

# —Standard Valves—

4242-A  
Valve

## 4242-A VALVE

TRIODE.

The 4242-A valve is similar to the 4211-D valve but employs a molybdenum anode and hard glass bulb.

### SPECIFICATION.

#### Cathode.

Thoriated tungsten filament.  
Constant voltage type.

#### Base.

Large 4-pin bayonet.

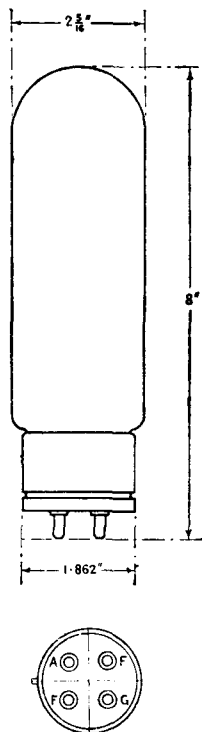
#### Dimensions.

Max. overall length 8" (20.4 cms.)  
Max. bulb diameter  $2\frac{5}{16}$ " (5.9 cms.)  
Net weight 0.36 lbs. (164 gms.)

#### Constants.

Filament voltage 10 volts  
Nominal filament current 3.25 amps.  
Total emission 1.5 amps.  
\*Impedance 3,100 ohms  
\*Amplification factor 13  
\*Mutual conductance 4.2 mA per volt  
Grid-anode capacity 13  $\mu\text{F}$ .  
Anode-filament capacity 4  $\mu\text{F}$ .  
Grid-filament capacity 6.5  $\mu\text{F}$ .

\* at  $V_p = 1,250$  volts,  $V_{g1} = -55$  volts.



### LIMITING CONDITIONS FOR SAFE OPERATION.

|                                               |             |
|-----------------------------------------------|-------------|
| Maximum direct anode voltage                  | 1,250 volts |
| Maximum direct anode current                  | 0.150 amps. |
| Maximum anode dissipation                     | 85 watts    |
| Maximum direct grid current                   | 0.050 amps. |
| Maximum frequency for above ratings           | 6 Mc.       |
| Maximum anode voltage for frequency of 30 Mc. | 600 volts   |

Note :—This valve should be mounted so that the plane of the filament is vertical.

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## TYPICAL OPERATING CONDITIONS.

|                      | Class A AF Amp. and Mod. |       |       |
|----------------------|--------------------------|-------|-------|
| Direct anode voltage | 1,250                    | 1,000 | volts |
| Grid bias            | —70                      | —46   | volts |
| Direct anode current | 0.060                    | 0.075 | amps. |
| Load impedance       | 10,000                   | 7,000 | ohms  |
| Undistorted output   | 18                       | 12    | watts |

|                                        | Class B AF Amp. and Mod.<br>For balanced 2 valve circuits. |       |       |
|----------------------------------------|------------------------------------------------------------|-------|-------|
| Direct anode voltage                   | 1,250                                                      | 1,000 | volts |
| Grid bias                              | —80                                                        | —55   | volts |
| Anode current per valve—zero signal    | 0.030                                                      | 0.030 | amps. |
| Anode current per valve—maximum signal | 0.150                                                      | 0.150 | amps. |
| Anode dissipation                      | 80                                                         | 70    | watts |
| Load resistance—anode to anode         | 8,000                                                      | 6,000 | ohms  |
| Maximum output—2 valves                | 200                                                        | 160   | watts |

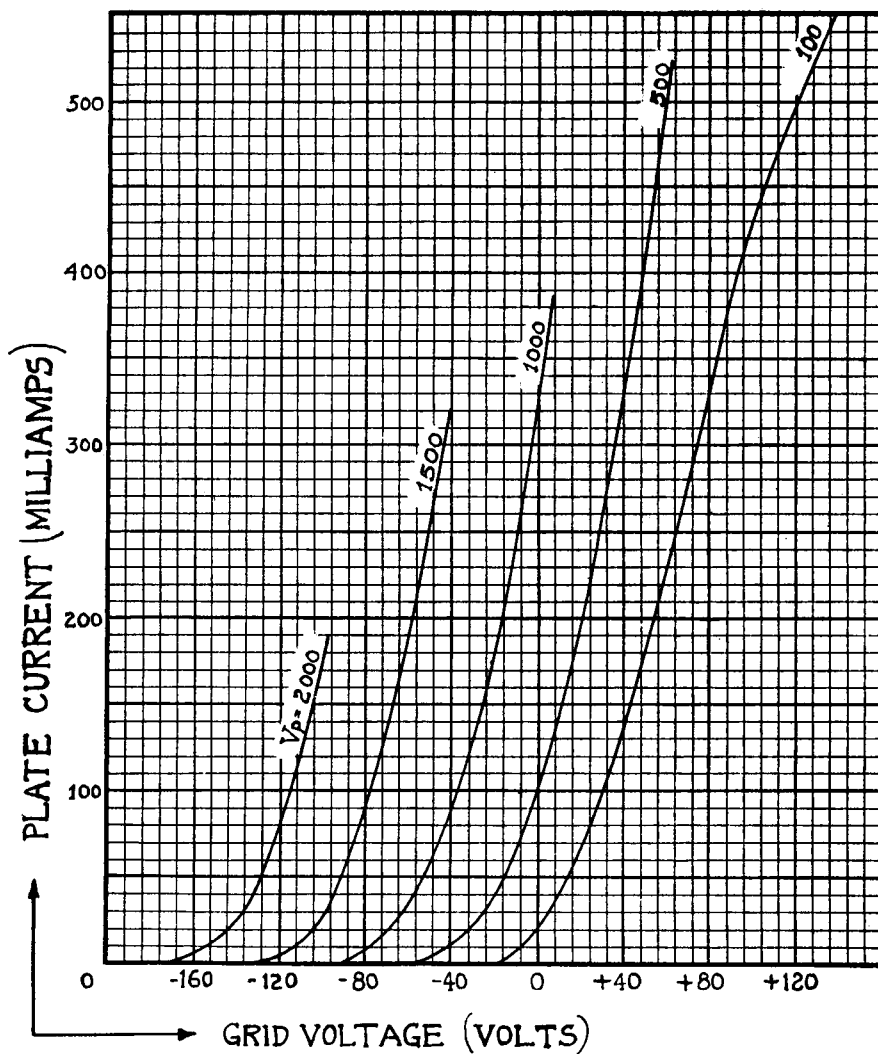
## RADIO FREQUENCY OPERATION.

|                      | Class B<br>Telephony                    |       | Class C<br>Telephony              |       | Class C<br>Telegraphy |                       |
|----------------------|-----------------------------------------|-------|-----------------------------------|-------|-----------------------|-----------------------|
|                      | Modulated<br>carrier<br>applied to grid |       | Subject to<br>anode<br>modulation |       | Unmodulated           |                       |
| Direct anode voltage | 1,250                                   | 1,000 | 1,000                             | 750   | 1,250                 | 1,000 volts           |
| Direct anode current | 0.106                                   | 0.130 | 0.150                             | 0.130 | 0.150                 | 0.150 amps.           |
| Grid bias            | —90                                     | —70   | —160                              | —120  | —150<br>—200          | —120 to<br>—160 volts |
| Carrier output       | 44                                      | 43    | 100                               | 64    | 130                   | 100 watts             |
| Anode dissipation    | 85                                      | 85    | 50                                | 32    | 58                    | 50 watts              |

The curves on sheet V.4242-A.2 are taken with A.C. filament heating, grid and anode voltages being referred to the centre point of the filament.

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