

**TRIODE
AUDIO-FREQUENCY AMPLIFIER**

Western Electric

DESCRIPTION

The 347A is a triode designed for use as an audio-frequency amplifier where exceptionally low tube noise is required. Special design features minimize both the microphonic noise and the hum produced by a.c. operation of the heater.

CHARACTERISTICS

Heater Voltage	6.3 volts
Maximum Plate Voltage	180 volts
Amplification Factor	15

GENERAL CHARACTERISTICS**ELECTRICAL DATA**

Heater Voltage, A-C or D-C	6.3 volts
Heater Current	0.50 ampere
Direct Interelectrode Capacitances (without external shield)	
Grid to Plate	1.9 uuf
Input	2.4 uuf
Output	3.8 uuf

MECHANICAL DATA

Cathode	Coated Unipotential
Bulb	ST 12
Base	Small Shell Octal 5-Pin
Mounting Position	Any
Dimensions and pin connections shown in outline drawing on Page 5	

MAXIMUM RATINGS, Design-Center Values

Plate Voltage	180 volts
Plate Dissipation	2.0 watts
Plate Current	10.0 milliamperes
Heater-Cathode Voltage	30 volts

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS—CLASS A₁ AMPLIFIER

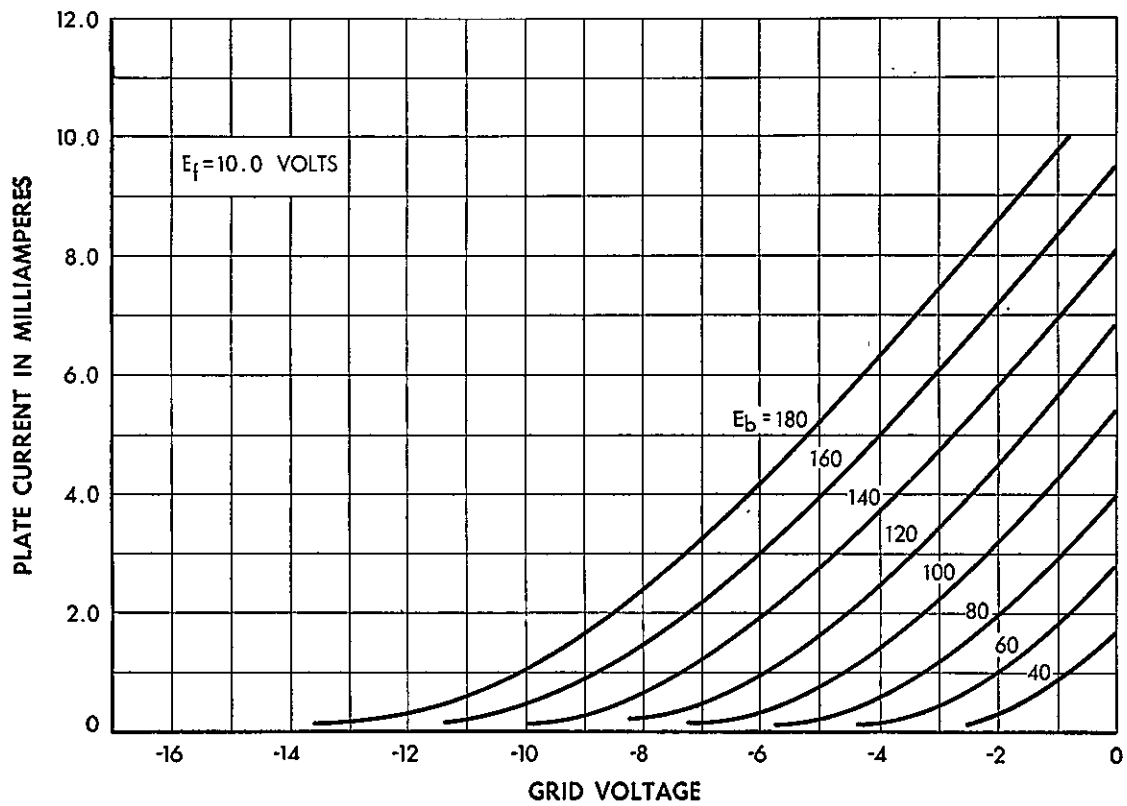
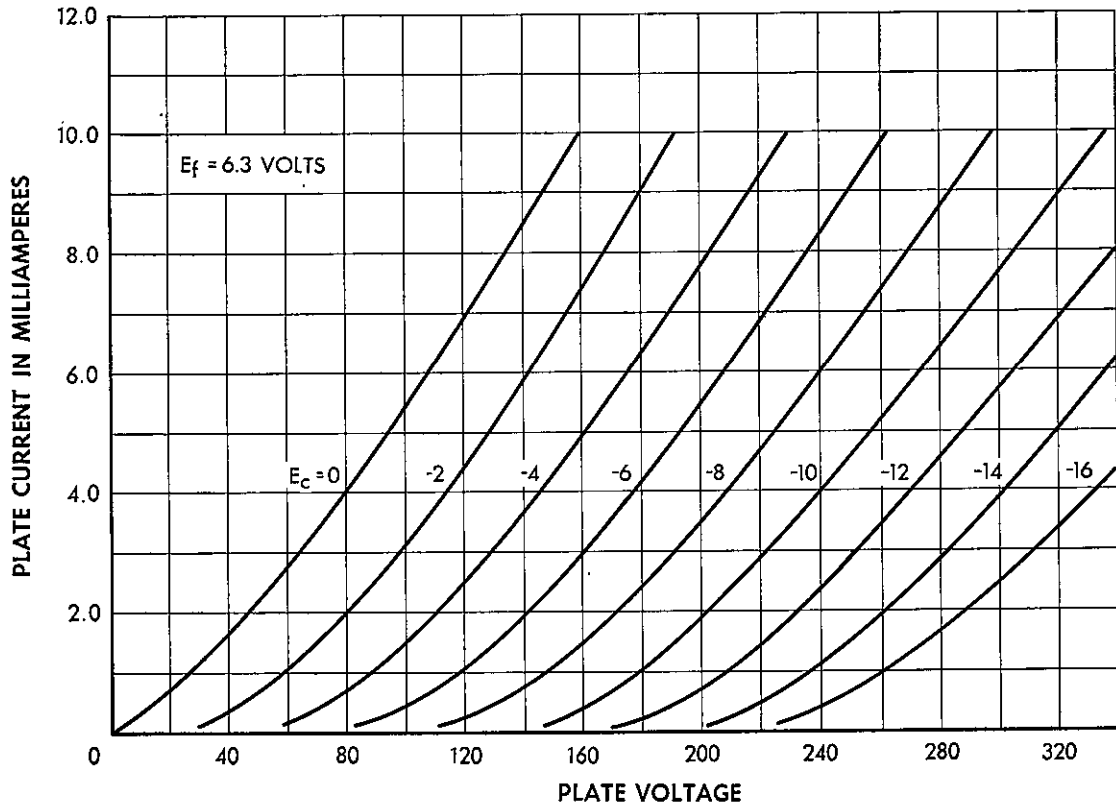
Plate Voltage	120	135	160	180 volts
Grid Voltage	-6.0	-4.5	-6.0	-7.5 volts
Peak A-F Grid Voltage	6.0	4.5	6.0	7.5 volts
Plate Current	1.0	3.0	3.0	2.8 milliamperes
Transconductance	560	890	880	840 micromhos
Amplification Factor	14.8	15.4	15.5	15.3
Plate Resistance	26600	17300	17700	18300 ohms
Load Resistance	100000	100000	100000	100000 ohms
Maximum Signal Power Output	24	18	31	48 milliwatts
Total Harmonic Distortion	4	2.5	3	3 percent

