Vidicon

Short, Sturdy, 1-Inch Diameter Type

Magnetic Focus

Magnetic Deflection

Low Heater Power – 0.6 watt

1000 TV Line Resolution

For Compact, Low-Power Transistorized TV Cameras

GENERAL

Heater, for Unipotential Cathode:

Voltage (AC or DC) ................. 6.3 ± 10% V

Current at 6.3 volts ............... 0.095 A

Direct Interelectrode Capacitance: a

Target to all other electrodes ...... 4.6 pF

Spectral Response ................. See Typical Spectral Sensitivity Characteristic

Photoconductive Layer:

Maximum useful diagonal of rectangular image (4 x 3 aspect ratio) .... 0.62 inch

Orientation of quality rectangle—Proper orientation is obtained when the horizontal scan is essentially parallel to the straight sides of the masked portions of the faceplate. The straight sides are parallel to the plane passing through the tube axis and short index pin. The masking is for orientation only and does not define the proper scanned area of the photoconductive layer.

Focusing Method .................. Magnetic

Deflection Method ................ Magnetic

Overall Length .................... 5.12" ± 0.06"

Greatest Diameter ................. 1.125" ± 0.010"

Bulb ................................ T8

Base ................ Small-Button Ditetrar 8-Pin, (JEDEC No.E8-11)

Socket .................. Cinch b No.54A18088, or equivalent

Focusing Coil-Deflecting Yoke-Alignment Coil Assembly .............. Cleveland Electronics cd No. VYFA-355-1, or equivalent

Operating Position ................ Any

Weight (Approx.) .................. 2 oz.

ABSOLUTE MAXIMUM RATINGS

For scanned area of 1/2" x 3/8"

Grid-No.3 & Grid-No. 4 Voltage ..... 1000 max. volts

Grid-No. 2 Voltage ................ 1000 max. volts

Grid-No. 1 Voltage:

Negative bias value ............... 300 max. volts

Positive bias value ............... 0 max. volts

RCA Electronic Components

DATA 1 1-68
Peak Heater-Cathode Voltage:

- Heater negative with respect to cathode: 125 max. volts
- Heater positive with respect to cathode: 10 max. volts

Target Voltage: 100 max. volts
Dark Current: 0.25 max. μA
Peak Target Current: 0.55 max. μA

Faceplate:
- Illumination: 5000 max. fc
- Temperature: 71 max. °C

**TYPICAL OPERATION AND PERFORMANCE DATA**

<table>
<thead>
<tr>
<th>Grid-No.4 (Decelerator) &amp; Grid-No.3 (Beam-Focus)</th>
<th>Low-Voltage</th>
<th>High-Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grid-No.2 (Accelerator)</td>
<td>Voltage</td>
<td>Operation</td>
</tr>
<tr>
<td>Grid-No.1 Voltage for Picture Cutoff</td>
<td>Voltage</td>
<td>Operation</td>
</tr>
<tr>
<td>Average &quot;Gamma&quot; of Transfer Characteristic for Signal-Output Current between 0.02μA and 0.2μA</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>Visual Equivalent Signal-to-Noise Ratio(Approx.)</td>
<td>300:1</td>
<td>300:1</td>
</tr>
<tr>
<td>Lag—Per Cent of Initial Value of Signal-Output Current 1/20 Second After Illumination is Removed: m</td>
<td>Maximum value</td>
<td>Typical value</td>
</tr>
<tr>
<td>Minimum Peak-to-Peak Blanking Voltage:</td>
<td>75</td>
<td>28</td>
</tr>
<tr>
<td>Limiting Resolution: At center of picture—</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>Amplitude Response to a 400 TV Line Square-Wave Test Pattern at Center of Picture</td>
<td>.30</td>
<td>45</td>
</tr>
</tbody>
</table>
Field Strength at Center of Focusing Coil\(^n\) .......................... 40 \hspace{1cm} 60 \hspace{1cm} \text{gauss}

Peak Deflecting-Coil Current:
  \hspace{1cm} \text{Horizontal} .......................... 340 \hspace{1cm} 520 \hspace{1cm} \text{mA}
  \text{Vertical} .......................... 20 \hspace{1cm} 32 \hspace{1cm} \text{mA}

Field Strength of Adjustable Alignment
  \hspace{1cm} \text{Coil} .......................... 0 to 4 \hspace{1cm} 0 to 4 \hspace{1cm} \text{gauss}

  \hspace{1cm} \text{High-Sensitivity Operation—} \hspace{1cm} \text{0.1 Footcandle on Faceplate}

