6HZ8
TRIODE-PENTODE

DESCRIPTION AND RATING

The 6HZ8 is a 9-pin, T-9 tube containing a high-mu triode and a sharp-cutoff pentode. The triode is intended for use as a voltage amplifier or sync separator, and the pentode is intended for video amplifier service.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3 ± 0.6	Volts
Heater Current†	1.125	Amperes

Direct Interelectrode Capacitances‡

Pentode Section

Grid-Number 1 to Plate: (Pg1 to Pp), Max.	0.1	pf
Input: Pg1 to (h+k+Pg2+Pg3+i.s.)	12	pf
Output: Pp to (h+k+Pg2+Pg3+i.s.)	5.0	pf

Triode Section

Grid to Plate: (Tg to Tp)	5.0	pf
Input: Tg to (h+Tk)	3.8	pf
Output: Tp to (h+Tk)	0.4	pf
Pentode Grid-Number 1 to Triode Plate: (Pg1 to Tp), Max.	0.005	pf
Triode Grid to Pentode Plate: (Tg to Pp), Max.	0.04	pf
Pentode Plate to Triode Plate: (Pp to Tp), Max.	0.2	pf

MECHANICAL

Operating Position—Any

Envelope—T-9, Glass

Base—E9-82, Small Button 9-Pin

Outline Drawing—EIA 9-77

Maximum Diameter	1.188	Inches
Maximum Over-all Length	2.990	Inches
Maximum Seated Height	2.710	Inches

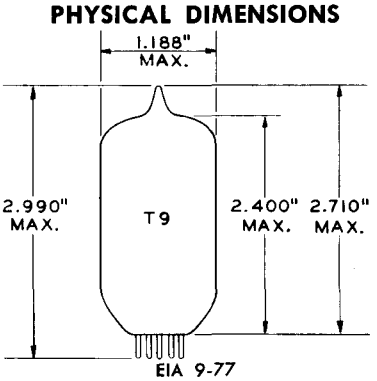
MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section	
Plate Voltage	330	300	Volts
Screen Supply Voltage	330	...	Volts
Screen Voltage—See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	8.0	1.0	Watts
Screen Dissipation	2.0	...	Watts

	Pentode Section	Triode Section	
Heater—Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	0.25	0.5	Megohms
With Cathode Bias	1.0	1.0	Megohms

PHYSICAL DIMENSIONS

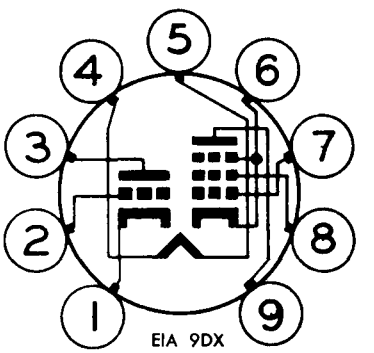


EIA 9-77

TERMINAL CONNECTIONS

Pin 1—Triode Cathode
Pin 2—Triode Grid
Pin 3—Triode Plate
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Cathode, Grid Number 3, and Internal Shield
Pin 7—Pentode Grid Number 1
Pin 8—Pentode Grid Number 2 (Screen)
Pin 9—Pentode Plate

BASING DIAGRAM



EIA 9DX

MAXIMUM RATINGS (CONT'D)

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

	Pentode Section		Triode Section	
Plate Voltage	60	250	200	Volts
Screen Voltage	170	170	....	Volts
Grid-Number 1 Voltage	0	....	−2.0	Volts
Cathode-Bias Resistor		100	....	Ohms
Amplification Factor		....	70	
Plate Resistance, approximate		140000	....	Ohms
Transconductance		12600	4000	Micromhos
Plate Current	90	29	3.5	Milliamperes
Screen Current	22.5	6.0	....	Milliamperes
Grid-Number 1 Voltage, approximate Ib = 10 Microamperes		−11.5	−5	Volts

NOTES

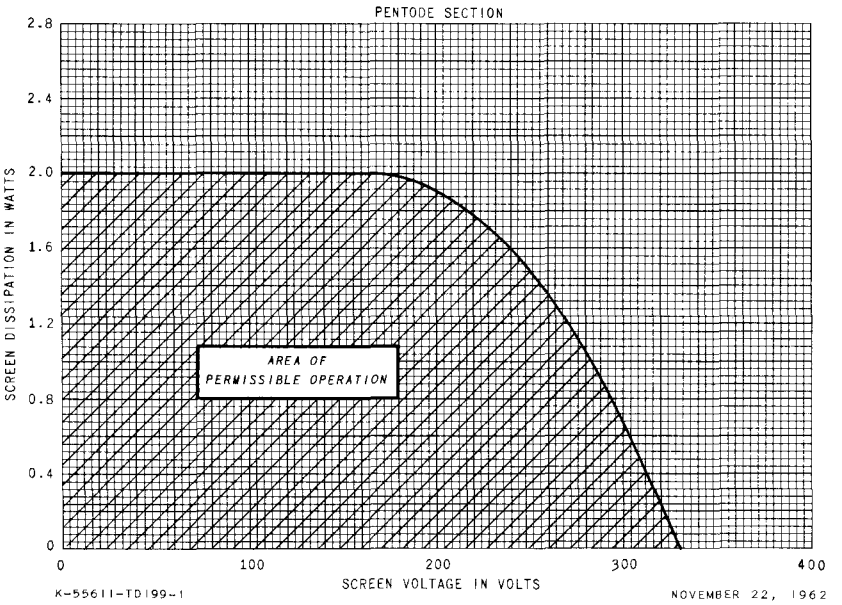
* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

† Heater current of a bogey tube at Ef = 6.3 volts.

‡ Without external shield.

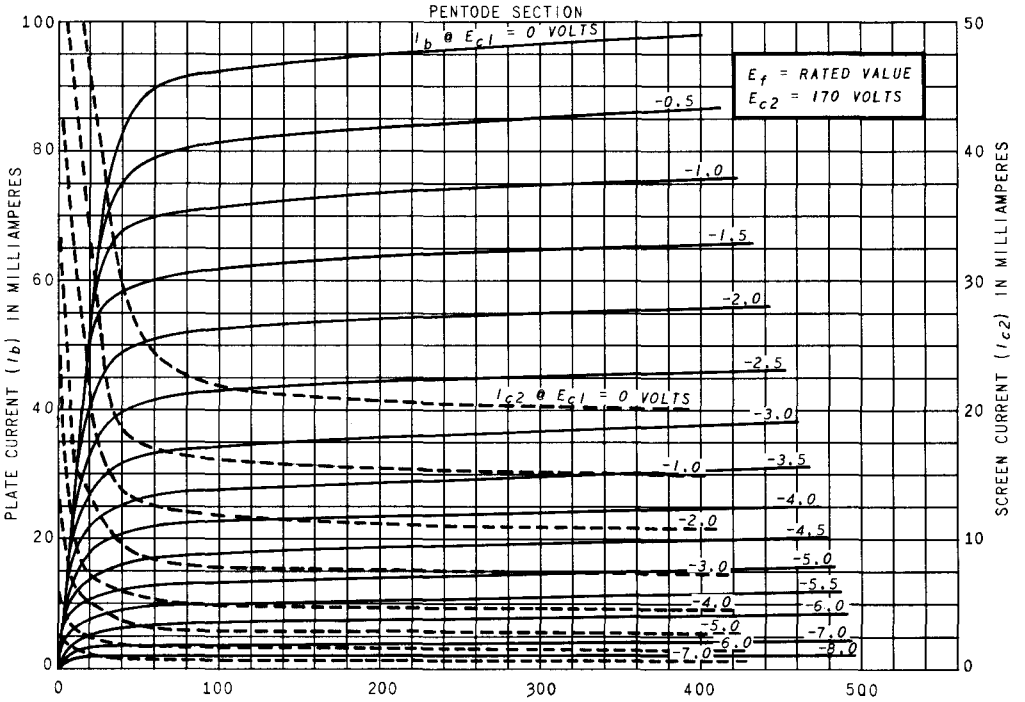
The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

SCREEN RATING CHART



AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION

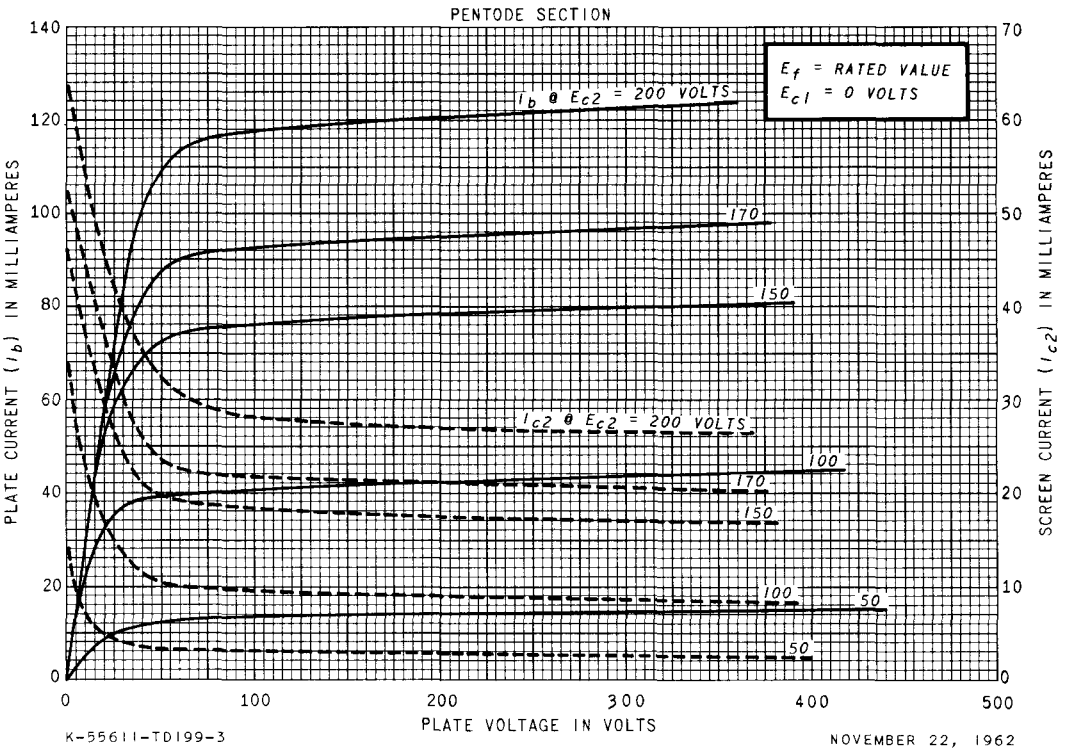


K-55611-TD199-2

NOVEMBER 22, 1962

AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION

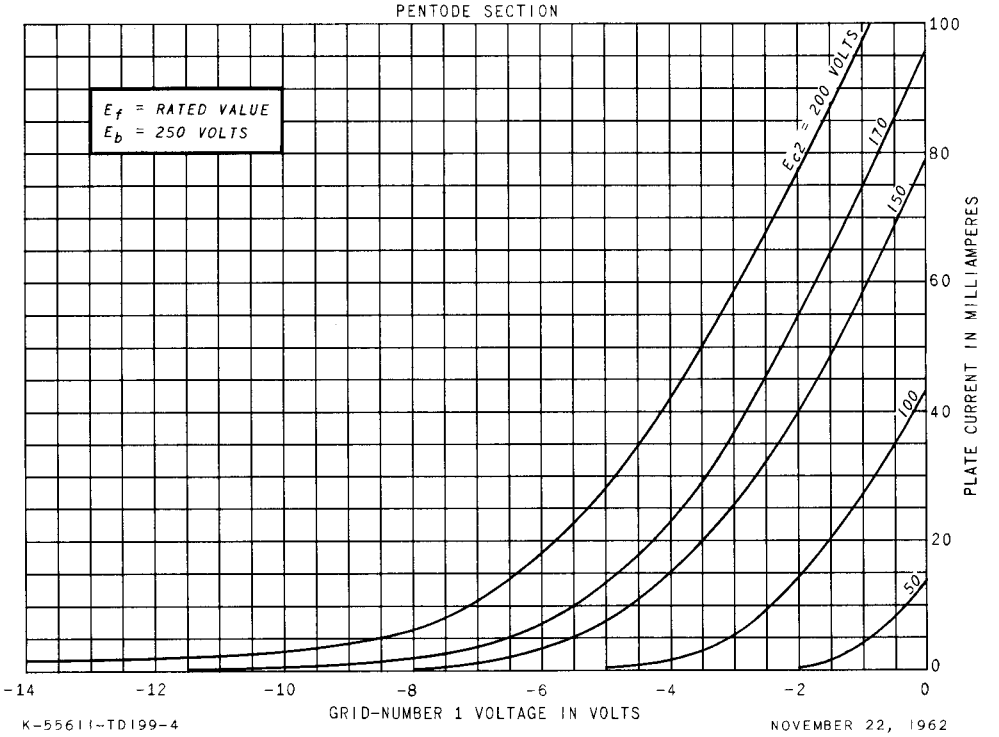


K-55611-TD199-3

NOVEMBER 22, 1962

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

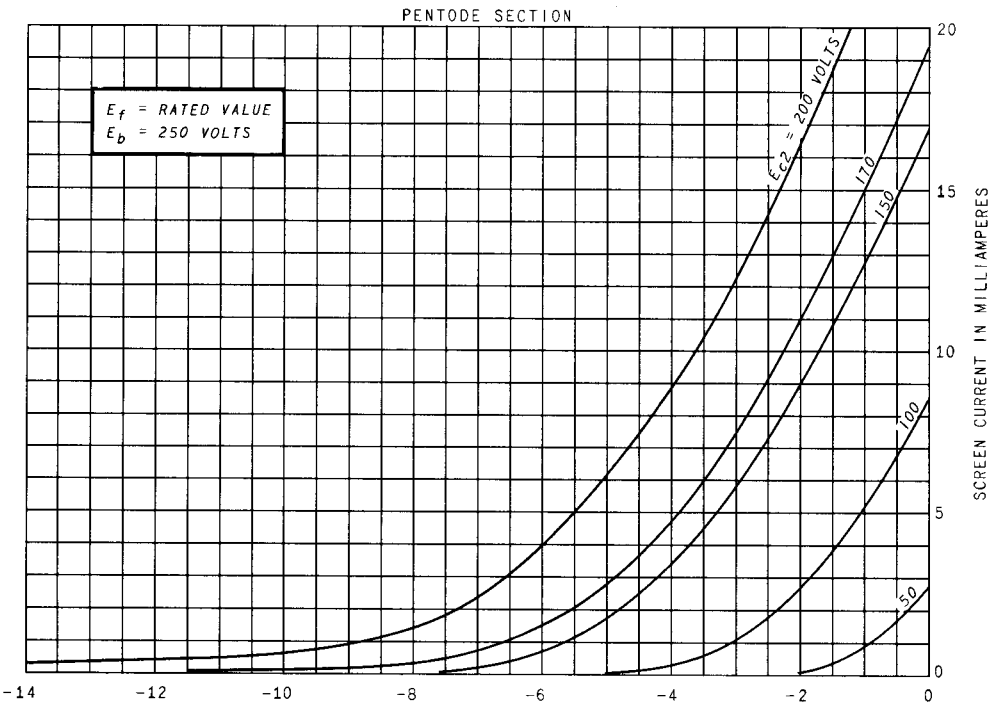


K-55611-TD199-4

NOVEMBER 22, 1962

