

High-Mu Twin Triode

9-PIN MINIATURE TYPE

For High-Gain, Resistance-Coupled, Low-Level Audio-Amplifiers Operating at Low-Signal Levels, such as Preamplifiers for Low-Cost Stereophonic Phonographs

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage (AC or DC)	20	10 $\pm$ 10%	volts
Current	0.1 $\pm$ 6%	0.2	amp

Direct Interelectrode Capacitances (Approx.):[▲]

	Unit No.1	Unit No.2	
Grid to plate	1.5	1.5	μ f
Grid to cathode and heater. . .	1.6	1.6	μ f
Plate to cathode and heater . .	0.2	0.3	μ f

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	100	250	volts
Grid Voltage.	-1	-2	volts
Amplification Factor.	100	100	
Plate Resistance (Approx.) . . .	80000	62500	ohms
Transconductance.	1250	1600	μ hos
Plate Current	0.5	1.2	ma

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" $\pm$ 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.	9MJ

Pins 1 & 3-Heater of Unit No.1	Pin 6-Plate of Unit No.2
Pins 2 & 3-Heater of Unit No.2	Pin 7-Plate of Unit No.1
Pin 3-Heater Tap	Pin 8-Grid of Unit No.1
Pin 4-Cathode of Unit No.2	Pin 9-Cathode of Unit No.1
Pin 5-Grid of Unit No.2	



AMPLIFIER — Class A₁

Values are for Each Unit

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE.	330 max.	volts
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20EZ7

GRID VOLTAGE:

Negative-bias value.	55	max.	volts
Positive-bias value.	0	max.	volts
PLATE DISSIPATION.	1.2	max.	watts

PEAK HEATER-CATHODE VOLTAGE:

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

Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED-AMPLIFIER CHART No. 25*
at front of this Section

▲ Without external shield.

● The dc component must not exceed 100 volts.



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GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC)	20	volts
Current	$0.1 \pm 6\%$	amp

Direct Interelectrode Capacitances (Approx.):^a

	Unit No. 1	Unit No. 2	
Grid to plate	1.5	1.5	μf
Grid to cathode and heater. . .	1.6	1.6	μf
Plate to cathode and heater . .	0.2	0.3	μf

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	100	250	volts
Grid Voltage.	-1	-2	volts
Amplification Factor.	100	100	
Plate Resistance (Approx.). . . .	80000	62500	ohms
Transconductance.	1250	1600	μmhos
Plate Current	0.5	1.2	ma

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" $\pm$ 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.	9PG ←

Pin 1-Heater

Pin 2-Heater

Pin 3-Internal Connection—Do Not Use

Pin 4-Cathode of Unit No. 2

Pin 5-Grid of Unit No. 2



Pin 6-Plate of

Unit No. 2

Pin 7-Plate of

Unit No. 1

Pin 8-Grid of

Unit No. 1

Pin 9-Cathode of

Unit No. 1

AMPLIFIER — Class A₁

Values are for Each Unit

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE.	330 max.	volts
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← Indicates a change.



20EZ7

GRID VOLTAGE:

Negative-bias value. 55 max. volts

Positive-bias value. 0 max. volts

PLATE DISSIPATION. 1.2 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . 200 max. volts

Heater positive with respect to cathode. . 200^b max. volts

Typical Operation as Resistance-Coupled Amplifier:

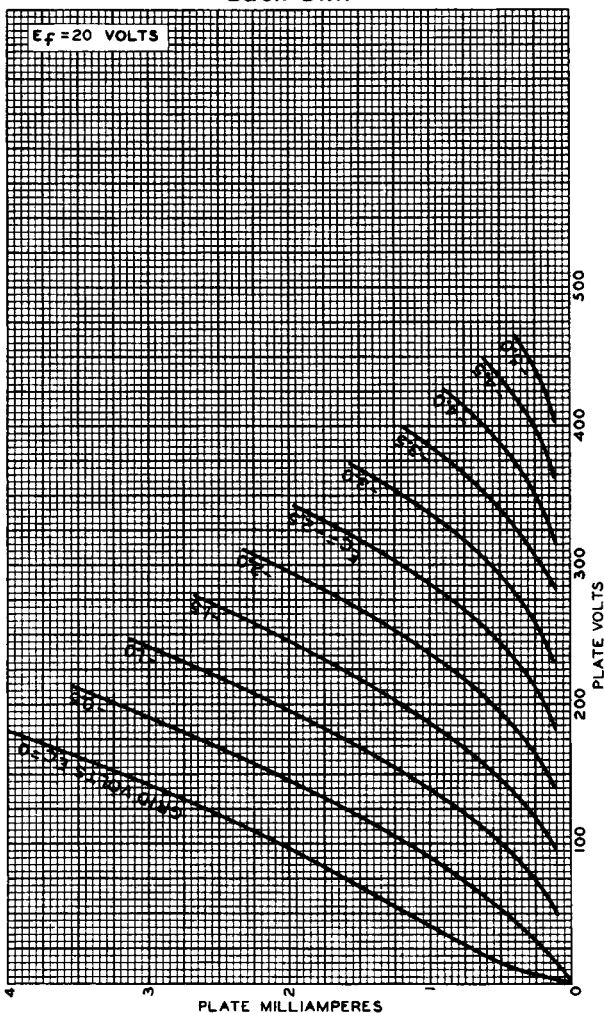
See *RESISTANCE-COUPLED-AMPLIFIER CHART No. 25*
at front of this Section

^a Without external shield.

^b The dc component must not exceed 100 volts.



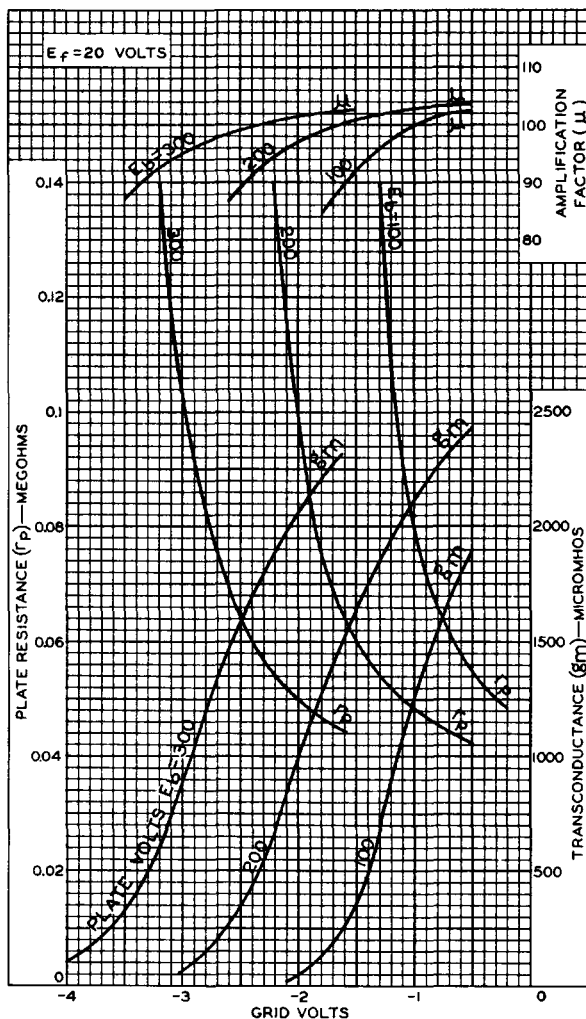
AVERAGE PLATE CHARACTERISTICS Each Unit



92CM-10804



AVERAGE CHARACTERISTICS Each Unit



92CM-10805

