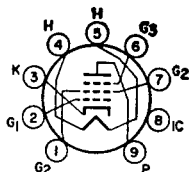


**6JT6A**

12JT6A, 17JT6A

**BEAM POWER TUBE**

Novar types used as horizontal-deflection amplifiers in high-efficiency deflection circuits of black-and-white television receivers employing wide-angle or high-voltage picture tubes. **Outlines section, 31A**; requires novar 9-contact socket. Types 12JT6A and 17JT6A are identical with type 6JT6A except for heater ratings.

**9QU**

	6JT6A	12JT6A	17JT6A	
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:				
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<sub>1</sub> Amplifier**

CHARACTERISTICS	Pentode Connection		Triode* Connection	
	60	250	150	
Plate Voltage			Connected to cathode at socket	volts
Grid-No.3 (Suppressor Grid)				
Grid-No.2 (Screen-Grid) Voltage	150	150	150	volts
Grid-No.1 (Control-Grid) Voltage	0	-22.5	-22.5	volts
Triode Amplification Factor	—	—	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 (Approx.) for plate current of 1 mA	—	-42	—	volts

\* Grid No.2 connected to plate.

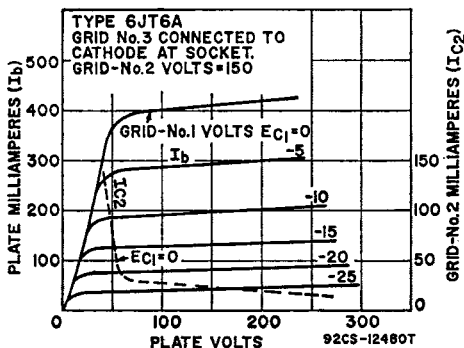
• This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

**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 <sup>#</sup>	6500	volts
Peak Negative-Pulse Plate Voltage	1500	volts
DC Grid-No.3 Voltage <sup>Δ</sup>	70	volts
DC Grid-No.2 Voltage	220	volts
DC Grid-No.1 Voltage, Negative-bias value	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**

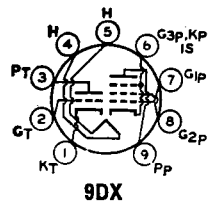
Grid-No.1-Circuit Resistance, for grid-resistor-bias operation ..... 1 megohm  
 # Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

▲ A positive voltage may be applied to grid No.3 to reduce interference from "snivets" which may occur in television receivers. A typical value for this voltage is 30 volts.

† A bias resistor or other means is required to protect the tube in absence of excitation.

**HIGH-MU TRIODE—  
SHARP-CUTOFF PENTODE**

**6JT8  
10JT8**



Neonovial type with frame-grid pentode unit used in color and black-and-white television receivers. The triode unit is used as a voltage-amplifier or sync-separator tube, and the pentode unit is used as a video-amplified tube. Outlines section, 10A, except base is small-button miniature 9-pin; requires miniature 9-contact socket. Type 10JT8 is identical with type 6JT8 except for heater ratings.

Heater Voltage (ac/dc) .....	6.3	10.2	volts
Heater Current .....	0.725	0.45	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

**Class A<sub>1</sub> Amplifier**

**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage .....	330
Grid-No.2 (Screen-Grid) Supply Voltage .....	—
Grid-No.2 Voltage .....	—
Grid-No.1 (Control-Grid) Voltage, Positive-bias value .....	0
Plate Dissipation .....	1
Grid-No.2 Input:	
For grid-No.2 voltages up to 165 volts .....	—
For grid-No.2 voltages between 165 and 330 volts .....	—

<b>Triode Unit</b>	<b>Pentode Unit</b>	
330	330	volts
—	330	volts
—	See curve	page 300
0	0	volts
1	4	watts
—	1.1	watts
—	See curve	page 300

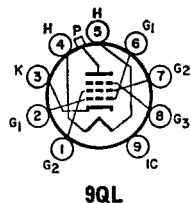
**CHARACTERISTICS**

Plate Supply Voltage .....	250	50	200	volts
Grid-No.2 Supply Voltage .....	—	100	100	volts
Grid-No.1 Voltage .....	-2	0	—	volts
Cathode-Bias Resistor .....	—	—	82	ohms
Amplification Factor .....	100	—	—	—
Plate Resistance (Approx.) .....	37000	—	50000	ohms
Transconductance .....	2700	—	20000	μmhos
Plate Current .....	1.5	55•	17	mA
Grid-No.2 Current .....	—	18•	3.5	mA
Grid-No.1 Voltage (Approx.) for plate current of 100 μA .....	—	—	-5	volts
Grid-No.1 Voltage (Approx.) for plate current of 20 μA .....	-5.3	—	—	volts

**MAXIMUM CIRCUIT VALUES**

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

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



**BEAM POWER TUBE**

**6JU6  
22JU6**

Novar type used as horizontal-deflection amplifier in color television receivers. Outlines section, 18E or 18F; requires novar 9-contact socket. Type 22JU6 is identical with type 6JU6 except for heater ratings.

	6JU6	22JU6	
Heater Voltage (ac/dc)	6.3	20	volts
Heater Current	1.6	0.45	amperes
Heater Warm-up Time	—	11	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances:			
Grid No.1 to Plate	—	1.2	pF
Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3	—	22	pF
Plate to Cathode, Heater, Grid No.2, and Grid No.3	—	9	pF

### Class A<sub>1</sub> Amplifier

CHARACTERISTICS	Triode† Connection		Pentode Connection		
	125	—	50	130	
Plate Voltage	125	—	50	130	volts
Peak Positive-Pulse Plate Voltage#	—	6500	—	—	volts
Grid No.3 (Suppressor Grid)	—	—	Connected to cathode at socket		
Grid-No.2 (Screen-Grid) Voltage	125	125	125	125	volts
Grid-No.1 (Control-Grid) Voltage	-20	—	0	-20	volts
Amplification Factor	4.7	—	—	—	
Plate Resistance (Approx.)	—	—	—	18000	ohms
Transconductance	—	—	—	7000	μmhos
Plate Current	—	—	470††	45	mA
Grid-No.2 Current	—	—	32††	1.5	mA
Grid-No.1 Voltage for plate current of 1 mA	—	-75	—	-32	volts

### 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.3 Voltage*	75	volts
DC Grid-No.2 Voltage	220	volts
DC Grid-No.1 Voltage, Negative-bias value	55	volts
Peak Negative Pulse Grid-No.1 Voltage	330	volts
Peak Cathode Current	950	mA
Average Cathode Current	275	mA
Grid-No.2 Input	3.5	watts
Plate Dissipation**	17	watts
Bulb Temperature (At hottest point)	240	°C

#### MAXIMUM CIRCUIT VALUES

Grid-No.1-Circuit Resistance:		
For grid-resistor-bias operation	0.47	megohm
For plate-pulsed operation	10	megohms

# Pulse duration must not exceed 15% of one horizontal scanning cycle (10 microseconds).

† Grid No.2 connected to plate.

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

\* In this service, a positive value may be applied to grid No.3 to minimize "snivets" interference; a typical value for this voltage is 30 volts.

\*\* A bias resistor or other means is required to protect the tube in absence of excitation.

