MAXIMUM CIRCUIT VALUES

Grid-Circuit Resistance:

For grid-resistor-bias or cathode-bias operation	2.2	2.2	megohms

• Under no circumstances should this absolute value be exceeded.

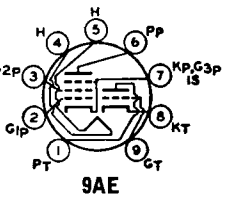
Pulse duration must not exceed 15% of a vertical scanning cycle (2.5 milliseconds).

Refer to chart at end of section. **6GH8**

6GH8A

5GH8A, 9GH8A

MEDIUM-MU TRIODE—SHARP-CUTOFF PENTODE



9AE

Miniature type used in multivibrator-type horizontal-deflection circuits and for age-amplifier or sync-separator applications in color and black-and-white television receivers. **Outlines section,** 6B; requires miniature 9-contact socket. Types 5GH8A and 9GH8A are identical with type 6GH8A except for heater ratings.

	5GH8A	6GH8A	9GH8A	
Heater Voltage (ac/dc)	4.7	6.3	9.45	volts
Heater Current	0.6	0.45	0.3	ampere
Heater Warm-up Time (Average)	11	11	—	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances:		Unshielded	Shielded	
Triode Unit:				
Grid to Plate		1.7	1.7	pF
Grid to Cathode, Heater, Pentode Grid No.3, Pentode Cathode, and Internal Shield		3	3.2	pF
Plate to Cathode, Heater, Pentode Grid No.3, Pentode Cathode, and Internal Shield		1.4	1.9	pF
Heater to Cathode		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, Grid No.3, and Internal Shield		3	3	pF

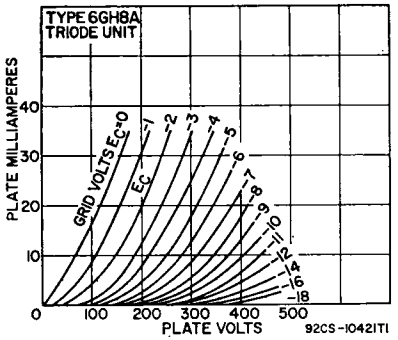
Class A_1 Amplifier

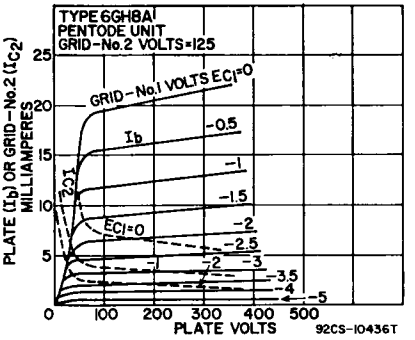
CHARACTERISTICS	Triode Unit	Pentode Unit	
Plate Voltage	125	125	volts
Grid-No.2 Voltage	—	125	volts
Grid-No.1 Voltage	—1	—1	volts
Amplification Factor	46	—	
Plate Resistance (Approx.)	5400	200000	ohms
Transconductance	8500	7500	μmhos
Plate Current	13.5	12	mA
Grid-No.2 Current	—	4	mA
Grid-No.1 Voltage (Approx.) for plate current of 10 μA	—8	—8	volts

Horizontal-Deflection Oscillator

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

MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit	Pentode Unit	
Plate Voltage	330	350	volts
Grid-No.2 (Screen-Grid) Voltage	—	330	volts
Grid-No.1 (Control-Grid) Voltage:			
Positive-bias value	0	0	volts
Peak negative value	—	175	volts
Peak Cathode Current	—	300	mA
Average Cathode Current	—	20	mA
Plate Dissipation	2.5	2.5	watts
Grid-No.2 Input	—	0.55	watt





MAXIMUM CIRCUIT VALUES

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

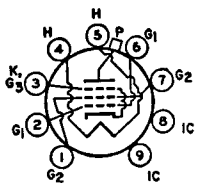
Refer to chart at end of section.

6GJ5

BEAM POWER TUBE

6GJ5A

12GJ5A, 17GJ5A



9QK

Novar type used in high-efficiency horizontal-deflection-amplifier circuits of television receivers. **Outlines section, 18A**; requires novar 9-contact socket. For curve of average characteristics see type 6GW6. Types 12GJ5A and 17GJ5A are identical with type 6GJ5A except for heater ratings.

	6GJ5A	12GJ5A	17GJ5A	
Heater Voltage (ac/dc)	6.3	12.6	16.8	volts
Heater Current	1.2	0.6	0.45	amperes
Heater Warm-up Time (Average)	—	11	11	seconds
Heater-Cathode Voltage:				
Peak value	±200 max	±200 max	±200 max	volts
Average value	100 max	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):				
Grid No.1 to Plate			0.26	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3			15	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3			6.5	pF

Class A_1 Amplifier

CHARACTERISTICS	Triode Connection	Pentode Connection		
Plate Voltage	150	60	250	volts
Grid-No.2 Voltage	150	150	150	volts
Grid-No.1 Voltage	—22.5	0	—22.5	volts
Mu-Factor, Grid No.2 to Grid No.1	4.4	—	—	
Plate Resistance (Approx.)	—	—	15000	ohms
Transconductance	—	—	7100	μmhos
Plate Current	—	390▪	70	mA
Grid-No.2 Current	—	32▪	2.1	mA
Grid-No.1 Voltage for plate current of 1 mA	—	—	—42	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.

Horizontal-Deflection Amplifier

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

MAXIMUM RATINGS (Design-Maximum Values)

DC Plate Supply Voltage	770	volts
Peak Positive-Pulse Plate Voltage#	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts