

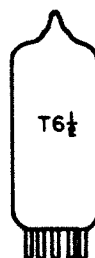
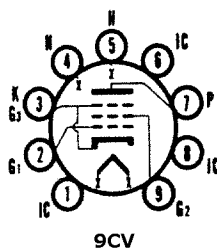
6BQ5/EL84

8BQ5, 10BQ5

Color Television Type AUDIO POWER AMPLIFIER

Beam Pentode

Construction Miniature T-6½
 Base Button 9 Pin, E9-1
 Basing 9CV
 Outline 6-4
 Maximum Diameter 0.875 In.
 Maximum Seated Height 2.812 In.
 Maximum Overall Height 3.062 In.



ELECTRICAL DATA HEATER OPERATION

	10BQ5	8BQ5	6BQ5/EL84
Heater Voltage	10.6	8.0	6.3 Volts
Heater Current	450	600	760 Ma
Heater Warm-up Time	11	11	— Seconds
Maximum Heater Cathode Voltage			100 Volts

DIRECT INTERELECTRODE CAPACITANCES

Grid No. 1 to Plate (Max.)	0.5 Pf
Input	10.8 Pf
Output	6.5 Pf
Grid No. 1 to Heater (Max.)	0.25 Pf

RATINGS (Design Center Rating System)

Plate Voltage (Max.) ⁽¹⁾	300 Volts
Grid No. 2 Voltage (Max.) ⁽¹⁾	300 Volts
Negative Grid No. 1 Voltage (Max.)	100 Volts
Plate Dissipation (Max.)	12 Watts
Grid No. 2 Dissipation (Max.)	2 Watts
Cathode Current (Max.)	65 Ma
Grid No. 1 Circuit Resistance	
Fixed Bias (Max.)	0.3 Megohm
Cathode Bias (Max.)	1.0 Megohm

CHARACTERISTICS AND TYPICAL OPERATION

	Triode Operation ⁽²⁾ Class A1			Pentode Operation Class A1		
	Single Tube	Class AB1 Push-pull		Single Tube	Class AB1 Push-pull	
Plate Voltage	250	250	300	250	250	300 Volts
Grid No. 2 Voltage	—	—	—	250	250	300 Volts
Grid No. 1 Voltage	—	—	—	-7.3	—	— Volts
Cathode Resistor ⁽³⁾	270	270	270	135	130	130 Ohms
Grid Voltage (RMS) ⁽⁴⁾	6.7	8.4	10	4.3	8	10 Volts
Plate Current						
(Zero-Signal)	34	40	48	48	62	72 Ma
(Maximum Signal)	36	53.4	52	49.5	75	92 Ma
Grid No. 2 Current						
(Zero Signal)	—	—	—	5.5	7.0	8 Ma
(Maximum Signal)	—	—	—	10.8	15	22 Ma
Transconductance	—	—	—	11.3K	—	— μmhos
Amplification Factor ⁽¹⁾	—	—	—	19	—	—
Plate Resistance	—	—	—	38K	—	— Ohms
Load Resistance	3.5K	—	—	5.2K	—	— Ohms
Load Resistance (Plate to Plate)	—	10K	10K	—	8K	8K Ohms
Maximum-Signal Power Output ..	1.95	3.4	5.2	5.7	11	17 Watts
Total Harmonic Distortion ⁽¹⁾	9	2.5	2.5	10	3.0	4.0 Percent

CLASS AB1 ULTRA-LINEAR CONNECTION⁽⁴⁾

Plate Voltage	300 Volts
Cathode Resistor (Per Tube)	270 Ohms
Grid Voltage (RMS)	8 Volts
Cathode Current (Zero Signal)	80 Ma
Cathode Current (Max. Signal)	90 Ma
Load Resistance (P1 to P1)	8000 Ohms
Power Output	11 Watts

NOTES:

(1) When the heater and positive voltages are obtained from a storage battery by means of a vibrator, the maximum values of the plate and Grid No. 2 voltage is 250 volts and the plate dissipation is 9 watts.

