5BHP2

NEC 5BHP2 is a 5 inch flat faced cathode ray tube employing electrostatic focus and electrostatic deflection. The tube incorporates post acceleration by use of a spiral band resistance winding which extends from the face of the tube to the vicinity of the deflection plates. By the use of this gradient type of post acceleration, excellent deflection plate linearity and a minimum of pattern distortion can be obtained. Since this tube is aluminized, it is recommended that the post accelerator voltage be no less than 6 kV. for adequate light out put.

GENERAL CHARACTERISTICS

Electrical Data	
Heater Voltage:	6.3 Volts
Heater Current:	0.6±10% Amperes
Focusing Method:	Electrostatic
Deflection Method:	Electrostatic
Phosphor	
Fluorescence	Green
Phosphorescence	Green
Persistence	Long

Direct Interelectrode Capacitances

Cathode to all other electrodes	4.6 pf
Grid No. 1 to all other electrodes	6.4 pf
X_+ to X_-	1.9 pf
Y_+ to Y_-	1.5 pf
Post-Accelerator Helix Resistance	200 to 1000 megohms

Mechanical Data

Overall length	464±10 mm
Greatest Diameter of Bulb	133±3 mm
Minimum Useful Screen Diameter	100 mm min.
Bulb Contact (Post Accelerator) Recessed Cavity Cap	J1-21
Base (Medium Shell Diheptal 12 pin)	B12-37
Y_+Y_- trace aligns with Pin No. 1	±10 Degrees
Trace Alignment Angle between Y_+Y_- and X_+X_- trace	90±1 Degrees

Maximum Ratings-Design Center Values

Post Accelerator Voltage	12,000 max. Vdc
Accelerator Voltage	2,000 max. Vdc
Ratio Post Accelerator Voltage to Accelerator Voltage	6 max.
Focusing Voltage	800 max. Vdc
Grid No. 1 Voltage	
Negative Bias Value	200 max. Vdc
Positive Bias Value	0 max. Vdc
Isolation Shield Voltage	2,100 max. Vdc
Deflection Plate Shield Voltage	2,100 max. Vdc
Peak Heater to Cathode Voltage	
Heater Negative with respect to Cathode	180 max. Vdc
Heater Positive with respect to Cathode	180 max. Vdc

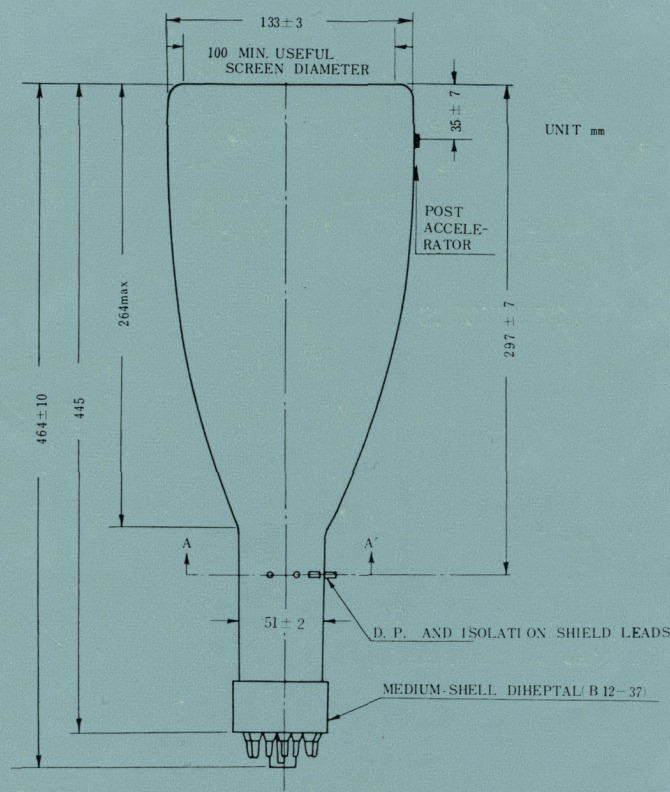
Typical Operating Conditions (Note 1)

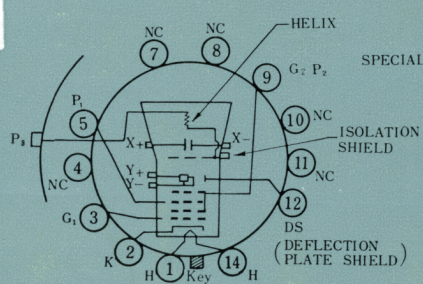
Deflection plate Shield Voltage (Note 2)	1,575 to 1,700 V
Post Accelerator Voltage	10,000 V
Accelerator Voltage	1,670 V
Isolation Shield Voltage (Note 3)	1,575 to 1,700 V
Focusing Voltage	180 to 590 V
Grid No. 1 Voltage (Note 4)	−50 to −80 V
Deflection Factors	
X_+ and X_-	27.6 to 33.5 Vdc/cm
Y_+ and Y_-	5.9 to 7.2 Vdc/cm
Deflection Factor Uniformity	2% max.
Spot position (undeflected)	within a 10 mm circle
Useful Scan	
X_+X_-	100 mm
Y_+Y_-	40 mm
Line Width "A" (Note 5)	0.9 mm max.

Notes

1. All voltages taken with respect to cathode.
2. Linearity improvements can be obtained by proper adjustment of deflection shield voltage which controls the edge effect of the Y_+ Y_- plate field. Other applications often require Pin #12 to be connected externally to the isolation shield.
3. The post accelerator spiral band lower end and the isolation shield are connected internally. By voltage potential adjustment on this electrode combination, pin cushion and barrel distortions are minimized.
4. Visual extinction of undeflected spot.
5. For an ΔI_{b3} of 15 μA.
   $\Delta I_{b3} = I_{b3}$ − Helical resistance current.

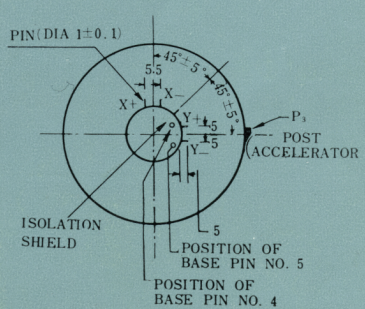
OUTLINE DRAWING TYPE NEC 5BHP2





BOTTOM VIEW OF BASE

PIN NO.	ELEMENT
5	FOCUSING ELECTRODE
9	ACCELERATOR



SECTION A–A

Nippon Electric Company Ltd.

Head Office 2, Shiba Mita Shikoku-machi, Minato-ku, Tokyo, Japan
Tel. Tokyo 451-1171(9) • 5121(9) • 5221(9)
Cable Address "MICROPHONE TOKYO"

Cat. No. 351173C-23