

# BEAM PENTODE

FOR AF POWER AMPLIFIER APPLICATIONS

## DESCRIPTION AND RATING

The 7355 is a beam-power pentode primarily designed for use in the power-output stage of high-fidelity audio-frequency amplifier systems.

### GENERAL

#### ELECTRICAL

Cathode—Coated Unipotential  
Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3 ± 0.6	Volts
Heater Current†	0.8	Amperes
Direct Interelectrode Capacitances, approximate‡		
Grid-Number 1 to Plate: (g1 to p)	0.5	pf
Input: g1 to (h+k+g2+b.p.)	13	pf
Output: p to (h+k+g2+b.p.)	6.0	pf

#### MECHANICAL

Mounting Position—Any  
Envelope—T-9, Glass  
Base—B6-229, Intermediate-Shell Octal 6-Pin with external barriers

### MAXIMUM RATINGS

#### DESIGN-MAXIMUM VALUES

Plate Voltage	500	Volts
Screen Voltage	400	Volts
Positive DC Grid-Number 1 Voltage	0	Volts
Plate Dissipation	18	Watts
Screen Dissipation (Continuous)	3.5	Watts
Screen Dissipation (Peaks of Speech and Music)	7.0	Watts
DC Cathode Current	100	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid-Number 1 Circuit Resistance		
With Fixed Bias	0.3	Megohms
With Cathode Bias	1.0	Megohms

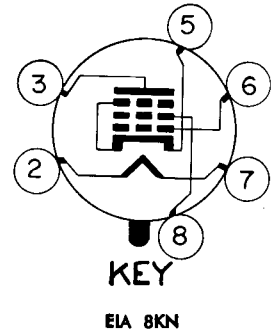
Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

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.

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.

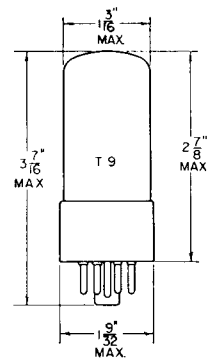
### BASING DIAGRAM



### TERMINAL CONNECTIONS

- Pin 2—Heater
- Pin 3—Plate
- Pin 5—Cathode and Beam Plates
- Pin 6—Grid Number 1
- Pin 7—Heater
- Pin 8—Grid Number 2 (Screen)

### PHYSICAL DIMENSIONS



EIA 9-15

## CHARACTERISTICS AND TYPICAL OPERATION

### CLASS A<sub>1</sub> AMPLIFIER

Plate Voltage . . . . .	250	Volts
Screen Voltage . . . . .	225	Volts
Grid-Number 1 Voltage . . . . .	-15	Volts
Peak AF Grid-Number 1 Voltage . . . . .	15	Volts
Plate Resistance, approximate . . . . .	42000	Ohms
Transconductance . . . . .	7600	Micromhos
Zero-Signal Plate Current . . . . .	62	Milliamperes
Maximum-Signal Plate Current . . . . .	74	Milliamperes
Zero-Signal Screen Current . . . . .	3.2	Milliamperes
Maximum-Signal Screen Current . . . . .	16.5	Milliamperes
Load Resistance . . . . .	2500	Ohms
Total Harmonic Distortion, approximate . . . . .	15	Percent
Maximum-Signal Power Output . . . . .	9.0	Watts
Grid-Number 1 Voltage, approximate I <sub>b</sub> = 500 Microamperes . . . . .	-35	Volts

