TRIODE - PENTODE TYPES 5FV8 AND 6FV8

The 5FV8 and 6FV8 are triode-pentode types designed for service in television receivers. The triode is used as the vertical deflection oscillator and the pentode is used as a general-purpose or intermediate-frequency amplifier. The outstanding feature of these tubes is their ability to maintain high values of interelement leakage resistance through-out life.

The 5FV8 and 6FV8 have been designed for use in receivers which employ series connected heaters especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL:

Cathode	Coated Unipotential		
Heater:	5FV8	6FV8	
Voltage (ac or dc)	4.7	6.3	Volts
Current	0.60	0.45	Amperes
Warm-up Time●	11	11	Seconds
Direct Interelectrode Capacitances:			
Triode Unit	Unshielded	Shielded■	
Grid to plate	1.8	1.8	μμf
Input	2.8	2.8	μμf
Output	1.5	2.0	μμf
Pentode Unit			
Grid 1 to Plate	0.020 max.	0.010 max.	μμf
Input	5.0	5.0	μμf
Output	2.0	3.0	μμf
Pentode Plate to Triode Plate	0.15 max.	0.03 max.	μμf

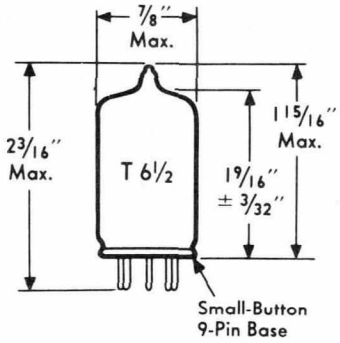
MECHANICAL:

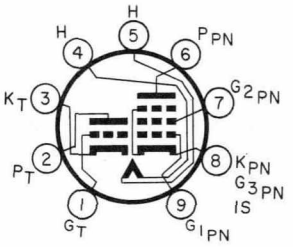
Bulb	T-6-½
Base	Miniature 9-pin (JEDEC E9-1)
Basing	9FA
Outline	6-2
Mounting	Any

RATINGS:

Design Maximum Values

	Triode Unit as Vertical Oscillator⊕	Pentode Unit		
Plate Voltage	330	330	max.	Volts
Grid 2 Supply Voltage	- -	330	max.	Volts
Grid 2 Voltage	- -		See Grid 2 Input Rating Chart	
Positive Peak Grid 1 Voltage Voltage	- -	0	max.	Volts
Negative Peak Pulse Grid Voltage	250	- -	max.	Volts
Cathode Current:				
Average	20	- -	max.	Ma.
Peak	70	- -	max.	Ma.
Plate Dissipation▲	2.0	2.3	max.	Watts
Grid 2 Dissipation	- -	0.55	max.	Watts
Heater-Cathode Voltage:				
Heater Negative with Respect to Cathode:				
Total DC and Peak	200	200	max.	Volts
Heater Positive with Respect to Cathode:				
DC Component	100	100	max.	Volts
Total DC and Peak	200	200	max.	Volts
Grid 1 Circuit Resistance:				
Fixed Bias	- -	0.25	max.	Megohm
Self Bias▲	3.0	1.0	max.	Megohms
Allowable Heater Current:	5FV8	6FV8		
Maximum	640	480	max.	Ma.
Minimum	560	420	min.	Ma.





9FA

TYPICAL OPERATING CHARACTERISTICS

	Triode Unit	Pentode Unit	
Plate Voltage	125	125	Volts
Grid 2 Voltage	--	125	Volts
Grid 1 Voltage	-1.0	-1.0	Volts
Amplification Factor	40	----	
Plate Resistance (approx.)	5000	200000	Ohms
Transconductance	8000	6500	μmhos
Grid 1 Cutoff Bias♦	-9	-9	Volts
Plate Current	14	12	Ma.
Grid 2 Current	--	4	Ma.

● Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying four times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.

