

# 6AW8A

## High-Mu Triode— Sharp-Cutoff Pentode

### 9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

#### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC) . . . . .	6.3 ± 0.6	volts
Current at 6.3 volts . . . . .	0.6 <sup>a</sup>	amp
Warm-up time (Average) . . . . .	11	sec

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield<sup>b</sup></i>	
<i>Triode Unit:</i>			
Grid to plate . . . . .	2.2	2.2	μf
Grid to cathode, pentode cathode & grid No.3 & internal shield, and heater. . . . .	3.2	3.4	μf
Plate to cathode, pentode cathode & grid No.3 & internal shield, and heater. . . . .	1.8	3	μf
<i>Pentode Unit:</i>			
Grid No.1 to plate. . . . .	0.05 max.	0.04 max.	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater. . . . .	10	10	μf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . .	3.6	4.5	μf
Pentode grid No.1 to triode plate. . . . .	0.008 max.	0.005 max.	μf
Pentode plate to triode plate. . . . .	0.150 max.	0.025 max.	μf

#### Characteristics, Class A<sub>1</sub> Amplifier:

	<i>Triode Unit</i>	<i>Pentode Unit</i>		
Plate Supply Voltage. . . . .	200	65	150	volts
Grid-No.2 Supply Voltage. .	-	150	150	volts
Grid-No.1 Voltage . . . . .	-2	0	-	volts
Cathode Resistor. . . . .	-	-	150	ohms
Amplification Factor. . . . .	70	-	-	
Plate Resistance (Approx.) . . . . .	0.0175	-	0.2	megohm

← Indicates a change.



RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 1  
1-62

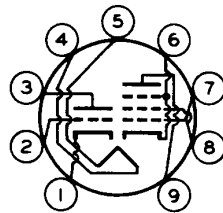
# 6AW8A

	Triode Unit	Pentode Unit	
Transconductance . . . . .	4000	-	9500 $\mu$ hos
Plate Current . . . . .	4	46 <sup>c</sup>	15 ma
Grid-No.2 Current . . . . .	-	15 <sup>c</sup>	3.5 ma
Grid-No.1 Voltage (Approx.) for plate $\mu$ a = 20 . . . . .	-5	-	-8 volts

**Mechanical:**

Operating Position . . . . .	Any
Maximum Overall Length . . . . .	2-5/8"
Maximum Seated Length . . . . .	2-3/8"
Length, Base Seat to Bulb-Top (Excluding tip) . . . . .	2" $\pm$ 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 . . . . .	9DX

- Pin 1 - Triode Cathode
- Pin 2 - Triode Grid
- Pin 3 - Triode Plate
- Pin 4 - Heater
- Pin 5 - Heater



- Pin 6 - Pentode Cathode, Grid No.3, Internal Shield
- Pin 7 - Pentode Grid No.1
- Pin 8 - Pentode Grid No.2
- Pin 9 - Pentode Plate

**AMPLIFIER — Class A<sub>1</sub>**

→ **Maximum Ratings, Design-Maximum Values:**

	Triode Unit	Pentode Unit	
PLATE VOLTAGE . . . . .	330 max.	330 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . . . .	-	330 max.	volts
GRID-No.2 VOLTAGE . . . . .	-	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value . . . . .	0 max.	0 max.	volts
PLATE DISSIPATION . . . . .	1.1 max.	3.75 max.	watts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts . . . . .	-	1.1 max.	watts
For grid-No.2 voltages between 165 and 330 volts . . . . .	-	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	

→ Indicates a change.



# 6AW8A

## PEAK HEATER-CATHODE

### VOLTAGE:

Heater negative with respect to cathode. . .	200 max.	200 max.	volts
Heater positive with respect to cathode. . .	200 <sup>d</sup> max.	200 <sup>d</sup> max.	volts

## Maximum Circuit Values:

*Triode Unit    Pentode Unit*

### Grid-No.1-Circuit

#### Resistance:

For fixed-bias operation . . . . .	0.5 max.	0.25 max.	megohm
For cathode-bias operation . . . . .	1 max.	1 max.	megohm

<sup>a</sup> In series-heater-string operation, the heater current rating is 0.600 ± 0.040 ampere at 6.3 volts.

