January 27, 1958

MEDIUM-MU TWIN TRIODE TYPES 4BZ7 AND 6BZ7

The 4BZ7 and 6BZ7 are 9-pin miniature twin-triode types designed for service as low-noise VHF amplifiers, particularly in cascode operation. These types have higher gain and higher mutual conductance than the 6BQ7-A and are otherwise similar.

The 4BZ7 has been designed for use in receivers which employ series-connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When it is employed in this type of circuit with other tubes having a heater current rating of 600 ma., heater voltage surges across individual tubes are minimized inasmuch as the heater warm-up characteristic is controlled.

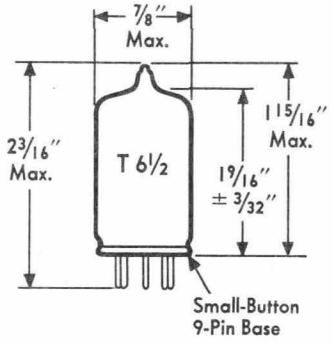
GENERAL DATA

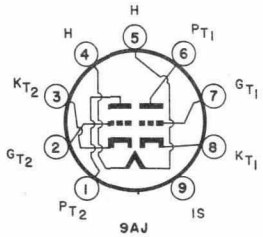
ELECTRICAL:

Cathode	Coated Unipotential		
Heater:	4BZ7	6BZ6	
Voltage (ac or dc)	4.2	6.3	Volts
Current	0.6	0.4	Ampere
Warm-up Time (Approx.) ▲	11	..	Seconds
Direct Interelectrode Capacitances: (Shielded) ♦			
	Unit 1	Unit 2	
Grid to Plate	1.2	1.15	uuf
Plate to Cathode	0.12	0.15	uuf
Heater to Cathode	2.60	2.70	uuf
Input	2.6	5.0□	uuf
Output	1.2	2.2□	uuf
Plate of Unit 1 to Plate of Unit 2		0.010 max.	uuf
Plate of Unit 2 to Plate and Grid of Unit 1		0.024 max.	uuf

MECHANICAL:

Bulb	T-6-1/2
Base	Miniature 9-Pin (JETEC E9-1)
Outline	6-2
Basing	9AJ
Mounting Position	Any





AMPLIFIER - CLASS A

Each Unit

MAXIMUM RATINGS:

Design-Center Values

DC Plate Voltage	250 max.	Volts
DC Cathode Current	20 max.	Ma.
Plate Dissipation	2.0 max.	Watts
Peak Heater-Cathode Voltage:		
Heater Positive with Respect to Cathode	200♦ max.	Volts
Heater Negative with Respect to Cathode	200 max.	Volts
Maximum Circuit Value: (Each Unit)		
Grid Circuit Resistance	0.5 max.	Megohm

CHARACTERISTICS:

Plate Voltage	150	Volts
Cathode Bias Resistor	220	Ohms
Amplification Factor	36	
Plate Resistance	5300	Ohms
Plate Current	10	Ma.
Grid Voltage (Approx.) for I_b = 600 ua	-7.0	Volts
Transconductance	6800	umhos

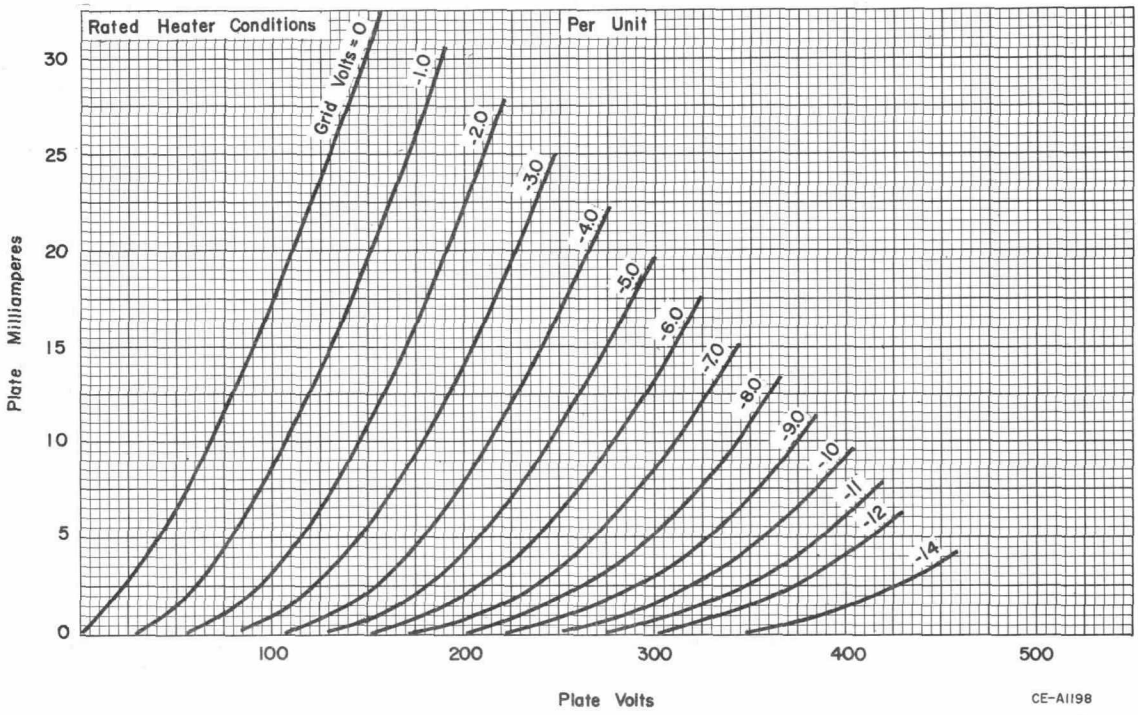
□ Read as grounded grid amplifier

♦ D.C. only 100 volts.

♦ With JETEC shield No. 315 connected to pin 9.

▲ Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% 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 rated heater voltage divided by rated heater current.

AVERAGE PLATE CHARACTERISTICS



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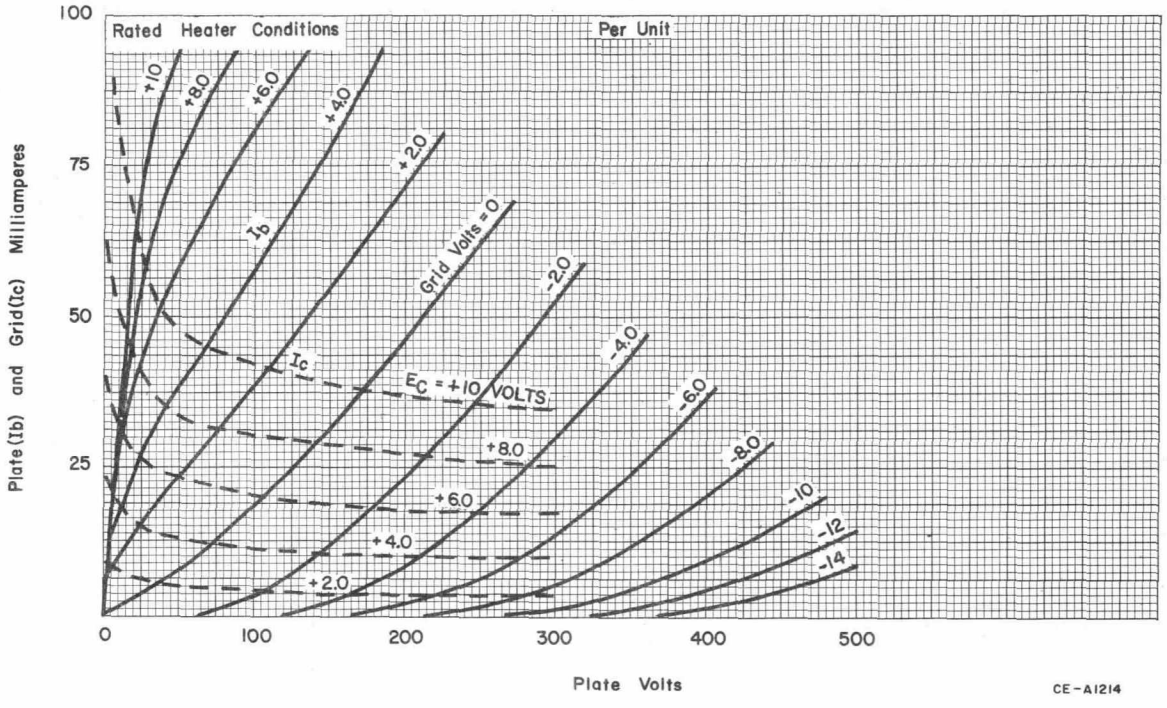
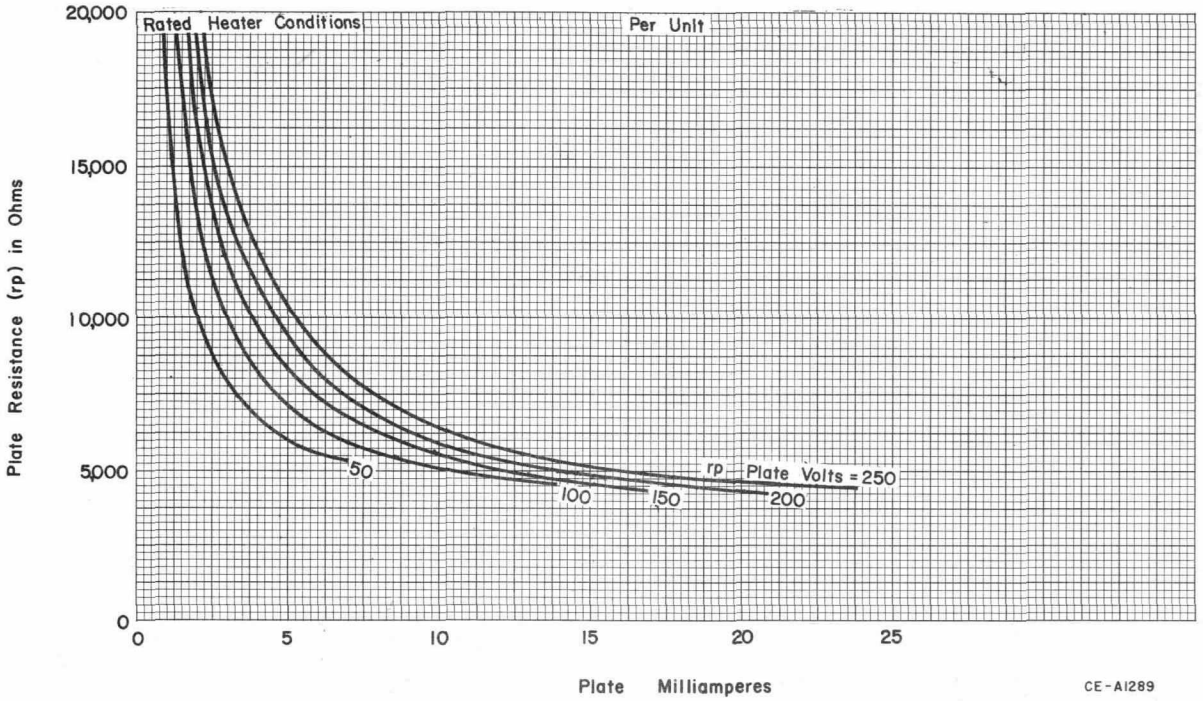


