

NUMERICAL INDICATOR



engineering data report

7153

(BD-206) SUPER NIXIE*

The 7153 (BD-206) is a gas-filled, cold cathode, 10-digit ("0" through "9"), numerical indicator tube, having a common anode with a suppressor screen to minimize darkening of the viewing dome. This tube features a cup design providing a non-glare background. It is intended for use as a direct, in-line, readout device.

MECHANICAL DATA (SEE FIGURE 1)

Overall Length	1.625" Max.
Seated Height	1.325" Max.
Bulb Diameter	1.350" Max.
Envelope Connections	See Figure 2
Height of Numerals808" Nom.
Numerical Design (Human Engineering)	See Figure 3
Socket, 13-Pin (#HSK-106 or HSK-112)	See Figure 4
Weight	1.0 oz. Max.
Mounting Position	See Note 1
Cathode(s)	Glow Discharge
Shock	350 G's (30° Hammer)
Vibration	10 G's, 60 Cps.
Temperature	-65° C. through +70° C., Note 2
Altitude	70,000 Feet

ELECTRICAL DATA

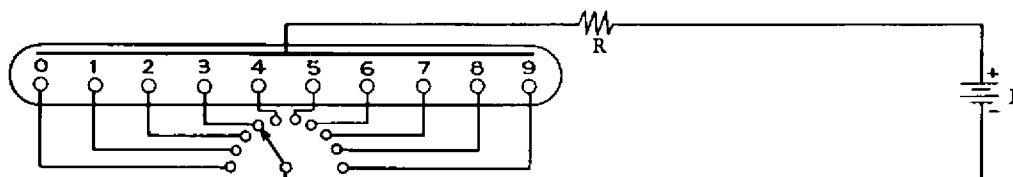
1. ABSOLUTE RATINGS:

Ionization Voltage	250 Vdc Minimum
Anode Current	
Peak	5.0 MA
Average	3.0 MA Max.
Individual Cathode Wattage	0.8 Watts Max.

2. TEST CONDITIONS: (See Typical Circuit)

Anode Supply Voltage	250 Vdc
Anode Series Resistor	43 K Ohms
Anode Current	2.0 MA Min. to 3.0 MA Max.

TYPICAL CIRCUIT



(SEE NOTE 3)

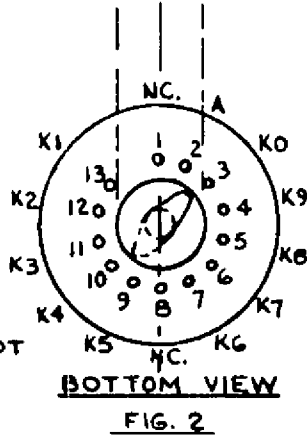
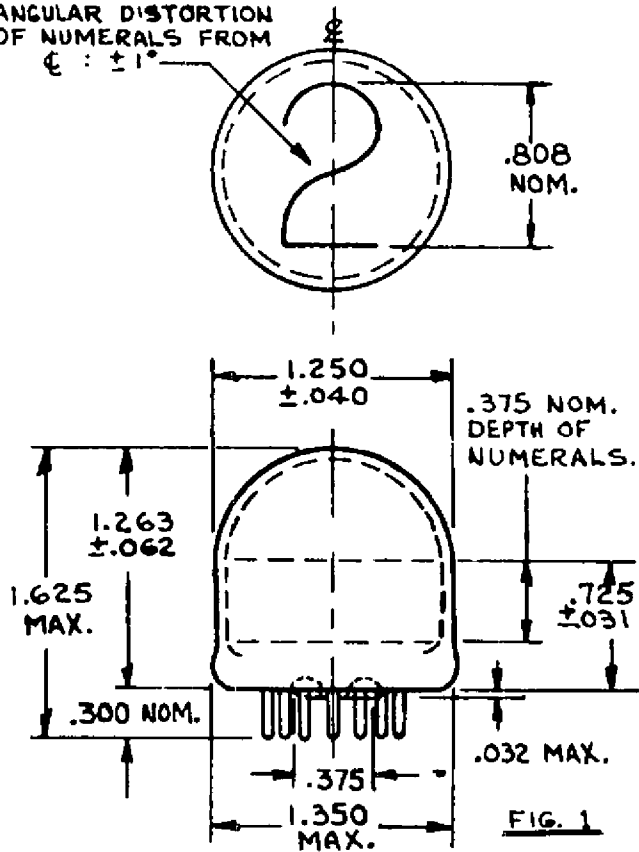
RECOMMENDED OPERATING CONDITIONS

$\frac{E}{250V}$	$\frac{R}{43K}$
$\frac{E}{300V}$	$\frac{R}{62K}$

NOTES

- (1) The tube socket is oriented with respect to the viewing position so that A — A', intersecting the center of Pins 1 and 8 is vertical with Pin 8 on top. This orients the numerals in the correct vertical position. The numbers are viewed through the top of the tube.
- (2) From +30° C. to +70° C., no significant change in cathode current occurs. From +30° C. to -65° C. an increase in cathode (Up to 50%) may be expected.
- (3) Recommend highest voltage available be selected with corresponding series resistor.

