



**TRIODE  
 POWER AMPLIFIER**

*Western Electric*

**DESCRIPTION**

The 300B is a filamentary type triode designed for use as an audio-frequency power amplifier.

**CHARACTERISTICS**

|                            |                 |
|----------------------------|-----------------|
| Filament Voltage . . . . . | 5.0 volts       |
| Plate Current . . . . .    | 60 milliamperes |
| Power Output . . . . .     | 8 watts         |

$\left. \begin{array}{l} E_b = 350 \text{ volts;} \\ E_c = -74 \text{ volts} \end{array} \right\} . . . . .$

**GENERAL CHARACTERISTICS****ELECTRICAL DATA**

|   |             |
|---|-------------|
| Filament Voltage, A-C or D-C . . . . .    | 5.0 volts   |
| Filament Current . . . . .                | 1.2 amperes |
| <b>Direct Interelectrode Capacitances</b> |             |
| Grid to Plate . . . . .                   | 15 uuf      |
| Input . . . . .                           | 8.5 uuf     |
| Output . . . . .                          | 4.1 uuf     |

**MECHANICAL DATA**

|                             |   |
|-----------------------------|---|
| Cathode . . . . .           | Coated Filament   |
| Base . . . . .              | Medium 4-pin with skew bayonet pin  |
| Mounting Position . . . . . | Preferably vertical; if horizontal, pins #1 and #2 must be in same vertical plane |

Dimensions and pin connections shown in outline drawing on Page 6

**MAXIMUM RATINGS, Design-Center Values**

|                             |                  |
|-----------------------------|------------------|
| Plate Voltage . . . . .     | 400 volts        |
| Plate Current . . . . .     | 100 milliamperes |
| Plate Dissipation . . . . . | 36 watts         |

**Maximum Grid Circuit Resistance for**

|                      |             |
|----------------------|-------------|
| Fixed Bias . . . . . | 0.05 megohm |
| Self Bias . . . . .  | 0.25 megohm |

**TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS****SINGLE TUBE AMPLIFIER — CLASS A<sub>1</sub>**

|  |      |                 |
|--|------|-----------------|
| Filament Voltage, A-C . . . . .        | 5.0  | 5.0 volts       |
| Plate Voltage . . . . .                | 300  | 350 volts       |
| Grid Voltage . . . . .                 | -61  | -74 volts       |
| Peak A-F Signal Voltage . . . . .      | 61   | 74 volts        |
| Zero Signal Plate Current . . . . .    | 62   | 60 milliamperes |
| Maximum Signal Plate Current . . . . . | 74   | 77 milliamperes |
| Transconductance . . . . .             | 5300 | 5000 micromhos  |
| Plate Resistance . . . . .             | 740  | 790 ohms        |
| Load Resistance . . . . .              | 3000 | 4000 ohms       |
| Amplification Factor . . . . .         | 3.9  | 3.9             |
| Maximum Signal Power Output . . . . .  | 6    | 7 watts         |
| Total Harmonic Distortion . . . . .    | 5    | 5 per cent      |

**PUSH-PULL AMPLIFIER — CLASS A<sub>1</sub>**

Unless otherwise specified, values are for 2 tubes

|  |      |                  |
|--|------|------------------|
| Filament Voltage, A-C . . . . .                      | 5.0  | 5.0 volts        |
| Plate Voltage . . . . .                              | 300  | 350 volts        |
| Grid Voltage* . . . . .                              | -61  | -67.5 volts      |
| Peak A-F Grid-to-Grid Voltage . . . . .              | 122  | 135 volts        |
| Zero Signal Plate Current . . . . .                  | 100  | 170 milliamperes |
| Maximum Signal Plate Current . . . . .               | 150  | 200 milliamperes |
| Effective Load Resistance (Plate-to-Plate) . . . . . | 4000 | 4000 ohms        |
| Maximum Signal Power Output . . . . .                | 10   | 20 watts         |
| Total Harmonic Distortion . . . . .                  | 4.5  | 2 per cent       |

\*If the filament is operated on D.C., the characteristics will be approximately the same if the grid voltage, measured from the negative filament, is decreased by 2.5 volts.

