6HS8

TWIN PENTODE

DESCRIPTION AND RATING

The 6HS8 is a miniature multisection tube that incorporates separate plates and number-3 grids for the two sections together with a common screen, number-1 grid, and cathode. The tube is intended for use as a combined sync-AGC tube in television receivers.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential
Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3 ± 0.6	Volts
Heater Current†	0.3	Ampere
Direct Interelectrode Capacitances, approximate‡		
Grid-Number 3 to Plate, Each Section	2.0	pf
Grid-Number 1 to All	6.0	pf
Grid-Number 3 (Each Section) to All	3.6	pf
Plate (Each Section) to All	3.0	pf
Grid-Number 3 (Section 1) to Grid-Number 3 (Section 2), maximum	0.015	pf

MECHANICAL

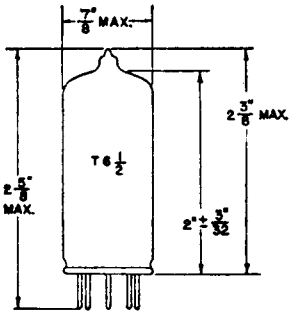
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage, Each Section	300	Volts
Screen Voltage	150	Volts
Positive DC Grid-Number 3 Voltage, Each Section	3.0	Volts
Negative DC Grid-Number 3 Voltage, Each Section	50	Volts
Peak Positive Grid-Number 3 Voltage, Each Section	50	Volts
Negative DC Grid-Number 1 Voltage	50	Volts
Plate Dissipation, Each Section	1.1	Watts
Screen Dissipation	0.75	Watt
DC Cathode Current	12	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	0.5	Megohm
Grid-Number 3 Circuit Resistance, Each Section	0.5	Megohm

PHYSICAL DIMENSIONS

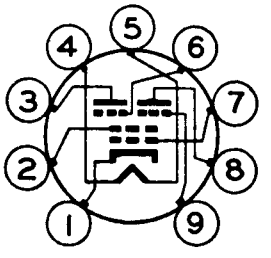


EIA 6-3

TERMINAL CONNECTIONS

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

BASING DIAGRAM



EIA 9LW

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS, BOTH SECTIONS OPERATING

Plate Voltage, Each Section	100	100	Volts
Screen Voltage	67.5	67.5	Volts
Grid-Number 3 Voltage, Each Section	−10	0	Volts
Grid-Number 1 Voltage	§	§	
Plate Current, Each Section		2.0	Milliamperes
Screen Current	7.0	4.4	Milliamperes
Cathode Current	7.1	8.5	Milliamperes
Grid-Number 3 Transconductance		450	Micromhos
Grid-Number 1 Transconductance	1100	....	Micromhos
Plate Current		2.0	Milliamperes
Grid-Number 3 Voltage, approximate Ib = 25 Microamperes		−3	Volts
Grid-Number 1 Voltage, approximate Ib = 100 Microamperes		−2.3	Volts

AVERAGE CHARACTERISTICS, EACH SECTION SEPARATELY WITH PLATE AND GRID-NUMBER 3 OF OPPOSITE SECTION GROUNDED

Plate Voltage	100	100	Volts
Screen Voltage	67.5	67.5	Volts
Grid-Number 3 Voltage	0	0	Volts
Grid-Number 1 Voltage	0	§	Volts

* 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.

