

## 4328-A VALVE

PENTODE.

SPECIFICATION.

### Cathode.

Indirectly heated oxide coated.  
Constant current type.

### Base.

American small 6-pin.

Control grid connected to top cap type B.

The cathode should preferably be connected to the heater. If voltage must be applied between cathode and heater it should not exceed 150 volts.

### Dimensions.

Maximum overall length 4.9" (12.5 cms.)  
Maximum diameter 1.52" (3.8 cms.)  
Net weight 0.11 lb (50 gms.)

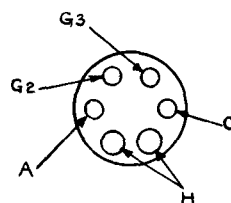
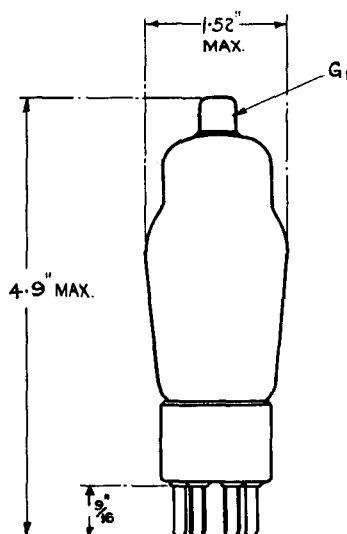
### Constants.

Nominal heater voltage 7.5 volts  
Heater current 0.425 amps.  
\*Mutual conductance 1.9 mA. per volt

### Inter-electrode Capacities.

Control grid to anode 0.025  $\mu\mu\text{F}$ .  
Suppressor grid to anode 12.5  $\mu\mu\text{F}$ .  
Anode to heater, cathode and screen grid 2.2  $\mu\mu\text{F}$ .  
Control grid to suppressor grid 1.8  $\mu\mu\text{F}$ .  
Control grid to heater, cathode and screen grid 4.0  $\mu\mu\text{F}$ .  
Suppressor grid to heater, cathode and screen grid 7.5  $\mu\mu\text{F}$ .

\*  $V_p = 250\text{v}$ .  $V_{g2} = 180\text{v}$ .  $V_{g3} = 0$ ,  
 $V_{g1} = -5.5\text{v}$ .



### LIMITING CONDITIONS FOR SAFE OPERATION.

|                                   |           |
|-----------------------------------|-----------|
| Maximum direct anode voltage      | 250 volts |
| Maximum direct screen voltage     | 180 volts |
| Maximum cathode current           | 10 mA.    |
| (screen current + anode current). |           |
| Maximum screen current            | 2.5 mA.   |

Note :— When this valve is used in series with other valves of a different type, protection should be provided for the heaters at the moment of switching on. For this purpose the 4120-AA and 4121-AA Ballast Lamps are available.