<sup>b</sup> With external shield JEDEC No.315 connected to pins 4 and 5.

<sup>c</sup> This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.

<sup>d</sup> The dc component must not exceed 100 volts.

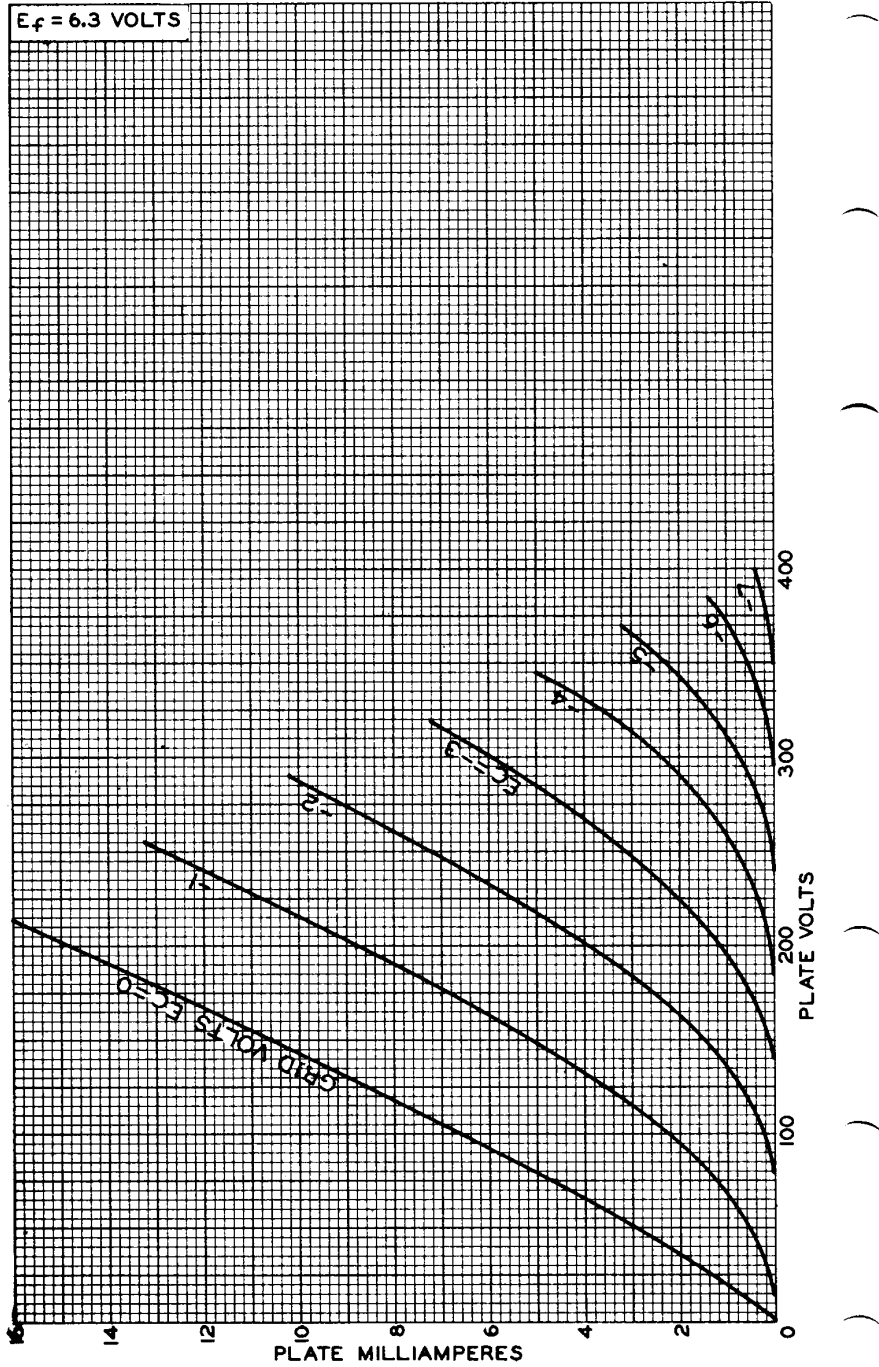
## OPERATING CONSIDERATIONS

Because the internal shield is connected to the pentode cathode and grid No.3, the impedance in the cathode circuit should be kept as low as possible to minimize cross-coupling effects.