### PUSH-PULL CLASS AB<sub>1</sub> AMPLIFIER, VALUES FOR TWO TUBES

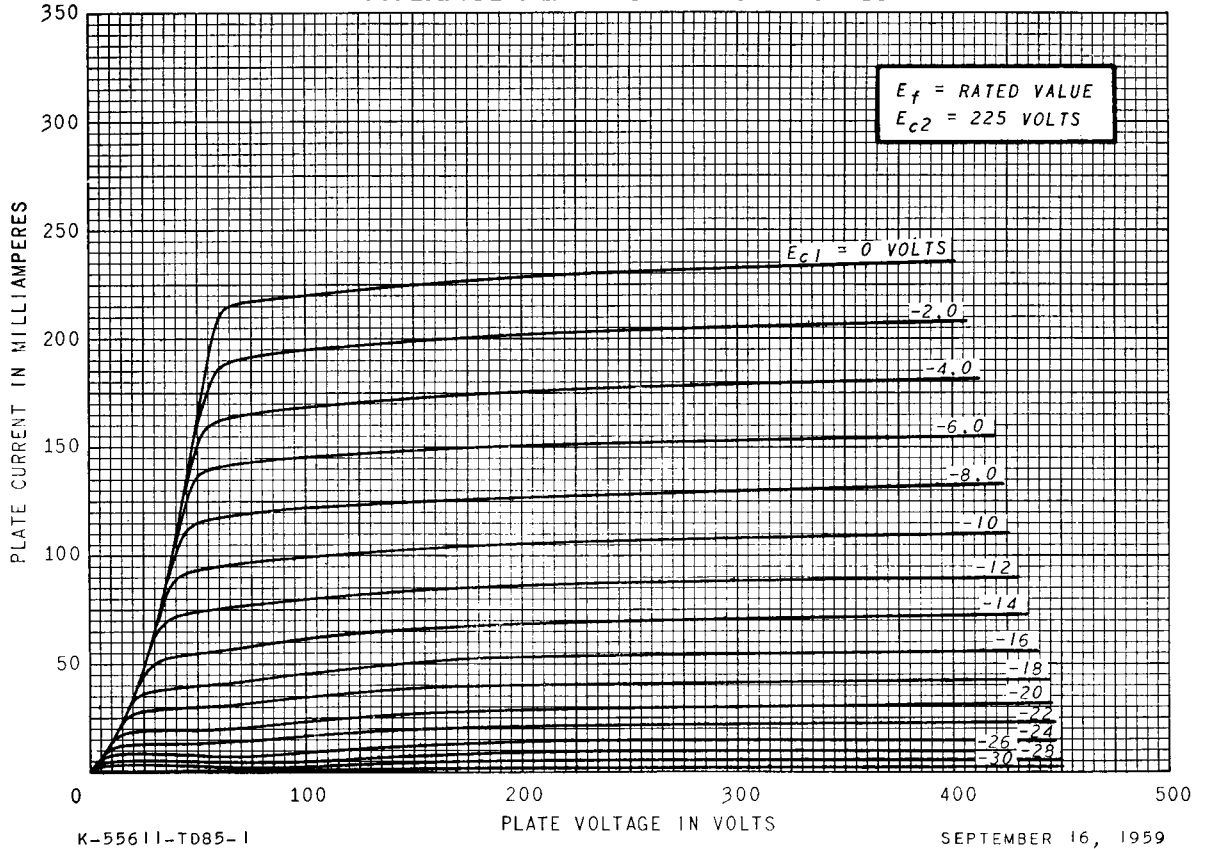
Plate Voltage . . . . .	300	400	Volts
Screen Voltage . . . . .	250	300	Volts
Grid-Number 1 Voltage . . . . .	-21	-34	Volts
Peak AF Grid-to-Grid Voltage . . . . .	42	60	Volts
Zero-Signal Plate Current . . . . .	100	56	Milliamperes
Maximum-Signal Plate Current . . . . .	185	175	Milliamperes
