



RCA Victor

MODEL BT42

Four-Tube, Two-Band, Battery-Operated Superheterodyne Receiver TECHNICAL INFORMATION AND SERVICE DATA 1946 No. 19

SERVICE DIVISION

RCA VICTOR COMPANY LIMITED

MONTREAL



Electrical and Mechanical Specifications

FREQUENCY RANGES

"Standard Broadcast" ----- 540-1,600 kc.
 "Short Wave" ----- 9.45-15.5 mc.
 Intermediate Frequency ----- 455 kc.

TUBE COMPLEMENT

(1) Type-1R5 ----- 1st Det.—Osc.
 (2) Type-1T4 ----- I-F Amplifier
 (3) Type-1S5 ----- 2nd Det., A-F, and A.V.C.
 (4) Type-3Q4 ----- Power Output

BATTERIES REQUIRED

----- one No. 758T Eveready Pack
 or—"A" one 1.4 Volt Air Cell or 1.5 Dry Cell; "B" two 45 Volt heavy duty "B" Batteries

POWER OUTPUT

Undistorted ----- .18 watts
 Maximum ----- .48 watts

LOUDSPEAKER

Type ----- 4" x 6" Elliptical P.M.
 V.C. Impedance ----- 3 ohms at 400 cycles

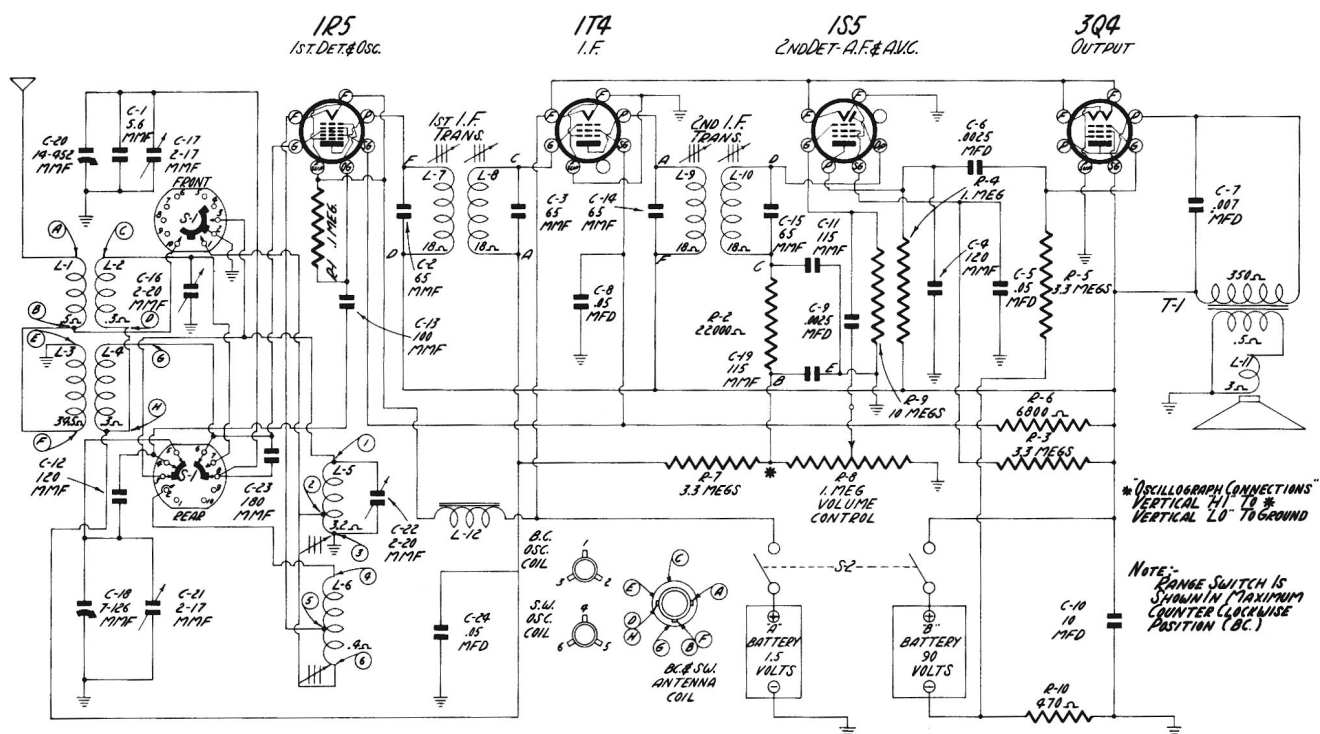
CURRENT CONSUMPTION

"A" at 1.4 Volts ----- 250 ma.
 "B" at 90 Volts ----- 13 ma.

