3	Antenna Terminal, in series with 400 ohms	20 mc	20 mc "C" band	C21* (osc.) C30** (ant.)
4	Antenna Terminal, in series with 400 ohms	6.1 mc	6.1 mc "B" band	C23 (osc.)†
5	Antenna Terminal, in series with 200 mmf.	1,500 kc	1,500 kc "A" band	C25 (osc.)
6	Follow "Adjustments for Electric Tuning"			

*Use minimum capacity peak if two peaks can be obtained.

**Rock gang slightly and use maximum capacity peak if two peaks can be obtained with C30. Check to determine that C21 has been adjusted to the correct peak by tuning to approximately 19.09 mc, where a weaker signal should be received.

†Use minimum capacity peak if two peaks can be obtained. Check to determine that C23 has been adjusted to the correct peak by turning to approximately 5.19 mc, at which point a weaker signal should be received.

Note: Oscillator tracks 455 kc above signal on all bands.

ADJUSTMENTS FOR KEYBOARD TOUCH TUNING

These models have eight keys. The left-hand key is a Record Player switch. The right-hand key connects the gang condenser for manual tuning. The other six keys are for Keyboard Touch Tuning of six different stations in the standard-broadcast range. The station keys connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an insulated

screwdriver or alignment tool such as Stock No. S-2051. Allow at least five minutes warm-up period before making adjustments.

The procedure is as follows:

1. Make a list of the desired six stations, arranged in order from low to high frequencies.
2. Push in the manual-tuning key, and manually tune in the first station on the list.
3. Push in station key No. 1 (second from left) and adjust No. 1 oscillator core (L37) to receive this station. Screw the core all the way in, to lowest frequency, and then unscrew slowly until station is received.
4. Adjust No. 1 antenna trimmer (C36) for maximum output of this station.

Clockwise adjustment of cores and trimmers tunes the circuits to lower frequencies.

5. Adjust for each of the remaining five stations in the same manner.
6. Make a final careful adjustment of the oscillator cores and antenna trimmers. Use the Cathode Ray in Models G76 and G77 to ensure sharp peaking. With Model G62 or G66, use one or two feet of wire as an antenna when making the final adjustments in order to obtain sharp peaking.

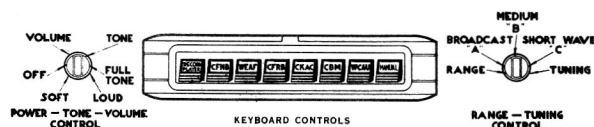


Figure 3—Location of Controls

The left-hand key is a Record Player Attachment switch. The right-hand key is for manual tuning.

