

|                                           |      |       |
|-------------------------------------------|------|-------|
| Average Cathode Current .....             | 175  | mA    |
| Plate Dissipation† .....                  | 17.5 | watts |
| Grid-No.2 Input .....                     | 8.5  | watts |
| Bulb Temperature (At hottest point) ..... | 240  | °C    |

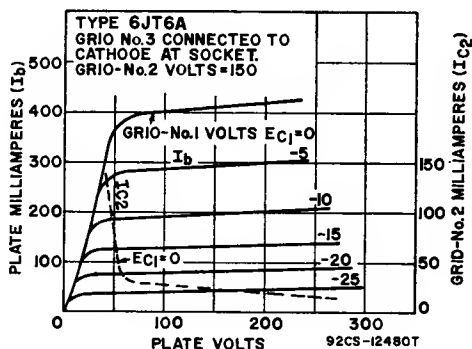
**MAXIMUM CIRCUIT VALUE**

Grid-No.1-Circuit Resistance, for grid-resistor-bias operation ..... 1 megohm

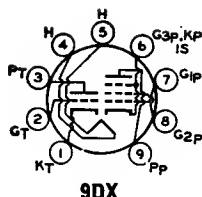
# Pulse duration must not exceed 15% of a horizontal scanning cycle (10 microseconds).

\* 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.

|                                     | 6JT8     | 10JT8    |         |
|-------------------------------------|----------|----------|---------|
| 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)**

|                                                             | 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           | 4                 | 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   | 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  |

|                                                              | Triode Unit | Pentode Unit |            |
|--------------------------------------------------------------|-------------|--------------|------------|
| Transconductance                                             | 2700        | 20000        | $\mu$ mhos |
| Plate Current                                                | 1.5         | 55*          | mA         |
| Grid-No.2 Current                                            | —           | 18*          | mA         |
| Grid-No.1 Voltage (Approx.) for plate current of 100 $\mu$ A | —           | —            | volts      |
| Grid-No.1 Voltage (Approx.) for plate current of 20 $\mu$ A  | —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 |

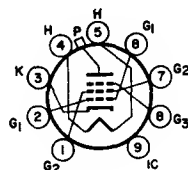
\* This value can be measured by a method involving a recurrent waveform such that the maximum ratings of the tube will not be exceeded.

**6JU6**

22JU6

**BEAM POWER TUBE**

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

**9QL**

|                                                        |               |               |         |
|--------------------------------------------------------|---------------|---------------|---------|
| Heater Voltage (ac/dc)                                 | 6JU6 6.3      | 22JU6 20      | volts   |
| Heater Current                                         | 1.6           | 0.45          | amperes |
| Heater Warm-up Time                                    | —             | 11            | seconds |
| Heater-Cathode Voltage:                                |               |               |         |
| Peak value                                             | $\pm 200$ max | $\pm 200$ 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**

|                                             | Triode† Connection | Pentode Connection             |            |
|---------------------------------------------|--------------------|--------------------------------|------------|
| 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                       | volts      |
| Grid-No.1 (Control-Grid) Voltage            | —20                | 0 —20                          | volts      |
| Amplification Factor                        | 4.7                | —                              |            |
| Plate Resistance (Approx.)                  | —                  | — 18000                        | ohms       |
| Transconductance                            | —                  | — 7000                         | $\mu$ mhos |
| Plate Current                               | —                  | 470†† 45                       | mA         |
| Grid-No.2 Current                           | —                  | 82†† 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 |