

Power Pentode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC)	6.3	volts
Current	0.76	amp
Direct Interelectrode Capacitances (Approx.): ^a		
Grid No.1 to plate.	0.5	$\mu\mu\text{f}$
Grid No.1 to cathode & grid No.3, grid No.2, and heater	10.8	$\mu\mu\text{f}$
Plate to cathode & grid No.3, grid No.2, and heater	6.5	$\mu\mu\text{f}$
Grid No.1 to heater	0.25	$\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier:

Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 Voltage	-7.3	volts
Mu-Factor, Grid No.2 to Grid No.1	19.5	
Plate Resistance (Approx.)	40000	ohms
Transconductance.	11300	μmhos
Plate Current	48	ma
Grid-No.2 Current	5.5	ma

Mechanical:

Operating Position.	Any
Maximum Overall Length.	3-1/16"
Maximum Seated Length	2-13/16"
Length, Base Seat to Bulb Top (Excluding tip)	2-7/16" \pm 3/32"
Diameter.	0.750" to 0.875"
Dimensional Outline	See <i>General Section</i>
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW.	9CV

Pin 1 - Internal Con-
nection—
Do Not Use
Pin 2 - Grid No.1
Pin 3 - Cathode,
Grid No.3



Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Same as Pin 1
Pin 7 - Plate
Pin 8 - Same as Pin 1
Pin 9 - Grid No.2

PUSH-PULL AF POWER AMPLIFIER — Class AB₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	400 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	300 max.	volts
CATHODE CURRENT	65 max.	ma
PLATE DISSIPATION	12 max.	watts
ZERO-SIGNAL GRID-No.2 INPUT	2 max.	watts



MAX.-SIGNAL GRID-No.2 INPUT.	4 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. .	100 max.	volts
Heater positive with respect to cathode. .	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Voltage.	400	volts
Grid-No.2 Voltage.	300	volts
Grid-No.1 Voltage.	-15	volts
Peak AF Grid-No.1 Voltage.	14.8	volts
Zero-Signal Plate Current.	15	ma
Max.-Signal Plate Current.	105	ma
Zero-Signal Grid-No.2 Current.	1.6	ma
Max.-Signal Grid-No.2 Current.	25	ma
Effective Load Resistance (Plate to plate)	8000	ohms
Total Harmonic Distortion.	4	%
Max.-Signal Power Output	24	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.3 max.	megohm

PUSH-PULL AF POWER AMPLIFIER — Class AB₁

Grid No.2 of each tube connected to tap on plate winding of output transformer

Maximum Ratings, Design-Center Values:

→ PLATE AND GRID-No.2 (SCREEN-GRID)		
SUPPLY VOLTAGE	375 max.	volts
CATHODE CURRENT.	65 max.	ma
PLATE DISSIPATION.	12 max.	watts
ZERO-SIGNAL GRID-No.2 INPUT.	2 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT.	4 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. .	100 max.	volts
Heater positive with respect to cathode. .	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Supply Voltage	375	volts
Grid-No.2 Supply Voltage	300	volts
Cathode Resistor	220	ohms
Peak AF Grid-No.1 Voltage.	17.7	volts
→ Zero-Signal Cathode Current.	70	ma
→ Max.-Signal Cathode Current.	81	ma
Effective Load Resistance (Plate to plate)	11000	ohms
Total Harmonic Distortion.	3	%
Max.-Signal Power Output	16.5	watts

→ Indicates a change.



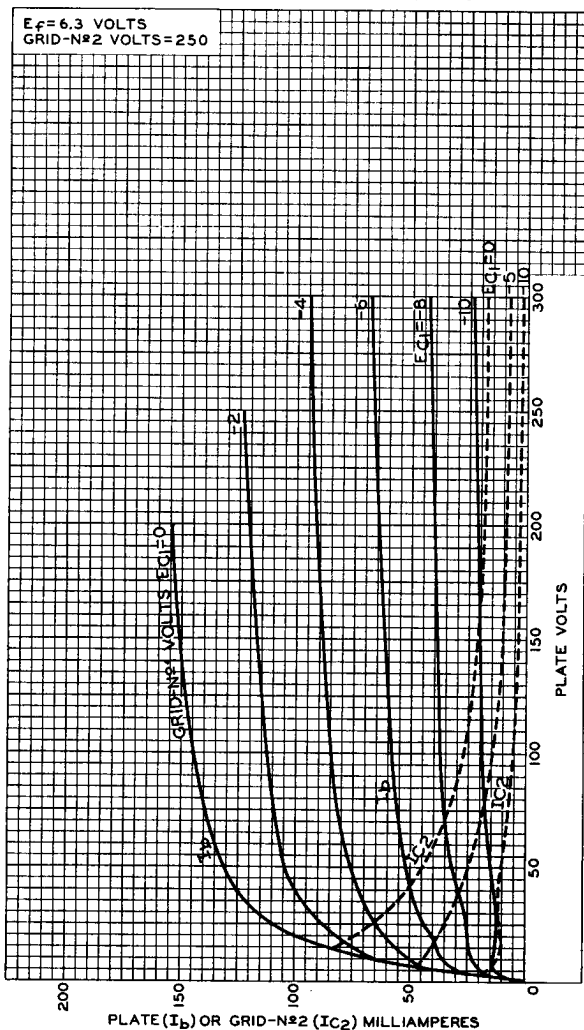
Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For cathode-bias operation. 1 max. megohm

^a without external shield.^b Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center-tap (B+) so as to supply 43 per cent of the plate signal voltage to grid No.2 of each output tube.

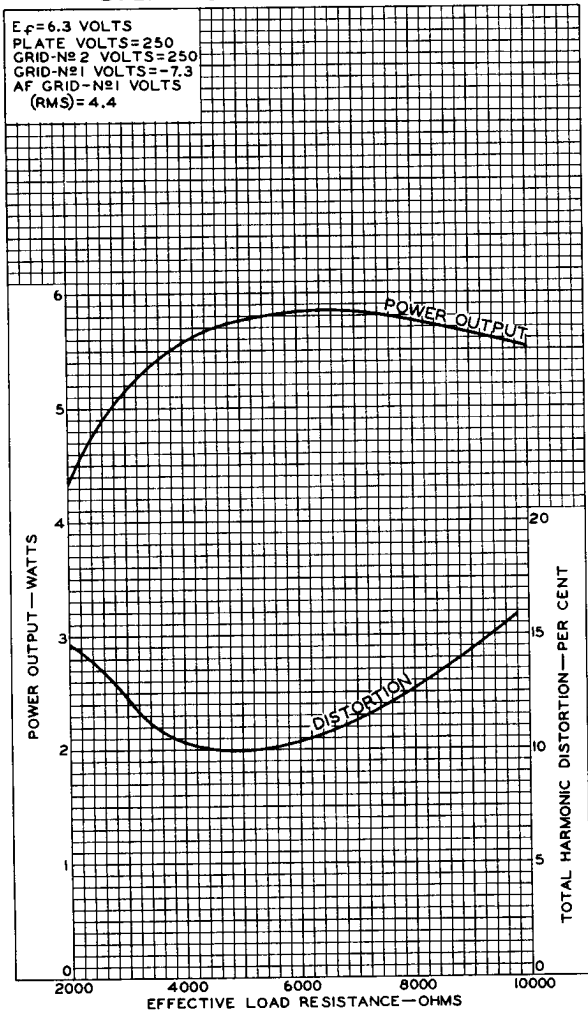
AVERAGE CHARACTERISTICS



92CM-9903



OPERATION CHARACTERISTICS



92CM-9902



RADIO CORPORATION OF AMERICA
 Electron Tube Division

Harrison, N. J.

DATA 3
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POWER PENTODE

9-PIN MINIATURE TYPE

GENERAL DATA**Electrical:**

Heater, for Unipotential Cathode:

Voltage (AC or DC)	6.3	volts
Current	0.76	amp

Direct Interelectrode Capacitances (Approx.):^o

Grid No.1 to plate.	0.5	μ f
Grid No.1 to cathode & grid No.3, grid No.2, and heater	10.8	μ f
Plate to cathode & grid No.3, grid No.2, and heater	6.5	μ f
Grid No.1 to heater	0.25	μ f

Characteristics, Class A₁ Amplifier:

Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 Voltage	-7.3	volts
Mu-Factor, Grid No.2 to Grid No.1	19.5	
Plate Resistance (Approx.)	40000	ohms
Transconductance.	11300	μ hos
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Dimensional Outline	See General Section
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW.	9CV

Pin 1 - Internal Connection—
Do Not Use
Pin 2 - Grid No.1
Pin 3 - Cathode,
Grid No.3



Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Same as Pin 1
Pin 7 - Plate
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PUSH-PULL AF POWER AMPLIFIER — Class AB₁**Maximum Ratings, Design-Center Values:**

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GRID-No.2 VOLTAGE.	300 max.	volts
CATHODE CURRENT.	65 max.	ma
PLATE DISSIPATION.	12 max.	watts
ZERO-SIGNAL GRID-No.2 INPUT.	2 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT.	4 max.	watts



POWER PENTODE

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Heater positive with respect to cathode.	100 max.	volts

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Values are for 2 tubes

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Max.-Signal Plate Current.	105	ma
Zero-Signal Grid-No.2 Current.	1.6	ma
Max.-Signal Grid-No.2 Current.	25	ma
Effect Load Resistance (Plate to plate)	8000	ohms
Total Harmonic Distortion.	4	%
Max.-Signal Power Output	24	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.3 max.	megohm
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PUSH-PULL AF POWER AMPLIFIER — Class AB₁

*Grid No.2 of each tube connected to tap
on plate winding of output transformer*

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE	375 max.	volts
CATHODE CURRENT	65 max.	ma
PLATE DISSIPATION	12 max.	watts
ZERO-SIGNAL GRID-No.2 INPUT	2 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT	4 max.	watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	100 max.	volts

Typical Operation:

Values are for 2 tubes

Plate Supply Voltage.	375	volts
Grid-No.2 Supply Voltage.	♦	
Cathode Resistor.	220	ohms
Peak AF Grid-No.1 Voltage	17.7	volts
Zero-Signal Plate Current	70	ma
Max.-Signal Plate Current	81	ma
Effective Load Resistance (Plate to plate).	11000	ohms
Total Harmonic Distortion	3	%
Max.-Signal Power Output.	16.5	watts



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POWER PENTODE

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For cathode-bias operation. 1 max. megohm

○ Without external shield.

◆ Obtained from taps on the primary winding of the output transformer. The taps are located on each side of the center-tap (B^+) so as to supply 43 per cent of the plate signal voltage to grid No.2 of each output tube.