

**TETRODE
BEAM POWER AMPLIFIER**

Western Electric

DESCRIPTION

The 350B is a beam power tetrode of the neater-cathode type. It is designed for use as an audio-frequency amplifier or as a radio-frequency oscillator.

CHARACTERISTICS

Heater Voltage	} $E_b = E_{c_2} = 250$ volts ; {	6.3 volts
Plate Current		93 milliamperes
Transconductance		8300 micromhos
Power Output		10.5 watts
	} $E_{c_1} = -14$ volts {	

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350B
TETRODE

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Heater Voltage, A-C or D-C	6.3 volts
Heater Current	1.6 amperes
Direct Interelectrode Capacitances (without external shield)	
Grid to Plate (maximum)	0.5 uuf
Input	16 uuf
Output	8 uuf

MECHANICAL DATA

Cathode	Coated Unipotential
Bulb	ST16
Base	Medium shell, 7-pin octal
Mounting Position	Any

MAXIMUM RATINGS, Design-Center Values

Plate Voltage	360 volts
Screen Grid Voltage	270 volts
Maximum Signal Plate Current	125 milliamperes
Plate Dissipation	27 watts
Screen Grid Dissipation	4 watts

Maximum Grid Circuit Resistance for

Fixed Bias	0.1 megohm
Cathode Bias	0.5 megohm

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

SINGLE TUBE AMPLIFIER-CLASS A₁

Plate Voltage	250	350	250 volts
Screen Grid Voltage	250	250	250 volts
Control Grid Voltage	-14	-18	··· volts
Cathode Resistor	···	···	130 ohms
Peak A-F Grid Voltage	14	18	14 volts
Zero Signal Plate Current	93	62	93 milliamperes
Maximum Signal Plate Current	97	81	89 milliamperes
Zero Signal Screen Grid Current	6.0	2.5	5.0 milliamperes
Maximum Signal Screen Grid Current	15	16	16 milliamperes
Transconductance	8300	7100	8500 micromhos
Plate Resistance	37500	57500	34500 ohms
Load Resistance	2000	3200	2500 ohms
Maximum Signal Power Output	10.5	15.8	9.6 watts
Total Harmonic Distortion	11	18	11 per cent

SINGLE TUBE AMPLIFIER (TRIODE CONNECTIONS*)—CLASS A₁

Plate Voltage	250	250 volts
Control Grid Voltage	-20	... volts
Cathode Resistor	...	350 ohms
Peak A-F Grid Voltage	20	20 volts
Zero Signal Plate Current	50	50 milliamperes
Maximum Signal Plate Current	56.0	52.2 milliamperes
Transconductance	6400	6800 micromhos
Amplification Factor	8	8
Plate Resistance	1250	1180 ohms
Load Resistance	5000	6000 ohms
Maximum Signal Power Output	1.7	1.5 watts
Total Harmonic Distortion	5	3.6 per cent

