

TRIODE-TETRODE TYPES 5CL8-A AND 6CL8-A

The 5CL8-A and 6CL8-A are 9-pin miniature triode-tetrode types designed for combined oscillator-mixer service in television and frequency modulation receivers. Each section of the 5CL8-A and 6CL8-A has a separate cathode and is electrically independent. These tubes perform well at the higher frequencies and each may be used advantageously in applications normally requiring two tubes.

The 5CL8-A and 6CL8-A 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 ratings, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL:

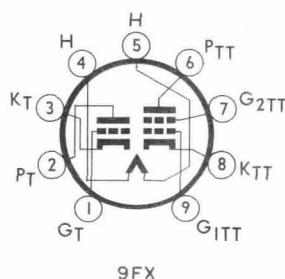
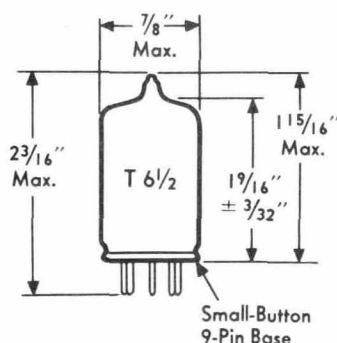
Cathode.....	Coated Unipotential		
Heater:	5CL8-A	6CL8-A	
Voltage (ac or dc)	4.7	6.3	Volts
Current	0.60 ± 6%	0.45 ± 6%	Ampere
Warm-up Time (Approx.)□	11	11	Seconds
Direct Interelectrode Capacitances:			

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	Shielded	Unshielded	
Triode Unit:			
Grid to Plate	1.8	1.8	$\mu\mu f$
Input	2.8	2.8	$\mu\mu f$
Output	2.0	1.5	$\mu\mu f$
Tetrode Unit:			
Grid 1 to Plate	0.01	0.02	max. $\mu\mu f$
Input	5.0	5.0	$\mu\mu f$
Output	3.0	2.0	$\mu\mu f$
Coupling:			
Tetrode Grid 1 to Triode			
Plate	0.01♣	0.015	max. $\mu\mu f$
Tetrode Plate to Triode			
Plate	0.03♣	0.15	max. $\mu\mu f$
Heater to Cathode:			
Tetrode Unit	3.0⊕	3.0	$\mu\mu f$
Triode Unit	3.0⊕	3.0	$\mu\mu f$

MECHANICAL:

Bulb	T-6½
Base	9-Pin Miniature (JEDEC E-9-1)
Outline	.6-2
Basing	9FX
Mounting Position	Any



MAXIMUM RATINGS

Design Maximum Values

	Triode Unit	Tetrode Unit	
Plate Voltage	330	330	max. Volts
Grid 2 Supply Voltage	--	330	max. Volts
Grid 2 Voltage			See Grid 2 Input Rating Curve
Grid 1 Voltage:			
Positive Bias Value	0	0	max. Volts
Plate Dissipation	2.5	3.0	max. Volts
Grid 2 Dissipation	--	0.55	max. Watt
Grid 1 Circuit Resistance:			
Fixed Bias	0.5	0.25	max. Megohm
Cathode Resistor Bias	1.0	1.0	max. Megohm
Heater-Cathode Voltage			
Heater Negative with Respect to Cathode			
Total DC + Peak	200	max.	200 max. Volts
Heater Positive with Respect to Cathode			
DC Component	100	max.	100 max. Volts
Total DC + Peak	200	max.	200 max. Volts

TYPICAL OPERATING CHARACTERISTICS:

	Triode Unit	Tetrode Unit	
Plate Voltage	125	125	Volts
Grid 2 (Screen) Voltage	--	125	Volts
Grid 1 Voltage	-1	-1	Volts
Amplification Factor	40	--	
Plate Resistance (Approx.)	5000	200,000	Ohms
Transconductance	8000	6500	μmhos
Grid 1 Cutoff Bias ▲	-9	-9	Volts
Plate Current	14	12	Ma.
Grid 2 Current	--	4	Ma.

