

DESCRIPTION AND RATING

The 6BZ7 is a miniature, medium-mu twin triode designed primarily for use as a cascode radio-frequency amplifier in very-high-frequency television tuners. In this application, its performance is characterized by high gain and low noise figure. An internal shield provides isolation between the two triode sections.

Except for heater ratings, the 4BZ7 is identical to the 6BZ7. In addition, as a result of its controlled heater warm-up characteristic, the 4BZ7 is especially suited for use in television receivers that employ 600-milliamperes, series-connected heaters.

GENERAL

ELECTRICAL

	4BZ7	6BZ7
Cathode—Coated Unipotential		
Heater Voltage, AC or DC	4.2	6.3 Volts
Heater Current	0.6	0.4 Amperes
Heater Warm-up Time*	.11	 Seconds
Direct Interelectrode Capacitances†	Section 1	Section 2
Grid to Plate	1.2	1.2 μmf
Input	2.6	 μmf
Output	1.2	 μmf
Heater to Cathode	2.6	2.6 μmf
Plate to Plate, maximum	0.01	 μmf
Plate (Section 2) to Plate and Grid (Section 1), maximum	0.024	 μmf
Plate to Cathode	0.12	0.12 μmf
Grounded-Grid Input		5.0 μmf
Grounded-Grid Output		2.2 μmf

MECHANICAL

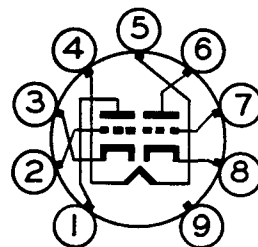
Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-CENTER VALUES, EACH SECTION

Plate Voltage	250†	Volts
Plate Dissipation	2.0	Watts
DC Cathode Current	20	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200†	Volts
Grid Circuit Resistance	0.5	Megohms

BASING DIAGRAM



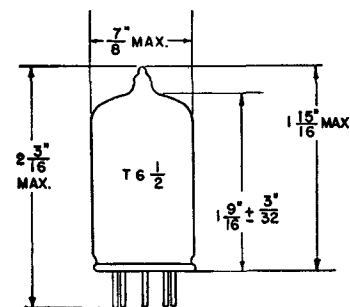
RETMA 9AJ

TERMINAL CONNECTIONS

- Pin 1—Plate (Section 2)
- Pin 2—Grid (Section 2)
- Pin 3—Cathode (Section 2)
- Pin 4—Heater
- Pin 5—Heater
- Pin 6—Plate (Section 1)
- Pin 7—Grid (Section 1)
- Pin 8—Cathode (Section 1)
- Pin 9—Internal Shield

It is recommended that pin 9 be grounded.

PHYSICAL DIMENSIONS



RETMA 6-2

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER, EACH SECTION

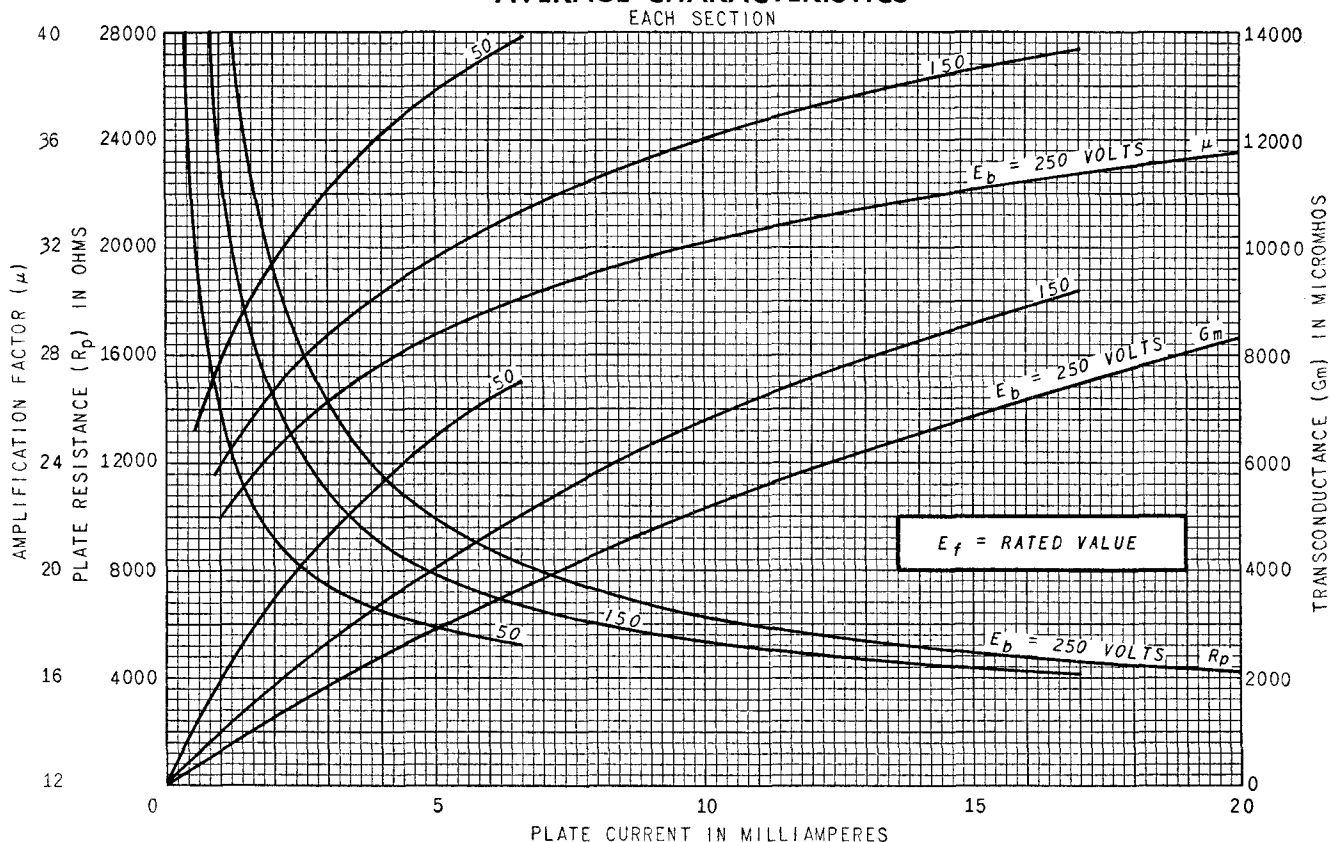
Plate Voltage	.150	Volts
Cathode-Bias Resistor	.220	Ohms
Amplification Factor	.36	
Plate Resistance, approximate	.5300	Ohms
Transconductance	.6800	Micromhos
Plate Current	.10	Milliamperes
Grid Voltage, approximate I _b = 100 Microamperes	-7	Volts

* The time required for the voltage across the heater to reach 80 percent of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times the rated heater voltage divided by the rated heater current.