PUSH-PULL AMPLIFIER—CLASS A₁

Unless otherwise specified, values are for 2 tubes

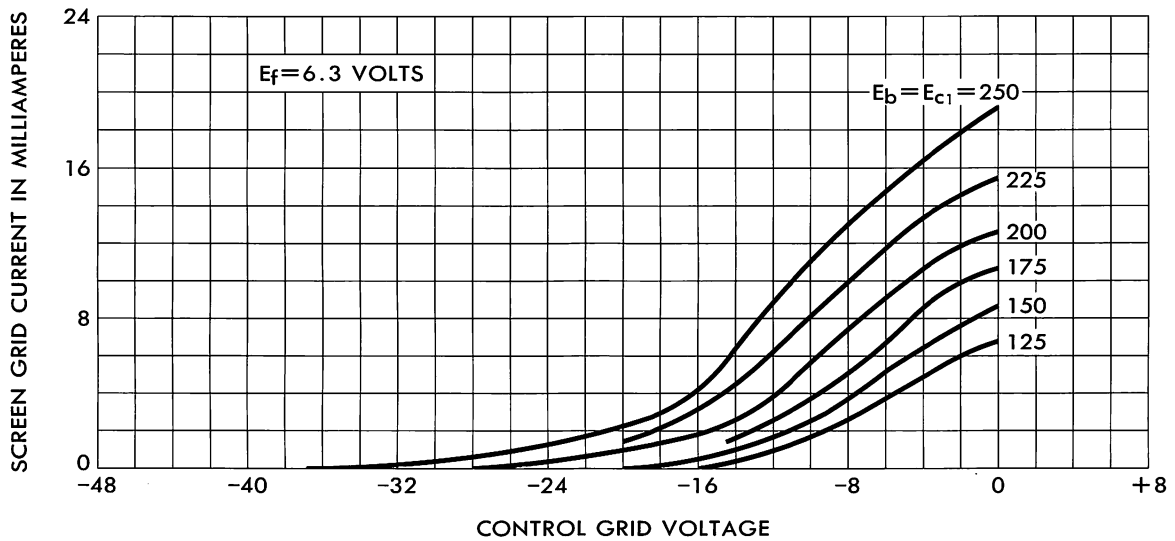
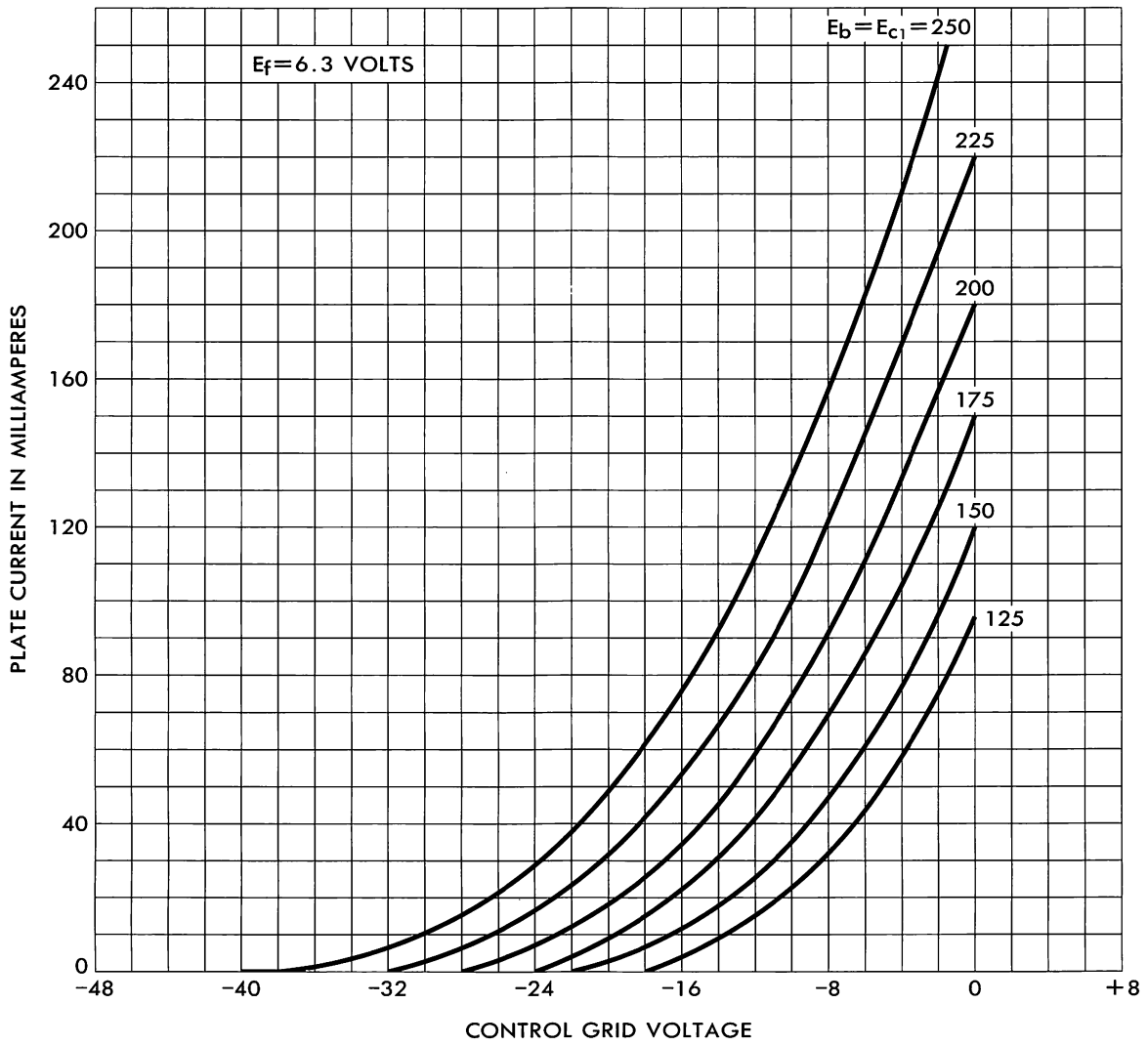
Plate Voltage	250	270	270 volts
Screen Grid Voltage	250	270	270 volts
Control Grid Voltage	-15	-17.5	... volts
Cathode Resistor	75 ohms
Peak A-F Grid-to-Grid Voltage	30	35	32 volts
Zero Signal Plate Current	165	163	184 milliamperes
Maximum Signal Plate Current	203	212	196 milliamperes
Zero Signal Screen Grid Current	13	12	16 milliamperes
Maximum Signal Screen Grid Current	24	28	24 milliamperes
Transconductance	8200	8050	9500 micromhos
Plate Resistance	37500	50000	35500 ohms
Effective Load Resistance (Plate-to-Plate)	2000	2000	3000 ohms
Maximum Signal Power Output	15.5	20.0	18.6 watts
Total Harmonic Distortion	2.5	3.5	6.3 per cent

