



## 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	$3\frac{1}{16}$ Inches
Maximum Seated Height	$2\frac{1}{8}$ Inches

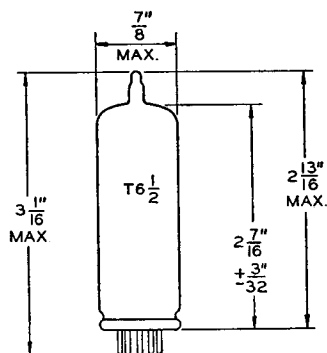
### MAXIMUM RATINGS

#### 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

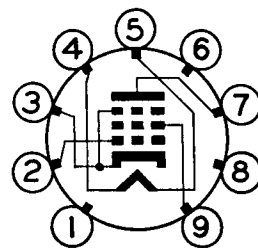


EIA 6-4

#### 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 Milliampères
		Screen Current . . . . .	5.0 Milliampères

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

Plate Voltage . . . . .	170 Volts	Zero-Signal Screen Current . . . . .	5.0 Milliampères
Screen Voltage . . . . .	170 Volts	Maximum-Signal Screen Current . . . . .	22 Milliampères
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 Milliampères	Maximum-Signal Power Output . . . . .	5.6 Watts
Maximum-Signal Plate Current . . . . .	70 Milliampères		

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

Plate Voltage . . . . .	250 Volts	Zero-Signal Screen Current . . . . .	4.0 Milliampères
Screen Voltage . . . . .	200 Volts	Maximum-Signal Screen Current . . . . .	23 Milliampères
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 Milliampères	Maximum-Signal Power Output . . . . .	25 Watts
Maximum-Signal Plate Current . . . . .	180 Milliampères		

\*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

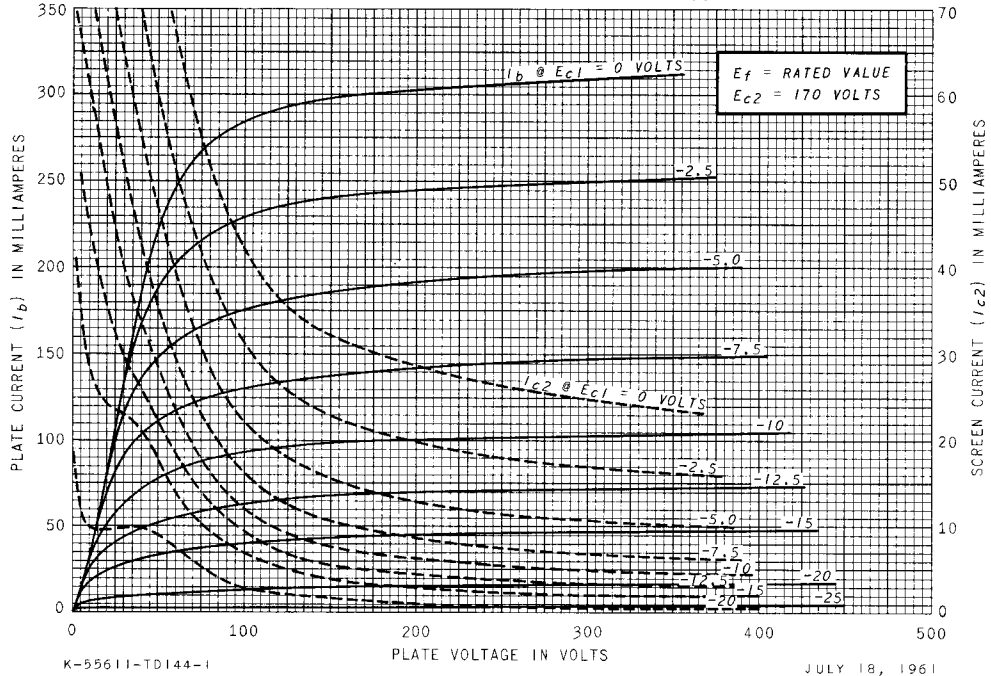
component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

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.

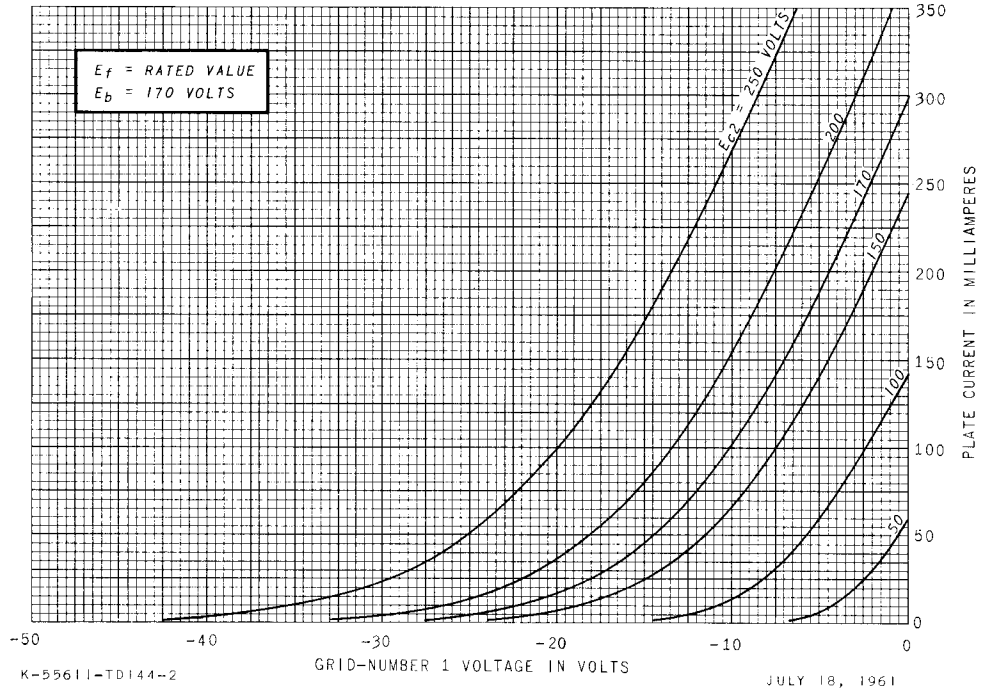
The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or

