

# 10JA8

## High-Mu Triode— Sharp-Cutoff Pentode

### 9-PIN MINIATURE TYPE

For Use in Sync-Separator, Sync-Clipper, Voltage Amplifier, Phase-Inverter, and Video Output Amplifier Circuits in TV Receivers

#### Electrical:

##### Heater Characteristics and Ratings:

Current . . . . .	0.450 ± 0.030	amp
Voltage (AC or DC) at heater amperes = 0.450 . . . . .	10.5	volts
Warm-up time (Average) . . . . .	11	sec
Peak heater-cathode voltage (Each Unit): Heater negative with respect to cathode . . . . .	200	max. volts
Heater positive with respect to cathode . . . . .	200 <sup>a</sup>	max. volts

##### Direct Interelectrode Capacitances:<sup>b</sup>

###### Triode Unit:

G <sub>T</sub> to P <sub>T</sub> . . . . .	4.0	pf
Input: G <sub>T</sub> to (K <sub>T</sub> , K <sub>P</sub> +G <sub>3P</sub> +I <sub>S</sub> , H) . . . . .	2.6	pf
Output: P <sub>T</sub> to (K <sub>T</sub> , K <sub>P</sub> +G <sub>3P</sub> +I <sub>S</sub> , H) . . . . .	2.6	pf

###### Pentode Unit:

G <sub>1P</sub> to P <sub>P</sub> . . . . .	0.1 max.	pf
Input: G <sub>1P</sub> to (K <sub>P</sub> +G <sub>3P</sub> +I <sub>S</sub> , G <sub>2P</sub> , H) . . . . .	11	pf
Output: P <sub>P</sub> to (K <sub>P</sub> +G <sub>3P</sub> +I <sub>S</sub> , G <sub>2P</sub> , H) . . . . .	4.4	pf
G <sub>1P</sub> to P <sub>T</sub> . . . . .	0.005 max.	pf
P <sub>P</sub> to G <sub>T</sub> . . . . .	0.018 max.	pf
P <sub>P</sub> to P <sub>T</sub> . . . . .	0.17 max.	pf

#### Characteristics, Class A<sub>1</sub> Amplifier:

	Triode Unit		
Plate Voltage . . . . .	135	200	volts
Grid Voltage . . . . .	-2	-2	volts
Amplification Factor . . . . .	60	70	
Plate Resistance (Approx.) . . . . .	39000	19000	ohms
Transconductance . . . . .	1550	3700	μmhos
Plate Current . . . . .	1	3.5	ma
Grid-No.1 Voltage (Approx.) for plate μ <sub>a</sub> = 10 . . . . .	-4.8	-7	volts

	Pentode Unit			
Plate Voltage . . . . .	30	135	200	volts
Grid-No.2 Voltage . . . . .	135	135	135	volts
Grid-No.1 Voltage . . . . .	0	-1.5	-1.5	volts
Plate Resistance (Approx.) . . . . .	-	66000	70000	ohms
Transconductance . . . . .	-	12600	14000	μmhos
Plate Current . . . . .	32 <sup>c</sup>	17	18	ma
Grid-No.2 Current . . . . .	14 <sup>c</sup>	4.2	4	ma
Grid-No.1 Voltage (Approx.) for plate μ <sub>a</sub> = 10 . . . . .	-	-5	-5	volts

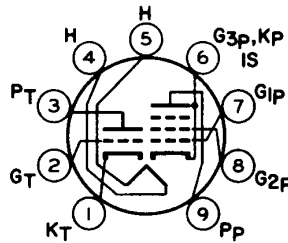


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## Mechanical:

Operating Position . . . . . Any  
 Types of Cathodes . . . . . Coated Unipotential  
 Maximum Overall Length . . . . . 2-5/8"  
 Maximum Seated Length . . . . . 2-3/8"  
 Length, Base Seat to Bulb Top  
 (Excluding tip) . . . . . 2" ± 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 . . . . . 9DX

- Pin 1 - Triode Cathode
- Pin 2 - Triode Grid
- Pin 3 - Triode Plate
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Cathode,  
Pentode Grid No.3,  
Internal Shield
- Pin 7 - Pentode Grid No.1
- Pin 8 - Pentode Grid No.2
- Pin 9 - Pentode Plate



## AMPLIFIER — Class A<sub>1</sub>

### Maximum Ratings, Design-Maximum Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Plate Voltage . . . . .	300 max.	330 max.	volts
Grid-No.2 (Screen-Grid) Supply Voltage . . . . .	-	330 max.	volts
Grid-No.2 Voltage . . . . .	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section		
Grid-No.1 (Control-Grid) Voltage:			
Positive-bias value . . . . .	0 max.	0 max.	volts
Plate Dissipation . . . . .	1 max.	5 max.	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts . . . . .	-	1.5 max.	watts
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		