# 6AW8A

## AVERAGE PLATE CHARACTERISTICS Triode Unit



92CM-8644

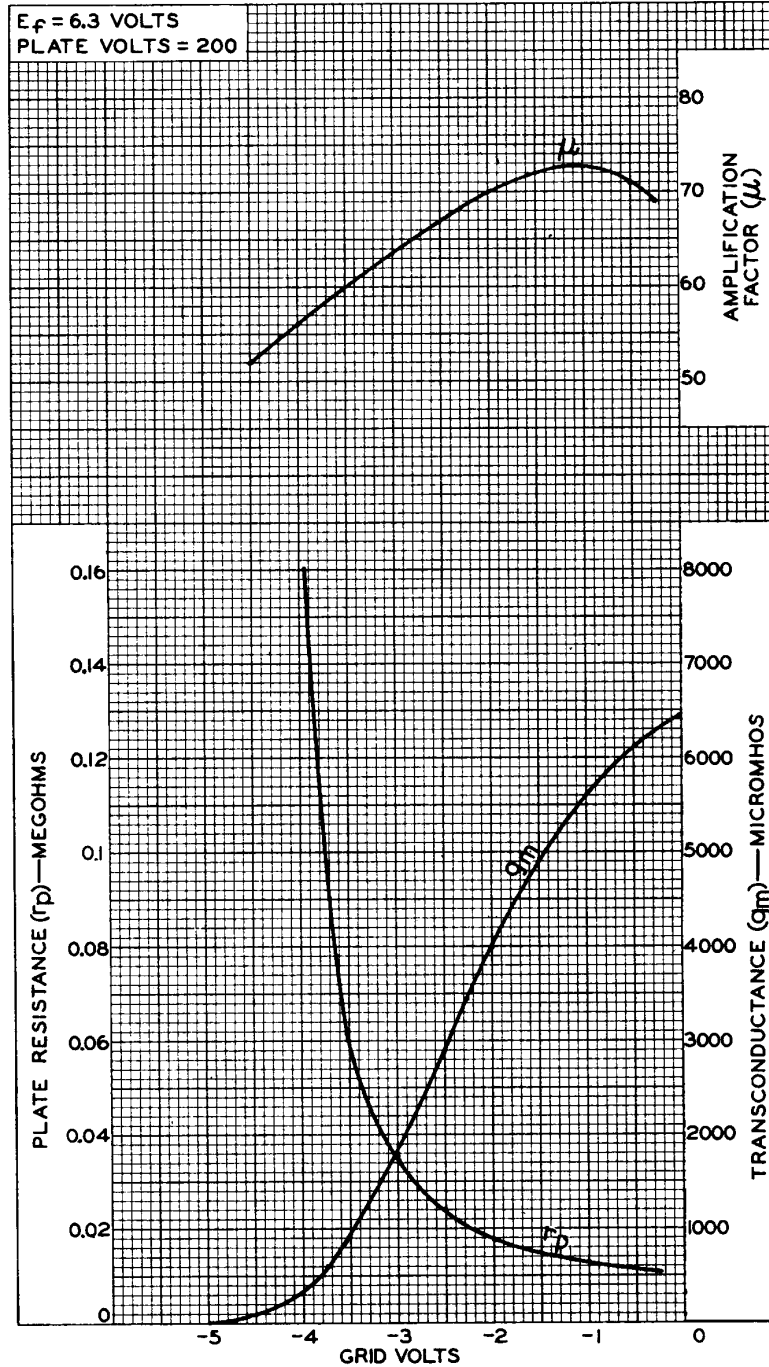
RADIO CORPORATION OF AMERICA  
Electron Tube Division

Harrison, N. J.



