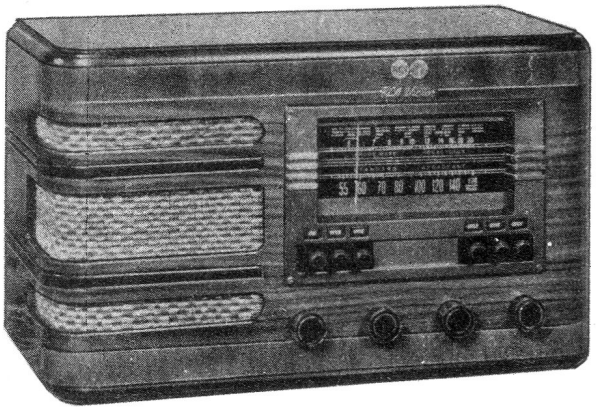
RCA Victor

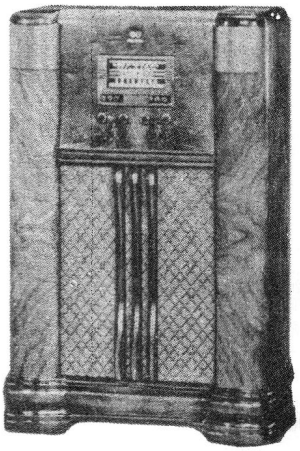
MODELS A1 and A2

Five- and Six-Tube, Two-Band, Push-Button Tuning, A-C, Superheterodyne Receivers

TECHNICAL INFORMATION AND SERVICE DATA

SERVICE DIVISION • RCA VICTOR COMPANY LIMITED • MONTREAL





Electrical Specifications

Frequency Ranges

"Standard Broadcast"	540-1,720 kc
"Short Wave"	5-8 to 21 mc
Intermediate Frequency	455 kc

R-F Alignment Frequencies

"Short Wave"	20 mc (osc., ant.)
"Standard Broadcast"	1,500 kc (osc.)
Six Push-Button Tuning Positions	550-1,720 kc

Tube Complement

(1) Type-6SA7 — First-Detector—Oscillator	(4) Type-6F6G — Audio Power Amplifier
(2) Type-6SK7 — Intermediate-Frequency Amplifier	(5) Type-5Y4G — Full-Wave Rectifier
(3) Type-6SQ7 — Second-Detector A.F. and A.V.C.	(6) Type-6U5 (Model A2 only) — Tuning Tube

Pilot Lamp ..... Mazda 47, 6.3 volts, .15 amp.

Power Supply Rating

Rating A	105-125 volts, 50-60 cycles, 80 watts
Rating B	105-125 volts, 25-60 cycles, 80 watts

Power Output

Undistorted	2.5 watts
Maximum	4.5 watts

Loudspeaker

Type	Electrodynamic
Voice-coil impedance	2.25 ohms at 400 cycles

Mechanical Specifications

Models	A1	A2
Height (inches)	9	38
Width (inches)	15	24
Depth (inches)	7	12
Chassis Base Dimensions	12 in. wide, 5 ¾ in. deep, 2 ¼ in. high	
Over-all Chassis Height	6 ⅝ inches	
Tuning Drive Ratio	10 to 1	

General Description

The Model "A2" is a six-tube receiver with a "Magic Eye" tuning indicator, and twelve-inch electro dynamic loudspeaker, housed in a console cabinet of beautifully matched veneers. The Model "A1" is a five-tube receiver, similar to the Model "A2" but without the "Magic Eye" tube, and incorporates a five inch electrodynamic speaker housed in a table type cabinet of conventional design. Both models incorporate a two band receiver with mechanical push button tuning for six stations in the standard broadcast range.