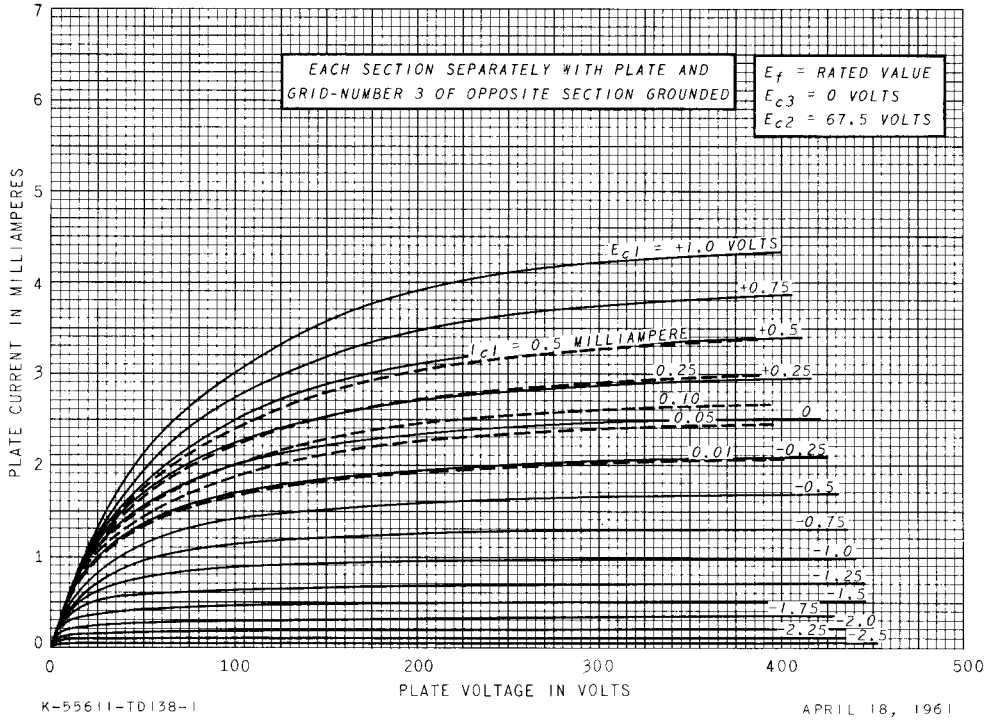
§ With grid current adjusted for 100 microamperes d-c.

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.

