

R.C.A. Victor Co., Inc.

Model: R-28-P

Chassis:

Year: Pre March 1934

Power:

Circuit:

IF:

Tubes:

Bands:

Resources

Riders Volume 4 - RCA 4-29

Riders Volume 4 - RCA 4-30

RCA-VICTOR CO., INC.

MODEL R-28-P
Schematic
Chassis wiring

IF Peak 175 KC

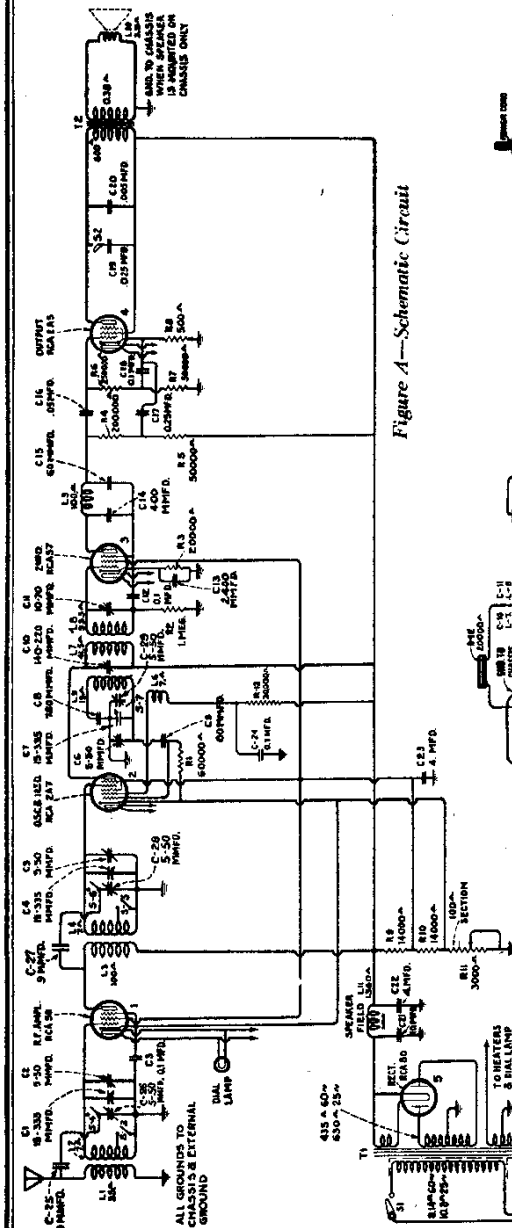


Figure A—Schematic Circuit

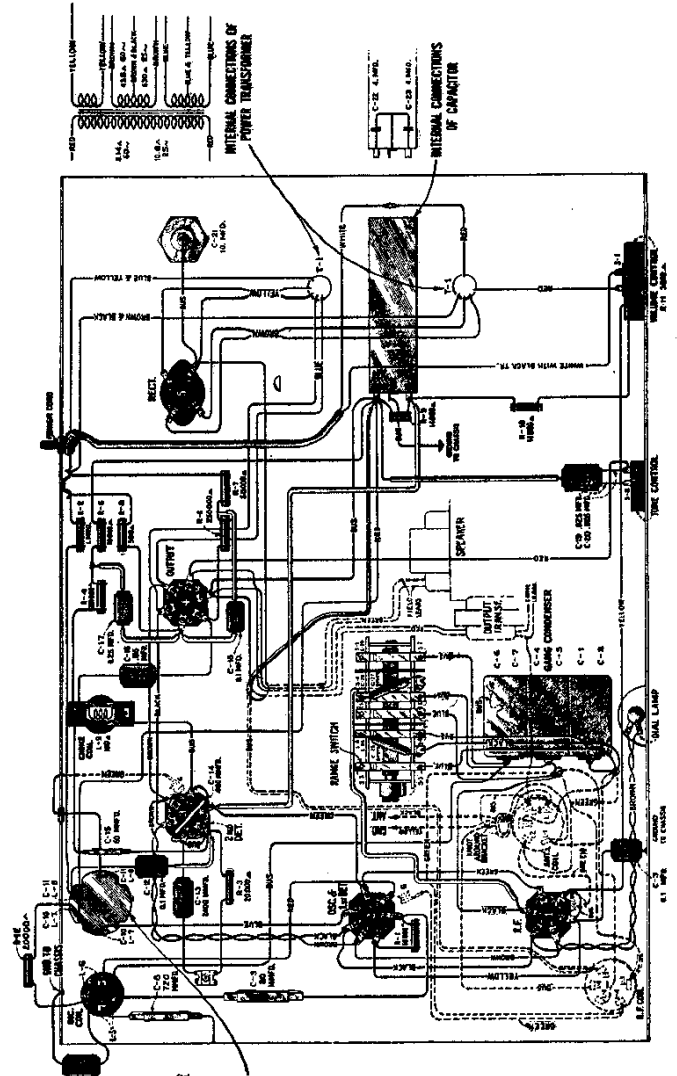


Figure B—Wiring Diagram

Voltage Rating 115 Volts
 Frequency Rating 25-40 Cycles and 50-60 Cycles
 Power Consumption 70 Watts
 Number and Types of Radiotrons 1 UX-280,
 1 RCA-2A5, 1 RCA-58, 1 RCA-57, 1 RCA-2A7—Total 5
 Undistorted Output 1.75 Watts
 Frequency Range 540 K. C. to 1500 K. C.
 and 1400 K. C. to 2800 K. C.

MODEL R-28-P
Voltage, Parts List
Alignment

RCA-VICTOR CO., INC.

This receiver is a five-tube Super-Heterodyne incorporating a Dynamic Loudspeaker as a part of the chassis; two-point tone control; single heater type Pentode Output tube and the inherent sensitivity, selectivity and tone quality of the Super-Heterodyne.

A special feature is the Range Switch that allows reception of signals either of the broadcast band or higher frequencies. Figure A shows the schematic and Figure B the wiring diagram. With the switch in the broadcast band position, the frequency range is from 540 to 1500 K. C. At the higher frequency position, the receiver covers the 1400 to 2800 K. C. band.

The circuit consists of an R. F. stage, a combined oscillator and first detector in the RCA-2A7 tube, an intermediate stage consisting of a transformer using two tuned circuits, a second detector, an output tube and a rectifier.

