2E26

BEAM POWER TUBE

Useful with full input up to 125 Mc and with reduced input up to 175 Mc

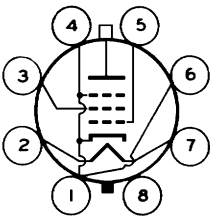
GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	6.3 ± 10%	volts
Current	0.8	amp
Transconductance, for plate volts = 500, grid-No.2 volts = 200, and plate ma. = 20	3500	μmhos
Mu-Factor, Grid No.2 to Grid No.1, for plate volts = 200, grid-No.2 volts = 200, and plate ma. = 20	6.5	
Direct Interelectrode Capacitances:		
Grid No.1 to plate	0.2 max.	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, base sleeve, and heater	13	μμf ←
Plate to cathode & grid No.3 & internal shield, grid No.2, base sleeve, and heater	7	μμf

Mechanical:

Operating Position	Any
Maximum Overall Length	3-21/32"
Seated Length	2-15/16" ± 5/32"
Maximum Diameter	1-5/16"
Bulb	T9
Cap	Small (JEDEC No.C1-1)
Base	Small-Micanal-Wafer Octal 8-Pin with "640" Sleeve (JEDEC Group 1, No.B8-44)
Basing Designation for BOTTOM VIEW	7CK ←



Pin 1 – Cathode, Grid No.3, Internal Shield
Pin 2 – Heater
Pin 3 – Grid No.2
Pin 4 – Same as Pin 1
Pin 5 – Grid No.1
Pin 6 – Same as Pin 1
Pin 7 – Heater
Pin 8 – Base Sleeve
Cap – Plate

Bulb Temperature (At hottest point)	210 max.	°C
Weight (Approx.)	1.4 oz	

AF POWER AMPLIFIER & MODULATOR — Class AB_1†

Maximum Ratings, *Absolute-Maximum Values:*

	CCS●	ICAS●●	
DC PLATE VOLTAGE	600 max.	750 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	250 max.	250 max.	volts

← Indicates a change.

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	CCS●	ICAS●●	
MAX.-SIGNAL DC PLATE CURRENT** . .	75 max.	75 max.	ma
MAX.-SIGNAL PLATE INPUT**	30 max.	37.5 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT** . .	2.5 max.	2.5 max.	watts
PLATE DISSIPATION	10 max.	12.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode.	100 max.	100 max.	volts
Heater positive with respect to cathode.	100 max.	100 max.	volts

Typical Operation:

Values are for 2 tubes

	CCS●	ICAS●●	
DC Plate Voltage.	500	700	volts
DC Grid-No.2 Voltage▲#	250	235	volts
DC Grid-No.1 (Control-Grid) Voltage:			
From fixed-bias source.	-40	-40	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage.	70	72	volts
Zero-Signal DC Plate Current. . .	13	12	ma
Max.-Signal DC Plate Current. . .	120	110	ma
Max.-Signal DC Grid-No.2 Current.	10	10	ma
Effective Load Resistance (Plate to plate).	8650	14100	ohms
Max.-Signal Driving Power (Approx.)	0	0	watts
Max.-Signal Power Output (Approx.)	40	50	watts

Maximum Circuit Values (CCS or ICAS Conditions):

Grid-No.1-Circuit Resistance:○○

With fixed bias	30000 max. ohms
With cathode bias	Not recommended

→ **AF POWER AMPLIFIER & MODULATOR — Class AB_2#**

Maximum Ratings, *Absolute-Maximum Values:*

	CCS●	ICAS●●	
DC PLATE VOLTAGE.	600 max.	750 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	250 max.	250 max.	volts
MAX.-SIGNAL DC PLATE CURRENT** . .	75 max.	75 max.	ma
MAX.-SIGNAL PLATE INPUT**	30 max.	37.5 max.	watts
MAX.-SIGNAL GRID-No.2 INPUT** . .	2.5 max.	2.5 max.	watts
PLATE DISSIPATION	10 max.	12.5 max.	watts

→Indicates a change.

