



6CH8

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

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GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage 6.3 ac or dc volts

Current 0.45 amp

Direct Interelectrode Capacitances:⁰

Triode Unit:

Grid to plate 1.6 μf Grid to cathode, heater & pentode
grid No.3 & internal shield 1.9 μf Plate to cathode, heater & pentode
grid No.3 & internal shield 1.6 μf

Pentode Unit:

Grid No.1 to plate. 0.025 max. μf Grid No.1 to cathode, grid No.2,
heater & grid No.3 & internal
shield. 7 μf Plate to cathode, grid No.2, heater
& grid No.3 & internal shield 2.25 μf Triode grid to pentode plate. 0.005 μf Pentode grid No.1 to triode plate 0.02 μf Pentode plate to triode plate 0.04 μf Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit	
Plate-Supply Voltage.	200	200	volts
Grid-No.3 Supply Voltage.	—	0	volts
Grid-No.2 Supply Voltage.	—	150	volts
Grid-No.1 Voltage	-6	—	volts
Cathode Resistor.	—	180	ohms
Amplification Factor.	19	—	
Plate Resistance (Approx.).	5750	300000	ohms
Transconductance.	3300	6200	μmhos
Plate Current	13	9.5	ma
Grid-No.2 Current	—	2.8	ma
Grid-No.1 Voltage (Approx.) for plate current of 10 μamp	-19	-8	volts

Mechanical:

Mounting Position	Any
Maximum Overall Length.	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip).	1-9/16" $\pm$ 3/32"
Maximum Diameter.	7/8"
Dimensional Outline	See General Section
Bulb.	T-6-1/2
Base.	Small-Button Noval 9-Pin (JETEC No.E9-1)

⁰ without external shield.

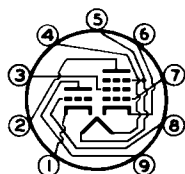


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Basing Designation for BOTTOM VIEW 9FT

Pin 1—Triode
Cathode
Pin 2—Pentode
Plate
Pin 3—Pentode
Grid No.2
Pin 4—Heater
Pin 5—Heater,
Pentode
Grid No.3,
Internal
Shield



Pin 6—Pentode
Cathode
Pin 7—Pentode
Grid No.1
Pin 8—Triode
Grid
Pin 9—Triode
Plate

AMPLIFIER - Class A₁

Maximum Ratings, Design-Center Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE.	300 max.	300 max.	volts
GRID-No.3 (SUPPRESSOR-GRID) VOLTAGE.	—	0 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE.	—	300 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.	2.6 max.	2 max.	watts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 150 volts.	—	0.5 max.	watt
For grid-No.2 voltages between 150 and 300 volts.	—	See Grid-No.2 Input Rating Chart at front of Receiving Tube Section	
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200 max.	▲	volts
Heater positive with respect to cathode	200 [#] max.	0 max.	volts

▲ The heater-cathode voltage should not exceed the value of the operating cathode bias because the voltage between the heater and cathode is also applied between the cathode and grid No.3. The net result is to make grid No.3 negative with respect to cathode with possible change in tube characteristics.

[#] The dc component must not exceed 100 volts.



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Maximum Circuit Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>
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Grid-No.1-Circuit

Resistance:*

For fixed-bias operation. . .	0.5 max.	0.25 max.	megohm
For cathode-bias operation. .	1.0 max.	1.0 max.	megohm

* If either unit is operated at maximum rated conditions, grid-No.1-circuit resistances for both units should not exceed the stated values.

