5BP1-A

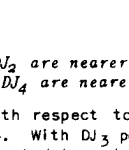
HIGH-VACUUM CATHODE-RAY TUBE

Supersedes Type 5BP1

General:

Heater, for Unipotential Cathode:		
Voltage	6.3 ± 10%	ac or dc volts
Current	0.6	amp.
Direct Interelectrode Capacitances (Approx.):		
Grid No.1 to All Other Electrodes	8.0	μμf
DJ_1 to DJ_2	1.3	μμf
DJ_3 to DJ_4	1.2	μμf
DJ_1 to All Other Electrodes	9.5	μμf
DJ_2 to All Other Electrodes	12.0	μμf
DJ_1 to All Other Electrodes except DJ_2	8.0	μμf
DJ_2 to All Other Electrodes except DJ_1	7.5	μμf
DJ_3 to All Other Electrodes except DJ_4	10.0	μμf
DJ_4 to All Other Electrodes except DJ_3	7.5	μμf
Phosphor (For Curves, see front of this Section)		No.1
Fluorescence		Green
Persistence		Medium
Focusing Method		Electrostatic
Deflection Method		Electrostatic
Overall Length		16-3/4" ± 3/8"
Greatest Diameter of Bulb		5-1/4" $^{+\ 1/16"}_{-\ 3/32"}$
Minimum Useful Screen Diameter		4-1/2"
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 DJ_1
Pin 4 – Anode No.1
Pin 5 – Internal Con. Do not use
Pin 6 – Deflecting Electrode DJ_4



Pin 7 – Anode No.2, Grid No.2
Pin 8 – Deflecting Electr. DJ_2
Pin 9 – Deflecting Electr. DJ_3
Pin 10 – Grid No.1
Pin 11 – Heater, Cathode

DJ_1 and DJ_2 are nearer the screen
DJ_3 and DJ_4 are nearer the base

With DJ_1 positive with respect to DJ_2, the spot is deflected toward pin 4. With DJ_3 positive with respect to DJ_4, the spot is deflected toward pin 1.

The angle between the trace produced by DJ_3 and DJ_4 and its intersection with the plane through the tube axis and pin 1 does not exceed 10°.

The angle between the trace produced by DJ_3 and DJ_4 and the trace produced by DJ_1 and DJ_2 is 90° ± 3°.

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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 DJ_1 and DJ_2. 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.