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BEAM POWER TUBE

	CCS●	ICAS●●	
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	100 max.	100 max.	volts
Heater positive with respect to cathode	100 max.	100 max.	volts

Typical Operation:

Values are for 2 tubes

	CCS●	ICAS●●	
DC Plate Voltage	400	500	volts
DC Grid-No.2 Voltage▲✙	125	125	volts
DC Grid-No.1 (Control-Grid) Voltage:			
From fixed-bias source	-15	-15	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	60	60	volts
Zero-Signal DC Plate Current	20	22	ma
Max.-Signal DC Plate Current	150	150	ma
Max.-Signal DC Grid-No.2 Current	32	32	ma
Effective Load Resistance (Plate to plate)	6200	8000	ohms
Max.-Signal Driving Power (Approx.)★	0.36	0.36	watt
Max.-Signal Power Output (Approx.)	42	54	watts

Maximum Circuit Values (CCS or ICAS Conditions):

Grid-No.1-Circuit Resistance:★		
With fixed bias	30000 max.	ohms
With cathode bias	Not recommended	

PLATE-MODULATED RF POWER AMPLIFIER — Class C Telephony

Carrier conditions per tube for use with a maximum modulation factor of 1

Maximum Ratings, *Absolute-Maximum Values:*

	CCS●	ICAS●●	IMS○	
DC PLATE VOLTAGE	400 max.	500 max.	600 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	200 max.	200 max.	200 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-175 max.	-175 max.	-175 max.	volts
DC PLATE CURRENT	60 max.	70 max.	70 max.	ma

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	CCS●	ICAS●●	IMS○	
DC GRID-No.1 CURRENT.	3.5 max.	3.5 max.	3.5 max.	ma
PLATE INPUT	20 max.	27 max.	37 max.	watts
GRID-No.2 INPUT . . .	1.7 max.	2.3 max.	2.5 max.	watts
PLATE DISSIPATION . .	6.7 max.	9 max.	12 max.	watts
PEAK HEATER-CATHODE VOLTAGE:				
Heater negative with respect to cathode	100 max.	100 max.	100 max.	volts
Heater positive with respect to cathode	100 max.	100 max.	100 max.	volts
Typical Operation:				
DC Plate Voltage. . .	400	500	600	volts
DC Grid-No.2 Voltage♦.	160	180	200	volts
From a series resistor of . . .	32000	35500	40000	ohms
DC Grid-No.1 Voltage⊛.	-50	-50	-50	volts
From a grid resistor of . . .	20000	20000	20000	ohms
Peak RF Grid-No.1 Voltage	60	60	60	volts
DC Plate Current. . .	50	54	60	ma
DC Grid-No.2 Current.	7.5	9	10	ma
DC Grid-No.1 Current (Approx.)	2.5	2.5	2.5	ma
Driving Power (Approx.)	0.15	0.15	0.15	watt
Power Output (Approx.)	13.5	18	24	watts

Maximum Circuit Values (CCS, ICAS, or IMS Conditions):

Grid-No.1-Circuit Resistance† . . . . . 30000 max. ohms

RF POWER AMPLIFIER & OSCILLATOR — Class C Telegraphy□ and RF POWER AMPLIFIER — Class C FM Telephony

Maximum Ratings, *Absolute-Maximum Values:*

	CCS●	ICAS●●	IMS○	
DC PLATE VOLTAGE. . .	500 max.	600 max.	700 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	200 max.	200 max.	200 max.	volts
DC GRID-No.1 (CONTROL-GRID) VOLTAGE	-175 max.	-175 max.	-175 max.	volts

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	CCS●	ICAS●●	IMS○	
DC PLATE CURRENT . . .	75 max.	85 max.	85 max.	ma
DC GRID-No.1 CURRENT .	3.5 max.	3.5 max.	3.5 max.	ma
PLATE INPUT.	30 max.	40 max.	55 max.	watts
GRID-No.2 INPUT. . . .	2.5 max.	2.5 max.	2.5 max.	watts
PLATE DISSIPATION. . .	10 max.	13.5 max.	18.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:				
Heater negative with respect to cathode.	100 max.	100 max.	100 max.	volts
Heater positive with respect to cathode.	100 max.	100 max.	100 max.	volts

