



POWER-AMPLIFIER PENTODE

DESCRIPTION AND RATING

FOR AF POWER AMPLIFIER APPLICATIONS

The 6CW5 is a power-amplifier pentode designed for use in the audio-frequency power-output stage of television and radio receivers and in high-fidelity amplifiers.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential	
Heater Voltage, AC or DC	6.3 Volts
Heater Current	0.76 Amperes
Direct Interelectrode Capacitances*	
Grid Number 1 to Plate	0.6 pf
Grid Number 1 to All	12 pf
Plate to All	6.0 pf

MECHANICAL

Mounting Position—Any	
Envelope—T-6 $\frac{1}{2}$, Glass	
Base—E9-1, Small Button 9-Pin	
Outline Drawing—EIA 6-4	
Maximum Diameter	$\frac{7}{8}$ Inches
Maximum Over-all Length	$3\frac{1}{8}$ Inches
Maximum Seated Height	$2\frac{1}{2}$ Inches

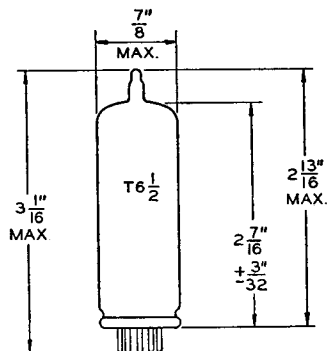
MAXIMUM RATINGS

DESIGN-CENTER VALUES

Plate Voltage	250 Volts
Screen Voltage	200 Volts
Plate Dissipation	12 Watts
Screen Dissipation	1.75 Watts
Peak Screen Dissipation	6.0 Watts
DC Cathode Current	100 Milliamperes

Heater-Cathode Voltage	
Heater Positive with Respect to Cathode	100 Volts
Heater Negative with Respect to Cathode	
DC Component	150 Volts
Total DC and Peak	300 Volts
Grid-Number 1 Circuit Resistance	
With Cathode Bias	1.0 Megohms

PHYSICAL DIMENSIONS

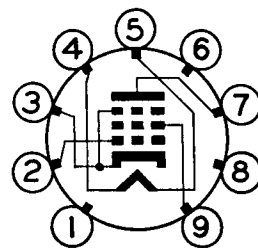


EIA 6-4

TERMINAL CONNECTIONS

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

BASING DIAGRAMS



EIA 9CV

CHARACTERISTICS AND TYPICAL OPERATION**AVERAGE CHARACTERISTICS**

Plate Voltage	170 Volts	Plate Resistance, approximate	23000 Ohms
Screen Voltage	170 Volts	Transconductance	10000 Micromhos
Grid-Number 1 Voltage	-12.5 Volts	Plate Current	70 Milliamperes
		Screen Current	5.0 Milliamperes

CLASS A₁ AMPLIFIER

Plate Voltage	170 Volts	Zero-Signal Screen Current	5.0 Milliamperes
Screen Voltage	170 Volts	Maximum-Signal Screen Current	22 Milliamperes
Grid-Number 1 Voltage	-12.5 Volts	Load Resistance	2400 Ohms
Peak AF Grid-Number 1 Voltage	9.9 Volts	Total Harmonic Distortion, approximate	10 Percent
Zero-Signal Plate Current	70 Milliamperes	Maximum-Signal Power Output	5.6 Watts
Maximum-Signal Plate Current	70 Milliamperes		

PUSH-PULL CLASS AB₁ AMPLIFIER, VALUES FOR TWO TUBES

Plate Voltage	250 Volts	Zero-Signal Screen Current	4.0 Milliamperes
Screen Voltage	200 Volts	Maximum-Signal Screen Current	23 Milliamperes
Grid-Number 1 Voltage	-18.5 Volts	Effective Load Resistance, Plate-to-Plate	3000 Ohms
Peak AF Grid-to-Grid Voltage	34 Volts	Total Harmonic Distortion	1.0 Percent
Zero-Signal Plate Current	91 Milliamperes	Maximum-Signal Power Output	25 Watts
Maximum-Signal Plate Current	180 Milliamperes		

*Without external shield.

