



**TRIODE**  
**AUDIO-FREQUENCY AMPLIFIER**

*Western Electric*

**DESCRIPTION**

The 102D is a filamentary type triode. It is designed for use as an audio-frequency voltage amplifier or modulator.

**CHARACTERISTICS**

Filament Current . . . . .	1.0 ampere
Maximum Plate Voltage . . . . .	180 volts
Amplification Factor . . . . .	30

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

Filament Current . . . . .	1.0 ampere
Filament Voltage, Nominal* . . . . .	2.1 volts
Direct Interelectrode Capacitances	without external shield
Grid to Plate . . . . .	5.4 uuf
Input . . . . .	4.1 uuf
Output . . . . .	2.6 uuf

**MECHANICAL DATA**

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

Dimensions and pin connections shown in outline drawing on Page 5

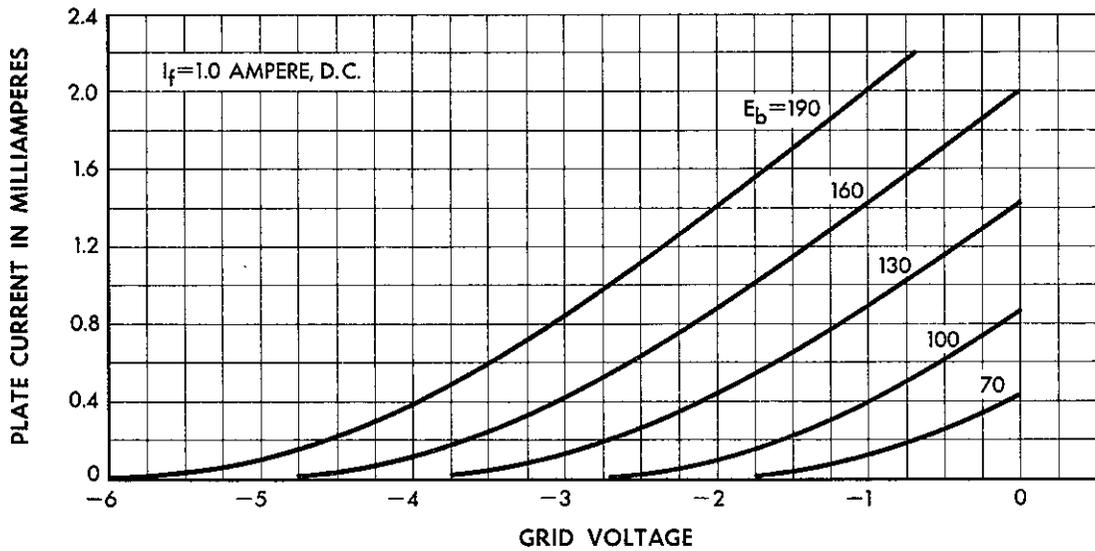
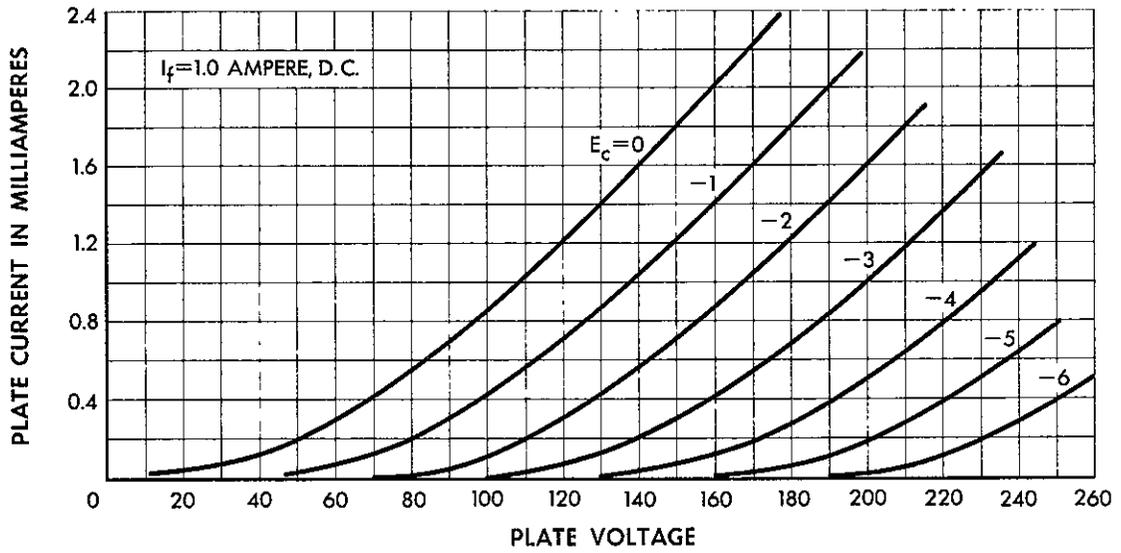
**MAXIMUM RATINGS, Design-Center Values**

