

B NIXIE® NUMERICAL INDICATOR TUBE

TYPES
B-5750
B-5750S

The B-5750 NIXIE tube is an ultra-long life, high quality, cold-cathode indicator tube having a common anode. It can display the numerals 0-9 and has two decimal points inside the tube (right and left of the numerals) which are independently operable. The numeral aspect ratio (height to width) has been designed to provide the optimum in readability and viewing distance. The small diameter of the tube (0.530" max) permits 0.540" center-to-center mounting and its short seated height (1.500" max including standoff) allows for minimal instrument panel dimensions.

A moveable pin-straightener-standoff, which is used to align the tube pins for ease of PC layout and insertion, is part of the tube assembly. The standoff also allows solder gas to escape during soldering. These tubes have been specifically designed to operate both in normal DC applications and strobed/time sharing applications (See Note 8).

The B-5750S is identical to the B-5750 except its leads are cut to 0.175" ± .015 for use with the SK-207 socket, Bulletin 1138.

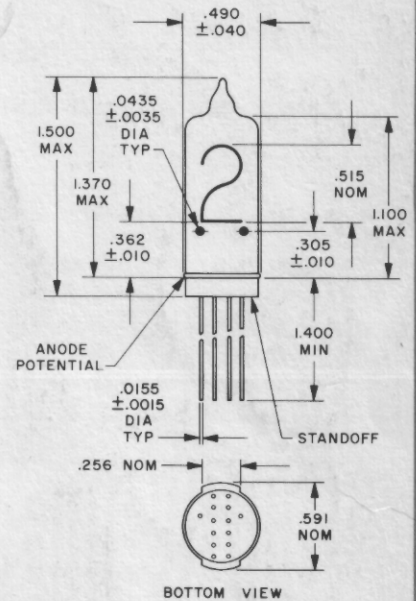


Figure 1. OUTLINE DRAWING
(NOTE 11)

ELECTRICAL SPECIFICATIONS

Absolute Ratings

| | |
|---|---------------------|
| Ionization Voltage (Note 1, Fig. 5) | +170 Vdc max |
| Supply Voltage | +170 Vdc min |
| Numeral Cathode Current (Note 5) | 3.8 ma max |
| Peak Anode Current (Notes 8 & 9) | 15 ma max |
| Decimal Point Cathode Current (Note 6) | 0.1 ma to 0.3 ma |
| Cathode Pre-bias | +60 Vdc to +120 Vdc |

Typical Operating Conditions (Notes 1, 2 & 7, Figures 5 & 6)

| | |
|---------------------------------|------------|
| Supply Voltage | +170 Vdc |
| Series Resistor (Table 2) | 9.1 kΩ |
| Anode Current (Figure 5) | 2.6 ma typ |
| Decimal Point Current (Table 2) | 0.2 ma typ |
| Cathode Pre-bias Voltage | +60 Vdc |

Test Conditions (Figures 5 and 6)

Test Limits (Figures 5 and 6)

MECHANICAL CHARACTERISTICS

| | |
|-----------------------|---|
| Outline Drawing | Figure 1 |
| Pin Connection | Table 1 |
| Pin Layout | Figure 2 |
| PC Layouts | Figure 3 |
| Weight | 0.4 oz. max |
| Lead Finish | Hot tin dip from 0.150 in. from tube base |
| Max. Viewing Distance | 24 feet |

| | |
|----------------|--|
| Mounting | Note 3 |
| Color | Neon red |
| | 3650, 4358, 5654 & 5852 angstroms |
| Basing Diagram | Figure 4 |
| Brightness | 200 ft. lamberts |
| Soldering Heat | 260 ± 5°C for 10 ± 1 sec. 0.150" from tube base |

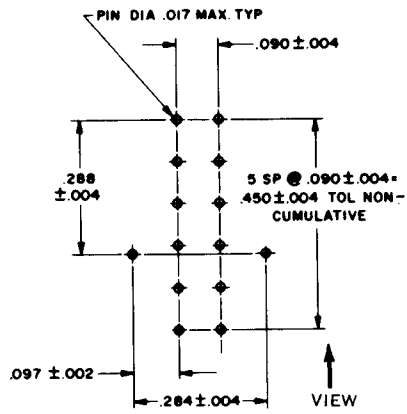


Figure 2. PIN LAYOUT (TOP VIEW)

| PIN | CONNECTIONS |
|-----|-------------|
| 1 | NUMERAL 1 |
| 2 | NUMERAL 2 |
| 3 | NUMERAL 3 |
| 4 | NUMERAL 4 |
| 5 | NUMERAL 5 |
| 6 | NUMERAL 6 |
| 7 | ANODE * |
| 8 | NUMERAL 7 |
| 9 | NUMERAL 8 |
| 10 | ANODE * |
| 11 | NUMERAL 9 |
| 12 | NUMERAL 0 |
| 13 | RT DEC PT |
| 14 | LFT DEC PT |