# —Standard Valves—

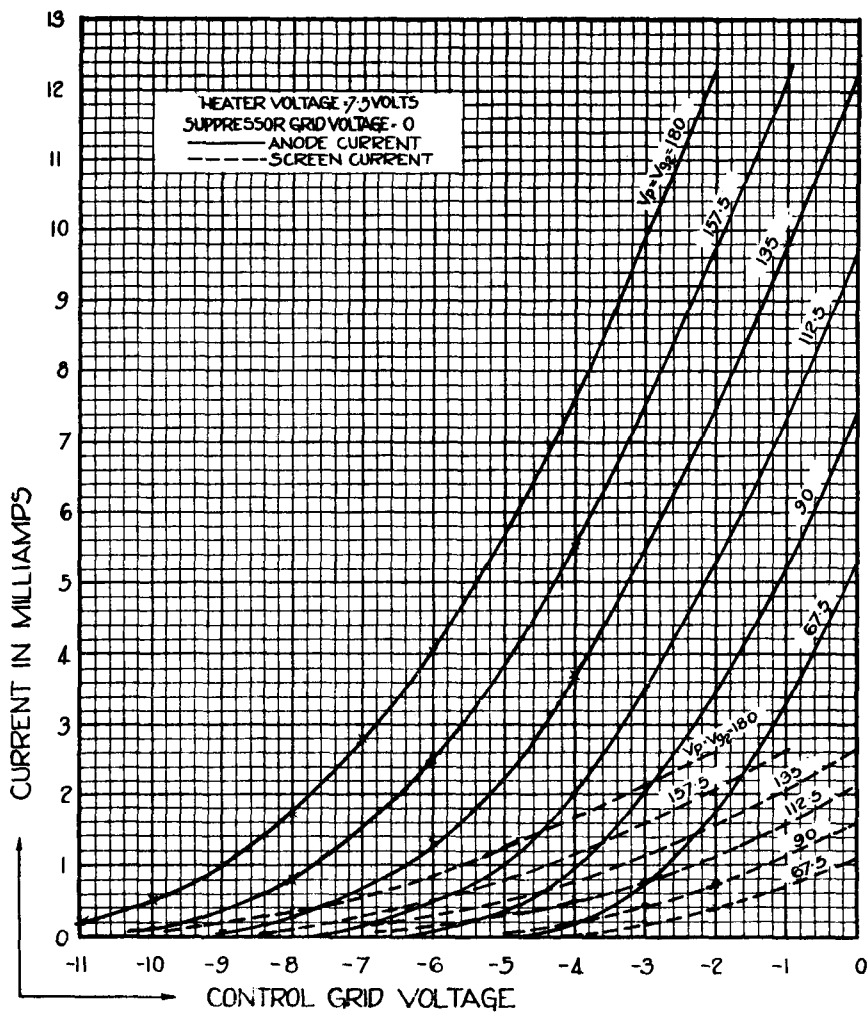
**TYPICAL OPERATING CONDITIONS.**

|                         |       |       |       |        |        |       |        |       |        |       |       |        |        |        |            |
|-------------------------|-------|-------|-------|--------|--------|-------|--------|-------|--------|-------|-------|--------|--------|--------|------------|
| Anode voltage           | 135   | 135   | 135   | 135    | 135    | 180   | 180    | 225   | 225    | *     | 250   | 250    | 250    | 250    | volts      |
| Screen grid voltage     | 135   | 135   | 135   | 135    | 135    | 135   | 135    | 135   | 135    | 135   | 135   | 135    | 135    | 135    | volts      |
| Control grid bias       | —3    | —3    | —3    | —3     | —3     | —3    | —3     | —3    | —3     | —3    | —3    | —3     | —3     | —3     | volts      |
| Suppressor grid voltage | 0     | 0     | 0     | 0      | 0      | 0     | 0      | 0     | 0      | 0     | 0     | 0      | 0      | 0      | volts      |
| Anode current           | 5.4   | 5.4   | 5.4   | 5.4    | 5.4    | 5.4   | 5.4    | 5.5   | 5.5    | 5.5   | 5.5   | 5.5    | 5.5    | 5.5    | mA.        |
| Load resistance         | 20000 | 60000 | 60000 | 100000 | 100000 | 40000 | 100000 | 60000 | 100000 | 60000 | 60000 | 100000 | 100000 | 100000 | ohms       |
| Input voltage           | 3.00  | 1.60  | 0.95  | 1.15   | 0.57   | 2.70  | 1.50   | 2.70  | 1.80   | 2.70  | 1.20  | 1.20   | 1.50   | 1.50   | peak volts |
| Output voltage          | —     | —     | —     | 100    | 75     | 50    | —      | 175   | —      | 220   | —     | —      | 250    | 200    | peak volts |
| Output power            | 250   | 130   | 60    | —      | —      | 340   | —      | 425   | —      | 480   | 110   | —      | —      | —      | mW         |
| Second harmonic         | 22    | 26    | 35    | 33     | 35     | 40    | 26     | 27    | 27     | 26    | 30    | 26     | 30     | 30     | db         |
| Third harmonic          | 30    | 28    | 45    | 39     | 50     | 55    | 28     | 30    | 31     | 30    | 55    | 29     | 43     | 43     | db         |

\* Maximum operating conditions.

# —Standard Valves—

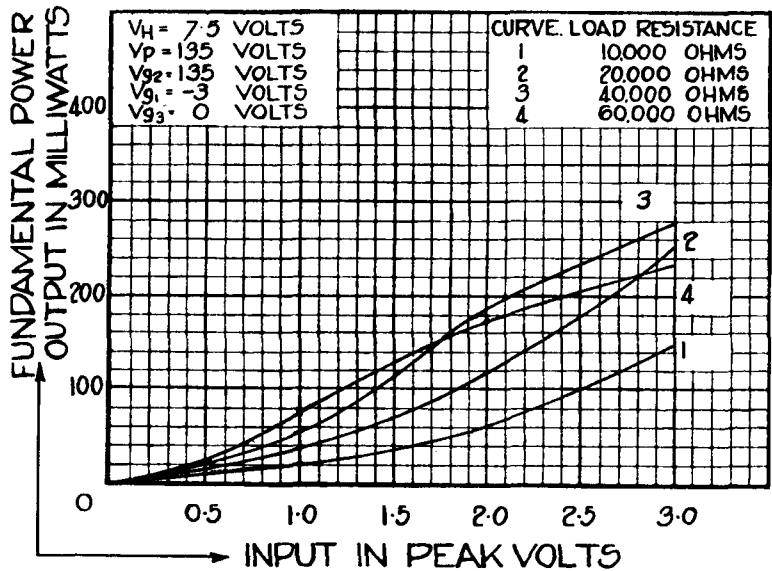
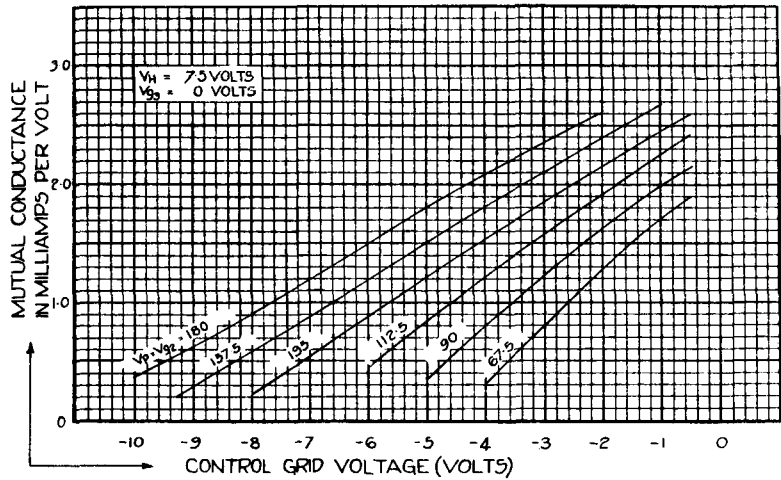
4328-A  
Valve