  \hspace{1cm} \text{Faceplate Illumination (Highlight)} .......................... 0.1 \hspace{1cm} \text{fc}
  \hspace{1cm} \text{Target Voltage} \text{\(^p,q\)} .......................... 30 to 60 \hspace{1cm} \text{volts}
  \hspace{1cm} \text{Dark Current} \text{\(^f\)} .......................... 0.10 \hspace{1cm} \mu \text{A}
  \hspace{1cm} \text{Signal-Output Current:} \text{\(^s\)}
    \hspace{1cm} \text{Typical} .......................... 0.11 \hspace{1cm} \mu \text{A}

  \hspace{1cm} \text{Average-Sensitivity Operation—} \hspace{1cm} \text{1.0 Footcandle on Faceplate}

  \hspace{1cm} \text{Faceplate Illumination (Highlight)} .......................... 1.0 \hspace{1cm} \text{fc}
  \hspace{1cm} \text{Target Voltage} \text{\(^p,q\)} .......................... 20 to 40 \hspace{1cm} \text{volts}
  \hspace{1cm} \text{Dark Current} \text{\(^f\)} .......................... 0.02 \hspace{1cm} \mu \text{A}
  \hspace{1cm} \text{Signal-Output Current:} \text{\(^s\)}
    \hspace{1cm} \text{Typical} .......................... 0.2 \hspace{1cm} \mu \text{A}

  \hspace{1cm} \text{High Light Level Operation—} \hspace{1cm} \text{10 Footcandles on Faceplate}

  \hspace{1cm} \text{Faceplate Illumination (Highlight)} .......................... 10 \hspace{1cm} \text{fc}
  \hspace{1cm} \text{Target Voltage} \text{\(^p,q\)} .......................... 10 to 22 \hspace{1cm} \text{volts}
  \hspace{1cm} \text{Dark Current} \text{\(^f\)} .......................... 0.005 \hspace{1cm} \mu \text{A}
  \hspace{1cm} \text{Signal-Output Current:} \text{\(^s\)}
    \hspace{1cm} \text{Typical} .......................... 0.3 \hspace{1cm} \mu \text{A}

\(^a\)This capacitance, which effectively is the output impedance, is increased when the tube is mounted in the deflecting-yoke and focusing-coil assembly. The resistive component of the output impedance is in the order of 100 megohms.

\(^b\)Made by Cinch Manufacturing Corporation, 1026 S. Homan Ave., Chicago 24, Illinois.

\(^c\)Made by Cleveland Electronics, Inc., 2000 Highland Road, Twinsburg, Ohio. Components are also available from companies such as Syntronic Instruments, Inc., 100 Industrial Road, Addison, Illinois and Celco-Constantine Engineering Laboratories Co., 70 Constantine Drive, Mahwah, New Jersey.

\(^d\)These components are chosen to provide tube operation with minimum beam-landing error.
Video amplifiers must be designed properly to handle target currents of this magnitude to avoid amplifier overload or picture distortion.

For conditions where "white light" is uniformly diffused over entire tube face.

Definition, focus uniformity, and picture quality decrease with decreasing grid-No. 4 and grid-No. 3 voltage. In general, grid No. 4 and grid No. 3 should be operated above 250 volts.

With no blanking voltage on grid No. 1.

Measured with high-gain, low-noise, cascode-input-type amplifier having bandwidth of 5 MHz and a peak signal-output current of 0.35 microampere. Because the noise in such a system is predominately of the high-frequency type, the visual equivalent signal-to-noise ratio is taken as the ratio of the highlight video-signal current to rms noise current, multiplied by a factor of 3.

For initial signal-output current of 0.3 microampere and a dark current of 0.025 microampere.

The polarity of the focusing coil should be such that a north-seeking pole is attracted to the image end of the focusing coil, with the indicator located outside of and at the image end of the focusing coil.

The target voltage for each 7262A must be adjusted to that value which gives the desired operating signal current.

Indicated range for each type of service serves only to illustrate the operating target-voltage range normally encountered.

The deflecting circuits must provide extremely linear scanning for good black-level reproduction. Dark-current signal is proportional to the scanning velocity. Any change in scanning velocity produces a black-level error in direct proportion to the change in scanning velocity.

Defined as the component of the highlight target current after the dark-current component has been subtracted.