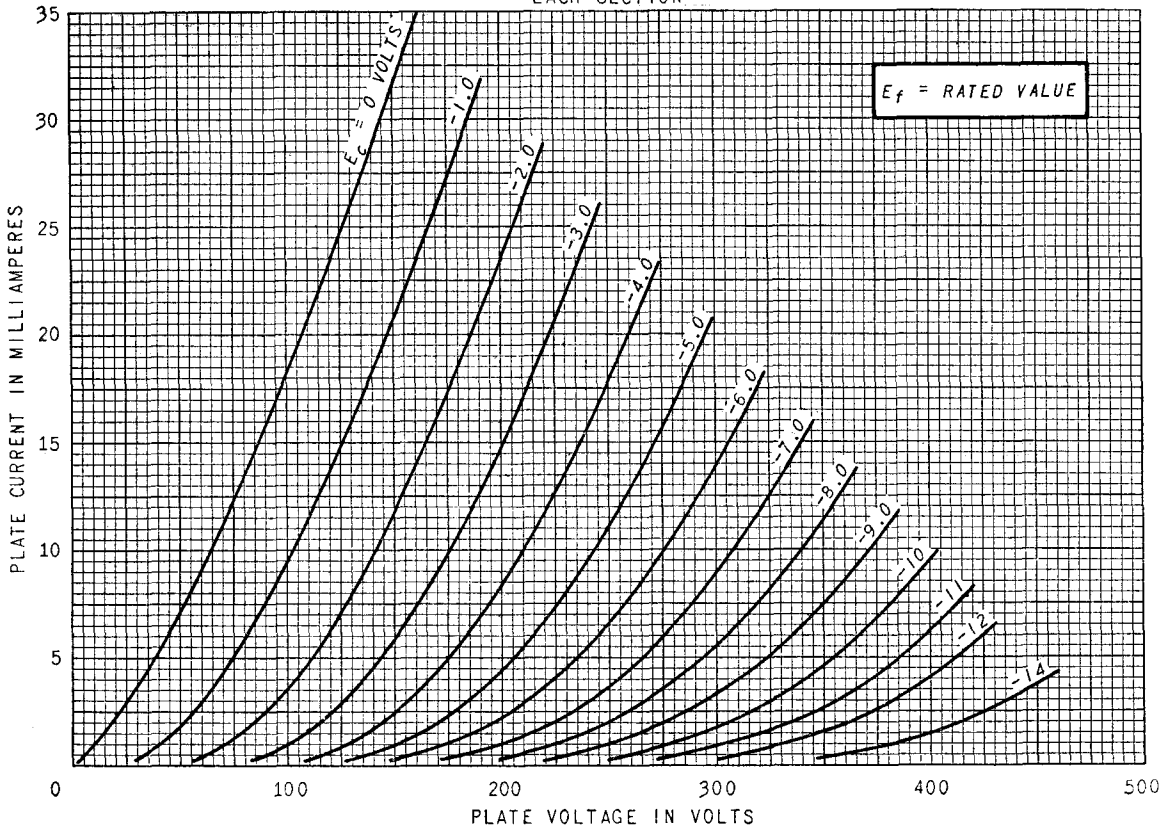
† With external shield (RETMA 315) connected to pin 9.

‡ When the tube is used as a cascode amplifier and the two sections are connected in series, this voltage may be as high as 300 volts maximum under cutoff conditions.