Tentative data

V.4328-A.2  
Sept. 1938

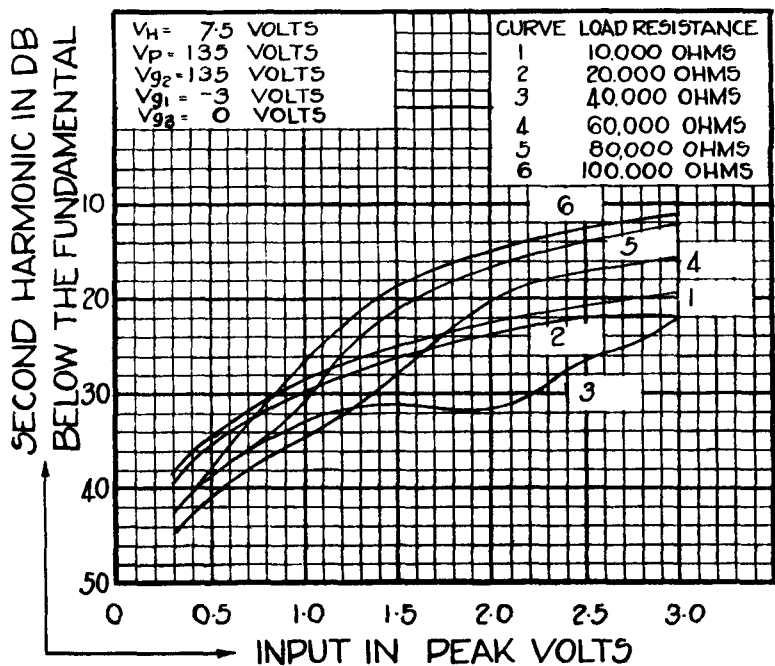
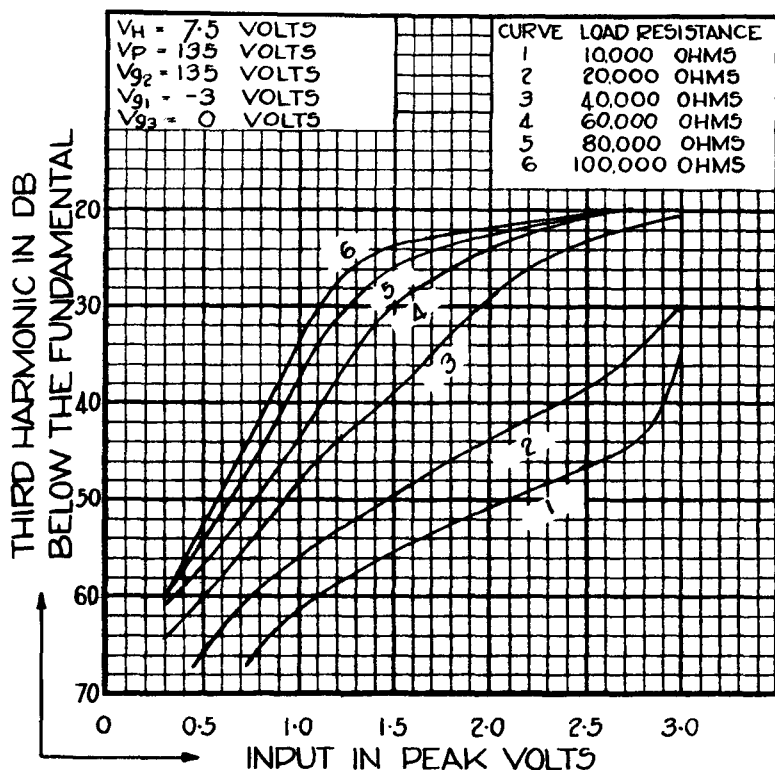
—Standard Valves—



# —Standard Valves—

4328-A  
Valve

## 4328.A VALVE



Tentative data

V.4328-A.3  
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