

HORIZONTAL AMPLIFIER BEAM-POWER PENTODE TYPES 6CU6, 6CU6/6BQ6-GA, 12CU6, 12CU6/12BQ6-GA AND 25CU6/25BQ6-GA

The 6CU6, 6CU6/6BQ6-GA, 12CU6, 12CU6/12BQ6-GA and 25CU6/25BQ6-GA are octal based beam-power pentode types designed for service as output amplifier in horizontal deflection circuits in television receivers. These types are characterized by high zero-bias plate current and high maximum peak positive pulse plate voltage ratings.

The 12CU6 and 12CU6/12BQ6-GA 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 they are 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.

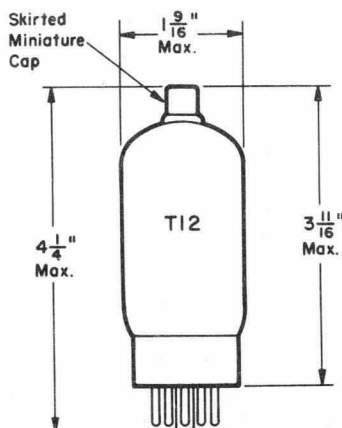
GENERAL DATA

ELECTRICAL:

Cathode.....	Coated Unipotential			
Filament:	6CU6	12CU6	25CU6	
	6CU6/	12CU6/	25CU6/	
	6BQ6-GA	12BQ6-GA	25BQ6-GA	
Voltage (ac or dc) . .	6.3	12.6	25.0	Volts
Current	1.20	0.60	0.30	Ampere
Warm-up Time†	..	11	..	Seconds
Direct Interelectrode Capacitances (Unshielded):				
Grid to Plate.....	0.6			uuf
Input.....	15.0			uuf
Output.....	7.0			uuf

MECHANICAL:

Bulb	T-12
Base	Intermediate Shell Octal
Basing	6AM
Top Cap	C1-3, Skirted Miniature
Mounting Position	Any



HORIZONTAL DEFLECTION AMPLIFIER

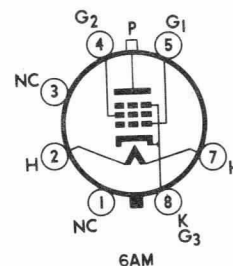
MAXIMUM RATINGS:

Design Center Values

D.C. Plate Supply Voltage			
(Boost + D.C. Power Supply)	600	max.	Volts
Peak Positive Plate Voltage	6000 abs.	max.	Volts
Peak Negative Plate Voltage	1250	max.	Volts
Plate Dissipation ▲	11	max.	Watts
Peak Negative Grid 1 Voltage	300	max.	Volts
D.C. Grid 2 Voltage	200	max.	Volts
Grid 2 Dissipation	2.5	max.	Watts
Average Cathode Current	110	max.	Ma.
Peak Cathode Current	400	max.	Ma.
Grid 1 Circuit Resistance	0.47	max.	Megohm
Bulb Temperature (At Hottest Point) ..	220	max.	°C

Heater-Cathode Voltage:

Heater Negative with Respect to Cathode			
Total DC + Peak	200	max.	Volts
Heater Positive with Respect to Cathode			
DC Component	100	max.	Volts
Total DC + Peak	200	max.	Volts



AVERAGE CHARACTERISTICS

PENTODE OPERATION

Plate Voltage	250	Volts
Grid 2 Voltage	150	Volts
Grid 1 Voltage	-22.5	Volts
Plate Current	57	Ma.
Grid 2 Current	2.1	Ma.
Transconductance	5900	umhos
Plate Resistance	14500	Ohms

ZERO BIAS

Plate Voltage□	60	Volts
Grid 2 Voltage□	150	Volts
Plate Current⊕	260	Ma.
Grid 2 Current⊕	26	Ma.

