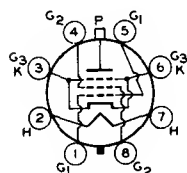


Refer to chart at end of section.

6DQ4



8JC

## BEAM POWER TUBE

6DQ5

Glass octal type used as horizontal-deflection amplifier in color and black-and-white television receivers. Outlines section, 21B; requires octal socket.

|                                                        |          |         |
|--------------------------------------------------------|----------|---------|
| Heater Voltage (ac/dc)                                 | 6.3      | volts   |
| Heater Current                                         | 2.5      | amperes |
| Heater-Cathode Voltage:                                |          |         |
| Peak value                                             | ±200 max | volts   |
| Average value                                          | 100 max  | volts   |
| Direct Interelectrode Capacitances (Approx.):          |          |         |
| Grid No.1 to Plate                                     | 0.5      | pF      |
| Grid No.1 to Cathode, Heater, Grid No.2, and Grid No.3 | 23       | pF      |
| Plate to Cathode, Heater, Grid No.2, and Grid No.3     | 11       | pF      |

Class A<sub>1</sub> Amplifier

## CHARACTERISTICS

|                                              | Pentode Connection | Triode* Connection |       |
|----------------------------------------------|--------------------|--------------------|-------|
| Plate Voltage                                | 70 175             | 125                | volts |
| Grid No.2 (Screen-Grid) Voltage              | 125 125            | —                  | volts |
| Grid No.1 (Control-Grid) Voltage             | 0 —25              | —25                | volts |
| Amplification Factor                         | —                  | 3.3                |       |
| Plate Resistance (Approx.)                   | — 5500             | —                  | ohms  |
| Transconductance                             | — 10500            | —                  | μmhos |
| Plate Current                                | 550* 110           | —                  | mA    |
| Grid-No.2 Current                            | 42* 5              | —                  | mA    |
| Grid-No.1 Voltage (Approx.) for plate mA = 1 | — —55              | —                  | volts |

\* Grid No.2 connected to plate.

\* These values 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)

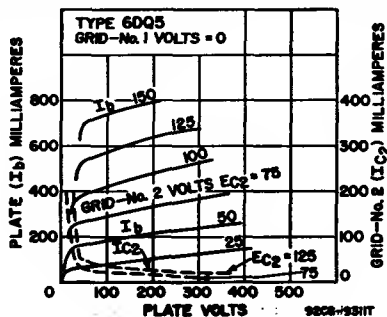
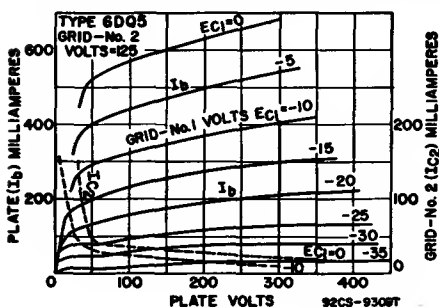
|                                                      |      |       |
|------------------------------------------------------|------|-------|
| DC Plate Voltage                                     | 990  | volts |
| Peak Positive-Pulse Plate Voltage#                   | 6500 | volts |
| Peak Negative-Pulse Plate Voltage                    | 1100 | volts |
| DC Grid-No.2 (Screen-Grid) Voltage                   | 190  | volts |
| Peak Negative-Pulse Grid-No.1 (Control-Grid) Voltage | 250  | volts |
| Peak Cathode Current                                 | 1100 | mA    |
| Average Cathode Current                              | 315  | mA    |
| Grid-No.2 Input                                      | 3.2  | watts |
| Plate Dissipation*                                   | 24   | watts |
| Bulb Temperature (At hottest point)                  | 220  | °C    |

## MAXIMUM CIRCUIT VALUE

|                                                                |      |        |
|----------------------------------------------------------------|------|--------|
| Grid-No.1-Circuit Resistance, for grid-resistor-bias operation | 0.47 | 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.



**6DQ6A**

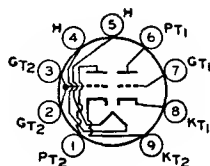
Refer to chart at end of section.

**6DQ6B**

Refer to chart at end of section.

