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MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

With heater having controlled warm-up time

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage	6.3	ac or dc volts
Current	0.45 ± 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 ^o	
Triode Unit:			
Grid to plate	1.7	1.7	μμf
Grid to cathode and heater	3	3.2	μμf
Plate to cathode and heater	0.3	1.1	μμf
Pentode Unit:			
Grid No.1 to plate	0.02 max.	0.01 max.	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid-No.2, and heater	5	5	μμf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater	2.6	3.4	μμf
Heater to cathode	3	3 ^o	μμf

Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit	
Plate-Supply Voltage	150	125	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—	-1	volt
Cathode Resistor	56	—	ohms
Amplification Factor	40	—	
Plate Resistance (Approx.)	5000	80000	ohms
Transconductance	8500	6400	μmhos
Plate Current	18	12	ma
Grid-No.2 Current	—	4	ma
Grid-No.1 Voltage (Approx.) for plate μa = 10	-12	-9	volts

Mechanical:

Operating Position Any

^o, [•]: See next page.

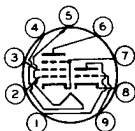


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MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

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"
 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 9AE

Pin 1—Triode Plate
 Pin 2—Pentode
 Grid No.1
 Pin 3—Pentode
 Grid No.2
 Pin 4—Heater
 Pin 5—Heater
 Pin 6—Pentode Plate



Pin 7—Pentode
 Cathode,
 Pentode
 Grid No.3,
 Internal
 Shield
 Pin 8—Triode Cathode
 Pin 9—Triode Grid

CONVERTER SERVICE

Maximum Ratings, Design-Maximum Values:

	Triode Unit as Osc.	Pentode Unit as Mixer	
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	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value	0 max.	0 max.	volts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts	—	0.55 max.	watt
For grid-No.2 voltages between 165 and 330 volts	—	See Grid-No.2 Input	
<i>Rating Chart at front of Receiving Tube Section</i>			
PLATE DISSIPATION	3 max.	3.1 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200 max.	200 max.	volts
Heater positive with respect to cathode	200 [▲] max.	200 [▲] max.	volts

○ With external shield JEDEC No. 315 connected to cathode of unit under test except as noted.

● With external shield JEDEC No. 315 connected to ground.

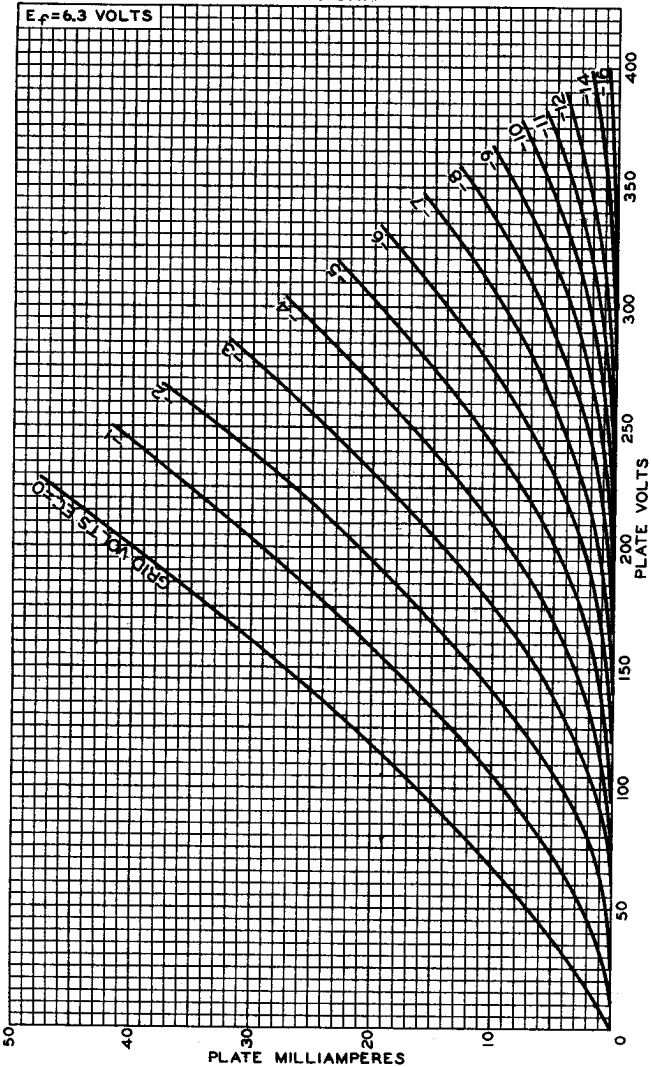
▲ The dc component must not exceed 100 volts.



