

# —Standard Valves—

4094-A  
Valve

## 4094-A VALVE

TRIODE.

This valve is similar to the 4012-A valve but employs a thoriated tungsten filament, molybdenum anode and hard glass bulb.

### SPECIFICATION.

#### Cathode.

Thoriated tungsten filament.  
Constant voltage type.

#### Base.

Large 4-pin bayonet.

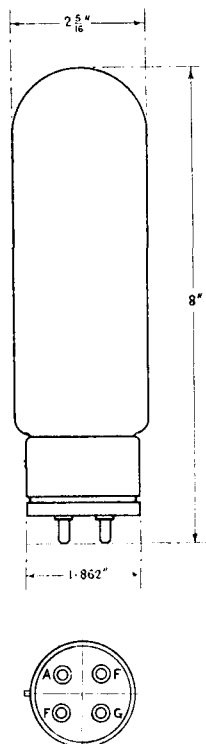
#### Dimensions.

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

#### Constants.

|                          |                       |
|--------------------------|-----------------------|
| Filament voltage         | 10 volts              |
| Nominal filament current | 3.25 amps.            |
| Total emission           | 1.5 amps.             |
| * Impedance              | 9,300 ohms.           |
| * Amplification factor   | 37                    |
| * Mutual conductance     | 4 mA. per volt.       |
| Anode-grid capacity      | 14 $\mu\mu\text{F}$ . |
| Grid-filament capacity   | 9 $\mu\mu\text{F}$ .  |
| Anode-filament capacity  | 4 $\mu\mu\text{F}$ .  |

\* at  $V_p = 1,000$  volts,  $I_p = 30$  mA.



### 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.

Tentative data

V.4094-A.1  
Sept. 1938

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## TYPICAL OPERATING CONDITIONS.

|                                     | Class B. A.F. Amp. and Mod.<br>For balanced 2-valve circuits. |             |
|-------------------------------------|---------------------------------------------------------------|-------------|
|                                     |                                                               |             |
| Direct anode voltage                | 1,250                                                         | 1,000 volts |
| Grid bias (approx.)                 | —25                                                           | —17 volts   |
| Anode current per valve—zero signal | 0.030                                                         | 0.030 amps. |
| 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   |

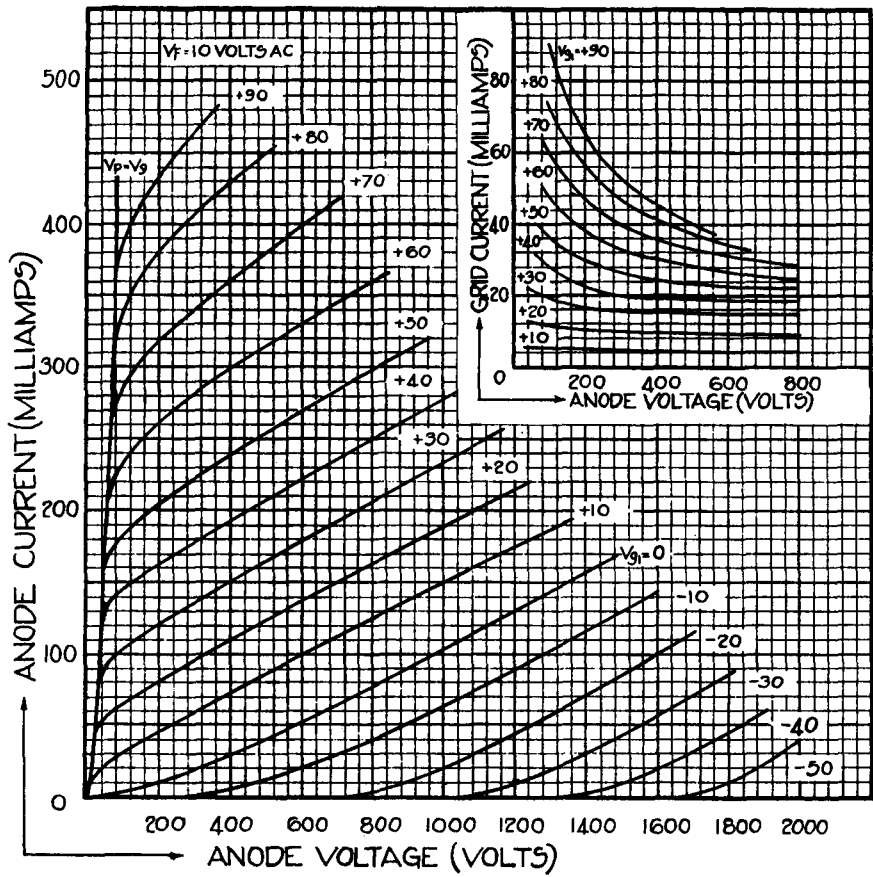
## RADIO FREQUENCY OPERATION.

|                      | Class B. Telephony                   |             |
|----------------------|--------------------------------------|-------------|
|                      | Modulated carrier<br>applied to grid |             |
| Direct anode voltage | 1,250                                | 1,000 volts |
| Direct anode current | 0.105                                | 0.130 amps. |
| Grid bias            | —30                                  | —20 volts   |
| Carrier output       | 45                                   | 43 watts    |
| Anode dissipation    | 85                                   | 87 watts    |

|                      | Class C.<br>Telephony             |       | Class C.<br>Telegraphy |                      |
|----------------------|-----------------------------------|-------|------------------------|----------------------|
|                      | Subject to<br>anode<br>modulation |       | Unmodulated            |                      |
| Direct anode voltage | 1,000                             | 750   | 1,250                  | 1,000 volts          |
| Direct anode current | 0.150                             | 0.130 | 0.150                  | 0.150 amps.          |
| Grid bias            | —60                               | —40   | —70 to<br>—120         | —60 to<br>—100 volts |
| Carrier output       | 100                               | 65    | 130                    | 100 watts            |
| Anode dissipation    | 50                                | 32    | 57.5                   | 50 watts             |

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