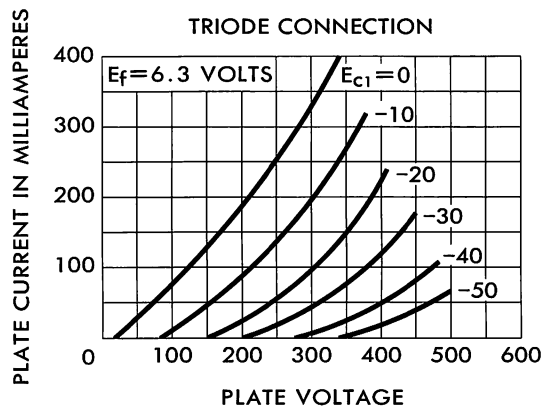
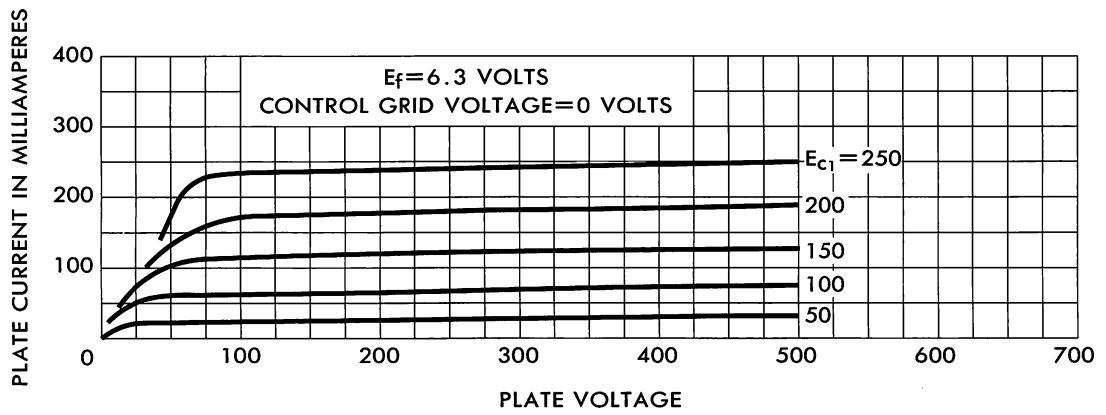
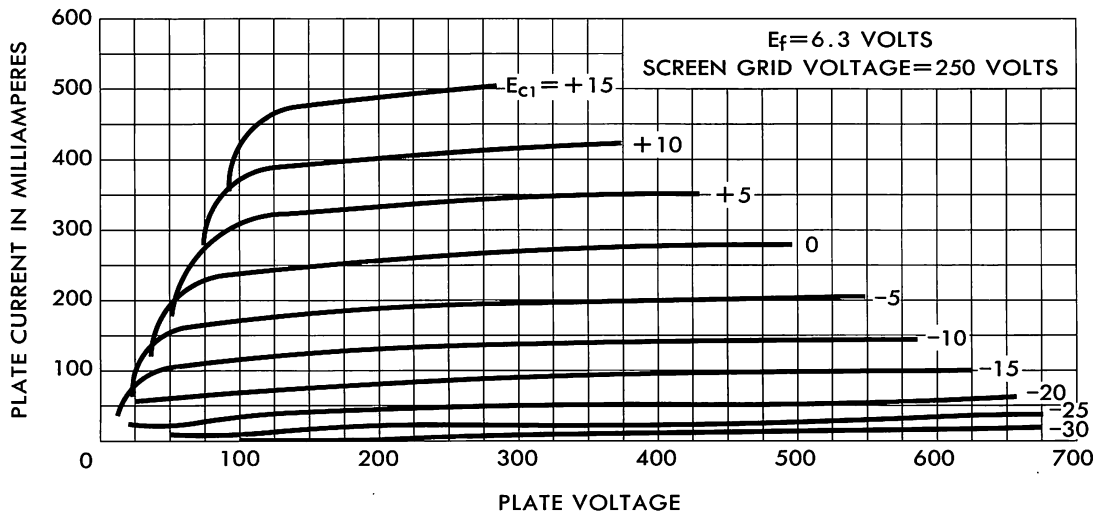
PUSH-PULL AMPLIFIER—CLASS AB₁

