

	Pentode Connection	Triode* Connection	
Grid-No.2 Current	27*	1.8	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—42	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	770	volts
Peak Positive-Pulse Plate Voltage#	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
DC Grid-No.1 Voltage	—55	volts
Peak Cathode Current	550	mA
Average Cathode Current	175	mA
Plate Dissipation†	17.5	watts
Grid-No.2 Input	3.5	watts
Bulb Temperature (At hottest point)	200	°C

MAXIMUM CIRCUIT VALUE

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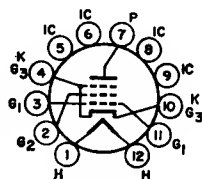
Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

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

6GF5

BEAM POWER TUBE

Duodecar type used as horizontal-deflection amplifier in television receivers. Outlines section, 8D; requires duodecar 12-contact socket. Heater: volts (ac/dc), 6.3; amperes, 1.2; maximum heater-cathode volts, ± 200 peak, 100 average.



12BJ

Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection	Triode* Connection	
Plate Voltage	60	250	volts
Grid-No.2 (Screen-Grid) Voltage	150	150	volts
Grid-No.1 (Control-Grid) Voltage	0	—26.5	volts
Amplification Factor	—	4.2	—
Plate Resistance (Approx.)	—	0.26	megohm
Transconductance	—	4700	μmhos
Plate Current	345*	34	mA
Grid-No.2 Current	33*	1.6	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—46	volts

* Grid No.2 connected to plate.

• These values 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

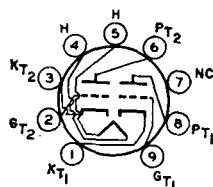
For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	5000	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Negative DC Grid-No.1 Voltage	—55	volts
Peak Cathode Current	500	mA
Average Cathode Current	160	mA
Plate Dissipation†	9	watts

Grid-No.2 Input	2.5	watts
Bulb Temperature (At hottest point)	200	°C
MAXIMUM CIRCUIT VALUE		
Grid-No.1-Circuit Resistance	1	megohm
# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).		
† A bias resistor or other means is required to protect the tube in absence of excitation.		

Refer to chart at end of section.

6GF7**DUAL TRIODE****9QD**

Novar types used as combined vertical-deflection oscillator and vertical-deflection amplifiers in color and black-and-white television receivers. Outlines section, 30A; requires novar 9-contact socket. For curves of average plate characteristics for Unit No.1 and Unit No.2, refer to types 6DR7 (Unit No.1) and 6EM7, respectively. Types 10GF7A and 13GF7A are identical with type 6GF7A except for heater ratings.

6GF7A**10GF7A, 13GF7A**

	6GF7A	10GF7A	13GF7A	
Heater Voltage (ac/dc)	6.3	9.7	13	volts
Heater Current	0.985	0.6	0.45	ampere
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):				
	Unit No.1	Unit No.2		
Grid to Plate	4.6	9		pF
Grid to Cathode and Heater	2.4	6.5		pF
Plate to Cathode and Heater	0.26	1.4		pF

Class A₁ Amplifier**CHARACTERISTICS**

	Unit No.1	Unit No.2	
Plate Voltage	250	150	volts
Grid Voltage	—3	—20	volts
Amplification Factor	64	5.4	
Plate Resistance (Approx.)	40000	750	ohms
Transconductance	1600	7200	μmhos
Grid Voltage (Approx.):			
For plate current of 10 μA	—5.5	—	volts
For plate current of 100 μA	—	—45	volts
Plate Current			
For plate voltage of 60 volts and zero grid voltage	1.4	50	mA
For plate voltage of 60 volts and zero grid voltage	—	95	mA
For grid voltage of —28 volts	—	10	mA

Vertical-Deflection Oscillator and Amplifier

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

	Unit No.1 Oscillator	Unit No.2 Amplifier	
MAXIMUM RATINGS (Design-Maximum Values)			
DC Plate Voltage	330	330	volts
Peak Positive-Pulse Plate Voltage	—	1500*	volts
(Absolute Maximum)#	400	250	volts
Peak Negative-Pulse Grid Voltage	77	175	mA
Peak Cathode Current	22	50	mA
Average Cathode Current	1.5	11	watts
Plate Dissipation			

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:			
For grid-resistor-bias or cathode-bias operation	2.2	2.2	megohms

* Under no circumstances should this absolute value be exceeded.

Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).

Refer to chart at end of section.

6GH8