Zero-Signal Screen Current . . . . .	5.5	3.5	Milliamperes
Maximum-Signal Screen Current . . . . .	24	24	Milliamperes
Effective Load Resistance, Plate-to-Plate . . . . .	4000	5000	Ohms
Total Harmonic Distortion . . . . .	2.0	6.0	Percent
Maximum-Signal Power Output . . . . .	28.5	40	Watts

\* 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.

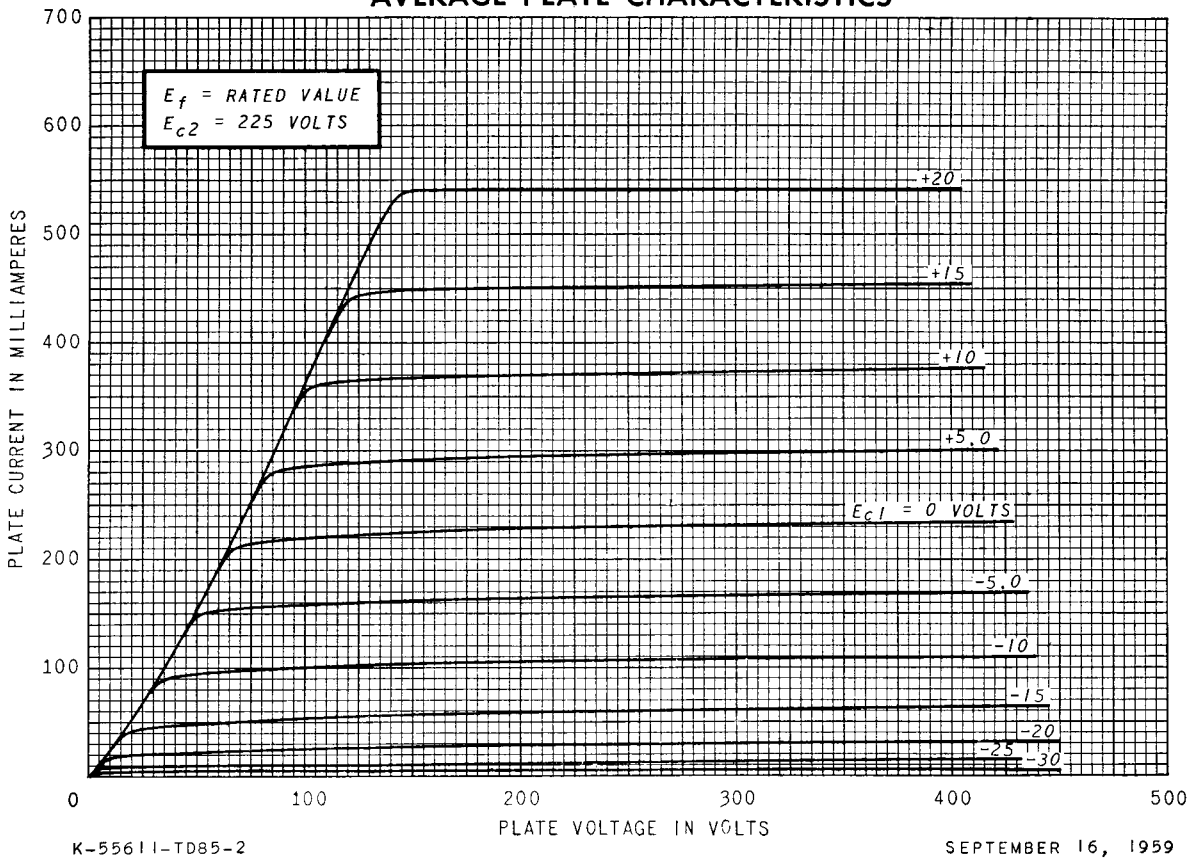
† Heater current of a bogey tube at E<sub>f</sub> = 6.3 volts.

