# 7BP7-A
# OSCILLOGRAPH TUBE

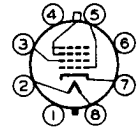
MAGNETIC FOCUS MAGNETIC DEFLECTION

## DATA

**General:**

| | |
|---|---|
| Heater, for Unipotential Cathode: | |
| Voltage | 6.3 ac or dc volts |
| Current | 0.6 amp |
| Direct Intereiectrode Capacitances (Approx.): | |
| Grid No.1 to All Other Electrodes | 8.5 μμf |
| Grid No.2 to All Other Electrodes | 7 μμf |
| Cathode to All Other Electrodes | 5 μμf |
| Phosphor (For Curves, see front of this Section) | No.7 |
| Fluorescence | Blue |
| Phosphorescence | Greenish-Yellow |
| Persistence of Phosphorescence | Long |
| Focusing Method | Magnetic |
| Deflection Method | Magnetic |
| Deflection Angle (Approx.) | 53° |
| Overall Length | 13-1/4" ± 3/8" |
| Greatest Diameter of Bulb | 7" ± 1/8" |
| Maximum Useful Screen Diameter | 6" |
| Mounting Position | Any |
| Cap | Recessed Small Ball |
| Base | Long Medium-Shell Octal 8-Pin |

BOTTOM VIEW




Pin 1 - No Connection
Pin 2 - Heater
Pin 3 - Grid No.2
Pin 4 - No Connection
Pin 5 - Grid No.1
Pin 6 - No Connection
Pin 7 - Cathode
Pin 8 - Heater
Cap - Anode, Grid No.3

**Maximum Ratings, *Design-Center Values*:**

| | | |
|---|---|---|
| ANODE● VOLTAGE | 8000 max. | volts |
| GRID-No.2 VOLTAGE | 700 max. | volts |
| GRID-No.1 VOLTAGE: | | |
| Negative bias value | 125 max. | volts |
| Positive bias value□ | 0 max. | volts |
| Positive peak value | 2 max. | volts |
| PEAK GRID-No.1 DRIVE FROM CUTOFF | 65 max. | volts |
| PEAK HEATER-CATHODE VOLTAGE: | | |
| Heater negative with respect to cathode | 125 max. | volts |
| Heater positive with respect to cathode | 125 max. | volts |

**Typical Operation:**

| | | | |
|---|---|---|---|
| Anode Voltage* | 4000 | 7000 | volts |
| Grid-No.2 Voltage | 250 | 250 | volts |
| Grid-No.1 Voltage Range○ | -25 to -70 | -25 to -70 | volts |
| Focusing-Coil Current▲ | 75 to 102 | 99 to 135 | ma |
| Spot Position | # | - | |

●,□,*,○,▲,#: See next page

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**Maximum Circuit Values:**

| | | |
|---|---|---|
| Grid-No.1-Circuit Resistance . . . . . | 1.5 max. | megohms |

**Minimum Circuit Values:**

When the output capacitor of the power supply is capable of storing more than 250 microcoulombs, and when the inherent regulation of the power supply permits the instantaneous short-circuit current to exceed 1 ampere, the effective resistance in circuit between indicated electrode and the output capacitor should be as follows:

| | | |
|---|---|---|
| Grid-No.1-Circuit Resistance . . . . . | 150 min. | ohms |
| Grid-No.2-Circuit Resistance . . . . . | 820 min. | ohms |
| Anode-Circuit Resistance . . . . . | 9100 min. | ohms |

The resistors used should be capable of withstanding the voltages involved.

**Components:**

| | |
|---|---|
| RCA Focusing Coil. . . . . | RCA Type No. 202D1 |

● Anode and grid No.3, which are connected together within tube, are referred to herein as anode.

□ At or near this rating, the effective resistance of the anode supply should be adequate to limit the anode input power to 6 watts.

* Brilliance and definition decrease with decreasing anode voltage. In general, the anode voltage should not be less than 4000 volts.

○ For visual extinction of undeflected focused spot.

▲ For JETEC Focusing Coil No.106, or equivalent, with center line of air gap approximately 2-3/4" from reference line (see Outline Drawing), and total anode current of 200 microamperes.

\# The center of the undeflected, unfocused spot will fall within a circle having 12 mm radius concentric with the center of the tube face.