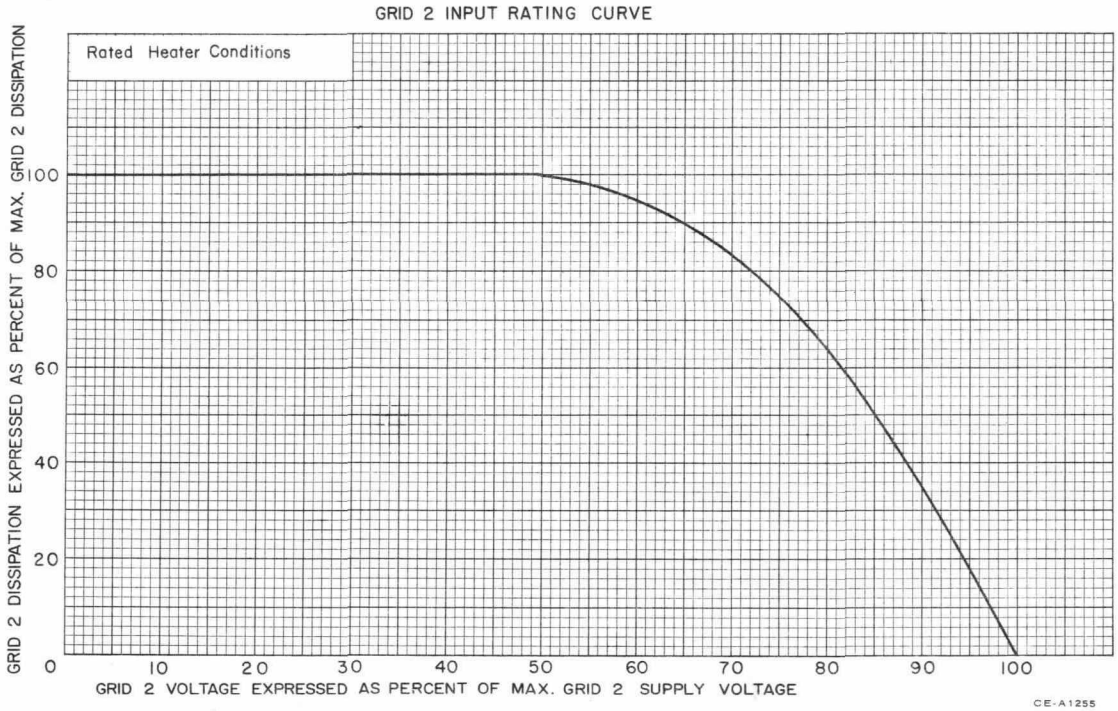
♦ For Plate Current of 20 μa.

▲ In stages operating with grid leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of exitation.

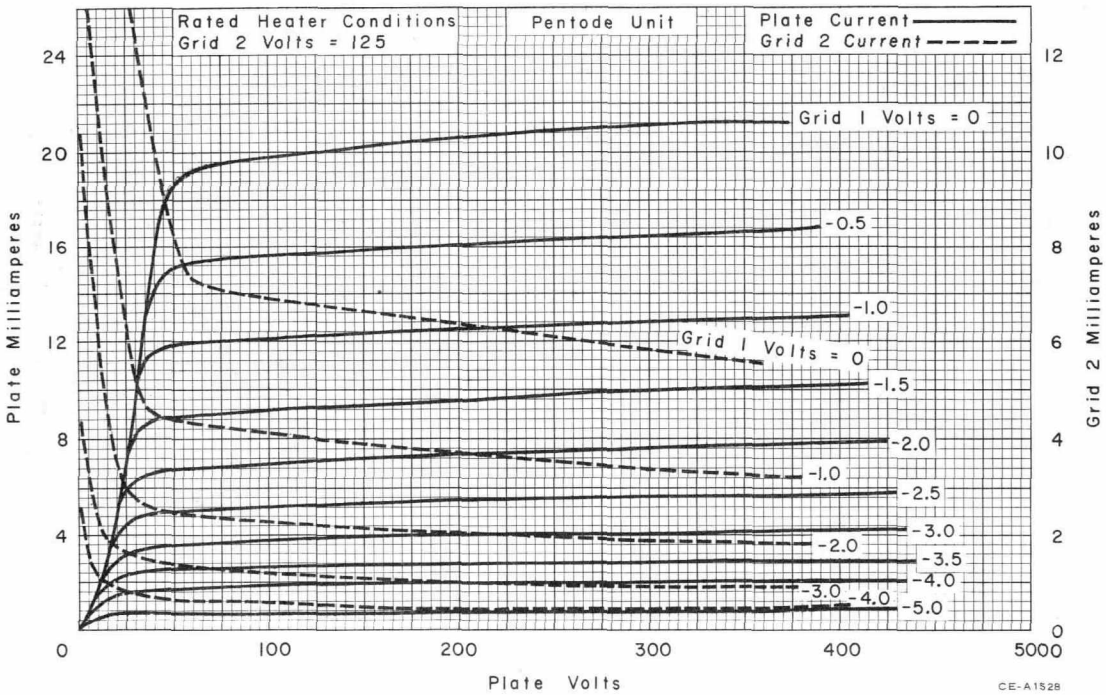
■ With JEDEC shield No. 315 connected to pin 4.

