



MODEL 7Q51



RCA VICTOR



MODEL 7Q51

SERVICE DATA

— 1949 NO. 4 —

GENERAL SERVICE DIVISION
RCA VICTOR COMPANY LIMITED
MONTREAL, QUE.

Electrical and Mechanical Specifications

Frequency Ranges

Standard Broadcast ("A" Band)	525-1600 kc (571-187 m)
Medium Wave ("B" Band)	2.3-7 mc (130-42.9 m)
Short Wave ("C" Band)	7-22 mc (42.9-13.6 m)
"31-25 Meter" Spread Band	9.5-12 mc (31.6-25m)
"19-16 Meter" Spread Band	15.1-17.9 mc (19.8-16.7 m)
Intermediate Frequency	455 kc

Tube Complement

(1) RCA 6BE6	Converter
(2) RCA 6BA6	I.F. Amplifier
(3) RCA 6SQ7	Det.-A.V.C.-A.F. Amp.
(4) RCA 6F6G	Output
(5) RCA 6F6G	Output
(6) RCA 5Y3GT	Rectifier
(7) RCA 6AT6	Phase Inverter

Loudspeaker

Type	Permanent-Magnet Dynamic
Size	6½ in.
V. C. Impedance	3.2 ohms @ 400 cycles

Power Output

Undistorted	4 watts
Maximum	4.25 watts

Power Supply Ratings

Symbol	Voltage	Frequency	Watts
Rating A	105-125	50-60	60
Rating B	105-125	25-60	60
Rating C	105-125, 210-250	50-60	60

Instruments of Rating C have a switch on the chassis to select 105-125 or 210-250 volt operation (switch marked 117v-235v). (Shipped with switch in 235v position.)

Dial Lamps (2) Mazda No. 44, 6.3 volts, .25 amp.

Cabinet Dimensions

Height	10-13/16 in.
Width	16¼ in.
Depth	8¼ in.
Tuning Drive Ratio	13½ to 1 (6¾ turns of knob)

Description

This instrument is a seven-tube five-band receiver of conventional design with the exception of the spread-band tuning.

A two-section gang condenser one section for antenna and one for oscillator circuit, is used for the A, B, and C bands. The 31-25 Meter and the 19-16 Meter spread bands are tuned by a specially designed permeability tuning system actuated by a cam and rocker assembly which is mechanically fastened to the gang condenser shaft. The core assembly of the permeability tuning system is molded to insure the required tolerances, and tunes both the 31-25 Meter and the 19-16 Meter bands with different circuit constants.

In the 31-25 Meter band position the 31-25 Meter coils (antenna and oscillator) are used. In the 19-16 Meter band position the 31-25 Meter and 19-16 Meter band coils are used in parallel.

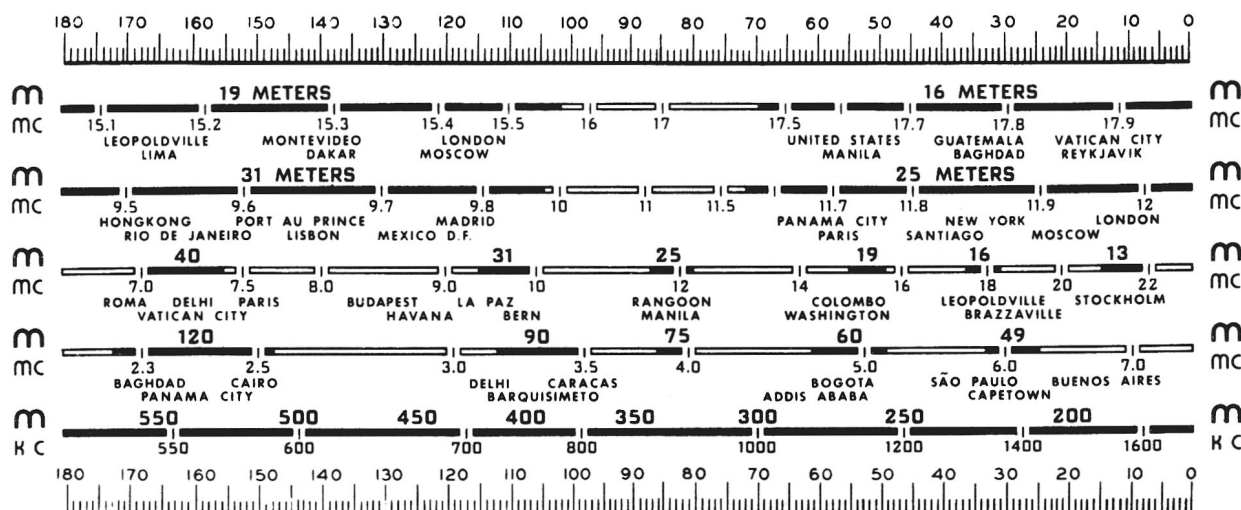
The inductances of the A-B-C windings of the multiple antenna coil are all fixed, but the inductances of all other coils in the antenna and oscillator circuits are permeability adjusted. Un-grounded screw-type cores are used for these coils and adjustments are made with a non-metallic screwdriver.

