

## Dual Triode

## With High-Mu Unit and Medium-Mu Unit

## 9-PIN MINIATURE TYPE

## GENERAL DATA

## Electrical:

Heater, for Unipotential Cathodes:

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

Direct Interelectrode Capacitances (Approx.):

	Without External Shield	With External Shield*	
<i>Unit No. 1:</i>			
Grid to plate . . . . .	1.7	1.7	$\mu\mu\text{f}$
Grid to cathode and heater. . .	1.6	1.8	$\mu\mu\text{f}$
Plate to cathode and heater . .	0.37	2.2	$\mu\mu\text{f}$
<i>Unit No. 2:</i>			
Grid to plate . . . . .	1.4	1.4	$\mu\mu\text{f}$
Grid to cathode and heater. . .	1.8	2	$\mu\mu\text{f}$
Plate to cathode and heater . .	0.33	1.6	$\mu\mu\text{f}$

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

*Values are for Unit No. 1*

Average Value (RMS) . . . . . 1.8 microvolts  
 Measured in "true rms" units under the following conditions:  
 heater volts = 6.3 ac (parallel connection), center-tap of  
 heater transformer connected to ground, dc plate supply volts  
 = 250, plate load resistor (megohms) = 0.1, cathode resistor  
 (ohms) = 2700, cathode-bypass capacitor ( $\mu\text{f}$ ) = 100, grid  
 resistor (ohms) = 0, and amplifier covering frequency range  
 between 25 and 10,000 cps.

Maximum Value (RMS) . . . . . 7 microvolts  
 Measured in "true rms" units under the same conditions as  
 for "Average Value" except that the cathode resistor is  
 unbypassed, and grid resistor (megohms) = 0.05.

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

	<i>Unit No. 1</i>		<i>Unit No. 2</i>		
Plate Voltage . . . . .	100	250	100	250	volts
Grid Voltage. . . . .	-1	-2	0	-8.5	volts
Amplification Factor. . . . .	100	100	20	17	
Plate Resistance (Approx.). . .	80000	62500	6500	7700	ohms
Transconductance. . . . .	1250	1600	3100	2200	$\mu\text{mhos}$
Plate Current . . . . .	0.5	1.2	11.8	10.5	ma
Grid Voltage (Approx.) for plate $\mu\text{a} = 10$ . . . . .	-	-	-	-24	volts



## 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. . . . .	.9A

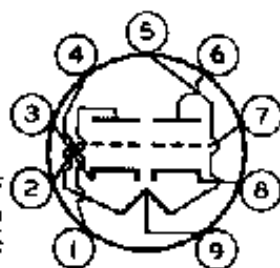
Pin 1 - Plate of Unit No. 2

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>

### Maximum Ratings, Design-Maximum Values:

	Unit No. 1	Unit No. 2	
PLATE VOLTAGE. . . . .	330 max.	330 max.	volts
GRID VOLTAGE:			
Negative-bias value. . . . .	55 max.	55 max.	volts
Positive-bias value. . . . .	0 max.	0 max.	volts
CATHODE CURRENT. . . . .	-	22 max.	ma
PLATE DISSIPATION. . . . .	1.2 max.	3 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode . . . . .	200 max.	200 max.	volts
Heater positive with respect to cathode . . . . .	200 <sup>b</sup> max.	200 <sup>b</sup> max.	volts

### Maximum Circuit Values:

	Unit No. 1	Unit No. 2
Grid-Circuit Resistance:		
For fixed-bias operation . . . . .	15 max.	0.5 max.
For cathode-bias operation . . . . .	-	1 max.

<sup>a</sup> With external shield JEDEC No. 315 connected to cathode of unit under test.

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

