TRIODE & FRAME-GRID PENTODE CONVERTER
TYPES 4GX7, 5GX7, 6GX7 AND 8GX7

The 4GX7, 5GX7, 6GX7 and 8GX7 are medium-mu triode and sharp-cutoff frame-grid pentode types designed for oscillator-mixer service in V.H.F. television tuners. The pentode section features high transconductance and low grid 1-to-plate capacitance to ensure high gain with good stability in amplifier operation.

The 4GX7, 5GX7 and 8GX7 feature controlled heater warm-up time and render reliable service in properly designed series heater circuits.

ELECTRICAL

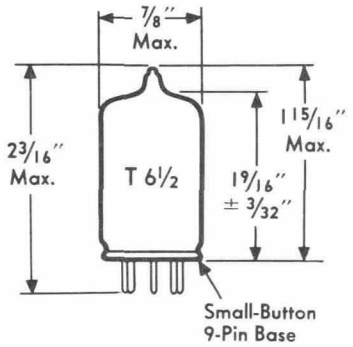
Cathodes					Coated Unipotential
Heater:	4GX7	5GX7	6GX7	8GX7	
Voltage	4.2	5.6	6.3	7.7	Volts
Current	0.60	0.45	0.40	0.30	Ampere
Warm-Up Time (Note 1)	11	11	–	11	Seconds

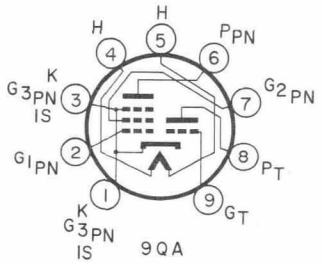
Direct Interelectrode Capacitances: Shielded (Note 2)

Triode:		
Grid to Plate	1.2	pf
Input	2.3	pf
Output	1.9	pf
Pentode:		
Grid 1 to Plate	0.005	pf
Input	5.40	pf
Output	3.30	pf
Grid 1 to Grid 2	1.6	pf

MECHANICAL

Bulb	T-6½
Base	Miniature 9-Pin (JEDEC E9-1)
Outline	6-2
Basing	9QA
Mounting Position	Any





RATINGS

Design Maximum Values

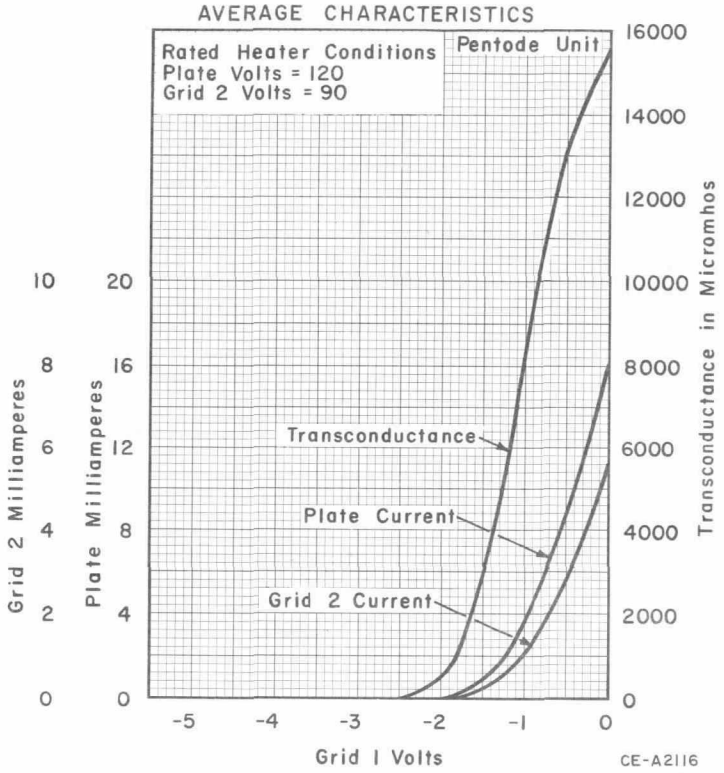
	Triode	Pentode		
Plate Voltage	275	275	max.	Volts
Grid 2 Supply Voltage	–	275	max.	Volts
Grid 2 Voltage	–	See Grid 2 Input Rating Curve		
Plate Dissipation	1.5	2.2	max.	Watts
Grid 2 Dissipation	–	0.45	max.	Watts
Positive Grid 1 Voltage	0	0	max.	Volts
Negative Grid 1 Voltage	40	40	max.	Volts
Cathode Current	20	20	max.	Ma.
Grid 1 Circuit Resistance				
Fixed Bias	0.5	0.25	max.	Megohm
Cathode Resistor Bias	1.0	0.5	max.	Megohm
Heater-Cathode Voltage:				
Heater Negative with Respect to Cathode				
Total DC + Peak	200	200	max.	Volts
Heater Positive with Respect to Cathode				
DC Component	100	100	max.	Volts
Total DC + Peak	200	200	max.	Volts