Alignment Procedure

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the oscillator 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 indicator-drive-cord drum which is mounted on the shaft of the gang condenser. The setting of the gang condenser is read on this scale, which is calibrated in degrees.

As the first step in r-f alignment, check the position of the drum. The "180°" mark on the drum scale must be vertical and directly over the center of the gang-condenser shaft when the plates are fully meshed. 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.



Reduced Reproduction of Receiver Dial and Corresponding 0-180° Calibration Scales

The corresponding position of the dial indicator for any setting of the calibration scale can be determined by drawing a line from this point on the bottom calibration scale to the same point on the top calibration scale. For example: 143° on the calibration scale corresponds to approximately 600 kc on "A" band, etc. Read instructions under "Alignment Procedures."

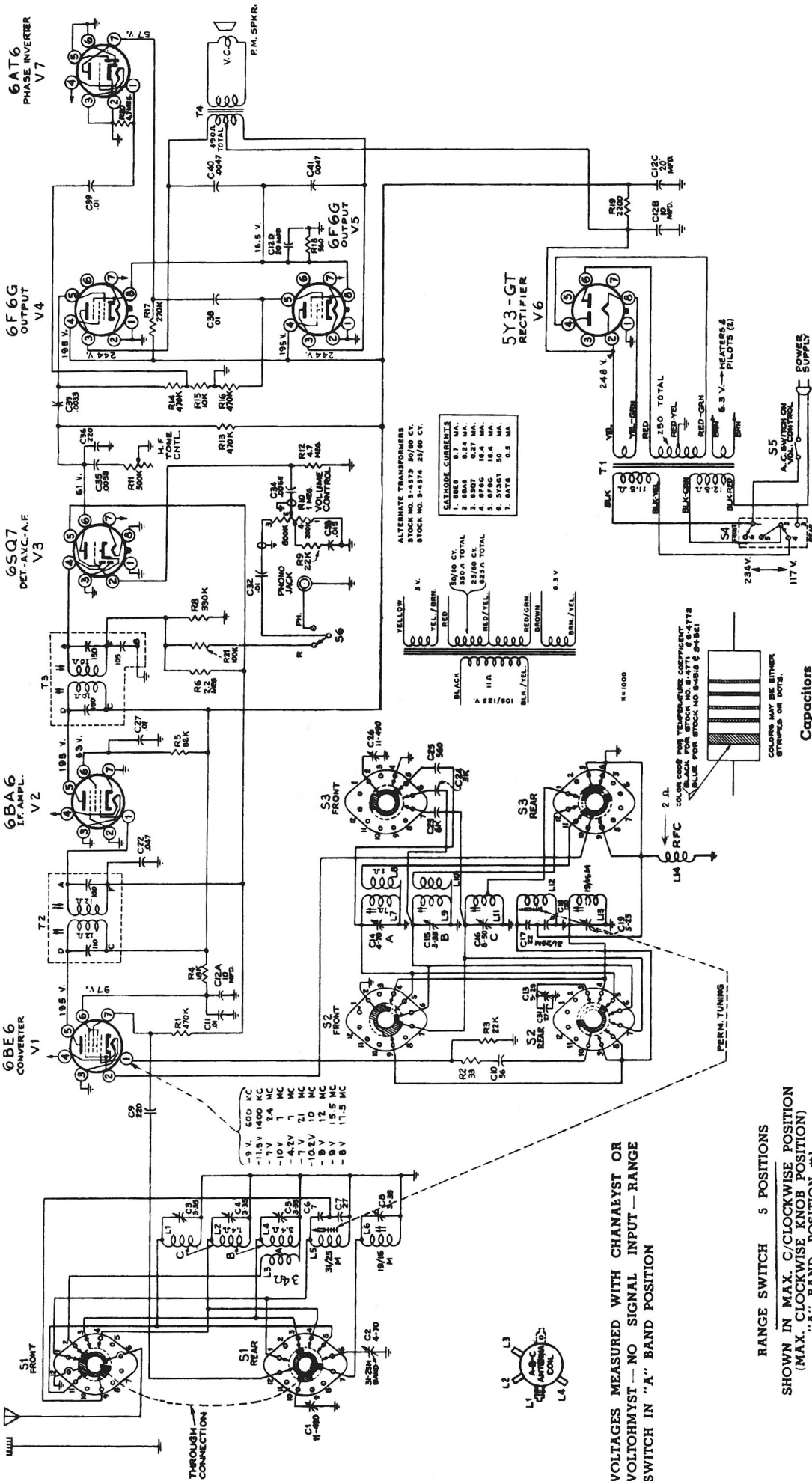


FIG. 1—SCHEMATIC DIAGRAM.

REPLACEMENT PARTS FOR MODEL 7Q51

Insist on Genuine Factory Tested Parts, which are readily identified and may be purchased from Authorized Dealers

Stock No.	Description	List Price	Stock No.	Description	List Price
CHASSIS ASSEMBLY			CHASSIS ASSEMBLY (Cont'd)		
S-4512	Board - antenna terminal board		S-4482	Socket - tube socket (octal) (for 5Y3GT or 6F6G)	
S-4513	Capacitor - trimmer 4 - 70 MMF. (C2)		S-4568	" - " " (Miniature) for 6AT6	
S-4514	" - " 4 - 70 MMF. & 3 - 35 MMF. (C14-C15)		S-4538	Switch - range switch (S1-S2-S3)	
S-4515	" - " 5 - 25 MMF. & 8-50 MMF. (C13-C16-C19)		S-4565	Shaft - range switch shaft	
S-4516	" - " four sections of 3 - 35 MMF. (C3-C4-C5-C8)		S-4566	" - tuning control shaft	
S-4517	" - " 7 MMF. Ceramic (C6)		S-4569	Switch - radio phono switch (S6)	
S-4518	" - " 22 MMF. " (C17)		S-4570	" - voltage change switch (S4)	
S-4519	" - " 27 MMF. " (C7)		S-4564	Spring - dial cord tension spring	
S-4520	" - " 27 MMF. " (C31)		S-4537	" - rocker arm plate tension	
S-4521	" - " 120 MMF. " (C18)		S-4536	Screw - rocker arm plate bearing screw (Pkg. 5)	
S-4439	" - " 220 MMF. Mica (C9-C36) ..		S-4539	Transformer - 1st I.F. (T2)	
S-4440	" - " 560 MMF. " (C25)		S-4571	" - 2nd I.F. (T3)	
C-4522	" - " 3000 MMF. " (C24)		S-4573	" - Power - 105 - 125 volts 50/60 cycles (T1)	
S-4442	" - " 6000 MMF. " (C23)		S-4574	" - Power - 105/125 volts 25/60 cycles (T1)	
S-4543	" - " .0068 Mfd. 400 V. (C34)		S-4547	Volume Control, tone control & switch (R10-R11-S5)	
S-4542	" - " .0047 Mfd. 1000 V. (C40-C41) ..		SPEAKER ASSEMBLY - 6$\frac{1}{2}$" PM ROUND		
S-4541	" - " .003 Mfd. 600 V. (C35-C37) ..		S-4578	Cone - cone & voice coil assembly	
S-4448	" - " .047 Mfd. 200 V. (C22)		S-4580	Speaker complete with cable	
S-4544	" - " .015 Mfd. 400 V. (C33)		S-4572	Output transformer (T4)	
S-4820	" - " .01 Mfd. Ceramic (C27-C28)		S-4579	Plug - pin plug (male) for speaker cable	
S-4444	" - " .01 Mfd. 400 V. (C11-C29-C32-C38-C39)		MISCELLANEOUS ASSEMBLY		
S-4545	" - Electrolytic 1 section 20 Mfd. 400 V. - 2 sections 10 Mfd. 450 V. - 1 section 20 Mfd. 25 V. (C12A-C12B-C12C-C12D)		S-4540	Bracket - dial cord bracket & pulley assembly	
S-4523	Capristor - 56 MMF. 33 ohms (C10-R2)		S-4581	Back - Cover for cabinet	
S-4524	Choke - Cathode choke coil (L14)		S-4582	Baffle - baffle board & grille cloth	
S-4525	Coil "A" band oscillator coil (L7-L8)		S-4583	Bezel - dial bezel	
S-4526	" "B" " " " (L9-L10)		S-4584	Cabinet	
S-4527	" "C" " " " (L11)		S-4585	Cover - plastic dial cover	
S-4528	" "31-25" Meter antenna or oscillator coil (L5-L12)		S-4313	Cord - dial drive cord	
S-4529	" "19-16" Meter antenna or oscillator coil (L6-L13)		S-4548	Cord - power cord	
S-4546	" A-B-C bands antenna coil (L1-L2-L3-L4) ..		S-4586	Dial - dial scale glass	
S-4531	Core - adj. core & stud for S-4528		S-4499	Emblem - (RCA)	
S-4530	Condenser - tuning condenser (C1-C26)		S-4500	" - (RCA Victor)	
S-4532	Drum - tuning condenser drum, hub & cam assy. ..		S-4587	Grille - Metal grille	
S-4589	Indicator - station selector pointer		S-4588	Grommet - to mount chassis (Pkg. 4)	
S-4551	Lever - Range Indicator lever & hub		S-4503	" - " " speaker (Pkg. 4)	
S-4897	Lamp - pilot lamp (Mazda #44)		S-4533	" - " " tuning condenser (Pkg. 3)	
S-4534	Plate - Rocker arm plate & stud assy (less adjustable cores)		S-4549	Gear - gear & hub for range switch shaft	
S-4552	Resistor 560 ohms - 1 watt (R18)		S-4550	" - " " " " control	
S-4553	" 2200 " - 2 " (R19)		S-4590	Knob - range switch knob	
S-4554	" 10,000 " - " (R15)		S-4591	" - volume control knob	
S-4555	" 18,000 " - 1 " (R4)		S-4895	" - tuning control knob	
S-4556	" 22,000 " - " (R9)		S-4896	" - tone control knob	
S-4535	" 22,000 " - " (R3)		S-4592	Plate - dial back plate	
S-4557	" 82,000 " - " (R5)		S-4594	Screw - chassis mounting screw (Pkg. 3)	
S-4558	" 100,000 " - " (R21)		S-4898	Spring - retaining spring for range knob (Pkg. 5)	
S-4559	" 270,000 " - " (R17)		S-4594	" - " " " tuning knob (Pkg. 3)	
S-4560	" 330,000 " - " (R8)		S-4909	" - " " " vol. control (Pkg. 3)	
S-4476	" 470,000 " - " (R1-R13-R16)		S-4910	" - " " " tone control knob (Pkg. 5)	
S-4581	" 470,000 " - " (R14)		S-4511	Spacer - metal spacer for speaker mtg. (Pkg. 4)	
S-4562	" 2.2 Megohms - " (R6)		S-4595	Shield - dial lamp shield	
S-4478	" 4.7 " - " (R12-R20)		S-4576	Washer "C" washer for range switch shaft (Pkg. 3)	
S-4894	Socket - tube socket		S-4577	Washer "C" washer to retain tuning shaft on range switch shaft (Pkg. 3)	
S-4563	" - Dial lamp socket				
S-4480	" - Phono input or speaker output socket				
S-4567	" - tube socket (octal) (for 6SQ7)				

All Prices and Parts are subject to change or withdrawal without notice.