Design-Center 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 normal conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube in average applications, making allowance for normal changes in operating conditions due to rated supply-voltage variation, equipment

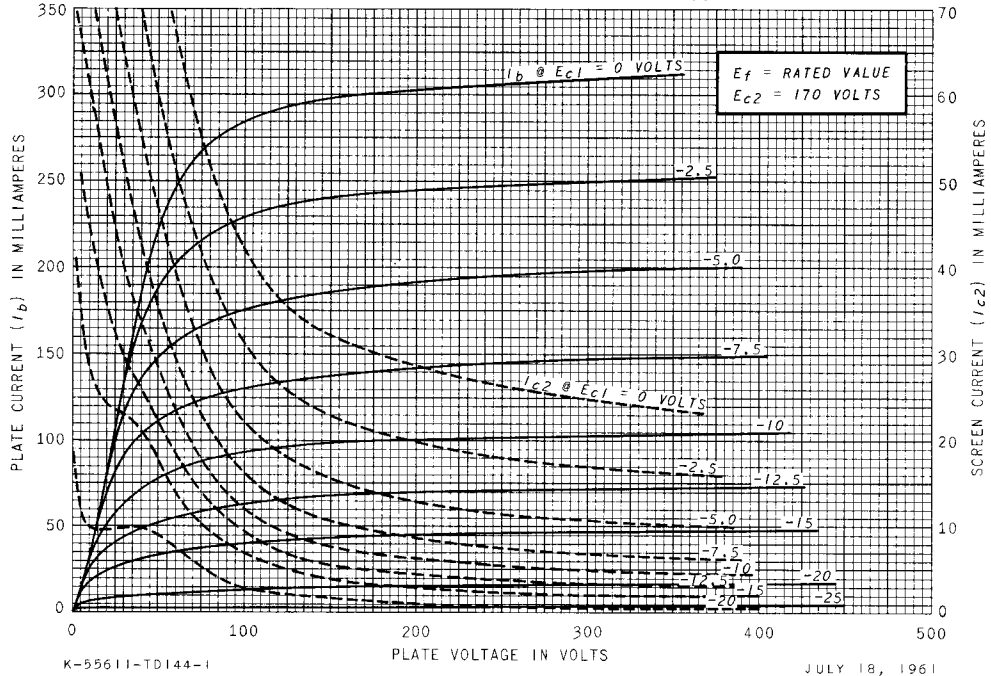
component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

The equipment manufacturer should design so that initially no design-center value for the intended service is exceeded with a bogey tube under normal operating conditions at the stated normal supply voltage.

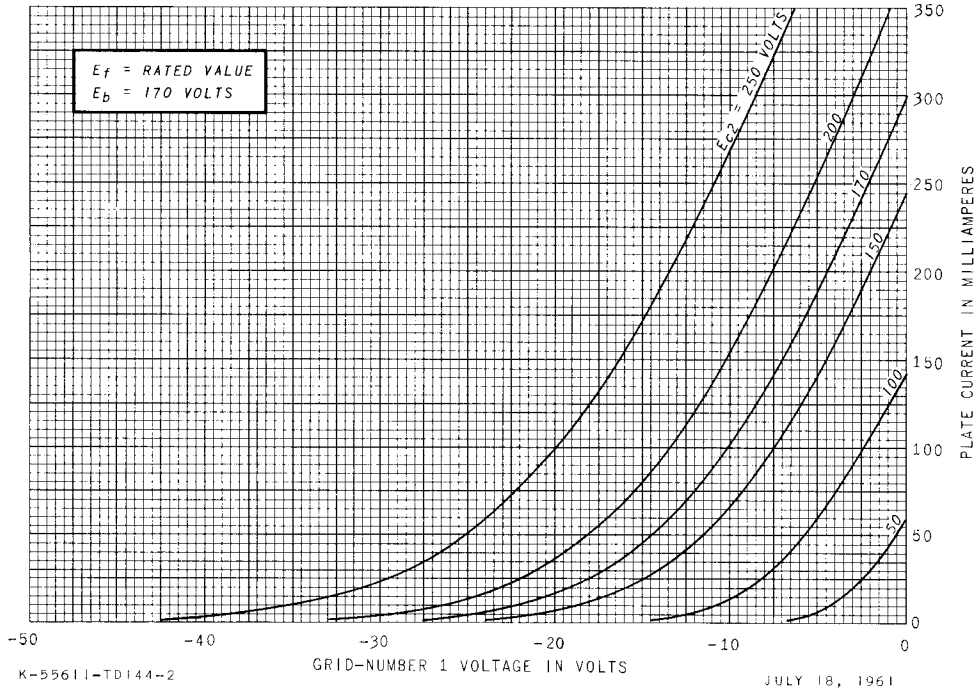
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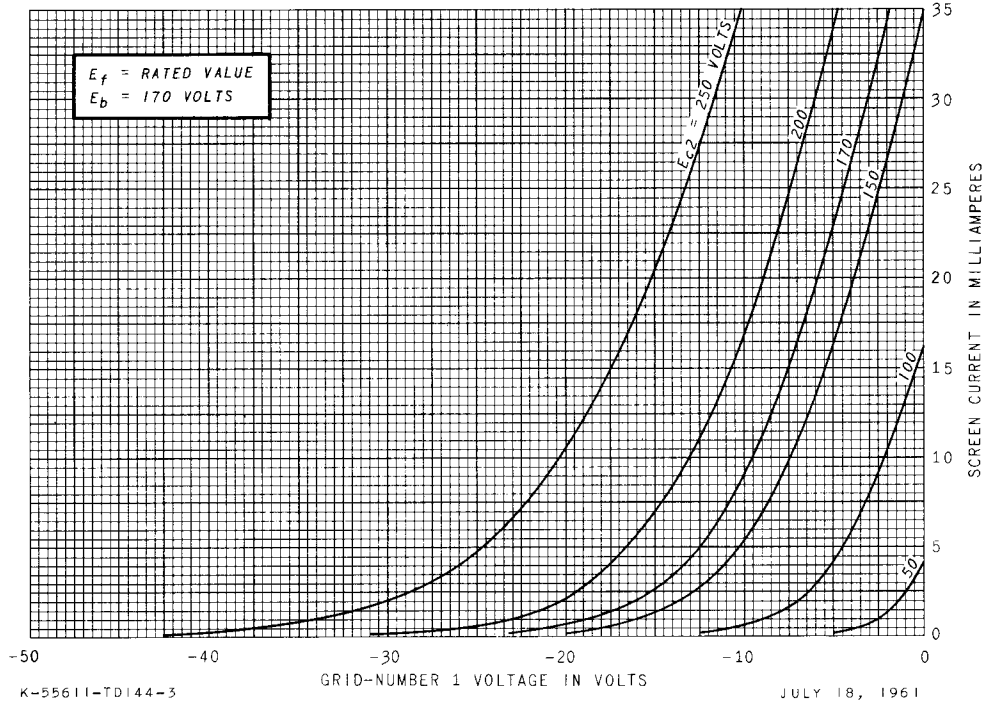
AVERAGE PLATE CHARACTERISTICS



