Grid Voltage (Approx.):				
For plate current of 20 μA	—5.3	—	—	volts
For plate current of 200 μA	—	—	—45	volts

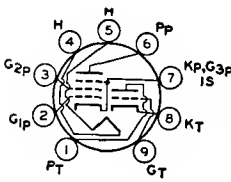
• This value can he measured hy a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

Vertical-Deflection Oscillator and Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)	Unit No.1 Oscillator	Unit No.2 Amplifier	
DC Plate Voltage	350	550	volts
Peak Positive-Pulse Plate Voltage#	—	1500	volts
Peak Negative-Pulse Grid Voltage	400	250	volts
Peak Cathode Current	—	175	mA
Average Cathode Current	—	50	mA
Plate Dissipation	1	10	watts
MAXIMUM CIRCUIT VALUES			
Grid-Circuit Resistance:			
For grid-resistor-bias operation	1	1	megohm
For cathode-bias operation	2.2	2.2	megohms

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



9AE

MEDIUM-MU TRIODE—SHARP-CUTOFF PENTODE

6EA8

5EA8, 9EA8, 19EA8

Miniature type used as combined oscillator and mixer in color and black-and-white television receivers utilizing an intermediate frequency in the order of 40 MHz. **Outlines section,** 6B; requires miniature 9-contact socket. Types 5EA8, 9EA8, and 19EA8 are identical with type 6EA8 except for heater ratings.

	5EA8	6EA8	9EA8	19EA8	
Heater Voltage (ac/dc)	4.7	6.3	9.5	18.9	volts
Heater Current	0.6	0.45	0.15	0.15	ampere
Heater Warm-up Time (Average)	11	11	11	11	seconds
Heater-Cathode Voltage:					
Peak value	±200 max	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	100 max	volts

	Unshielded	Shielded	
Direct Interelectrode Capacitances:			
Triode Unit:			
Grid to Plate	1.7	1.7	pF
Grid to Cathode, Heater, Pentode Cathode, Pentode Grid No.3, and Internal Shield	3	3.2	pF
Plate to Cathode, Heater, Pentode Cathode, Pentode Grid No.3, and Internal Shield	1.4	1.9	pF
Cathode to Heater	3	3▪	pF
Pentode Unit:			
Grid No.1 to Plate	0.02 max	0.01 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	5	5	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield	2.6	3.4	pF
Heater to Cathode	3	3▪	pF

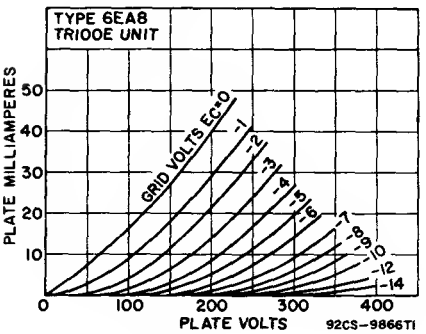
° With external shield connected to cathode of unit under test except as noted.

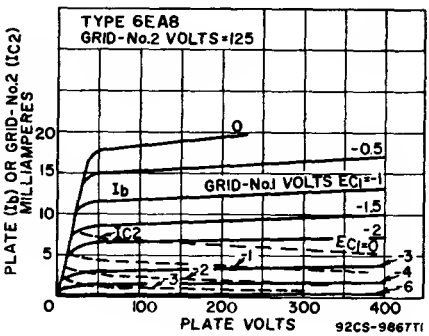
▪ With external shield connected to ground.

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit	Pentode Unit	
Plate Voltage	330	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	330	volts
Grid-No.2 Voltage	—	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	2.5	3.1	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	0.55	watt
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 98	
CHARACTERISTICS			
Plate Supply Voltage	150	125	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—	—1	volt

	Triode Unit	Pentode Unit	
Cathode-Bias Resistor	56	—	ohms
Amplification Factor	40	—	
Plate Resistance (Approx.)	5000	200000	ohms
Transconductance	8500	6400	μmhos
Plate Current	18	12	mA
Grid-No.2 Current	—	4	mA
Grid-No.1 Voltage for plate current of 10 μA	—12	—9	volts

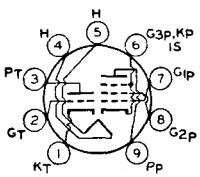




6EB8

8EB8

HIGH-MU TRIODE— SHARP-CUTOFF PENTODE



9DX

Miniature type used in color and black-and-white television receiver applications. Pentode unit is used as video output amplifier; triode unit is used in sync-separator, sync-clipper, and phase-inverter circuits. Outlines section, 6E; requires miniature 9-contact socket. Type 8EB8 is identical with type 6EB8 except for heater ratings.

	6EB8	8EB8	
Heater Voltage (ac/dc)	6.3	8	volts
Heater Current	0.75	0.6	ampere
Heater Warm-up Time (Average)	—	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:			
Triode Unit:			
Grid to Plate		4.4	pF
Grid to Cathode and Heater		2.4	pF
Plate to Cathode and Heater		0.36	pF
Pentode Unit:			
Grid No.1 to Plate		0.1 max	pF
Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		11	pF
Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield		4.2	pF
Triode Grid to Pentode Plate		0.018 max	pF
Pentode Grid No.1 to Triode Plate		0.005 max	pF
Pentode Plate to Triode Plate		0.17 max	pF

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit	Pentode Unit	
Plate Voltage	330	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	330	volts
Grid-No.2 Voltage	—	See curve page 98	
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0	0	volts
Plate Dissipation	1	5	watts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	—	1.1	watts
For grid-No.2 voltages between 165 and 330 volts	—	See curve page 98	
CHARACTERISTICS			
Plate Supply Voltage	250	200	volts
Grid-No.2 Supply Voltage	—	125	volts
Grid Voltage	—2	—	volts