

# 6KA8

## High-Mu Triode—Sharp-Cutoff Pentode

### Pentode Unit Has Two Independent Control Grids

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

#### GENERAL DATA

#### Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):

Voltage (AC or DC) . . . . .	6.3 <sup>a</sup>	6.3 ± 0.6	volts
Current . . . . .	0.600 ± 0.040	0.600 <sup>b</sup>	amp
Warm-up time (Average) . . . . .	11	-	sec

Peak heater-cathode

voltage:

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

Direct Interelectrode Capacitances:<sup>d</sup>

*Triode Unit:*

Grid to plate . . . . .	2.2	μμf
Grid to cathode & internal shield, and heater . . . . .	2.8	μμf
Plate to cathode & internal shield, and heater . . . . .	2.2	μμf

*Pentode Unit:*

Grid No.1 to plate . . . . .	0.1 max.	μμf
Grid No.1 to cathode & internal shield, grid No.3, grid No.2, and heater . . . . .	9.5	μμf
Grid No.1 to grid No.3 . . . . .	0.5	μμf
Grid No.3 to plate . . . . .	2.2	μμf
Grid No.3 to cathode & internal shield, plate, grid No.2, grid No.1, and heater . . . . .	7.0.	μμf

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

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Plate Supply Voltage . . . . .	200	150	volts
Grid-No.3 Supply Voltage . . . . .	-	0	volts
Grid-No.2 Supply Voltage . . . . .	-	100	volts
Grid-No.1 Supply Voltage . . . . .	-2	0	volts
Cathode Resistor . . . . .	-	180	ohms
Amplification Factor . . . . .	70	-	
Plate Resistance (Approx.) . . . . .	17500	100000	ohms
Transconductance, Grid No.1 to Plate . . . . .	4000	4400	μmhos
Transconductance, Grid No.3 to Plate . . . . .	-	600	μmhos



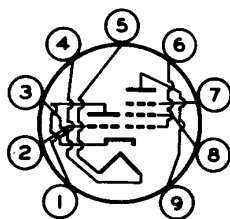
# 6KA8

Plate Current. . . . .	4	4	ma
Grid-No.2 Current. . . . .	-	2.8	ma
Grid-No.1 Supply Voltage (Approx.) for plate $\mu a =$			
10 . . . . .	-5	-	volts
20 . . . . .	-	-4	volts
Grid-No.3 Supply Voltage (Approx.) for plate $\mu a = 20$ . . . . .	-	-7	volts

**Mechanical:**

Operating Position . . . . .	Any
Type of Cathode. . . . .	Coated Unipotential
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 . . . . .	.9PV

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



- Pin 6 - Pentode Grid No.1
- Pin 7 - Pentode Grid No.3
- Pin 8 - Pentode Grid No.2
- Pin 9 - Pentode Plate

**GATED AGC AMPLIFIER & NOISE INVERTER**

*Pentode Unit*

*For operation in a 525-line, 30-frame system\**

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

PLATE VOLTAGE. . . . .	300 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE <sup>†</sup> . . . . .	600 max.	volts
GRID-No.3 (CONTROL-GRID) VOLTAGE:		
Negative-bias value. . . . .	100 max.	volts
Positive-bias value. . . . .	0 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . . . .	300 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:		
Negative-bias value. . . . .	50 max.	volts
Positive-bias value. . . . .	0 max.	volts
GRID-No.2 INPUT:		
For grid-No.2 voltages up to 150 volts. . . . .	1.1 max.	watts



# 6KA8

For grid-No.2 voltages  
between 150 volts and  
300 volts. . . . . See *Grid-No.2 Input Rating Chart*  
at front of Receiving Tube Section

PLATE DISSIPATION. . . . . 2 max. watts

**Maximum Circuit Values:**

Grid-No.3-Circuit Resistance . . . . . 0.68 max. megohm

Grid-No.1-Circuit Resistance:

