

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	μ mhos
Plate Current	1.4	50	mA
Plate Current, for plate voltage of 60 volts and zero grid voltage	—	95	mA
Plate Current, for grid voltage of -28 volts	—	10	mA
Grid Voltage (Approx.):			
For plate current of 10 μ A	-5.5	—	volts
For plate current of 100 μ A	—	-45	volts

Vertical-Deflection Oscillator and Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

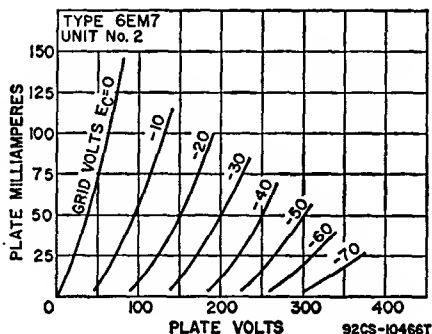
	Unit No.1 Oscillator	Unit No.2 Amplifier	
DC Plate Voltage	330	330	volts
Peak Positive-Pulse Plate Voltage#	—	1500	volts
Peak Negative-Pulse Grid Voltage	400	250	volts
Peak Cathode Current	77	175	mA
Average Cathode Current	22	50	mA
Plate Dissipation	1.5	10	watts

MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:

	Unit No.1	Unit No.2	
For grid-resistor-bias operation	2.2	2.2	megohms
For cathode-bias operation	2.2	2.2	megohms

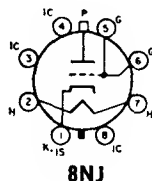
Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).



6EN4

SHARP-CUTOFF
BEAM TRIODE

Glass octal type used as a shunt voltage-regulator tube in the high-voltage power supply of color television receivers. Outlines section, 21B; requires octal socket. Socket terminals 3, 4, and 8 should not be used as tie points. For high voltage and X-ray safety considerations, refer to page 93.



Heater Voltage (ac/dc)	6.3	volts
Heater Current	0.2	ampere
Peak Heater-Cathode Voltage	—450* max	volts
Direct Interelectrode Capacitances (Approx.):†		
Grid to Plate	1	pF
Plate to Cathode and Heater	2.6	pF
Grid to Cathode and Heater	1	pF

* Series impedance should be used with the cathode to limit the cathode current under prolonged short-circuit conditions to 450 mA.

† Without external shield.

Shunt Voltage-Regulator Service

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Voltage	30000	volts
Unregulated DC Supply Voltage	60000	volts
DC Grid Voltage	-135	volts
Peak Grid Voltage	-440	mA
Average Plate Current	1.6	mA
Plate Dissipation	40	watts

TYPICAL OPERATION

Unregulated DC Supply Voltage	36000	volts
Equivalent Resistance of Unregulated Supply	11	megohms
Voltage Divider Values:		
R ₁ (5 watts)	220	megohms
R ₂ (2 watts)	1	megohm
R ₃ (0.5 watt)	0.82	megohm
DC Reference Voltage Supply	200	volts
Equivalent Resistance of Reference Voltage	1000	ohms
Effective Grid-Plate Transconductance	200	μ mhos
DC Plate Current for Load Current of 0 mA	1000	μ A
DC Plate Current for Load Current of 1 mA	45	μ A
Regulated DC Output Voltage for Load Current of 0 mA	25000	volts
Regulated DC Output Voltage for Load Current of 1 mA	24500	volts
Amplification Factor	2000	

MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance	3	megohms
■ For interval of 20 seconds maximum during equipment warm-up period.		

CHARACTERISTICS RANGE VALUES

	Note	Min	Max	
Grid Voltage (1)	1	-7	—	volts
Grid Voltage (2)	2	—	-40	volts
Grid-Voltage Change	3	—	9	volts

Note 1: With dc plate voltage of 30000 volts and dc plate current of 1 mA.

Note 2: With dc plate voltage of 30000 volts and dc plate current of 0.1 mA.

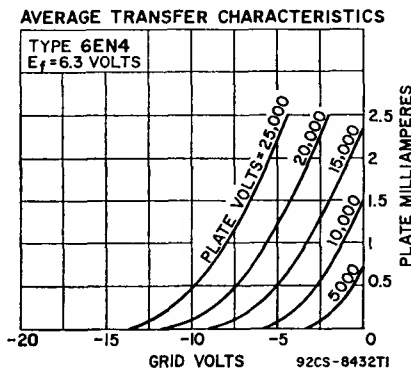
Note 3: Difference between grid voltage (1) and grid voltage (2).

X-RADIATION CHARACTERISTIC

X-Radiation, Maximum:

Statistical value controlled on a lot sampling basis 0.5 mR/hr

Caution—Operation of this tube outside of the maximum values indicated above may result in either temporary or permanent changes in the X-radiation characteristic of the tube. Equipment design must be such that these maximum values are not exceeded.



Refer to chart at end of section.

6EQ7