

TWIN PENTODE TYPES 3BU8, 4BU8 AND 6BU8

The 3BU8, 4BU8 and 6BU8 are 9-pin miniature twin pentode types designed for service as the sync separator and keyed AGC rectifier in television receivers. The units have separate plates and grids 3 and common heater cathode, grid 1 and grid 2. With suitable circuitry, voltages may be applied to grid 1 to suppress noise pulses from both the sync and AGC circuits.

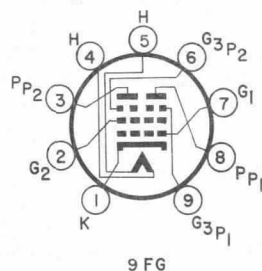
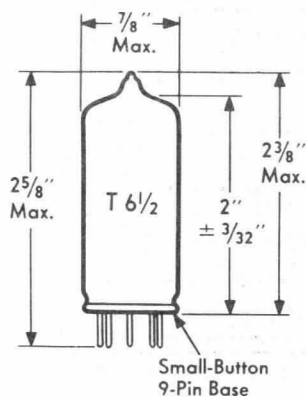
The 3BU8 and 4BU8 have been designed for use in receivers which employ series connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL:

Cathode.....	Coated Unipotential		
Heater:	3BU8	4BU8	6BU8
Voltage (ac or dc) ..	3.15	4.2	6.3 ± 10%
Current	0.60 ± 6%	0.45 ± 6%	0.30
Warm-Up Time			
(Note 1).....	11	11	-- Seconds
Direct Interelectrode Capacitances: (Unshielded)			
Grid 3 to Plate (Each Unit)	1.9		μμf
Grid 1 to All Other Electrodes	6.0		μμf
Grid 3 (Each Unit) to All Other Electrodes	3.6		μμf
Plate (Each Unit) to All Other Electrodes	3.0		μμf
Grid 3, Unit 1 to Grid 3, Unit 2 (Max.)	0.015		μμf

MECHANICAL:

Bulb	T-6½
Base	9-Pin Miniature (JEDEC E9-1)
Outline	6-3
Basing	9FG
Mounting Position	Any



MAXIMUM RATINGS:

Design Maximum Values (Note 2)

Plate Voltage	300	max.	Volts
Grid 3 Voltage:			
Positive DC	3.0	max.	Volts
Negative DC	50	max.	Volts
Positive Peak	50	max.	Volts
Grid 2 Voltage	150	max.	Volts
Grid 1 Voltage (Negative DC)	50	max.	Volts
Plate Dissipation (Each Unit)	1.1	max.	Watts
Grid 2 Dissipation	0.75	max.	Watts
DC Cathode Current	12	max.	Ma.
Heater Voltage with respect to Cathode:			
Positive DC Component	100	max.	Volts
Positive DC and Peak	200	max.	Volts
Negative DC and Peak	200	max.	Volts

LIMITING CIRCUIT VALUES:

Grid 1 Circuit Resistance	0.5	max.	Megohms
Grid 3 Circuit Resistance (Each Unit)	0.5	max.	Megohms

TYPICAL OPERATING CHARACTERISTICS:

Both Units Operating

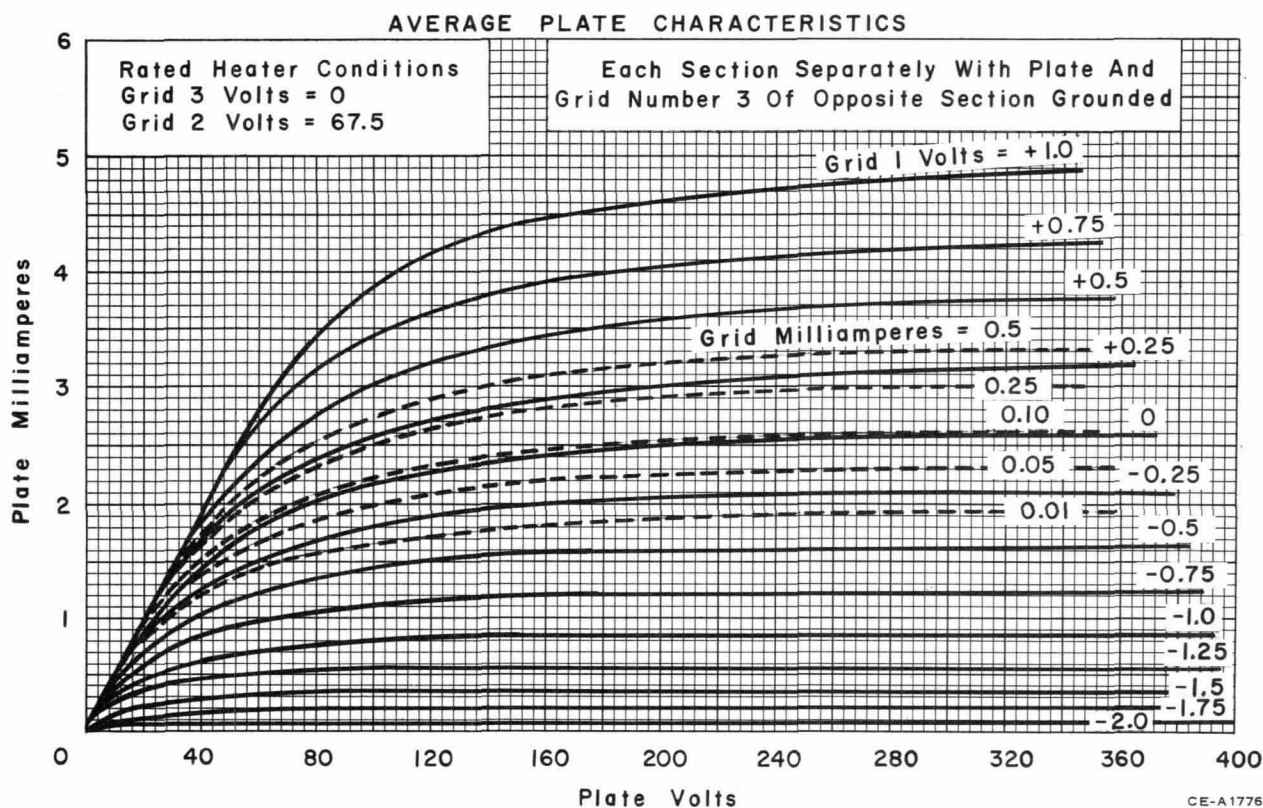
Plate Voltage	100	100	Volts
Grid 3 Voltage	-10	0	Volts
Grid 2 Voltage	67.5	67.5	Volts
Grid 1 Voltage (Note 3)	--	--	Volts
Plate Current (Each Unit)	--	2.2	Ma.
Grid 2 Current	6.5	3.3	Ma.
Cathode Current	6.6	7.8	Ma.

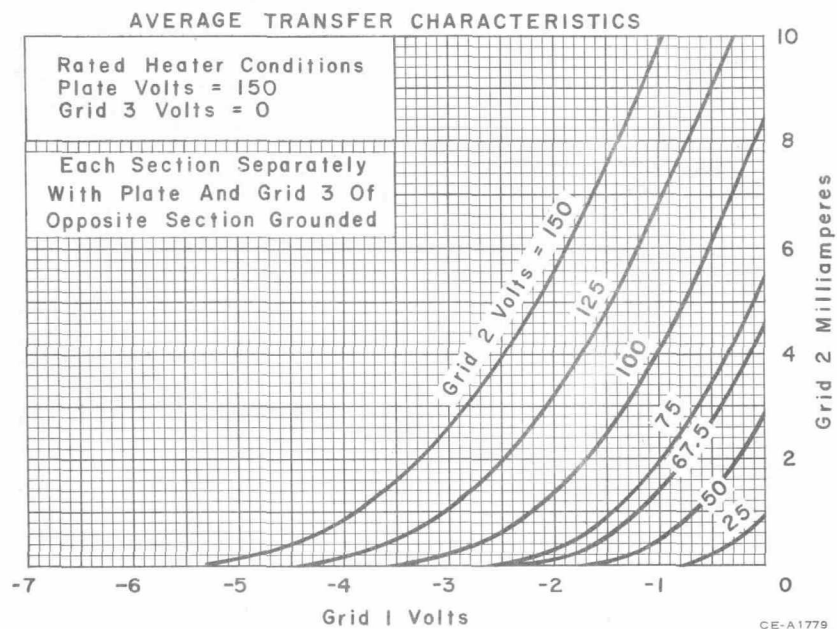
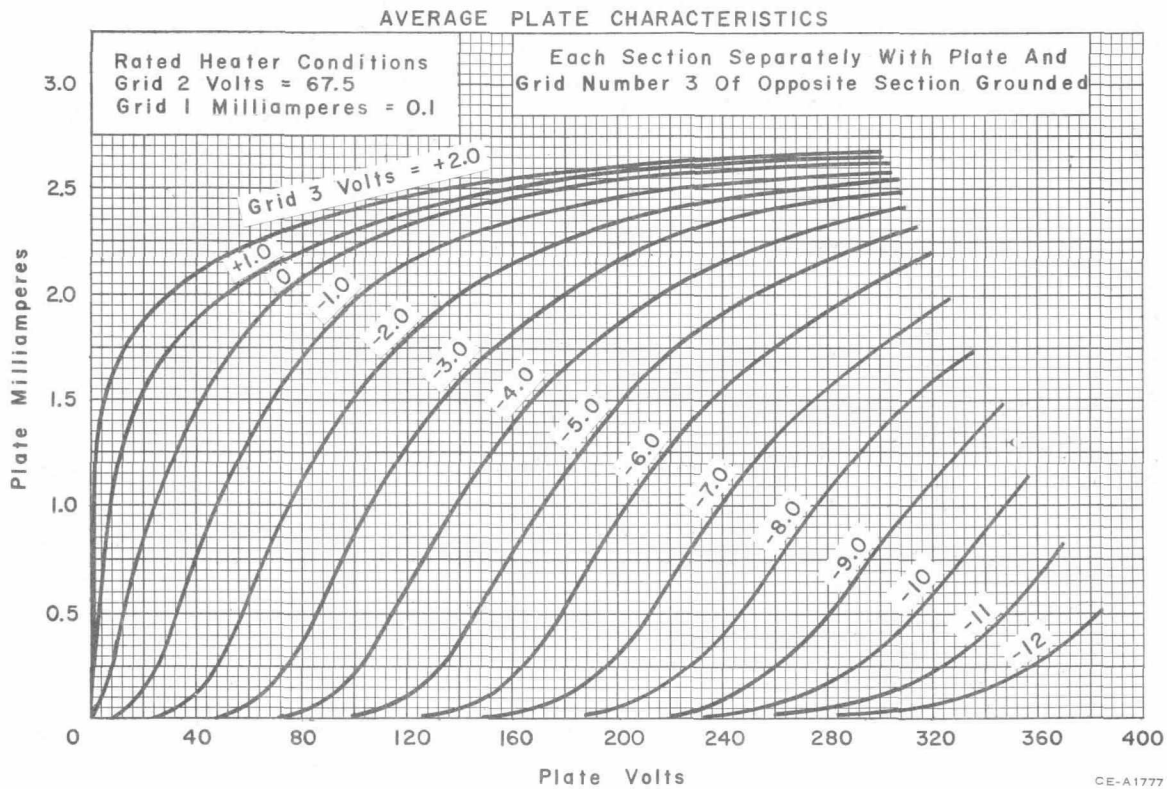
Each Unit Operating (Note 4)

Plate Voltage	100	100	Volts
Grid 3 Voltage	0	0	Volts
Grid 2 Voltage	67.5	67.5	Volts
Grid 1 Voltage	0	(Note 3)	Volts
Grid 3 Transconductance	--	180	μmhos
Grid 1 Transconductance	1500	--	μmhos
Plate Current	--	2.2	Ma.
Grid 3 Cutoff Voltage (Note 5)	--	-4.5	Volts
Grid 1 Cutoff Voltage (Note 5)	--	-2.3	Volts