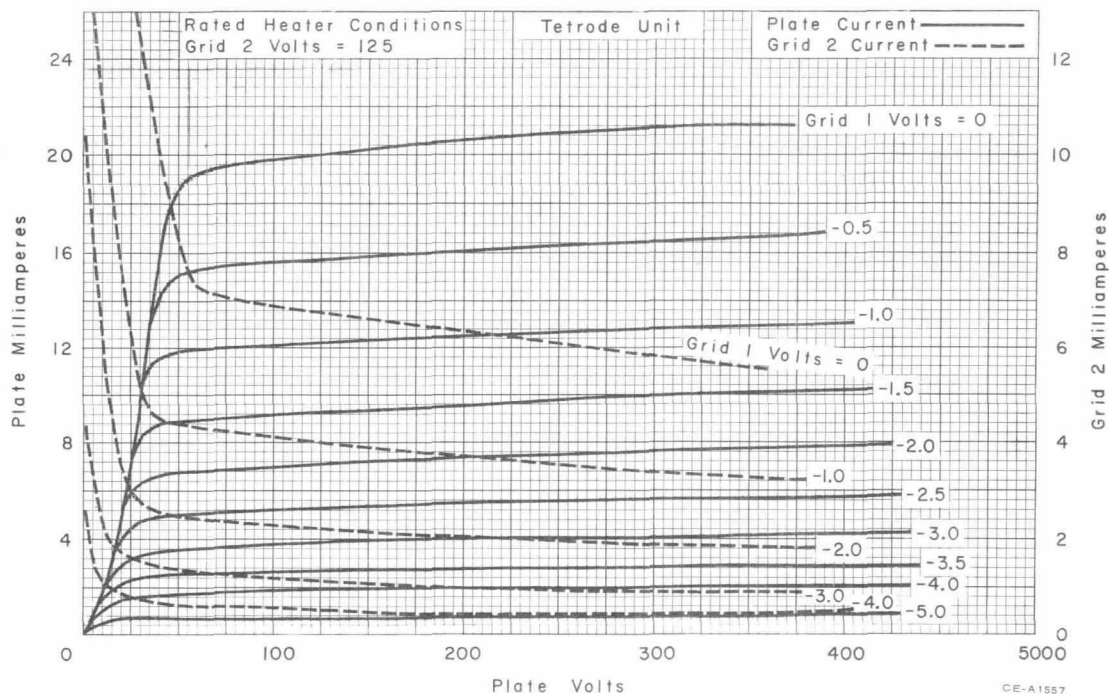
□ Heater warm-up time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.

♣ External shield No. 315 tied to pin 4.

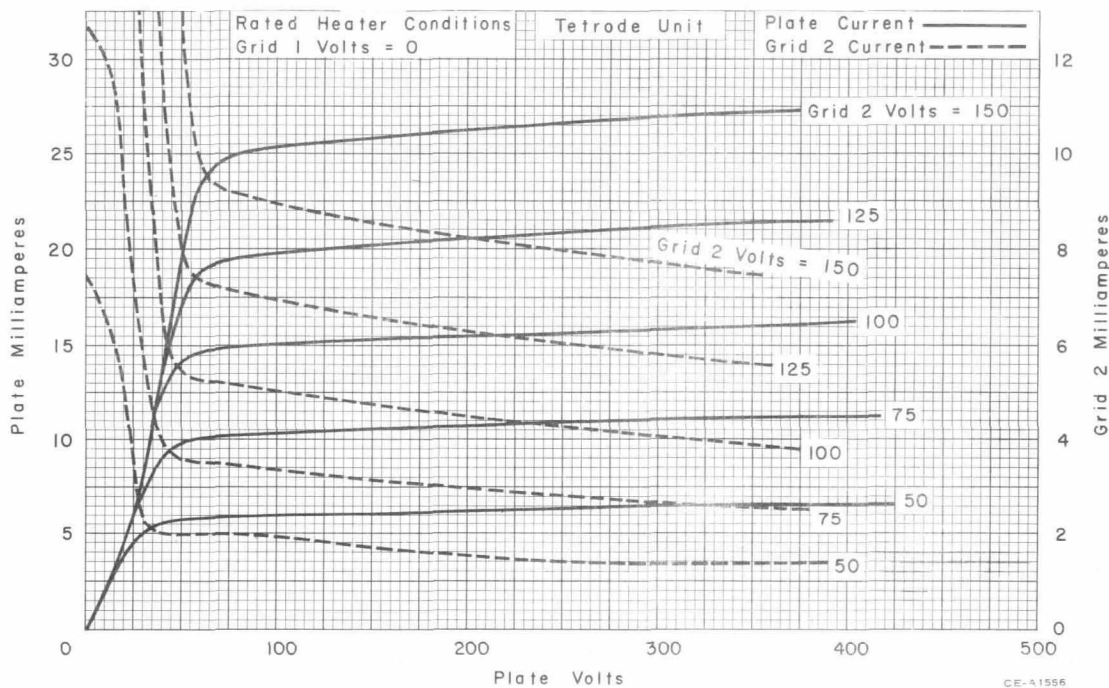
⊕ External shield No. 315 tied to pin 6.

