

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 ^a	amp
Warm-up time (Average)	11	sec

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield^b</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 A₁ 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.



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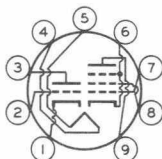
Triode Unit Pentode Unit

Transconductance.	4000	—	9500	μ mhos
Plate Current	4	46 ^c	15	ma
Grid-No.2 Current	—	15 ^c	3.5	ma
Grid-No.1 Voltage (Approx.) for plate μ 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 General Section
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 A₁

→ 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 Grid-No.2 Input	
Rating Chart 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 Grid-No.2 Input Rating	
Chart at front of Receiving Tube Section			

→ Indicates a change.



PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . .	200 max.	200 max.	volts
Heater positive with respect to cathode. . .	200 ^d max.	200 ^d 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

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

^b With external shield JEDEC No.315 connected to pins 4 and 5.

^c 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.

^d The dc component must not exceed 100 volts.

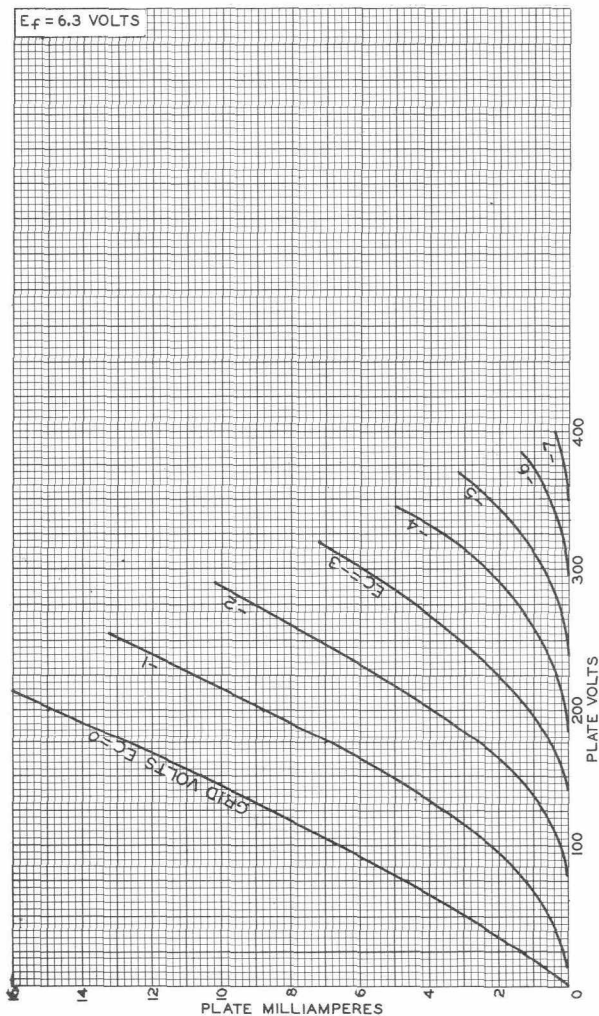
OPERATING CONSIDERATIONS

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.



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AVERAGE PLATE CHARACTERISTICS Triode Unit

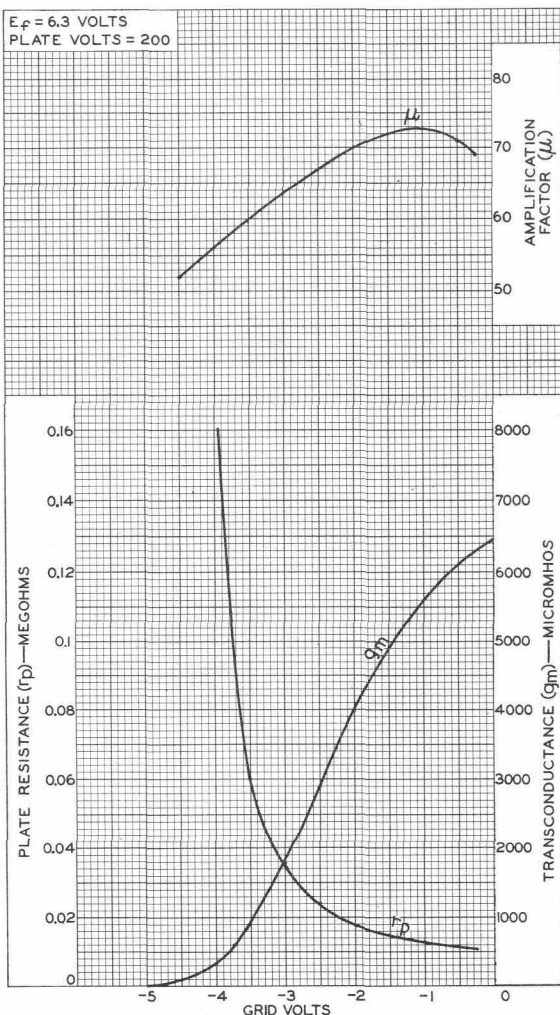


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AVERAGE CHARACTERISTICS Triode Unit