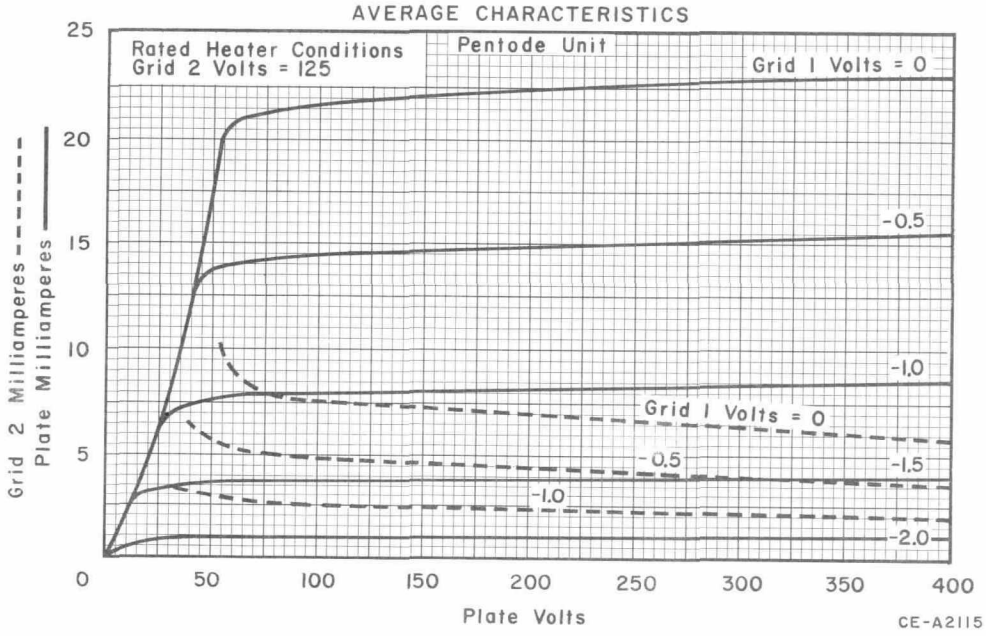
CHARACTERISTICS AND TYPICAL OPERATION

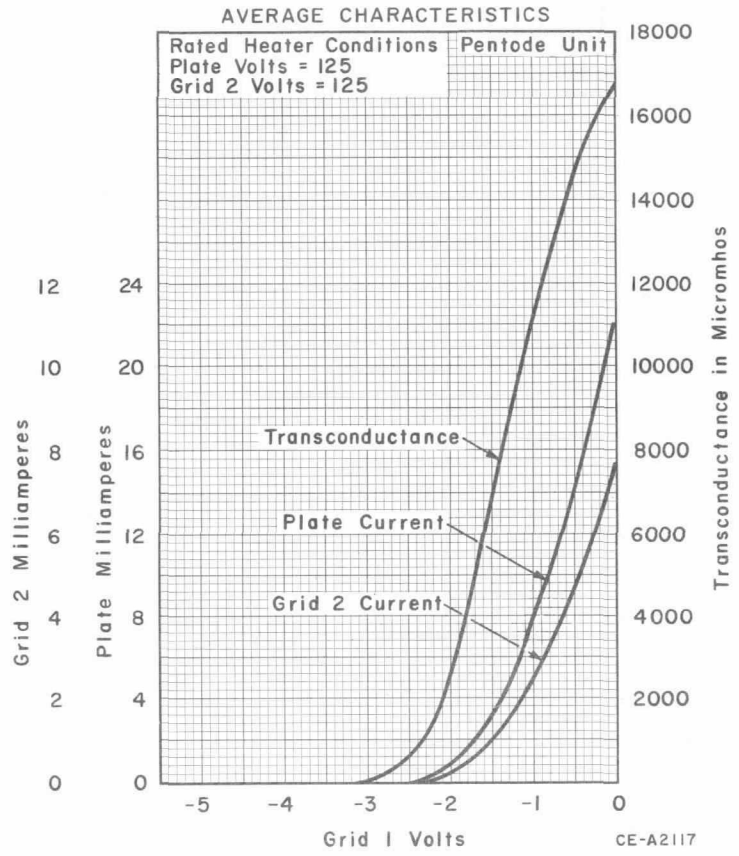
Triode Unit:			
Plate Voltage	100	125	Volts
Grid Voltage	–	–1.0	Volts
Grid Circuit Resistance	0.1	–	Megohm
Amplification Factor	–	40	–
Plate Resistance	–	4700	Ohms
Transconductance	8700	8500	μmhos
Plate Current	12.5	13	Ma.
Grid Cutoff Voltage (Note 3)	–6.0	–	Volts
Pentode Unit:			
Plate Voltage	120	125	Volts
Grid 2 Voltage	90	125	Volts
Grid 1 Voltage	–	–1.0	Volts
Grid 1 Circuit Resistance	0.1	–	Megohms
Plate Resistance	–	200000	Ohms
Transconductance	13000	11000	μmhos
Plate Current	8.5	8.0	Ma.
Grid 2 Current	2.8	2.5	Ma.
Grid 1 Cutoff Voltage (Note 3)	–2.5	–	Volts