Typical CCS● Operation:

	Up to 125 Mc		*At 160 Mc*	
DC Plate Voltage . . .	400	500	300	volts
DC Grid-No.2 Voltage●●	190	185	170	volts
From a series resistor of. . . .	19000	28500	21500	ohms
DC Grid-No.1 Voltage■.	-30	-40	-75	volts
From a grid-No.1 resistor of. . . .	10000	13500	30000	ohms
Peak RF Grid-No.1 Voltage.	41	50	85	volts
DC Plate Current . . .	75	60	75	ma
DC Grid-No.2 Current .	11	11	6	ma
DC Grid-No.1 Current (Approx.).	3	3	2.5	ma
Driving Power (Approx.).	0.12	0.15	1.5	watts
Power Output (Approx.).	20	20	13	watts

Typical ICAS●● Operation:

	Up to 125 Mc	*At 160 Mc*	
DC Plate Voltage	600	350	volts
DC Grid-No.2 Voltage●● .	185	200	volts
From a series resistor of.	41500	21500	ohms
DC Grid-No.1 Voltage■. .	-45	-90	volts
From a grid-No.1 resistor of.	15000	30000	ohms
Peak RF Grid-No.1 Voltage.	57	105	volts
DC Plate Current	66	85	ma
DC Grid-No.2 Current . .	10	7	ma
DC Grid-No.1 Current (Approx.).	3	3	ma

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	Up to 125 Mc	*At 160 Mc*	
Driving Power (Approx.) . . .	0.17	2	watts
Power Output (Approx.) . . .	27	16.5	watts

Typical IMS° Operation:

	Up to 125 Mc	
DC Plate Voltage	650	volts
DC Grid-No.2 Voltage⊕⊕	200	volts
From a series resistor of	45000	ohms
DC Grid-No.1 Voltage■	-49	volts
From a grid-No.1 resistor of . . .	16300	ohms
Peak RF Grid-No.1 Voltage.	68	volts
DC Plate Current	84	ma
DC Grid-No.2 Current	10	ma
DC Grid-No.1 Current (Approx.) . . .	3	ma
Driving Power (Approx.).	0.2	watt
Power Output (Approx.)	36	watts

Maximum Circuit Values (CCS, or ICAS, or IMS Conditions):

Grid-No.1-Circuit Resistance‡. . . .	30000 max.	ohms

♦ Without external shield.

† Subscript 1 indicates that grid-No.1 current does not flow during any part of the input cycle.

● Continuous Commercial Service.

●● Intermittent Commercial and Amateur Service.

** Averaged over any audio-frequency cycle of sine-wave form.

▲ Preferably obtained from a separate source or from the plate voltage supply with a voltage divider.

⊕ In applications requiring the use of grid-No.2 voltages above 135 volts, provision should be made for the adjustment of grid-No.1 bias for each tube separately. The necessity for this adjustment at the lower grid-No.2 voltages depends on the distortion requirements and on whether the plate-dissipation rating is exceeded at zero-signal plate current.

∞ The resistance introduced into the grid-No.1 circuit by the input coupling should be held to a low value. In no case should it exceed the specified maximum value. Transformer- or impedance-coupling devices are recommended.

Subscript 2 indicates that grid-No.1 current flows during some part of the input cycle.

★ Driver stage should be capable of supplying the specified driving power at low distortion to the No.1 grids of the AB_2 stage. To minimize distortion, the effective resistance per grid-No.1 circuit of the AB_2 stage should be held at a low value. For this purpose, the use of transformer coupling is recommended.

○ Intermittent Mobile Service.

🌡 Obtained preferably from a separate source modulated along with the plate supply, or from the modulated plate supply through a series resistor.

⊕ Obtained from grid-No.1 resistor or from a combination of grid-No.1 resistor with either fixed supply or cathode resistor.