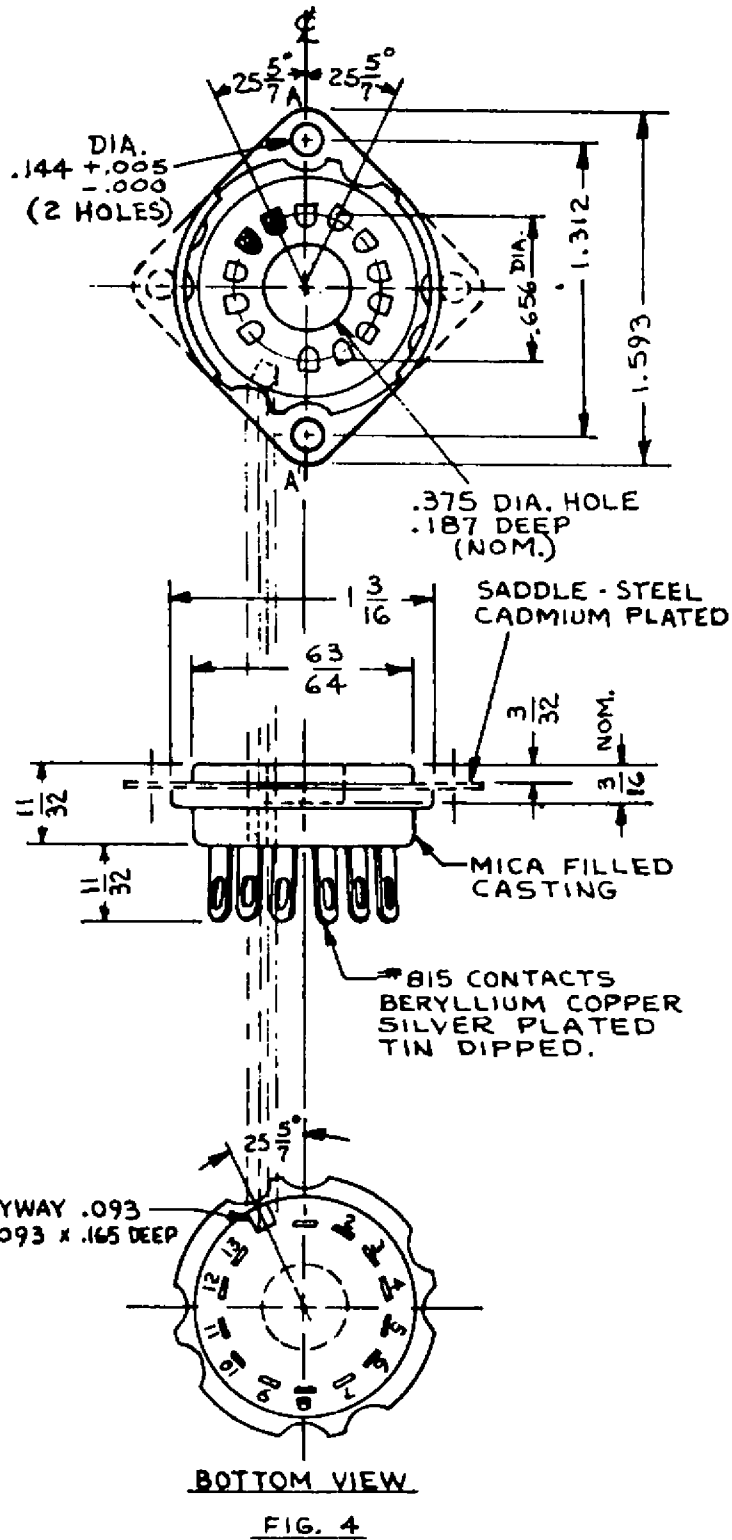
ANGULAR DISTORTION
OF NUMERALS FROM
 $\epsilon : \pm 1^\circ$



1234567890

(REF. WADC TR 54-160 APPENDIX PAGE 102)

FIG. 3



Electronic Tube Division

BURROUGHS CORPORATION

Plainfield, New Jersey

AN APPLICATIONS ENGINEERING DEPARTMENT,
OFFERING ENGINEERING SERVICE AND CONSULTATION,
HAS BEEN SET UP TO ASSIST YOU IN TAKING FULL ADVANTAGE
OF THIS DEVICE. WRITE FOR FURTHER INFORMATION.