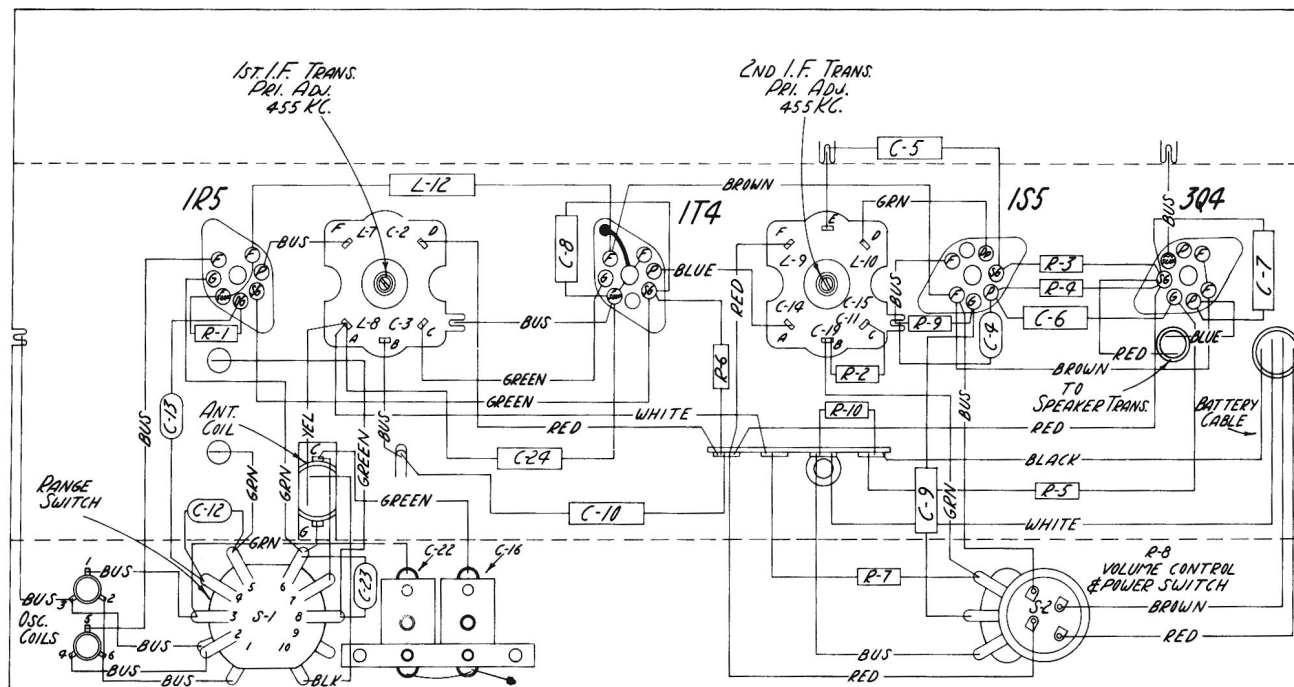
General Description

The Model BT-42 is a four-tube, battery-operated, superheterodyne receiver, covering both the Standard Broadcast and Short Wave Bands. Features of design include: stabilized oscillator circuit: precision built magnetite core I.F.