AVERAGE PLATE CHARACTERISTICS



K-5561I-TD138-I

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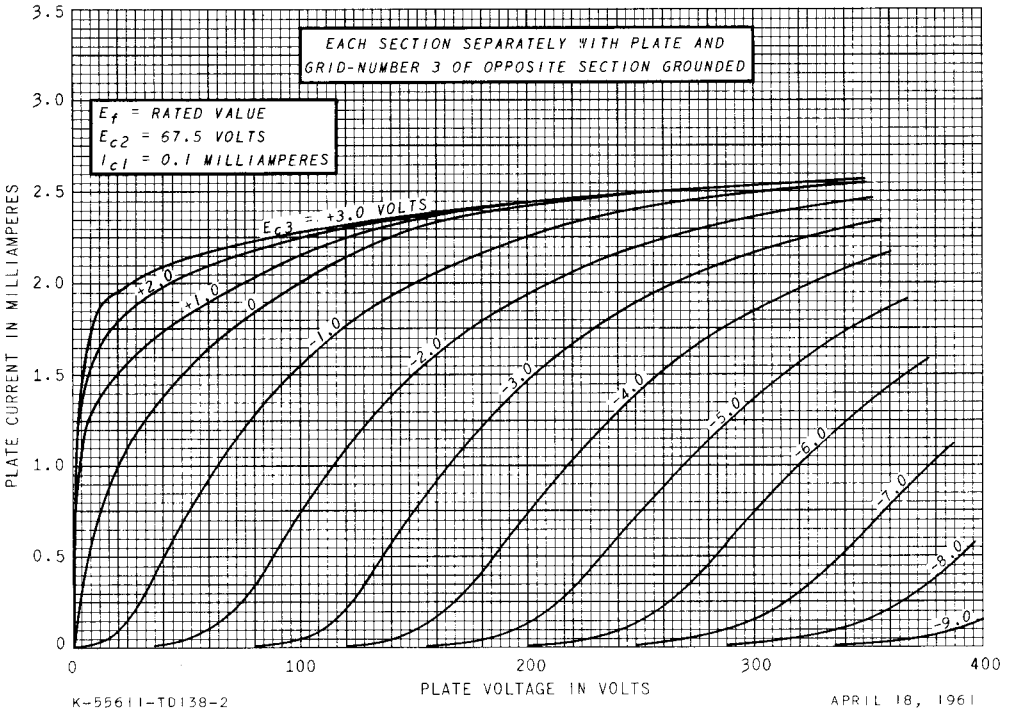
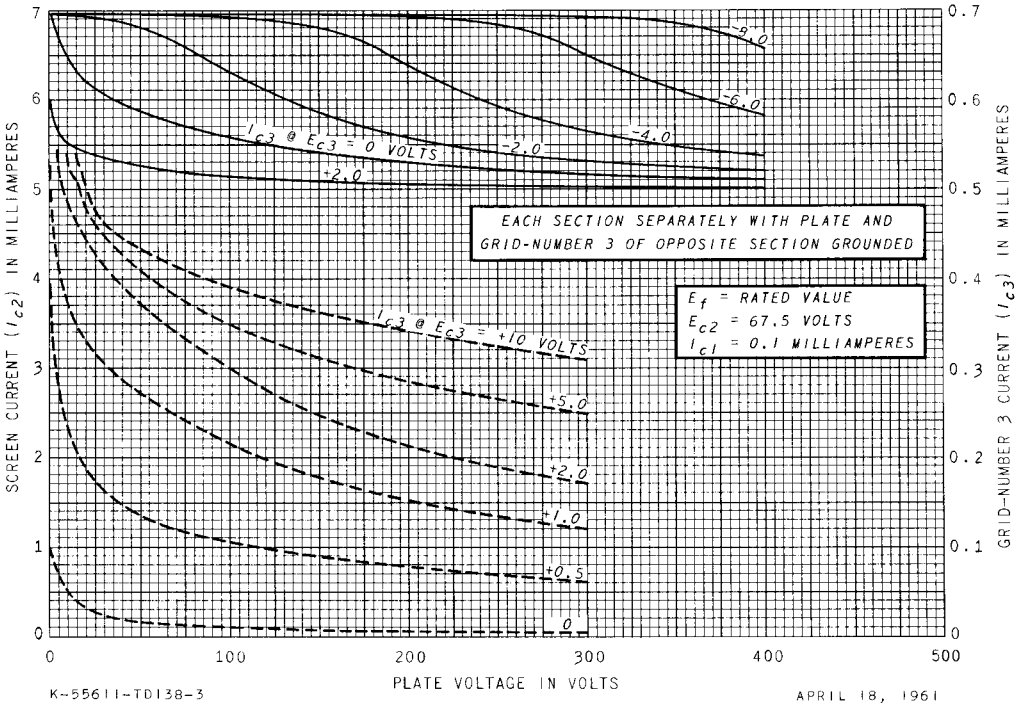
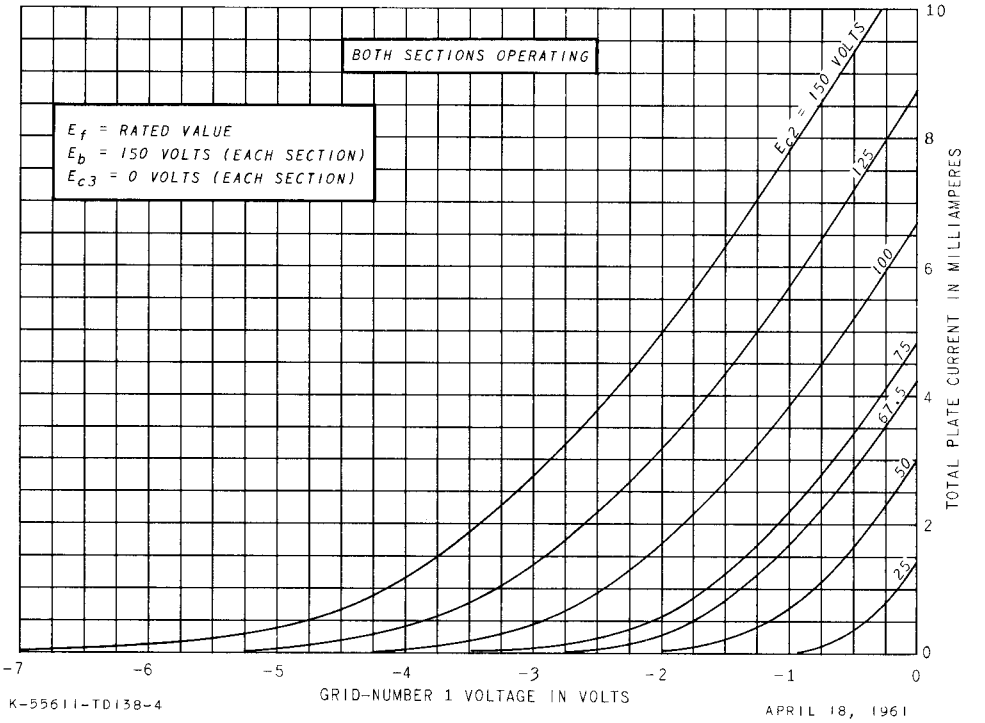
AVERAGE PLATE CHARACTERISTICS