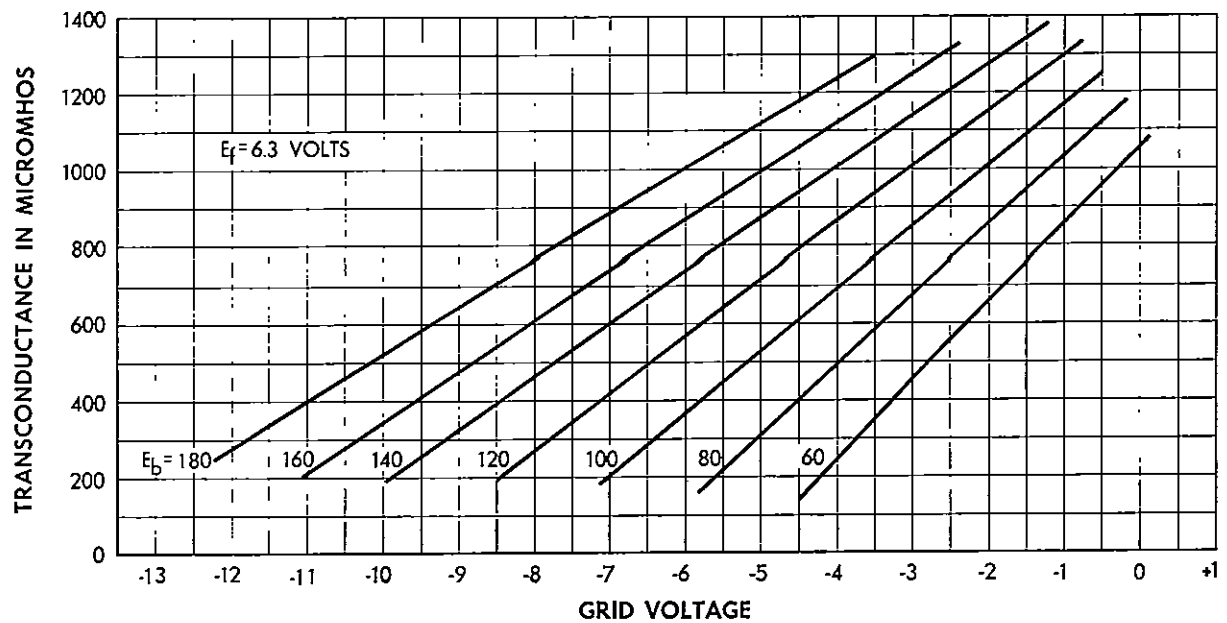
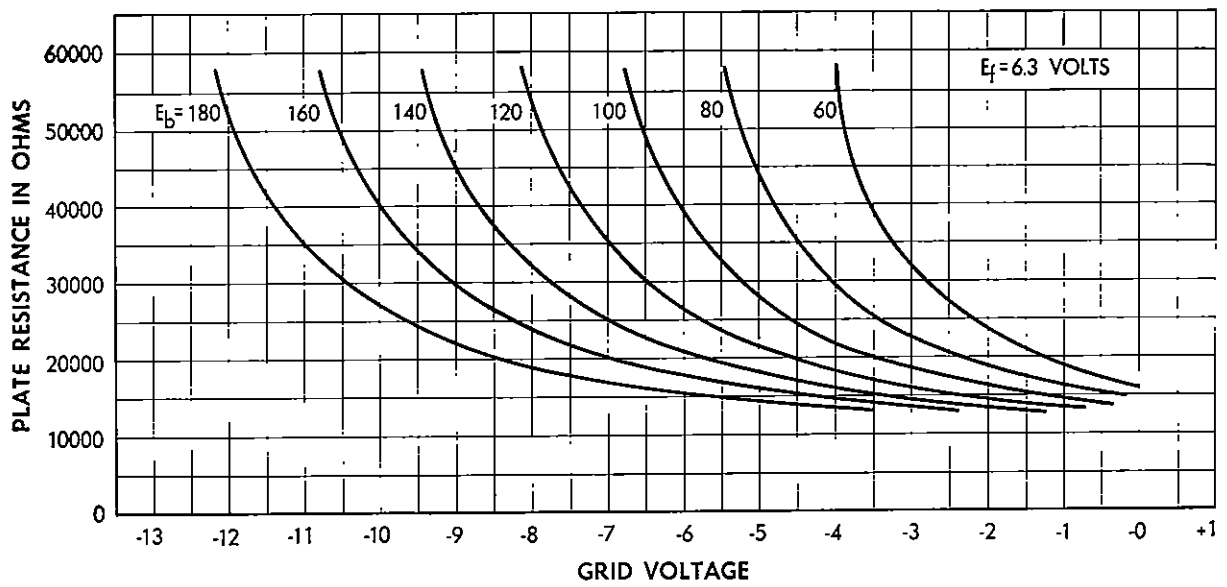
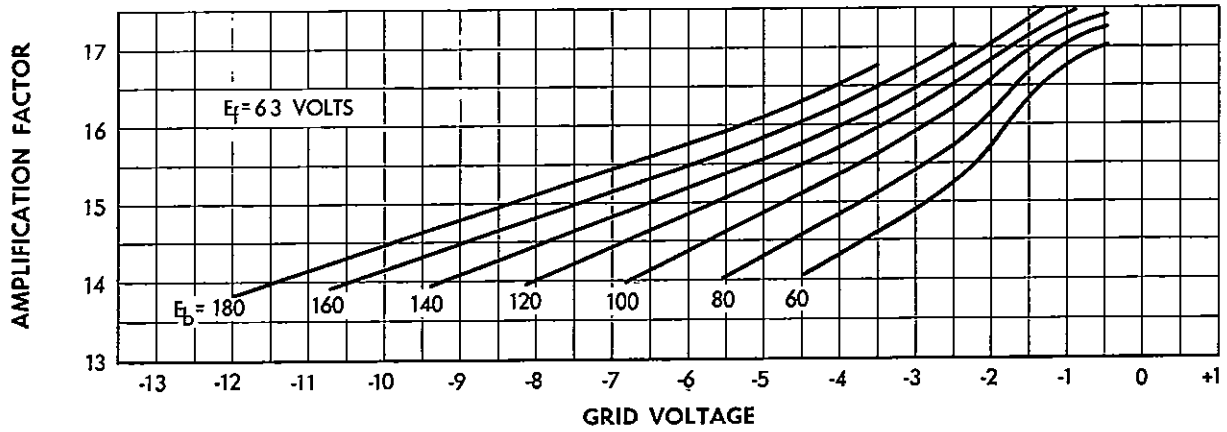
HUM