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

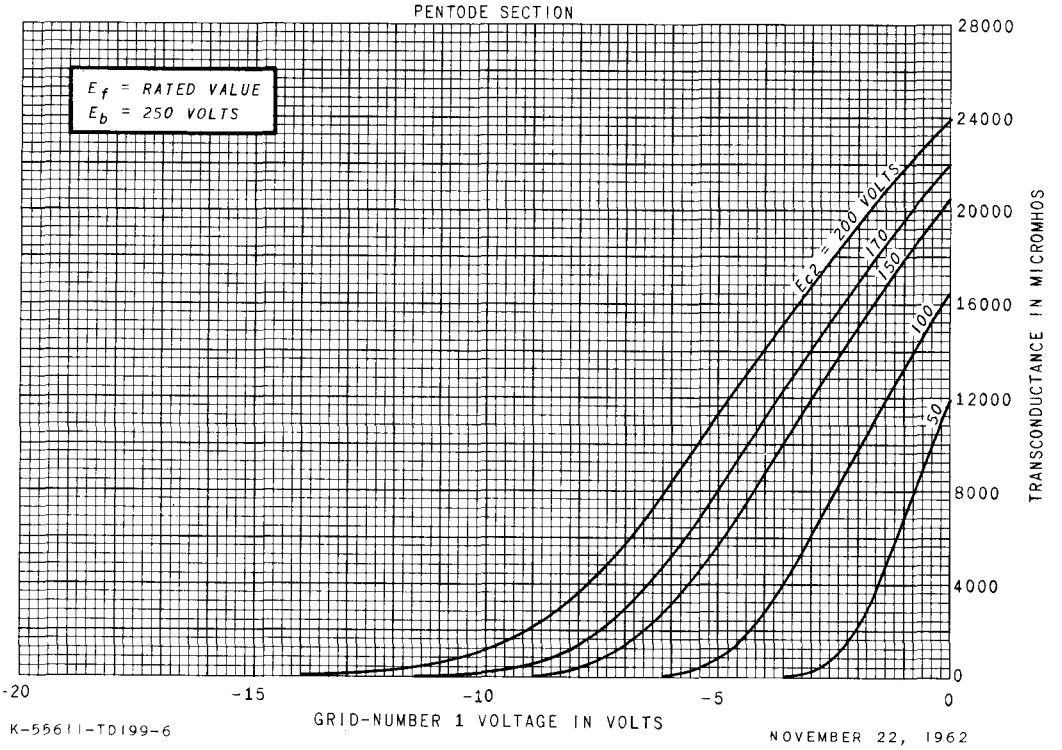


K-55611-TD199-5

NOVEMBER 22, 1962

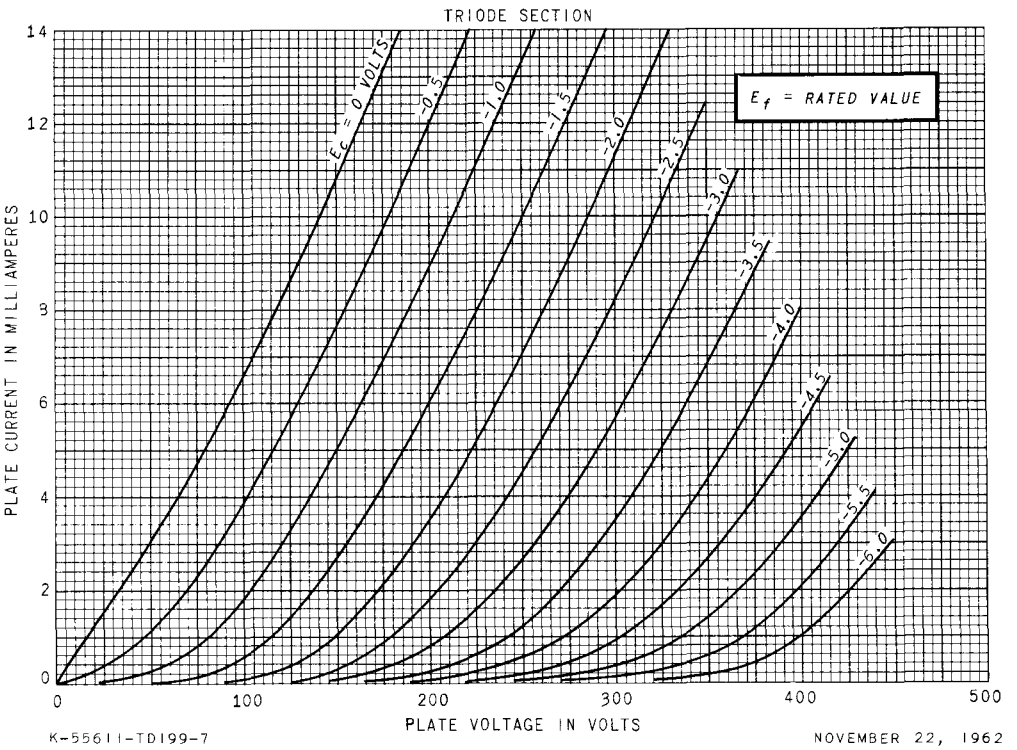
AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



