



# 12V6-GT

## Description and Rating

### BEAM PENTODE

The 12V6-GT is a beam pentode designed primarily for use in the audio output stage of a-c and storage-battery-operated equipment. It is capable of supplying high power output with high sensitivity, high efficiency and low third and higher-order harmonic distortion. Except for heater ratings, the electrical characteristics of the 12V6-GT are identical to those of the 6V6-GT.

#### GENERAL

Cathode - Coated Unipotential  
 Heater Voltage, AC or DC . . . . . 12.6 Volts  
 Heater Current . . . . . 0.225 Amperes  
 Envelope - T-9, Glass  
 Base - B6-81 or B7-7, Intermediate Shell Octal  
       or B6-84 or B7-59, Short Intermediate Shell Octal  
 Mounting Position - Any

Direct Interelectrode Capacitances, approximate \*  
 Grid-Number 1 to Plate . . . . . 0.7  $\mu\mu\text{f}$   
 Input . . . . . 9.0  $\mu\mu\text{f}$   
 Output . . . . . 7.5  $\mu\mu\text{f}$

#### MAXIMUM RATINGS

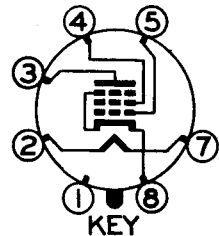
DESIGN-CENTER VALUES

Plate Voltage . . . . . 315 Volts  
 Screen-Supply Voltage . . . . . 315 Volts  
 Screen Voltage . . . . . 285 Volts  
 Plate Dissipation . . . . . 12 Watts  
 Screen Dissipation . . . . . 2.0 Watts  
 Heater-Cathode Voltage  
   Heater Positive with Respect to Cathode . . . . . 90 Volts  
   Heater Negative with Respect to Cathode . . . . . 90 Volts  
 Grid-Number 1 Circuit Resistance  
   With Fixed Bias . . . . . 0.1 Megohms  
   With Cathode Bias . . . . . 0.5 Megohms

\* Without external shield.

+ Pin 1 omitted on bases B6-81 and B6-84.

#### BASING DIAGRAM

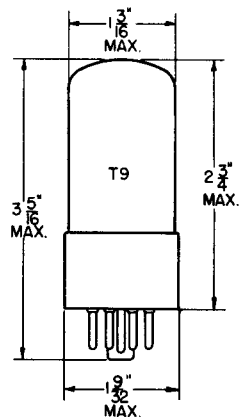


RETMA 7AC  
BOTTOM VIEW

#### TERMINAL CONNECTIONS

- Pin 1 - No Connection<sup>†</sup>
- Pin 2 - Heater
- Pin 3 - Plate
- Pin 4 - Grid Number 2 (Screen)
- Pin 5 - Grid Number 1
- Pin 7 - Heater
- Pin 8 - Cathode and Beam Plates

