



5BP1-A

SBPI-A

HIGH-VACUUM CATHODE-RAY TUBE

Supersedes Type 5BP1

General:

Heater, for Unipotential Cathode:

Voltage $6.3 \pm 10\%$ ac or dc volts

Current 0.6 amp.

Direct Interelectrode Capacitances (Approx.):

Grid No.1 to All Other Electrodes 8.0 μmf DJ₁ to DJ₂ 1.3 μmf DJ₃ to DJ₄ 1.2 μmf DJ₁ to All Other Electrodes 9.5 μmf DJ₃ to All Other Electrodes 12.0 μmf DJ₁ to All Other Electrodes except DJ₂ 8.0 μmf DJ₂ to All Other Electrodes except DJ₁ 7.5 μmf DJ₃ to All Other Electrodes except DJ₄ 10.0 μmf DJ₄ to All Other Electrodes except DJ₃ 7.5 μmf

Phosphor (For Curves, see front of this Section) No.1

Fluorescence Green

Persistence Medium

Focusing Method Electrostatic

Deflection Method Electrostatic

Overall Length $16\frac{3}{4}'' \pm \frac{3}{8}''$ Greatest Diameter of Bulb $5\frac{1}{4}'' + \frac{1}{16}''$ Minimum Useful Screen Diameter $4\frac{1}{2}''$

Mounting Position Any

Base Medium Shell Magnal 11-Pin

Basing Designation for BOTTOM VIEW 11N

Pin 1-Heater

Pin 2-No Connection

Pin 3-Deflecting

Electrode DJ₁

Pin 4-Anode No.1

Pin 5-Internal Con.

Do not use

Pin 6-Deflecting

Electrode DJ₄

Pin 7-Anode No.2,

Grid No.2

Pin 8-Deflecting

Electr.DJ₂

Pin 9-Deflecting

Electr.DJ₃

Pin 10-Grid No.1

Pin 11-Heater,

Cathode

*DJ₁ and DJ₂ are nearer the screen**DJ₃ and DJ₄ are nearer the base*

With DJ₁ positive with respect to DJ₂, the spot is deflected toward pin 4. With DJ₃ positive with respect to DJ₄, the spot is deflected toward pin 1.

The angle between the trace produced by DJ₃ and DJ₄ and its intersection with the plane through the tube axis and pin 1 does not exceed 10°.

The angle between the trace produced by DJ₃ and DJ₄ and the trace produced by DJ₁ and DJ₂ is $90^\circ \pm 30^\circ$.

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(Continued from preceding page)

Maximum Ratings, Absolute Values:

ANODE-No.2 & GRID-No.2 VOLTAGE.	2200	max.	volts
ANODE-No.1 VOLTAGE.	1100	max.	volts
GRID-No.1 (CONTROL ELECTRODE) VOLTAGE:			
Negative Value.	125	max.	volts
Positive Value.	0	max.	volts
PEAK VOLTAGE BETWEEN ANODE No.2 AND ANY DEFLECTING ELECTRODE	550	max.	volts

Typical Operation:

Anode-No.2 & Grid-No.2 Voltage* . . .	1500	2000	. . .	volts
Anode-No.1 Volt. for Focus at 75% of Grid-No.1 Volt. for Cutoff# . . .	337	450	. . .	volts
Grid-No.1 Volt. for Visual Cutoff#. . .	-30	-40	. . .	volts
Max. Anode-No.1 Current Range▲. Between	-50	and +10		μamp.

Deflection Sensitivity:

DJ ₁ and DJ ₂	0.404	0.303	. . .	mm/v dc
DJ ₃ and DJ ₄	0.446	0.334	. . .	mm/v dc

Deflection Factor:**

DJ ₁ and DJ ₂	63	84	. . .	v dc/in.
DJ ₃ and DJ ₄	57	76	. . .	v dc/in.

* Brilliance and definition decrease with decreasing anode-No.2 voltage. In general, anode-No.2 voltage should not be less than 1500 volts.

● Individual tubes may require between +25% and -30% of the values shown with grid-No.1 voltages between zero and cutoff.

Visual extinction of stationary focused spot. Supply should be adjustable to ± 50% of these values.

▲ See curve for average values.

** Individual tubes may vary from these values by ± 17%.

Spot Position:

The undeflected focused spot will fall within a 15-mm. square centered at the geometric center of the tube face and having one side parallel to the trace produced by DJ₁ and DJ₂. Suitable test conditions are: anode-No.2 voltage, 1500 volts; anode-No.1 voltage, adjusted for focus; deflecting-electrode resistors, 1 megohm each, connected to anode-No.2; the tube shielded from all extraneous fields. To avoid damage to the tube, grid-No.1 voltage should be near cutoff before application of anode voltages.

Maximum Circuit Values:

Grid-No.1—Circuit Resistance	1.5	max.	megohms
Impedance of Any Deflecting-Electrode Circuit at Heater-Supply Frequency	1.0	max.	megohm
Resistance in Any Deflecting- Electrode Circuit▲▲	5.0	max.	megohms

▲▲ It is recommended that all deflecting-electrode-circuit resistances be approximately equal.