*Anode pins are connected internally

Table 1. PIN CONNECTIONS

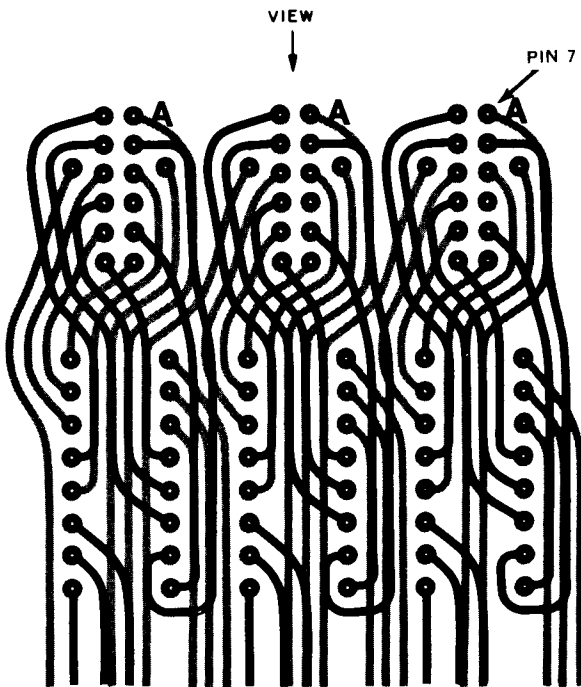


Figure 3a. P.C. LAYOUT WITH FAIRCHILD 9960 (TOP VIEW)
(9960 notch away from viewer)

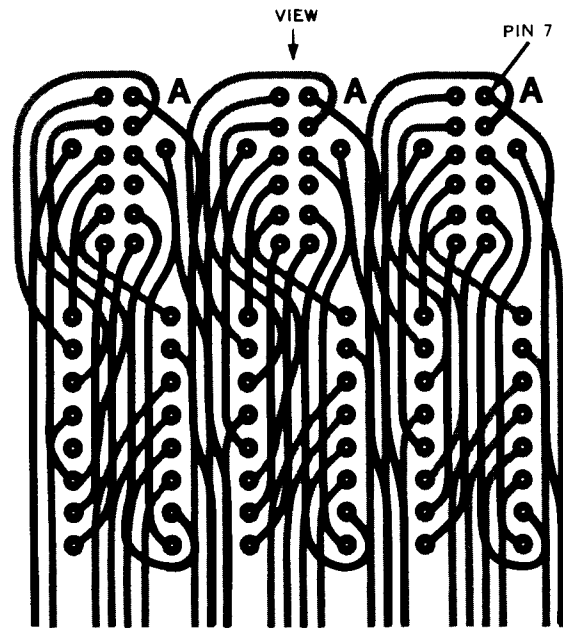


Figure 3b. P.C. LAYOUT WITH TEXAS INSTRUMENTS SN-7441N (TOP VIEW)

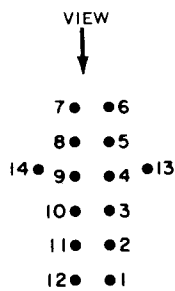
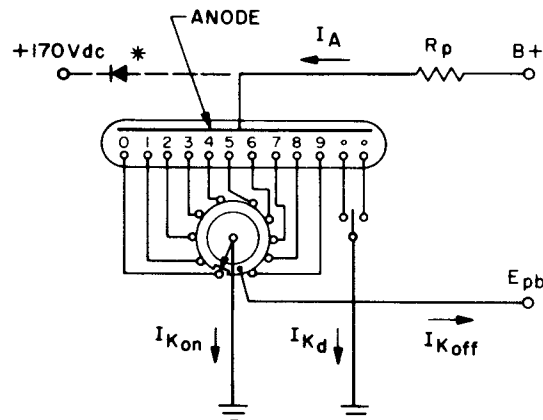


Figure 4. BASING DIAGRAM (BOTTOM VIEW)



* To test for ionization at +170 Vdc

Figure 5. TEST CIRCUIT

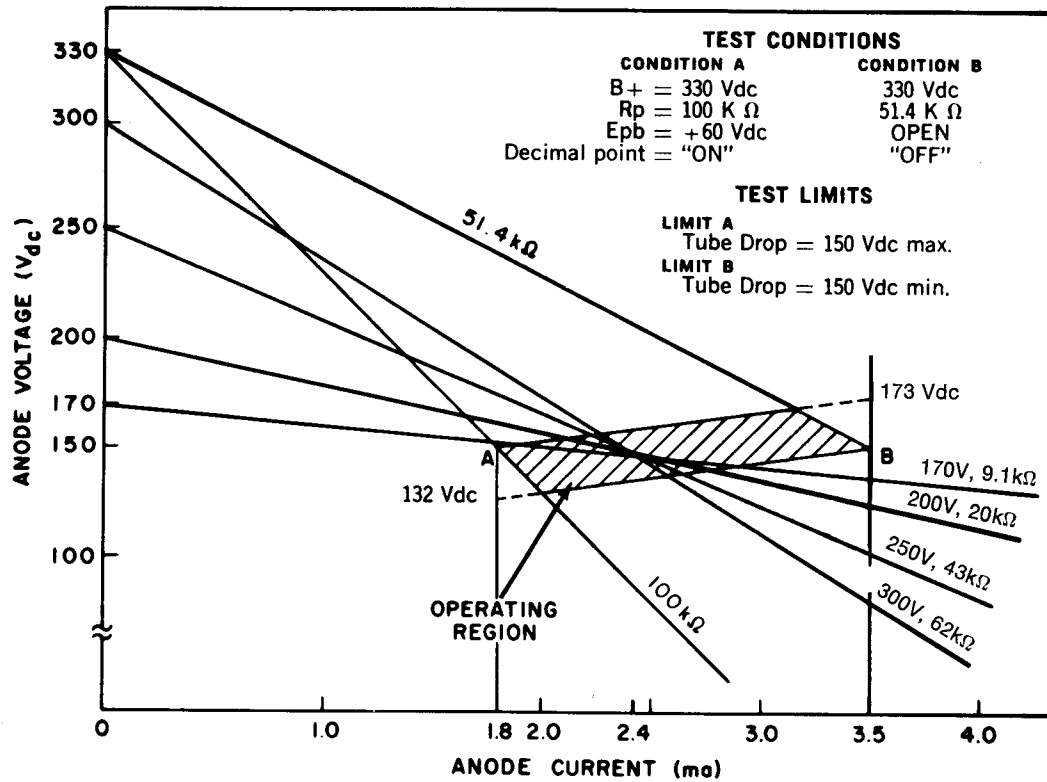


Figure 6. TUBE CHARACTERISTICS (NOTE 7)

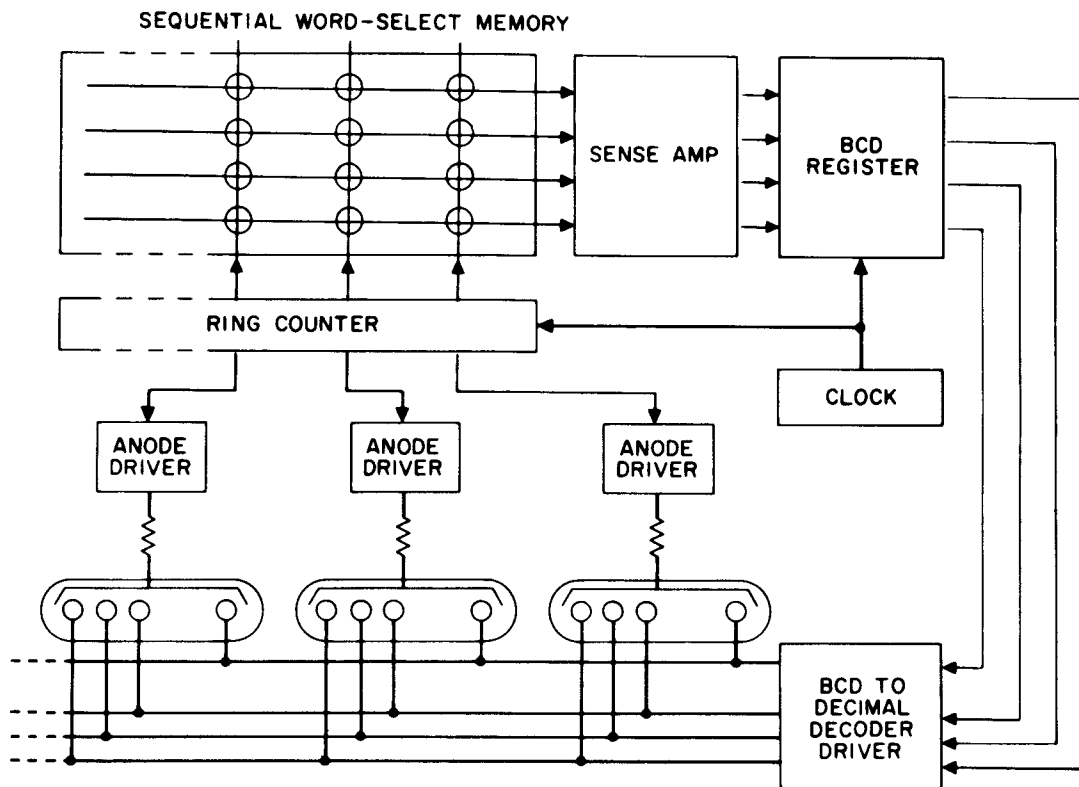


Figure 7. BLOCK DIAGRAM
TYPICAL TIME SHARING APPLICATION (NOTE 8)