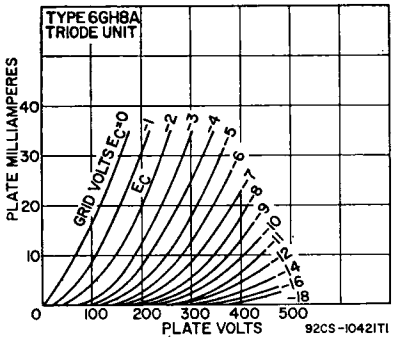
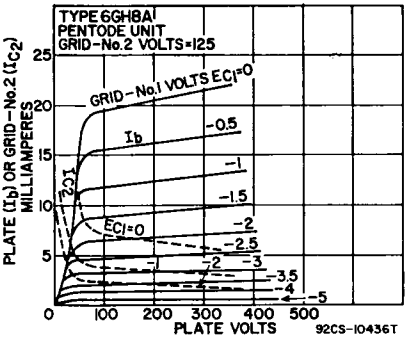




MAXIMUM CIRCUIT VALUES

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

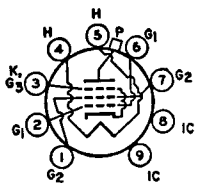
Refer to chart at end of section.

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

DC Grid-No.2 Voltage	220	volts
DC Grid-No.1 Voltage	—55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Peak Cathode Current	550	mA
Average Cathode Current	175	mA
Plate Dissipation•	17.5	watts
Grid-No.2 Input	3.5	watts
Bulb Temperature (at hottest point)	240	°C

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance:		
For grid-resistor-bias operation•	1	megohm

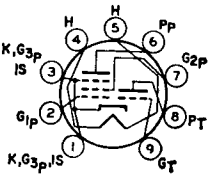
Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).
• A bias resistor or other means is required to protect the tube in absence of excitation.

6GJ7 Refer to chart at end of section.

6GJ7/ ECF801

4GJ7/XCF801
5GJ7/LCF801
8GJ7/PCF801

MEDIUM-MU TRIODE— SHARP-CUTOFF PENTODE



9QA

Miniature types used as combined oscillator and mixer tubes in color and black-and-white television receivers utilizing an intermediate frequency in the order of 40 MHZ. **Outlines section,** 6J; requires miniature 9-contact socket. Types 4GJ7/XCF801, 5GJ7/LCF801, and 8GJ7/PCF801 are identical with type 6GJ7/ECF801 except for heater ratings.

	4GJ7/ XCF801	5GJ7/ LCF801	6GJ7/ ECF801	8GJ7/ PCF801	
Heater Voltage (ac/dc)					
Heater Current	4.1	5.6	6.3	8	volts
Peak Heater-Cathode Voltage▲	0.6	0.45	0.41	0.3	ampere
	±110 max	±110 max	±100 max	±110 max	volts

Class A_1 Amplifier

MAXIMUM RATINGS (Design-Maximum Values)	Triode Unit	Pentode Unit	
Plate-Supply Voltage	600	600	volts
DC Plate Voltage	140	275	volts
Grid-No.2 (Screen-Grid) Supply Voltage	—	600	volts
DC Grid-No.2 Voltage	—	275	volts
DC Grid-No.1 (Control-Grid) Voltage	—	—50	volts
Cathode Current	22	20	mA
Plate Dissipation	1.8	2.4	watts
Grid-No.2 Input•	—	0.55	watt
CHARACTERISTICS			
DC Plate Voltage	100	170	volts
DC Grid-No.2 Voltage	—	120	volts
DC Grid-No.1 Voltage	—3	—1.2	volts
Amplification Factor	20	55*	
Plate Resistance (Approx.)	—	0.35	megohm
Transconductance	9000	11000	μmhos
Plate Current	15	10	mA
Grid-No.2 Current	—	3	mA
Grid-No.1 Voltage for grid-No.1 current of 0.3 μA	—1.3 max	—1.3 max	volts
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5	1	megohm
For cathode-bias operation	0.5	2.2	megohms

▲ The hum should be minimized in intercarrier applications by limiting the heater-cathode voltage to 100 volts rms, and in AM receivers to 50 volts rms.
* Grid No.2 to grid No.1, approximate value.
• When control-grid bias is between —1.5 and —2 volts, screen-grid dissipation is limited to 0.50 watt. When this bias is greater than —2 volts, maximum screen-grid dissipation is 0.36 watt.

6GJ8 Refer to chart at end of section.