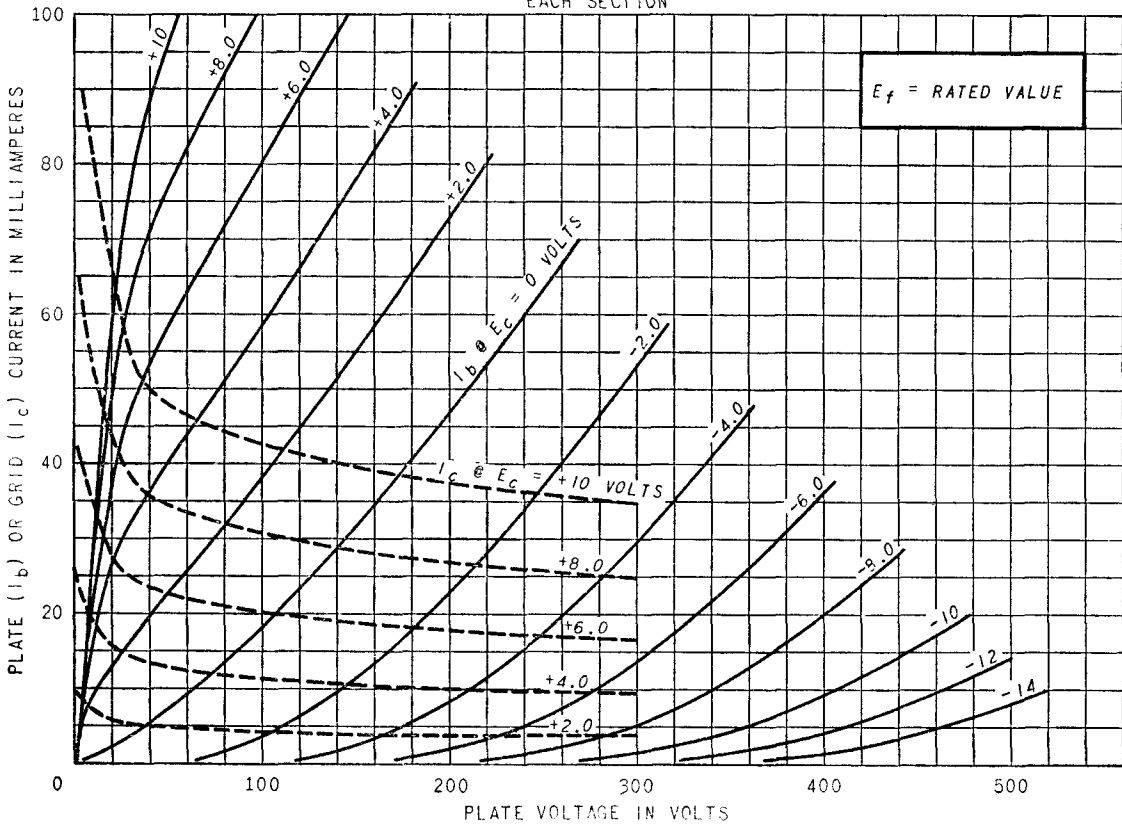
AVERAGE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS EACH SECTION

