

# —Standard Valves—

4212-D  
Valve

## 4212-D VALVE

TRIODE.

For replacement purposes only.

The 4212-D valve employs an oxidised nickel anode and has been replaced by the 4212-E valve.

### SPECIFICATION.

#### Cathode.

Oxide coated filament.  
Constant voltage type.

#### Base.

Extra large 4-pin bayonet.

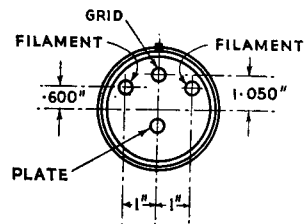
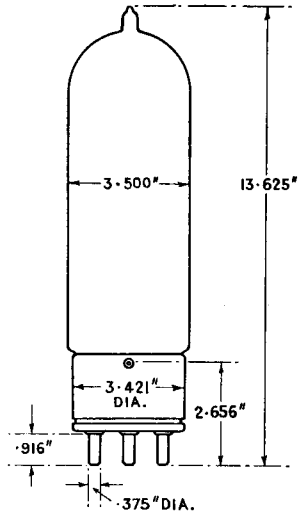
#### Dimensions.

Overall length  $13\frac{5}{8}"$  (34.5 cms.)  
Maximum diameter  $3\frac{1}{2}"$  (8.9 cms.)  
Net weight  $1\frac{1}{8}$  lbs. (750 gms.)

#### Constants.

Filament voltage 14 volts  
Nominal filament current 6 amps.  
\*Impedance 2,000 ohms  
\*Amplification factor 16  
\*Mutual conductance 8 mA. per volt  
Grid-anode capacity  $18.5 \mu\mu\text{F.}$   
Anode-filament capacity  $6 \mu\mu\text{F.}$   
Grid-filament capacity  $18.5 \mu\mu\text{F.}$

\* at anode current of 130 mA.



### LIMITING CONDITIONS FOR SAFE OPERATION.

Maximum direct anode voltage 2,000 volts  
Maximum direct anode current 300 mA.  
Maximum anode dissipation 200 watts  
Maximum direct grid current 75 mA.  
Maximum frequency for above ratings 1.5 Mc.  
Maximum anode voltage for frequency of 4.5 Mc. 750 volts

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

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## TYPICAL OPERATING CONDITIONS.

|                      | Class A AF Amp. |
|----------------------|-----------------|
| Direct anode voltage | 1,500 volts     |
| Grid bias            | —67 volts       |
| Direct anode current | 130 mA.         |
| Anode dissipation    | 150 watts       |
| Load impedance       | 4,000 ohms      |
| Undistorted output   | 45 watts        |

|  | Class B AF Amp. and Mod.<br>For balanced 2 valve circuit |             |
|--|--|-------------|
| Direct anode voltage                   | 1,600  | 1,600 volts |
| Grid bias                              | —80  | —70 to      |
|  | —100   | —90 volts   |
| Anode current per valve—zero signal    | 33   | 50 mA.      |
| Anode current per valve—maximum signal | 167  | 250 mA.     |
| Anode dissipation                      | 122  | 175 watts   |
| Load resistance—anode to anode         | 8,000  | 6,000 ohms  |
| Maximum output—2 valves                | 290  | 450 watts   |

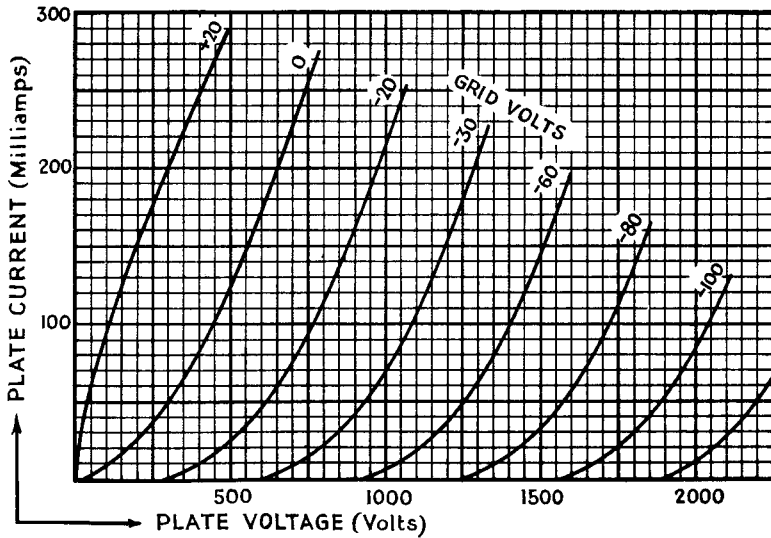
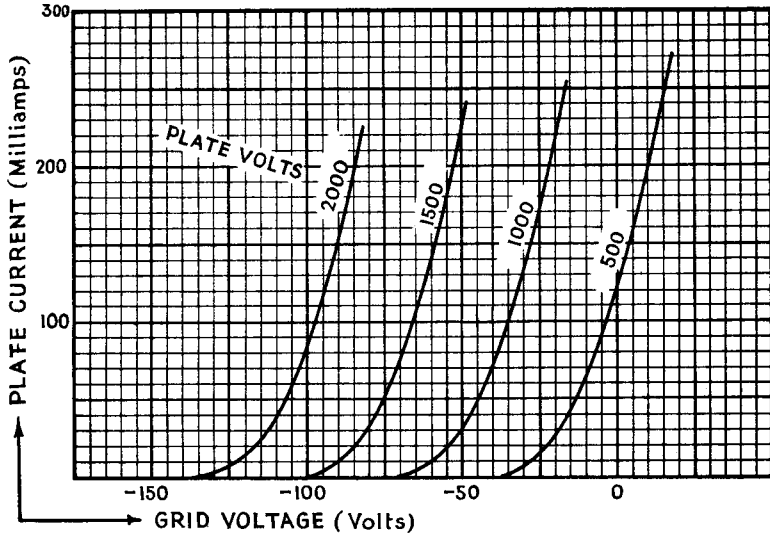
## RADIO FREQUENCY OPERATION.

|                      | 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 | 1,000                                   | 1,500 | 750                               | 1,000 | 1,000                 | 1,500 volts |
| Direct anode current | 250                                     | 200   | 250                               | 250   | 250                   | 250 mA.     |
| Grid bias            | —50                                     | —80   | —100                              | —140  | —140                  | —200 to     |
|                      |   |       |                                   |       | —200                  | —300 volts  |
| Anode dissipation    | 167                                     | 200   | 62                                | 83    | 83                    | 125 watts   |
| Carrier output       | 83                                      | 100   | 125                               | 167   | 167                   | 250 watts   |

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These curves are taken with direct filament heating, grid and anode voltages being referred to negative end of filament.



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