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TYPE 6A8GT

HYTRON RADIO TUBES

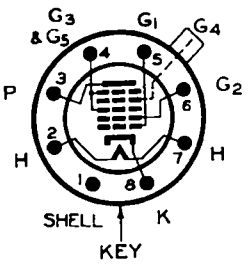
HYTRON BANTAM

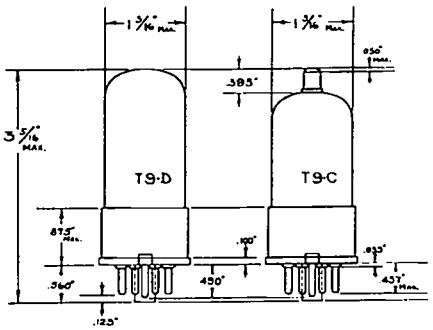
GENERAL DESCRIPTION

Application: The Hytron 6A8GT is a cathode type pentagrid converter designed for use as a combined oscillator and mixer tube in superheterodyne circuits. The tube construction is such that independent control of these functions is available.

The 6A8GT is a glass tube equipped with a small octal base and may be used interchangeably with the 6A8G glass tube.

Physical Characteristics: Bulb T-9C





Bottom View

RATING AND CHARACTERISTICS

Heater:

Voltage	6.3 Volts AC or DC
Current	0.3 Ampere

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

MAXIMUM RATINGS

Plate Voltage	250	Volts
Screen Voltage (Grids No. 3 and No. 5)	100	Volts
Anode Grid Voltage (Grid No. 2)	200	Volts
*Anode Grid Voltage Supply	250	Volts
Control Grid Voltage (Grid No. 4)	-3	Volts Min.
Total Cathode Current	14	Milliamperes

*A 20,000 ohm voltage dropping resistor must be used for supply voltages above 200 volts.

CONVERTER OPERATION

Plate Voltage	100	250	Volts
Screen Voltage	50	100	Volts
Anode Grid Voltage	100	250*	Volts
Control Grid Voltage	-1.5	-3	Volts Min.
Plate Current	1.2	3.3	Milliamperes
Screen Current	1.5	3.2	Milliamperes
Anode Grid Current	1.6	4.0	Milliamperes
Oscillator Grid Current (Grid No. 1)	0.25	0.5	Milliampere
Oscillator Grid Resistor	50,000	50,000	Ohms
Conversion Conductance	350	500	Micromhos
Control Grid Voltage Conversion Conductance = 2 Micromhos	-20	-45	Volts Approx.

*Anode Grid Supply Voltage - requires 20,000 ohm voltage dropping resistor.

Direct Interelectrode Capacitances:

°Grid No. 4 to Plate	.30	µµf.
°Grid No. 4 to Grid No. 2	.15	µµf.
°Grid No. 4 to Grid No. 1	.15	µµf.
Grid No. 1 to Grid No. 2	1.0	µµf.
Grid No. 4 to all other electrodes (R F Input)	8.5	µµf.
Grid No. 2 to all other electrodes (Osc. Output)	5.5	µµf.
Plate to all other electrodes (Mixer Output)	9.0	µµf.
Grid No. 1 to all other electrodes (Osc. Input)	7.0	µµf.

°With shield can.

Note: For characteristic curves refer to the type 6A8G

JETEC DATA
JOINT ELECTRON TUBE ENGINEERING COUNCIL
COMMITTEE ON RECEIVING TUBES

JETEC TYPE 6A8GT

HEPTODE

MECHANICAL DATA

Coated unipotential cathode

Outline drawing	9-18
Bulb	T-9
Base	B8-26 small wafer octal 8-pin, metal sleeve
Top cap	C1-3, skirted miniature
Maximum diameter	1-5/16"
Maximum overall length	3-5/16"
Maximum seated height	2-3/4"
Pin connections	Basing 8A

Pin 1 - Base sleeve
Pin 2 - Heater
Pin 3 - Plate
Pin 4 - Grids #3 and #5
Pin 5 - Grid #1
Pin 6 - Grid #2
Pin 7 - Heater
Pin 8 - Cathode
Top cap-Grid #4

Mounting position . . . . . Any

ELECTRICAL DATA

Direct Interelectrode Capacitances*

Signal grid to plate: (g4 to p)	0.26	μμf
Signal grid to oscillator plate: (g4 to g2)	0.19	μμf
Signal grid to oscillator grid: (g4 to g1)	0.16	μμf
Oscillator grid to oscillator plate: (g1 to g2)	1.1	μμf
Signal input: g4 to (h+k+g1+g2+g3 and 5+p)	9.5	μμf
Oscillator output: g2 to (h+k+g3 and 5+g4+p)	4.6	μμf
Oscillator input: g1 to (h+k+g3 and 5+g4+p)	6.0	μμf
Mixer output: p to (h+k+g1+g2+g3 and 5+g4)	12.0	μμf

*External shield #308 connected to pin #8.

Ratings

Heater voltage	6.3	volts
Maximum plate voltage	300	volts
Maximum grids #3 and #5 voltage	100	volts
Maximum grids #3 and #5 supply voltage	300	volts
Maximum grid #2 voltage	200	volts
Maximum grid #2 supply voltage	300	volts
Maximum plate dissipation	1.0	watts
Maximum grids #3 and #5 dissipation	0.3	watts
Maximum grid #2 dissipation	0.75	watts
Maximum total cathode current	14	ma
Minimum external signal grid (grid #4) bias voltage	0	volts
Maximum heater-cathode voltage	90	volts

Continued on Page 2

ELECTRICAL DATA (Continued)

Typical Operating Conditions and Characteristics*

Heater voltage	6.3	6.3	volts
Heater current	300	300	ma
Plate voltage	100	250	volts
Grids #3 and #5 voltage	50	100	volts
Grid #2 voltage	100	250**	volts
Grid #4 voltage	-1.5	-3	volts
Oscillator (grid #1) resistance	50,000	50,000	ohms
Oscillator (grid #1) current	0.25	0.4	ma
Plate resistance (approx.)	0.60	0.36	megohms
Plate current	1.1	3.5	ma
Grid #2 current	2.0	4.0	ma
Grids #3 and #5 current	1.3	2.7	ma
Total cathode current	4.6	10.6	ma
Conversion transconductance	360	550	μmhos

*Characteristics shown are obtained in the standard RTMA Conversion Conductance Test Set which uses separate excitation. The characteristics under these conditions correspond very closely with those obtained in a self-excited oscillatory circuit.

**Grid #2 supply voltage applied through a properly by-passed 20,000 ohm voltage dropping resistor.

Oscillator Characteristics (not oscillating)

Plate voltage	250	volts
Grid #2 voltage	100	volts
Grids #3 and #5 voltage	55	volts
Oscillator (grid #1) voltage	-1	volts
Grid #4 voltage	-2	volts
Transconductance between grid #1 and grid #2	1150	μmhos
Amplfiication factor between grid #1 and grid #2	75	
Grid #2 current	4	ma

Refer to "Interpretation of Receiving Tube Ratings"