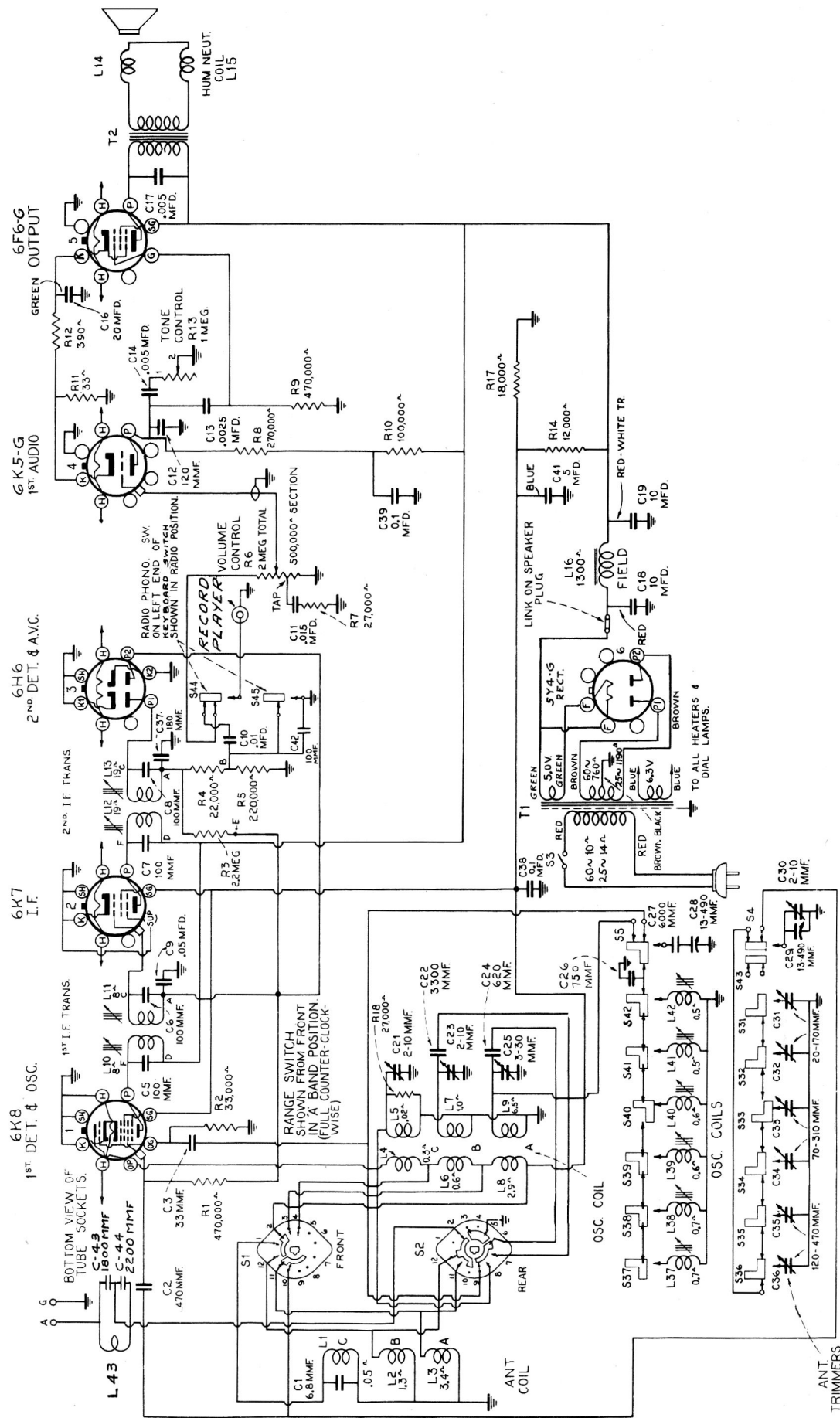


Figure 4—Schematic Circuit Diagram (Models G62 and G66)

Precautionary Lead Dress.—

1. Dress power-switch leads against left apron to prevent hum pickup.
2. Dress R1 away from front of chassis.
3. Electric-tuning lamp leads must be dressed in front of range switch.
4. Dress lead from L5 to range switch away from other leads.
5. Dress leads away from antenna coil.
6. Dress other parts and leads away from R14, as it becomes heated.
7. Leads across back of chassis should be dressed under electrolytic to prevent approaching Record Player jack.

