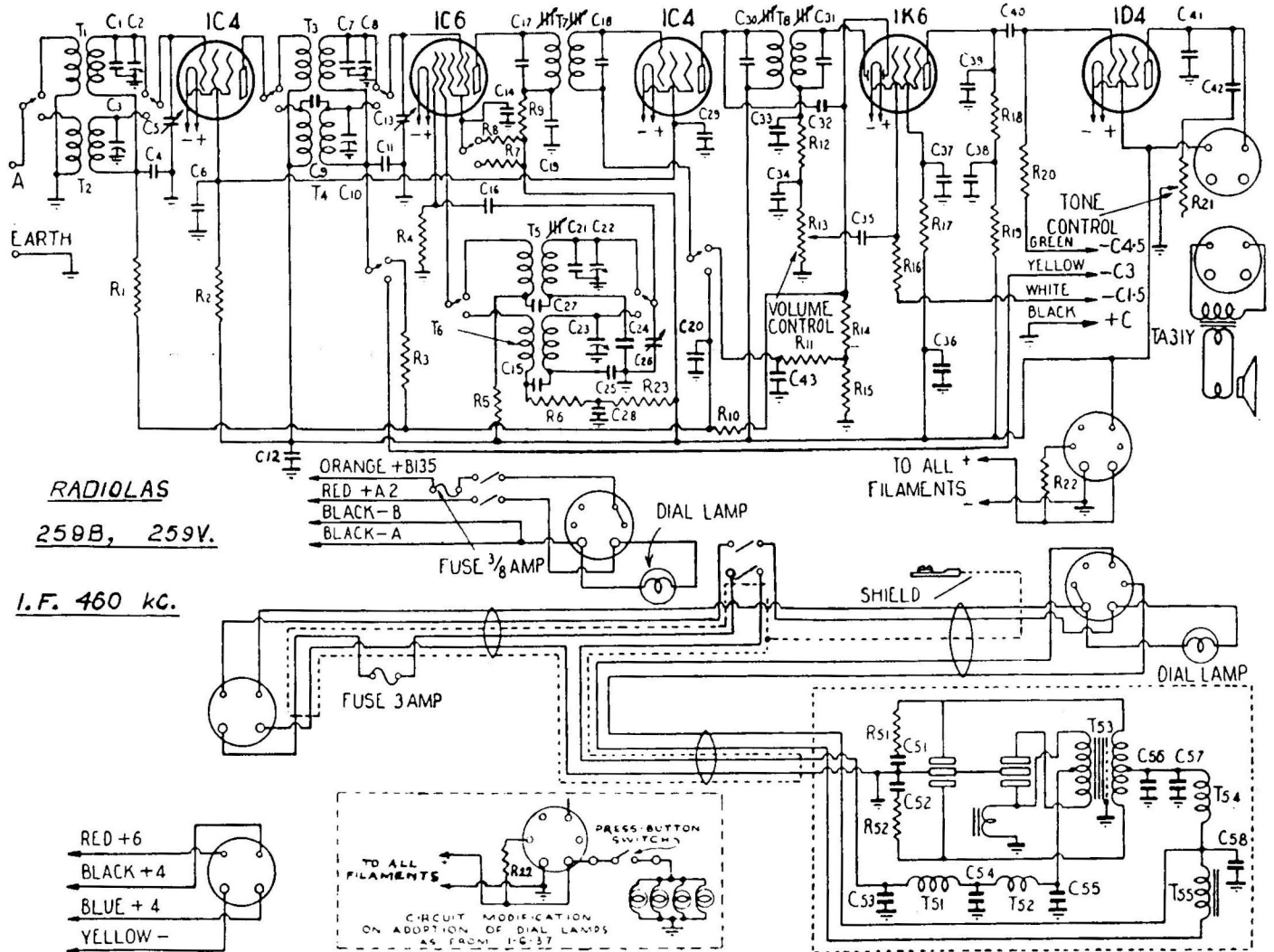


"Radiola" Battery Dual-Wave Console Models 259B and 259V



RADIOLAS

259B, 259V.