**OPERATING CONSIDERATIONS**

When operated at maximum voltage, the 7262A has a typical center resolution of 1000 TV lines and a typical corner resolution of 600 TV lines. At low operating voltage with minimum deflection and focus power employed, its center resolution will ordinarily be in excess of 650 TV lines and 350 TV lines in the corner.
BASING DIAGRAM (Bottom View)

DIRECTION OF LIGHT: INTO FACE END OF TUBE 8HM

Pin 1: Heater
Pin 2: Grid No. 1
Pin 3: Internal Connection — Do Not Use
Pin 4: Internal Connection — Do Not Use
Pin 5: Grid No. 2
Pin 6: Grids No. 3 and No. 4
Pin 7: Cathode
Pin 8: Heater
Flange: Target
Short Index Pin: Internal Connection — Make No Connection

Spurious Signal Test

Fig. 1
This test is performed using a uniformly diffused white test pattern that is separated into two zones as shown in Fig.1. The 7262A is operated under the conditions specified under Typical Operation and Performance Data with the lens adjusted to provide a target current of 0.3 microampere. The tubes are adjusted to provide maximum picture resolution. Spurious signals are evaluated by size which is represented by equivalent numbers of raster lines in a 525 TV line system. Allowable spot size for each zone is shown in Table 1. To be classified as a spot, a contrast ratio of 1.5:1 must exist for white spots and 2:1 for black spots. Smudges, streaks, or mottled and grainy background must have a contrast ratio of 1.5:1 to constitute a reject item.

**Table 1**

*For scanned area of 1/2" x 3/8"*

<table>
<thead>
<tr>
<th>Equivalent Number of Raster Lines</th>
<th>Zone 1 Allowed Spots</th>
<th>Zone 2 Allowed Spots</th>
</tr>
</thead>
<tbody>
<tr>
<td>over 4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4 but not including 3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3 but not including 1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1 or less</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

Minimum separation between any 2 spots greater than 1 raster line is limited to 16 raster lines.

*Spots of this size are allowed unless concentration causes a smudged appearance.
Note 1: Straight sides of masked portions are parallel to the plane passing through tube axis and short index pin.

Note 2: Faceplate glass is Corning No. 7056 having a thickness of 0.094" ± 0.012".
COMPONENT LOCATIONS

FOCUSING COIL
SEE NOTE

ALIGNMENT COIL

HORIZONTAL AND VERTICAL DEFLECTING COILS

DIMENSIONS IN INCHES

NOTE: CROSS-HATCHING INDICATES WOUND PORTION OF FOCUSING COIL.
Recommended Location and Length of Deflecting,
Focusing, and Alignment Components to obtain Minimum Beam-Landing Error.

RANGE OF DARK CURRENT

SCANNED AREA OF PHOTOCONDUCTIVE LAYER = 1/2" x 3/8"
FACEPLATE TEMPERATURE = 30°C APPROX.

RANGE OF DARK CURRENT — MICROAMPERES

TARGET VOLTS
LIGHT TRANSFER CHARACTERISTICS

ILLUMINATION UNIFORM OVER PHOTOCONDUCTIVE LAYER.
SCANNED AREA OF PHOTOCONDUCTIVE LAYER = 1/2" x 3/8".
FACEPLATE TEMPERATURE = 30°C APPROX.

DARK CURRENT (MICROAMPERES) = 0.10

SIGNAL OUTPUT - MICROAMPERES

2870K TUNGSTEN ILLUMINATION ON TUBE FACE - FOOTCANDLES

92LM-1761

RCA Electronic Components

DATA 5
1-68
TYPICAL PERSISTENCE CHARACTERISTIC

INITIAL HIGHLIGHT SIGNAL-OUTPUT MICROAMPERES = 0.3
SCANNED AREA OF PHOTOCONDUCIVE LAYER = 1/2" x 3/8"
FACEPLATE TEMPERATURE = 30° C APPROX.
UNCOMPENSATED HORIZONTAL SQUARE-WAVE RESPONSE

HIGHLIGHT TARGET MICROAMPERES = 0.35
DARK CURRENT (MICROAMPERES) = 0.02
TEST PATTERN: TRANSPARENT SQUARE-WAVE RESOLUTION WEDGE.

UNCOMPENSATED HORIZONTAL PEAK-TO-PEAK SQUARE-WAVE RESPONSE AT CENTER OF PICTURE — PER CENT

TV LINE NUMBER

92CM-10683R1
TYPICAL SPECTRAL SENSITIVITY CHARACTERISTIC

For equal values of signal-output current at all wavelengths, signal-output microamperes from scanned area of 1/2" x 3/8" = 0.02
Dark current (microamperes) = 0.02