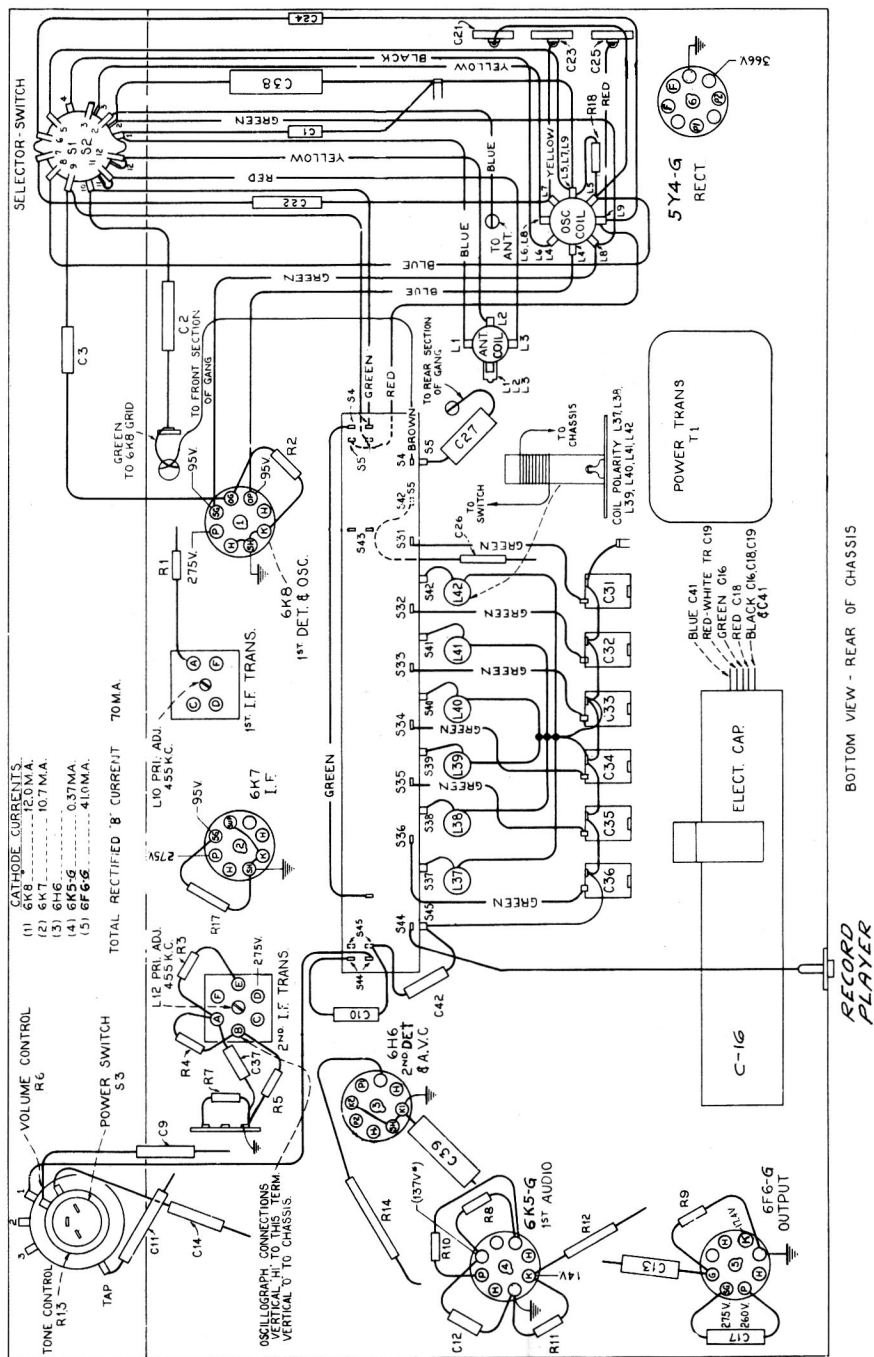
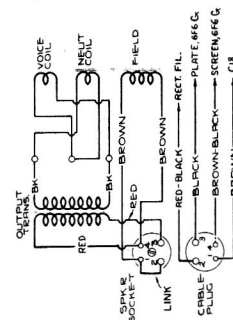


Figure 5—R-F Wiring Diagram and Socket Voltages
(Models G62 and G66)

Measurements made to chassis unless otherwise indicated, with set tuned to quiet point and volume control at minimum. Values should hold within $\pm 20\%$ with 117-volt a-c supply.

*** NOTE:** Values with star (*) are operating voltages in circuits with high series resistance. The actual measured voltages will be lower, depending on the voltmeter loading.