#### PHYSICAL DIMENSIONS



RETMA 9-11 or 9-41

CHARACTERISTICS AND TYPICAL OPERATION

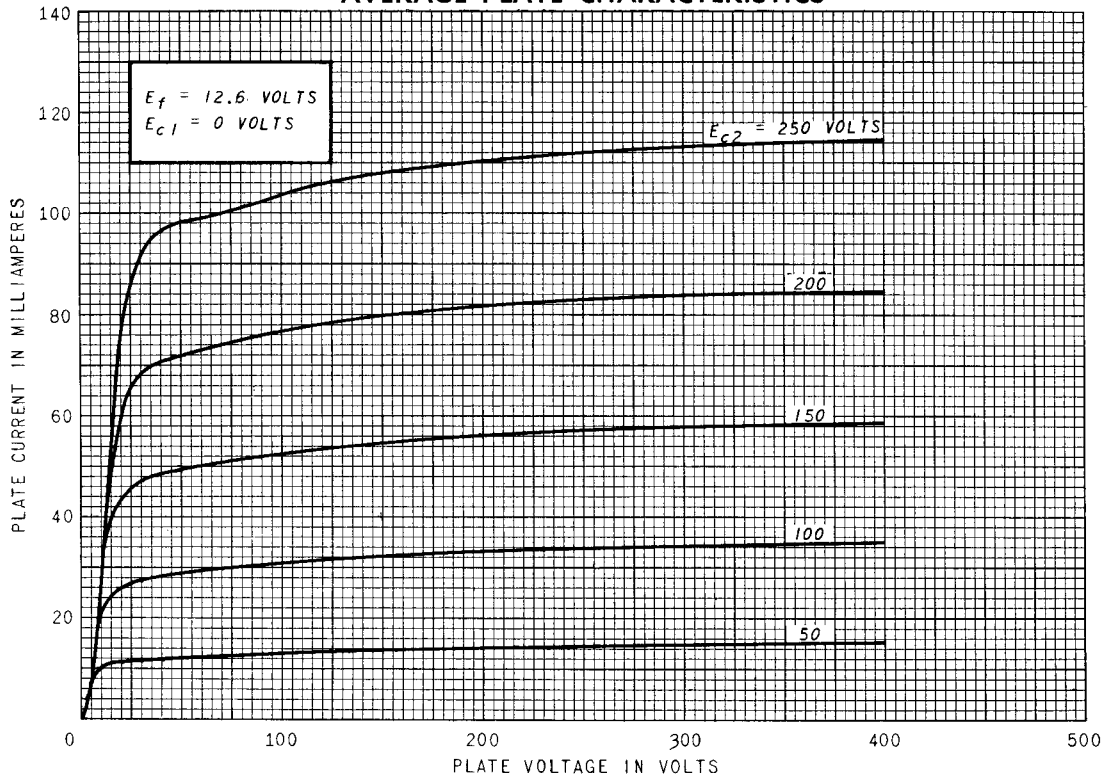
CLASS A<sub>1</sub> AMPLIFIER

Plate Voltage . . . . .	180	250	315	Volts
Screen Voltage . . . . .	180	250	225	Volts
Grid-Number 1 Voltage . . . . .	-8.5	-12.5	-13.0	Volts
Peak AF Grid-Number 1 Voltage . . . . .	8.5	12.5	13.0	Volts
Plate Resistance, approximate . . . . .	50000	50000	80000	Ohms
Transconductance . . . . .	3700	4100	3750	Micromhos
Zero-Signal Plate Current . . . . .	29	45	34	Milliamperes
Maximum-Signal Plate Current . . . . .	30	47	35	Milliamperes
Zero-Signal Screen Current . . . . .	3.0	4.5	2.2	Milliamperes
Maximum-Signal Screen Current . . . . .	4.0	7.0	6.0	Milliamperes
Load Resistance . . . . .	5500	5000	8500	Ohms
Total Harmonic Distortion, approximate . . . . .	8	8	12	Percent
Maximum-Signal Power Output . . . . .	2.0	4.5	5.5	Watts

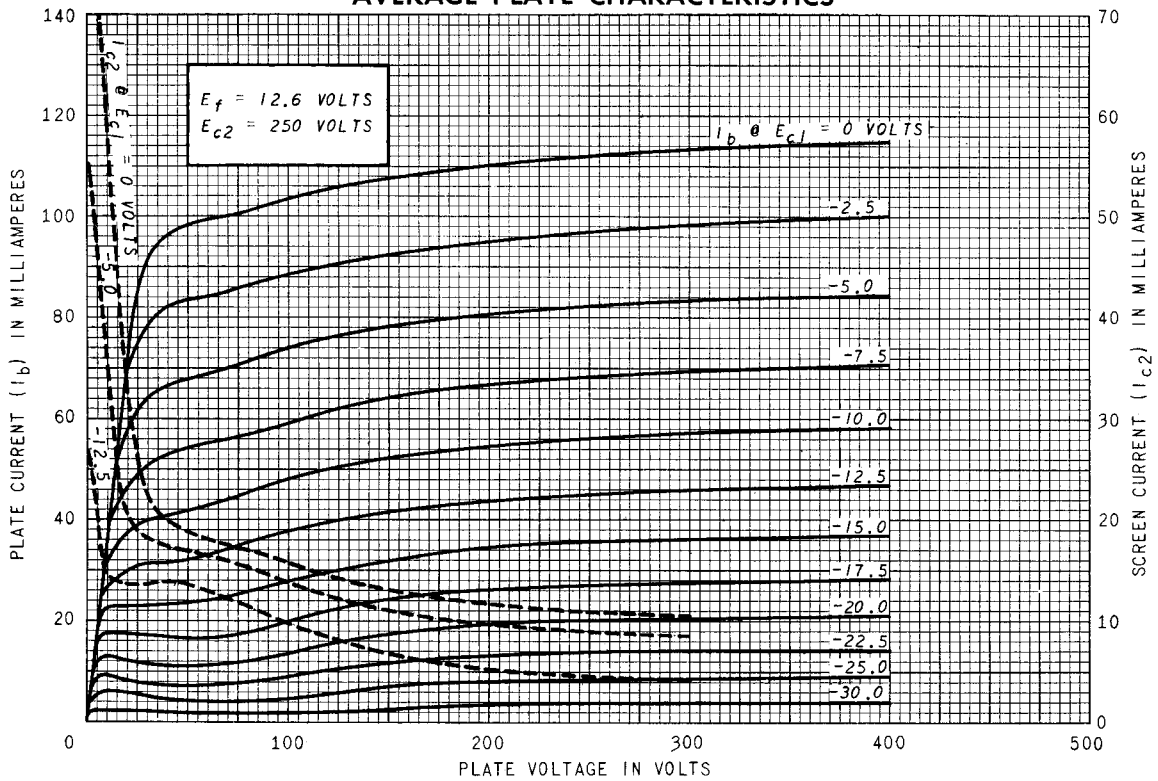
PUSH-PULL CLASS AB<sub>1</sub> AMPLIFIER, VALUES FOR TWO TUBES