‡ When grid-No.1 is driven positive and the 2E26 is operated at maximum ratings, the total dc grid-No.1-circuit resistance should not exceed the specified value of 30,000 ohms. If this value is insufficient to provide adequate bias, the additional required bias must be supplied by a cathode resistor or fixed supply. For operation at less than maximum ratings, the dc grid-No.1-circuit resistance may be as high as 0.1 megohm.

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□ Key-down conditions per tube without amplitude modulation. Amplitude modulation essentially negative may be used if the positive peak of the audio-frequency envelope does not exceed 115% of the carrier conditions.

⊕⊕ Obtained preferably from a separate source, or from the plate supply voltage with a voltage divider, or through a series resistor. A series grid-No.2 resistor should be used only when the 2E26 is used in a circuit which is not keyed. Grid-No.2 voltage must not exceed 600 volts under key-up conditions.

■ Obtained from fixed supply, by grid-No.1 resistor, by cathode resistor, or by combination methods.

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current	1	0.74	0.86	amp
Direct Interelectrode Capacitances:				
Grid No.1 to plate	2	–	0.2	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, base sleeve, and heater	2	11.6	14	μμf
Plate to cathode & grid No.3 & internal shield, grid No.2, base sleeve, and heater	2	6.4	8	μμf
Plate Current	3	23	47	ma
Grid-No.2 Current	3	–	4	ma
Useful Power Output	4	18	–	watts

Note 1: With heater volts = 6.3 ac.

Note 2: Without external shield.

Note 3: With heater volts = 6.3 ac, dc plate volts = 200, dc grid-No.2 volts = 135, and dc grid-No.1 volts = −10.

Note 4: In a single-tube self-excited oscillator circuit, and with heater volts = 6.3 ac, dc plate volts = 500, dc grid-No.2 volts = 200, grid-No.1 resistor (megohms) = 0.015 ± 10%, dc plate ma. = 60 maximum, dc grid-No.1 ma. = 1.8 to 2.2, and frequency (Mc) = 15.

MAXIMUM RATINGS vs OPERATING FREQUENCY ←

FREQUENCY	125	150	160	175	Mc
MAXIMUM-PERMISSIBLE PERCENTAGE OF MAXIMUM-RATED PLATE VOLTAGE OR PLATE INPUT:					
Class C plate-modulated telephony	100	83	75	68	%
Class C telegraphy	100	83	75	68	%

←Indicates a change.

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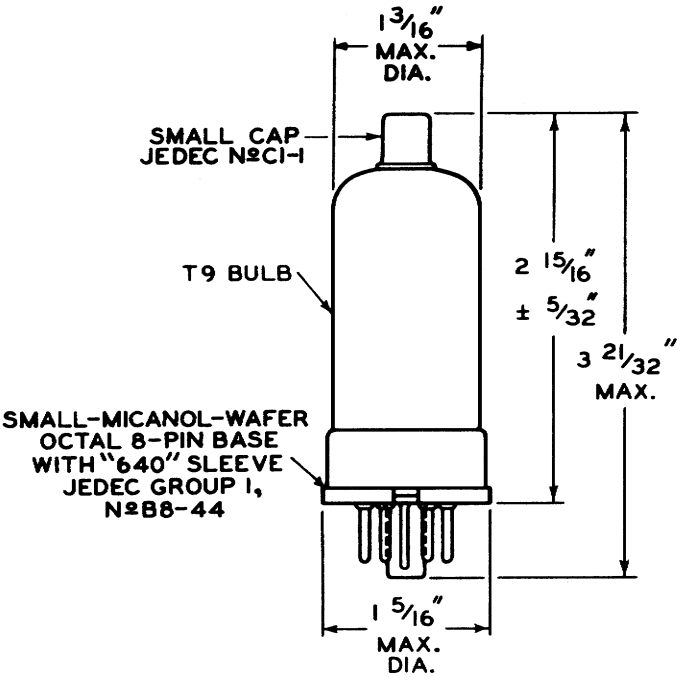

