



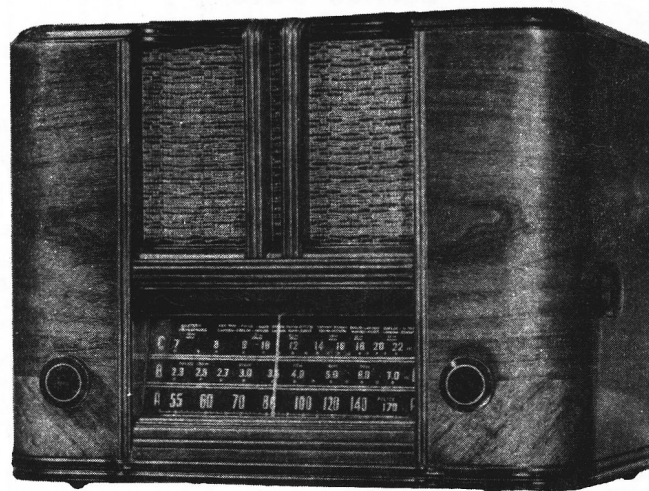
RCA Victor

MODEL B63

Four-Tube, Three-Band, Battery-Operated Superheterodyne Receiver

TECHNICAL INFORMATION AND SERVICE DATA

SERVICE DIVISION • RCA VICTOR COMPANY LIMITED • MONTREAL



Electrical Specifications

FREQUENCY RANGES

"Standard Broadcast" (A) 540-1,720 kc (555-174 m)

"Medium Wave" (B)2.3-7.0 mc (130-42.8 m)

"Short Wave" (C)7.0-22.0 mc (42.8-13.6 m)

Intermediate Frequency455 kc

RADIOTRON COMPLEMENT

(1) Type 1A7GFirst Detector—Oscillator

(3) Type 1H5GSecond Det., A.F. and A.V.C.

(2) Type 1N5GI. F. Amplifier

(4) Type 1C5GPower Output

BATTERIES REQUIRED

"A" one 1.4 Volt Air Cell or 1.5 Dry Cell; "B" two 45 Volt heavy duty "B" Batteries

CURRENT CONSUMPTION

"A" at 1.4 Volts 0.25 Amps.

"B" at 90 Volts 9.6 Ma.

POWER OUTPUT

Undistorted 115 Milliwatts

Maximum 260 Milliwatts

LOUDSPEAKER

Type Permanent Magnet Dynamic

Diameter 5 inches

Voice Coil Impedance 6 Ohms at 400 Cycles

Mechanical Specifications

	Height	Width	Depth
Cabinet Dimensions	10 $\frac{3}{4}$ inches	14 $\frac{1}{8}$ inches	7 $\frac{7}{8}$ inches
Chassis Base Dimensions	2 inches	12 $\frac{3}{4}$ inches	8 $\frac{1}{4}$ inches
Overall Chassis Height			7 inches
Weight		13 lbs. (net), 16 lbs. (shipping)	
Operating Controls	(1) Tone Switch (2) Power Switch—Volume; (3) Range Switch (4) Tuning		
Tuning Drive Ratio		18 to 1	

General Description

This Model contains a four-tube three band chassis, battery operated, mounted in a table type cabinet. The superheterodyne type of circuit is employed, incorporating such features of design as the new low-drain 1.5 volt tubes thus reducing the physical size of the batteries, magnetite core I.F. transformers, Au-

tomatic Volume Control; diode detection; resistance coupled audio system; two point tone control; phono input socket; sensitive, five-inch, permanent-magnet, dynamic loudspeaker; exceptionally low current drain; and a large, horizontal type easy-to-read glass dial.

Service Data

The various diagrams of this booklet contain all information necessary to quickly isolate causes for defective operation if such develops. The ratings of resistors, capacitors, coils, etc., are indicated adjacent

to the symbols signifying these parts on the various diagrams. Identification titles such as R1, L1, C1, etc., provide ready reference between the illustrations and Replacement Parts List.

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.

Calibration Scale on Indicator-Drive-Cord-Drum.—The tuning dial is fastened in the cabinet and cannot be used for reference during alignment; therefore, a calibration scale is attached to the tuning drum. The setting of the gang condenser is read on this scale, which is calibrated in degrees. The correct setting of the gang in degrees, for each alignment frequency, is given in the alignment table.

