

## High-Mu Twin Triode

### 9-PIN MINIATURE TYPE

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

#### GENERAL DATA

##### Electrical:

Heater, for Unipotential Cathodes:

	Series	Parallel	
Heater arrangement			
Voltage (AC or DC) . . . . .	12.6	6.3 ± 10%	volts
Current . . . . .	0.15 ± 6%	0.3	amp

Direct Interelectrode Capacitances (Approx.):<sup>▲</sup>

	Unit No.1	Unit No.2	
Grid to plate . . . . .	1.7	1.7	μf
Grid to cathode and heater . .	1.6	1.6	μf
Plate to cathode and heater . .	0.46	0.34	μf

##### Equivalent Noise and Hum Voltage (Referenced to Grid, Each Unit):

Average Value (RMS) . . . . . 1.8 μvolts  
 Measured in "true rms" units under the following conditions: Heater volts (AC) = 6.3; center-tap of heater transformer connected to ground; plate supply volts (DC) = 250; plate load resistor (megohms) = 0.1; cathode resistor (ohms) = 2700; cathode bypass capacitor (μf) = 100; grid resistor (ohms) = 0; amplifier frequency range 25 to 10000 cps.

##### Characteristics, Class A<sub>1</sub> 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" ± 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)



# 12AX7-A

Basing Designation for BOTTOM VIEW . . . . . 9A

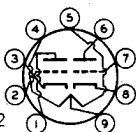
Pin 1 - Plate of  
Unit No.2

Pin 2 - Grid of  
Unit No.2

Pin 3 - Cathode of  
Unit No.2

Pins 4 & 9 - Heater of  
Unit No.2

Pins 5 & 9 - Heater of  
Unit No.1



Pin 6 - Plate of  
Unit No.1

Pin 7 - Grid of  
Unit No.1

Pin 8 - Cathode of  
Unit No.1

Pin 9 - Heater Tap

## AMPLIFIER — CLASS A<sub>1</sub>

*Values are for Each Unit*

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE. . . . .	330 max.	volts
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 <sup>•</sup> max.	volts

### Typical Operation as Resistance-Coupled Amplifier:

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

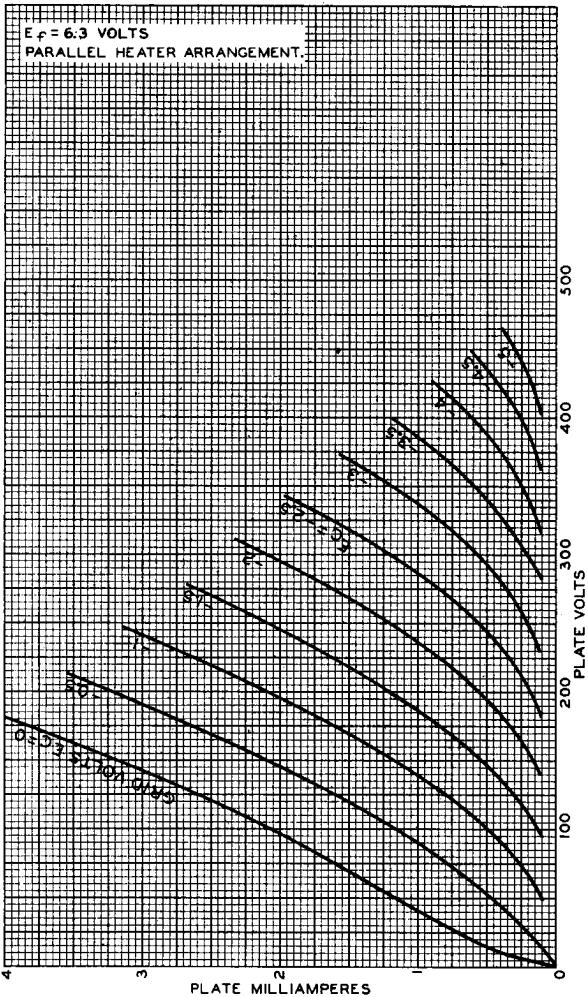
<sup>▲</sup> Without external shield.

<sup>•</sup> The dc component must not exceed 100 volts.



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## AVERAGE PLATE CHARACTERISTICS Each Unit



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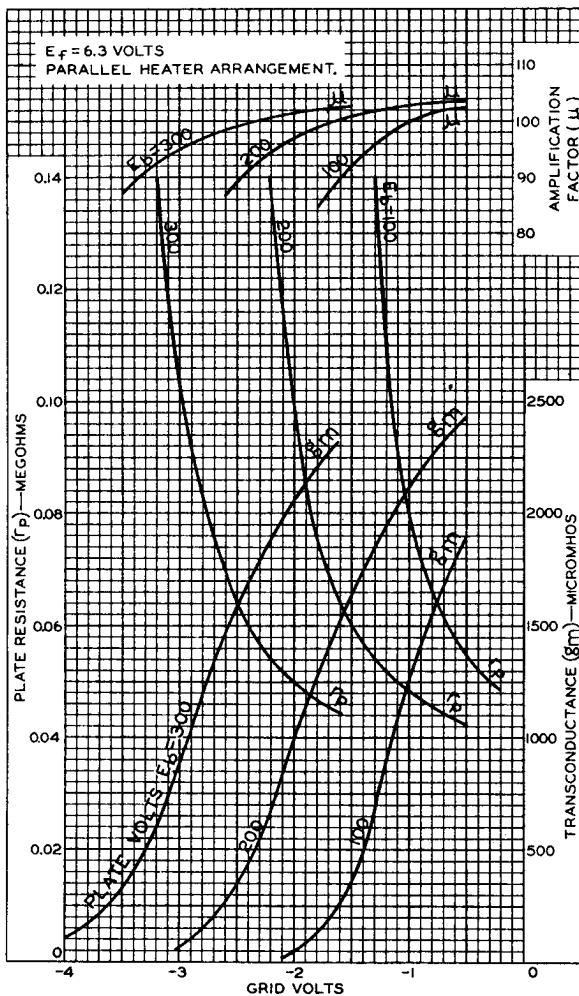


RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 2  
10-60

# 12AX7-A

## AVERAGE CHARACTERISTICS Each Unit



92CM-6880