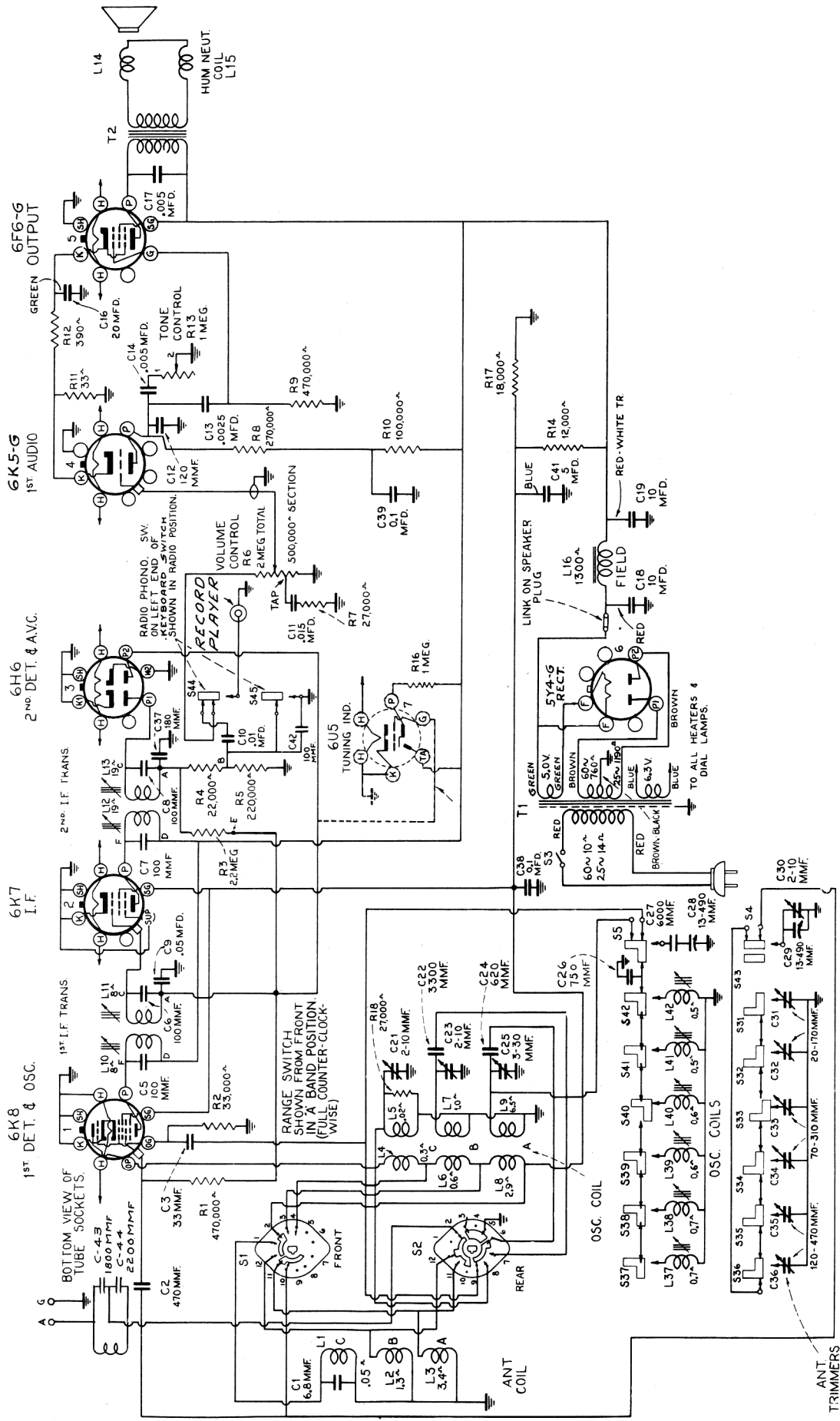


Figure 4—Schematic Circuit Diagram (Models G76 and G77)

Precautionary Lead Dress.—

1. Dress power-switch leads against left apron to prevent hum pickup.
2. Dress R1 away from front of chassis.
3. Electric-tuning lamp leads must be dressed in front of range switch.
4. Dress lead from L5 to range switch away from other leads.
5. Dress leads away from antenna coil.
6. Dress other parts and leads away from R14, as it becomes heated.
7. Leads across back of chassis should be dressed under electrolytic to prevent approaching Record Player jack.

Record Player Attachment.—A jack is provided on the rear of the chassis for connection to a Record Player Attachment. The cable from the Record Player Attachment should be terminated in a Stock No. 31048 plug to fit the jack.

Loudspeaker.—Centering of the loudspeaker voice

coil is made in the usual manner with three narrow celluloid or paper feelers after first removing the front dust cover. This may be removed by softening its cement with a light application of acetone, using care not to allow the acetone to flow into the air gap. A dust cover should be cemented in place with ambroid upon completion of adjustment.