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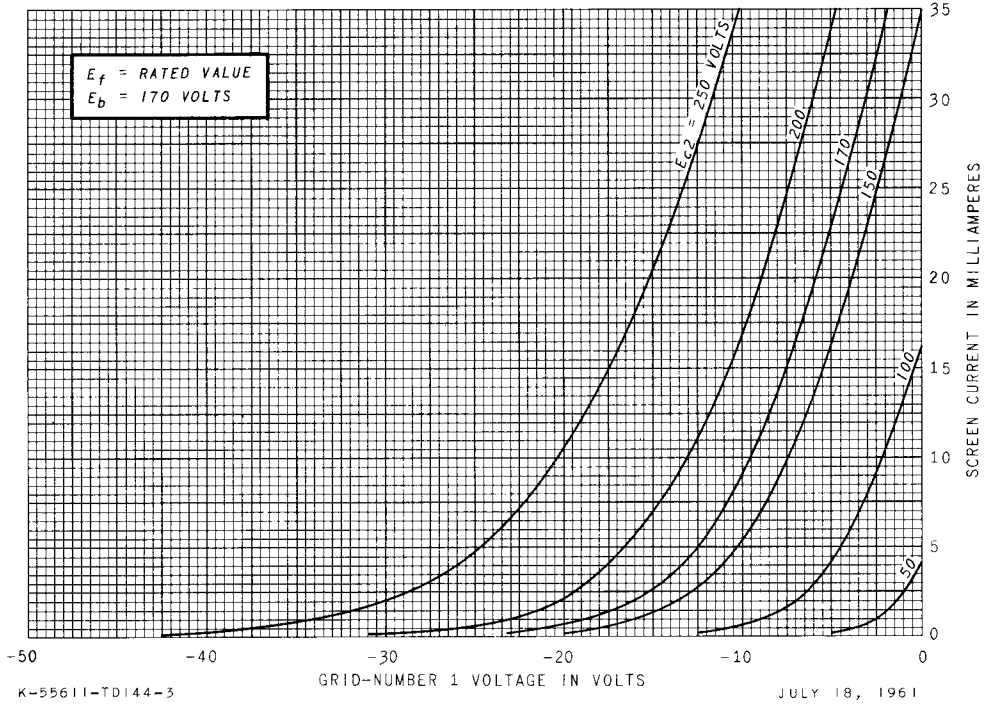
**AVERAGE PLATE CHARACTERISTICS**



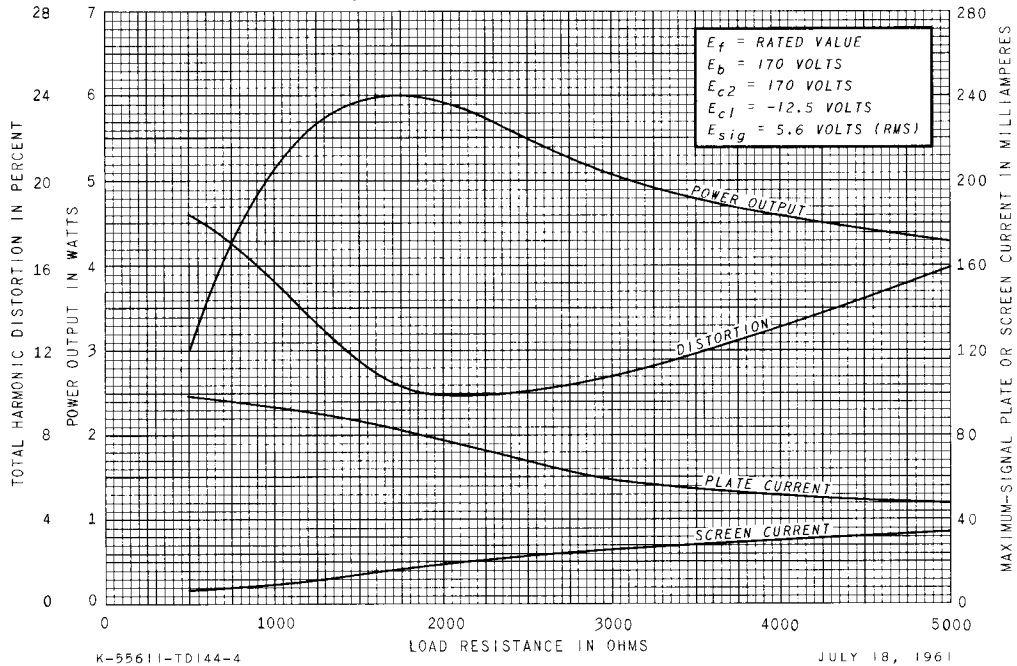
**AVERAGE TRANSFER CHARACTERISTICS**



**AVERAGE TRANSFER CHARACTERISTICS**



**OPERATION CHARACTERISTICS**



RECEIVING TUBE DEPARTMENT