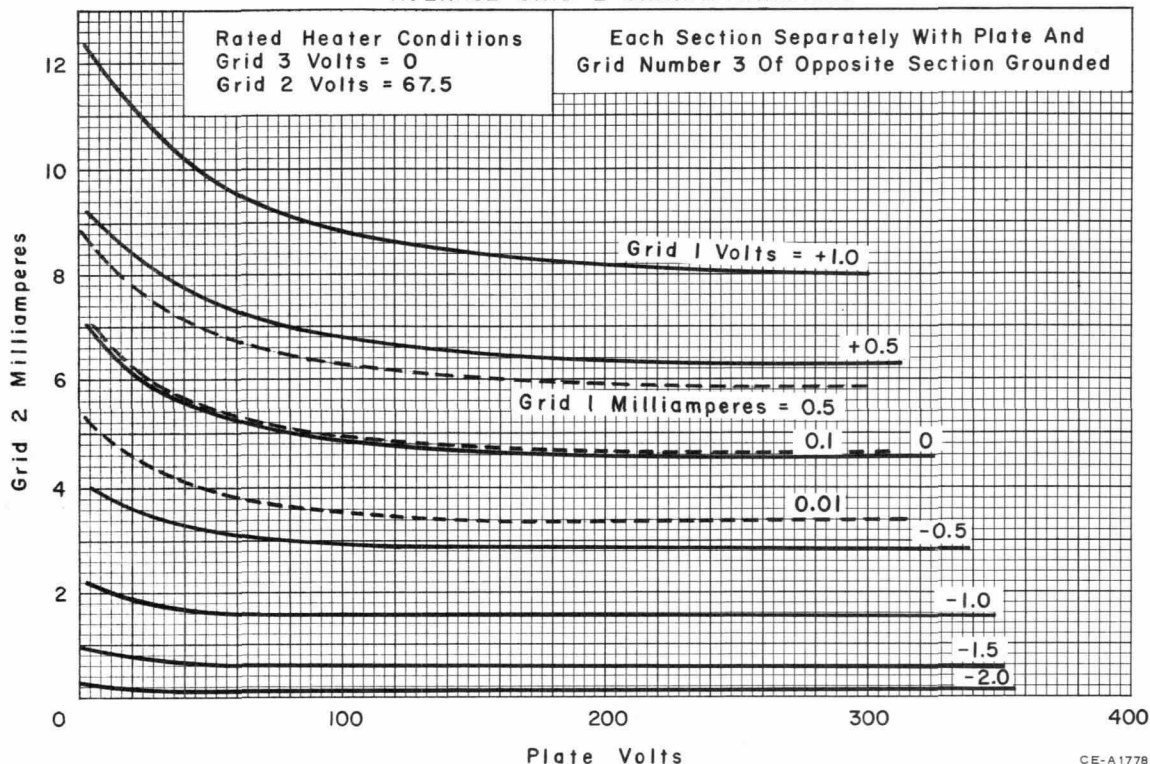
NOTES

1. 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 four times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.
2. Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions. The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics. The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment control adjustment, load variation, signal variation, and environmental conditions.
3. For grid 1 current of 100 microamperes.
4. With Plate and Grid 3 of other unit grounded.
5. For Plate current of 100 microamperes.