For fixed-bias operation . . . . . 0.5 max. megohm

For cathode-bias operation . . . . . 1 max. megohm

## AMPLIFIER — Class A<sub>1</sub>

*Triode Unit*

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

PLATE VOLTAGE. . . . . 300 max. volts

GRID VOLTAGE:

Negative-bias value. . . . . 50 max. volts

Positive-bias value. . . . . 0 max. volts

PLATE DISSIPATION. . . . . 1.1 max. watts

**Maximum Circuit Values:**

Grid-Circuit Resistance:

For fixed-bias operation . . . . . 0.25 max. megohm

For cathode-bias operation . . . . . 1 max. megohm

<sup>a</sup> At heater amperes = 0.600.

<sup>b</sup> At heater volts = 6.3.

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

<sup>d</sup> Without external shield.

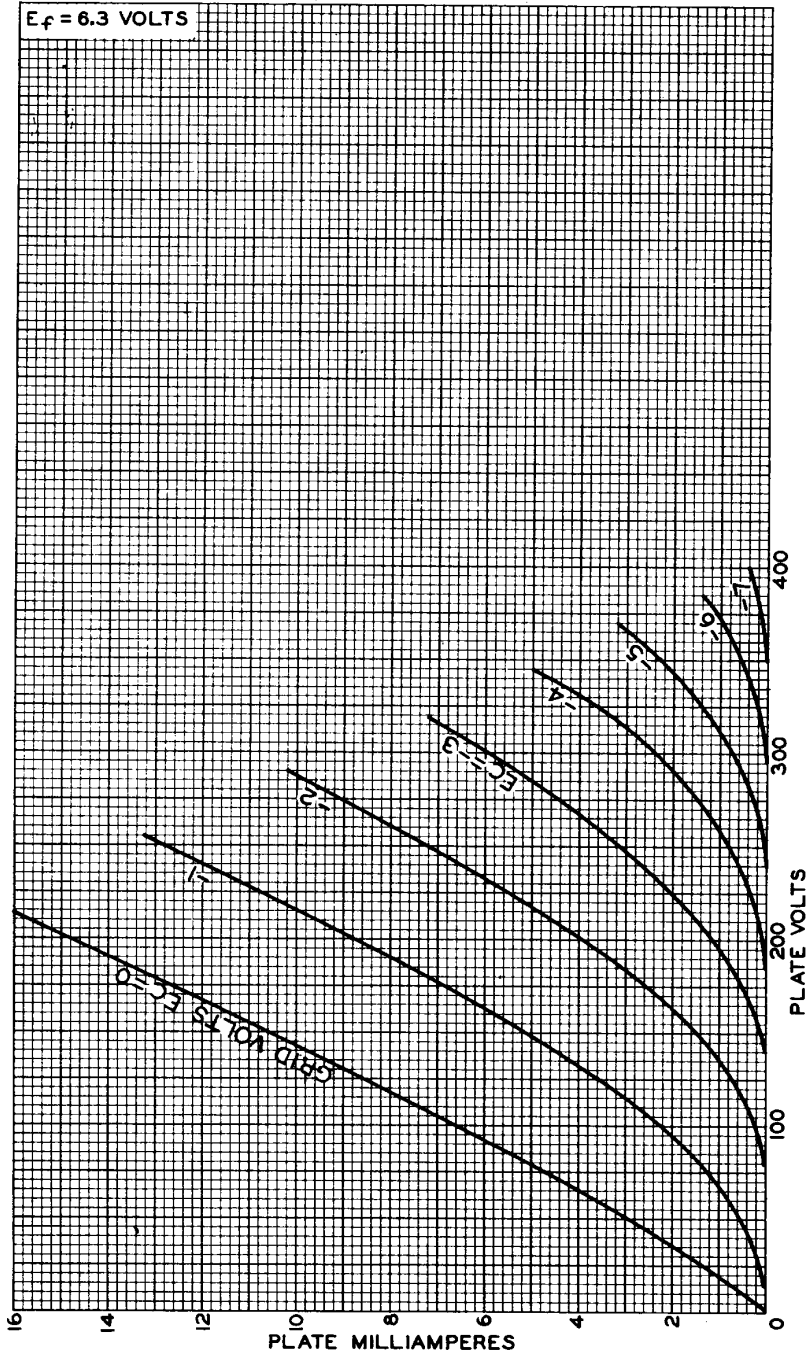
<sup>e</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

<sup>f</sup> This rating is applicable when the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.