▲ For plate current of 20 microamperes.

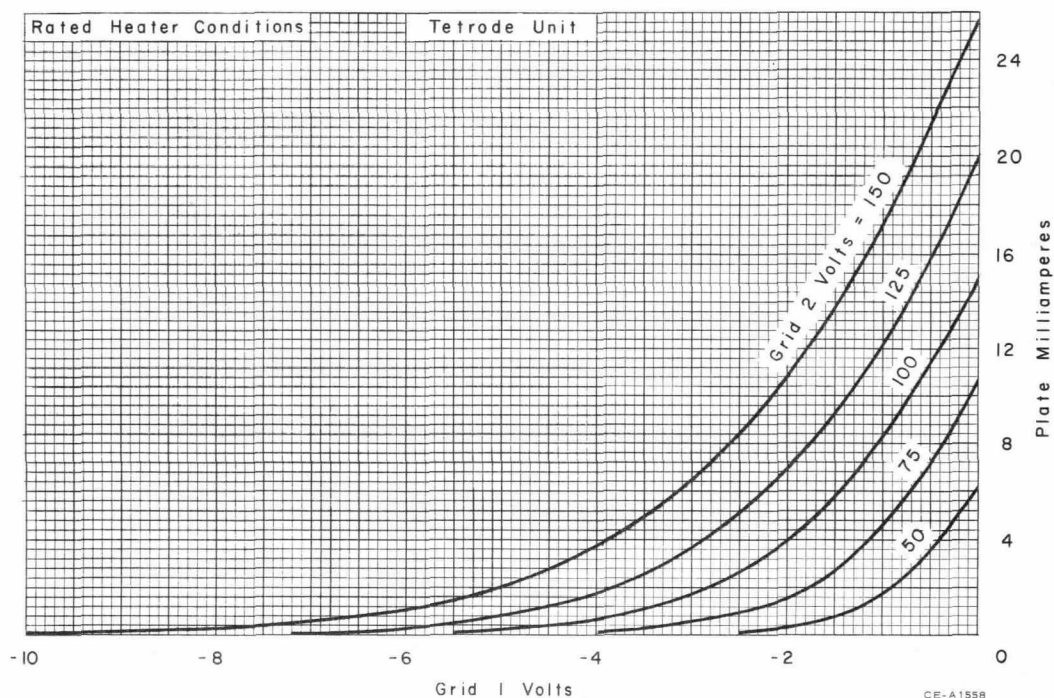
AVERAGE PLATE CHARACTERISTICS



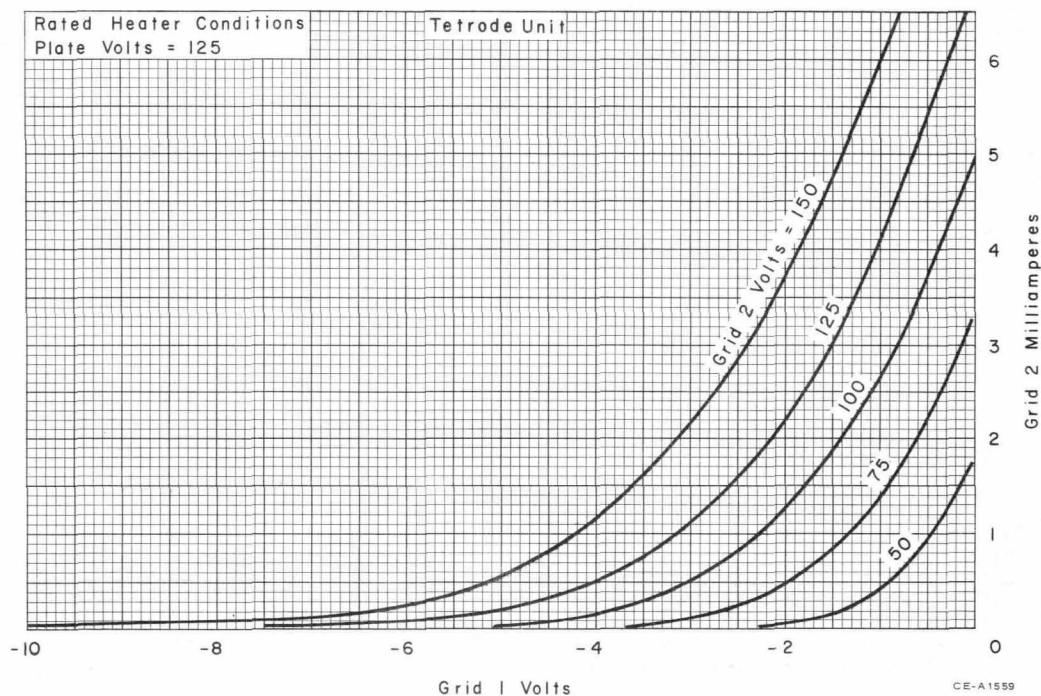
AVERAGE PLATE CHARACTERISTICS



