

Class A₁ Amplifier

MAXIMUM RATINGS (Design-Maximum Values)

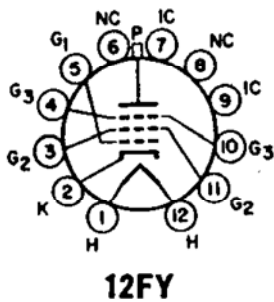
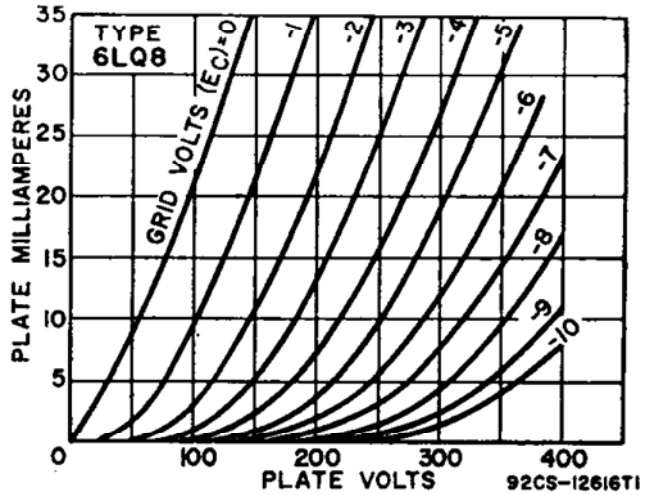
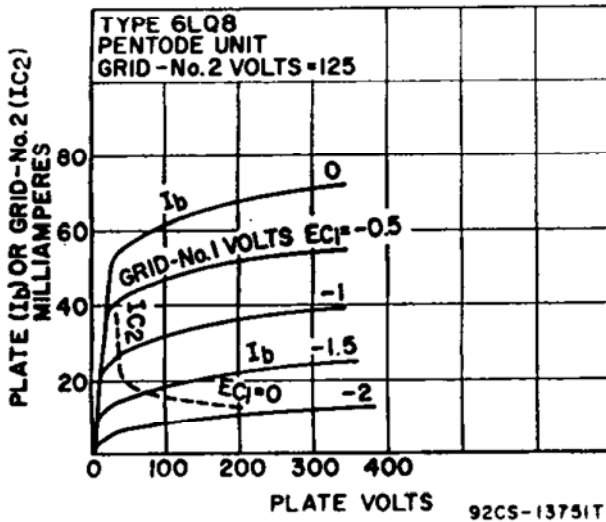
	Triode Unit	Pentode Unit	
Plate Voltage	300	300	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	800	volts
Grid-No.2 Voltage	—	See curve page 300	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2	5	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 150 volts	—	1	watts
For grid-No.2 voltages between 150 and 300 volts	—	See curve page 300	

CHARACTERISTICS

	Triode Unit	Pentode Unit		
Plate Supply Voltage	125	125	200	volts
Grid-No.2 Supply Voltage	—	125	125	volts
Cathode-Bias Resistor	68	82	68	ohms
Amplification Factor	46	—	—	
Plate Resistance (Approx.)	4400	55000	75000	ohms
Transconductance	10400	21000	23000	μmhos
Plate Current	15	16.5	20	mA
Grid-No.2 Current	—	3.1	3.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 100 μA	—6	—4.2	—4.2	volts

MAXIMUM CIRCUIT VALUES

	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5	0.1	megohm
For cathode-bias operation	1	0.25	megohm



BEAM POWER TUBE

6LR6

35LR6

Duodecar type used as horizontal-deflection amplifier in color and black-and-white television receivers. An integral radiator-fin design dissipates heat uniformly. Outlines section, 16E; requires duodecar 12-contact socket. Type 35LR6 is identical with type 6LR6 except for heater ratings.

Heater Arrangement
Heater Voltage (ac/dc)
Heater Current
Heater Warm-up Time (Average)
Heater-Cathode Voltage:	
Peak value
Average value

6LR6	35LR6	
Parallel	Series	
6.3	35	volts
2.5	0.45±0.03	amperes
—	11	seconds
±200 max	±200 max	volts
100 max	100 max	volts

Class A₁ Amplifier

CHARACTERISTICS

	Triode†† Connection	Pentode Connection		
Plate Voltage	125	60	175	60
Grid-No.3 (Suppressor Grid) Voltage	—	—	Connected to cathode	at socket
Grid-No.2 (Screen-Grid) Voltage	125	115	110	110
Grid-No.1 (Control-Grid) Voltage	—20	0	—20	0
Plate Resistance (Approx.)	—	—	5300	—

Transconductance (Grid No.1 to Plate)	—	—	16000	—	μmhos
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

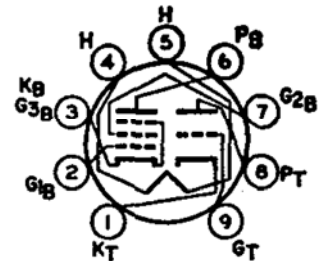
Grid-No.1-Circuit Resistance:		
Bias feedback high-voltage regulation	0.47	megohm
DC or pulse shunt high-voltage regulation	10	megohm

6LR8

21LR8, 31LR8

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.

**HIGH-MU TRIODE—
BEAM POWER TUBE**



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	—	ohms
Transconductance	4100	—	9200	—	μmhos
Plate Current	2.5	200*	51	—	mA
Grid-No.2 Current	—	200*	3	—	mA
Grid-No.1 Voltage:					
For plate current of 10 μA	-6.6	—	—	—	volts
For plate current of 100 μA	—	—	-28	—	volts
For plate current of 1 mA	—	—	-24	—	volts

* 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.