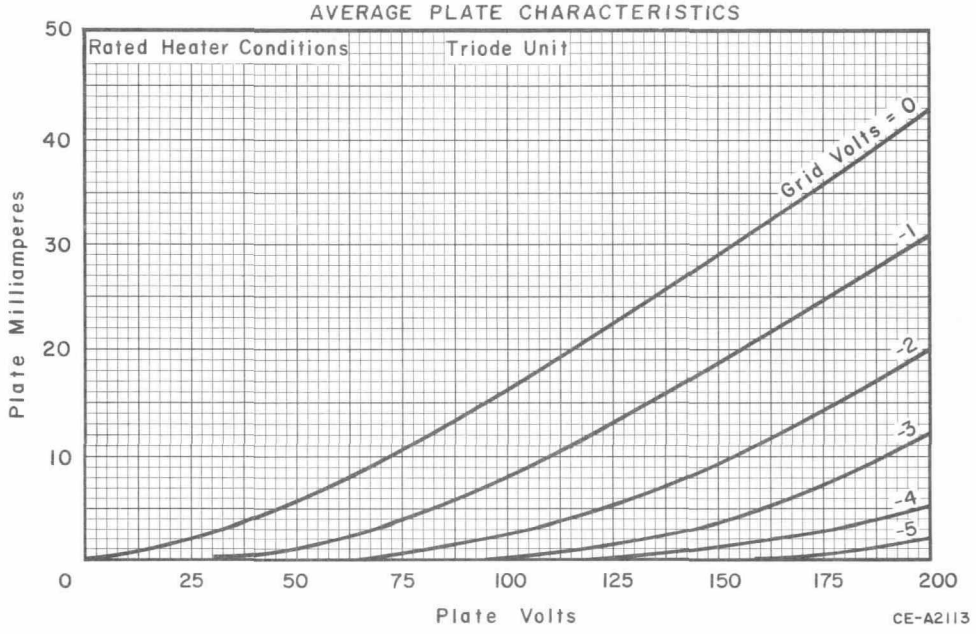
NOTES

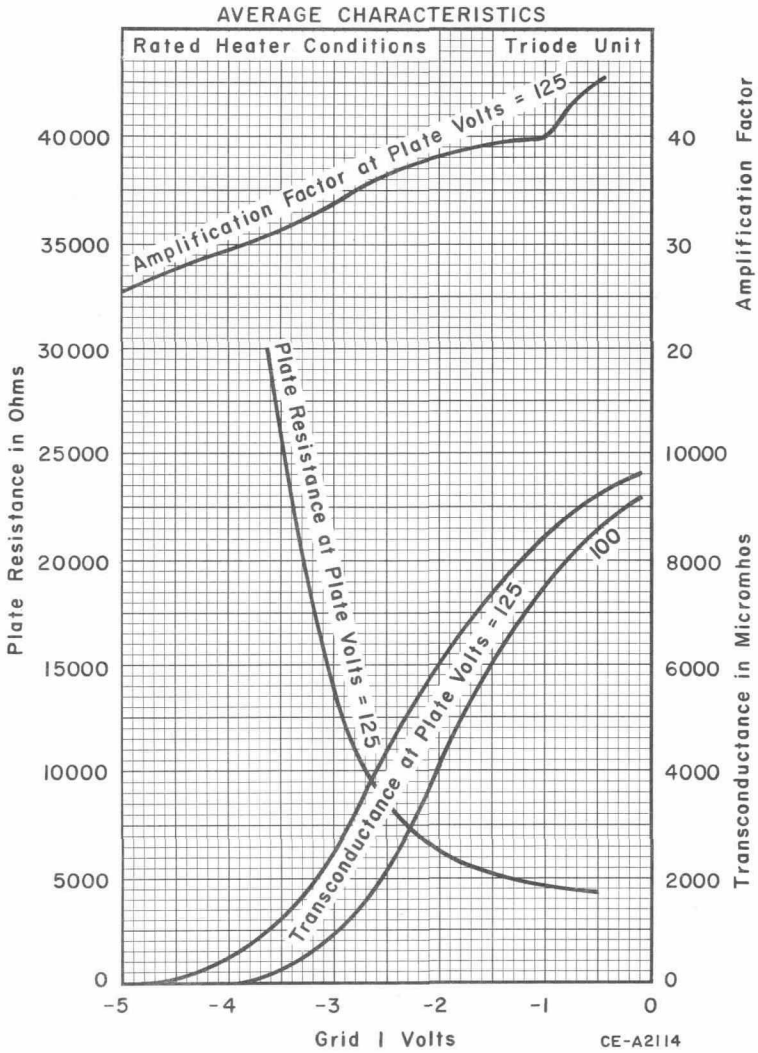
1. Heater Warm-Up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to 3 times rated heater voltage divided by rated heater current.
2. With external shield connected to cathode.
3. For a plate current of 20 microamperes.

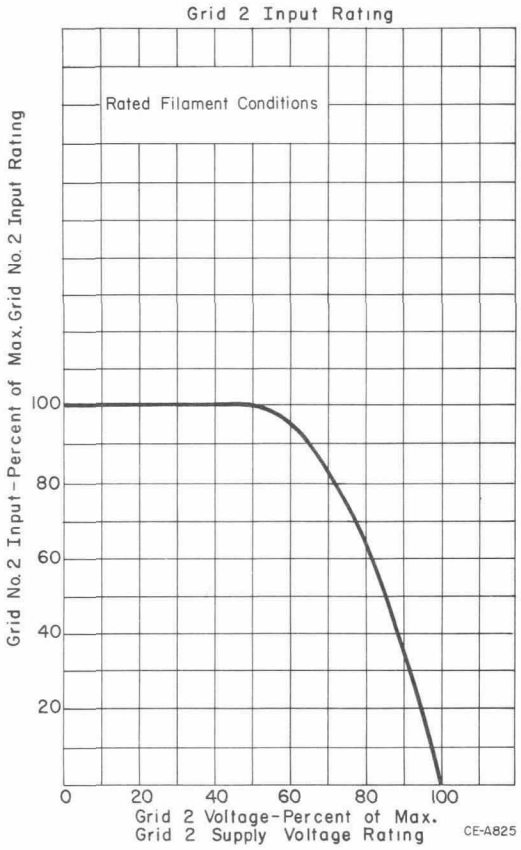

AVERAGE CHARACTERISTICS
Rated Heater Conditions
Plate Volts = 120
Grid 2 Volts = 90
Pentode Unit
Transconductance
Plate Current
Grid 2 Current
Grid 2 Milliamperes
Plate Milliamperes
Transconductance in Micromhos
Grid 1 Volts
CE-A2116


AVERAGE CHARACTERISTICS
Rated Heater Conditions
Grid 2 Volts = 125
Pentode Unit
Grid 1 Volts = 0
-0.5
-1.0
-1.5
-2.0
Grid 1 Volts = 0
-0.5
-1.0
Grid 2 Milliamperes
Plate Milliamperes
Plate Volts
CE-A2115


AVERAGE CHARACTERISTICS
Rated Heater Conditions
Pentode Unit
Plate Volts = 125
Grid 2 Volts = 125
Transconductance
Plate Current
Grid 2 Current
Grid 2 Milliamperes
Plate Milliamperes
Transconductance in Micromhos
Grid 1 Volts
CE-A2117


AVERAGE PLATE CHARACTERISTICS
Rated Heater Conditions
Triode Unit
Grid Volts = 0
-1
-2
-3
-4
-5
Plate Milliamperes
Plate Volts
CE-A2113





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