92CS-6607R3

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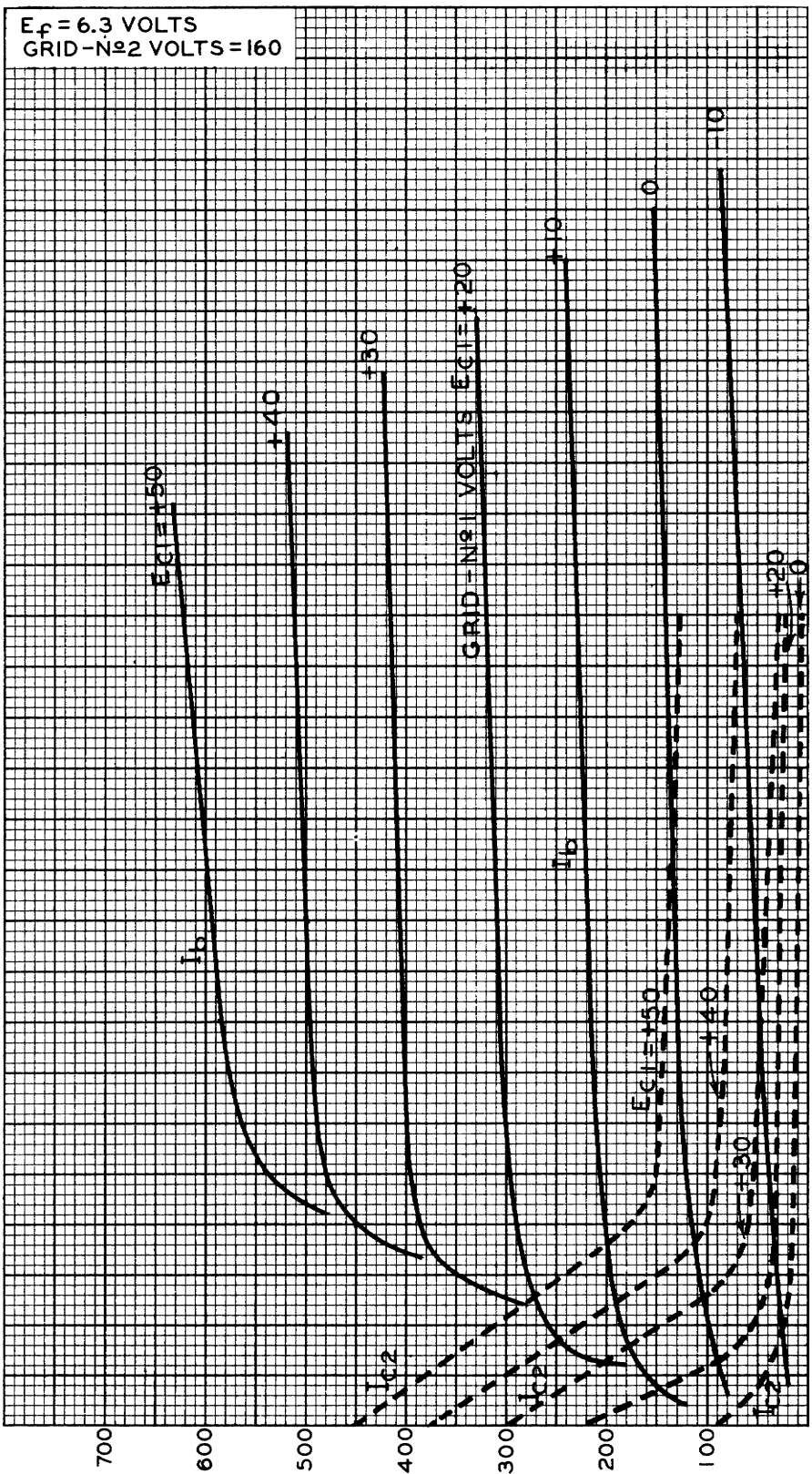
AVERAGE CHARACTERISTICS