‡ Without external shield.

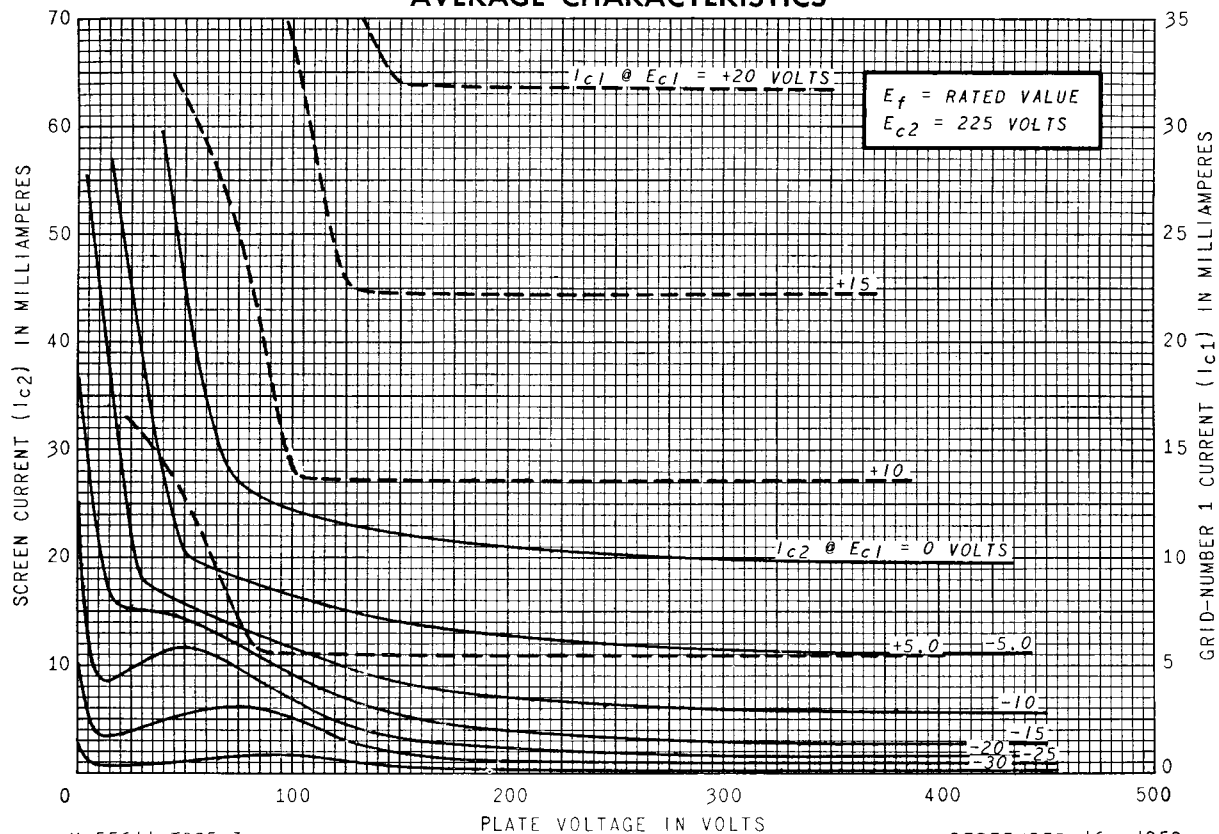
### AVERAGE PLATE CHARACTERISTICS



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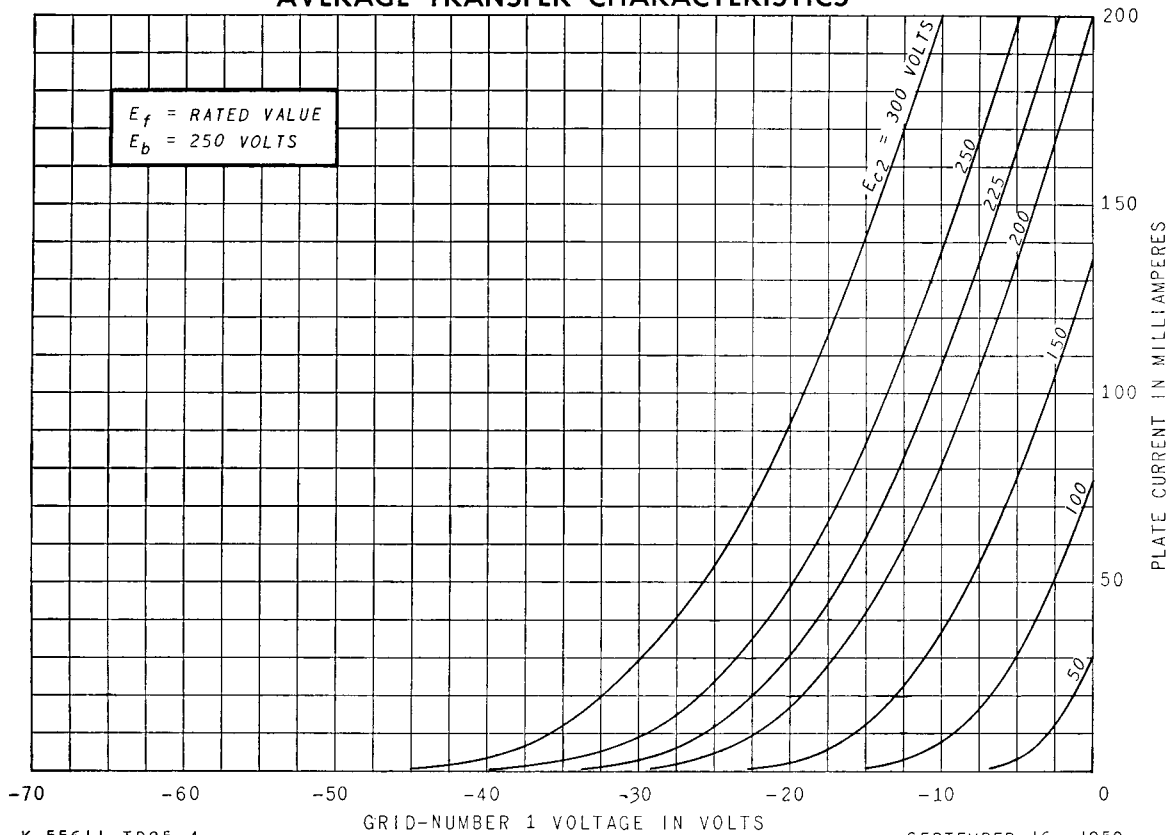
AVERAGE CHARACTERISTICS