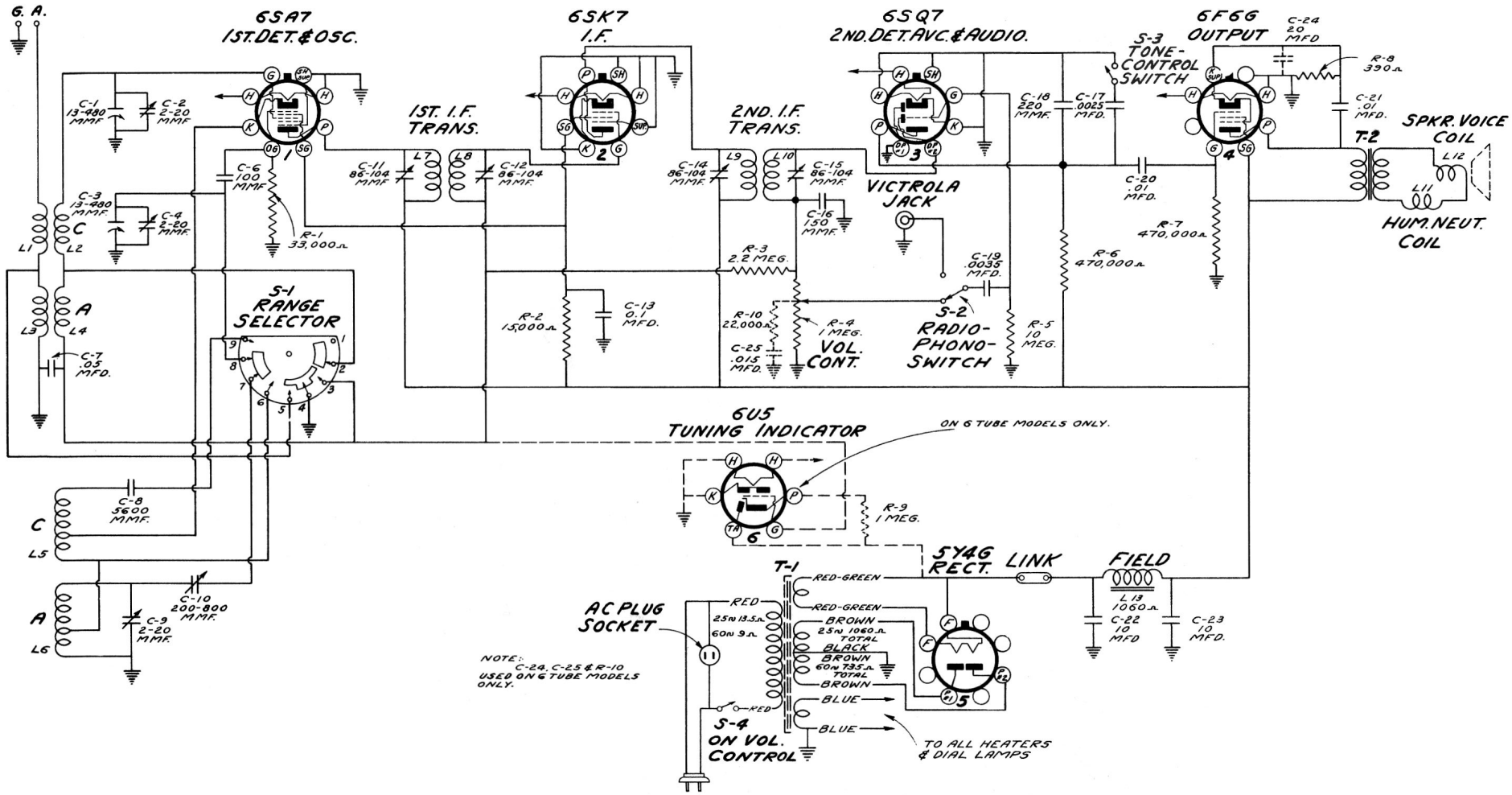
Features of design include:— Mechanical push button tuning for six stations, two point tone control, Victrola and television input jack, positive Victrola, television radio switch, A.C. power socket mounted on the chassis back apron, air core I.F. transformers of new design, new edge-lighted, straight line dial and a dust proof, electrodynamic loudspeaker.