CUTOFF

Plate Voltage	250	Volts
Grid 2 Voltage	150	Volts
Plate Current	1.0	Ma.
Grid 1 Voltage	43	Volts

TRIODE AMPLIFICATION FACTOR

Plate Voltage	150	Volts
Grid 2 Voltage	150	Volts
Grid 1 Voltage	-22.5	Volts
Amplification Factor	4.3	Volts

⊕ For operation in a 525-line, 30 frame system as described in "Standards of Good Engineering Practice for Television Broadcasting Stations: Federal Communications Commission." The duty cycle of the voltage pulse not to exceed 15% of the duty cycle of the voltage pulse not to exceed 15% of the scanning cycle.

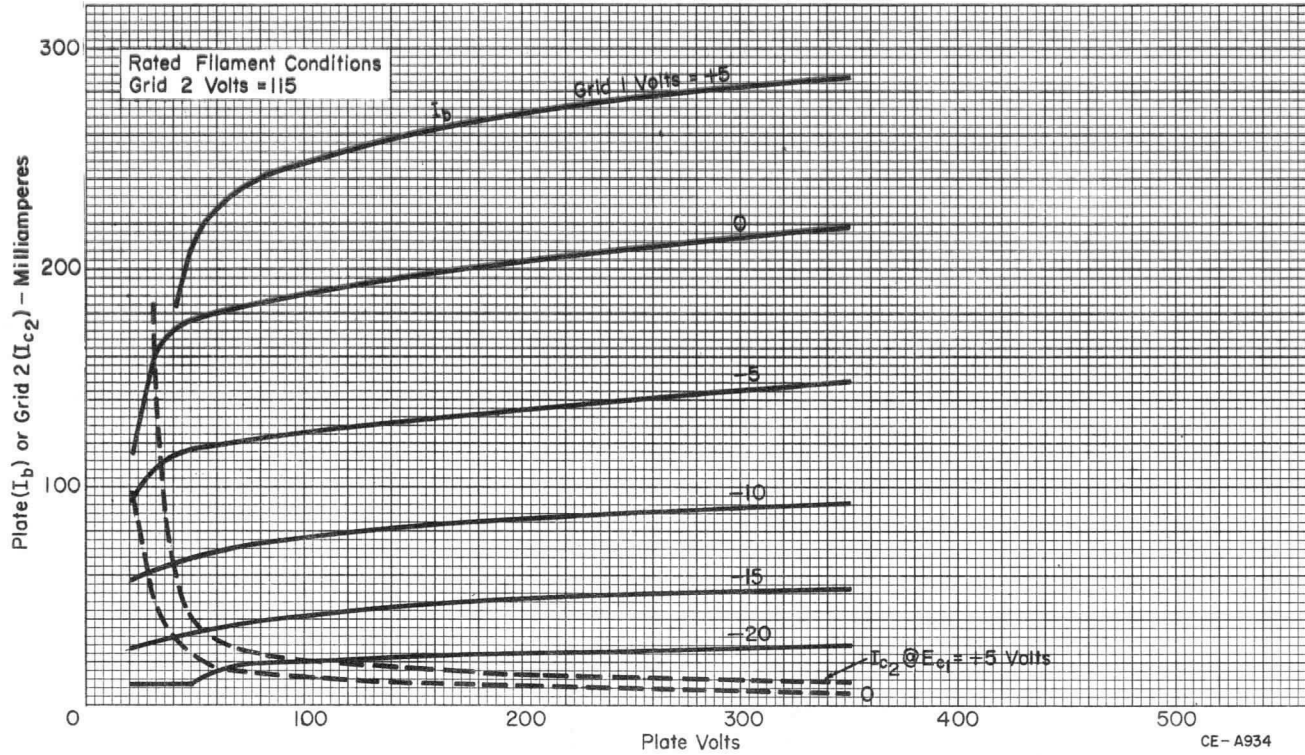
▲ In stages operating with grid leak bias, an adequate cathode bias resistor or other suitable means is required to protect the tube in the absence of excitation.

+ 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.

□ Applied for short interval (maximum of two seconds) so as not to damage tube.

⊕ These values can be measured by a method involving a re-current waveform such that the plate and grid 2 dissipation will be kept within ratings to prevent damage to the tube.

AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