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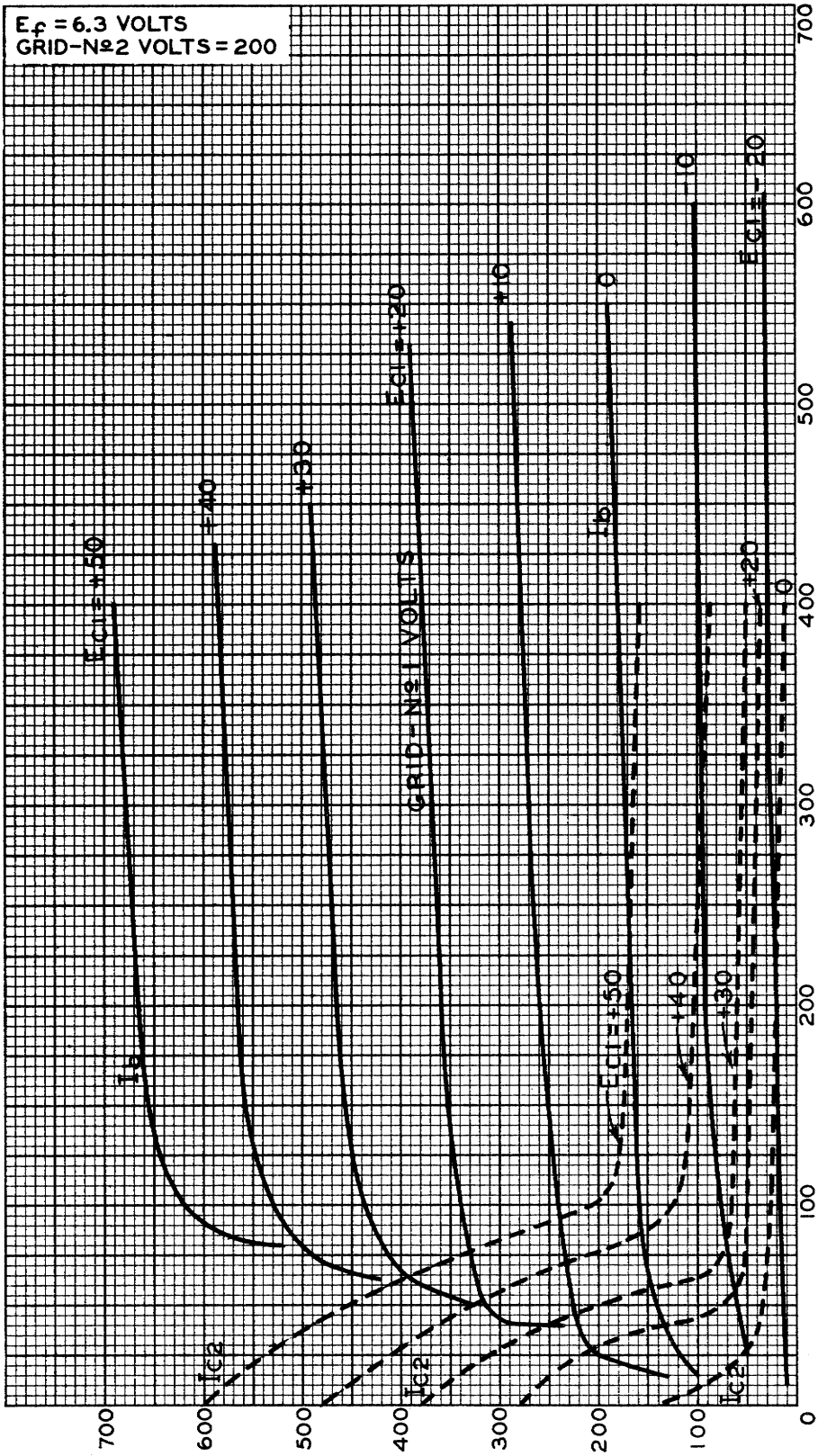
AVERAGE CHARACTERISTICS