OPERATING CONSIDERATIONS

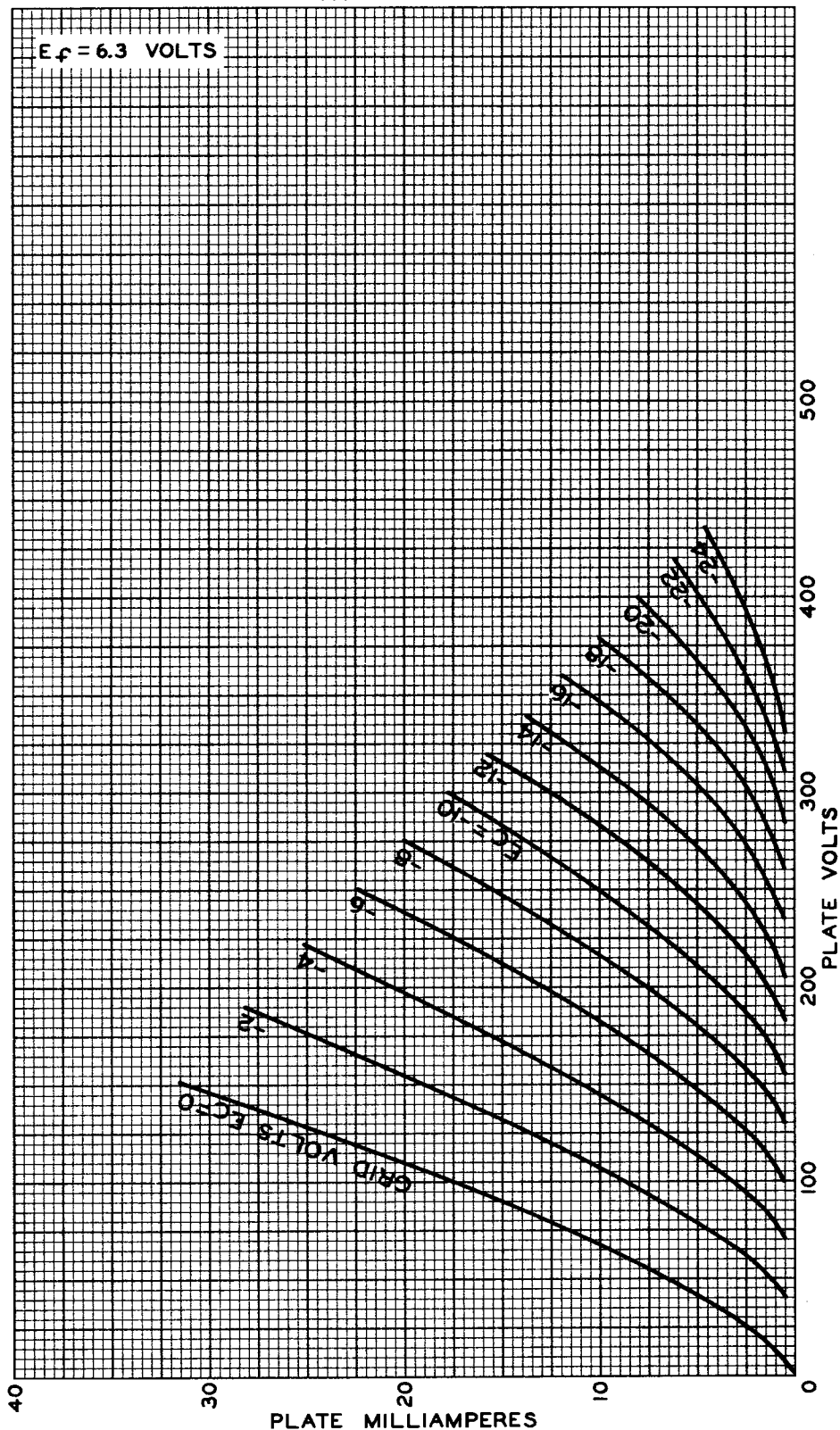
Because *grid No.3* is connected within the tube to one side of the heater (pin 5), it is important that pin 5 be connected to ground to maintain grid No.3 at ground potential. If this precaution is not observed and pin 5 is connected to the ungrounded side of the heater supply, grid No.3 will operate at the heater-supply voltage. As a result, tube characteristics will be changed. Furthermore, if an ac heater supply is used, ac voltage will be applied to grid No.3 with resulting amplitude modulation of the grid-No.3 voltage.

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AVERAGE PLATE CHARACTERISTICS TRIODE UNIT

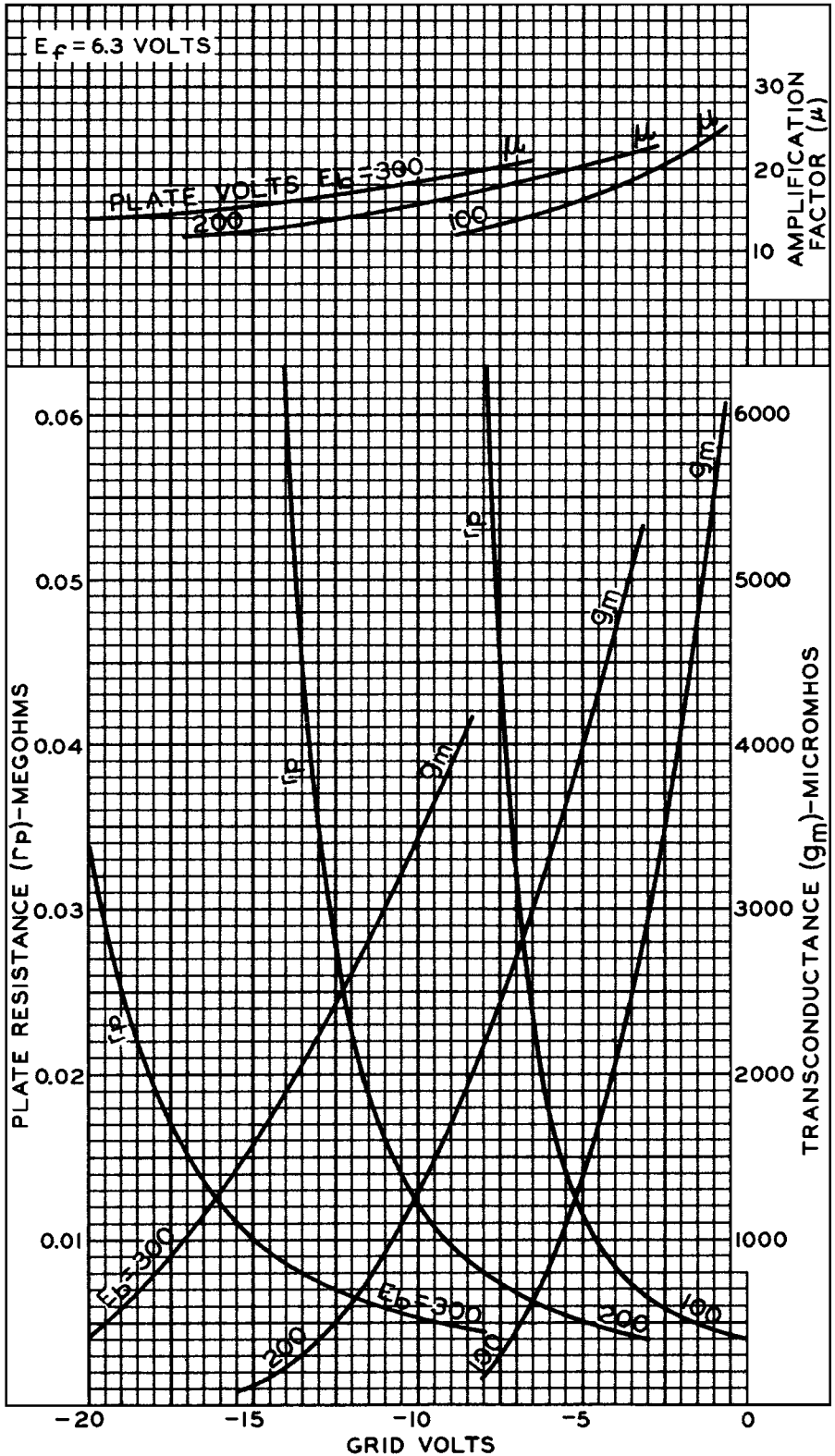




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AVERAGE CHARACTERISTICS TRIODE UNIT

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TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-8207