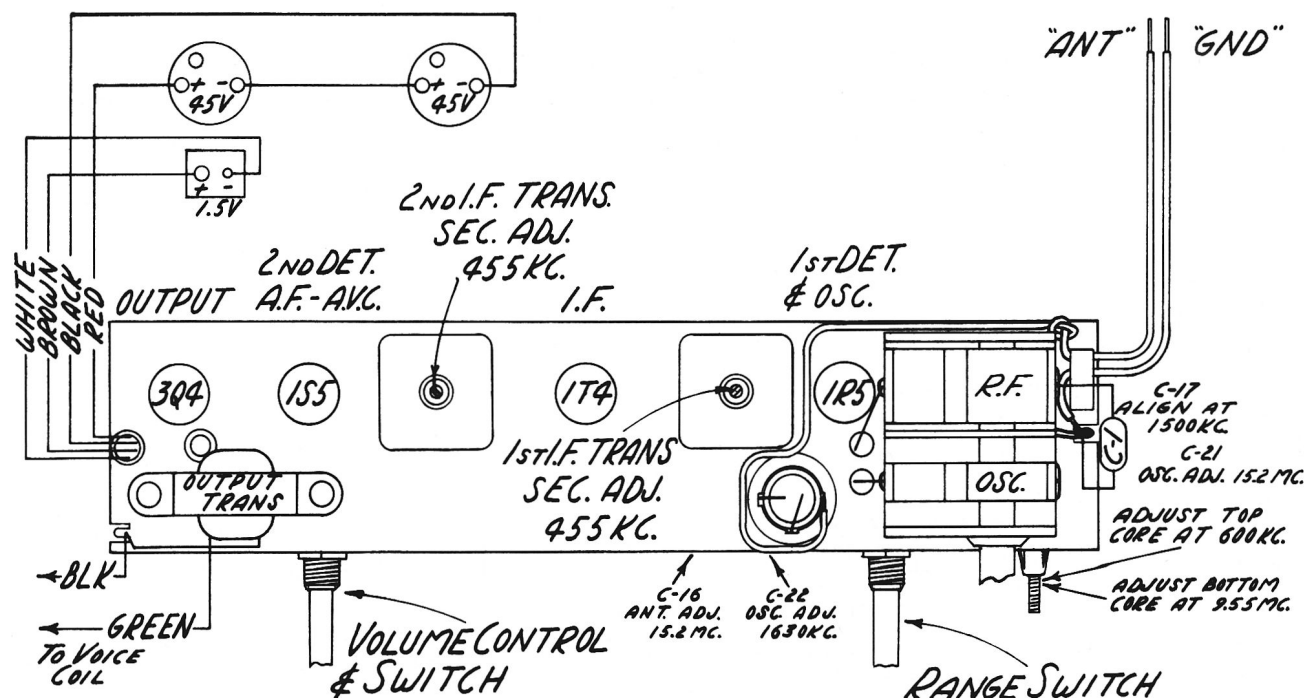
transformers: new type midget tubes with exceptionally low current drain: large, full vision, easy to read straight line dial: four inch by six inch elliptical speaker; housed in a table type wooden cabinet of modern design.



Schematic Circuit Diagram



Chassis Wiring Diagram



Chassis Layout and Alignment Adjustments

Alignment Procedure

STEPS	TEST OSCILLATOR			RANGE SELECTOR	RECEIVER GANG SETTING	CIRCUIT TO ADJUST	ADJUST-MENT SYMBOLS
	CONNECTION TO RECEIVER	DUMMY ANTENNA	FREQUENCY SETTING				
1.	Grid of 1T4	.01 Mfd.	455 KC.	B. C.	Min.	2nd I.F.	L9-L10
2.	Grid of 1R5	.01 Mfd.	455 KC.	B. C.	Min.	1st I.F.	L7-L8
3.	Ant. Lead	200 Mmfd.	600 KC.	B. C.	600 KC.	Osc.	L5
4.	Ant. Lead	200 Mmfd.	1630 KC.	B. C.	1630 KC.	Osc.	C22
5.	Ant. Lead	200 Mmfd.	1500 KC.	B. C.	1500 KC.	Ant.	C17
6.	R E P E A T 3 - 4 - 5						
7.	Ant. Lead	300 Ohms	9550 KC.	S. W.	9.5 MC.	Osc.	L6
8.	Ant. Lead	300 Ohms	15,200 KC.	S. W.	15.2 MC.	Osc.	C21
9.	Ant. Lead	300 Ohms	15,200 KC.	S. W.	15.2 MC.	Ant.	C16
10.	R E P E A T 7 - 8 - 9						
11.	Ant. Lead	300 Ohms	1630 KC.	B. C.	1630 KC.	Osc.	C22

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 ground terminal, and keep the output as low as possible to avoid a-v-c action.

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

Pre setting dial.—With the gang condenser in full mesh, the pointer should be adjusted so that it lines up with the first mark on the left of the dial scale.

Radiotron Socket Voltages

Tube	Plate	Screen Grid	Bias	Filament
1R5	82 V.	56 V.		1.5 V.
1T4	82 V.	56 V.		1.5 V.
1S5	17 V.	17 V.		1.5 V.
3Q4	82 V.	80 V.	-4.6 V.	1.5 V.

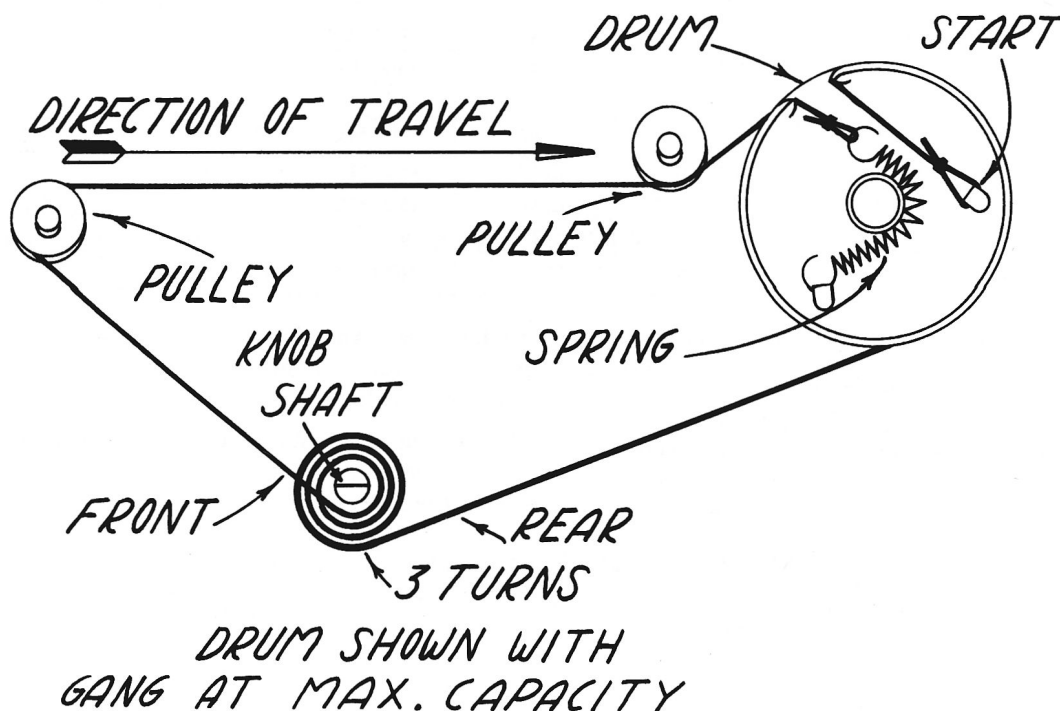
The above voltages should hold within plus or minus 20% when measured with rated battery voltage.

REPLACEMENT PARTS FOR MODEL BT42

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			
32830	Capacitor-Adj. trimmer(C16,C22).....	S-3537	Switch-Range Switch (S1).....
39601	Capacitor-Mica 5.6 Mmf. (C1).....	S-3526	Transformer-1st I.F.(C2,C3,L7,L8)
39628	Capacitor-Mica 100 Mmf. (C13).....	S-3527	Transformer-2nd I.F.(C14,C15,C11,
12724	Capacitor-Mica 120 Mmf. (C12,C4)...		C19,L9,L10).....
39634	Capacitor-Mica 180 Mmf. (C23).....	S-3530	Volume Control-(S2,R8).....
5148	Capacitor-.007 Mfd.(C7).....	SPEAKER ASSEMBLIES	
5107	Capacitor-.0025 Mfd.(C6,C9).....	35849	Dust Cap-(Pkg.3).....
4886	Capacitor-.05 Mfd. (C5,C8,C24).....	S-3569	Cone & Voice Coil Ass'y (L11)....
S-3221	Capacitor-Electrolytic 10 Mfd.(C10)	S-3502	Speaker Complete.....
S-3525	Condenser-Variable & Drum(C20,C18,	S-3531	Transformer-Output (T1).....
	C21,C17).....	MISCELLANEOUS ASSEMBLIES	
S-3695	Choke-filament choke (L12).....	S-3534	Cable-Battery Cable.....
S-3536	Coil-Antenna Coil(L1 L2,L3,L4)....	S-3696	Cord-Indicator Drive Cord.....
S-3528	Coil-Oscillator Coil (L5).....	S-3532	Indicator-Station selector
S-3535	Coil-Oscillator Coil (L6).....		pointer.....
30499	Resistor-470 Ohms 1/4 watt (R10)...	35814	Knob Assembly.....
14659	Resistor-6,800 ohms 1/4 watt(R6)...	35775	Knob Assembly.....
30492	Resistor-22,000 ohms 1/4 watt(R2)...	S-2398	Plug "A" Battery Cable Plug.....
14560	Resistor-100,000 ohms 1/4 watt(R1)...	12827	Plug "B" Battery Cable Plug.....
13730	Resistor-1 Megohm 1/4 watt (R4)....	S-3570	Scale-station selector dial scale
12928	Resistor-3.3 Megohm 1/4 watt(R3,R7,		
	R5).....		
13601	Resistor 10 Megohm 1/4 watt (R9)...		
30585	Spring-Drive cord tension (Pkg.2)...		
S-3533	Shaft-Drive shaft.....		
36500	Socket-Tube socket.....		

All parts and prices subject to change or withdrawal without notice.



Drive Cord