7262
VIDICON
LOW-POWER (0.6-WATT) HEATER 600-LINE RESOLUTION
For use in small, compact, transistorized TV cameras

DATA

General:
Heater, for Unipotential Cathode:
Voltage............ 6.3 ± 10%........ ac or dc volts
Current............... 0.095................. amp
Direct Interelectrode Capacitance:
Target to all
other electrodes ............. 4.6 μf
Spectral Response:............ See Curves
Photoconductive Layer:
Maximum useful diagonal of
rectangular image (4 x 3
aspect ratio)........... 0.62"
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 face-
plate. 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"
Weight (Approx.) .......... 2 oz
Operating Position.............. Any
Bulb.............................. T8
Base Connector.............. Cinch No.54A18088, or equivalent
Base......................... Small-Button Ditetrar 8-Pin (JEDEC No.EB-11)
Basing Designation for BOTTOM VIEW........... 8HM

Pin 1—Heater
Pin 2—Grid No.1
Pin 3—Internal Connection—Do Not Use
Pin 4—Same as Pin 3
Pin 5—Grid No.2
Pin 6—Grid No.4,
Grid No.3

Pin 7—Cathode
Pin 8—Heater
Flange—Target
Short Index Pin—Same as Pin 3

DIRECTION OF LIGHT INTO FACE END OF TUBE

Maximum Ratings, Absolute Values:
For scanned area of 1/2" x 3/8"
GRID-No.3 & GRID-No.4 VOLTAGE............ 350 max. volts
GRID-No.2 VOLTAGE............ 350 max. volts
GRID-No.1 VOLTAGE:
Negative-bias value............ 125 max. volts
Positive-bias value............ 0 max. volts

†: See next page.

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RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
TENTATIVE DATA 1
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode. 125 max. volts
Heater positive with respect to cathode. 10 max. volts
DARK CURRENT ............................................. 0.25 max. µa
PEAK TARGET CURRENT: .................... 0.55 max. µa
FACEPLATE:
  Illumination ........................................... 1000 max. ft-c
  Temperature. ............................................ 60 max. °C

Typical Operation:
For scanned area of 1/2" x 3/8" and
faceplate temperature of 30° to 35 °C

Grid-No.4 (Decelerator) &
  Grid-No.3 (Beam-focus
electrode*) Voltage. .......................... 250° to 300 volts
Grid-No.2 (Accelerator) Voltage. .......................... 300 volts
Grid-No.1 Voltage for picture
cutoff*: ............................................. -45 to -100 volts
Average "Gamma" of Transfer
  Characteristic for signal-
output current between 0.02 µa
  and 0.2 µa ............................................. 0.65
Visual Equivalent Signal-to-
Noise Ratio (Approx.)* .......................... 300:1
Minimum Peak-to-Peak Blanking
Voltage:
  When applied to grid No.1. .......................... 75 volts
  When applied to cathode. ............................ 20 volts
Field Strength at Center of
  Focusing Coil (Approx.) ...................... 40 gausses
Field Strength of Adjustable
  Alignment Coil* ........................................ 0 to 4 gausses

Maximum-Sensitivity Operation for Live-Scene Pickup
Faceplate Illumination (Highlight) ..................... 2 ft-c
Maximum Target Voltage required to
  produce dark current of 0.2 µa
  in any tube** ........................................ 110 volts
Target Voltage‡ ........................................... 60 to 100 volts
Dark Current† ........................................... 0.2 µa
Target Current (Highlight)§ .......................... 0.4 to 0.5 µa
Signal-Output Current:*
  Peak ................................................. 0.2 to 0.3 µa
  Average. ............................................. 0.08 to 0.1 µa

Average-Sensitivity Operation for Live-Scene Pickup
Faceplate Illumination (Highlight) ..................... 15 ft-c
Maximum Target Voltage required to
  produce dark current of 0.02 µa
  in any tube** ........................................ 60 volts
Target Voltage‡ ........................................... 30 to 50 volts

*†‡§**: See next page.
Dark Current: 0.02 \mu A
Target Current (Highlight): 0.3 to 0.4 \mu A
Signal-Output Current:
  Peak: 0.3 to 0.4 \mu A
  Average: 0.1 to 0.2 \mu A

Minimum-Lag Operation for Film Pick-Up
Faceplate Illumination (Highlight): 100 ft-c
Maximum Target Voltage required to produce dark current of 0.004 \mu A in any tube: 30 volts
Target Voltage: 15 to 25 volts
Dark Current: 0.004 \mu A
Target Current (Highlight): 0.3 to 0.4 \mu A
Signal-Output Current:
  Peak: 0.3 to 0.4 \mu A
  Average: 0.1 to 0.2 \mu A

This capacitance, which effectively is the output impedance of the 7262, 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.