# 6AW8A

## AVERAGE CHARACTERISTICS Triode Unit



92CM-8647

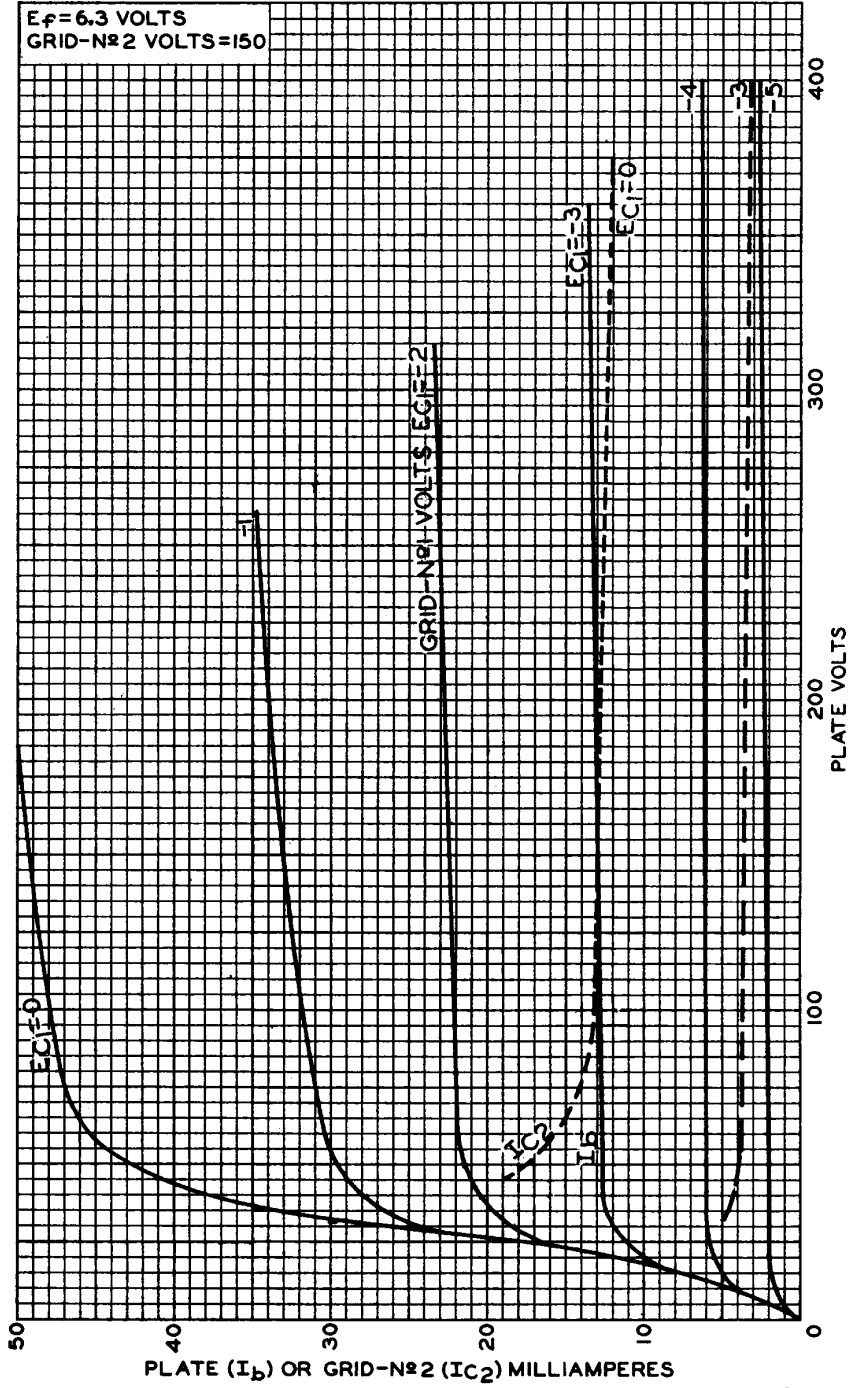


RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 3  
1-62

# 6AW8A

## AVERAGE CHARACTERISTICS Pentode Unit



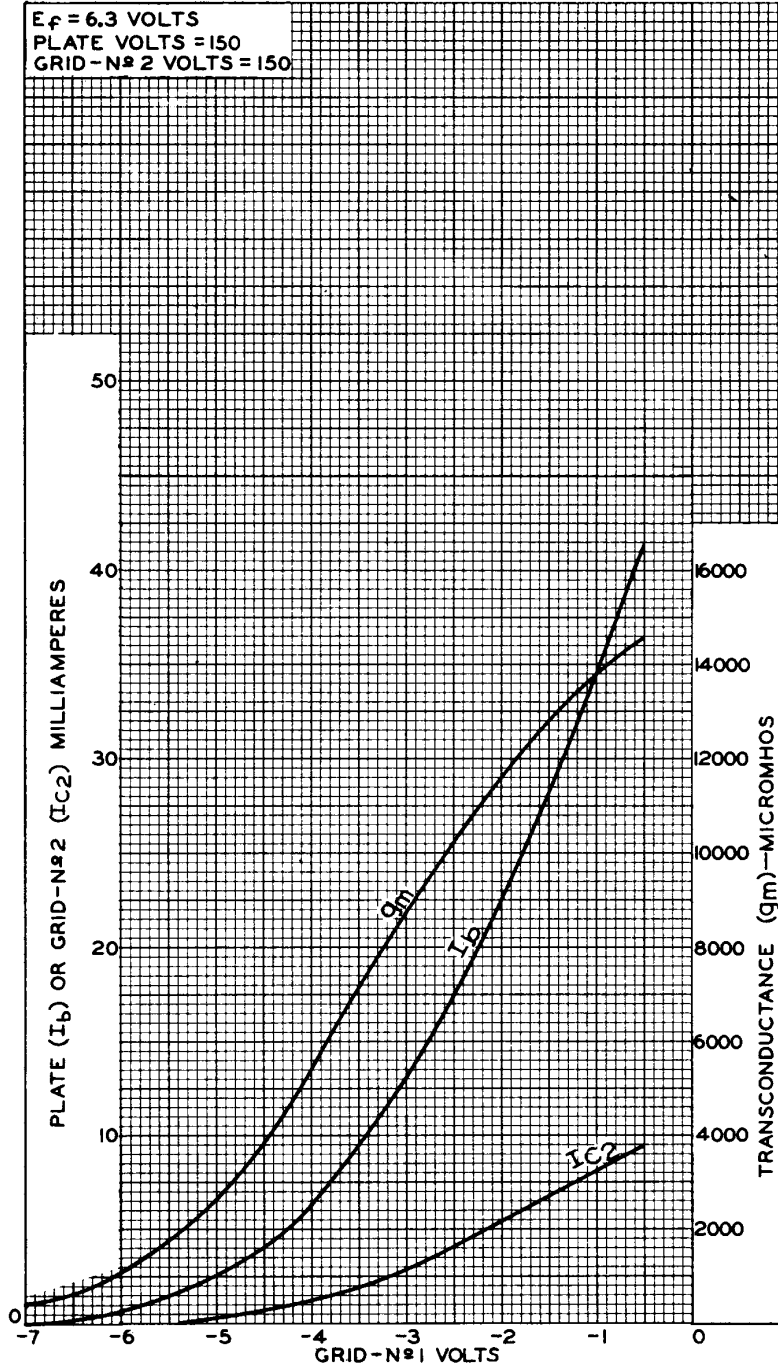
RADIO CORPORATION OF AMERICA  
Electron Tube Division

Harrison, N. J.



# 6AW8A

## AVERAGE CHARACTERISTICS Pentode Unit



92CS-8646RI



RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 4  
1-62