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SEPTEMBER 16, 1959

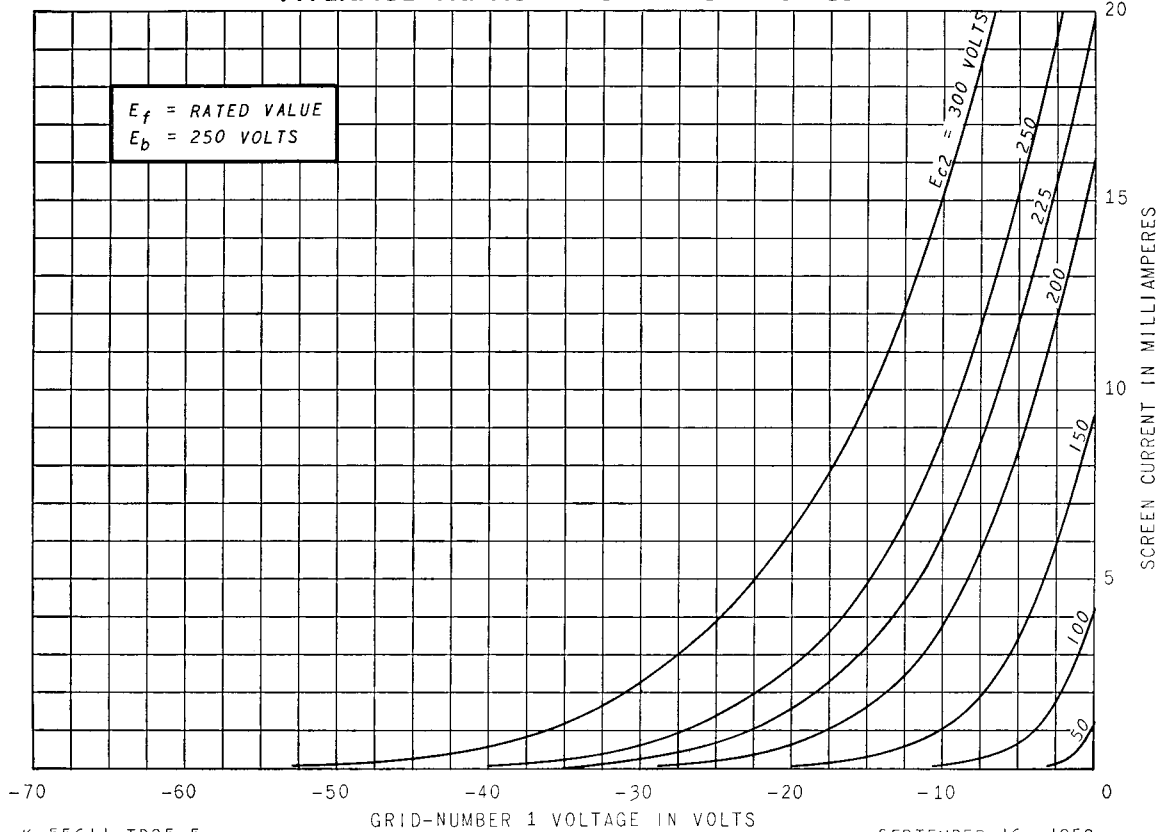
AVERAGE TRANSFER CHARACTERISTICS