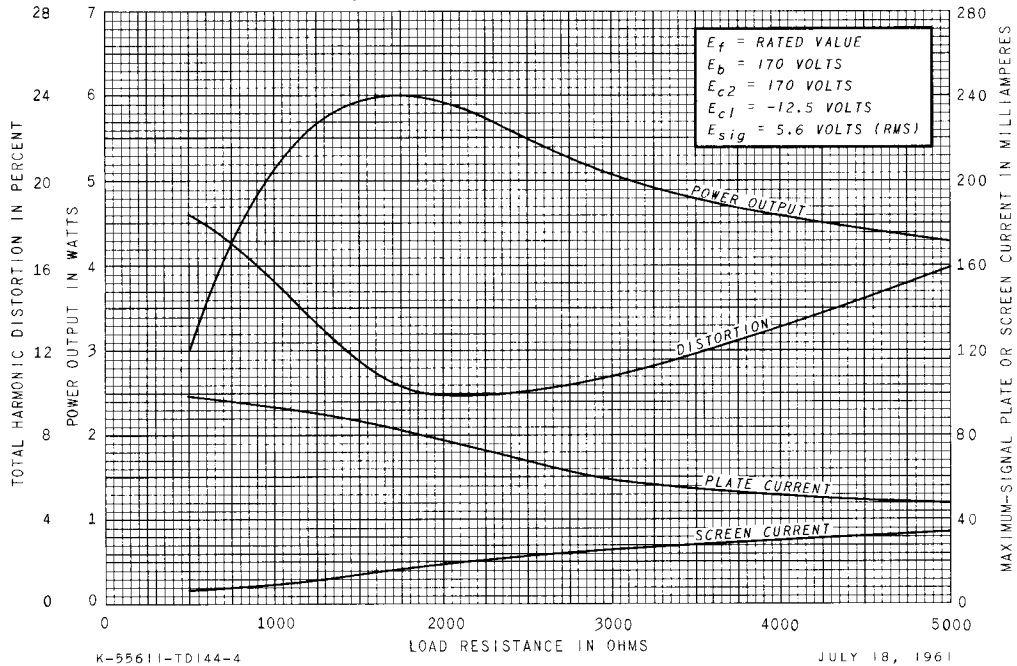
AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



OPERATION CHARACTERISTICS



RECEIVING TUBE DEPARTMENT