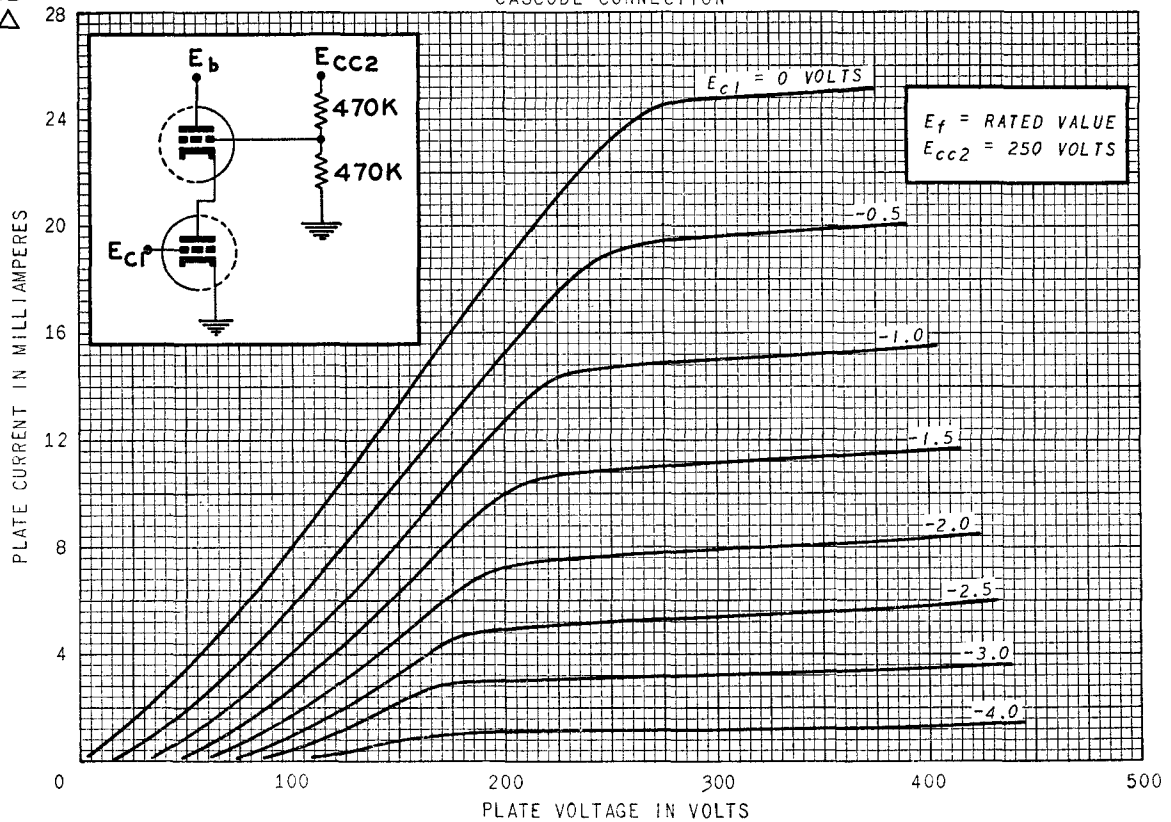


AVERAGE PLATE CHARACTERISTICS EACH SECTION



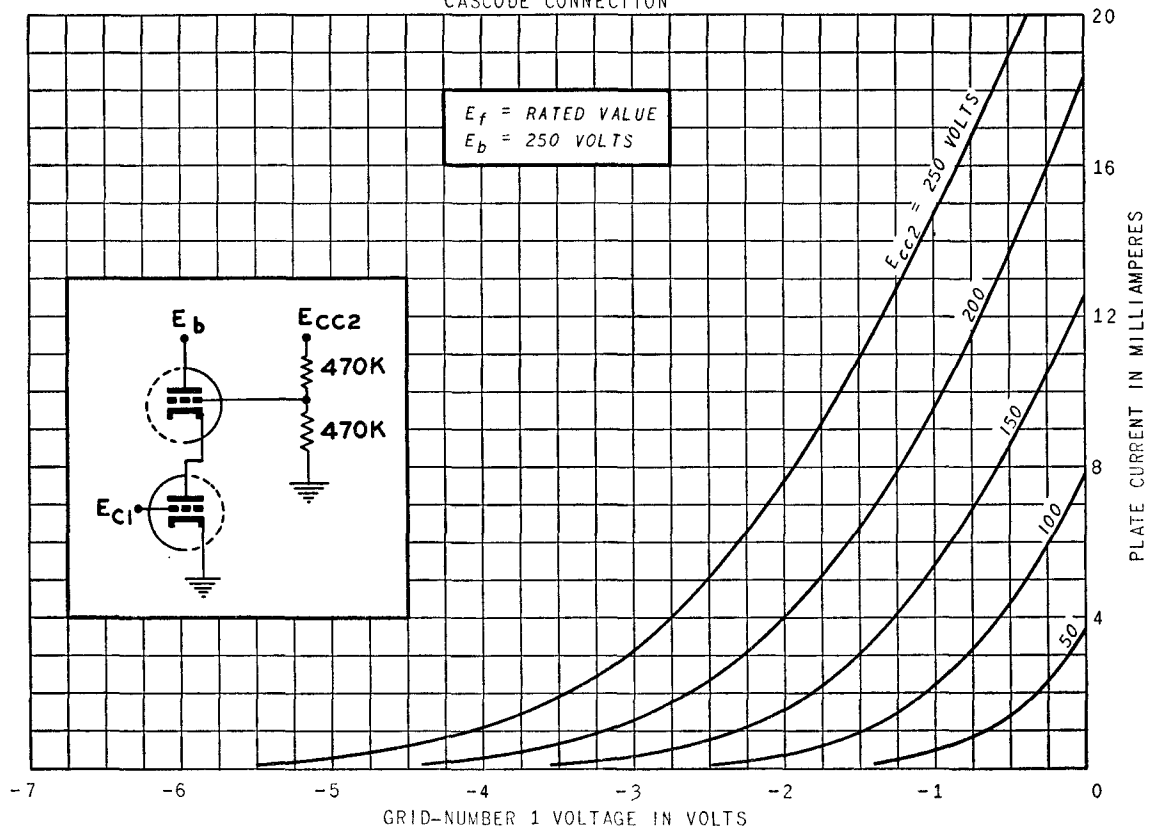
AVERAGE PLATE CHARACTERISTICS

CASCODE CONNECTION