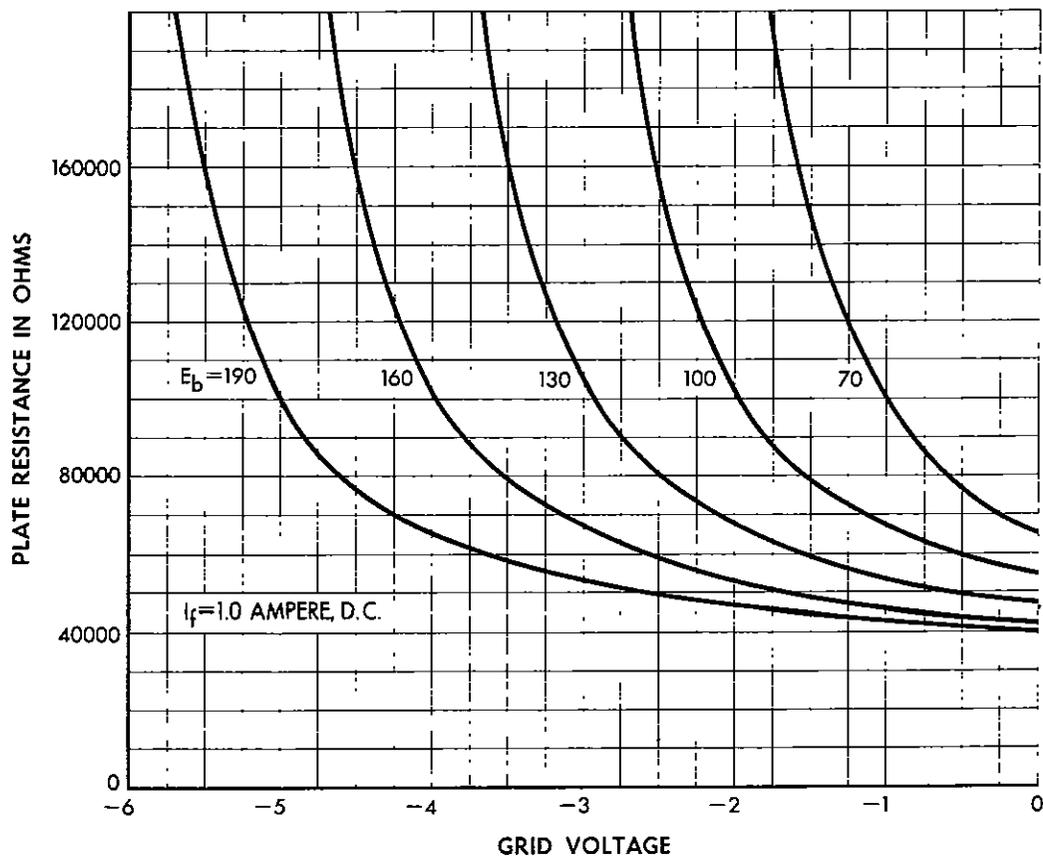
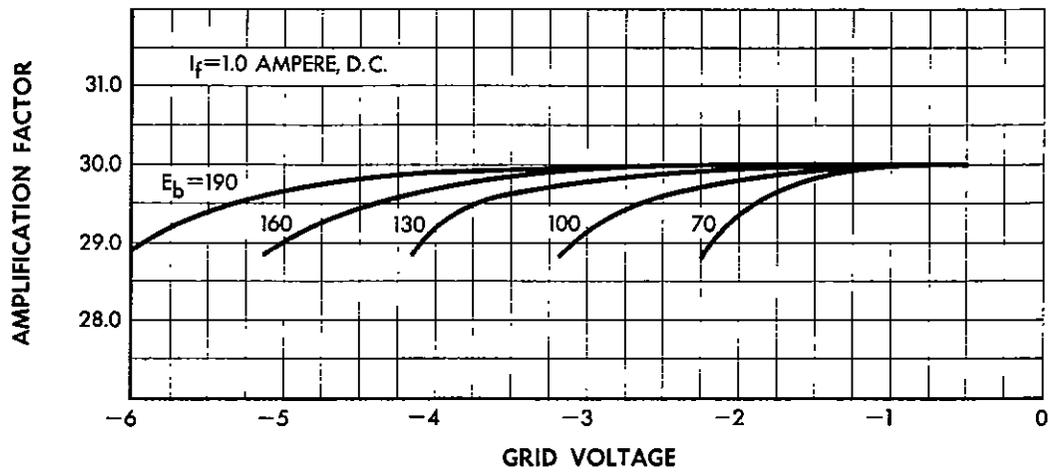
Plate Voltage . . . . .	180 volts
Plate Dissipation . . . . .	0.5 watt
Plate Current . . . . .	7.5 milliamperes