REPLACEMENT PARTS MODELS G-62, G-66, G-76 and G-77

STOCK No.	DESCRIPTION	STOCK No.	DESCRIPTION
RECEIVER ASSEMBLIES			
14517	Board-Antenna-ground terminal board....	14887	Retainer-Drive cord pulley retainer
S-2194	Bracket-Tuning Eye bracket and holder-Models G77 and G76 only).....	(Pkg. of 20).....	
S-2195	Bushing-Volume indicator drive cord bushing located on volume control shaft	S-2196	Retainer-Drive cord pulley "C" clip- (Pkg. of 20).....
31400	Capacitor-Triple adjustable trimmer two sections 2-10 mfd., one section 3-30 mfd. (C21,C23,C25).....	4669	Screw-No.8-32 square head set screw for drum Stock No. 31372 (Pkg. of 10).....
14079	Capacitor-6.8 mfd. (C1).....	31368	Shaft-Station selector knob shaft and pulley.....
31387	Capacitor-Antenna trimmer capacitor bank 20-470 mfd. (C31,C32,C33,C34,C35,C36).....	31418	Spring-Indicator, or drum drive cord tension spring (Pkg. of 10).....
12948	Capacitor-33 mfd. (C3).....	31364	Socket-Dial lamp socket.....
12720	Capacitor-100 mfd. (C42).....	31365	Socket-"Electric Tuning" indicator lamp insulated socket.....
30904	Capacitor-100 mfd. (C5,C6,C7,C8).....	13871	Socket-Tuning Eye socket (Models G77,G76 only).....
12724	Capacitor-120 mfd. (C12).....	14278	Socket-Pickup socket.....
13003	Capacitor-180 mfd. (C37).....	31251	Socket-Radiotron socket.....
30433	Capacitor-470 mfd. (C2).....	S-2156	Switch-Range switch (S1,S2).....
31381	Capacitor-620 mfd. (C24).....	S-2150	Switch-Station selector key switch (S4,S5,S31,S32,S33,S34,S35,S36,S37,S38,S39,S40,S41,S42,S43,S44,S45)...
31435	Capacitor-750 mfd. (C26).....	S-2157	Spring-Band indicator tension spring (Pkg. of 5).....
31403	Capacitor-3,300 mfd. (C22).....	S-1979	Spring-Volume indicator cord spring (Pkg. of 5).....
31405	Capacitor-6,000 mfd. (C27).....	30957	Transformer-First i.f. transformer (L10,L11,C5,C6).....
5107	Capacitor-.0025 mfd. (C13).....	30903	Transformer-Second i.f. transformer (L12,L13,C7,C8).....
4838	Capacitor-.005 mfd. (C14,C17).....	31445	Transformer-Power transformer 100-120 volts, 25-60 cycle (T1).....
14393	Capacitor-.01 mfd. (C10).....	31380	Transformer-Power transformer 100-120 volts, 50-60 cycle (T1).....
4839	Capacitor-0.1 mfd. (C38,C39).....	S-2153	Trap-Wave Trap.....
11315	Capacitor-.015 mfd. (C11).....	SPEAKER ASSEMBLIES	
4886	Capacitor-.05 mfd. (C9).....	TABLE MODELS	
31371	Capacitor-Comprising two 10 mfd. one 20 mfd., and one 5 mfd. sections (C16,C18,C19,C41).....	S-2044	Cap-Dust cap for reproducer cone-Pkg. of 5
31382	Clip-Oscillator coil and core mounting clip (Pkg. of 2).....	S-2020	Cone-Reproducer cone.....
31402	Coil-Antenna coil-A,B, and C bands (L1,L2,L3).....	S-2187	Reproducer-Complete.....
31401	Coil-Oscillator coil-A,B, and C bands (L4,L5,L6,L7,L8,L9).....	14355	Transformer-Output transformer.....
31383	Coil-Oscillator coil-A Band (L41,L42)...	S-2019	Coil-Field Coil.....
31384	Coil-Oscillator coil-A Band (L39,L40)...	SPEAKER ASSEMBLIES	
31385	Coil-Oscillator coil-A Band (L37,L38)...	CONSOLE MODELS	
31369	Condenser-2 gang variable tuning condenser (C28,C29,C38).....	13866	Cap-Dust cap for cone center (Pkg. of 5)...
31366	Control-Volume control, tone control, and on-off switch (R6,R13,S3).....	12012	Coil-Field coil (L16).....
31374	Cord-Variable condenser drum drive cord.....	11469	Coil-Hum Neutralizing coil (L15).....