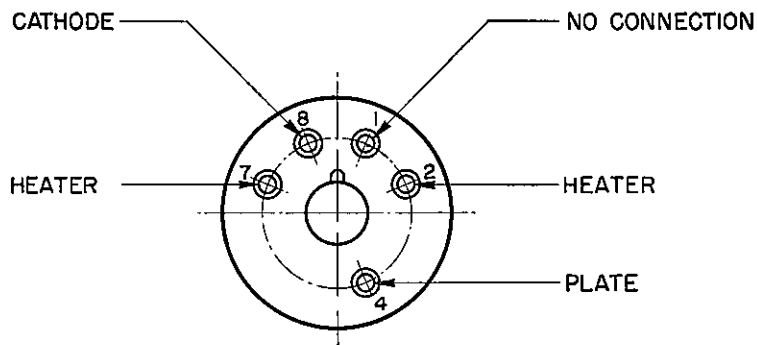
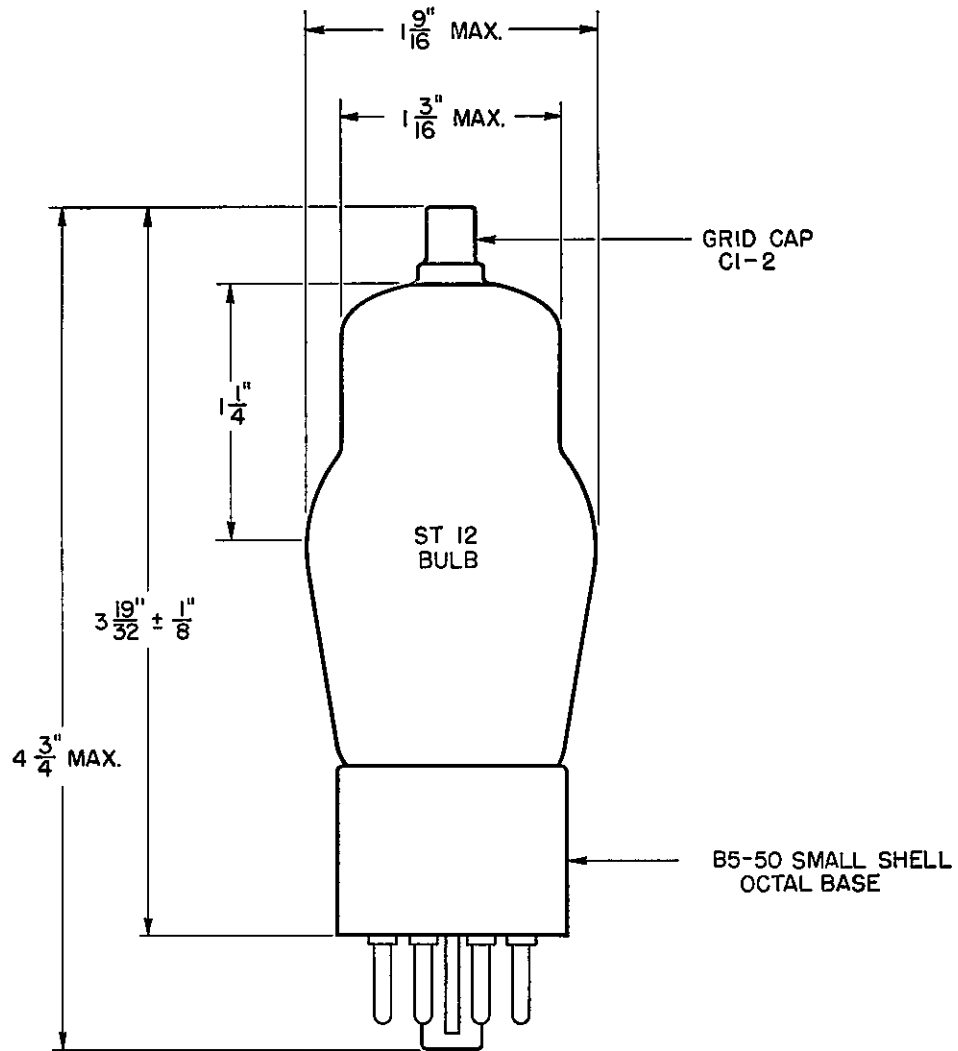
Under typical operating conditions, and with the cathode of the tube connected to the mid-point of the heater circuit, the equivalent hum voltage in the grid circuit will be less than 12 microvolts at the supply frequency and less than 6.0 microvolts at

double the supply frequency.

If the insulation leakage and capacitance between the external grid and heater connections are kept reasonably low, a resistance of 2 megohms may be used in the grid circuit without materially affecting the hum level.







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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.