I.F. 460 KC.

COMPONENT VALUES.

The numbers in parenthesis following component indices are manufacturer's part numbers.

RESISTORS.

R1, R3, R12—100,000 ohms, $\frac{1}{2}$ W.; R2—75,000 ohms, $\frac{1}{2}$ W.; R4, R8—60,000 ohms, $\frac{1}{2}$ W.; R5, R19—50,000 ohms, $\frac{1}{2}$ W.; R6, R3—50,000 ohms, $\frac{1}{2}$ W.; R7—40,000 ohms, $\frac{1}{2}$ W.; R9—300 ohms, $\frac{1}{2}$ W.; R10, R11, R16—1.75 megohms, $\frac{1}{2}$ W.; R13 (1507)—500,000 ohms, volume control; R14, R17—1 megohm, $\frac{1}{2}$ W.; R15, R20—500,000 ohms, $\frac{1}{2}$ W.; R18—200,000 ohms, $\frac{1}{2}$ W.; R21 (2762)—100,000 ohms, variable, tone control; R22 (3270)—5.4 ohms, w.w.; R51, R52—50 ohms, $\frac{1}{2}$ W.

CONDENSERS.

C1, C7—6 mmfd. (F), mica, coil trimmer shunts; C2, C3, C8, C10, C22, C23—2/20 mmfd., mica, coil trimmers; C4, C11, C15, C19, C20, C27, C35, C40, C43—0.05 mfd., paper; C5, C13, C26 (3450)—sections of 3-gang variable; C6, C14, C29, C37, C53—0.1 mfd., paper; C9—10 mmfd. (B), mica; C12, C38, C58—0.5 mfd., paper; C16—50 mmfd. (D), mica; C17, C18, C30, C31—115 mmfd. (A), mica, fixed I.F.T. trimmers; C21—15 mmfd. (C), mica, B/C. osc. coil trimmer shunt; C24—440 mmfd., mica, B/C. padder; C25—2,800 mmfd., mica, S/W. padder; C28, C36, C56—8 mfd., 500 v., electro; C32—700 mmfd., mica; C33, C34—100 mmfd. (G), mica; C39—200 mmfd. (J), mica; C41—2,300 mmfd., mica; C42—0.035 mfd., paper; C51,

C52, C57—0.02 mfd., paper; C54, C55—0.25 mfd., paper.

COILS, ETC.

T1, T2 (3402)—B/C. and S/W. aer. coils respectively; T3, T4 (3404)—B/C. and S/W. R.F. coils respectively; T5, T6—B/C. and S/W. osc. coils respectively; T7 (3243)—460 KC., 1st I.F. transformer; T8 (3244)—460 KC., 2nd I.F. transformer; T51 (3149)—low-tension R.F. choke; T52 (3294)—low-tension R.F. choke; T53 (3290)—vibrator transformer, 4 v.; T54 (3303)—high-tension R.F. choke; T55 (3292)—high-tension smoothing choke.

OPERATING VOLTAGES.

The following measurements were made with a "1,000 ohms per volt" meter, except where otherwise mentioned, and voltages are those appearing between the socket contacts indicated and chassis. The receiver was operating under "no signal" conditions with all controls turned to their maximum clockwise position, except the wave-change switch which was set as desired. Those readings shown in parenthesis were made with the wave-change switch in the "S/W." position, the alternative readings being taken with the receiver on "B/C."; all other readings are unaffected by the position of the wave-change switch. The grid bias voltages of the 1K6 and 1D4 were measured at their source and not at the socket contacts of the valves, and the screen voltages to all valves except the 1D4 cannot be measured with the ordinary "1,000 ohms per volt" meter, but are included for the sake of completeness.