Unless otherwise specified, values are for 2 tubes

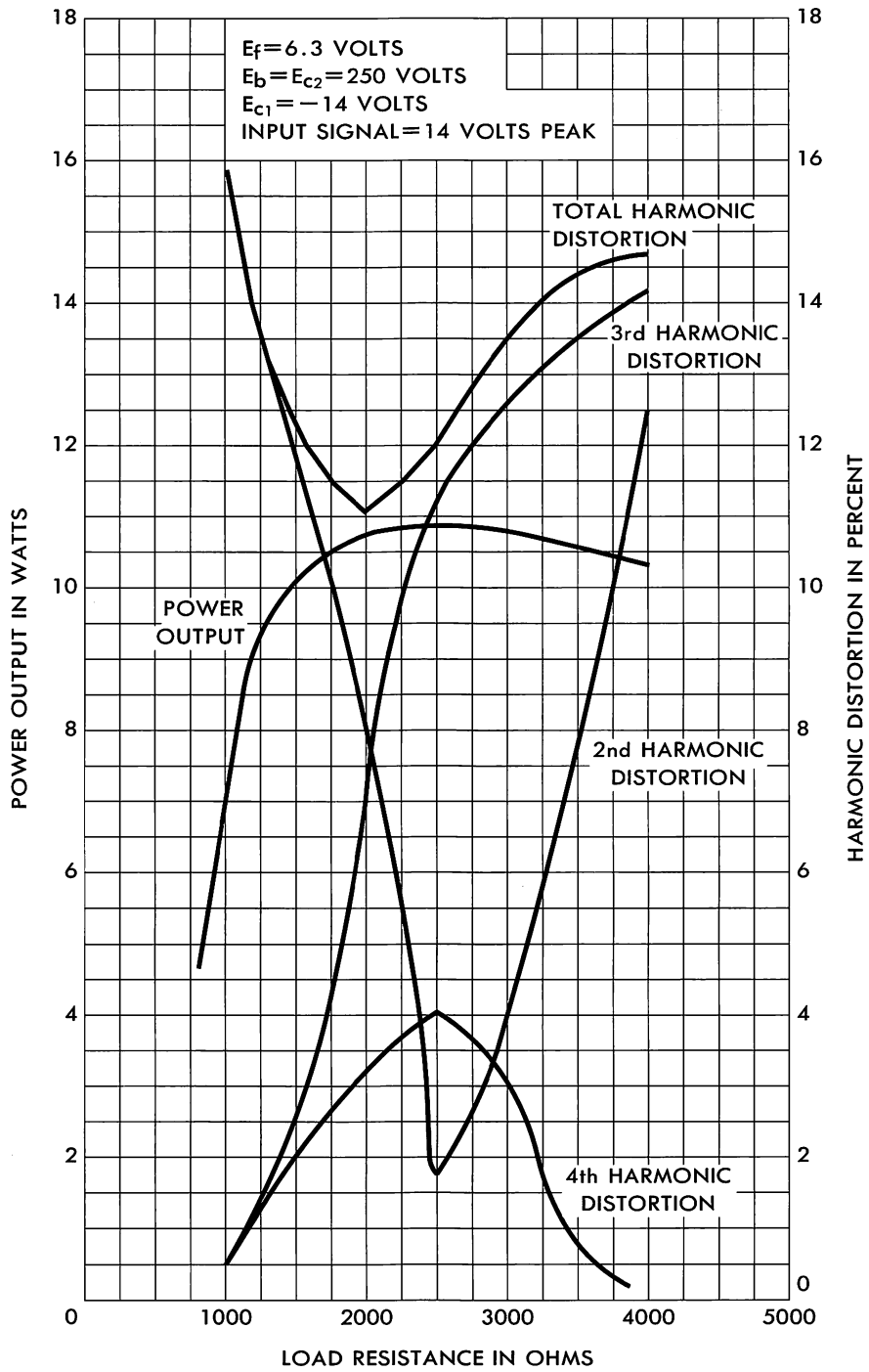
Plate Voltage	360	360 volts
Screen Grid Voltage	270	270 volts
Control Grid Voltage	-25	... volts
Cathode Resistor	...	130 ohms
Peak A-F Grid-to-Grid Voltage	50	45 volts
Zero Signal Plate Current	68	132 milliamperes
Maximum Signal Plate Current	162	155 milliamperes
Zero Signal Screen Grid Current	2.5	5.5 milliamperes
Maximum Signal Screen Grid Current	24.5	18 milliamperes
Effective Load Resistance (Plate-to-Plate)	3000	5000 ohms
Maximum Signal Power Output	22	25 watts
Total Harmonic Distortion	5	14 per cent