# 6KA8

## AVERAGE PLATE CHARACTERISTICS Triode Unit



92CM-8644

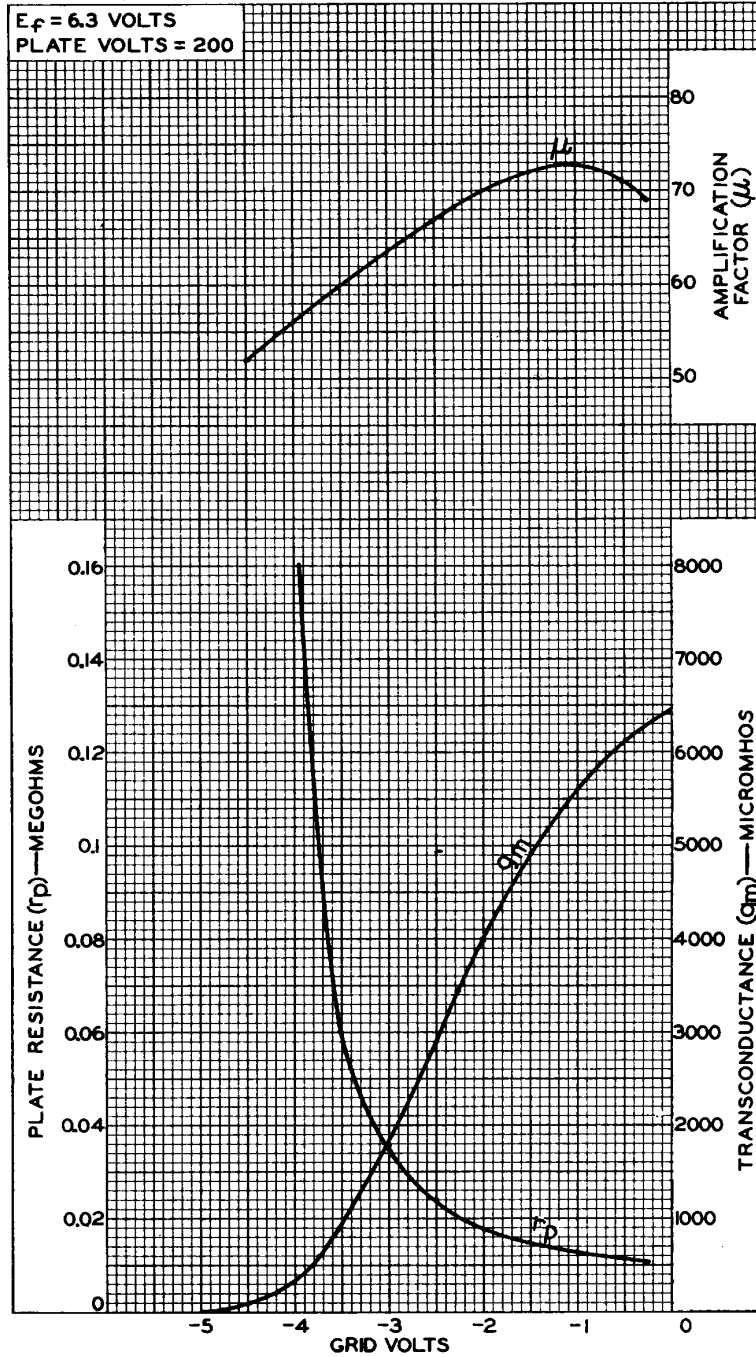
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## AVERAGE CHARACTERISTICS Triode Unit



92CM-8647

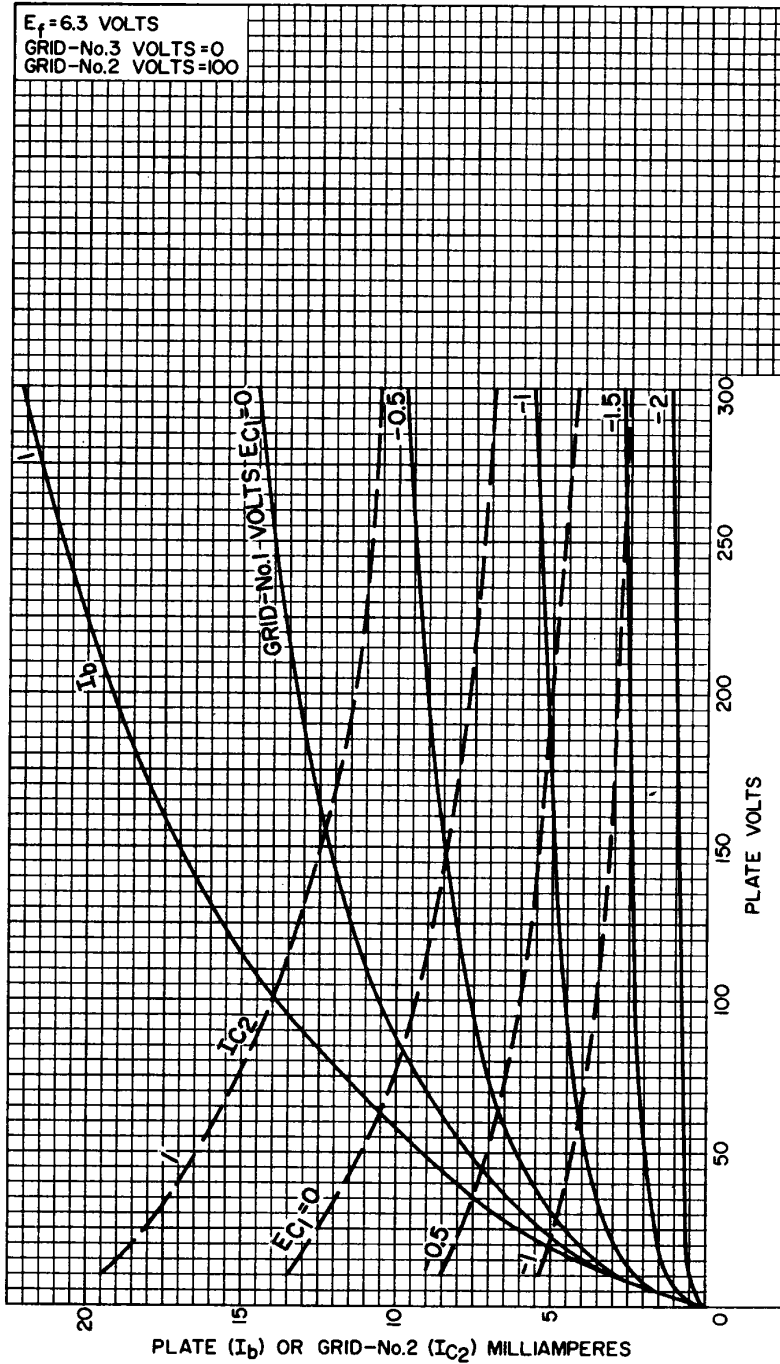


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DATA 3  
5-62

# 6KA8

## AVERAGE CHARACTERISTICS Pentode Unit



92CM-11594

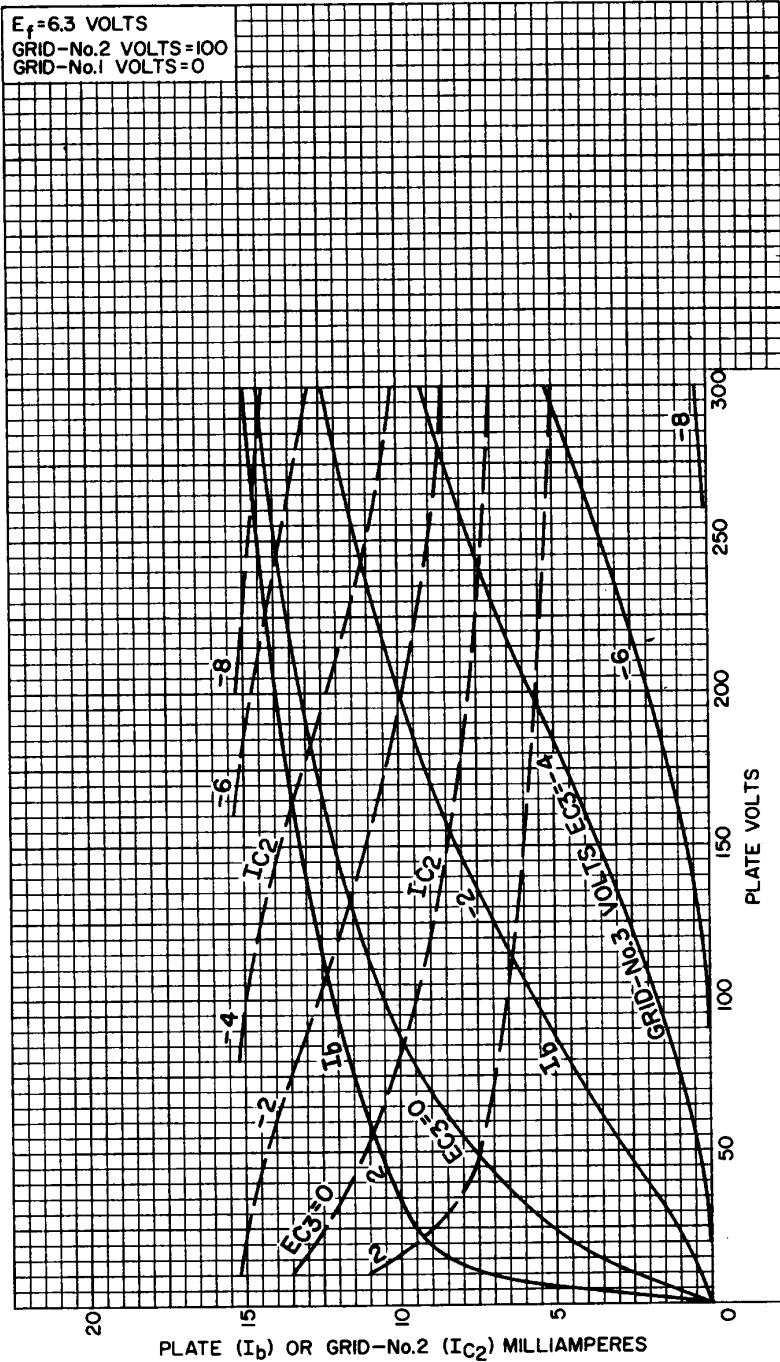
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## AVERAGE CHARACTERISTICS Pentode Unit

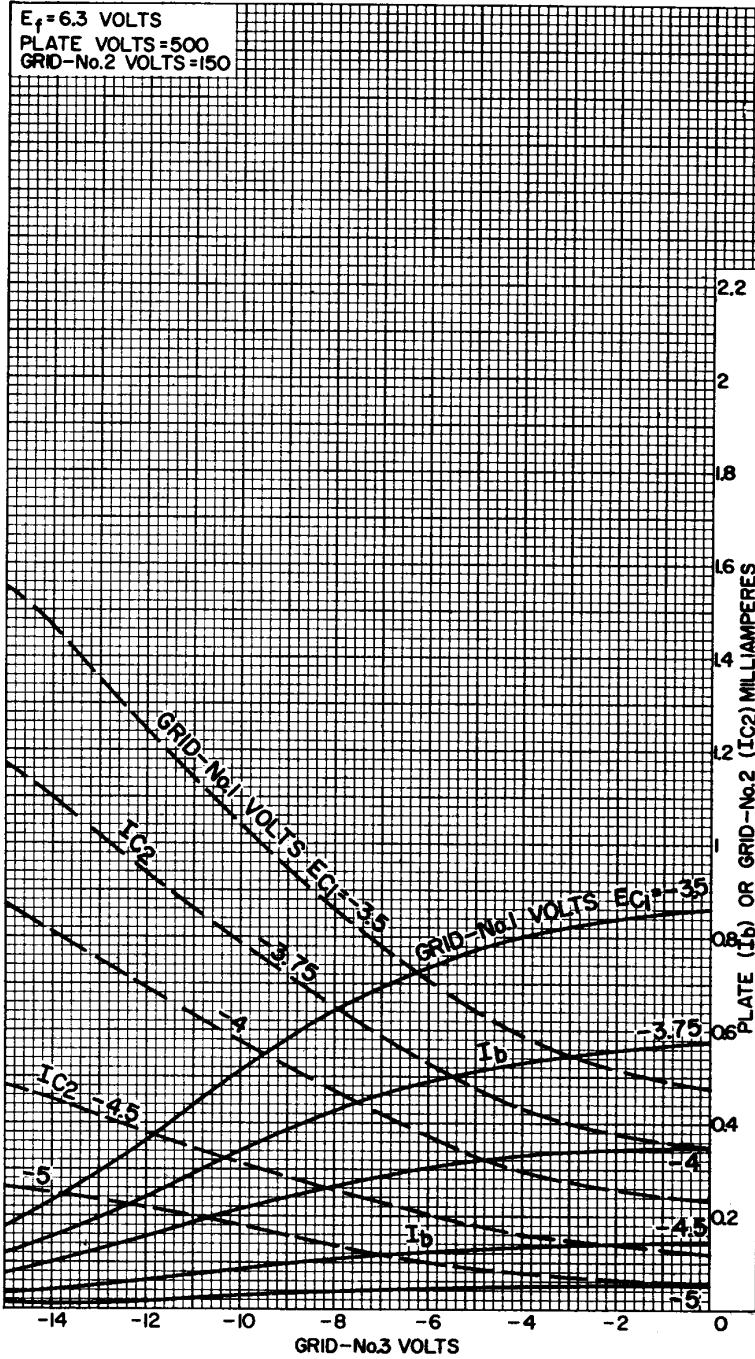


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DATA 4  
5-62

# 6KA8

## AVERAGE CHARACTERISTICS Pentode Unit



92CM-11600

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Electron Tube Division

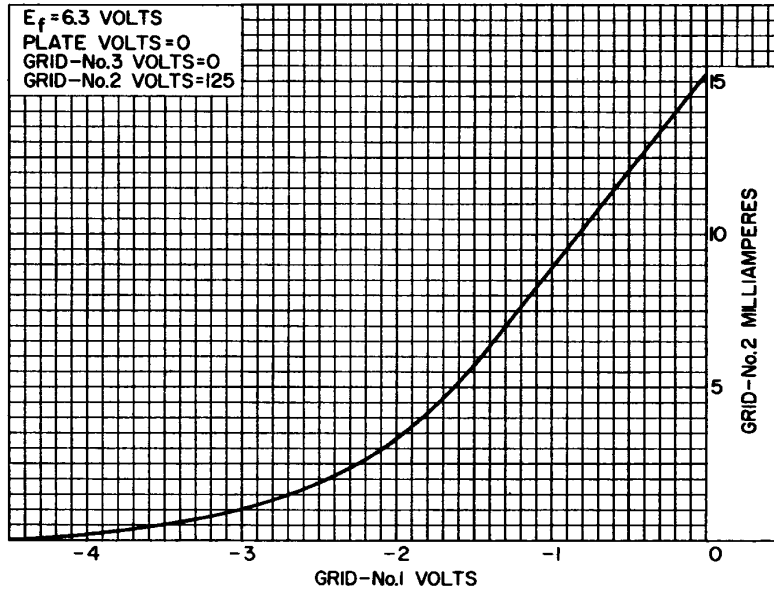