Line-up Capacitor Adjustment

The line-up capacitor adjustments for the I. F. stage and the gang capacitors are made in the following manner:

- (a) Procure a modulated oscillator giving a signal at 175

K. C., 1400 K. C., and 2440 K. C. An output meter and non-metallic screw driver are also necessary.

- (b) The I. F. line-up capacitors should be first adjusted. This is done by placing the oscillator in operation at 175 K. C., coupling its output between the control grid and ground of the first detector, connecting the output meter across the cone coil of the loudspeaker and adjusting the two I. F. line-up capacitors until maximum output is obtained.
- (c) After the I. F. circuits are aligned, the broadcast band R. F. is adjusted at 1400 K. C. This is done with the Range Switch at the broadcast position. A similar manner is used as that of the I. F., except that the oscillator is set at 1400 K. C., its output is connected from antenna to ground of the receiver, and the dial is set at 140. The adjustment is made with the trimming capacitors located on top of the gang capacitor and each capacitor is adjusted for maximum output.
- (d) The high frequency band is adjusted at 2440 K. C. This is done in a similar manner to the R. F. adjustments except that the oscillator is set at 2440 K. C., the dial at 120 and the Range Switch in the high frequency position. The line-up capacitors on the selector switch are adjusted for maximum output at this frequency.

RADIOTRON SOCKET VOLTAGES
115 Volt A. C. Line
MAXIMUM VOLUME CONTROL SETTING—NO SIGNAL

Radiotron No.	Cathode to Control Grid, Volts	Cathode to Screen Grid, Volts	Cathode to Plate, Volts	Plate Current, M. A.	Heater, Volts
1. RCA-58 R. F. Amplifier	3.0	95	250	5.0	2.33
2. RCA-2A7 First Detector Oscillator	3.0	95	250	3.0	2.33
3. RCA-57 Second Detector	6.0	89	170	0.3	2.33
4. RCA-2A5 Power Amplifier	18.0	235	220	32.0	2.33
5. RCA-80 Rectifier					4.82

275 Volts PLATE TO PLATE—60 M. A. TOTAL

TOTAL CATHODE CURRENT—11 M. A.

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					
2269	Capacitor—720 mmfd.	\$0.75	3615	Knob—Tone control or range switch knob—Package of 5	\$0.60
2747	Contact cap—Package of 5	.50	3623	Shield—Antenna or R. F. Coil shield	.30
2749	Capacitor—2,400 mmfd.	.35	3705	Scale—Dial scale assembly	.50
3024	Capacitor—9 mmfd.—Package of 2	.50	6228	Resistor—200,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5	1.00
3050	Resistor—14,000 ohms—Carbon type—3 watts	.25	6303	Resistor—20,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5	1.00
3076	Resistor—1 megohm—Carbon type— $\frac{1}{2}$ watt—Package of 5	1.00	6306	Resistor—14,000 ohms—Carbon type—1 watt—Package of 5	1.10
3456	Capacitor—0.05 mfd.	.44	6464	Transformer—I. F. transformer	1.88
3459	Capacitor—80 mmfd.	.44	6465	Volume control—Complete with mounting nut	1.22
3472	Capacitor—0.0024 mfd.	.32	6466	Switch—Tone control switch	.45
3514	Resistor—250,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5	1.00	6471	Coil—Oscillator coil assembly	.74
3555	Capacitor—0.1 mfd.—Oscillator filter	.36	6527	Coil—Antenna coil	1.08
3572	Socket—Radiotron 7 contact socket	.38	6528	Coil—R. F. coil assembly	.94
3573	Socket—Radiotron 4 contact socket	.32	6529	Switch—Range switch—Short shaft	1.25
3574	Coil—Choke coil	.68	6530	Switch—Range switch—Long shaft	1.25
3575	Socket—Dial lamp socket and bracket	.34	7485	Socket—Radiotron 6 contact socket	.40
3584	Ring—R. F. or oscillator coil retaining ring—Package of 5	.40	7487	Shield—Radiotron tube shield	.25
3590	Escutcheon—Station selector escutcheon—Package of 5	1.40	7589	Condenser—Three gang variable tuning condenser	2.85
3591	Escutcheon—Name plate escutcheon—Package of 5	1.40	7590	Capacitor—Filter capacitor—Two 4.0 mfd. in container	1.64
3592	Knob—Station selector or volume control knob—Package of 5	.80	7590	Capacitor—10.0 mfd.	1.40
3593	Screw—Chassis mounting screw—Package of 10	.30	8985	Transformer—Power transformer—105-125 volts—50-60 cycles	4.26
3594	Resistor—50,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5	1.00	8986	Transformer—Power transformer—200-250 volts—60 cycles	4.38
3596	Capacitor—60 mmfd.	.36	9002	Transformer—Power transformer—105-125 volts—25-50 cycles	6.00
3597	Capacitor—0.25 mfd.	.40	REPRODUCER ASSEMBLIES		
3598	Capacitor—0.1 mfd.	.36	6467	Transformer—Output transformer	1.44
3602	Resistor—60,000 ohms—Carbon type— $\frac{1}{2}$ watt—Package of 5	1.00	8987	Cone—Reproducer cone—Package of 5	5.00
3603	Resistor—500 ohms—Carbon type—1 watt—Package of 5	1.10	8988	Coil assembly—Comprising field coil, magnet and cone support	2.35
3604	Capacitor—400 mmfd.	.30			
3606	Capacitor—Comprising one 0.005 mfd. and one 0.025 mfd. capacitors	.40			