**6DR7****10DR7, 13DR7****DUAL TRIODE**

Miniature type containing high- $\mu$  and low- $\mu$  triodes; used as combined vertical-deflection-oscillator and vertical-deflection-amplifier tube in television receivers. Outlines section, 6E; requires miniature 9-contact socket. Types 10DR7 and 13DR7 are identical with type 6DR7 except for heater ratings.

**9HF**

|                               |     |
|-------------------------------|-----|
| Heater Voltage (ac/dc)        | 6.3 |
| Heater Current                | 0.9 |
| Heater Warm-up Time (Average) | —   |
| Heater-Cathode Voltage:       |     |

| 6DR7 | 10DR7 | 13DR7 |         |
|------|-------|-------|---------|
| 6.3  | 9.7   | 13    | volts   |
| 0.9  | 0.6   | 0.45  | ampere  |
| —    | 11    | 11    | seconds |

|               |          |
|---------------|----------|
| Peak value    | ±200 max |
| Average value | 100 max  |

| ±200 max | ±200 max | ±200 max | volts |
|----------|----------|----------|-------|
| 100 max  | 100 max  | 100 max  | volts |

**Direct Interelectrode Capacitances (Approx.):**

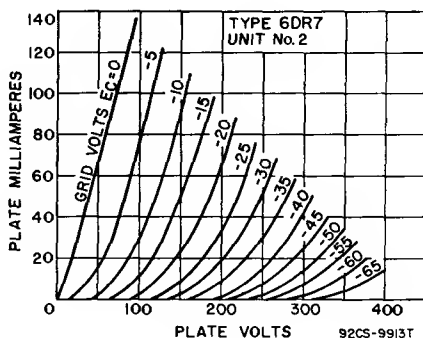
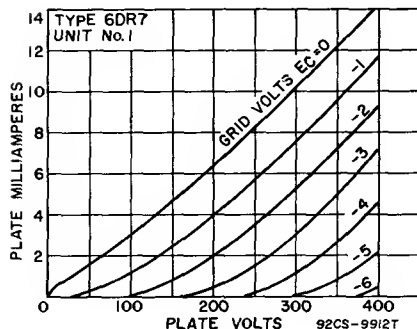
|                             |      |
|-----------------------------|------|
| Grid to Plate               | 4.5  |
| Grid to Cathode and Heater  | 2.2  |
| Plate to Cathode and Heater | 0.34 |

| Unit No.1 | Unit No.2 |    |
|-----------|-----------|----|
| 4.5       | 8.5       | pF |
| 2.2       | 5.5       | pF |
| 0.34      | 1         | pF |

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

|                                                        |       |
|--------------------------------------------------------|-------|
| Plate Voltage                                          | 250   |
| Grid Voltage                                           | —3    |
| Amplification Factor                                   | 68    |
| Plate Resistance (Approx.)                             | 40000 |
| Transconductance                                       | 1600  |
| Plate Current                                          | 1.4   |
| Plate Current for grid voltage of —24 volts            | —     |
| Grid Voltage (Approx.) for plate current of 10 $\mu$ A | —5.5  |
| Grid Voltage (Approx.) for plate current of 50 $\mu$ A | —     |

| Unit No.1 | Unit No.2 |            |
|-----------|-----------|------------|
| 250       | 150       | volts      |
| —3        | —17.5     | volts      |
| 68        | 6         |            |
| 40000     | 925       | ohms       |
| 1600      | 6500      | $\mu$ mhos |
| 1.4       | 35        | mA         |
| —         | 10        | mA         |
| —5.5      | —         | volts      |
| —         | —44       | volts      |

**Vertical-Deflection Oscillator and Amplifier**

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

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

|                                    |     |      |       |
|------------------------------------|-----|------|-------|
| DC Plate Voltage                   | 330 | 275  | volts |
| Peak Positive-Pulse Plate Voltage# | —   | 1500 | volts |
| Peak Negative-Pulse Grid Voltage   | 400 | 250  | volts |
| Peak Cathode Current               | 70  | 175  | mA    |
| Average Cathode Current            | 20  | 50   | mA    |
| Plate Dissipation                  | 1   | 7    | watts |

**MAXIMUM CIRCUIT VALUES**

|                                                    |     |     |         |
|----------------------------------------------------|-----|-----|---------|
| Grid-Circuit Resistance:                           |     |     |         |
| For grid-resistance-bias or cathode-bias operation | 2.2 | 2.2 | megohms |

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