Plate Voltage . . . . .	250	285	Volts
Screen Voltage . . . . .	250	285	Volts
Grid-Number 1 Voltage . . . . .	-15	-19	Volts
Peak AF Grid-to-Grid Voltage . . . . .	30	38	Volts
Zero-Signal Plate Current . . . . .	70	70	Milliamperes
Maximum-Signal Plate Current . . . . .	79	92	Milliamperes
Zero-Signal Screen Current . . . . .	5.0	4.0	Milliamperes
Maximum-Signal Screen Current . . . . .	13	13.5	Milliamperes
Effective Load Resistance, Plate-to-Plate . . . . .	10000	8000	Ohms
Total Harmonic Distortion, approximate . . . . .	5	3.5	Percent
Maximum-Signal Power Output . . . . .	10	14	Watts

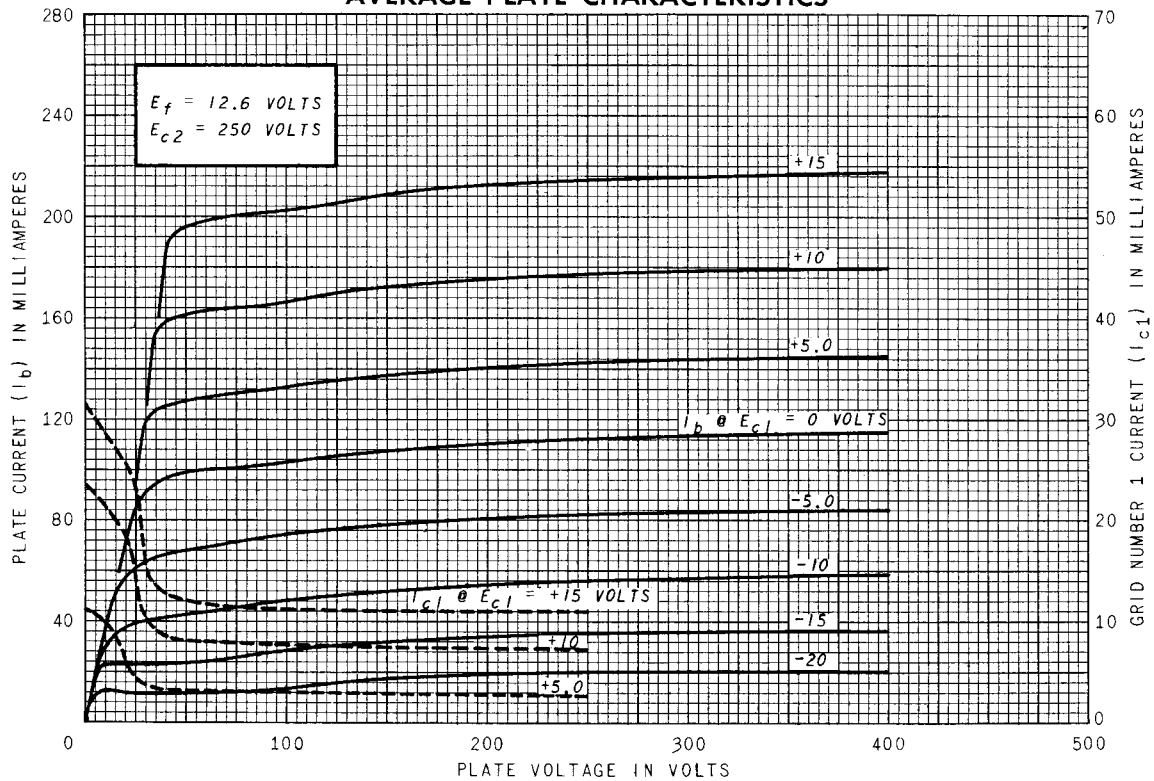
AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