AVERAGE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



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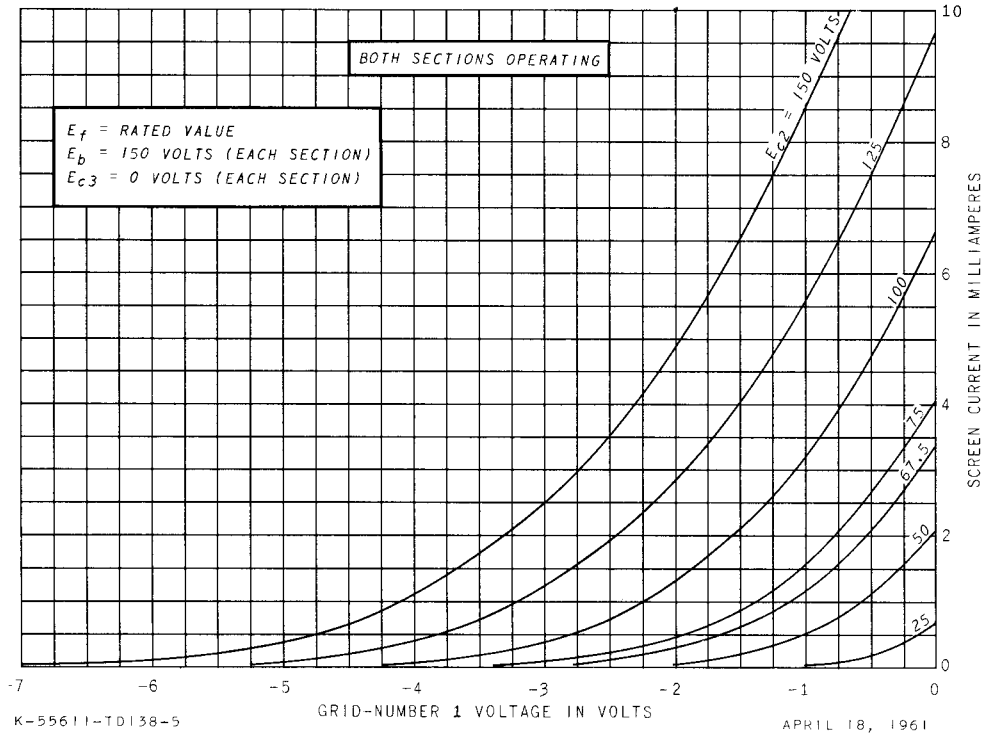

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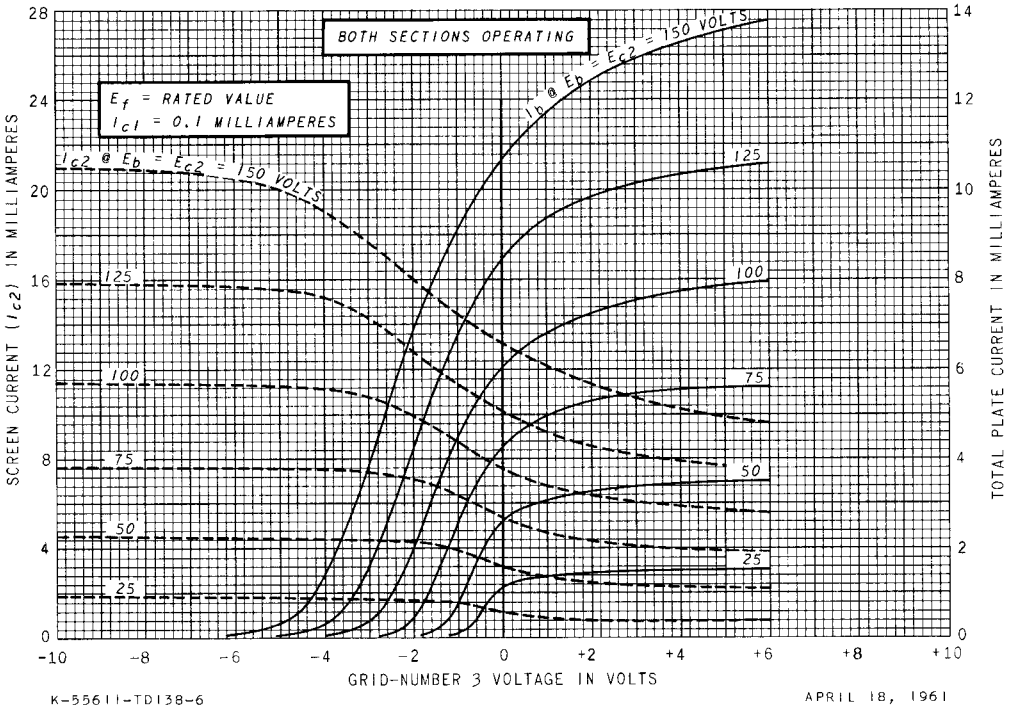