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AVERAGE PLATE CHARACTERISTICS
TRIODE UNIT

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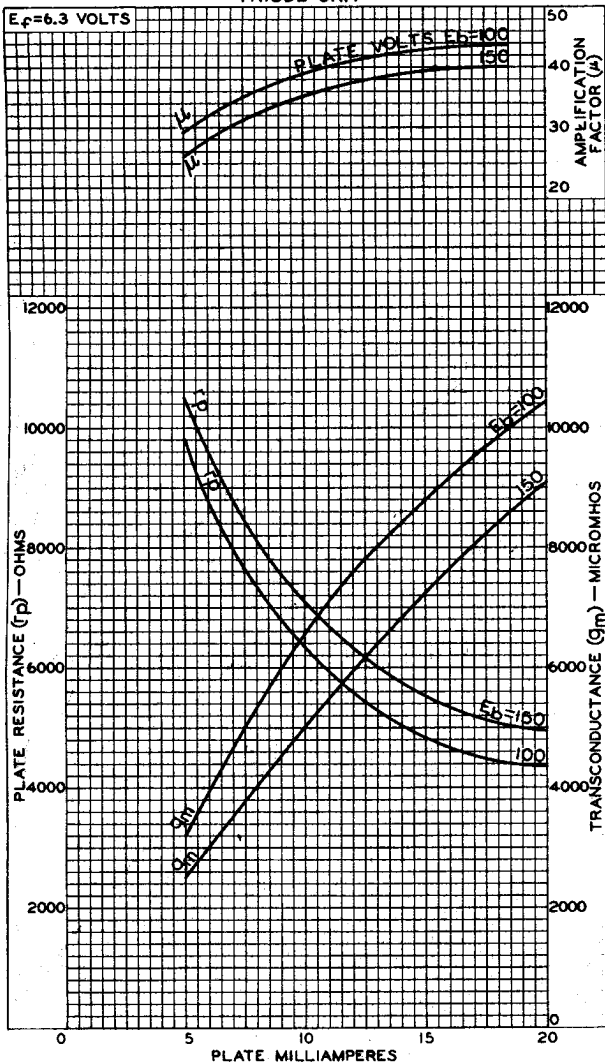


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AVERAGE CHARACTERISTICS TRIODE UNIT



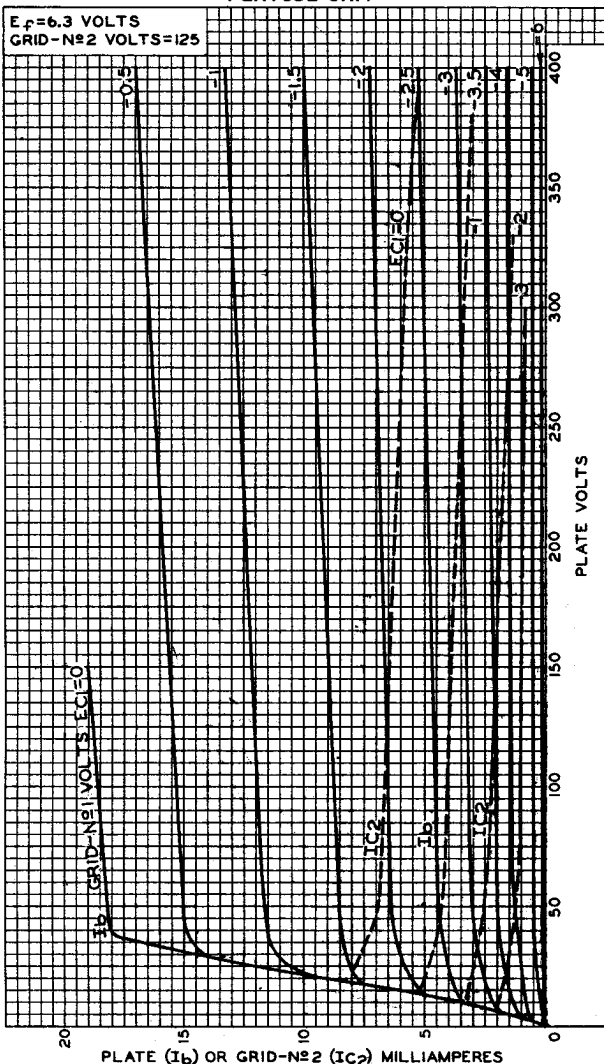


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AVERAGE CHARACTERISTICS PENTODE UNIT

$E_f = 6.3$ VOLTS
GRID-N^o2 VOLTS = 125



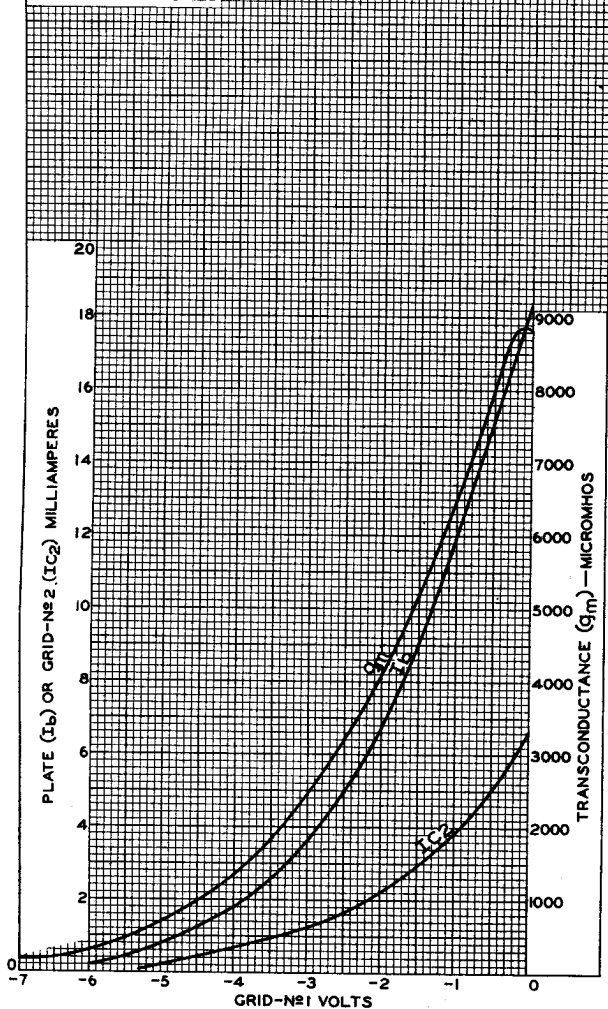
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AVERAGE CHARACTERISTICS PENTODE UNIT

$E_f = 6.3$ VOLTS
 PLATE VOLTS = 125
 GRID-NO 2 VOLTS = 125



Medium-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	volts
Current	0.45 ± 6%	amp
Warm-up time (Average).	11	sec

Direct Interelectrode Capacitances:

	<i>Without External Shield</i>	<i>With External Shield*</i>	
<i>Triode Unit:</i>			
Grid to plate	1.7	1.7	μf ←
Grid to cathode, pentode cathode & pentode grid No.3 & internal shield, and heater.	3	3.2	μf
Plate to cathode, pentode cathode & pentode grid No.3 & internal shield, and heater.	1.4	1.9	μf
<i>Pentode Unit:</i>			
Grid No.1 to plate.	0.02 max.	0.01 max.	μf
Grid No.1 to cathode & grid No.3 & internal shield, grid-No.2, and heater.	5	5	μf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater . . .	2.6	3.4	μf
Heater to cathode (Each unit) .	3	3 ^b	μf

Characteristics, Class A₁ Amplifier:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Plate-Supply Voltage.	150	125	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—	-1	volt
Cathode Resistor.	56	—	ohms
Amplification Factor.	40	—	
Plate Resistance (Approx.). . . .	5000	200000	ohms ←
Transconductance.	8500	6400	μmhos
Plate Current	18	12	ma
Grid-No.2 Current	—	4	ma
Grid-No.1 Voltage (Approx.) for plate μa = 10	-12	-9	volts

← Indicates a change.

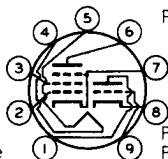


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Mechanical:

Operating 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" ± 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	9AE

- Pin 1 - Triode Plate
- Pin 2 - Pentode
Grid No. 1
- Pin 3 - Pentode
Grid No. 2
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate



- Pin 7 - Pentode
Cathode,
Pentode
Grid No. 3,
Internal
Shield
- Pin 8 - Triode Cathode
- Pin 9 - Triode Grid

AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
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</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID-No. 1 (CONTROL-GRID) VOLTAGE:			
Positive-bias value	0 max.	0 max.	volts
GRID-No. 2 INPUT:			
For grid-No. 2 voltages up to 165 volts	-	0.55 max.	watt
For grid-No. 2 voltages between 165 and 330 volts	-	See <i>Grid-No. 2 Input</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
← PLATE DISSIPATION	2.5 max.	3.1 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200 max.	200 max.	volts
Heater positive with respect to cathode	200 ^c max.	200 ^c max.	volts

^a With external shield JEDEC No. 315 connected to cathode of unit under test except as noted.

^b With external shield JEDEC No. 315 connected to ground.

^c The dc component must not exceed 100 volts.

← Indicates a change.