(Continued in col. 2, page 309)

RADIOLA "259B"

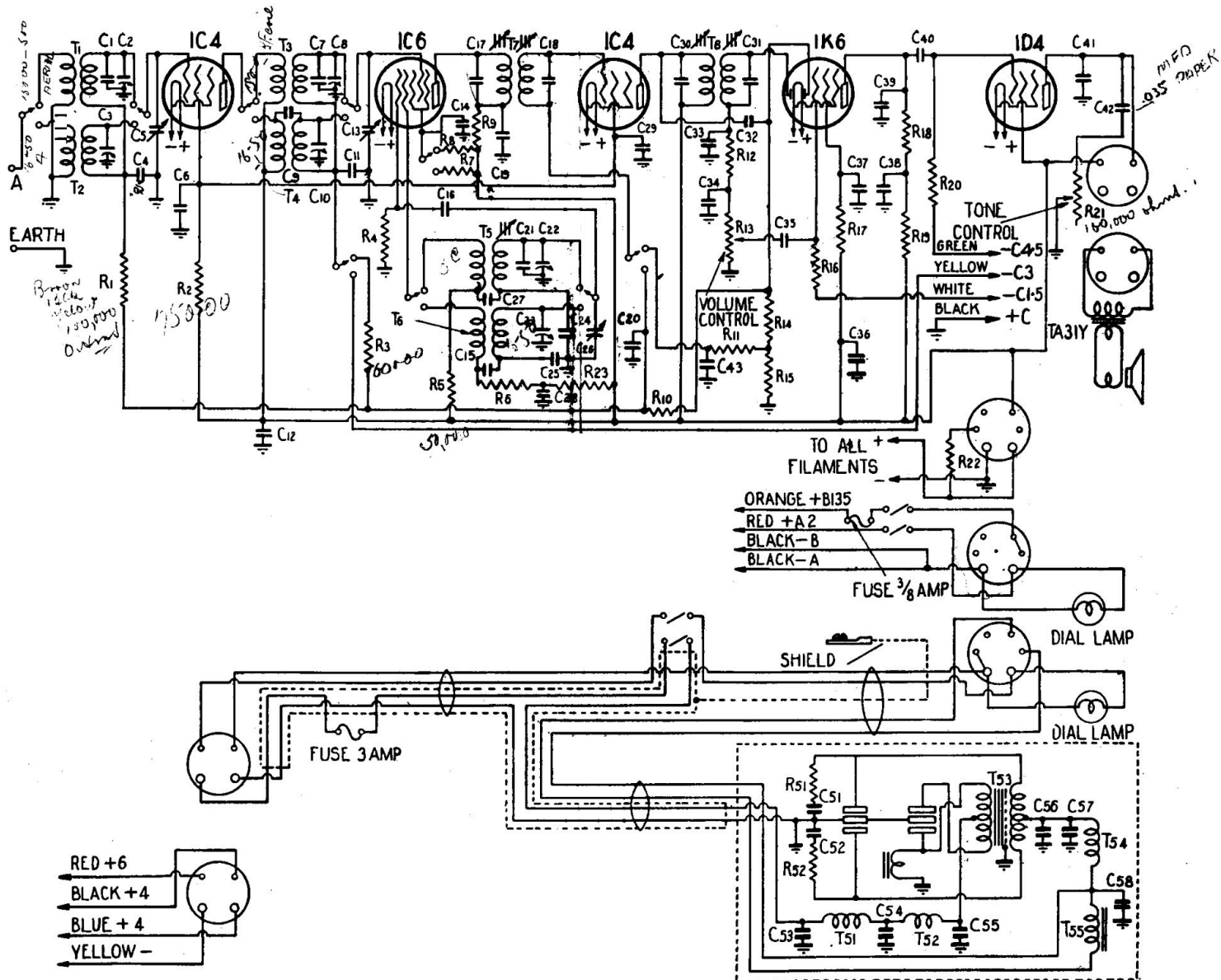
1937 BATTERY-OPERATED
CONSOLE

RADIOLA "259V"

1937 VIBRATOR-POWERED
CONSOLE

Both use 8-inch, permag. loudspeaker.

These models employ the same basic chassis and are readily interchangeable by use of appropriate power supply cable. Note use of tapped 6-volt battery for "vibrator" operation and retention of tapped bias battery.



Code	Part No.	COILS — RECEIVER UNIT	Code	Part No.	RESISTORS — RECEIVER UNIT	Code	No.	CONDENSERS — RECEIVER UNIT
T1	3402	Aerial Coil, 1500-550 K.C.	R18	200,000 ohms, $\frac{1}{8}$ watt	C21	3450	15 mmfd. Mica (C)	
T2	3402	Aerial Coil, 16-50 Metres	R19	50,000 ohms, $\frac{1}{8}$ watt	C22		2-20 mmfd. Air Trimmer	
T3	3404	R. F. Coil, 1500-550 K.C.	R20	500,000 ohms, $\frac{1}{8}$ watt	C23		2-20 mmfd. Air Trimmer	
T4	3404	R. F. Coil, 16-50 Metres	R21	100,000 ohms, Tone Control	C24		440 mmfd. Mica Padding	
T5	3407	Osc. Coil, 1500-550 K.C.	R22	5.4 ohms, wire wound	C25		2800 mmfd. Padding	
T6	3407	Osc. Coil, 16-50 Metres	R23	5,000 ohms, $\frac{1}{8}$ watt	C26		Variable Condenser	
T7	3243	First I.F. Transformer,			C27		.05 mfd. Paper	
T8	3244	Second I.F. Transformer			C28		8 mfd. 500 Volt Electrolytic	
COILS — POWER UNIT			RESISTORS — POWER UNIT			CONDENSERS — RECEIVER UNIT		
T51	3149	R.F. Choke	R51	50 ohms, $\frac{1}{8}$ watt	C29		.1 mfd. Paper	
T52	3294	R.F. Choke	R52	50 ohms, $\frac{1}{8}$ watt	C30		115 mmfd. Mica (A)	
T53	3290	Vibrator Transformer, 4V			C31		115 mmfd. Mica (A)	
T54	3303	R.F. Choke			C32		700 mmfd. Mica	
T55	3292	Smoothing Choke			C33		100 mmfd. Mica (G)	
RESISTORS — RECEIVER UNIT			CONDENSERS — RECEIVER UNIT			CONDENSERS — POWER UNIT		
R1	3404	100,000 ohms, $\frac{1}{8}$ watt	C1	6 mmfd. Mica (F)	C34		100 mmfd. Mica (G)	
R2	3404	75,000 ohms, $\frac{1}{8}$ watt	C2	2-20 mmfd. Air Trimmer	C35		.05 mfd. Paper	
R3	3404	100,000 ohms, $\frac{1}{8}$ watt	C3	2-20 mmfd. Air Trimmer	C36		8 mfd. 500V Electrolytic	
R4	3404	60,000 ohms, $\frac{1}{8}$ watt	C4	.05 mfd. Paper	C37		.1 mfd. Paper	
R5	3404	50,000 ohms, $\frac{1}{8}$ watt	C5	Variable Condenser	C38		.5 mfd. Paper	
R6	3404	5,000 ohms, $\frac{1}{8}$ watt	C6	.1 mfd. Paper	C39		200 mmfd. Mica (J)	
R7	3404	40,000 ohms, $\frac{1}{8}$ watt	C7	6 mmfd. Mica (F)	C40		.05 mfd. Paper	
R8	3404	60,000 ohms, $\frac{1}{8}$ watt	C8	2-20 mmfd. Air Trimmer	C41		2300 mmfd. Mica	
R9	3404	300 ohms, $\frac{1}{8}$ watt	C9	10 mmfd. Mica (B)	C42		.035 mfd. Paper	
R10	3404	1 $\frac{1}{2}$ Megohms, $\frac{1}{8}$ watt	C10	2-20 mmfd. Air Trimmer	C43		.05 mfd. Paper	
R11	3404	1 $\frac{1}{2}$ Megohms, $\frac{1}{8}$ watt	C11	.5 mfd. Paper				
R12	3404	100,000 ohms, $\frac{1}{8}$ watt	C12	.05 mfd. Paper	C51		.02 mfd. Paper	
R13	1507	500,000 ohms, Vol. Control	C13	Variable Condenser	C52		.02 mfd. Paper	
R14	3404	1 Megohm, $\frac{1}{8}$ watt	C14	.1 mfd. Paper	C53		.1 mfd. Paper	
R15	3404	500,000 ohms, $\frac{1}{8}$ watt	C15	.5 mfd. Paper	C54		.25 mfd. Paper	
R16	3404	1 $\frac{1}{2}$ Megohms, $\frac{1}{8}$ watt	C16	50 mmfd. Mica (D)	C55		.25 mfd. Paper	
R17	3404	1 Megohm, $\frac{1}{8}$ watt	C17	115 mmfd. Mica (A)	C56		8 mfd. 500 V Electrolytic	
			C18	115 mmfd. Mica (A)	C57		.02 mfd. Paper	
			C19	.05 mfd. Paper	C58		.5 mfd. Paper	
			C20	.05 mfd. Paper				