S-2166	Cord-Volume indicator drive cord.....	31275	Cone-Speaker cone and voice coil (L14)...
S-2167	Cord-Band indicator cord.....	31302	Plug-4-contact male plug.....
31375	Cord-Indicator pointer drive cord (Models G77,G76 only).....	31592	Speaker-Speaker complete.....
30905	Core-Adjustable core and stud for i.f. transformer.....	14358	Screw-Screw, washer and lockwasher to hold core in yoke (Pkg. of 2).....
31386	Core-Adjustable core and stud for oscillator coil.....	31301	Transformer-Output transformer (T2).....
S-2165	Drum-Indicator cable drum-fastens on variable condenser rotor shaft.....	14357	Washer-Spring washer to hold field coil (Pkg. of 2).....
S-1983	Indicator-Tuning indicator pointer assembly.....	SPEAKER ASSEMBLIES MODEL G76 - Speaker RL63H-5	
S-1984	Indicator-Volume indicator pointer.....	14356	Board-3 contact speaker terminal board..
S-2158	Indicator-Band indicator.....	13866	Cap-Cone center dust cap.....
11891	Lamp-Dial lamp.....	12012	Coil-Field coil (L16).....
5040	Plug-4-contact female plug for speaker cable.....	11469	Coil-Hum neutralizing coil (L15).....
31373	Pulley-Indicator drive cord pulley.....	31310	Cone-Speaker cone and voice coil (L14)...
S-1967	Pulley-Pulley for tuning indicator cable located at top of dial bracket..	31302	Plug-4 contact male plug for speaker....
S-1968	Pulley-Small size brass pulley for volume indicator cord.....	14358	Screw-Screw, washer and lockwasher to hold core in yoke (Pkg. of 2).....
14671	Resistor-33 ohms, $\frac{1}{4}$ watt (R11).....	31453	Speaker-Complete.....
31388	Resistor-390 ohms, $\frac{1}{4}$ watt (R12).....	14355	Transformer-Output transformer (T2).....
31389	Resistor-12,000 ohms, wire wound 5 watts (R14).....	14357	Washer-Spring washer to hold field coil (Pkg. of 2).....
30151	Resistor-18,000 ohms, $\frac{1}{4}$ watt (R17).....	MISCELLANEOUS ASSEMBLIES	
14284	Resistor-22,000 ohms, $\frac{1}{4}$ watt (R4).....	S-2198	Cover-protective covers for key markers.
12738	Resistor-27,000 ohms, $\frac{1}{4}$ watt (R7,R18)...	S-2164	Key-Station selector key and spring....
12454	Resistor-33,000 ohms, $\frac{1}{4}$ watt (R2).....	S-1974	Clamp-Station selector window clamp, screw lockwasher and nut assembly (Pkg. of 4)...
14560	Resistor-100,000 ohms, $\frac{1}{4}$ watt (R10).....	S-2160	Dial-Station selector dial scale.....
12264	Resistor-220,000 ohms, $\frac{1}{4}$ watt (R5).....	S-2162	Escutcheon-Station selector escutcheon..
12199	Resistor-270,000 ohms, $\frac{1}{4}$ watt (R8).....	S-2163	Escutcheon-Key-board assembly escutcheon.
12285	Resistor-470,000 ohms, $\frac{1}{4}$ watt (R1,R9)...	12742	Escutcheon-Tuning Tube escutcheon.....
12013	Resistor-1 meg. $\frac{1}{4}$ watt (R16-Models G77 and G76 only).....	S-2155	Knob-Range switch knob.....
12679	Resistor-2.2 meg., $\frac{1}{4}$ watt (R3).....	14359	Knob-Station selector knob.....
14343	Retainer-Retaining spring for station selector knob shaft (Pkg. of 10).....	S-2154	Knob-Tone control knob.....
		30773	Knob-Volume control knob.....
		S-2182	Marker-Station call letter markers.....
		S-2159	Marker-"Record Player" marker for key (Pkg. of 10).....
		S-2161	Marker-"Manual Tuning" marker for key (Pkg. of 10).....
		S-2051	Screw driver-Aligning screw driver.....