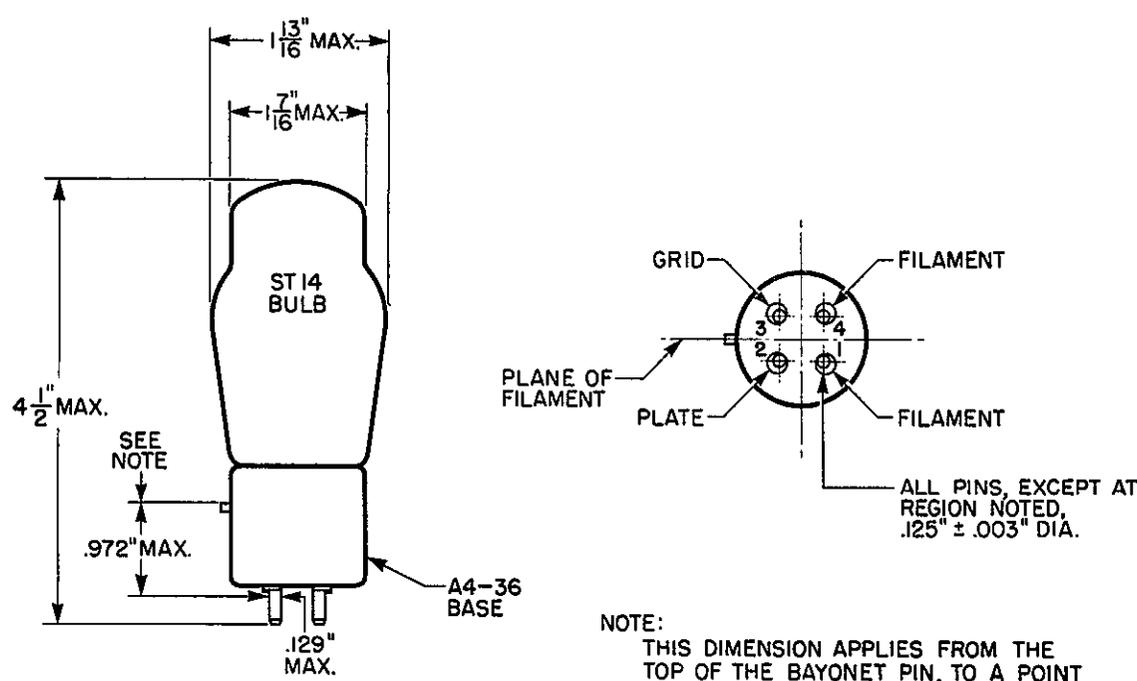
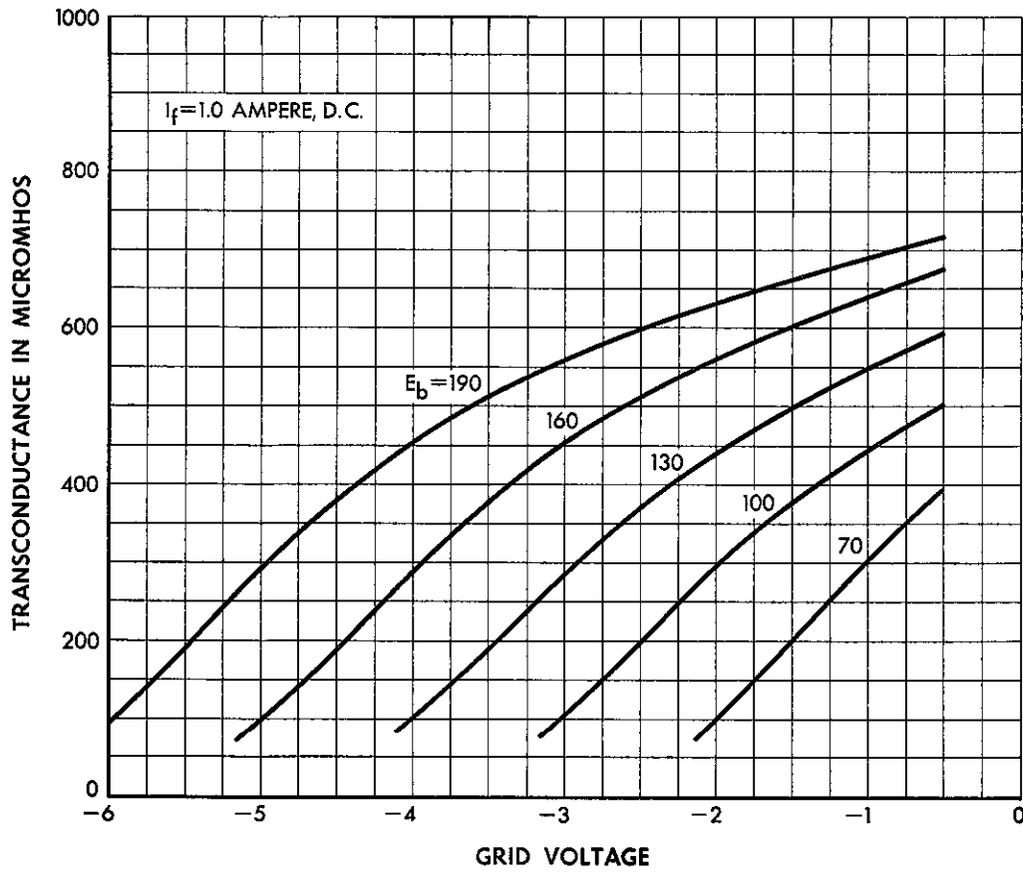
**TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS—CLASS A<sub>1</sub> AMPLIFIER**

Filament Current, D-C . . . . .	1.0	1.0 ampere
Plate Voltage . . . . .	130	160 volts
Grid Voltage . . . . .	-1.5	-2.0 volts
Peak A-F Grid Voltage . . . . .	1.5	2.0 volts
Plate Current . . . . .	0.65	0.87 milliampere
Transconductance . . . . .	500	560 micromhos
Amplification Factor . . . . .	29.9	29.9
Plate Resistance . . . . .	60000	53500 ohms
Load Resistance . . . . .	300000	300000 ohms
Maximum-Signal Voltage Output . . . . .	29	37 peak volts
Total Harmonic Distortion Less Than . . . . .	1.0	1.0 per cent

\* The filament resistance of this tube increases slightly during the first year of operating life. The voltage given above is the nominal value after the filament resistance has stabilized.







NOTE:  
 THIS DIMENSION APPLIES FROM THE TOP OF THE BAYONET PIN, TO A POINT ON THE STUD WHERE THE DIAMETER OF THE STUD PLUS SOLDER DOES NOT EXCEED .129 MAX.

*Western Electric*

A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company.