RADIOLAS 259B AND 259V CIRCUIT DATA

Radiola Models 259B and 259V

Battery Complement (259B)

Accumulator "A" battery	2 volts (.78 amps.)
"B" battery	135 volts
"C" battery	4½ volts bias

Battery Complement (259V)

Accumulator "A" battery	6 volts (1.2 amps.)
"C" battery	4½ volts bias
Tuning Ranges	(A) 1500-550 kilocycles (B) 16-50 metres
Intermediate Frequency	460 kilocycles

VALVES AND CIRCUITS.

1C4	R.F. Amplifier
6C6	Detector-Oscillator
1C4	I.F. Amplifier
1K6	Detector, A.V.C. and Audio Amplifier
1D4	Output Pentode

SOCKET VOLTAGES.

VALVE	Chassis to Control Grid Volts	Chassis to Screen Grid Volts	Chassis to Plate Volts	Plate Current M.A.	Filament Volts
1C4 R.F. Amplifier ...	0	*50	135	2.0	2.0
1C6 Detector M.W.	0	*45	135	2.0	2.0
S.W.	-3	*60	135	2.0	-
Oscillator M.W.	-	-	50	1.5	-
S.W.	-	-	90	3.0	-
1C4 I.F. Amplifier	0	*50	135	2.0	2.0
1K6 Detector	*-1.5	*35	*50	0.25	2.0
1D4 Output Pentode	*-4.5	135	130	6.0	2.0

Measured with no signal input.

* Cannot be measured with ordinary voltmeter.

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RADIOLA MODELS

"259B" & "259V"

1C4, R.F. Amplifier: Plate, 135 v.; screen, 50 v.; grid, zero. Plate current, 2 mA.

1C6, Frequency Converter: Plate, 135 v.; screen, 45 v. (60 v.); grid, zero (-3 v.); osc. anode grid, 50 v. (90 v.). Plate current, 2 mA.

1C4, 460 kC., I.F. Amplifier: Plate, 135 v.; screen, 50 v.; grid, zero. Plate current, 2 mA.

1K6, Detector, A.V.C. Rectifier, and A.F. Voltage Amplifier: Plate, 50 v.; screen, 35 v.; grid, -1.5 v. Plate current, 0.3 mA.

1D4, Output Pentode: Plate, 130 v.; screen, 135 v.; grid, -4.5 v. Plate current, 6 mA.

"A" battery drain, 0.78 amperes at 2 volts (model 259B), 1.2 amperes at 6 v. (model 259 v.); "B" battery drain, 15 mA. at 135 volts (model 259 B).

ALTERATIONS.

Dial lamps were adopted as from 1/6/'37. Four dial lamps are fitted and these are all illuminated by a push-button switch located on the front of the cabinet. When the pressure is released the dial lamps are turned off, thus conserving battery current. The additions are shown on the diagram.