$E_f = 6.3$ VOLTS
PLATE VOLTS = 200

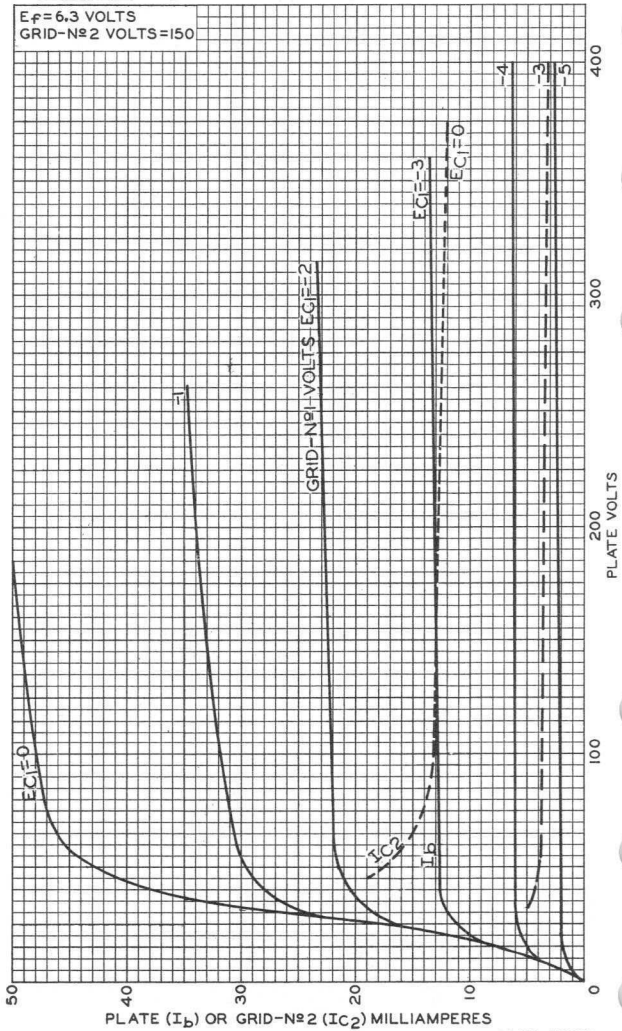


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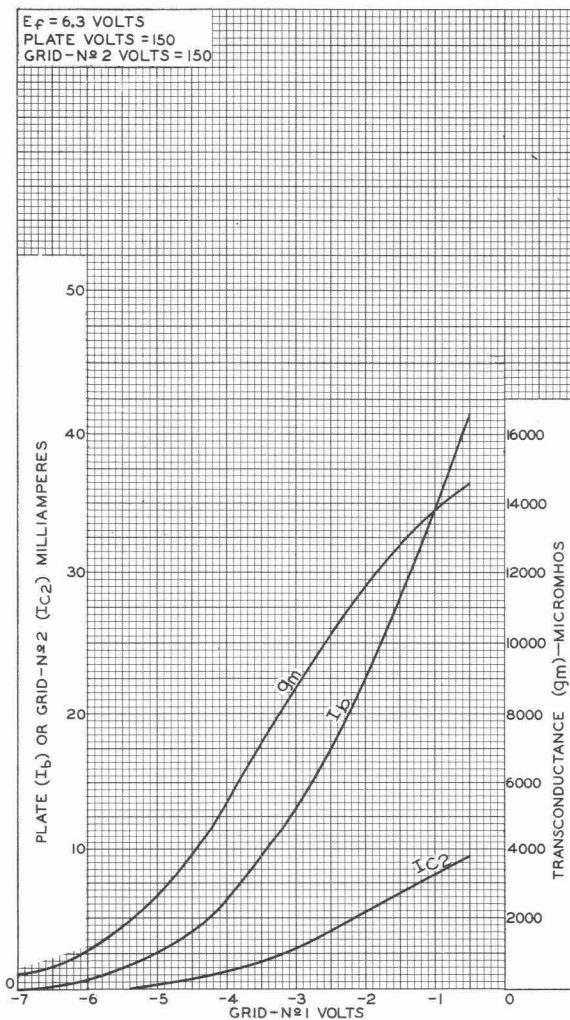
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AVERAGE CHARACTERISTICS Pentode Unit



AVERAGE CHARACTERISTICS Pentode Unit

$E_f = 6.3$ VOLTS
PLATE VOLTS = 150
GRID-N^o 2 VOLTS = 150



92CS-8646R1



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

DATA 4
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