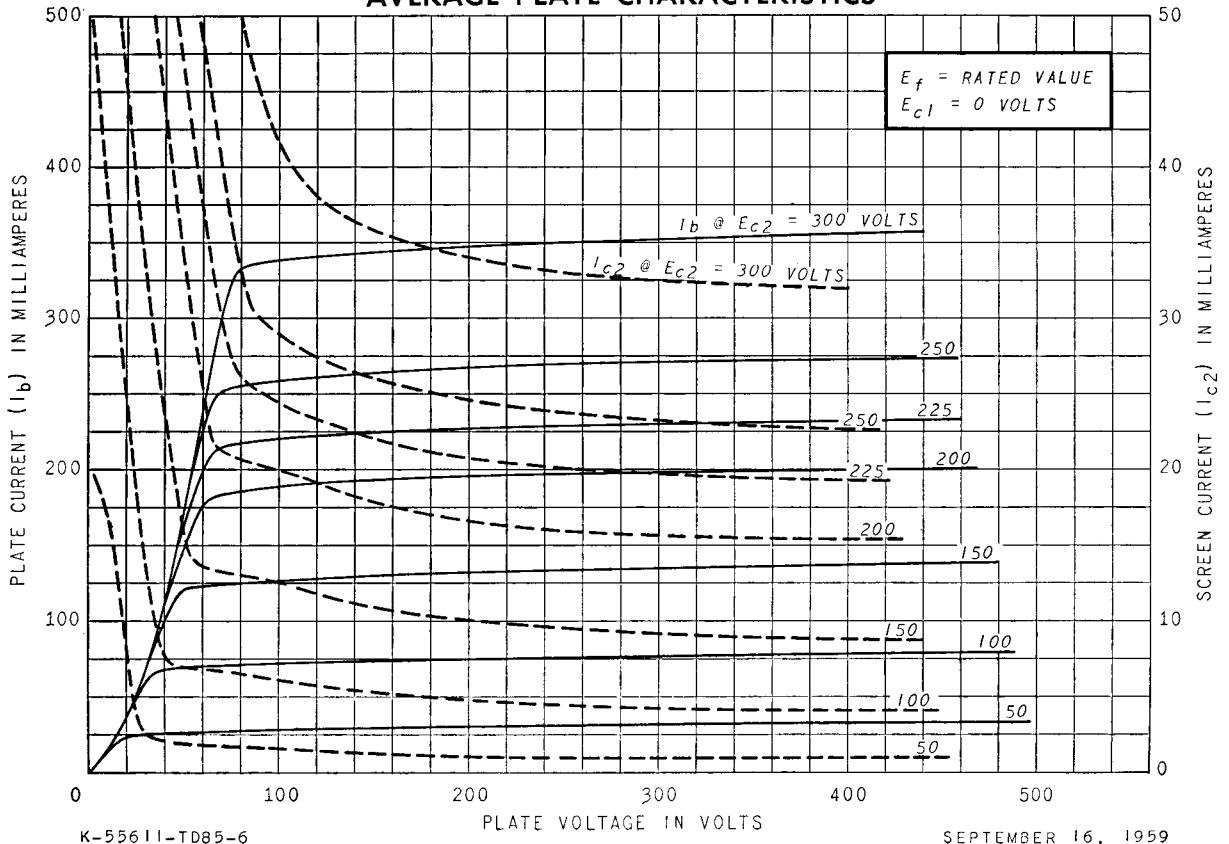
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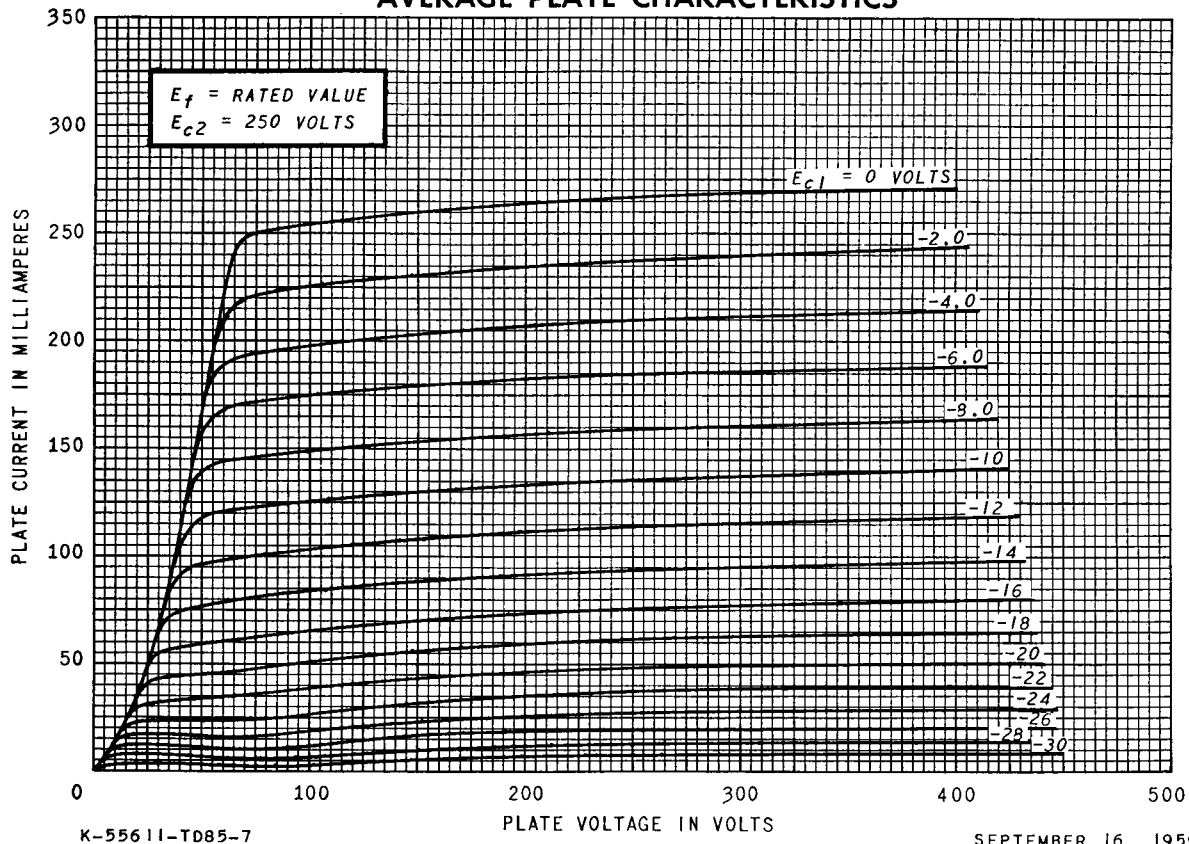
### AVERAGE TRANSFER CHARACTERISTICS