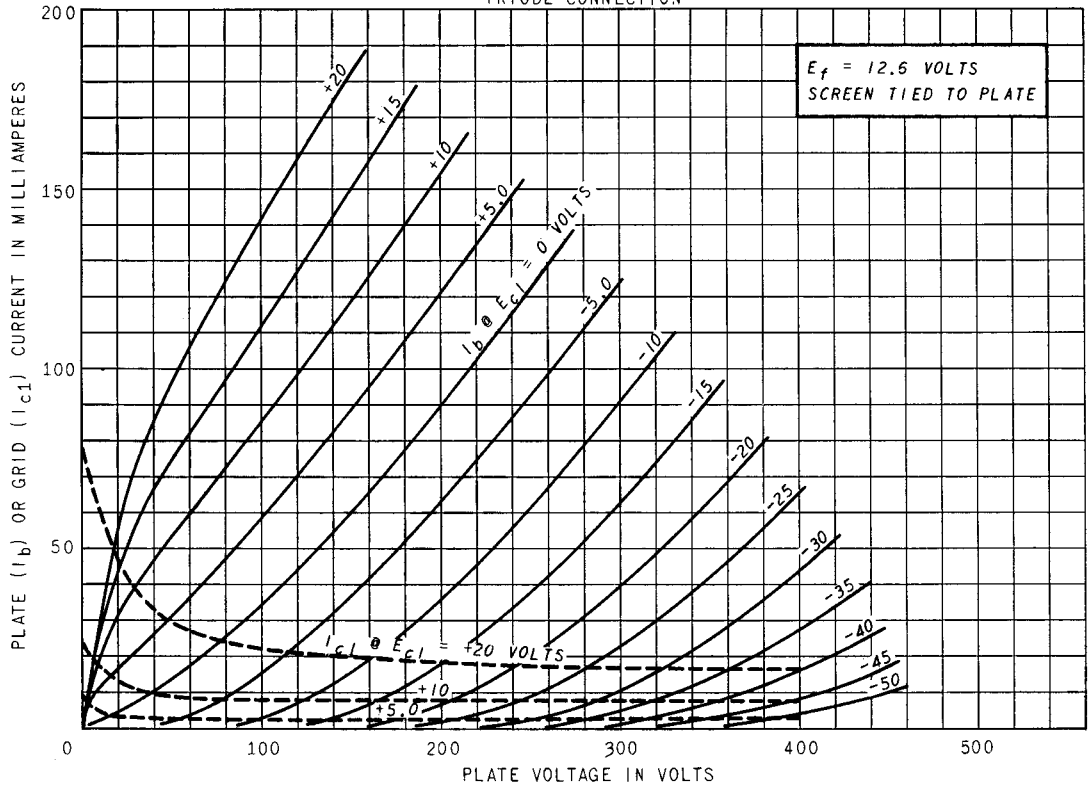


AVERAGE PLATE CHARACTERISTICS

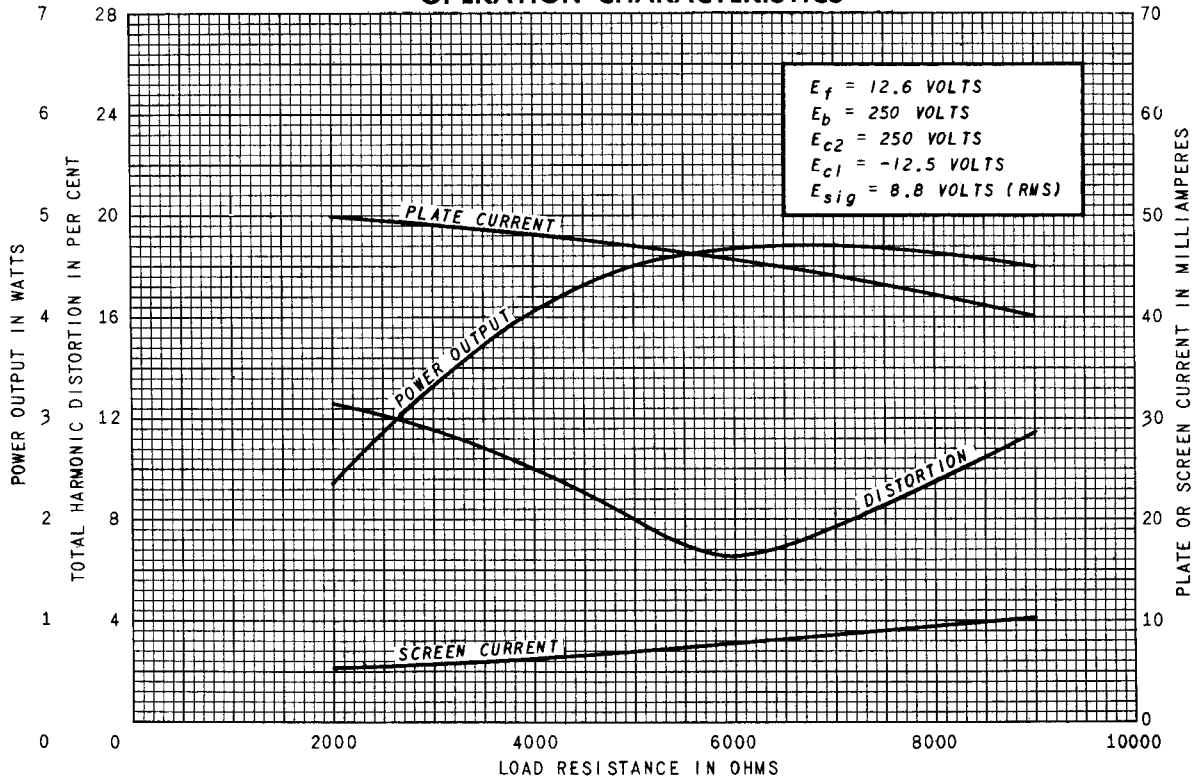


### AVERAGE PLATE CHARACTERISTICS

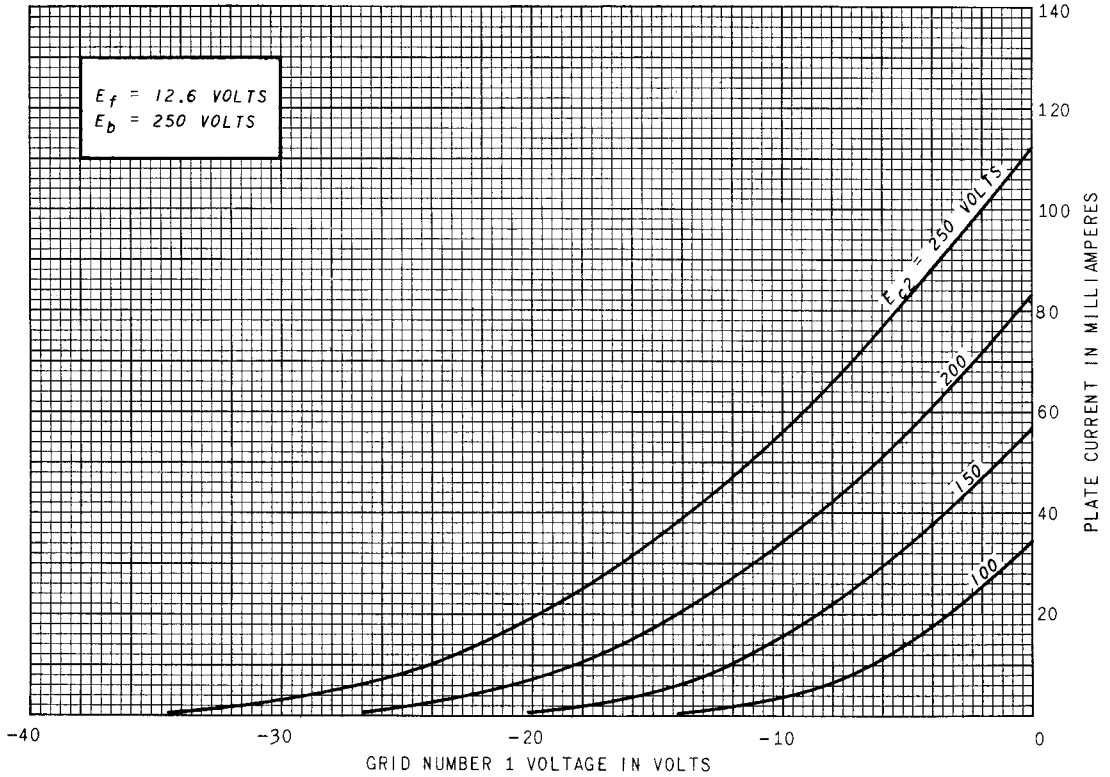
TRIODE CONNECTION



### OPERATION CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