### Maximum Circuit Values:

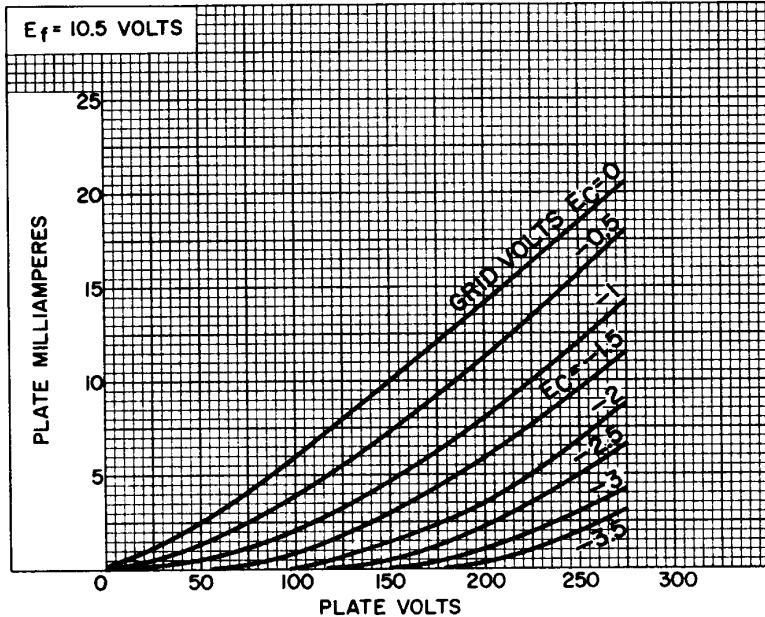
	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Grid-No.1 Circuit Resistance:			
For cathode-bias operation . .	1.0 max.	1.0 max.	megohm
For fixed-bias operation . . .	0.5 max.	0.25 max.	megohm



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- a The dc component must not exceed 100 volts.
- b Without external shield.
- c This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

## AVERAGE PLATE CHARACTERISTICS Triode Unit

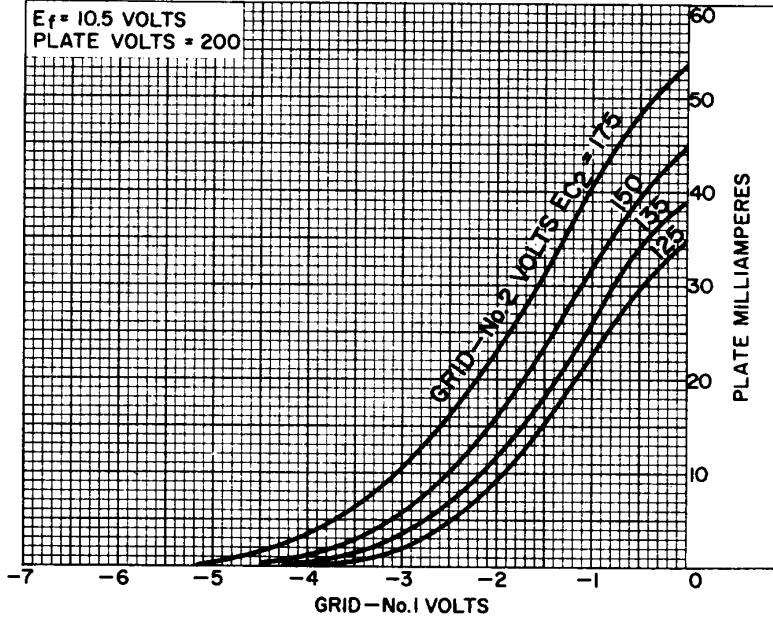


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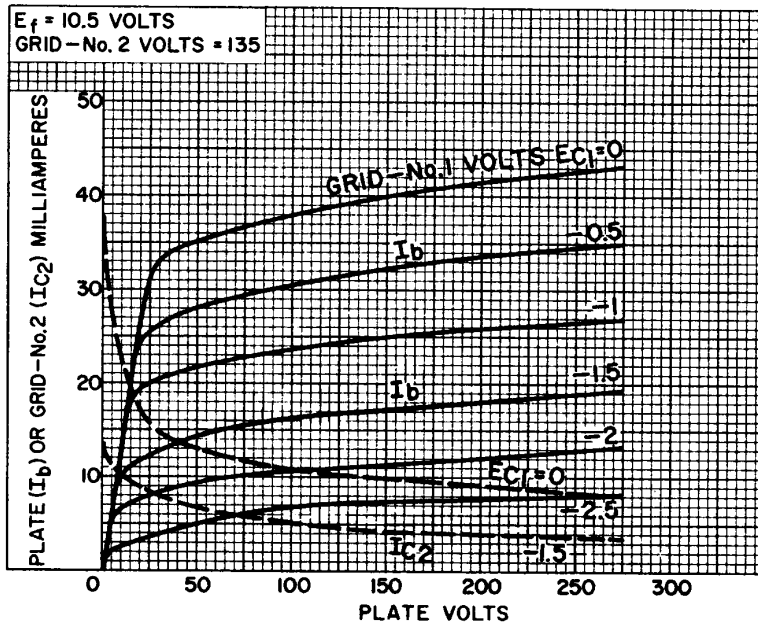


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## AVERAGE CHARACTERISTICS Pentode Unit



92CS-12160



92CS-12159

RADIO CORPORATION OF AMERICA  
Electronic Components and Devices

Harrison, N. J.