- (2) Grid No. 2 connected to plate.
- (3) Common cathode resistor for push-pull applications.
- (4) Per grid.
- (5) Measured from grid No. 2 to plate.
- (6) For Pentode Operation—Class A Amplifier Service, the maximum signal power output and total distortion are measured at fixed bias and therefore represses the power output available during the reproduction of speech and music. When a sustained sine wave is applied to the control grid the bias across the cathode resistor will readjust itself as a result of the increased plate and screen grid currents. This will result in approximately 10 percent reduction in power output.
- (7) Measured with fixed bias.
- (8) Grid No. 2 taps located at 43% of primary winding.

Color Television Type

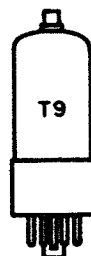
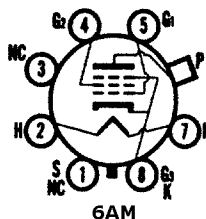
HORIZONTAL DEFLECTION AMPLIFIER

6BQ6GTB/6CU6

12BQ6GTB/12CU6
17BQ6GTB
25BQ6GTB/25CU6

Beam Power Pentode

ConstructionOctal T-9
 Base⁽¹⁾.. B5-187, B6-81, B6-84, B7-7, or B7-59
 Top Cap.....C1-2, C1-3, or C1-33
 Basing6AM
 Outline9-49 or 9-50
 Maximum Diameter1.188 In.
 Maximum Seated Height3.313 In.
 Maximum Overall Height3.875 In.



ELECTRICAL DATA
HEATER OPERATION

	25BQ6GTB/ 25CU6	17BQ6GTB	12BQ6GTB/ 12CU6	6BQ6GTB/ 6CU6
Heater Voltage.....	25	16.8	12.6	6.3 Volts
Heater Current	300	450	600	1200 Ma
Heater Warm-up Time	—	11	11	— Seconds
Maximum Heater-Cathode Voltage				
Heater Negative with Respect to Cathode				
Total DC and Peak.....				200 Volts
Heater Positive with Respect to Cathode				
DC				100 Volts
Total DC and Peak.....				200 Volts

DIRECT INTERELECTRODE CAPACITANCES (Unshielded)

Grid No. 1 to Plate	0.6 Pf
Input	15 Pf
Output	7.5 Pf

RATINGS (Design Center Rating System)

Horizontal Deflection Amplifier ⁽²⁾	
DC Plate Supply Voltage (Boost + DC Power Supply) (Max.)	600 Volts
Peak Positive Plate Voltage (Abs. Max.)	6000 Volts
Peak Negative Plate Voltage (Max.)	1250 Volts
Plate Dissipation (Max.) ⁽³⁾	11 Watts
Peak Negative Grid No. 1 Voltage (Max.)	300 Volts
Grid No. 2 Voltage (Max.)	200 Volts
Grid No. 2 Dissipation (Max.)	2.5 Watts
Average Cathode Current (Max.).....	110 Ma
Peak Cathode Current (Max.)	400 Ma
Grid No. 1 Circuit Resistance (Max.).....	0.47 Megohm
Bulb Temperature (At Hottest Point) (Max.)	220 °C

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	250 Volts
Grid No. 2 Voltage	150 Volts
Grid No. 1 Voltage	-22.5 Volts
Plate Current	57 Ma
Grid No. 2 Current	2.1 Ma
Transconductance	5900 μmhos
Plate Resistance.....	14,500 Ohms
Amplification Factor (Eb and Ec2 = 150 V, Ec1 = -22.5 V)	4.3
Ec1 for Ib = 1.0 Ma (Approx.)	-43 Volts

INSTANTANEOUS PLATE KNEE VALUES

Eb = 60 V; Ec2 = 150 V and Ec1 = 0
 Ib = 260 Ma, and Ic2 = 26 Ma