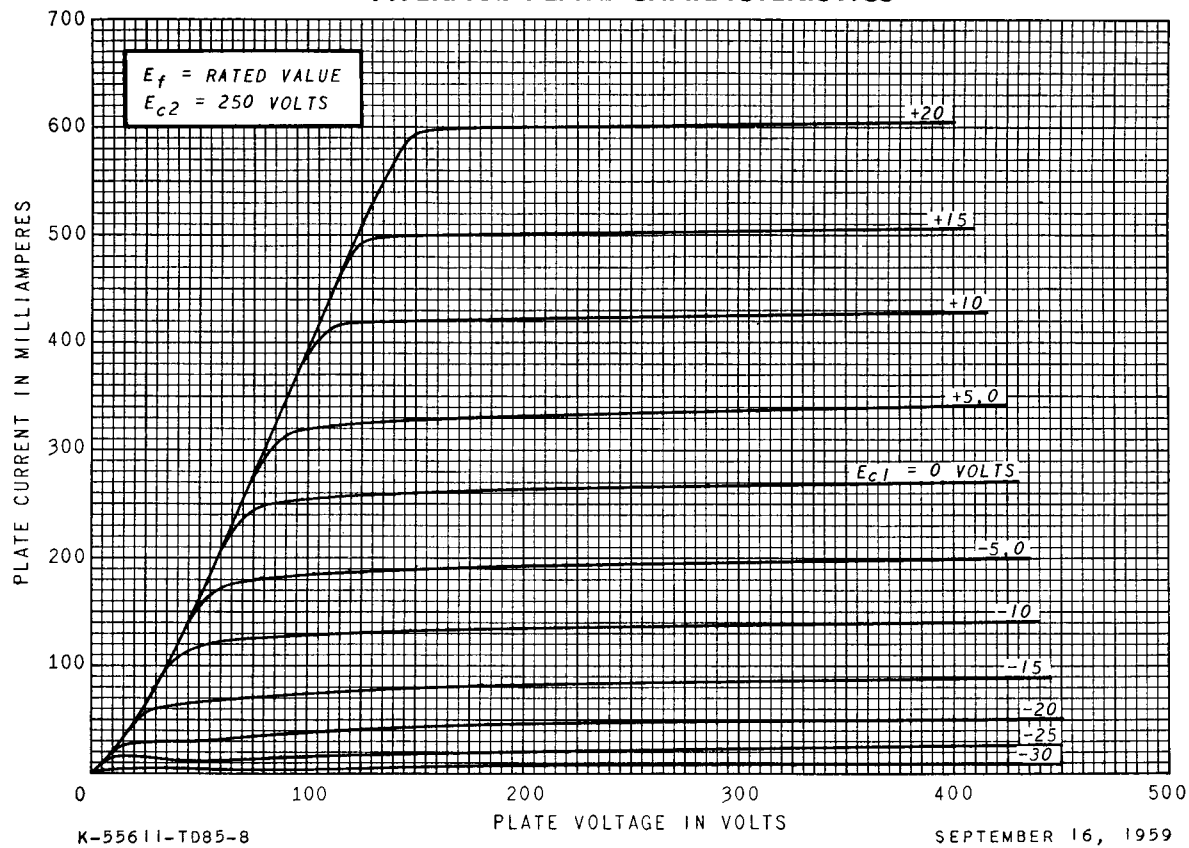
### AVERAGE PLATE CHARACTERISTICS



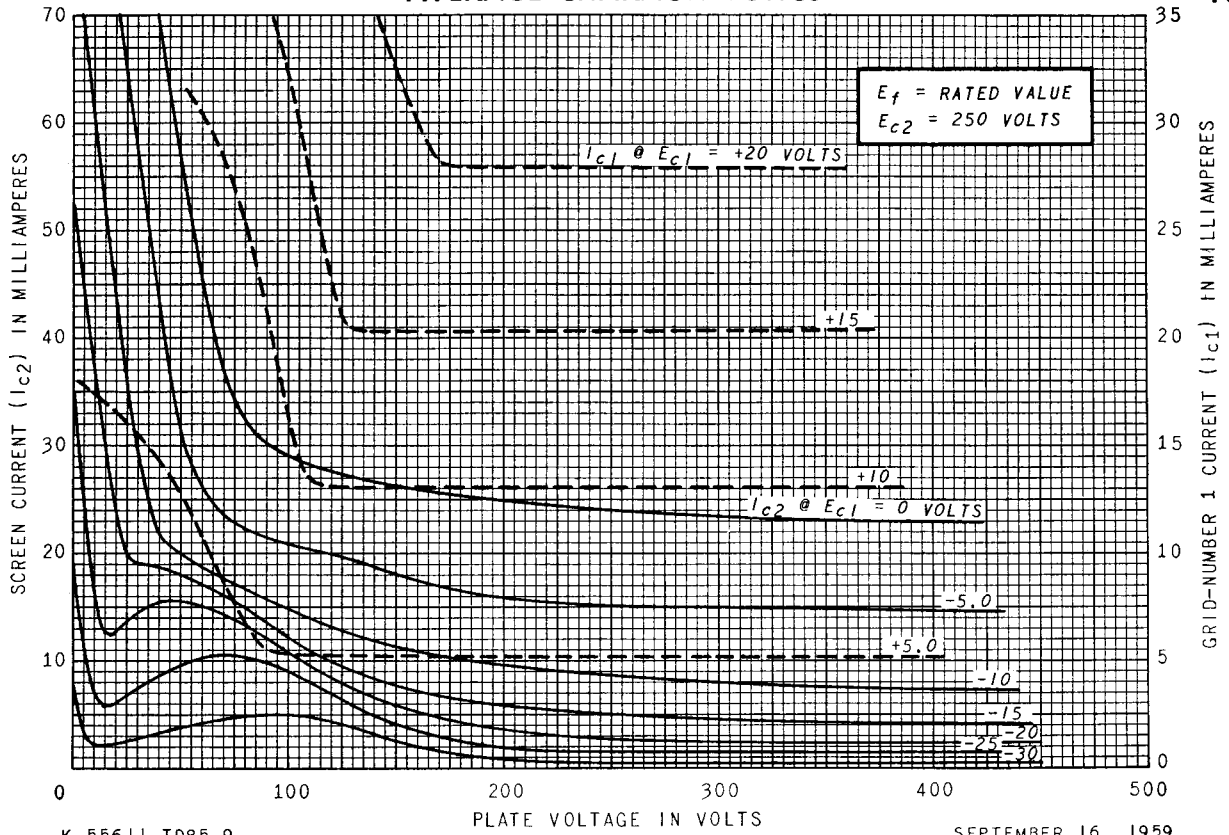
### AVERAGE PLATE CHARACTERISTICS



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