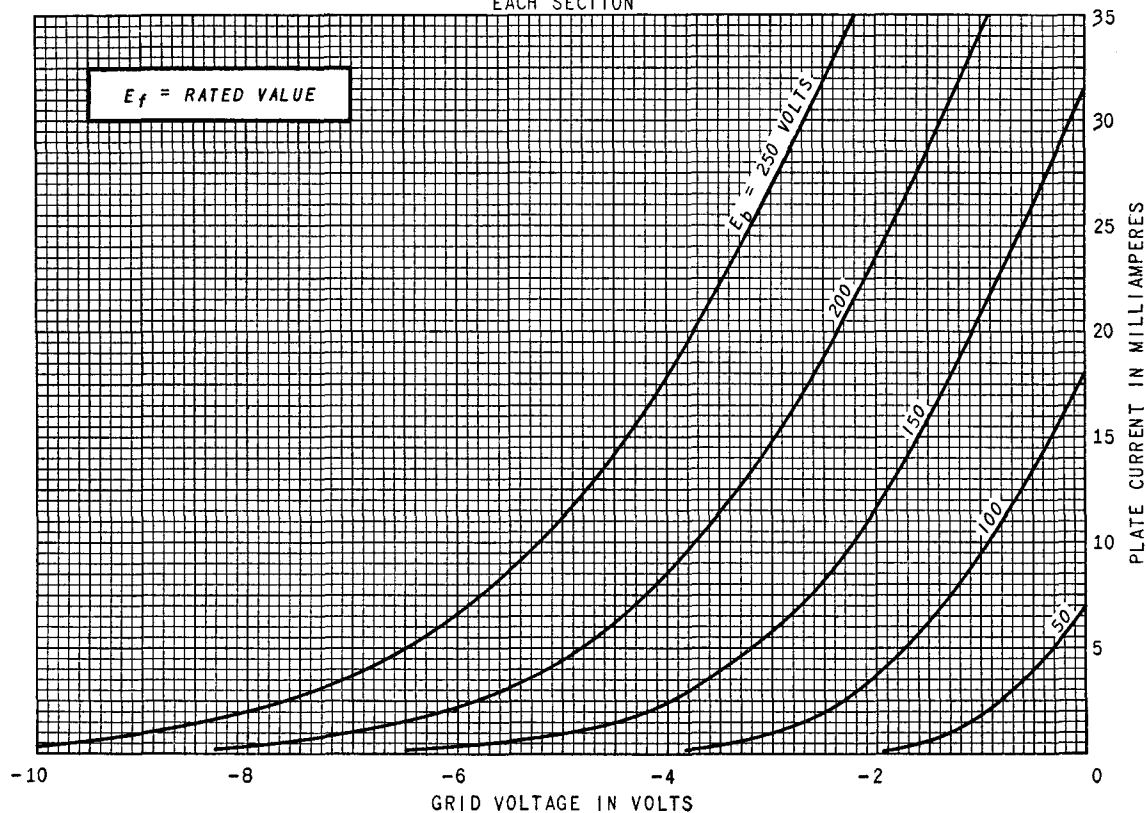
AVERAGE TRANSFER CHARACTERISTICS

CASCODE CONNECTION



AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION



AVERAGE TRANSFER CHARACTERISTICS

CASCODE CONNECTION