⊕ For operation in a 525 line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations, Federal Communications Commission". The duty cycle of the voltage pulse not to exceed 15% of one scaning cycle.

GRID 2 INPUT RATING CURVE



AVERAGE PLATE CHARACTERISTICS



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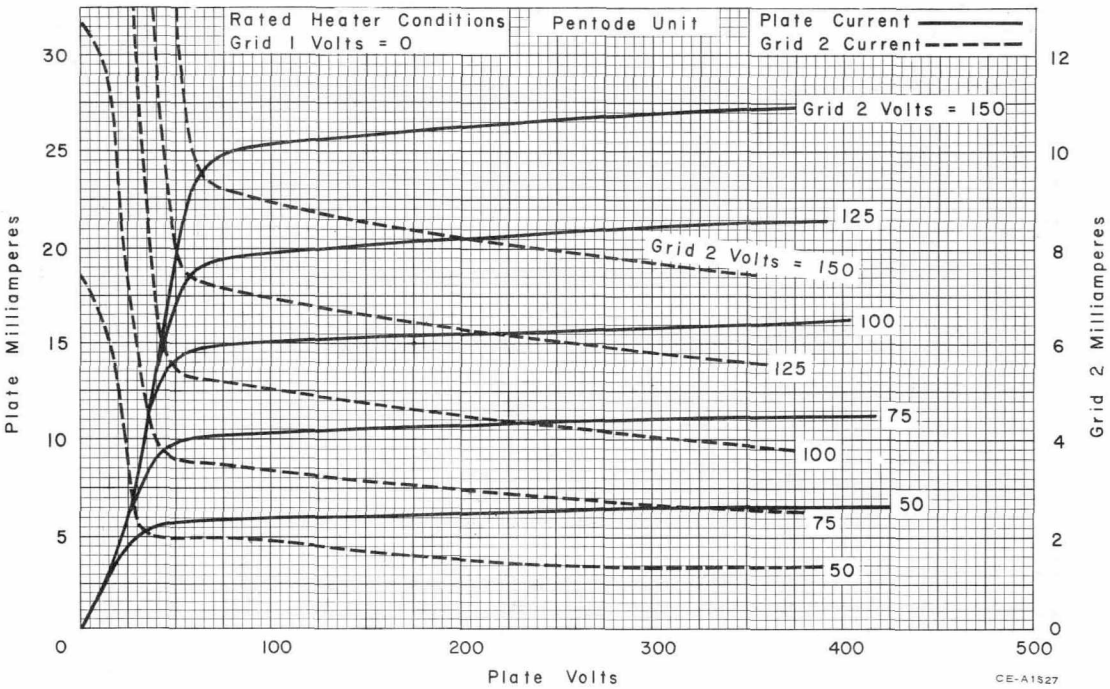
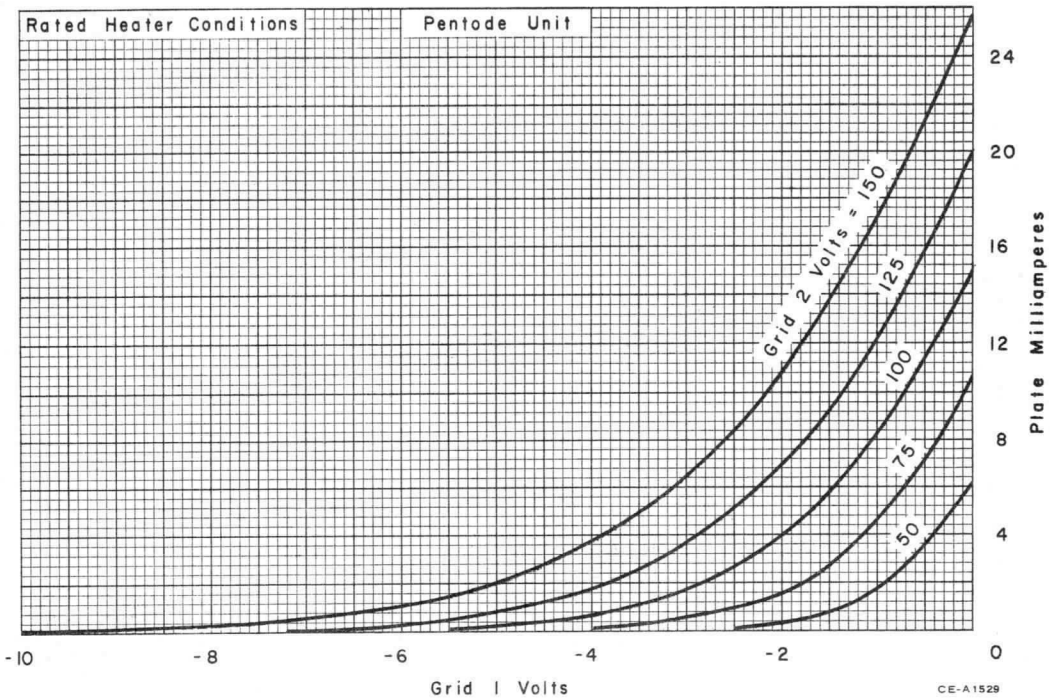