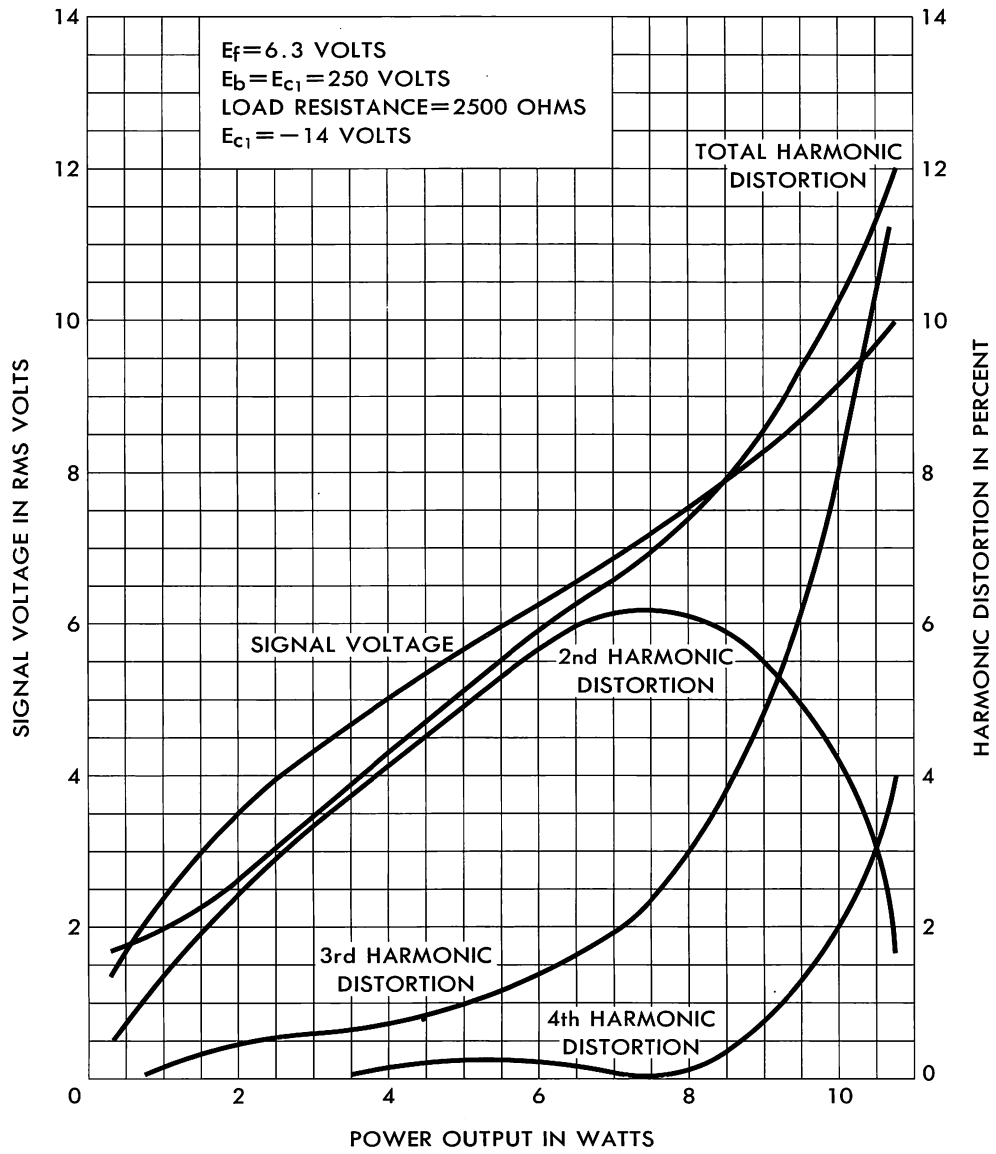
*Screen Grid connected to plate.