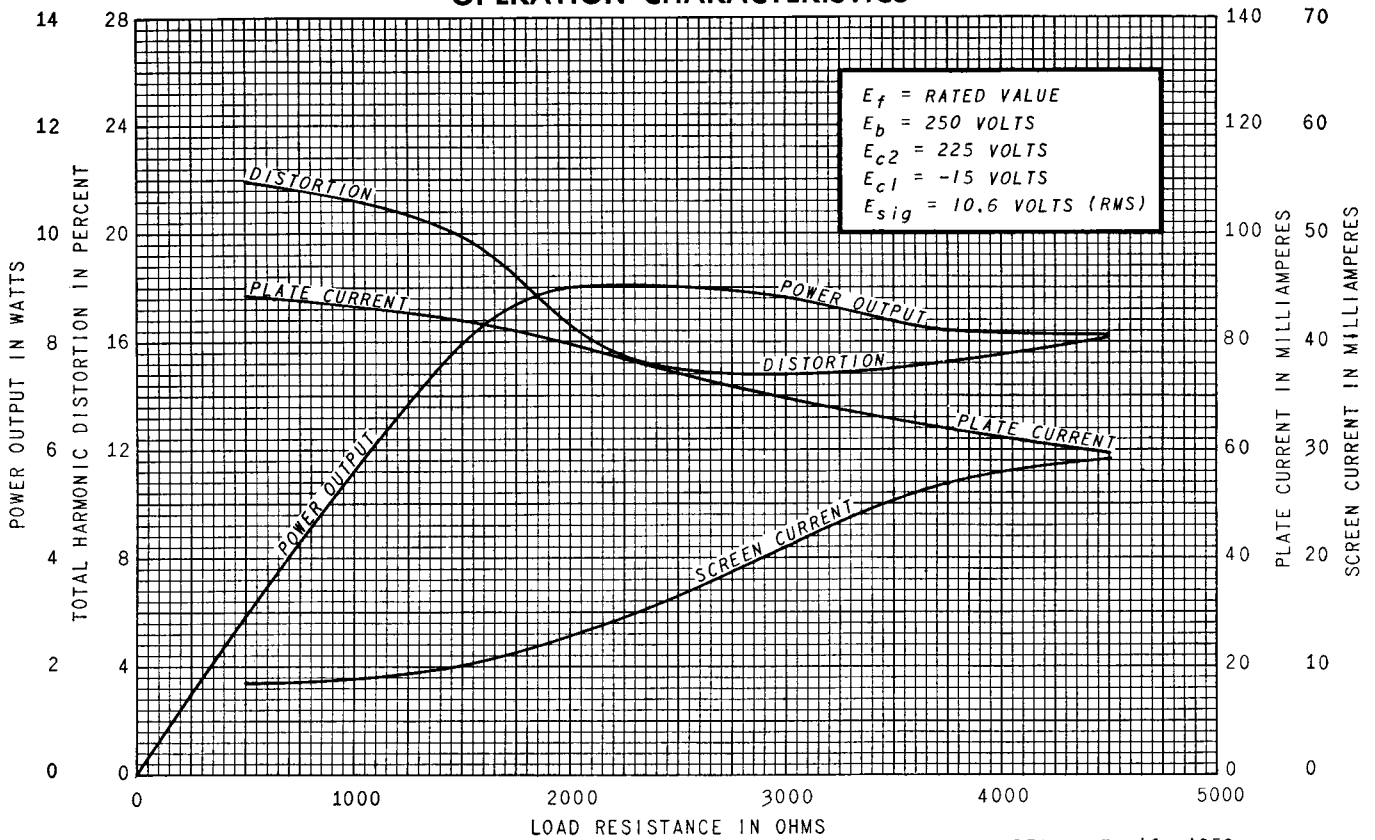
### AVERAGE CHARACTERISTICS



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### OPERATION CHARACTERISTICS



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