AVERAGE TRANSFER CHARACTERISTICS



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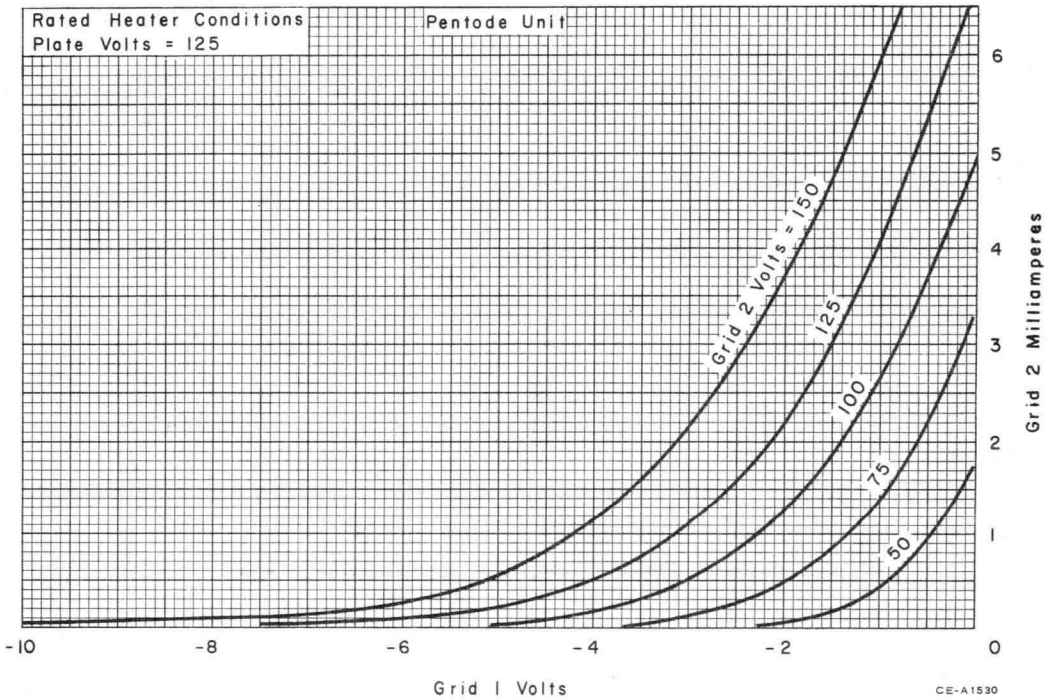

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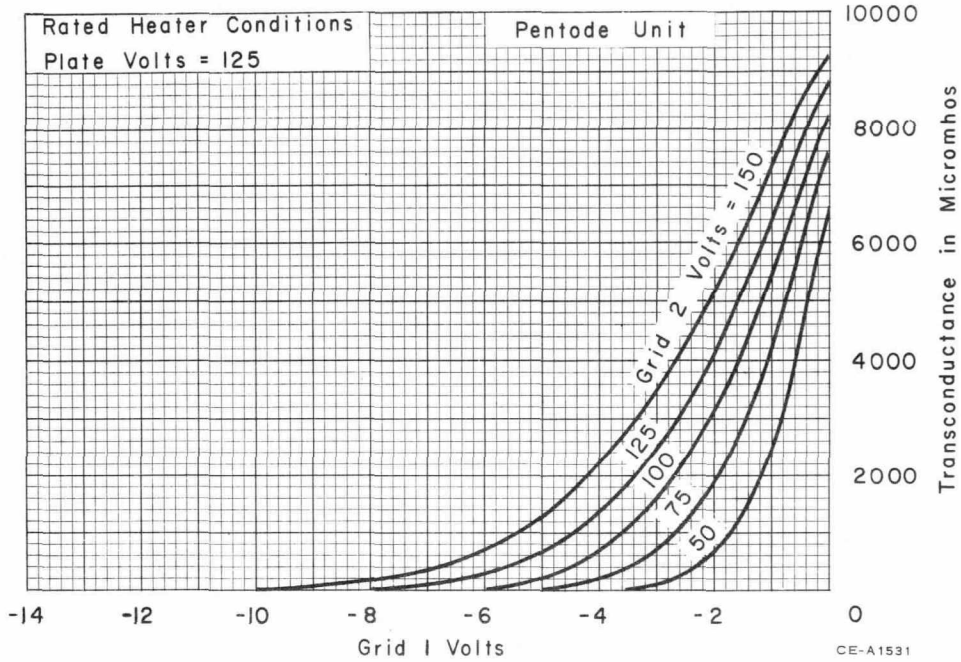
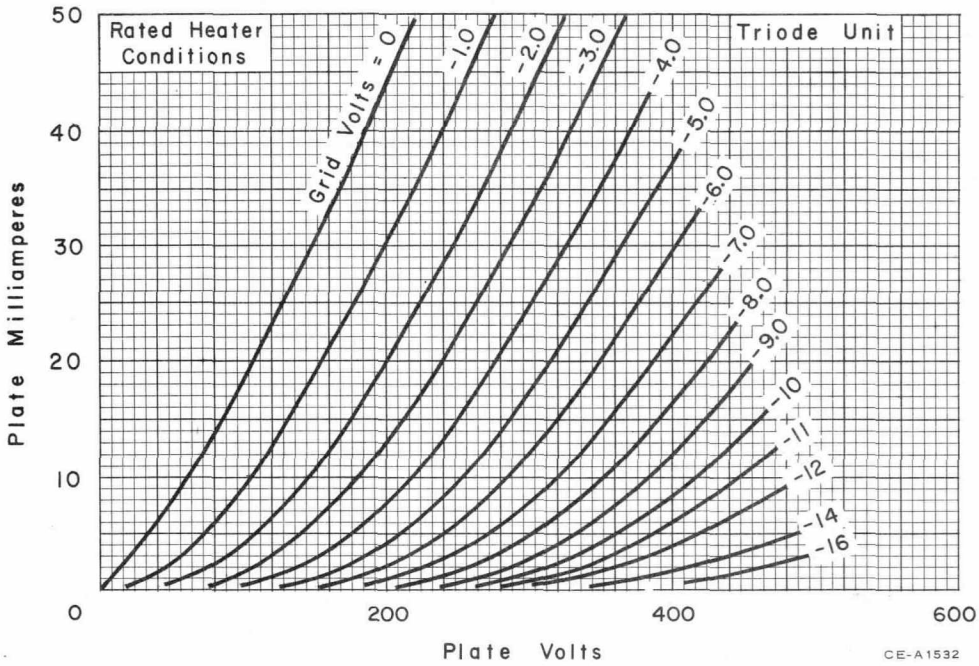


AVERAGE PLATE CHARACTERISTICS



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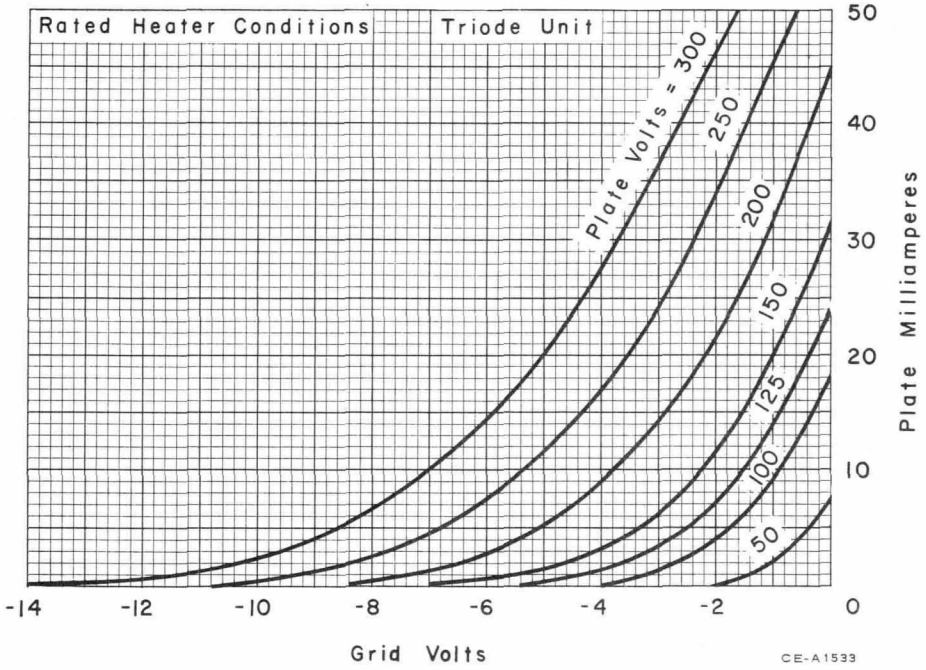
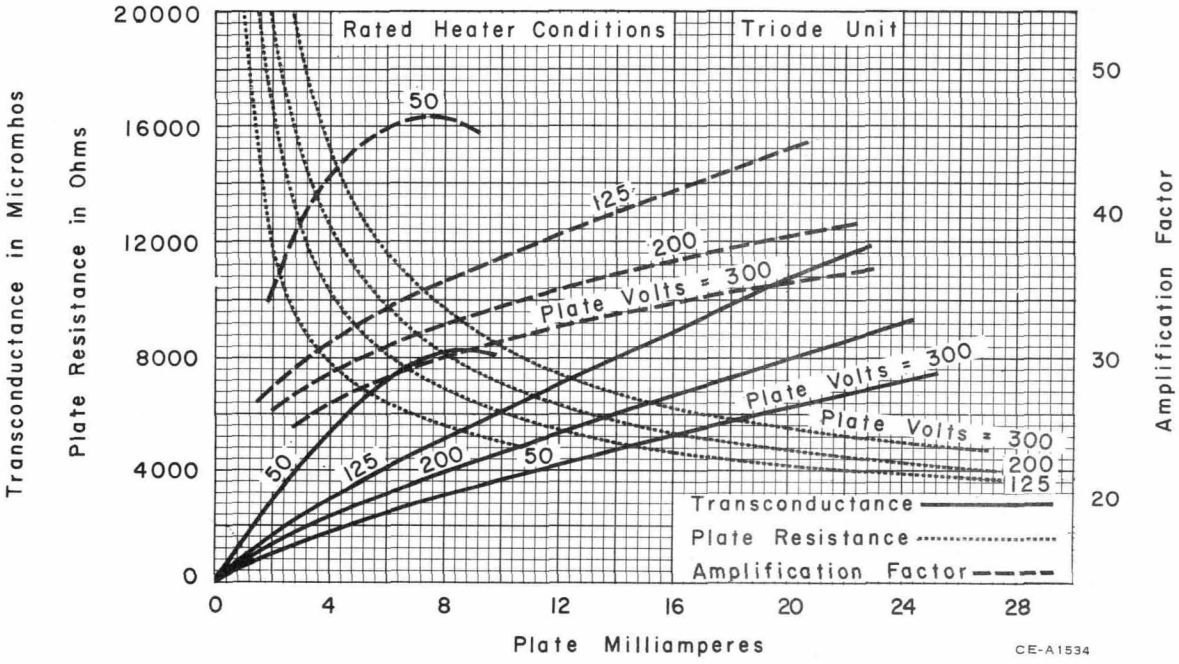
AVERAGE CHARACTERISTICS