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# HIGH-MU TRIODE— SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

*Intended for use in equipment having  
series heater-string arrangement*

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathodes:

Voltage . . . . .	6.3	ac or dc volts
Current . . . . .	0.6	amp
Warm-up time (Average) . . . . .	11	sec

*For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.*

Direct Interelectrode Capacitances:

	Without External Shield	With External Shield <sup>o</sup>	
<i>Triode Unit:</i>			
Grid to plate . . . . .	2.2	2.2	μf
Grid to cathode and heater . . . . .	3.2	3.4	μf
Plate to cathode and heater . . . . .	0.32	1.7	μf
<i>Pentode Unit:</i>			
Grid No.1 to plate . . . . .	0.036 max.	0.03 max.	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . .	11	11	μf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . . . . .	2.8	3.6	μf
Triode grid to pentode plate . . . . .	0.03 max.	0.008 max.	μf
Pentode grid No.1 to triode plate . . . . .	0.008 max.	0.005 max.	μf
Pentode plate to triode plate . . . . .	0.2 max.	0.05 max.	μf

### Mechanical:

Mounting Position . . . . .	Any
Maximum Overall Length . . . . .	2-5/8"
Maximum Seated Length . . . . .	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip) . . . . .	2" ± 3/32"
Maximum Diameter . . . . .	7/8"
Bulb . . . . .	T-6-1/2

<sup>o</sup> with external shield JETEC No.315 connected to cathode of unit under test.

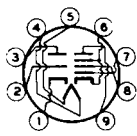
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**HIGH-MU TRIODE—  
SHARP-CUTOFF PENTODE**

- |  |   |
|--|---|
| Base . . . . .                               | Small-Button Noval 9-Pin (JETEC No.E9-1)        |
| Basing Designation for BOTTOM VIEW . . . . . | 9DX   |
| Pin 1 - Triode Cathode                       | Pin 6 - Pent. Cath., Grid No.3, Internal Shield |
| Pin 2 - Triode Grid                          | Pin 7 - Pentode Grid No.1                       |
| Pin 3 - Triode Plate                         | Pin 8 - Pentode Grid No.2                       |
| Pin 4 - Heater                               | Pin 9 - Pent. Plate                             |
| Pin 5 - Heater                               |   |



**TRIODE UNIT - Class A<sub>1</sub> Amplifier**

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

PLATE VOLTAGE. . . . .	300 max.	volts
PLATE DISSIPATION. . . . .	1 max.	watt
<b>PEAK HEATER-CATHODE VOLTAGE:</b>		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200 <sup>▲</sup> max.	volts

**Typical Operation and Characteristics:**

Plate Voltage. . . . .	200	volts
Grid Voltage . . . . .	-2	volts
Amplification Factor . . . . .	70	
Plate Resistance (Approx.) . . . . .	17500	ohms
Transconductance . . . . .	4000	μmhos
Grid Voltage (Approx.) for plate current of 10 μamp . . . . .	-5	volts
Plate Current. . . . .	4	ma

**Maximum Circuit Values:**

<b>Grid-Circuit Resistance:</b>		
For fixed-bias operation . . . . .	0.5 max.	megohms
For cathode-bias operation . . . . .	1.0 max.	megohms

**PENTODE UNIT - Class A<sub>1</sub> Amplifier**

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

PLATE VOLTAGE. . . . .	300 max.	volts
GRID-No.2 (SCREEN) SUPPLY VOLTAGE. . . . .	300 max.	volts
GRID-No.2 VOLTAGE. . . . .	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
<b>GRID-No.1 (CONTROL-GRID) VOLTAGE:</b>		
Negative bias value. . . . .	50 max.	volts
Positive bias value. . . . .	0 max.	volts
PLATE DISSIPATION. . . . .	3 max.	watts

▲: See next page.



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# HIGH-MU TRIODE— SHARP-CUTOFF PENTODE

### GRID-NO. 2 INPUT:

For grid-No. 2 voltages up to 150 volts . . . . .	1 max.	watt
For grid-No. 2 voltages between 150 and 300 volts. . . . .	<i>See Grid-No. 2 Input Rating Chart at front of Receiving Tube Section</i>	

### PEAK HEATER-CATHODE VOLTAGE:

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

### Typical Operation and Characteristics:

Plate Voltage. . . . .	200	volts
Grid-No. 2 Voltage. . . . .	150	volts
Grid-No. 1 Voltage. . . . .	0	volts
Cathode-Bias Resistor. . . . .	180	ohms
Plate Resistance (Approx.) . . . . .	0.4	megohm
Transconductance . . . . .	9000	μmhos
Grid-No. 1 Voltage (Approx.) for plate current of 10 μamp . . . . .	-10	volts
Plate Current. . . . .	13	ma
Grid-No. 2 Current. . . . .	3.5	ma

### Maximum Circuit Values:

Grid-No. 1-Circuit Resistance:		
For fixed-bias operation . . . . .	0.25 max.	megohm
For cathode-bias operation . . . . .	1.0 max.	megohm

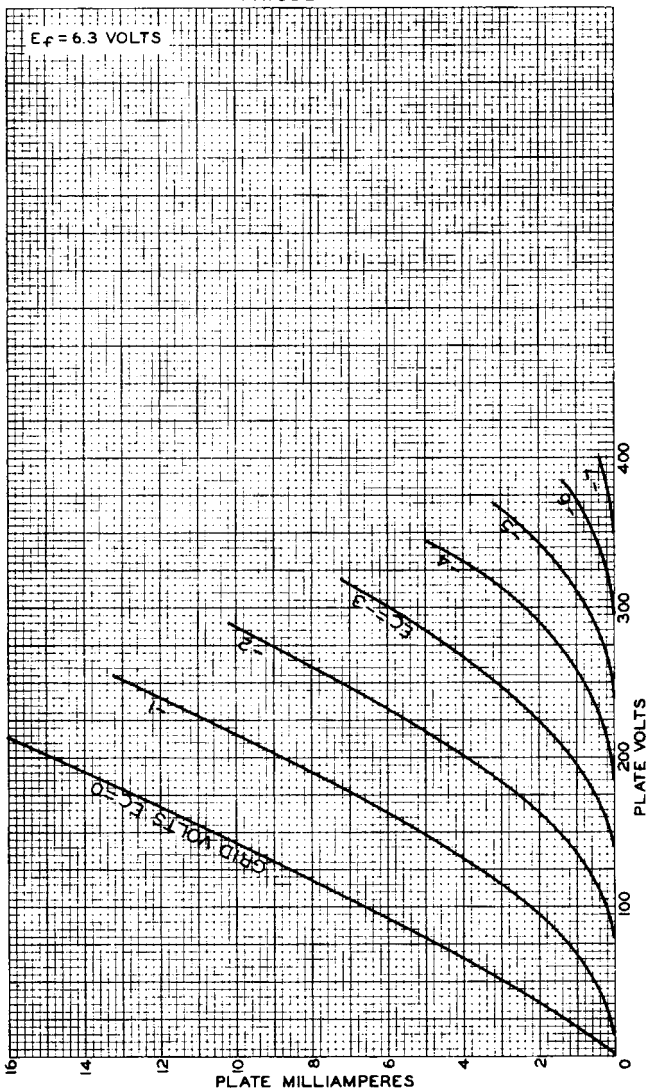
<sup>▲</sup> The dc component must not exceed 100 volts.

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# AVERAGE PLATE CHARACTERISTICS TRIODE UNIT

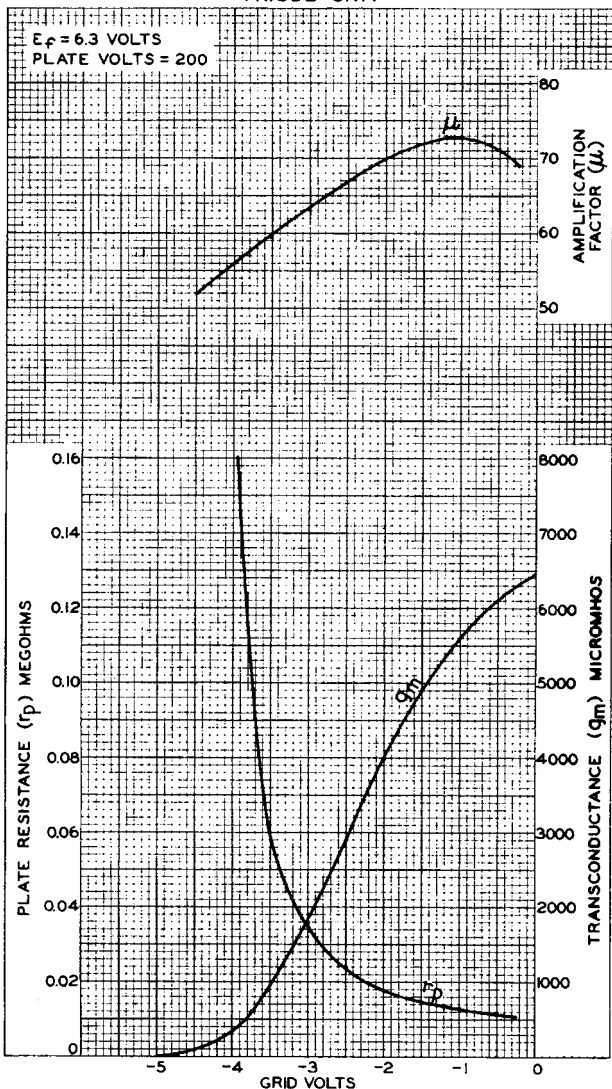




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### AVERAGE CHARACTERISTICS TRIODE UNIT