AVERAGE TRANSFER CHARACTERISTICS



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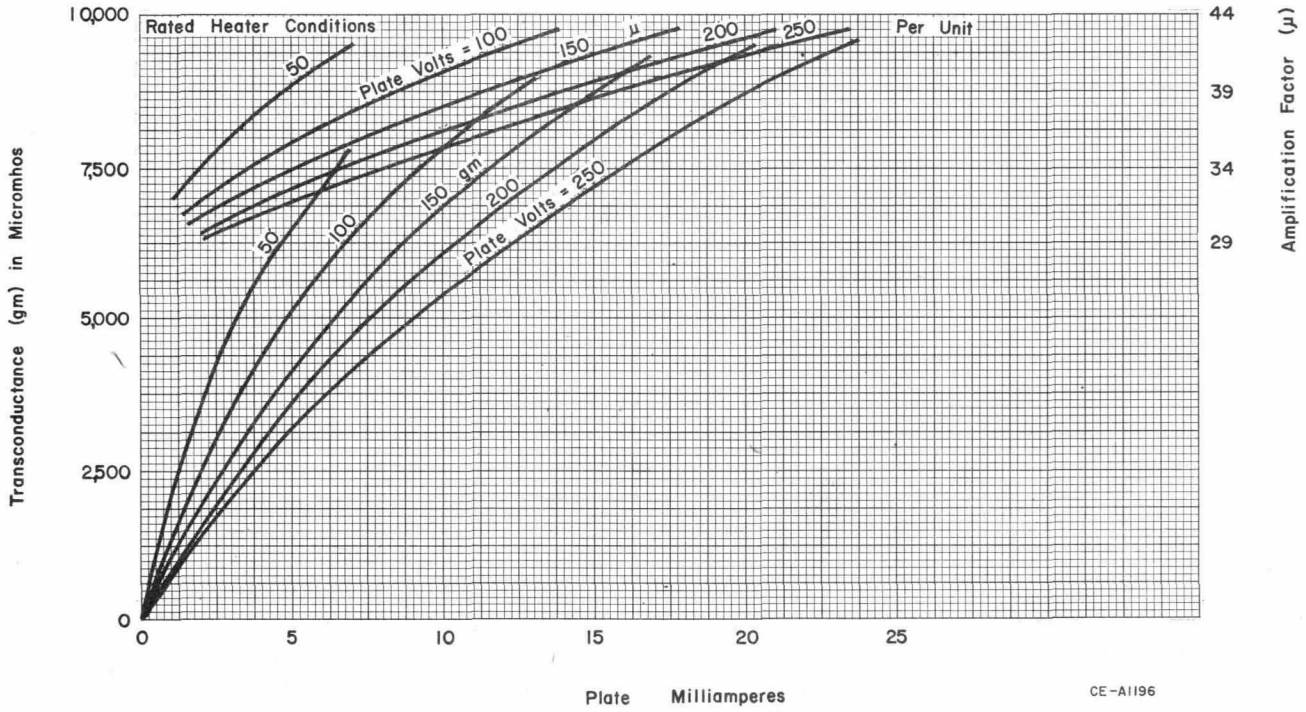
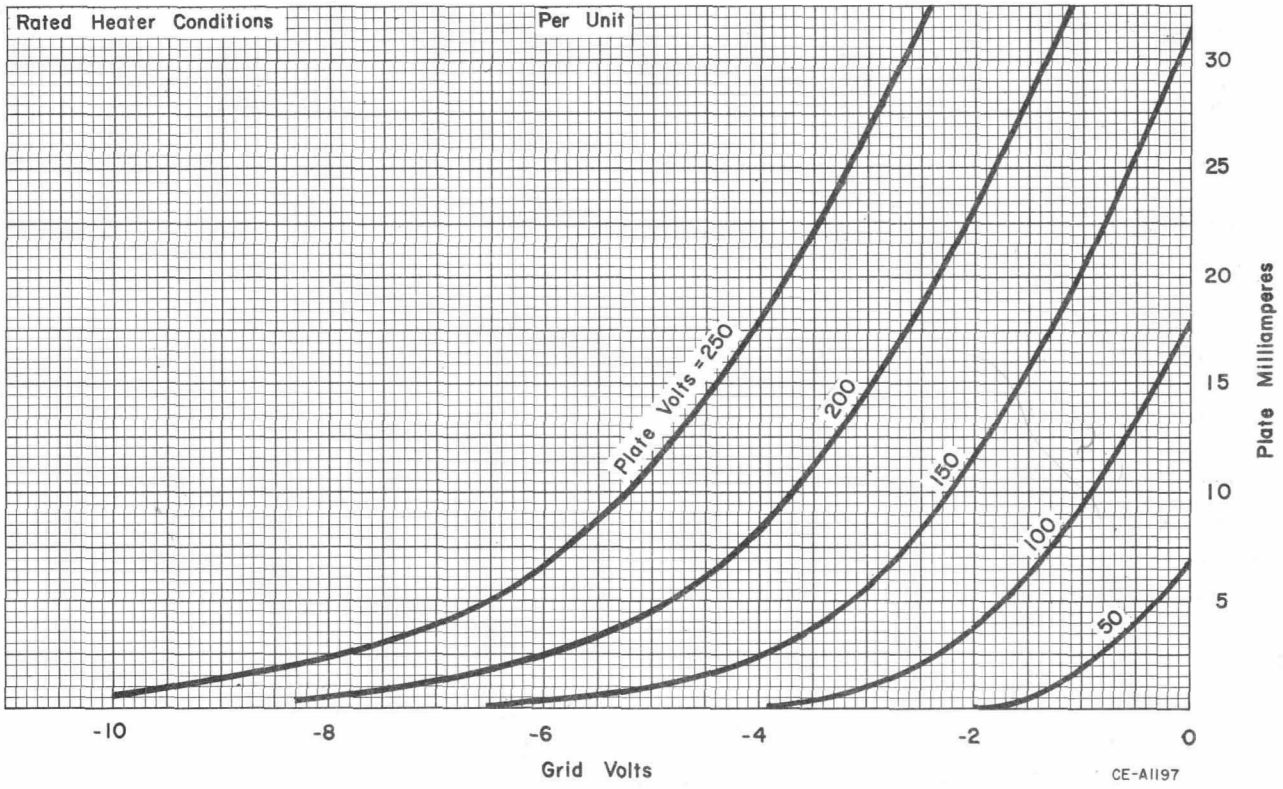
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