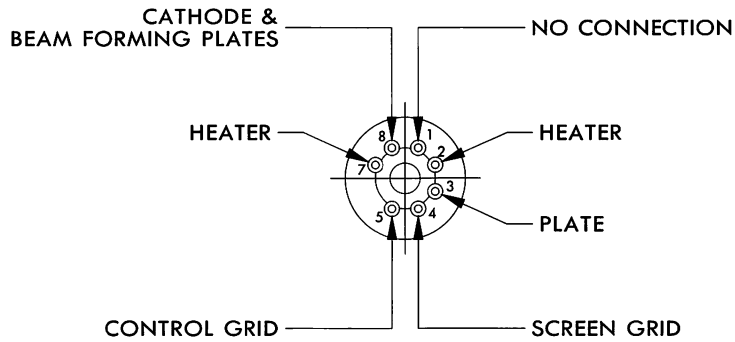
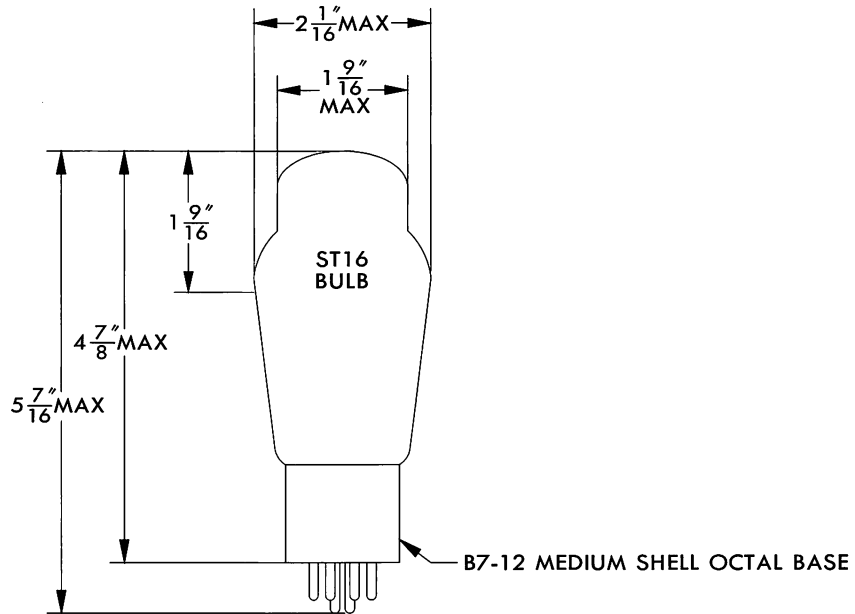


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A development of Bell Telephone Laboratories, the research laboratories of the American Telephone and Telegraph Company and the Western Electric Company