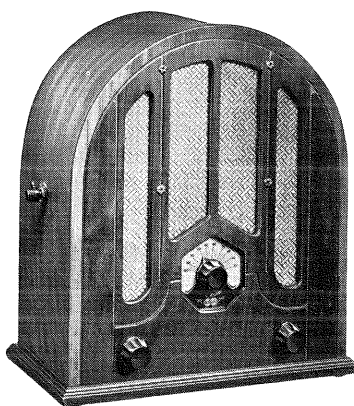


RCA Victor Battery Radio Model 126-B

Six-Tube, Single Band Super-Heterodyne

SERVICE NOTES



SERVICE DIVISION

RCA Victor Company, Inc.

Camden, N. J., U. S. A.

A RADIO CORPORATION OF AMERICA SUBSIDIARY

REPRESENTATIVES IN PRINCIPAL CITIES

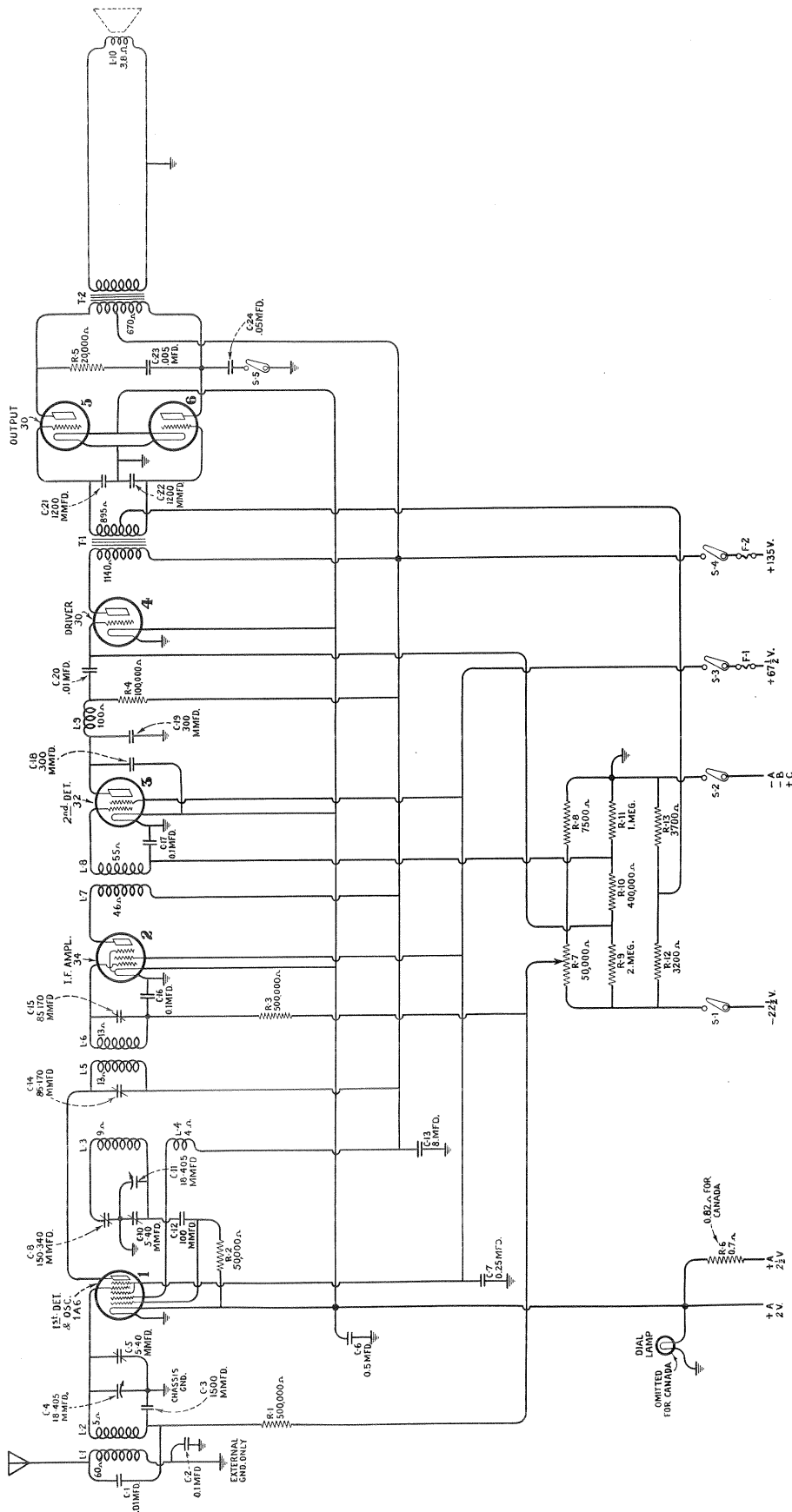


Figure 1—Schematic Circuit Diagram

RCA VICTOR MODEL 126-B

Six-Tube Battery Receiver

SERVICE NOTES

ELECTRICAL SPECIFICATIONS

Type and Number of Radiotrons.....	1 RCA-1A6, 1 RCA-34, 1 RCA-32, 3 RCA-30—Total, 6
Total "A" Battery Current.....	0.45 Ampere
Total "B" Battery Current	15 M. A.
Batteries Required: "A"	Eveready Air Cell A-600 or 2-volt storage cell
"B"	Three 45-volt "B" batteries
"C"	One 22½-volt "C" battery
Tuning Frequency Range.....	540 K. C.—1600 K. C.
Maximum Undistorted Output	0.7 Watt
Line-up Frequencies.....	I. F., 460 K. C. Osc.—Det., 1400 K. C. and 600 K. C.

PHYSICAL SPECIFICATIONS

Height.....	13½ inches
Width.....	12 inches
Depth.....	7 inches

This six-tube battery operated superheterodyne receiver incorporates the latest refinements of receiver construction that permit excellent and economical operation. Outstanding features include a permanent magnet dynamic type loudspeaker, two-point tone control, Class "B" output stage and high I. F.

frequency for eliminating image frequency response.

The chassis is characterized by compact construction and accessibility of parts. Suitable electrical protection of the tubes is provided by placing a fuse in each "B" battery lead.

DESCRIPTION OF ELECTRICAL CIRCUIT

The circuit is of the superheterodyne type and consists of a combined oscillator-detector stage, an I. F. amplifying stage, a second detector, an A. F. driver and a Class "B" output stage. A low-current dial lamp is a new feature for battery-operated receivers. A four-pole switch opens all battery leads at the off-position. Figure 1 shows the schematic wiring diagram, while Figure 2 shows the chassis wiring.

The signal enters the receiver through the antenna transformer and is applied through a tuned circuit to the grid of the first detector. Combined with the signal is the local oscillator signal, which is at a constant frequency difference (460 K. C. higher) at all positions of the dial. The combined signals after passing through the first detector produce the I. F. signal. The RCA-1A6 is the combined detector and oscillator.

The I. F. amplifier consists of two transformers having four circuits, two of which are tuned by means of trimmer capacitors. The tube used is an RCA-34, which is a super-control screen grid amplifying tube of the 2-volt variety. The high I. F. frequency (460 K. C.) is used to reduce image frequency response which would occur if a lower I. F.

frequency were used in a receiver not including an R. F. stage.

The output of the I. F. amplifier is applied to the second detector, an RCA-32, which extracts the A. F. component of the I. F. signal and applies it to the grid of the driver stage, which is an RCA-30. Resistance coupling is used between these two stages.

The RCA-30 driver stage is coupled to two RCA-30's, which are operated as a Class "B" output amplifier. These tubes are operated with a 12-volt grid bias, which reduces their plate current to 1 M. A. with no signal, although it greatly increases as a signal is applied. A stepdown input transformer is used for driving the stage and a stepdown output transformer provides a means of matching the output and the voice coil of the loudspeaker. An 0.05 capacitor connected from one plate to ground by means of the tone control switch reduces the high-frequency response when the switch is closed.

Plate and grid voltages are supplied through a high resistance bleeder system of which the volume control is a part. The volume control varies the bias voltage applied to the first detector and I. F. Tubes.

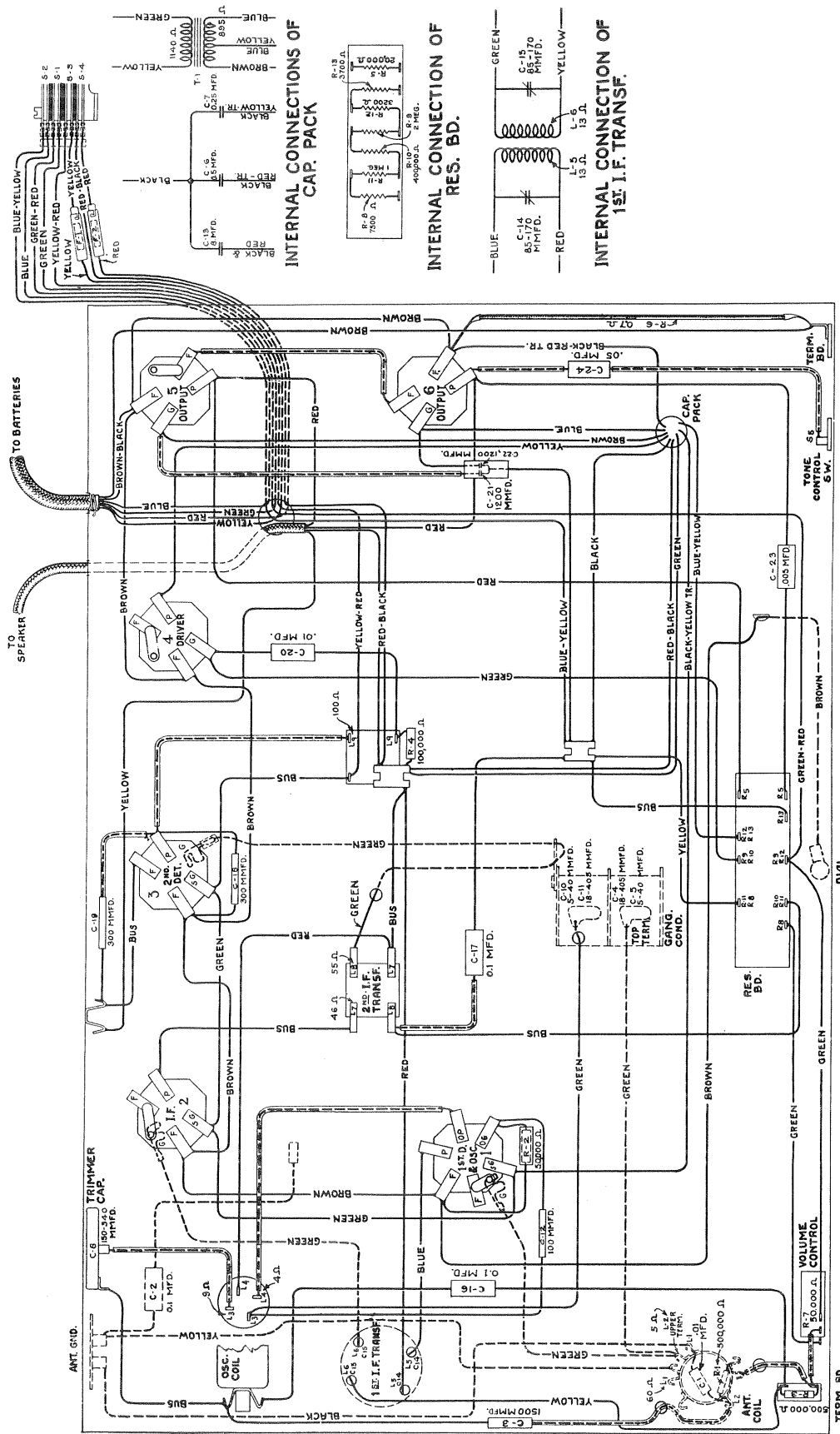


Figure 2—Chassis Wiring Diagram

SERVICE DATA

(1) Important

Always disconnect the batteries before attempting to remove the chassis from the cabinet. Always turn the operating switch "off" before changing tubes, batteries or fuses.

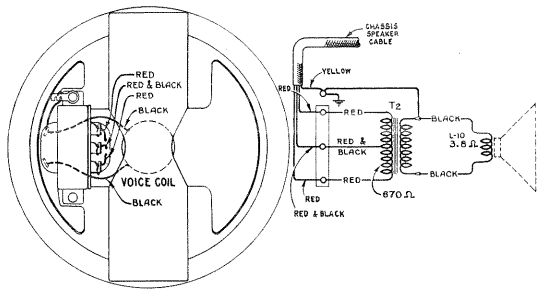


Figure 3—Loudspeaker Wiring

(2) Line-up Capacitor Adjustments

Line-up capacitors are provided in the first detector, oscillator and intermediate amplifier to provide a means of properly aligning the receiver. A modulated R. F. oscillator, such as Full Range Test Oscillator, type TMV-97-B (Stock No. 9050), a non-metallic screw driver, such as alignment wrench (Stock No. 4160), and an output indicator are required for properly aligning this receiver. Refer to Figure 4 for the location of the line-up capacitors.

I. F. Adjustments

Two transformers comprising four circuits, two of which have trimmer capacitors, are used in the I. F. amplifier. Proceed as follows:

(a) Short-circuit the antenna and ground terminals and connect the output of the oscillator between the control grid cap of the first detector (RCA-1A6) and ground. Connect an output indicator across the voice coil leads of the loudspeaker. Place the oscillator in operation at 460 K. C. and adjust its output and

the receiver volume control until a deflection is obtained in the output indicator.

(b) Adjust the secondary and then the primary of the first I. F. transformer (see Figure 4) until a maximum deflection is obtained in the output indicator.

This completes the I. F. adjustments. It is good practice to always follow the I. F. adjustments with the detector and oscillator adjustment, as there is an interlocking of adjustments that always occurs.

Detector-Oscillator Adjustments

The two-gang capacitor trimmer screws are accessible at the top of chassis. The series (600 K. C.) trimmer is accessible from the rear. Proceed as follows:

(a) Connect the oscillator between the antenna and ground terminals of the receiver. Connect the output meter across the voice coil leads of the loudspeaker.

(b) Place the oscillator in operation at 1400 K. C., set the dial at 140 and adjust the oscillator output and receiver volume control until a deflection is obtained in the output indicator.

(c) Adjust each trimmer on the gang capacitor until a maximum deflection is obtained.

(d) Set the oscillator at 600 K. C. and tune in the signal on the receiver. Then adjust the series trimmer, located on the rear of the chassis, until maximum output is obtained. While making this adjustment, rock the tuning capacitor back and forth through the signal. Then again check the adjustments in (b).

(3) Voltage Readings

The following voltages are those at the tube sockets while the receiver is in operating condition. No allowance has been made for current drawn by the meter and if low resistance meters are used, such allowances must be made.

RADIOTRON SOCKET VOLTAGES

135-Volt "B" Supply—No Signal—Maximum Volume Control

RADIOTRON No.		CONTROL GRID TO GROUND VOLTS, D. C.	SCREEN GRID TO GROUND VOLTS, D. C.	PLATE TO GROUND VOLTS, D. C.	PLATE, M. A.	FILAMENT VOLTS, D. C.
RCA-1A6	1st Det.	*3.0	67.5	135	1.7	2.0
	Osc.	—	—	135	1.8	
RCA-34—I. F.		*3.0	67.5	135	3.0	2.0
RCA-32—2nd Det.		*6.5	67.5	*95	0.4	2.0
RCA-30—Driver		*9.0	—	130	3.5	2.0
RCA-30—Output		12.0	—	135	1.0	2.0
RCA-30—Output		12.0	—	135	1.0	2.0

*These voltages cannot be measured with ordinary voltmeter, as they are obtained by means of high resistance bleeders across a 22½-volt "C" battery.

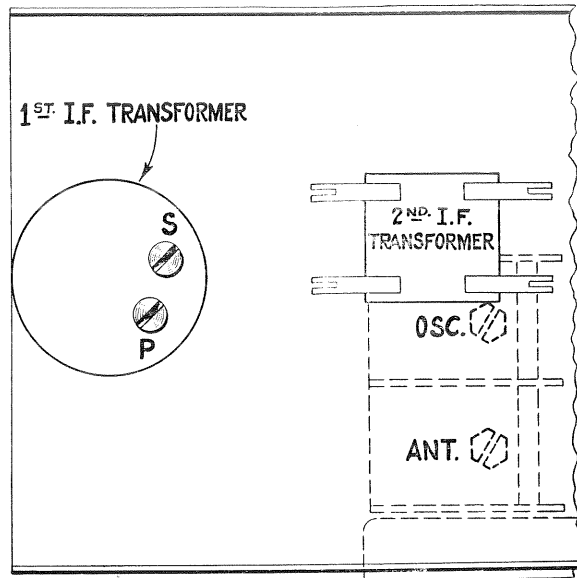


Figure 4—Location of Line-up Capacitors

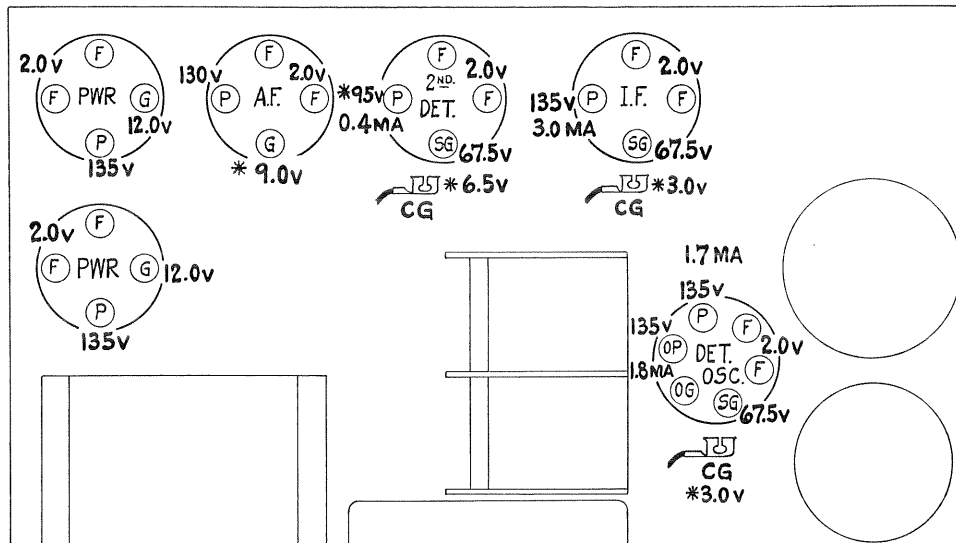


Figure 5—Socket Voltage Readings

REPLACEMENT PARTS

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
RECEIVER ASSEMBLIES					
2747	Cap—Contact cap—Package of 5	\$0.50	6980	Socket—4-contact output (No. 5) Radiotron socket	\$0.20
4000	Capacitor—Adjustable trimmer capacitor (C8) . . . . .	.78	3859	Socket—4-contact output (No. 6) Radiotron socket . . . . .	.30
4353	Capacitor—100 mmfd. (C12) . . . . .	.30	4232	Socket—6-contact—1st detector and oscillator—Radiotron socket . . . . .	.35
4354	Capacitor—1500 mmfd. (C3) . . . . .	.36	6669	Switch—Tone control switch (S5) . . . . .	.50
4352	Capacitor—300 mmfd. (C18, C19) . . . . .	.25	4347	Terminal strip—Engraved "ANT-GND" . . . . .	.25
6512	Capacitor—0.005 mfd. (C23) . . . . .	.28	6993	Transformer—First intermediate frequency transformer (L5, L6, C14, C15)	2.10
3888	Capacitor—0.05 mfd. (C24) . . . . .	.25	6994	Transformer—Second intermediate frequency transformer (L7, L8)	1.05
3701	Capacitor—0.01 mfd. (C1, C20) . . . . .	.30	6995	Volume control (R7)	1.10
3877	Capacitor—0.1 mfd. (C2, C16, C17) . . . . .	.32	REPRODUCER ASSEMBLIES		
4355	Capacitor pack—Comprising two 1200 mmfd. capacitors (C21, C22) . . . . .	.26	4350	Cable—4-conductor—Reproducer cable . . . . .	.54
4349	Capacitor and transformer pack—Comprising one 8.0 mfd., one 0.5, one 0.25 mfd. capacitor and driver transformer (C7, C6, C13, T1)	3.95	9428	Cone—Reproducer cone (L10)—Package of 5	5.00
6992	Coil—Antenna coil (L1, L2, R1, C1) . . . . .	.98	9503	Housing—Cone housing and core assembly	2.70
4343	Coil—Choke coil (L9) . . . . .	.60	3949	Magnet	1.40
6664	Coil—Oscillator coil (L3, L4) . . . . .	.94	9502	Reproducer assembly complete	8.40
6660	Condenser—2-gang variable tuning condenser (C4, C5, C10, C11)	2.78	6996	Transformer—Output transformer (T2)	1.68
4356	Resistor—0.7 ohm—Flexible type (R6)—Package of 10	1.50	MISCELLANEOUS ASSEMBLIES		
4345	Resistor—3200 ohms—Carbon type— $\frac{1}{4}$ watt (R12)—Package of 10	2.00	4289	Body—Fuse connector body—Package of 10 . . . . .	.35
4346	Resistor—3700 ohms—Carbon type— $\frac{1}{4}$ watt (R13)—Package of 10	2.00	4357	Cable—Battery cable—6-conductor	1.52
4344	Resistor—7500 ohms—Carbon type— $\frac{1}{4}$ watt (R8)—Package of 10	2.00	4288	Cap—Fuse connector cap—Package of 10 . . . . .	.36
6303	Resistor—20,000 ohms—Carbon type— $\frac{1}{2}$ watt (R5)—Package of 5	1.00	6516	Connector—Fuse connector complete . . . . .	.16
3114	Resistor—50,000 ohms—Carbon type— $\frac{1}{4}$ watt (R2)—Package of 5	1.00	4468	Dial—Station selector dial . . . . .	.22
3118	Resistor—100,000 ohms—Carbon type— $\frac{1}{4}$ watt (R4)—Package of 5	1.00	6176	Escutcheon—Operating switch escutcheon—Package of 5 . . . . .	.50
3619	Resistor—400,000 ohms—Carbon type— $\frac{1}{4}$ watt (R10)—Package of 5	1.00	4286	Ferrule—Fuse connector ferrule and bushing—Package of 10 . . . . .	.38
6186	Resistor—500,000 ohms—Carbon type— $\frac{1}{4}$ watt (R1, R3)—Package of 5	1.00	3748	Fuse—0.5 ampere (F1, F2)—Package of 5 . . . . .	.40
3033	Resistor—1 megohm—Carbon type— $\frac{1}{4}$ watt (R11)—Package of 5	1.00	4290	Insulator—Fuse connector insulator—Package of 10 . . . . .	.35
6242	Resistor—2 megohm—Carbon type— $\frac{1}{4}$ watt (R9)—Package of 5	1.00	3088	Knob—Operating switch knob—Package of 5 . . . . .	.50
3584	Ring—Oscillator coil retaining ring—Package of 5 . . . . .	.40	4085	Knob—Station selector knob and pointer—Package of 5 . . . . .	.60
3682	Shield—First detector and oscillator—Radiotron shield . . . . .	.22	4132	Knob—Volume control or tone control switch knob—Package of 5 . . . . .	.55
4351	Shield—I. F. Radiotron socket shield . . . . .	.25	4348	Lamp—Dial lamp . . . . .	.38
6665	Shield—Oscillator coil shield . . . . .	.34	9050	Oscillator—Test oscillator—90 to 25,000 K. C.	29.50†
3056	Shield—Second detector—Radiotron shield—Package of 2 . . . . .	.40	3886	Reflector—Dial light reflector . . . . .	.30
3858	Socket—Dial lamp socket . . . . .	.26	3238	Screw—Set screw for operating switch knob—Package of 10 . . . . .	.25
6300	Socket—4-contact second detector—Radiotron socket . . . . .	.35	4393	Screw—No. 8-32- $\frac{5}{16}$ -inch headless set screw for knobs—Package of 10 . . . . .	.25
			4160	Screw driver—Combination insulated screw driver and socket wrench for I. F. and R. F. adjustments	1.00
			4284	Spring—Fuse connector spring—Package of 10 . . . . .	.30
			4540	Switch—Operating switch (S1, S2, S3, S4)	2.28
			4285	Washer—Fuse connector insulating washer—Package of 10 . . . . .	.22

† Full Discount Not Allowed