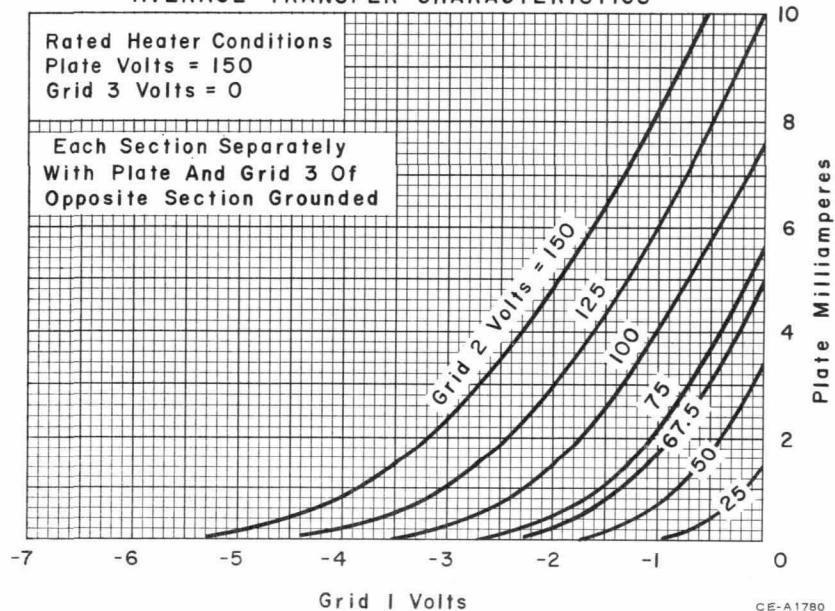


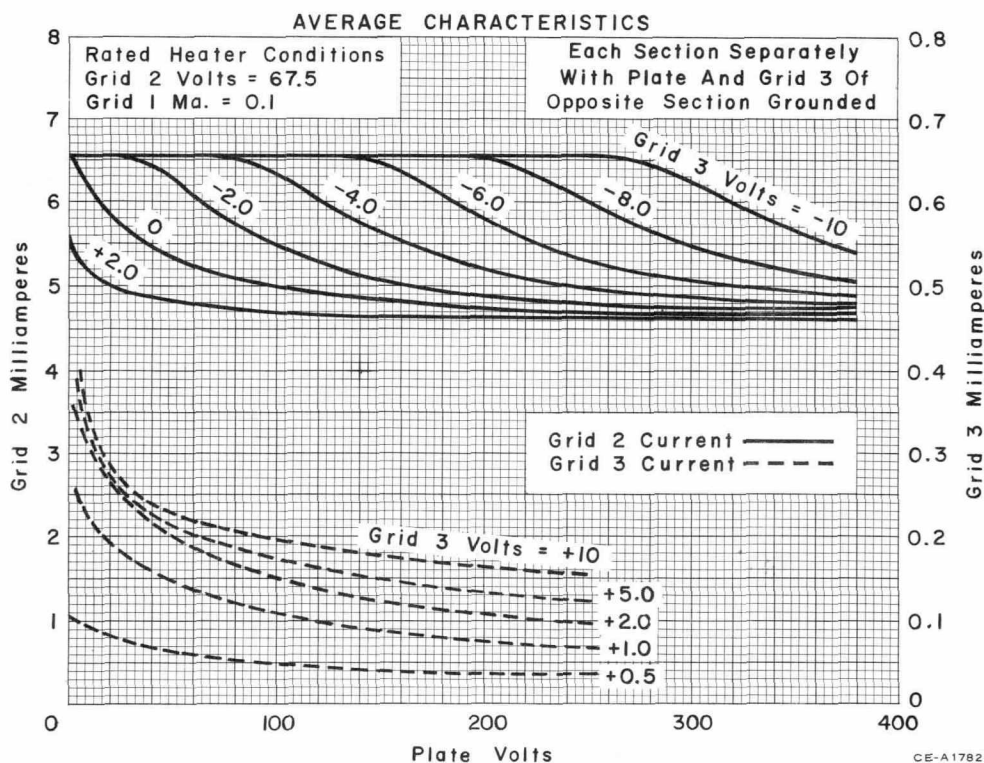
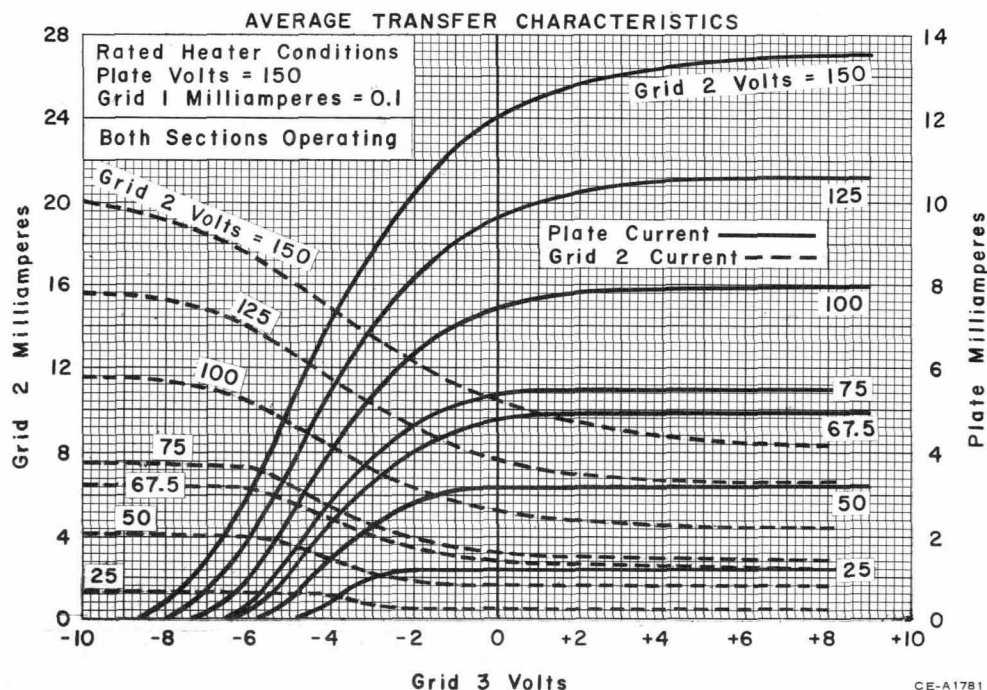


AVERAGE GRID 2 CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS





3BU8
4BU8
6BU8

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