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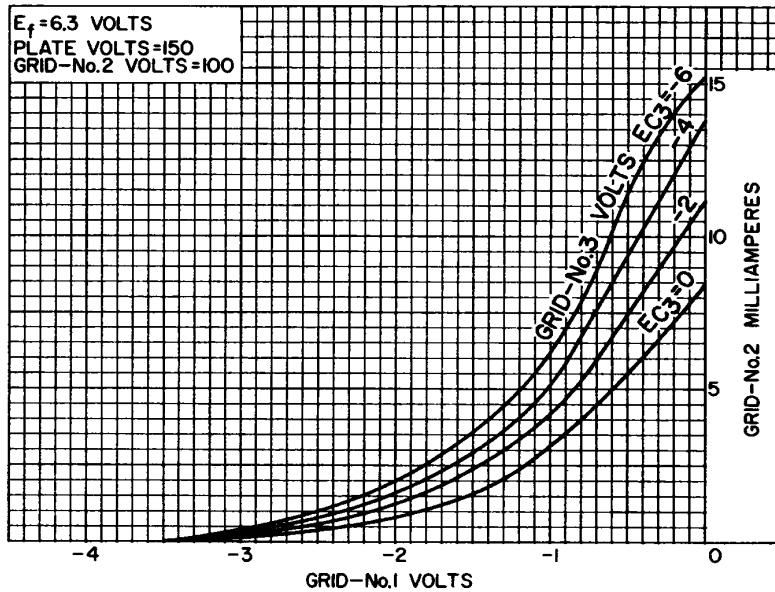


# 6KA8

## AVERAGE CHARACTERISTICS Pentode Unit



92CS-11603



92CS-11596

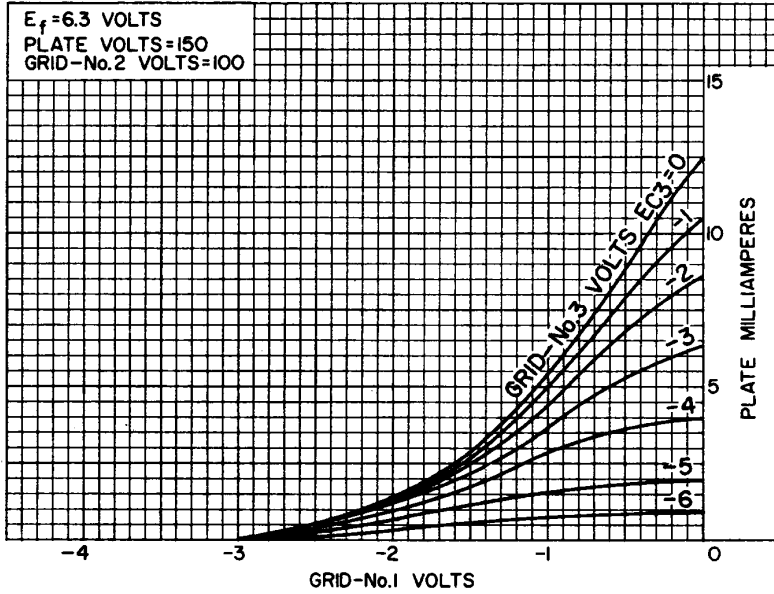


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DATA 5  
5-62

# 6KA8

## AVERAGE CHARACTERISTICS Pentode Unit



92CS-11614

