

Transconductance (Grid No.1 to Plate)	—	—	16000	—	μ mhos
Plate Current	—	740†	140	700	mA
Grid-No.2 Current	—	38†	2.4	35	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—	—	—42	—	volts
Ratio (Plate Current/Grid No.2 Current)	—	19.5:1	—	20:1	—
Triode Amplification Factor	3.5	—	—	—	—

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

†† Grid No. 2 connected to plate.

Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	990	volts
Peak Positive-Plate Pulse Voltage (Absolute Maximum)	7500	volts
Peak Negative-Pulse Plate Voltage	1100	volts
Positive Grid-No.3 Voltage	75	volts
DC Grid-No.2 Voltage	220	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Average Cathode Current	375	mA
Peak Cathode Current	1300	mA
Plate Dissipation	30	watts
Grid-No.2 Input	5	watts
Bulb Temperature (At hottest point)	250	°C

MAXIMUM CIRCUIT VALUES

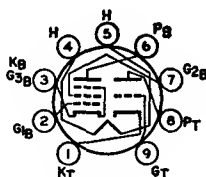
Grid-No.1-Circuit Resistance:		
Bias feedback high-voltage regulation	0.47	megohm
DC or pulse shunt high-voltage regulation	10	megohm

6LR8

21LR8, 31LR8

HIGH-MU TRIODE— BEAM POWER TUBE

Novar type used in combined vertical-deflection-oscillator and vertical-deflection-amplifier applications in color and black-and-white television receivers. Outlines section, 17E; requires novar 9-contact socket. Types 21LR8 and 31LR8 are identical with type 6LR8 except for heater ratings.



9QT

	6LR8	21LR8	31LR8	
Heater Voltage	6.3	21	31.5	volts
Heater Current	1.5	0.45	0.3	ampere
Heater Warm-up Time	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts

Class A₁ Amplifier

CHARACTERISTICS

	Triode Unit	Beam Power Unit	
Plate Voltage	250	45 135 120	volts
Grid-No.2 (Screen-Grid) Voltage	—	125 120 120*	volts
Grid-No.1 (Control-Grid) Voltage	—4	0 —10 —10	volts
Amplification Factor	58	—	6.5
Plate Resistance (Approx.)	14000	—	14000
Transconductance	4100	—	9200
Plate Current	2.6	200*	51
Grid-No.2 Current	—	200*	3
Grid-No.1 Voltage:			
For plate current of 10 μ A	—6.6	—	—
For plate current of 100 μ A	—	—	—28
For plate current of 1 mA	—	—	—24

* Triode connection, Grid No.2 connected to plate at socket.

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

Vertical-Deflection Oscillator and Amplifier

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

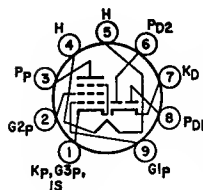
MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit Oscillator	Beam Power Unit Amplifier	
Plate Voltage	400	400	volts
Grid-No.2 Voltage	—	300	volts
Peak Positive-Pulse Plate Voltage#	—	2500	volts
Peak Negative-Pulse Grid-No.1 Voltage	400	250	volts
Peak Cathode Current	105	260	mA
Average Cathode Current	30	75	mA
Peak Power Output	2.5	—	watts
Plate Dissipation†	2.5	14	watts
Grid-No.2 Input‡	—	2.75	watts
Bulb Temperature	—	210	°C

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	—	1	megohm
For cathode-bias operation	2.2	2.2	megohms

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.



9RL

TWIN DIODE—
SHARP-CUTOFF PENTODE

6LT8

8LT8, 11LT8

Miniature type used in television receiver applications. The pentode unit is used in low-frequency horizontal-oscillator applications. The diode units are used in horizontal afc discriminator circuits. Outlines section, 6B; requires miniature 9-contact socket. Types 8LT8 and 11LT8 are identical with type 6LT8 except for heater ratings.

	6LT8	8LT8	11LT8	
Heater Voltage	6.3	8.1	11.4	volts
Heater Current	0.6	0.45	0.315	ampere
Heater Warm-up Time (Average)	11	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts

Pentode Unit as Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

Plate Voltage	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	volts
Plate Dissipation	3.1	watts
Grid-No.2 Input:		
For grid-No 2 voltages up to 165 volts	0.65	watt
For grid-No.2 voltages between 165 and 33 volts	See curve page 300	

CHARACTERISTICS

Plate Voltage	125	volts
Grid No.3 (Suppressor Grid)	Connected to ground	
Grid-No.2 Voltage	125	volts
Cathode-Bias Resistor	56	ohms
Plate Resistance (Approx.)	200000	ohms
Transconductance	13000	μmhos
Plate Current	10	mA
Grid-No.2 Current	3.4	mA
Grid-No.1 Voltage (Approx.) for plate current of 20 μA	—3.5	volts

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance, for cathode-bias operation	1	megohm
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Diode Unit (Each Unit)

MAXIMUM RATINGS (Design-Maximum Values)

Plate Current (Continuous Operation)	5	mA
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CHARACTERISTICS, Instantaneous Value

Tube Voltage Drop for plate current of 20 mA	5	volts
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