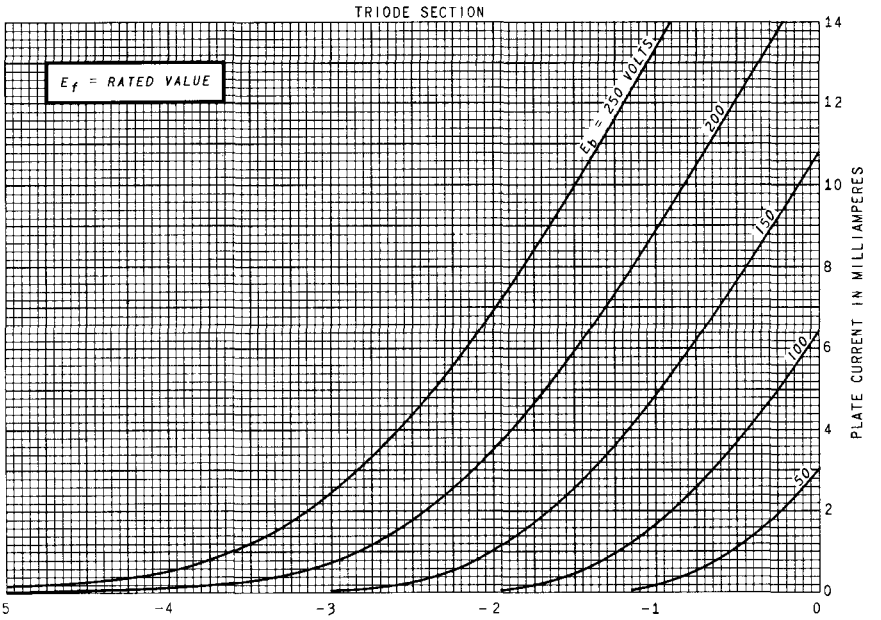
AVERAGE PLATE CHARACTERISTICS

TRIODE SECTION



AVERAGE TRANSFER CHARACTERISTICS

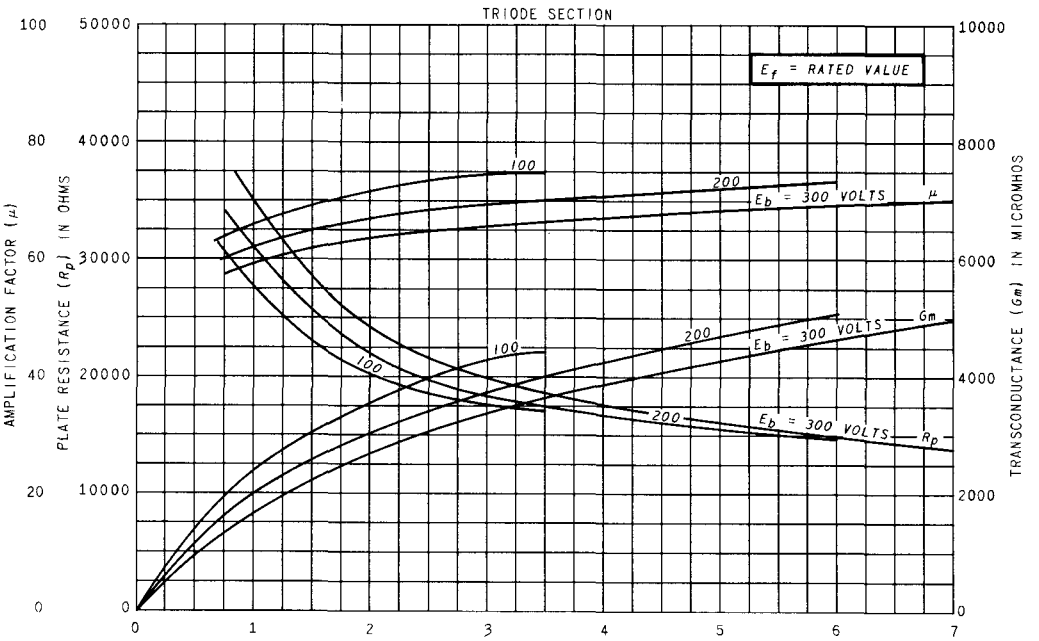
TRIODE SECTION



K-55611-TD199-8 NOVEMBER 22, 1962

AVERAGE CHARACTERISTICS

TRIODE SECTION



K-55611-TD199-9 NOVEMBER 22, 1962

RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky