

BEAM PENTODE

DESCRIPTION AND RATING

The 12AQ5 is a miniature beam-power pentode intended primarily for use in the audio-frequency output stage of automobile receivers which operate from 12-volt storage batteries. Within the limitations of its maximum ratings, the performance of the 12AQ5 is equivalent to that of the 12V6-GT.

GENERAL

Cathode—Coated Unipotential
Heater Voltage, AC or DC..... 12.6 Volts
Heater Current..... 0.225 Amperes
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin
Mounting Position—Any

Direct Interelectrode Capacitances, approximate*

Grid-Number 1 to Plate.....	0.4	μf
Input.....	8.0	μf
Output.....	8.5	μf

MAXIMUM RATINGS

DESIGN-CENTER VALUES

Plate Voltage.....	250	Volts
Screen Voltage.....	250	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
Bulb Temperature at Hottest Point.....	250	C

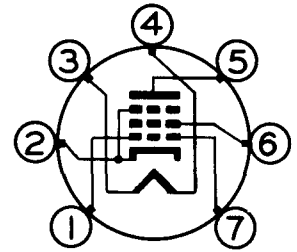
CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER

Plate Voltage.....	180	250	Volts
Screen Voltage.....	180	250	Volts
Grid-Number 1 Voltage.....	-8.5	-12.5	Volts
Peak AF Grid-Number 1 Voltage.....	8.5	12.5	Volts
Plate Resistance, approximate.....	58000	52000	Ohms
Transconductance.....	3700	4100	Micromhos
Zero-Signal Plate Current.....	29	45	Milliamperes
Maximum-Signal Plate Current, approximate.....	30	47	Milliamperes
Zero-Signal Screen Current.....	3.0	4.5	Milliamperes
Maximum-Signal Screen Current, approximate.....	4.0	7.0	Milliamperes
Load Resistance.....	5500	5000	Ohms
Total Harmonic Distortion, approximate.....	8	8	Percent
Maximum-Signal Power Output.....	2.0	4.5	Watts

* Without external shield.

BASING DIAGRAM

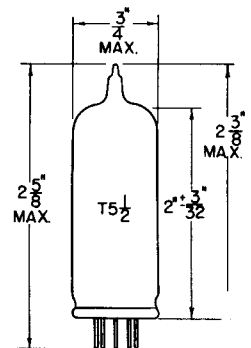


RETMA 7BZ
BOTTOM VIEW

TERMINAL CONNECTIONS

Pin 1—Grid Number 1
Pin 2—Cathode and Beam Plates
Pin 3—Heater
Pin 4—Heater
Pin 5—Plate
Pin 6—Grid Number 2 (Screen)
Pin 7—Grid Number 1

PHYSICAL DIMENSIONS

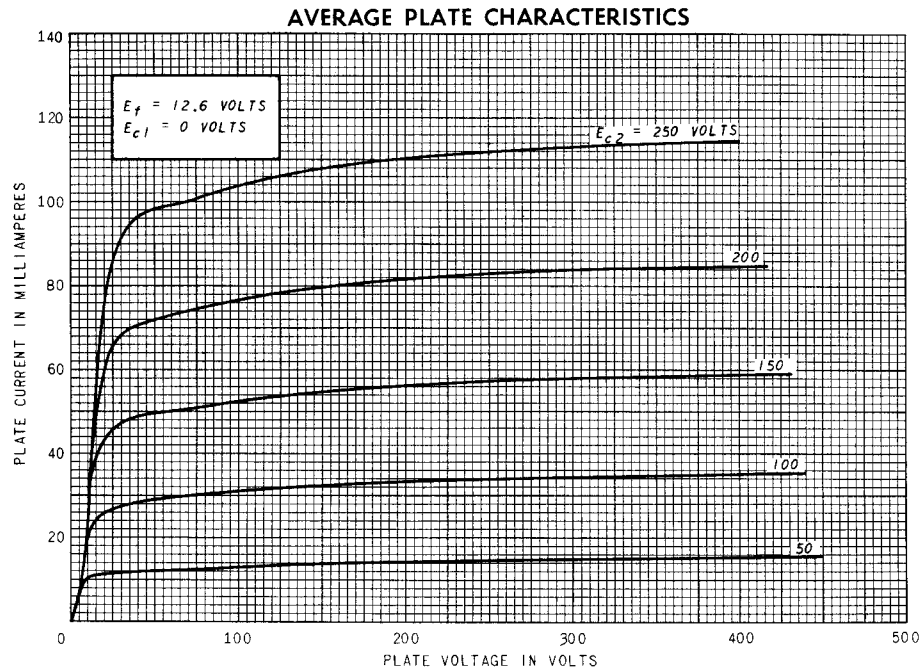


RETMA 5-3

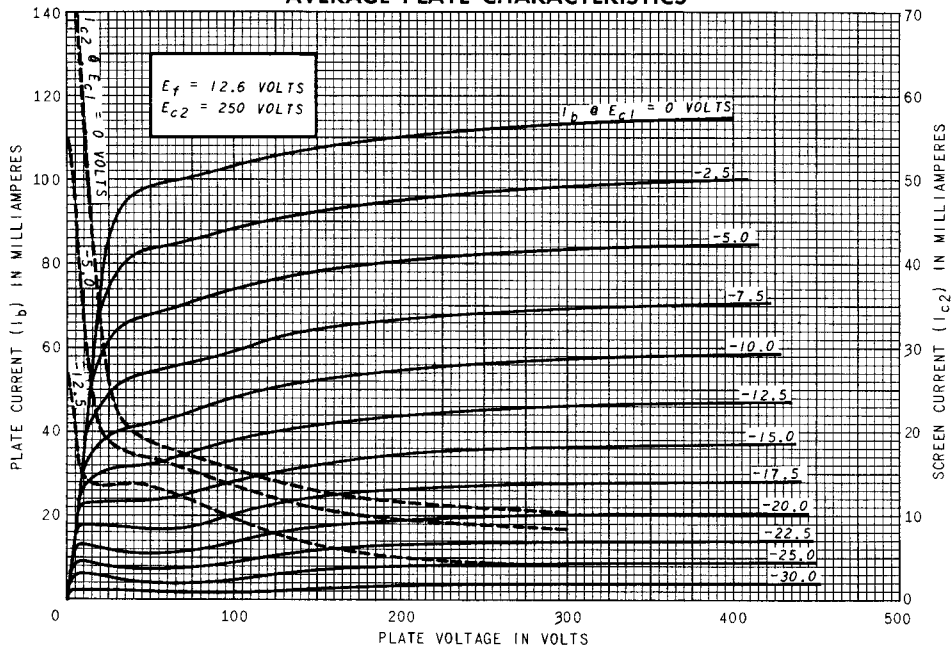
CHARACTERISTICS AND TYPICAL OPERATION

PUSH-PULL CLASS AB₁ AMPLIFIER, VALUES FOR TWO TUBES

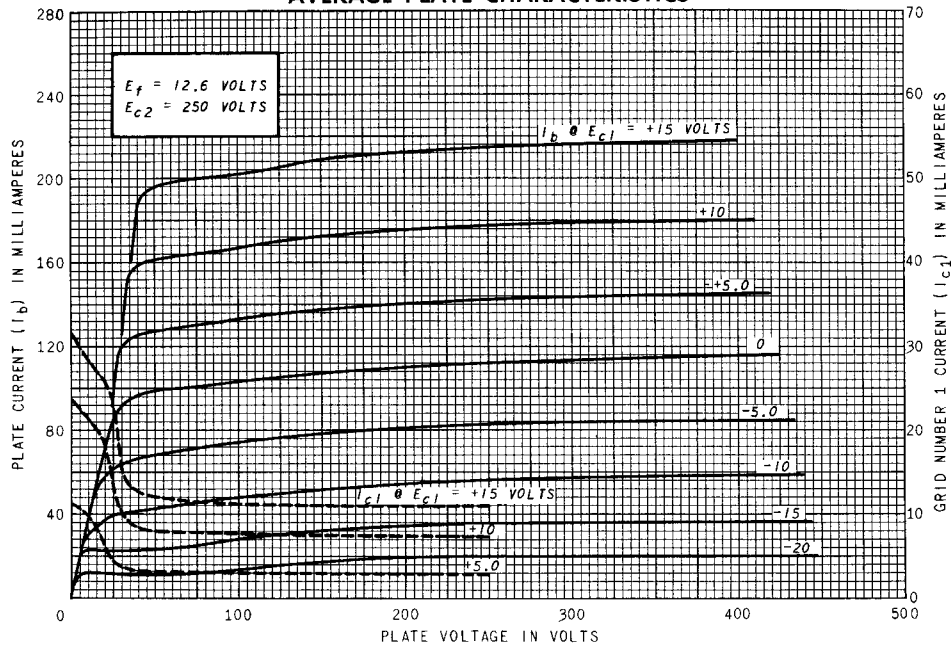
Plate Voltage	250	Volts
Screen Voltage	250	Volts
Grid-Number 1 Voltage	-15	Volts
Peak AF Grid-to-Grid Voltage	30	Volts
Zero-Signal Plate Current	70	Milliamperes
Maximum-Signal Plate Current, approximate	79	Milliamperes
Zero-Signal Screen Current	5.0	Milliamperes
Maximum-Signal Screen Current, approximate	13	Milliamperes
Effective Load Resistance, Plate-to-Plate	10000	Ohms
Total Harmonic Distortion, approximate	5	Percent
Maximum-Signal Power Output	10	Watts



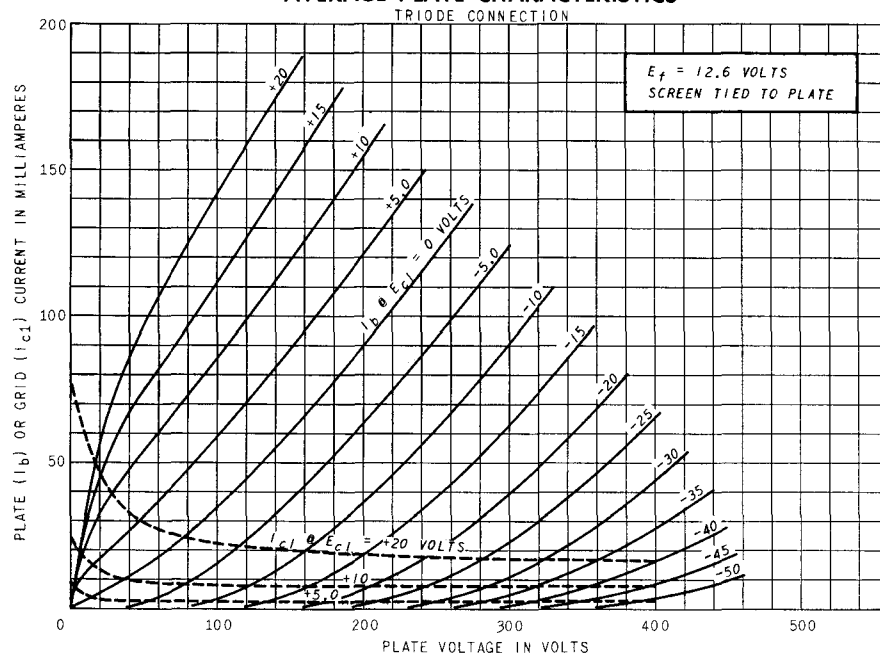
AVERAGE PLATE CHARACTERISTICS



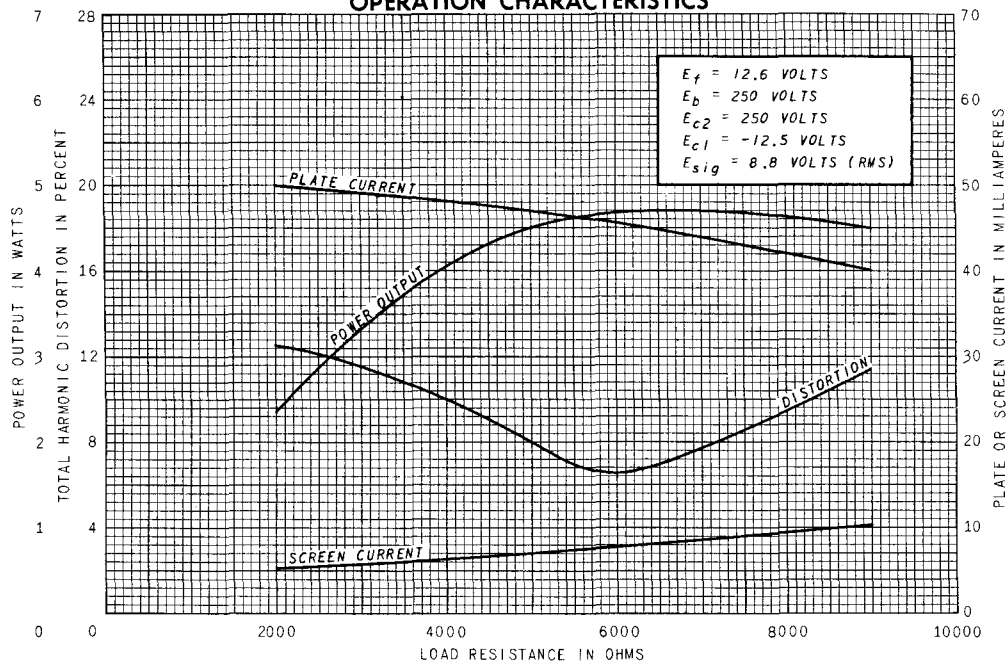
AVERAGE PLATE CHARACTERISTICS



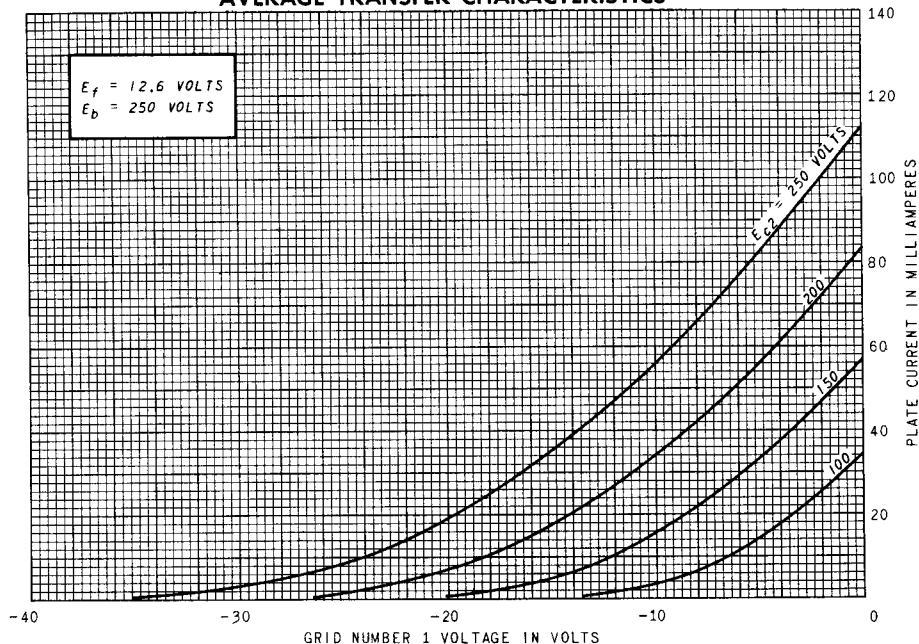
AVERAGE PLATE CHARACTERISTICS



OPERATION CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