Adjustments for Electric Tuning

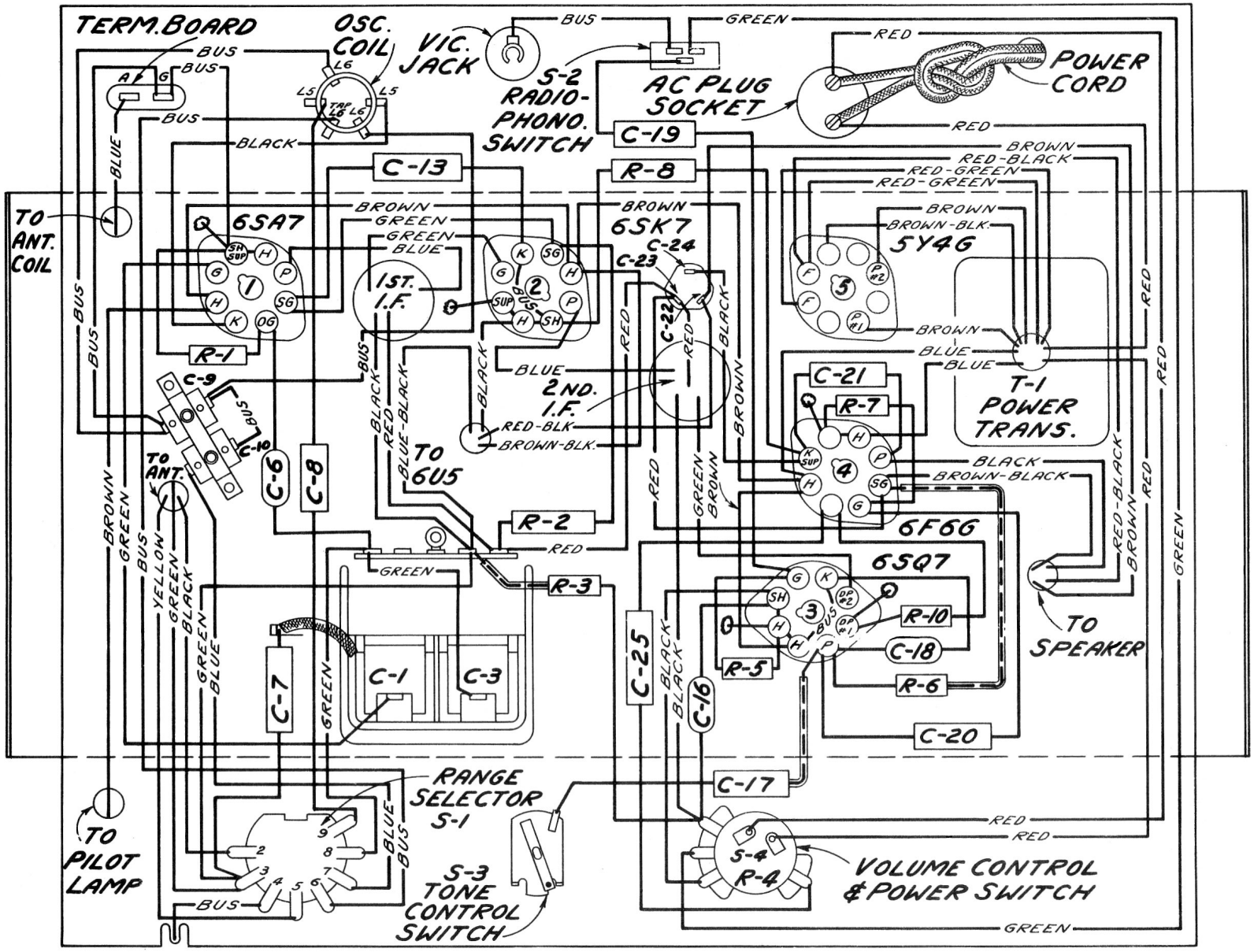
These models have six push buttons for mechanical tuning of six different stations in the standard broadcast range. Allow at least a five minute warm-up period before making any adjustments.

To adjust the push-buttons proceeds as follows:—

1. Make a list of the desired stations, arranged in order from the low to the high frequencies.
2. Manually tune in the desired station accurately.
3. Loosen push button by turning counterclockwise.
4. Press the push button in as far as it will go and accurately retune station
5. With the push button still held in, tighten it by tuning in a clockwise direction.



