

Medium-Mu Triode— Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

For High-Fidelity Audio-Amplifier Applications Critical as to Noise and Hum

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC) 6.3 ± 0.6 volts

Current at heater volts = 6.3 0.450 amp

Peak heater-cathode voltage (Each Unit):

Heater negative with respect to cathode 200 max. volts

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

Direct Interelectrode Capacitances:^b

Triode Unit:

Grid to plate 2 pf

Grid to cathode and heater 2.3 pf

Plate to cathode and heater 0.3 pf

Pentode Unit:

Grid No.1 to plate 0.06 max. pf

Grid No.1 to cathode & internal shield & grid No.3, grid No.2, and heater 5 pf

Plate to cathode & internal shield & grid No.3, grid No.2, and heater 2 pf

Equivalent-Hum and Noise Voltage (Referenced to Grid):

Triode Unit

Average Value (RMS) 10 microvolts

Maximum Value (RMS) 50 microvolts

Measured in "true rms" units under the following conditions: heater volts = 6.3 ac, center-tap of heater transformer connected to ground, plate-supply volts = 250, plate load resistor (megohms) = 0.1, cathode resistor (ohms) unbypassed = 1500, grid resistor (megohms) = 0.05, and amplifier covering frequency range between 25 and 10,000 cps.

Pentode Unit

Average Value (RMS) 15 microvolts

Maximum Value (RMS) 35 microvolts

Measured in "true rms" units under the following conditions: heater volts = 6.3 ac, center-tap of heater transformer connected to ground, plate-supply volts = 250, plate-load resistor (megohms) = 0.22, grid-No.2 supply volts = 250; grid No.2 voltage divider: resistor (megohm) from grid No.2 to B+ = 0.68, resistor (megohm) from grid-No.2 to ground = 0.33; bypass ca-

← Indicates a change.



pacitor (μ f) from grid No.2 to cathode = 0.1; cathode resistor (ohms unbypassed) = 680; grid No.1 resistor (megohm) = 0.27; and amplifier covering frequency range between 25 and 10,000 cps.

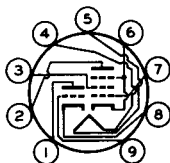
Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit	
Plate-Supply Voltage.	215	100 220	volts
Grid-No.2 Supply Voltage. . . .	—	50 130	volts
Grid-No.1 Voltage.	-8.5	—	volts
Cathode Resistor.	—	1000 62	ohms
Amplification Factor.	17	—	—
Plate Resistance (Approx.). . .	0.0081	1 0.4	megohm
Transconductance.	2100	1500 7000	μ mos
Plate Current.	9	1.1 12.5	ma
Grid-No.2 Current.	—	0.35 3.5	ma
Grid-No.1 Voltage (Approx.) for plate μ a = 10	-40	-4 —	volts

Mechanical:

Operating Position.	Any
Type of Cathodes.	Coated Unipotential
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.	9JT

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



- Pin 6—Pentode
Cathode,
Grid No.3,
Internal
Shield
Pin 7—Pentode
Grid No.1
Pin 8—Triode
Cathode
Pin 9—Triode
Grid

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

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts	-	0.6 max.	watt
For grid-No.2 voltages between 165 and 330 volts	-	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
PLATE DISSIPATION	2.4 max.	3 max.	watts

Maximum Circuit Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Grid-No.1-Circuit Resistance: ^c			
For fixed-bias operation	0.5 max.	0.25 max.	megohm
For cathode-bias operation	1 max.	1 max.	megohm

^a The dc component must not exceed 100 volts.

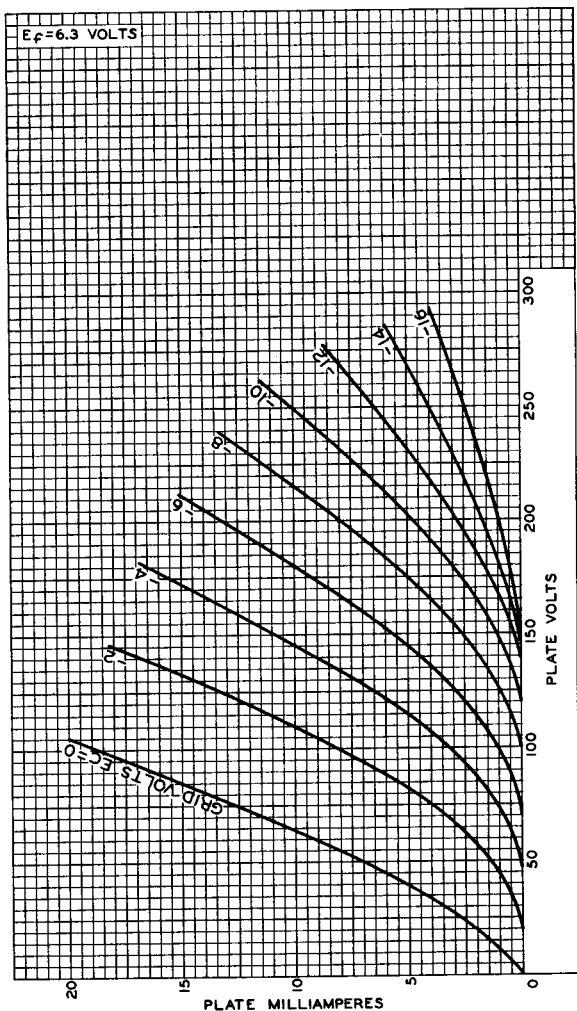
^b Without external shield.

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



AVERAGE PLATE CHARACTERISTICS

Triode Unit



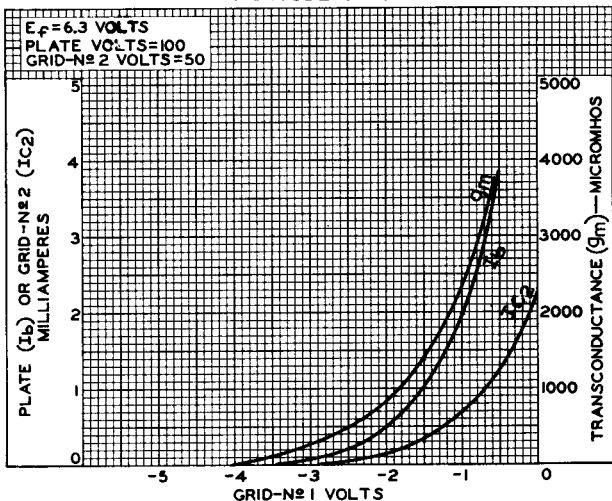
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AVERAGE CHARACTERISTICS
PENTODE UNIT

92CS-9702