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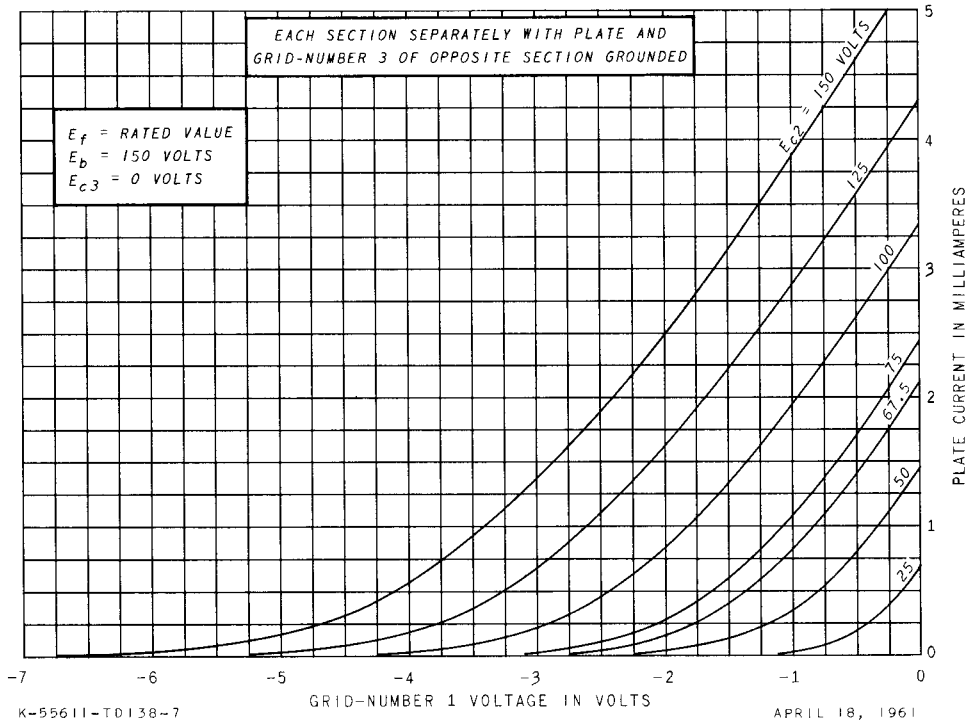
AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD138-7

APRIL 18, 1961

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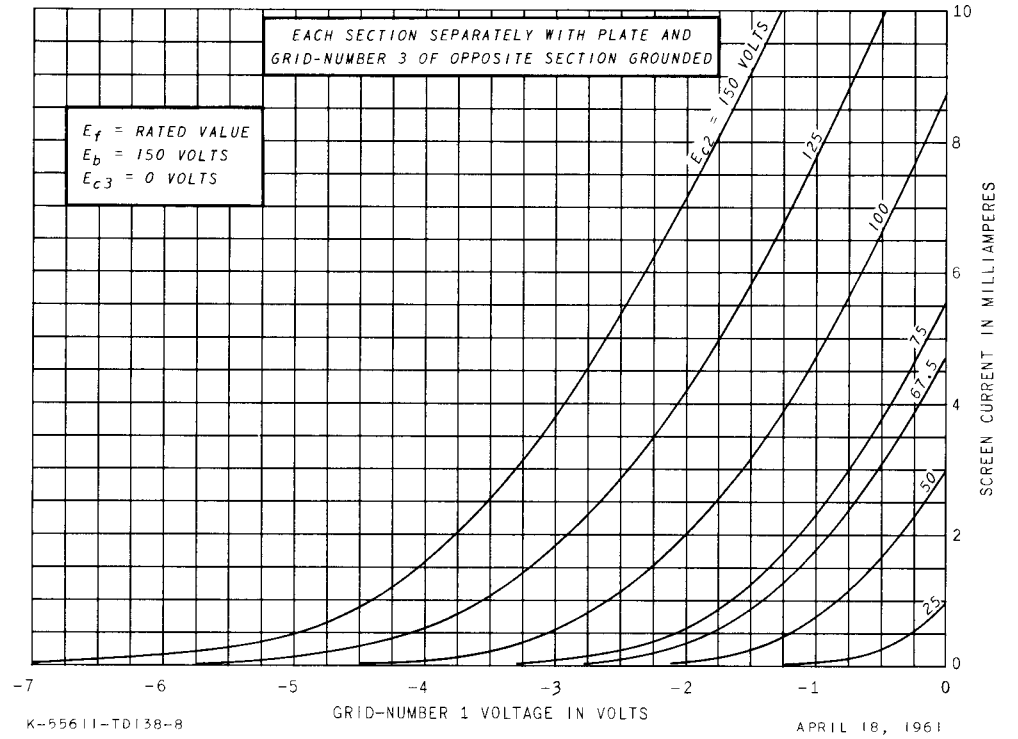
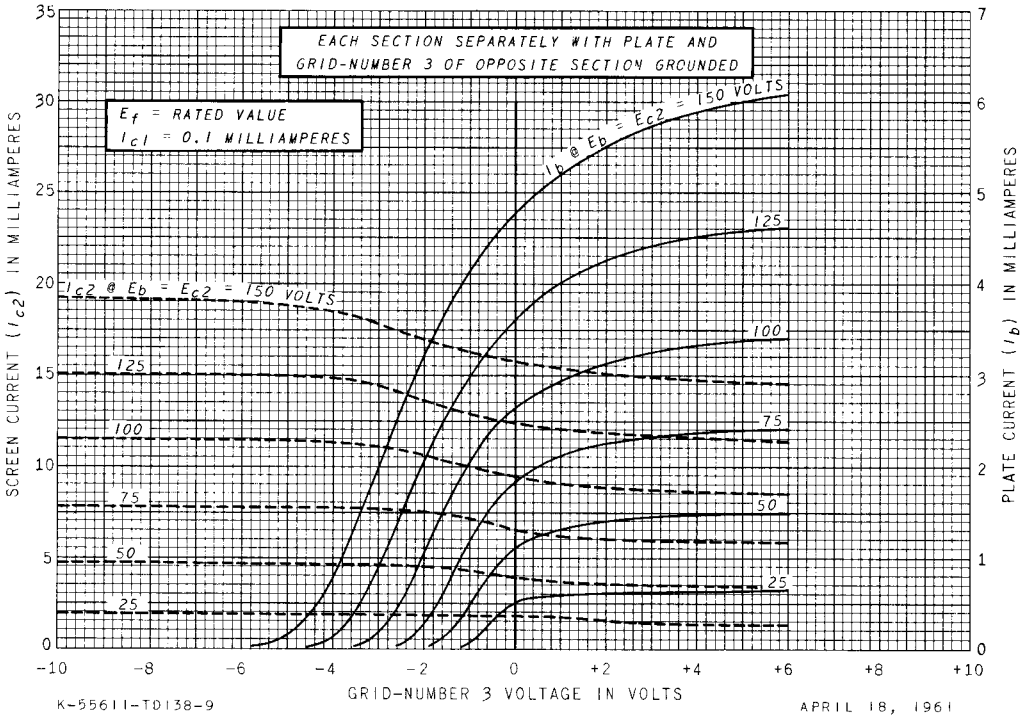


AVERAGE TRANSFER CHARACTERISTICS



RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky