

MODELS K-52, K-53, K-53L, K-53M & K-59

Voltage Rating.....115 Volts
Frequency Rating...25-40 Cycles and 50-60 Cycles
Power Consumption.....70 Watts
Number and Types of Radiotrons1 G.E.-80,
1 G.E.-2A5, 1 G.E.-58, 1 G.E.-57, 1 G.E.-2A7
—Total 5
Undistorted Output.....1.75 Watts
Frequency Range.....540 K. C. to 1500 K. C.
and 1400 K. C. to 2800 K. C.

G.E. models K-52, K-53, and K-59 are five-tube Super-Heterodyne receivers incorporating such features as two-point tone control; single heater type Pentode Output tube and the inherent sensitivity, selectivity and tone quality of the G.E. Super-Heterodyne.

The models K-52, K-53 are table type receivers having a Dynamic Loudspeaker as a part of the chassis. The model K-59 is a Console type, having an eight inch Dynamic Loudspeaker mounted in the cabinet.

A special feature of all models is the Range Switch that allows reception of signals either of the broadcast band or higher frequencies. Figure A shows the schematic and Figure B the wiring diagram. With the switch in the broadcast band position, the frequency range is from 540 to 1500 K. C. At the higher frequency position, the receiver covers the 1400 to 2800 K. C. band.

The circuit consists of an R. F. stage, a combined oscillator and first detector in the G.E.-2A7 tube, an intermediate stage consisting of a transformer using two tuned circuits, a second detector, an output tube and a rectifier.

Line-up Capacitor Adjustment

The line-up capacitor adjustments for the I. F. stage and the gang capacitors are made in the following manner:

- Procure a modulated oscillator giving a signal at 175 K. C., 1400 K. C., and 2440 K. C. An output meter and non-metallic screw driver are also necessary.
- The I. F. line-up capacitors should be first adjusted. This is done by placing the oscillator in operation at 175 K. C., coupling its output between the control grid and ground of the first detector, connecting the output meter across the cone coil of the loudspeaker and adjusting the two I. F. line-up capacitors until maximum output is obtained.
- After the I. F. circuits are aligned, the broadcast band R. F. is adjusted at 1400 K. C. This is done with the Range Switch at the broadcast position. A similar manner is used as that of the I. F., except that the oscillator is set at 1400 K. C., its output is connected from antenna to ground of the receiver, and the dial is set at 140. The adjustment is made with the trimming capacitors located on top of the gang capacitor and each capacitor is adjusted for maximum output.
- The high frequency band is adjusted at 2440 K. C. This is done in a similar manner to the R. F. adjustments except that the oscillator is set at 2440 K. C., the dial at 120 and the Range Switch in the high frequency position. The line-up capacitors on the selector switch are adjusted for maximum output at this frequency.

RADIOTRON SOCKET VOLTAGES

115 Volt A.C. Line

MAXIMUM VOLUME CONTROL SETTING—NO SIGNAL

Radiotron No.	Cathode to Control Grid, Volts	Cathode to Screen Grid, Volts	Cathode to Plate, Volts	Plate Current, M. A.	Heater, Volts
1. Type-58 R. F. Amplifier	3.0	95	250	5.0	2.33
2. Type-2A7 First Detector Oscillator	3.0	95	250	3.0	2.33
3. Type-57 Second Detector	6.0	89	170	0.3	2.33
4. Type-2A5 Power Amplifier	18.0	235	220	32.0	2.33
5. Type-80 Rectifier	275 Volts PLATE TO PLATE—60 M. A. TOTAL				4.82
TOTAL CATHODE CURRENT—11 M. A.					

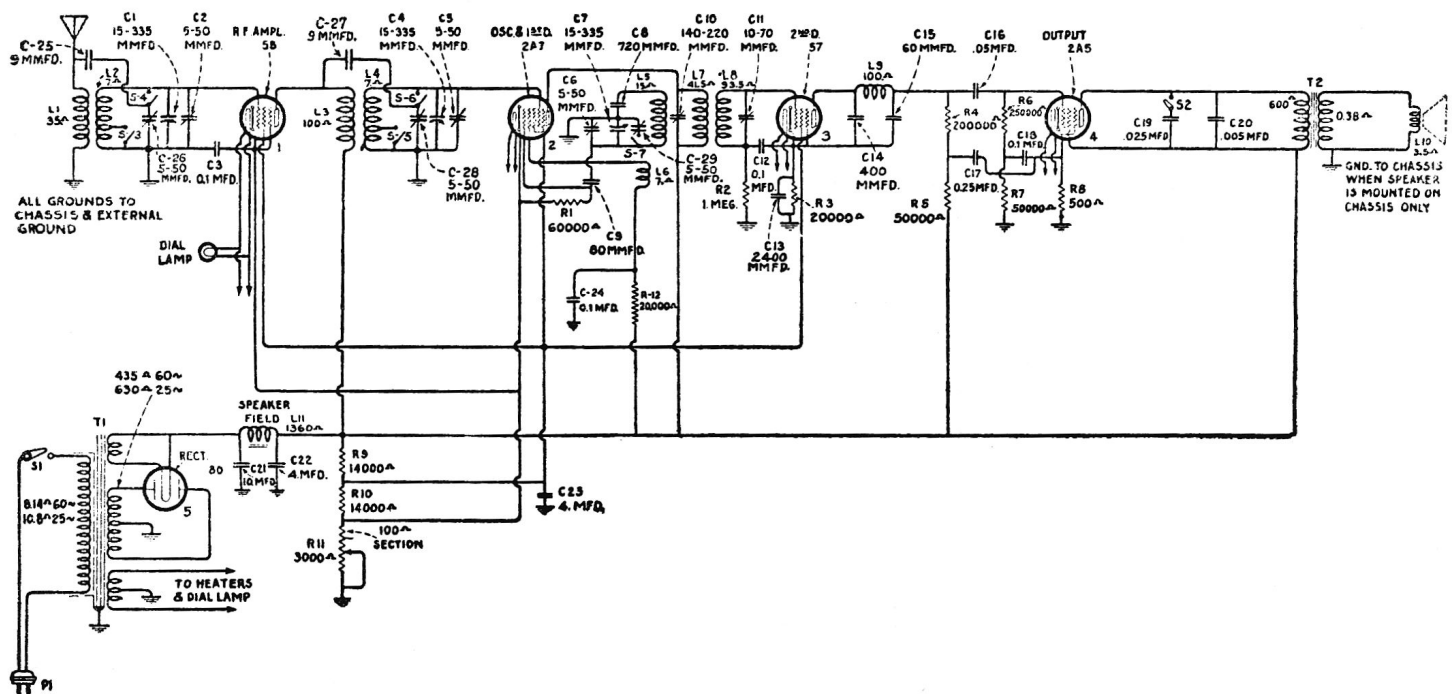


Figure A—Schematic Circuit

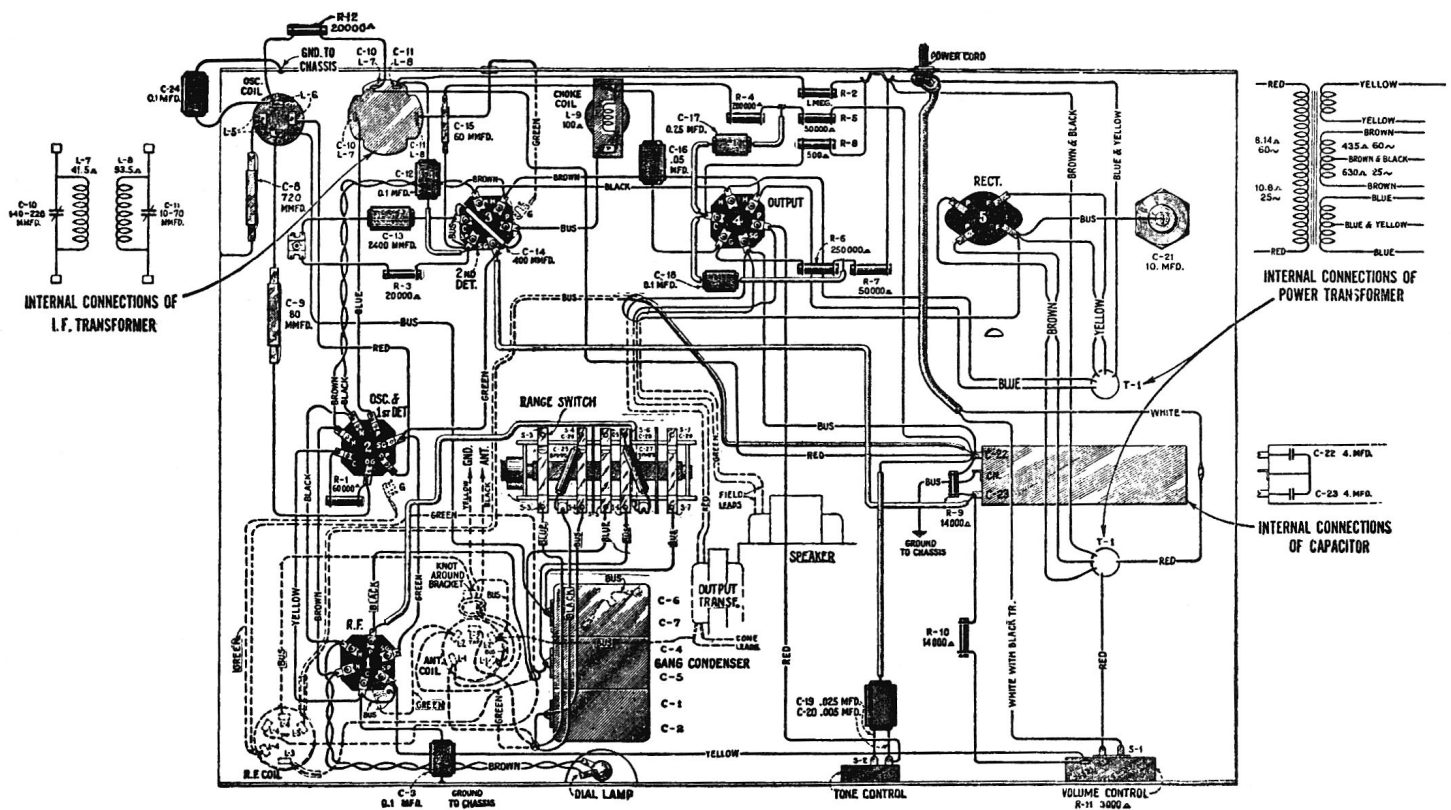


Figure B—Wiring Diagram

REPLACEMENT PARTS—MODELS K-52, K-53, K-53L, K-53M & K-59

STOCK NO.	SYMBOL NO.	DESCRIPTION	STOCK NO.	SYMBOL NO.	DESCRIPTION
RECEIVER ASSEMBLIES			7590	C-21	Capacitor-10 mfd.-Electro-lytic capacitor.....
S-1140		Shield-Radiatron Tube Shield	9002	T-1	Transformer-Power Trans-former 105-125V 25 cycles..
S-1151		Socket-6 Contact Radiatron Tube Socket.....	K-52, K-53 ONLY		
S-1280	R-4	Resistor-200,000 ohm- carbon type - 1/2 watt.....	3575		Socket-Dial lamp socket & bracket.....
S-1308	C-24	Capacitor-.1 mfd. Capacitor.	6465	R-11	Control-Volume control.....
S-1309		Knob-Range Switch knob.....	6466	S-2	Switch-Tone control switch..
S-1338		Socket-4 Contact Tube Socket and shell assembly.....	6467	T-2	Transformer-output trans-former.....
S-1339		Coil - Antenna Coil - Tapped	7588		Capacitor or variable tuning capacitor.....
S-1341		Coil-R.F.Coil-Tapped.....	S-1344		Switch-Range change switch..
S-1343		Scale-Tuning dial and scale assembly.....	K-59 ONLY		
S-1351	C-25 }	Capacitor-9 mmfd. Capacitor.	3624		Socket-dial lamp socket & bracket.....
S-1352	C-27 }	Transformer-Power Transfor-mer 105-125V 60 Cycle.....	3625		Scale-dial and scale assembly - volume control..
2269	C-8	Capacitor-720 mmfd.capacitor	7597		Capacitor-Variable tuning capacitor.....
2747		Cap-Contact Cap.....	S-1346	T-2	Transformer-Output trans-former.....
3050	R-9	Resistor 14,000 ohm-Carbon Type - 3 Watt.....	S-1347		Switch-Range change switch..
3076	R-2	Resistor 1. megohm - Carbon Type - 1/2 Watt.....	S-1348	S-2	Switch-Tone control switch..
3456	C-16	Capacitor-.05 mfd.capacitor.	S-1349	R-11	Control-Volume control.....
3459	C-9	Capacitor-80 mmfd.capacitor.	K-52, K-53 SPEAKER		
3472	C-13	Capacitor-.0024 mfd. capacitor.....	8987		Cone-Reproducer cone.....
3514	R-6	Resistor-250,000 ohms-carbon type - 1/2 watt.....	8988		Coil assembly-Cone housing, magnet and field coil assembly.....
3572		Socket-7 contact-radiotron tube socket.....	S-1345		Board-Terminal board.....
3574	L-9	Coil-Choke coil assembly....	K-59 SPEAKER		
3584		Ring-Coil retaining ring....	8935		Cone-Reproducer cone.....
3592		Knob-Tuning control, volume control and tone control knob.....	S-1284		Board-Terminal board.....
3594	R-5 }	Resistor-50,000 ohm-carbon type - 1/2 watt.....	S-1350		Coil assembly-Cone housing, magnet and field coil assembly.....
3596	R-7 }	Capacitor-60mmfd.-Capacitor.	K53M ONLY		
3597	C-15	Capacitor-.25mfd.-Capacitor.	S-1380		Small knob.....
3598	C-18 }	Capacitor-.1 mfd.-Capacitor.	S-1381		Large knob.....
3598	C-12 }		K53L ONLY		
3598	C-18 }		S-1380		Range SW & tone control knob
3602	R-1	Resistor-60,000 ohm-Carbon type - 1/4 watt.....	S-1381		Stn.Selector & V.C.knob.....
3604	C-14	Capacitor-400 mmfd.-Capacitor.....	S-1406		Tone control.....
3606	C-19& }	Capacitor-One .005 mfd. and One .25 mfd. in single unit	S-1407		Volume control and switch...
3632	R-8	Resistor-500 ohm-Carbon type - 1 watt.....	S-1409		Var. Cord drive (direct)....
6303	R- 3 }	Resistor-20,000 ohm-Carbon type-1/2 watt.....	7487		Tube shield.....
6306	R-12 }	Resistor-14,000 ohm-Carbon type-1 watt.....	S-1408		Variable condenser.....
6464		Transformer - Intermediate frequency transformer.....	S-1410		Range SW.....
6471		Coil-Oscillator coil.....	3877		0.1 mfd. capacitor.....
S-1362	C-22& }	Capacitor-Double 4. mfd. - electrolytic capacitor.....	3932		2400 mmfd. capacitor.....
	C-23 }		6622		Var. Cond. drive assembly (vernier).....