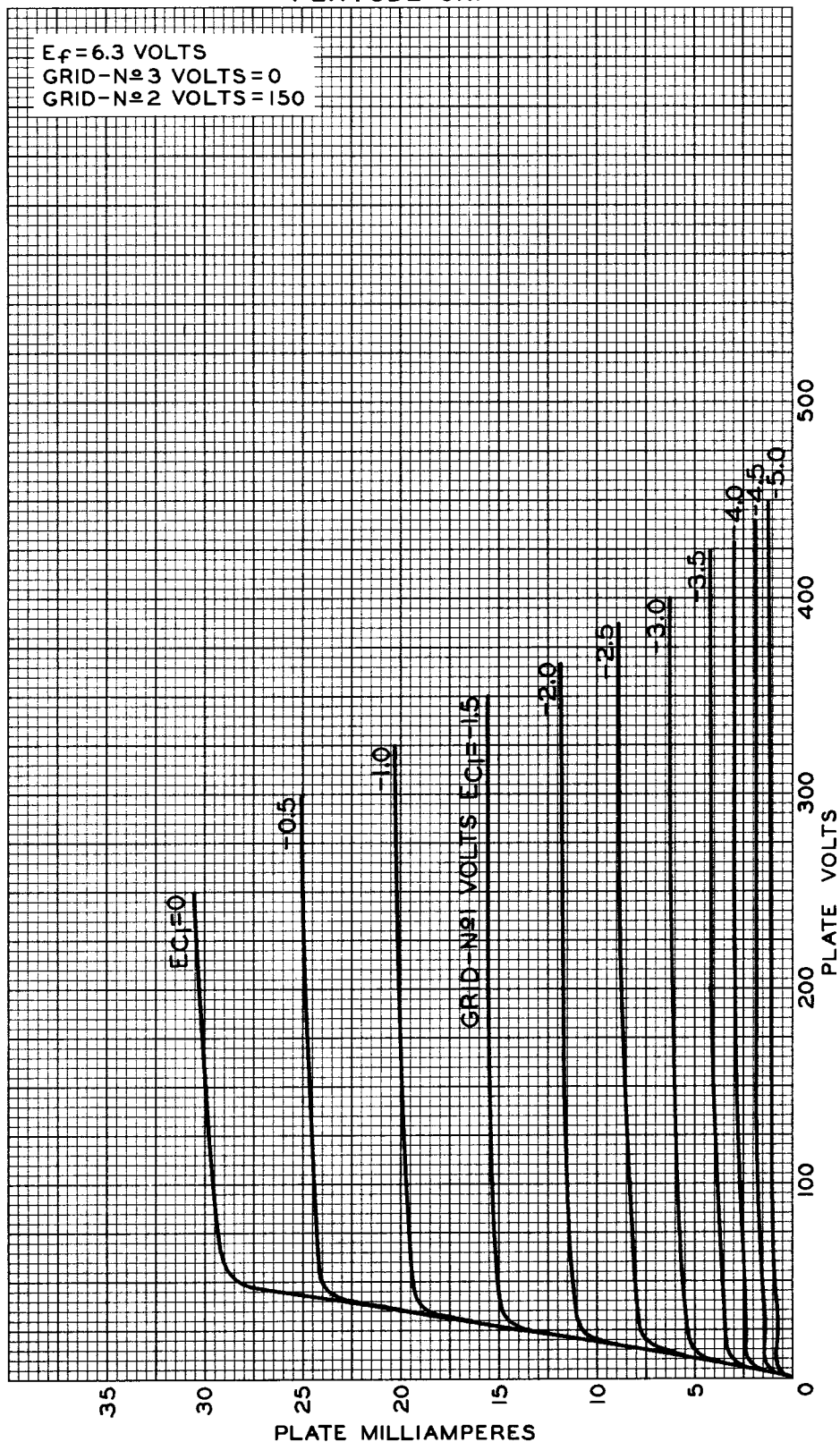
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AVERAGE PLATE CHARACTERISTICS PENTODE UNIT

$E_f = 6.3$ VOLTS
GRID-№3 VOLTS = 0
GRID-№2 VOLTS = 150





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AVERAGE CHARACTERISTICS PENTODE UNIT

