



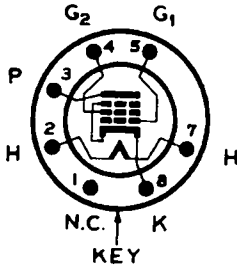
TYPE 6K6GT

HYTRON BANTAM

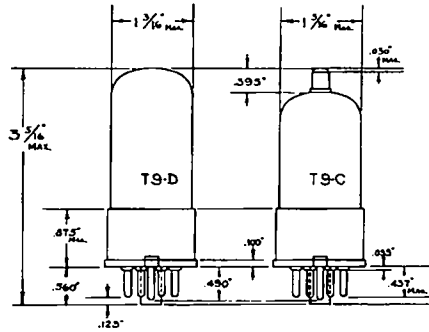
GENERAL DESCRIPTION

Application: The Hytron 6K6GT is a cathode type power amplifier pentode which may be employed either singly or in push-pull arrangements. The 6K6GT is a glass tube equipped with a small octal base and has ratings and characteristics identical to those of the type 4L.

Physical Characteristics: Bulb T-9D



Bottom View



RATING AND CHARACTERISTICS

Heater:

Voltage	6.3	Volts
Current	0.4	Ampere

Note: Voltage between heater and cathode should be kept at a minimum if direct connection is not possible.

OPERATING CONDITIONS AND CHARACTERISTICS

Plate Voltage	125	167.5	180	250 ^{oo}	Volts
** Grid Voltage	-10	-12.5	-13.5	-18.0*	Volts
Screen Voltage	125	167.5	180	250 ^{oo}	Volts
Plate Current	11	17	18.5	32	Milliamperes
Screen Current	2	3	3	5.5	Milliamperes
Plate Resistance (Approx.)	100,000	85,000	81,000	68,000	Ohms
Mutual Conductance	1525	1800	1850	2200	Micromhos
Amplification Factor (Approx.)	150	150	150	150	
Load Resistance	11,000	9,500	9,000	7,600	Ohms
Power Output ^o	0.65	1.25	1.5	3.4	Watts

^oTotal harmonic distortion of 10%.

^{oo} Maximum

- * A bias of -16.5 volts and a load of 7000 ohms will give a power output of 3.2 watts with a 7% total harmonic distortion.
- ** Transformer or impedance-coupled input systems are recommended. If resistance coupling is used the D.C. resistance in the grid return must be limited to 1 megohm for self-biased conditions and .1 megohm for fixed-bias conditions provided that the heater voltage does not exceed rated value by more than 10% under all operating conditions.

from RMA release #134, April 11, 1938

Note: For characteristic curves refer to the type 4L.

Typical operating conditions and characteristics, class A1 amplifier (single tube)

Plate voltage.	100	250	315	volts
Grid #2 voltage.	100	250	250	volts
Grid #1 voltage.	-7	-18	-21	volts
Peak A-F grid #1 voltage	7	18	21	volts
Zero-signal plate current.	9	32	25.5	ma
Maximum-signal plate current	9.5	33	28	ma
Zero-signal grid #2 current.	1.6	5.5	4.0	ma
Maximum-signal grid #2 current	3	10	9	ma
Plate resistance (approx.)	104,000	90,000	110,000	ohms
Transconductance	1500	2300	2100	μmhos
Load resistance.	12,000	7600	9000	ohms
Maximum-signal power output.	0.35	3.4	4.5	watts
Total harmonic distortion (approx.).	11	11	15	%

Typical operating conditions and characteristics, class A1 push-pull amplifier**

	<u>Fixed bias</u>	<u>Cathode bias</u>	
Plate voltage.	285	285	volts
Grid #2 voltage.	285	285	volts
Grid #1 voltage.	-25.5	---	volts
Cathode resistor	---	400	ohms
Peak A-F grid #1 to grid #1 voltage.	51	51	volts
Zero-signal plate current.	55	55	ma
Maximum-signal plate current	72	61	ma
Zero-signal grid #2 current.	9	9	ma
Maximum-signal grid #2 current	17	13	ma
Plate-to-plate load resistance	12,000	12,000	ohms
Maximum-signal power output.	10.5	9.8	watts
Total harmonic distortion.	6	4	%

**Unless otherwise specified, values are for two tubes.

Ratings § Vertical Deflection Amplifier §§, Triode connected

Maximum D.C. plate voltage	315	volts
Maximum peak positive voltage (absolute maximum)	1200	volts
Maximum plate dissipation #.	7	watts
Maximum peak negative grid voltage	250	volts
Maximum average cathode current.	25	ma
Maximum peak cathode current	75	ma
Maximum grid circuit resistance (cathode bias)	2.2	megohms

Average characteristics - Triode connected

Plate voltage.	250	volts
Grid voltage	-18	volts
Plate current.	37.5	ma
Transconductance	2700	μmhos
Amplification factor	6.8	
Plate resistance (approx.)	2500	ohms
Grid voltage (approx.) for Ib = 0.5 ma.	-48	volts

§All values are evaluated on design center system except where absolute maximum is stated.

§§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 a 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.

Refer to "Interpretation of Receiving Tube Ratings"