

Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection			Triode* Connection	
Plate Voltage	5000	70	175	125	volts
Grid-No.2 (Screen-Grid) Voltage	125	125	125	125	volts
Grid-No.1 (Control-Grid) Voltage	—	0	—25	—25	volts
Amplification Factor	—	—	—	3	
Plate Resistance (Approx.)	—	—	5600	—	ohms
Transconductance	—	—	11300	—	μmhos
Plate Current	—	570*	125	—	mA
Grid-No.2 Current	—	34*	4.5	—	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—140	—	—54	—	volts

* Grid No.2 tied to plate.

† This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	900	volts
Peak Positive-Pulse Plate Voltage# (Absolute Maximum)	7500*	volts
Peak Negative-Pulse Plate Voltage	1100	volts
DC Grid-No.2 Voltage	190	volts
Peak Negative-Pulse Grid-No.1 Voltage	250	volts
Peak Cathode Current	1100	mA
Average Cathode Current	315	mA
Plate Dissipation†	28	watts
Grid-No.2 Input	5.5	watts
Bulb Temperature (At hottest point)	225	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
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Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

* Under no circumstances should this absolute value be exceeded.

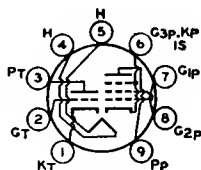
† A bias resistor or other means is required to protect the tube in absence of excitation.

6HF8

10HF8

HIGH-MU TRIODE—
SHARP-CUTOFF PENTODE

Miniature type used in color and black-and-white television receiver applications. The triode unit is used in high-gain, sound-if stages and in sync-separator, sync-clipper, and phase-inverter circuits; the pentode unit is used as a video-output amplifier. Outlines section, 6E; requires miniature 9-contact socket. For curves of average characteristics, refer to type 6AW8A for the triode unit and to type 6EB8 for the pentode unit. Type 10HF8 is identical with type 6HF8 except for heater ratings.



9DX

	6HF8	10HF8	
Heater Voltage (ac/dc)	6.3	10.5	volts
Heater Current	0.75	0.45	ampere
Heater Warm-up Time (Average)	—	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:			
Triode Unit:			
Grid to Plate		3.5	pF
Grid to Cathode, Heater, Pentode Cathode, Grid No.3, and Internal Shield		2.8	pF
Plate to Cathode, Heater, Pentode Cathode, Grid No.3, and Internal Shield		2.6	pF
Pentode Unit:			
Grid No.1 to Plate		0.1 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		10	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		4.2	pF
Triode Grid to Pentode Plate		0.015 max	pF

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MAXIMUM RATINGS (Design-Maximum Values)

	Triode Unit	Pentode Unit	
Plate Voltage	330	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	330	volts
Grid-No.2 Voltage	—	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	1	5	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	1.1	watts
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 300	

CHARACTERISTICS

	Triode Unit	Pentode Unit	
Plate Supply Voltage	200	45	200
Grid-No.2 Supply Voltage	—	125	125
Grid-No.1 Voltage	—2	0	—
Cathode-Bias Resistor	—	—	68
Amplification Factor	70	—	—
Plate Resistance (Approx.)	17500	—	75000
Transconductance	4000	—	12500
Plate Current	4	40*	25
Grid-No.2 Current	—	15*	7
Grid-No.1 Voltage (Approx.) for plate current of 100 μ A	—	—	—9
Grid-No.1 Voltage (Approx.) for plate current of 20 μ A	—6	—	—

MAXIMUM CIRCUIT VALUES

	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5	0.25	megohm
For cathode-bias operation	1	1	megohm

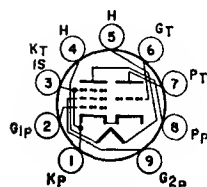
* This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Refer to chart at end of section.

6HG5

Refer to chart at end of section.

6HG8



9MP

MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE

6HG8/
ECF86

5HG8/LCF86
7HG8/PCF86

Miniature type with frame-grid pentode unit used as combined oscillator and mixer tubes in vhf color and black-and-white television receivers. Outlines section, 6B; requires miniature 9-contact socket. Types 5HG8/LCF86 and 7HG8/PCF86 are identical with type 6HG8/ECF86 except for heater ratings.

	5HG8/ LCF86	6HG8/ ECF86	7HG8/ PCF86	
Heater Voltage (ac/dc)	5.3	6.3	7.2	volts
Heater Current	0.45	0.34	0.3	ampere
Heater Warm-up Time (Average)	11	—	—	seconds
Peak Heater-Cathode Voltage	± 100 max	± 100 max	± 100 max	volts

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MAXIMUM RATINGS (Design-Maximum Values)

	Triode Unit	Pentode Unit	
Plate Voltage	125	250	volts
Grid-No.2 (Screen-Grid) Voltage	—	150	volts
Cathode Current	15	18	mA
Plate Dissipation	1.5	2	watts
Grid-No.2 Input	—	0.5	watt

CHARACTERISTICS

	Triode Unit	Pentode Unit	
Plate Voltage	100	170	volts
Grid-No.2 Voltage	—	150	volts
Grid-No.1 (Control-Grid) Voltage	—3	—1.2	volts
Amplification Factor	17	—	