Schematic Circuit Diagram

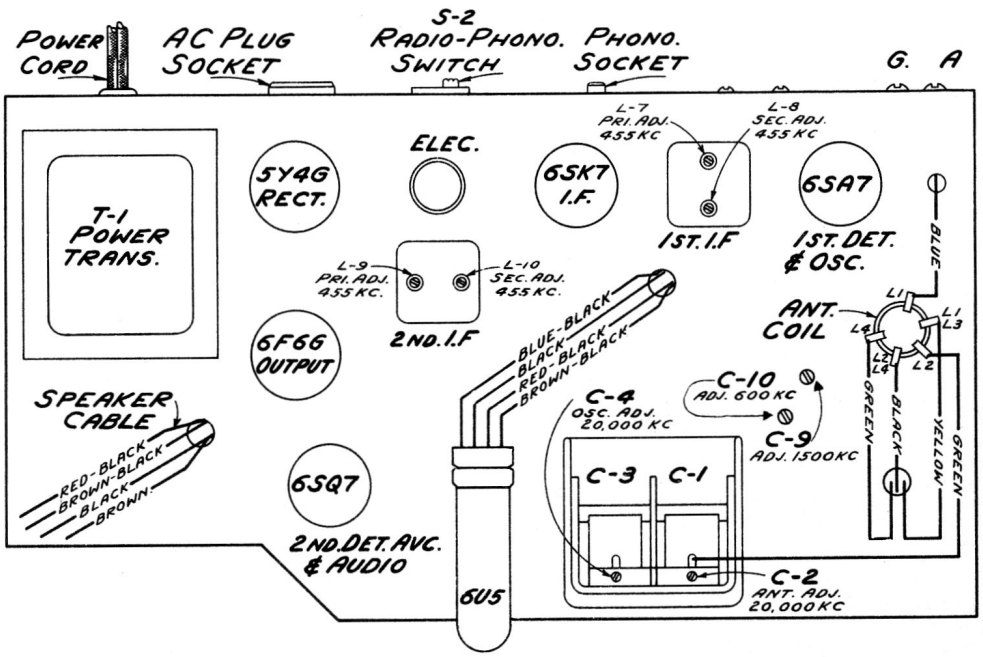


Chassis Wiring Diagram

Precautionary Lead Dress.—

1. Twist red leads of A.C. switch together away from green lead to volume control.
2. Dress all leads away from antenna coil.
3. Pilot lamp lead must be dressed against side apron away from dial drive drum.

Tube and Trimmer Locations



Tube and Trimmer Locations

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the RCA Victor Service Manual.

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.

The Alignment Procedure is carried out in the usual manner. By no means attempt to align these receivers without the assistance of an accurate test oscillator and visual output indicator.

Dial Indicator Adjustment — Adjust dial pointer after chassis is securely fastened in cabinet. The pointer should be adjusted to the low frequency calibration mark with the gang completely meshed.

Steps	Connect the high side of test-osc. to—	Tune test-osc. to—	Turn radio dial to—	Adjust the following for max. peak output
1	6SK7 I-F grid in series with .01 mfd.	455 kc	"A" band, Quiet Point between 550-750 kc	C14 and C15 (2nd I-F Trans.)
2	6SA7 det. grid in series with .01 mfd.	455 kc		C11 and C12 (1st I-F Trans.)
3	Antenna Terminal, in series with 400 ohms	20 mc	20 mc "C" band	C4* (osc.) C2** (ant.)
4	Antenna Terminal in series with 200 mmc.	600 k.c.	600 k.c. "A" band	C10 (osc.)
5	Antenna Terminal, in series with 200 mmf.	1,500 kc	1,500 kc "A" band	C9 (osc.)

*Use **minimum** capacity peak if two peaks can be obtained.

Rock gang slightly and use **maximum capacity peak if two peaks can be obtained with C2. Check to determine that C4 has been adjusted to the correct peak by tuning to approximately (19.09 mc), where a weaker signal should be received.

Note: Oscillator tracks 455 kc above signal on all bands.

Radiotron Socket Voltages

TYPE	PLATE	Screen Grid	Cathode	Heater
6SA7	278V	96V	0	6.6V
6SK7	278V	96V	0	6.6V
6SQ7	66V*		0	6.6V
6F6-G	258V	277V	17.8V	6.6V
5Y4-G		OUTPUT VOLTAGE		358V

*Cannot be measured with an ordinary voltmeter.

Victrola & Television Attachments.—A jack is provided on the back apron of the chassis for connection to a Victrola or Television attachment. This jack feeds into the audio input circuit of the receiver. The audio output of a Victrola or Television Attachment is handled by the audio circuit in the same manner as the regular broadcast programs. A switch is provided on the back apron of the chassis to cut the jack in and out of the circuit.

Loudspeaker.—The loudspeaker is designed for convenient, economical service. The field and hum neutralizing coils are removable once the field retaining screw has been removed. Replacement parts, for the speakers, are shown in the Replacement Parts List.

