

# National Video Corporation

4300 W. 47TH STREET CHICAGO 32, ILLINOIS  
CLIFFSIDE 4-5600

The type 10ABP4 is an electrostatic focus and magnetic deflection direct view picture tube. It has an all glass, rectangular bulb designed for 90° deflection. The faceplate is of clear glass and has a spherical contour. The electron gun is designed to be used with an external ion-trap magnet. It has an external conductive coating.

## GENERAL CHARACTERISTICS

|                                              |                 |                    |
|----------------------------------------------|-----------------|--------------------|
| Focusing Method                              | Electrostatic   |                    |
| Deflection Method                            | Magnetic        |                    |
| Deflection Angle (Approx.) Horizontal        | 85              | Degrees            |
| Diagonal                                     | 90              | Degrees            |
| Face Plate Light Transmission                |                 |                    |
| <del>(Neutral Density Filter)</del>          | <del>90%</del>  | <del>Approx.</del> |
| Phosphor                                     | No. 4           |                    |
| Fluorescence                                 | White           |                    |
| Persistence                                  | Short to Medium |                    |
| Direct Interelectrode Capacitances (Approx.) |                 |                    |
| Cathode to all other electrodes              | 5               | uuf                |
| Grid No. 1 to all other electrodes           | 6               | uuf                |
| External conductive coating to anode         | 850             | Max. uuf           |
|                                              | 400             | Min. uuf           |

## MECHANICAL DATA

|                                                 |                     |            |
|-------------------------------------------------|---------------------|------------|
| Overall Length                                  | 11 7/8              | Inches     |
| Greatest Dimensions of Bulb                     |                     |            |
| Diagonal                                        | 10 3/8 + 1/8 - 1/16 | Inches     |
| Width                                           | 9 3/4 + 1/8 - 1/16  | Inches     |
| Height                                          | 7 1/2 + 1/8 - 1/16  | Inches     |
| Minimum Useful Screen Dimensions (Max. Assured) |                     |            |
| Screen Area                                     | 53 1/2              | Sq. Inches |
| Diagonal                                        | 9.9/16              | Inches     |
| Width                                           | 8 7/8               | Inches     |
| Height                                          | 6 9/16              | Inches     |
| Bulb Contact                                    | J1-21               |            |
| Base                                            | B6-63               |            |
| Basing                                          | 12L                 |            |
| Bulb Contact Alignment                          |                     |            |
| J1-21 Contact aligns with pin position 6        | + 30                | Degrees    |
| Weight                                          | 4.5                 | Lbs.       |

MAXIMUM RATINGS Design Center Values

|                                                                                        |                |                 |
|----------------------------------------------------------------------------------------|----------------|-----------------|
| Heater Voltage                                                                         | 6.3            | Volts           |
| Heater Current                                                                         | .6 + 10%       | Amperes         |
| Anode Voltage                                                                          | 12,000         | Max. Volts D.C. |
| Grid No. 4 Voltage <sup>1</sup>                                                        | -500 to +1,000 | Max. Volts D.C. |
| Grid No. 2 Voltage                                                                     | 500            | Max. Volts D.C. |
| Grid No. 1 Voltage                                                                     |                |                 |
| Negative peak value                                                                    | 200            | Max. Volts D.C. |
| Negative bias value                                                                    | 140            | Max. Volts D.C. |
| Positive bias value                                                                    | 0              | Max. Volts D.C. |
| Positive peak value                                                                    | 2              | Max. Volts      |
| Peak Heater-Cathode Voltage                                                            |                |                 |
| Heater negative with respect to cathode during warm-up period not to exceed 15 seconds | 410            | Max. Volts D.C. |
| After equipment warm-up                                                                | 180            | Max. Volts D.C. |
| Heater positive with respect to cathode                                                | 180            | Max. Volts D.C. |

TYPICAL OPERATING CONDITIONS

|                                                   |            |            |
|---------------------------------------------------|------------|------------|
| Anode Voltage                                     | 7,500      | Volts D.C. |
| Grid No. 4 Voltage <sup>2</sup>                   | 0 to 500   | Volts D.C. |
| Grid No. 2 Voltage                                | 300        | Volts D.C. |
| Grid No. 1 Voltage <sup>3</sup>                   | -38 to -62 | Volts D.C. |
| Field strength of PM ion trap magnet <sup>4</sup> | 32         | Min. Gauss |

MAXIMUM CIRCUIT VALUES

|                               |     |              |
|-------------------------------|-----|--------------|
| Grid No. 1 Circuit Resistance | 1.5 | Max. Megohms |
|-------------------------------|-----|--------------|

NOTES

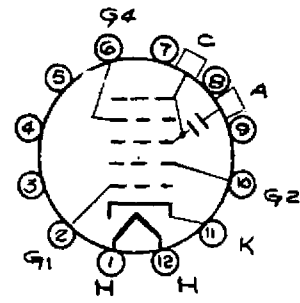
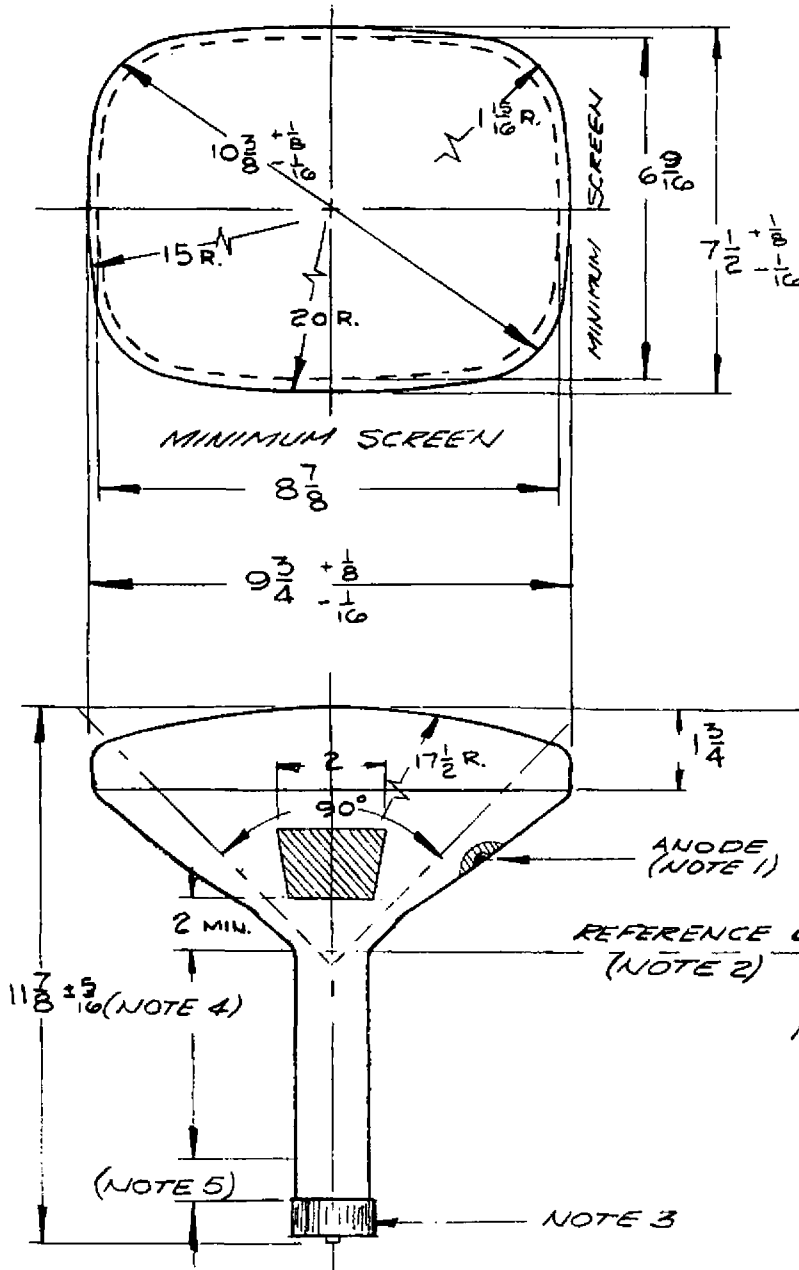
<sup>1</sup>Grid number four in this tube is the focus control electrode.

<sup>2</sup>With the combined grid No. 1 bias voltage and video signal adjusted to produce an anode current of 100 ua on a 8 7/8 x 6 9/16 inch picture adjusted for best overall focus. For other anode voltages, the focus voltage will be from 0% to 5.5%.