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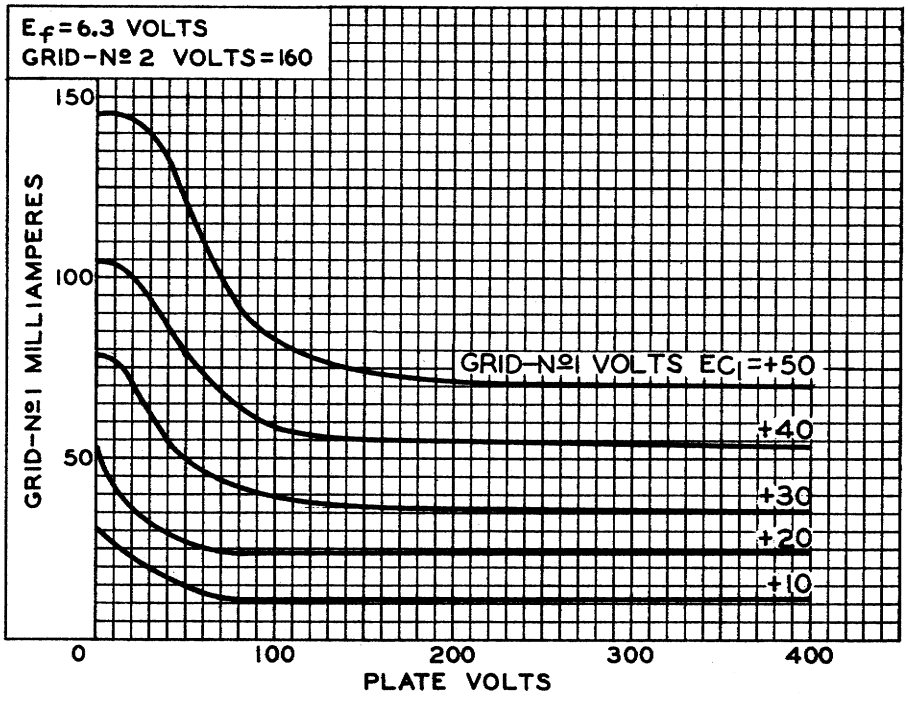
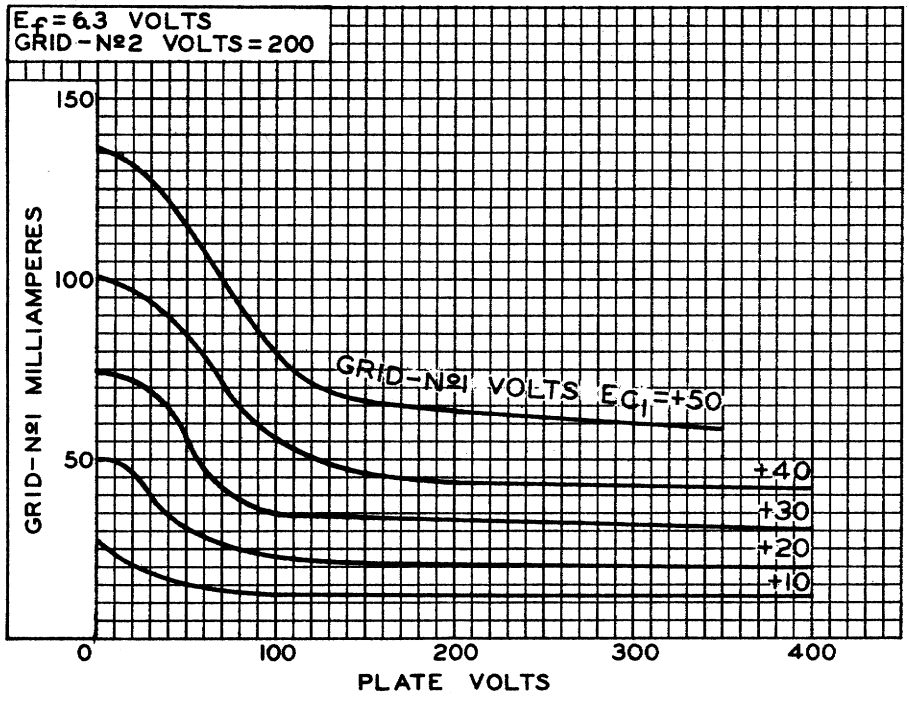
TYPICAL CHARACTERISTICS



92CS-6628



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