REPLACEMENT PARTS FOR MODELS A1 and A2

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

STOCK NO.	DESCRIPTION
	RECEIVER ASSEMBLIES
S-1809	Board-Antenna-ground terminal board
S-2465	Cable-Tuning indicator cable assembly (6 tube model only).....
S-2466	Capacitor-Dual trimmer 2-20 mmfd. and 300-800 mmfd. (C9,C10).....
12720	Capacitor-100 mmfd. (C6).....
12725	Capacitor-150 mmfd. (C16).....
12694	Capacitor-220 mmfd. (C18).....
13895	Capacitor-5,600 mmfd.(C8).....
3932	Capacitor-.0025 mfd. (C17).....
30303	Capacitor-.0035 mfd. (C19).....
4937	Capacitor-.01 mfd. (C20,C21).....
11315	Capacitor-.015 mfd. (C25)(used on 6 Tube only).....
32787	Capacitor-.05 mfd. (C7).....
4839	Capacitor-0.1 mfd. (C13).....
32342	Capacitor-Electrolytic capacitor consisting of two 10 mfd., sections (C22,C23) (used on 5 Tube model only).....
32240	Capacitor-Electrolytic capacitor consisting of two 10 mfd., sections and one 20 mfd. section (C22,C23,C24)(used on 6 tube model only).....
33732	Coil-Antenna coil (L1,L2,L3,L4)....
33733	Coil-Oscillator coil (L5,L6).....
33635	Condenser-2 gang variable condenser complete with drum (C1,C2,C3,C4).
S-2456	Cord-Indicator pointer drive cord 36" long.....
11891	Lamp-Dial lamp.....
5040	Plug-4 contact female plug for speaker cable (6 tube only).....
S-2467	Pulley-Drive cord pulley.....
31388	Resistor-390 ohm, 1 watt (R8).....
33489	Resistor-15,000 ohm, 2.5 watt (R2).
13998	Resistor-22,000 ohm, 1/4 watt (R10) (6 tube only).....
12454	Resistor-33,000 ohm, 1/4 watt (R1).
12285	Resistor-470,000 ohm,1/4 watt (R6, R7).....
12679	Resistor-2.2 meg., 1/4 watt (R3)...
13601	Resistor-10 meg., 1/4 watt (R5)....
33726	Retainer-Drive shaft retainer (Pkg. 5).....
33725	Shaft-Station selector knob shaft..
31418	Spring-Drive cord tension spring (Pkg.2).....
31364	Socket-Dial lamp socket.....
14278	Socket-Phono input socket.....
S-2447	Socket-AC power socket.....
33632	Switch-Range Switch (S1).....
33634	Switch-Radio-Phono Switch (S2).....
33630	Switch-Tone control switch (S3)....
33722	Transformer-1st I.F. transformer (L7,L8,C11,C12).....
33723	Transformer-2nd I.F. transformer (L9,L10,C14,C15).....
S-2457	Transformer-Power transformer-105-125 Volt 50-60 cycle (T1)..
33619	Transformer-Power transformer 105-125 volt 25-60 cycle (T1)..
33631	Volume control & power switch (S4,R4) (5 tube only).....
33776	Volume control & power switch (S4,R4) (6 tube only).....
	REPRODUCER ASSEMBLIES (RL78-6) 5 Tube Model
S-2468	Coil-Hum Neutralizing Coil (l1)..
S-2463	Coil-Field Coil (L13).....
S-2375	Cone-Reproducer cone & voice coil (L12).....
S-2469	Reproducer complete.....
S-2464	Transformer-Output transformer(T2)
	REPRODUCER ASSEMBLIES (103534-501) 6-Tube Model
13866	Cap-Dust cap for cone center (Pkg. 5).....
11469	Coil-Hum neutralizing coil (L11).
S-2458	Coil-Field Coil (L13).....
31275	Cone-Reproducer cone & voice coil (L12).....
31302	Plug-4 contact male speaker plug.
S-2459	Reproducer-complete.....
14355	Transformer-Output transformer (T2).....
14357	Washer-Spring washer to hold field coil (Pkg.5).....
	MISCELLANEOUS ASSEMBLIES
S-2460	Button-Station selector push button and 103510-1 screw assembly.....
33636	Dial-Station selector dial scale.
33637	Escutcheon-Station selector escutcheon.....
33633	Indicator-Station selector indicator pointer.....
30863	Knob-Volume, tone, tuning or range switch knob.....
S-2461	Marker-Station call letter marker (1 set).....
S-2470	Spring-Knob retaining spring(Pkf.5)