As the first step in r-f alignment, check the position of the drum. The 150° mark on the drum scale must be vertical and directly above the center of the shaft of the turning drum when the plates are fully unmeshed. The drum is held to the shaft by means of two set-screws, which must be tightened securely when the drum is in the correct position.

Pointer for Calibration Scale.—Improvise a pointer for the calibration scale by fastening a piece of wire to the condenser gang frame, and bend the wire so that it points to the 0° mark on the calibration scale when the plates are fully meshed.

The term "Dummy antenna" means the device which must be connected between the "high" test-oscillator output and the point of connection to the receiver in order to obtain ideal alignment.

Order of Alignment	Test Oscillator			Range Selector	Receiver Dial Setting	Circuit to Adjust	Adjustment Symbols
	Connection to Receiver	Dummy Antenna	Frequency Setting				
1	1N5G grid	.1 mfd.	455 kc	"A"	Gang closed	2nd I.F.	L7, L8
2	1A7G grid	.1 mfd.	455 kc	"A"	Gang closed	1st I.F.	L5, L6
3	Ant. lead	200 mmfd.	600 kc	"A"	600 kc 32°	"A" Osc.	L11
4	Ant. lead	200 mmfd.	1500 kc	"A"	1500 kc 152°	"A" Osc.	C21
5		Repeat steps 3 and 4					
6	Ant. lead	200 mmfd.	1500 kc	"A"	1500 kc 152°	"A" Ant.	C4
7	Ant. lead	300 ohm.	6100 kc	"B"	6100 kc 151°	"B" Osc.	C23
8	Ant. lead	200 mmfd.	2440 kc	"B"	2440 kc 24°	"B" Osc.	L13
9	Ant. lead	300 ohm.	6100 kc	"B"	6100 kc 151°	"B" Ant.	C2
10	Ant. lead	300 ohm.	9550 kc	"C"	9550 kc 66°	"C" Osc.	L15
11	Ant. lead	300 ohm.	17750 kc	"C"	17750 kc 144°	"C" Ant.	C1