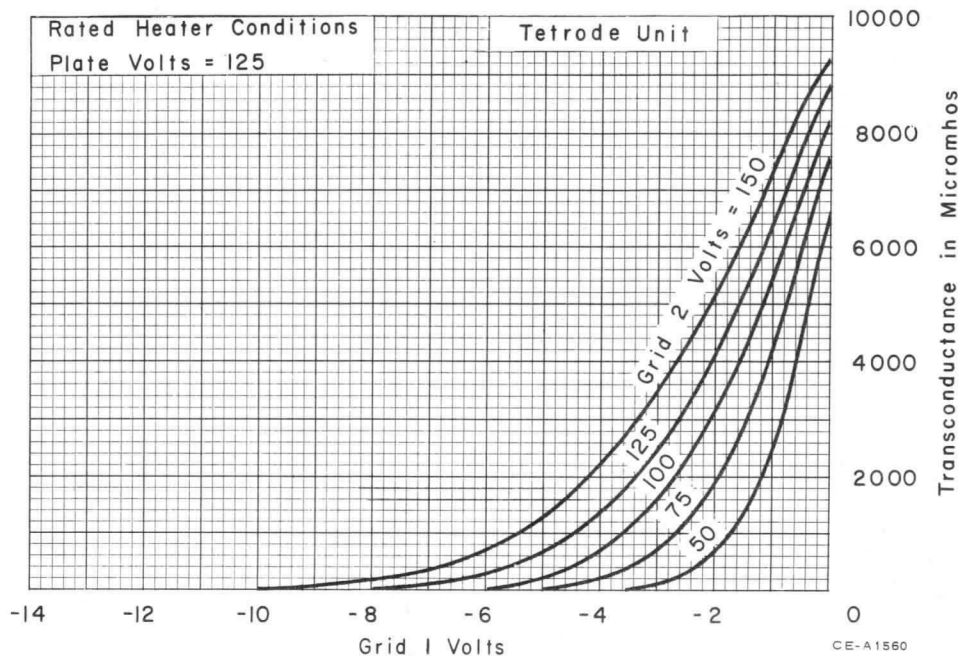
AVERAGE TRANSFER CHARACTERISTICS



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GRID 2 INPUT RATING CURVE