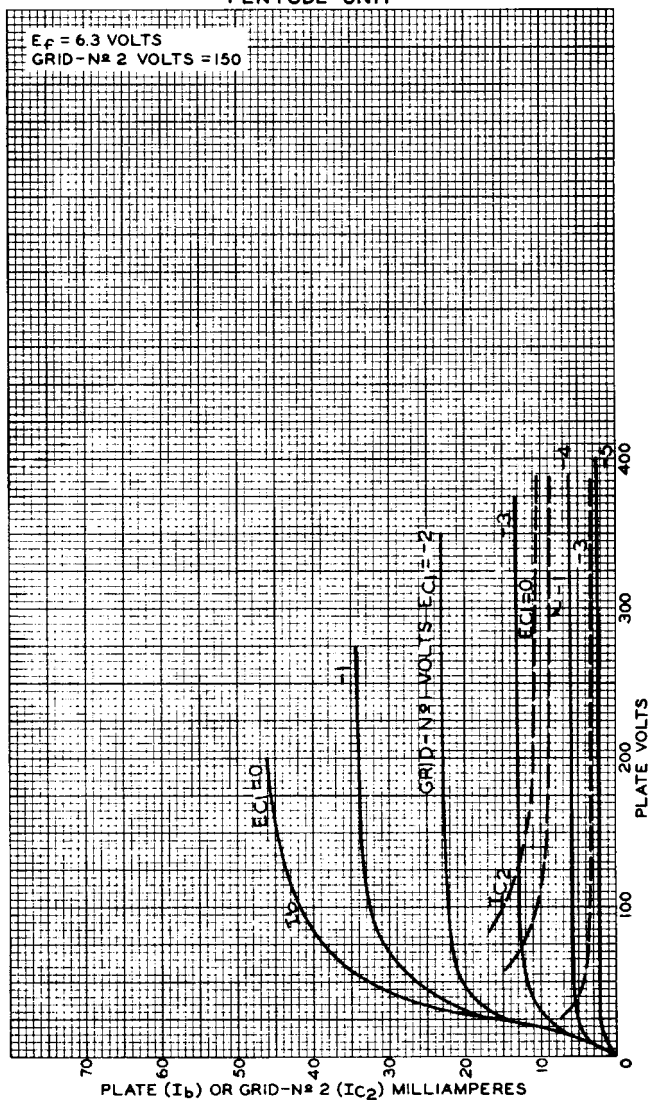


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# AVERAGE CHARACTERISTICS PENTODE UNIT



JUNE 14, 1955

TUBE DIVISION

92CM-8645

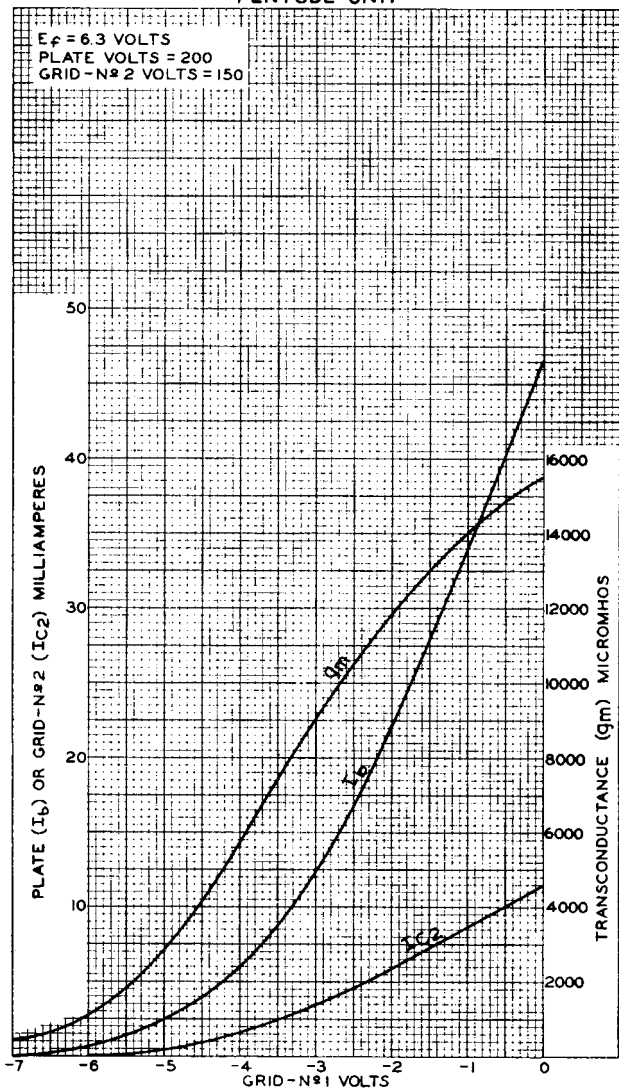
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### AVERAGE CHARACTERISTICS PENTODE UNIT



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