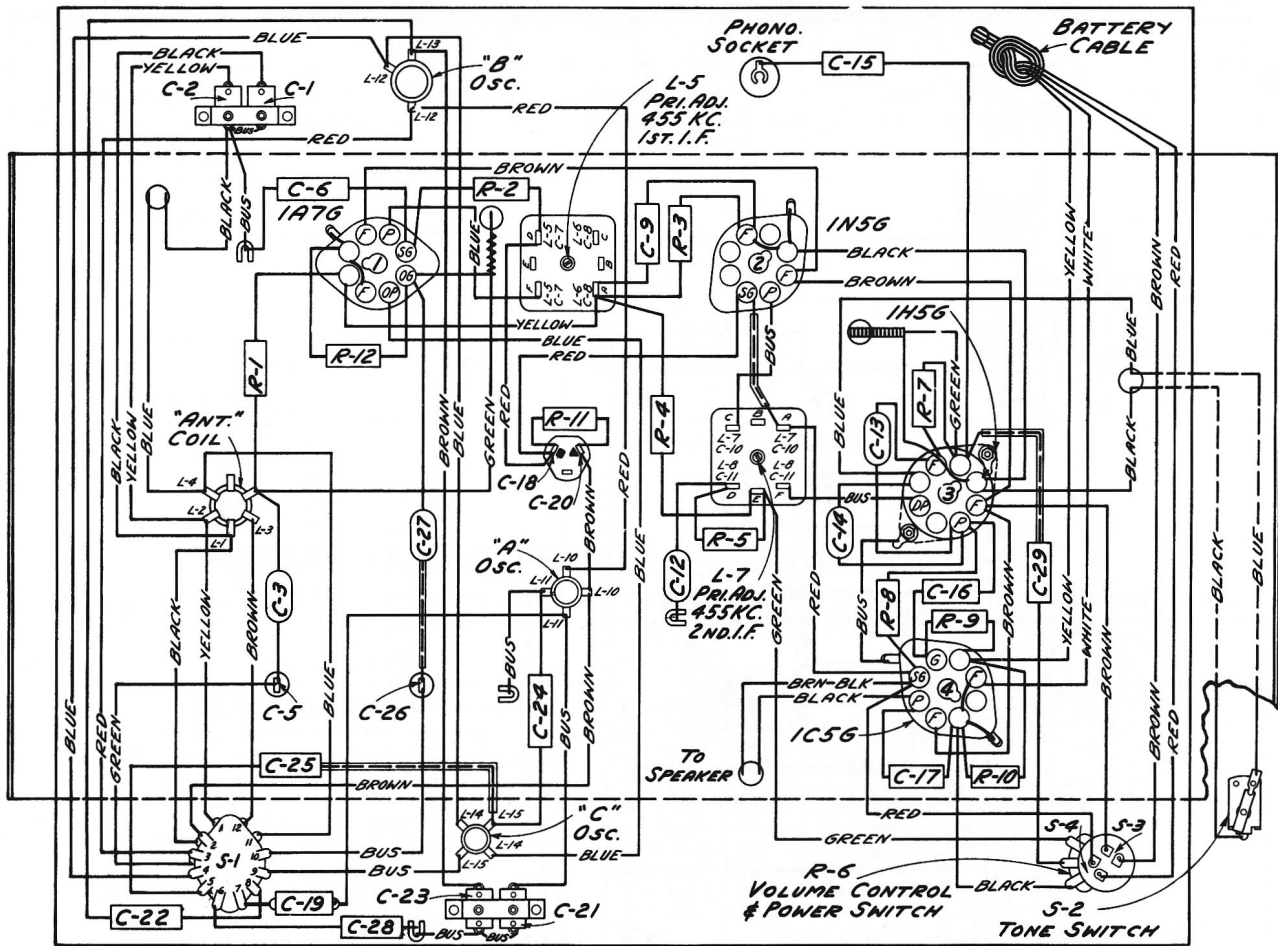


Fig. 1—Chassis Wiring Diagram

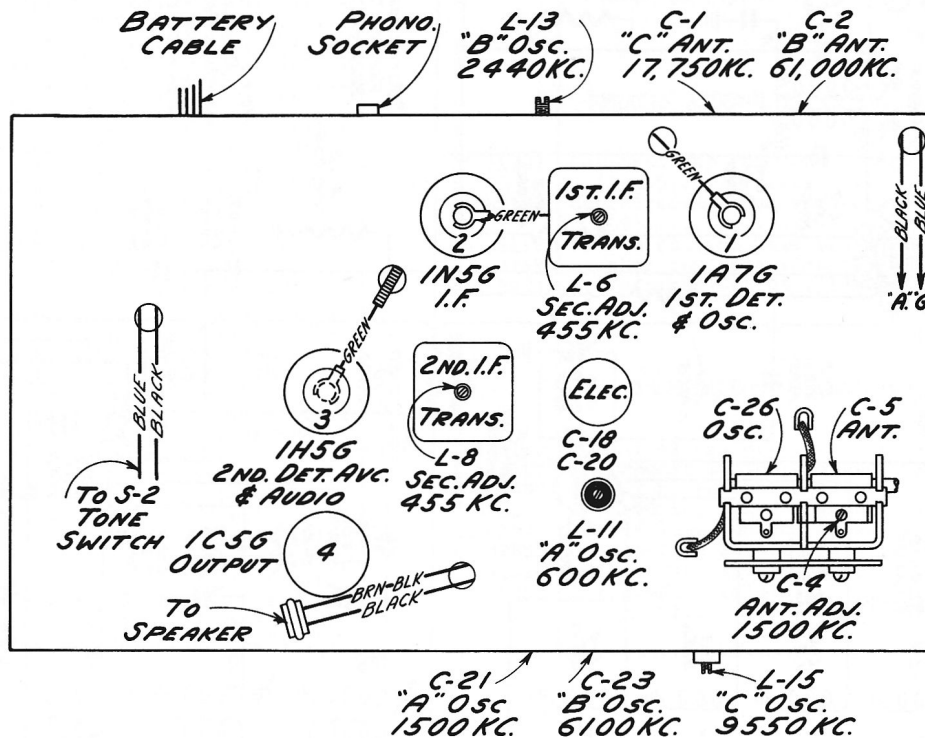


Fig. 2—Tube and Trimmer Locations

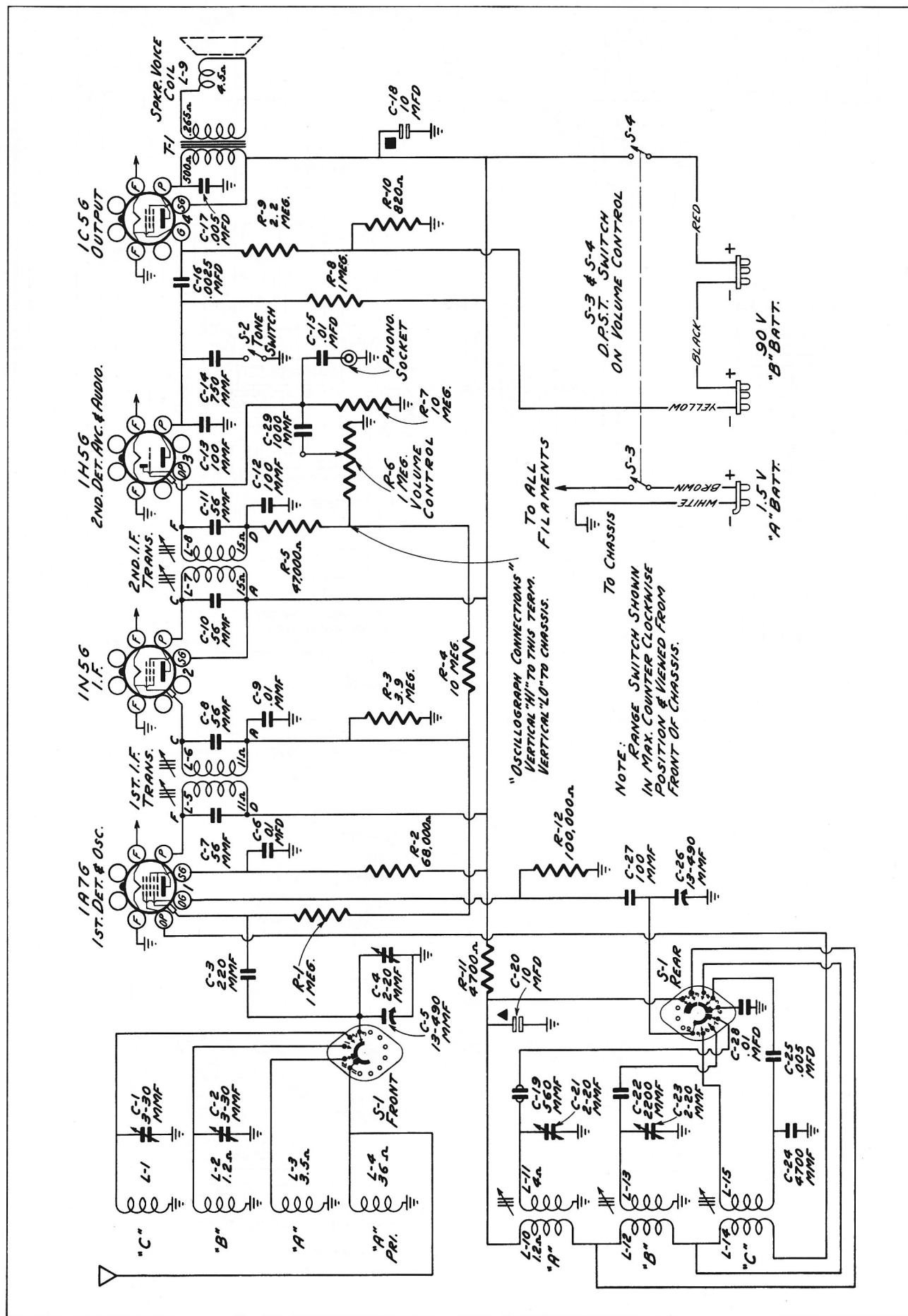


Fig. 3—Schematic Circuit Diagram

Radiotron Socket Voltages: Measured with all batteries at Normal Voltage

Radiotron	Plate	Screen Grid	Grid	Filament
1A7G Det.	81v	41v		1.4v
1A7G Osc.	76v	..		1.4v
1N5G I.F.	81v	81v		1.4v
1H5G Audio	55v	..		1.4v
1C5G Output	79v	82v	—7.5v	1.4v

