

Plate to Cathode	0.22	0.22	pF
Heater to Cathode	2.8	3	pF
Grid of Unit No.1 to Grid of Unit No.2		0.004 max	pF
Plate of Unit No.1 to Plate of Unit No.2		0.075 max	pF

* Rating may be as high as 300 volts under cutoff conditions when tube is used as a cascade amplifier, the units are connected in series, and heater is negative with respect to cathode.

Class A₁ Amplifier (Each Unit)

MAXIMUM RATINGS (Design-Center Value)

Plate Voltage	300	volts
Grid Voltage, Negative-bias value	50	volts
Plate Dissipation	2.7	watts

CHARACTERISTICS

Plate Supply Voltage	150	volts
Cathode-Bias Resistor	56	ohms
Amplification Factor	43	
Plate Resistance (Approx.)	4600	ohms
Transconductance	9300	μ mhos
Plate Current	18	mA
Grid Voltage (Approx.) for plate current of 10 μ A	-11	volts

6BL4

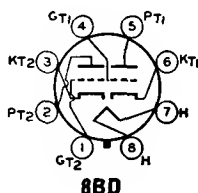
Refer to chart at end of section.

6BL7GT

Refer to chart at end of section.

6BL7GTA MEDIUM-MU TWIN TRIODE

Glass octal type used as combined vertical-deflection amplifier and vertical-deflection oscillator in color and black-and-white television receivers. When so operated, it is recommended that unit No.1 (pins 4, 5, and 6) be used as the oscillator. Outlines section, 13D; requires octal socket.



8BD

Heater Voltage (ac/dc)	6.3	volts	
Heater Current	1.5	amperes	
Heater-Cathode Voltage:			
Peak value	± 200 max	volts	
Average value	100 max	volts	
Direct Interelectrode Capacitances (Approx.):	Unit No. 1	Unit No. 2	
Grid to Plate	6	6	pF
Grid to Cathode and Heater	4.2	4.6	pF
Plate to Cathode and Heater	0.9	0.9	pF

Class A₁ Amplifier

CHARACTERISTICS (Each Unit)

Plate Voltage	150	250	250	volts
Grid Voltage	0	-17	-9	volts
Amplification Factor	—	—	15	
Plate Resistance (Approx.)	—	—	2150	ohms
Transconductance	—	—	7000	μ mhos
Plate Current	65*	4	40	mA
Grid Voltage (Approx.) for plate current of 50 μ A	—	—	-23	volts

* 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 or Amplifier*

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

MAXIMUM RATINGS (Design-Center Values)	Oscillator	Amplifier	
DC Plate Voltage	500	500	volts
Peak Positive-Pulse Plate Voltage# (Absolute Maximum)	—	2000 Δ	volts
Peak Negative-Pulse Grid Voltage	400	250	volts
Peak Cathode Current	210	210	mA
Average Cathode Current	60	60	mA
Plate Dissipation:			
For either plate	10	10	watts
For both plates with both units operating	12	12	watts
MAXIMUM CIRCUIT VALUES			
Grid-Circuit Resistance	4.7	4.7 $\dagger$	megohms

• Unless otherwise specified, values are for each unit.

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

▲ Under no circumstances should this absolute value be exceeded.

† For cathode-bias operation.

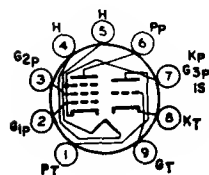
Refer to chart at end of section.

6BL8

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE

6BL8/
ECF80

4BL8/XCF80



9DC

Miniature type used in frequency-changer service in color and black-and-white television receivers. **Outlines** section, 6B; require miniature 9-contact socket. Type 4BL8/XCF80 is identical with type 6BL8/ECF80 except for heater ratings.

	4BL8/ XCF80	6BL8/ ECF80	
Heater Voltage (ac/dc)	4.6	6.3	volts
Heater Current	0.6	0.45	ampere
Peak Heater-Cathode Voltage	±100 max	±100 max	volts

Class A₁ Amplifier

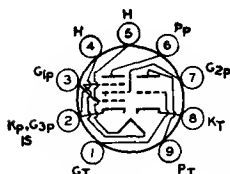
MAXIMUM RATINGS (Design-Center Values)	Triode Unit	Pentode Unit	
Plate Supply Voltage	550	550	volts
Plate Voltage	250	250	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	550	volts
Grid-No.2 Voltage:			
With cathode current of 14 mA	—	175	volts
With cathode current less than 10 mA	—	200	volts
Cathode Current	14	14	mA
Plate Dissipation	1.5	1.7	watts
Grid-No.2 Input:			
With plate dissipation greater than 1.2 watts	—	0.5	watt
With plate dissipation less than 1.2 watts	—	0.75	watt

CHARACTERISTICS

Plate Voltage	100	170	volts
Grid-No.2 Voltage	—	170	volts
Grid-No.1 Voltage	—2	—2	volts
Amplification Factor	20	—	
Mu-Factor, Grid No.2 to Grid No.1	—	47	
Plate Resistance (Approx.)	—	0.4	megohm
Transconductance	5000	6200	μmhos
Plate Current	14	10	mA
Grid-No.2 Current	—	2.8	mA
Input Resistance at frequency of 50 MHz	—	0.01	megohm
Equivalent Noise Resistance	—	1500	ohms

MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5	0.5	megohm
For cathode-bias operation	0.5	1	megohm



9EX

HIGH-MU TRIODE— POWER PENTODE

6BM8/
ECL82

Miniature type used in color and black-and-white television receiver applications. The pentode unit is used as an audio output tube, and the triode unit as an oscillator and af voltage amplifier. **Outlines** section, 6G; requires miniature 9-contact socket. Heater: volts (ac/dc), 6.3; amperes, 0.78; maximum heater-cathode volts, 100 peak.