Beam focus is obtained by combined effect of grid-No.3 voltage which should be adjustable over indicated range, and a focusing coil having an average field strength of 40 gausses.

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 Mc. 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.

The alignment coil should be located on the tube so that its center is at a distance of 3-11/16 inches from the face of the tube, and be positioned so that its axis is coincident with the axis of the tube, the deflecting yoke, and the focusing coil.

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

Video amplifiers must be designed properly to handle target currents of this magnitude to avoid amplifier overload or picture distortion.

Defined as the component of the target current after the dark-current component has been subtracted.
NOTE: STRAIGHT SIDES OF MASKED PORTIONS ARE PARALLEL TO THE PLANE PASSING THROUGH TUBE AXIS AND SHORT INDEX PIN.
TYPICAL LIGHT-TRANSFER CHARACTERISTICS

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

2870° K TUNGSTEN ILLUMINATION ON TUBE FACE — FOOT — CANDLES

TYPICAL PERSISTENCE CHARACTERISTIC

INITIAL HIGHLIGHT SIGNAL-OUTPUT MICROAMPERES = 0.3
SCANNED AREA OF PHOTOCONDUCTIVE LAYER = 1/2" x 3/8"
FACEPLATE TEMPERATURE = 30°C APPROX.

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RADIO CORPORATION OF AMERICA, HAFFNISON, NEW JERSEY

92CS-9504
TYPICAL PERSISTENCE CHARACTERISTICS

INITIAL HIGHLIGHT SIGNAL-OUTPUT MICROAMPERES = 0.3
SCANNED AREA OF PHOTOCONDUCTIVE LAYER = 1/2" x 3/8"
FACEPLATE TEMPERATURE = 30° C APPROX.

TIME AFTER ILLUMINATION IS REMOVED—MILLISECONDS

SIGNAL-OUTPUT CURRENT—PER CENT OF INITIAL VALUE

DARK CURRENT—MICROAMPERES
SPECTRAL-SENSITIVITY CHARACTERISTICS

CURVE A: FOR EQUAL VALUES OF SIGNAL-OUTPUT CURRENT AT ALL WAVELENGTHS.
SIGNAL-OUTPUT MICROAMPERES FROM SCANNED AREA OF $\frac{1}{2}" \times \frac{3}{8}" = 0.02$
DARK CURRENT (MICROAMPERES) = 0.02

CURVE B: SPECTRAL CHARACTERISTIC OF AVERAGE HUMAN EYE.

CURVE C: FOR EQUAL VALUES OF SIGNAL-OUTPUT CURRENT WITH RADIANT FLUX FROM TUNGSTEN SOURCE AT 2870° K.
TYPICAL CHARACTERISTICS

HIGHLIGHT SIGNAL-OUTPUT MICROAMPERES = 0.2
DARK CURRENT (MICROAMPERES) = 0.2
SCANNED AREA OF PHOTOCONDUCTIVE LAYER = \(\frac{1}{2}'' \times \frac{3}{8}''\)

CURVE A: RELATIVE TARGET VOLTAGE REQUIRED TO MAINTAIN DARK CURRENT OF 0.2 \(\mu\)A.

CURVE B: 2870°K INCANDESCENT ILLUMINATION REQUIRED TO PRODUCE SIGNAL-OUTPUT CURRENT OF 0.2 \(\mu\)A.

CURVE C: PERSISTENCE (LAG) CHARACTERISTIC FOR AN INITIAL SIGNAL-OUTPUT CURRENT OF 0.2 \(\mu\)A.
SCANNED AREA OF PHOTOCONDUCTIVE LAYER = 1/2" x 3/8"
FACEPLATE TEMPERATURE = 30° C APPROX.
ILLUMINATION: 2870°K INCANDESCENT.
HIGHLIGHT SIGNAL-OUTPUT MICRO-
AMPERES = 0.3
SCANNED AREA OF PHOTOCONDUCTIVE
LAYER = 1/2" X 3/8"
FACEPLATE TEMPERATURE = 30°C APPROX.