REPLACEMENT PARTS FOR MODEL B-63

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK NO.	DESCRIPTION	STOCK NO.	DESCRIPTION
RECEIVER ASSEMBLIES			
S-3186	Cable-Battery cable with plugs...	13167	Resistor-3.9 megohm, 1/4 watt (R3)..
31292	Capacitor-Adjustable trimmer bank comprising 2 of 3-30 mmfd. (C1,C2).....	13601	Resistor-10 megohm, 1/4 watt (R4,R7)
32830	Capacitor-Adjustable trimmer bank comprising 2 of 2-20 mmfd. (C21,C23).....	34373	Retainer-"C" washer for drive shaft (Pkg.3).....
12720	Capacitor-100 mmfd (C12,C13,C27).	S-3213	Shaft-Station selector drive shaft
12694	Capacitor-220 mmfd (C3).....	35787	Socket-Phono input socket.....
31433	Capacitor-560 mmfd (close tol.) (C19).....	31319	Socket-Tube socket.....
12536	Capacitor-750 mmfd. (C14).....	31418	Spring-Dial cord spring (Pkg.2)...
37617	Capacitor-1000 mmfd. (C29).....	S-3182	Switch-Range switch (S1).....
S-3216	Capacitor-2200 mmfd. (C22).....	S-3153	Switch-Tone switch (S2).....
31399	Capacitor-4700 mmfd. (C24).....	36121	Transformer-1st I.F. transformer (L5,L6,C7,C8).....
34459	Capacitor-.0025 mfd. (C16).....	35628	Transformer-2nd I.F. transformer (L7,L8,C10,C11).....
4838	Capacitor-.005 mfd. (C17,C25)....	S-3181	Volume control and switch (R6,S3,S4).....
4937	Capacitor-.01 mfd. (C9,C15,C28)..	SPEAKER ASSEMBLIES (5 in. P.M.)	
4839	Capacitor-.1 mfd. (C6).....		
33790	Capacitor-Electrolytic two 10 mfd sections (C18,C20).....	32907	Cap-Dust cap for cone centre (Pkg.5).....
32817	Condenser-Variable tuning condenser (C4,C5,C26).....	S-3188	Cone-Speaker cone and voice coil (L9).....
32821	Coil-Antenna coil (L1,L2,L3,L4)..	5118	Plug-3 contact male plug.....
32148	Coil-"A" Band oscillator coil (L10,L11).....	S-3187	Speaker complete (CRL-525-1).....
33784	Coil-"B" Band oscillator coil (L12,L13).....	S-2804	Transformer-Output (T1).....
33785	Coil-"C" Band oscillator coil (L14,L15).....	MISCELLANEOUS ASSEMBLIES	
S-3211	Cord-Drive cord (approx.48-1/2").	S-3183	Dial-Dial scale.....
35788	Core-Osc. coil core and stud....	S-3184	Knob-Range switch knob.....
32835	Drum-Drive cord drum assembly....	34490	Knob-Tone switch knob.....
S-3212	Indicator-Station selector indicator pointer.....	S-3185	Knob-Tuning control knob.....
5119	Plug-2 contact female speaker plug.....	S-3102	Knob-Volume control knob.....
32208	Plug-2 contact "A" Battery plug..	32595	Shield-Tube shield.....
12827	Plug-3 contact "B" Battery plug..	32598	Shield-Tube shield cap (Pkg.2)....
14076	Resistor-820 ohm - 1/4 watt (R10)	30900	Spring-Knob retaining spring (Pkg.5).....
30146	Resistor-4700 ohm- 1/4 watt (R11)		
12412	Resistor-47,000 ohm, 1/4 watt (R5)		
13715	Resistor-68,000, 1/4 watt (R2)...		
14560	Resistor-100,000 ohm, 1/4 watt (R12)		
13730	Resistor-1 megohm, 1/4 watt (R1,R8)		
12679	Resistor-2.2 megohm, 1/4 watt (R9)		