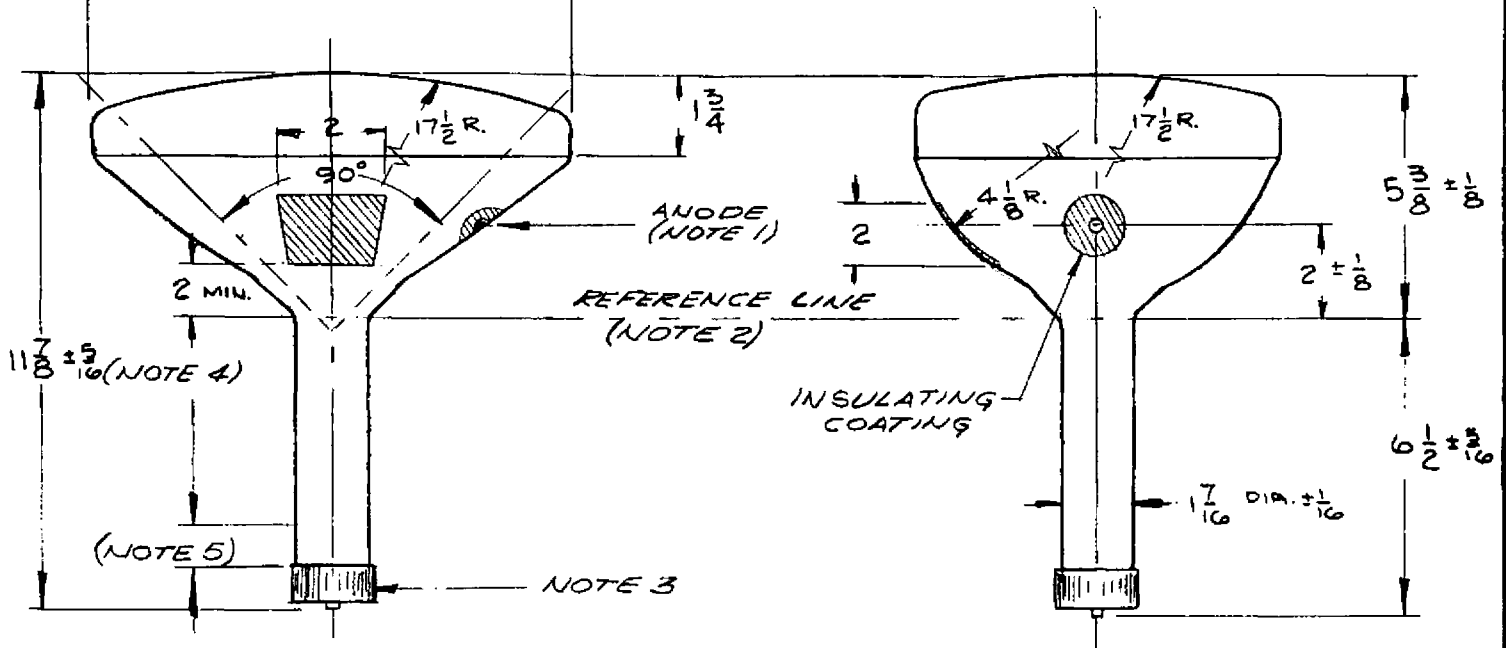
<sup>3</sup>Visual extinction of focused raster.

<sup>4</sup>For the specimen PM ion trap magnet such as the Heppner Model No. EL37 or equivalent, positioned to give maximum brightness for a given equipment application, the tolerance range for the strength of the PM ion magnet should be added to the minimum value. The maximum strength of the magnet should not exceed the specified minimum value by more than 6 gauss. This procedure will insure use of the PM ion trap magnet allowing adequate adjustment to permit satisfactory performance without loss of highlight brightness.

# 10ABP4



12 L BASING



## NATIONAL VIDEO CORP.

CHICAGO 32, ILLINOIS

10ABP4

| DRAWN BY   | SCALE   | EFFECTIVE  | SUPERSEDES | DISTRIBUTION           |
|------------|---------|------------|------------|------------------------|
| J. FRUGOLI | 1" = 4" | 16 APR. 56 | ORIGINAL   | A, B, C, D, E, F, G, H |

NOTES

- NOTE 1: The plane through the tube axis and pin position 6 aligns with the anode contact  $\pm 30^\circ$ .
- NOTE 2: Reference line is determined by the plane where standard JETEC reference line gauge #116 will stop against the bulb.
- NOTE 3: Socket for this base should not be rigidly mounted. It should have flexible leads and be free to move.
- NOTE 4: Location of deflection yoke and centering device must be within this space.
- NOTE 5: Keep this space clear for ion-trap magnet.