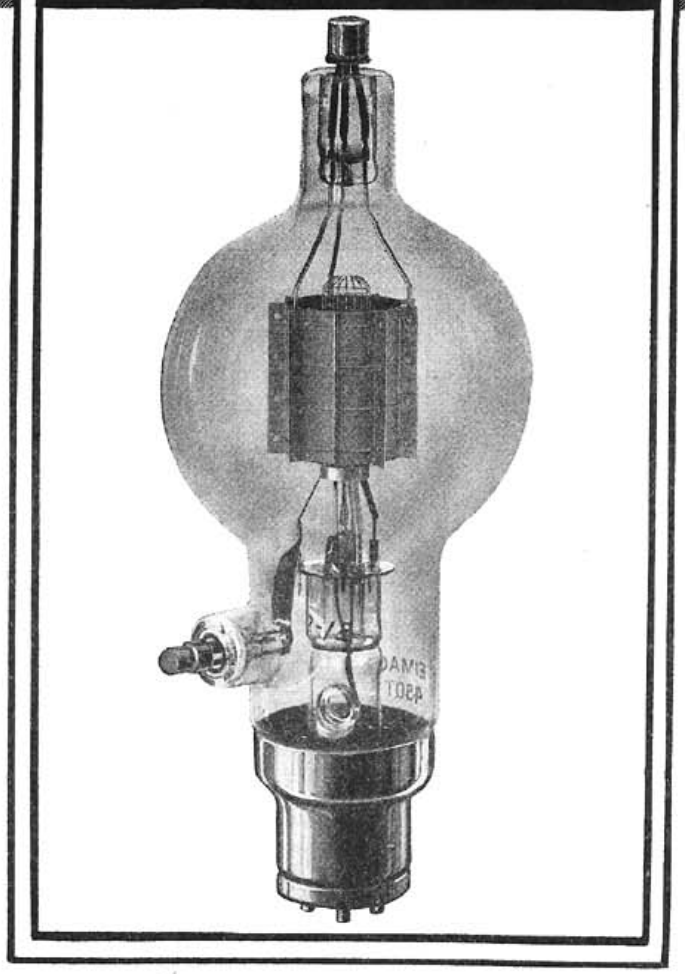
Eimac

450TH



THE DATA CONTAINED IN THIS BULLETIN IS APPLICABLE TO THE EIMAC 450TH TUBE ONLY.

Look for the identifying mark (HI) on the filament stem of the tube.

A radiation cooled triode possessing unusual characteristics and extremely low interelectrode capacities. It is capable of a high order of audio frequency output when used in class "B" circuits. Useful outputs may be obtained on radio frequencies as high as 150 mc and it will operate at its full ratings on frequencies up to 40 mc.

Electrodes are fabricated of completely degassed tantalum; cathode of thoriated tungsten, is so designed that it possesses extremely long life and high thermionic efficiencies. New type grid and plate connectors minimize lead losses on the higher frequencies. Tantalum elements and the exclusive Eimac method of exhaust, makes unnecessary the use of a "getter." Because of this, 450TL is unconditionally guaranteed never to fail because of gas released internally.

Characteristics

Filament Voltage	7.5 to 7.7 Volts
Filament Current (approx.)	12 Amperes
Amplification Factor	30
Grid-Plate Capacity	4 mmfds.
Grid-Filament Capacity	4 mmfds.
Plate-Filament Capacity	.6 mmfds.
Bulb	GT 40 Nonex
Base	Standard (50 watt)
Overall Height	12½ Inches
Maximum Diameter	5 Inches

Tube must be operated vertically with ample ventilation provided.

Maximum Ratings for All Frequencies Less Than 40 Megacycles

Maximum Plate Voltage	6000 Volts
Maximum Plate Current	500 Milliamperes
Maximum Grid Current	125 Milliamperes
Continuous Plate Dissipation	450 Watts

Typical Operating Conditions for Class "C" Telephony

Plate Voltage	1500	2500	3500
Plate Current	300	400	400
Grid Current	100	100	100
Grid Bias Voltage	—125	—250	—375
Power Output (75%)	300	750	1100

Typical Operating Conditions for Class "C" Telegraphy

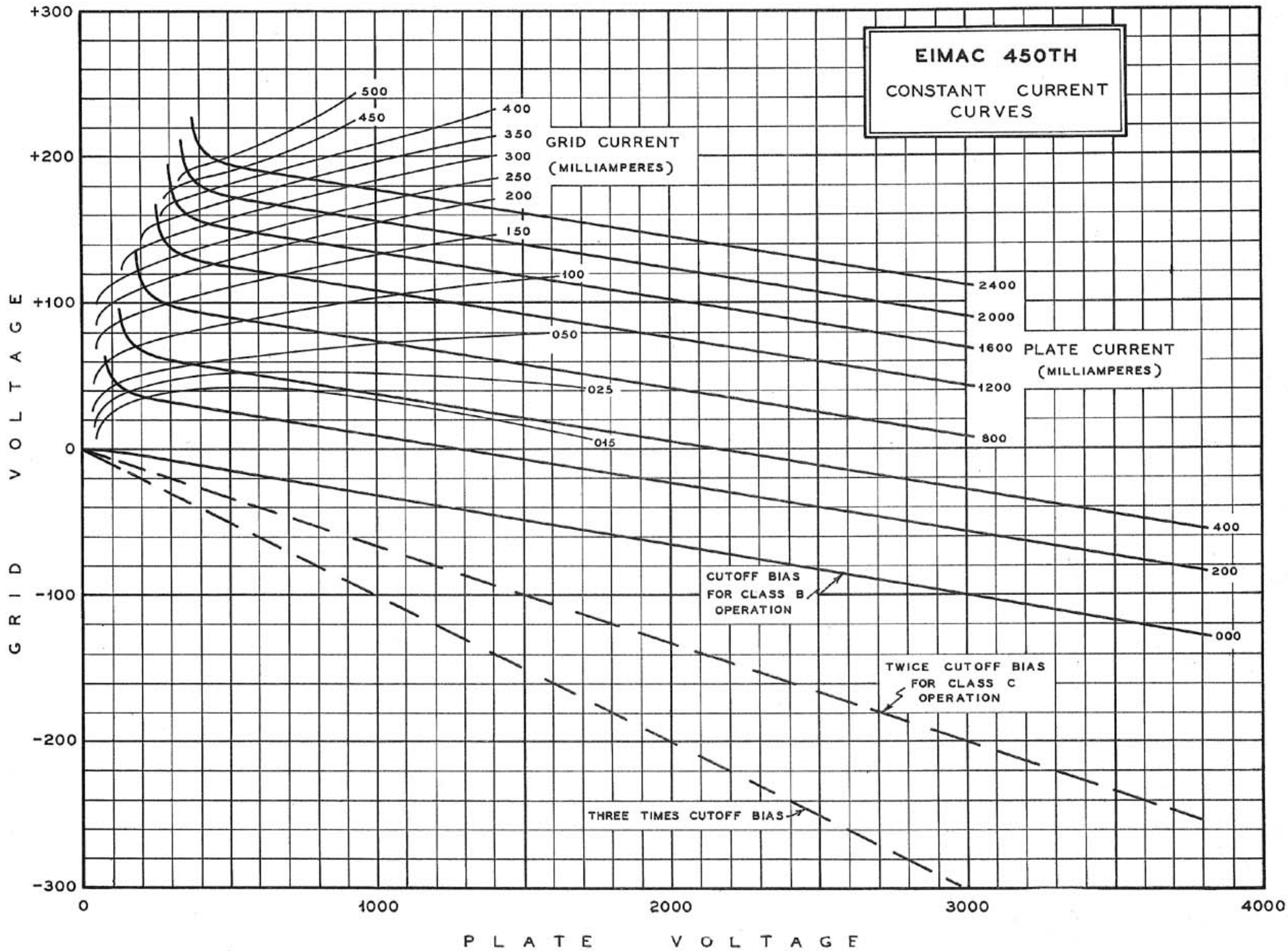
Plate Voltage	1500	2500	3500	4000
Plate Current (max.)	350	500	500	450
Grid Current (max.)	100	100	100	100
Grid Bias Voltage	—125	—250	—375	—400
Power Output (watts)	375	900	1300	1400

Class "B" Audio

Plate Voltage	Recommended Plate to Plate Impedance	Power Output
3500	10,000 Ohms	2000 Watts
3000	8,000 Ohms	1600 Watts
2500	7,200 Ohms	1250 Watts
2000	5,600 Ohms	1000 Watts

Typical Operating Conditions Approved by the Federal Communications Commission for Broadcast Services

	High Level Modulation	Linear Amplification	Grid Bias Modulation
Plate Volts	3000	3000	3500
Plate Current (milliamperes)	280	125	165
Efficiency	60%	33%	22%
Power Output (watts)	500	125	125


EIMAC 450TH
CONSTANT CURRENT CURVES
GRID CURRENT (MILLIAMPERES)
500
450
400
350
300
250
200
150
100
050
025
015
PLATE CURRENT (MILLIAMPERES)
2400
2000
1600
1200
800
400
200
000
CUTOFF BIAS FOR CLASS B OPERATION
TWICE CUTOFF BIAS FOR CLASS C OPERATION
THREE TIMES CUTOFF BIAS
+300
+200
+100
0
-100
-200
-300
GRID VOLTAGE
0
1000
2000
3000
4000
PLATE VOLTAGE