



## TELEVISION CAMERA TUBE-VIDICON

FOCUS—MAGNETIC

DEFLECTION—MAGNETIC

FOR FILM PICKUP

The GL-6326 is designed for service in cameras that televise motion-picture film, transparencies, and opaques. Small in size it has a resolution capability of about 600 lines and a spectral response approaching that of the eye.

Because of its sensitivity an average highlight illumination of only 100 to 300 foot-candles on the tube face is sufficient for satisfactory televising of motion-picture film. A constant illumination of 10 foot-candles is sufficient in the case of transparencies and opaques.

Design and construction features assure excellent results with any television film projector. A particular advantage is elimination of the necessity for synchronizing the projector with the field rate of the television synchronizing generator when the light application time is greater than 30 percent of that for a single television field.

The small size of the GL-6326 adapts it for use in lightweight compact cameras and combines with its simplicity to facilitate camera and associated equipment design.

GENERAL  ELECTRIC

Supersedes ET-T1248 dated 12-55

TECHNICAL INFORMATION

GENERAL

Electrical

|                                                                                                                       |          |         |
|-----------------------------------------------------------------------------------------------------------------------|----------|---------|
| Cathode—Unipotential                                                                                                  |          |         |
| Heater Voltage, AC or DC                                                                                              | 6.3 ±10% | Volts   |
| Heater Current                                                                                                        | 0.6      | Amperes |
| Focusing Method—Magnetic                                                                                              |          |         |
| Deflecting Method—Magnetic                                                                                            |          |         |
| Direct Interelectrode Capacitance*                                                                                    |          |         |
| Signal Electrode to All Other Electrodes                                                                              | 4.5      | μmF     |
| Spectral Response—See spectral sensitivity curve on page five for details.                                            |          |         |
| Photoconductive Layer                                                                                                 |          |         |
| Maximum Useful Diagonal of Rectangular Image, 4 by 3 aspect ratio                                                     | 0.62     | Inches  |
| Orientation of Quality Rectangle—Horizontal Scan Essentially Parallel to Plane Through Tube Axis and Short Index Pin. |          |         |

Mechanical

|                                                             |               |        |
|-------------------------------------------------------------|---------------|--------|
| Over-all Length                                             | 6 1/4 ± 1/4   | Inches |
| Greatest Diameter, excluding side tip                       | 1.125 ± 0.010 | Inches |
| Maximum Radius, including side tip                          | 0.805         | Inches |
| Base—Small-button Ditetrar 8-Pin, E8-11                     |               |        |
| Mounting Position—Approximately Horizontal or Face Plate Up |               |        |
| Weight, approximate                                         | 2             | Ounces |

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Maximum Ratings, Absolute Values

|                                         |          |              |
|-----------------------------------------|----------|--------------|
| Signal-Electrode Voltage                | 125 Max  | Volts        |
| Grid-No. 4 and 5 Voltage                | 350 Max  | Volts        |
| Grid-No. 3 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        |
| Peak Heater-Cathode Voltage             |          |              |
| Heater Negative with Respect to Cathode | 125 Max  | Volts        |
| Heater Positive with Respect to Cathode | 10 Max   | Volts        |
| Faceplate Illumination                  | 1000 Max | Foot-Candles |
| Faceplate Temperature                   | 60 Max   | C            |

Typical Operation

For Scanned Area of 1/2" by 3/8"

Faceplate Illumination

Highlight Average, over frame time

For Pickup from Film 100 to 300

Constant

For Pickup from Transparencies or Opaques 10

Grid-No. 5 (Decelerator) and 4 (Beam Focus Electrode)

Voltage 200 to 300

Grid-No. 3 (Beam Focus Electrode) Voltage† 200 to 300

Grid-No 3 (Dynamic Focus Electrode) Voltage‡

DC Value — 200 to 300

Peak-to-Peak Value, approximate — 60

Grid-No. 2 (Accelerator) Voltage 300

Grid-No. 1 Voltage, for picture cutoff -55 to -110

Signal-Electrode Voltage

For Pickup from Film 10 to 30

For Pickup from Transparencies or Opaques 30 to 60

Dynamic Focusing

Grid-No. 3

Used Separately

as Dynamic

Focusing Electrode

100 to 300 Foot-Candles

10 Foot-Candles

200 to 300 Volts

— Volts

200 to 300 Volts

60 Volts

300 Volts

-55 to -110 Volts

10 to 30 Volts

30 to 60 Volts

## TECHNICAL INFORMATION (CONT'D)

| Typical Operation (Cont'd)<br>For Scanned Area of 1/2" by 3/8"                                           | Static Focusing                                | Dynamic Focusing                                                  |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------|
|                                                                                                          | Grid-No. 3<br>Connected to<br>Grid-No. 4 and 5 | Grid-No. 3<br>Used Separately<br>as Dynamic<br>Focusing Electrode |
| Highlight Signal-Electrode                                                                               |                                                |                                                                   |
| Current.....                                                                                             | 0.3 to 0.4                                     | 0.3 to 0.4 Microamperes                                           |
| Average Signal-Output Current§.....                                                                      | 0.1 to 0.2                                     | 0.1 to 0.2 Microamperes                                           |
| Maximum Dark Current                                                                                     |                                                |                                                                   |
| For Pickup from Film.....                                                                                | 0.004                                          | 0.004 Microamperes                                                |
| For Pickup from Transparencies or Opaques.....                                                           | 0.02                                           | 0.02 Microamperes                                                 |
| Average Gamma of Transfer Characteristic, signal-<br>output current between 0.02 and 0.2 microamperes... | 0.65                                           | 0.65                                                              |
| Minimum Peak-to-Peak Blanking Voltage                                                                    |                                                |                                                                   |
| When Applied to Grid-No. 1.....                                                                          | 40                                             | 40 Volts                                                          |
| When Applied to Cathode.....                                                                             | 10                                             | 10 Volts                                                          |
| Field Strength, adjustable alignment coil.....                                                           | 0 to 4                                         | 0 to 4 Gauss                                                      |

\* This capacitance which effectively is the output impedance of GL-6326, is increased by about  $3\mu\text{f}$  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.

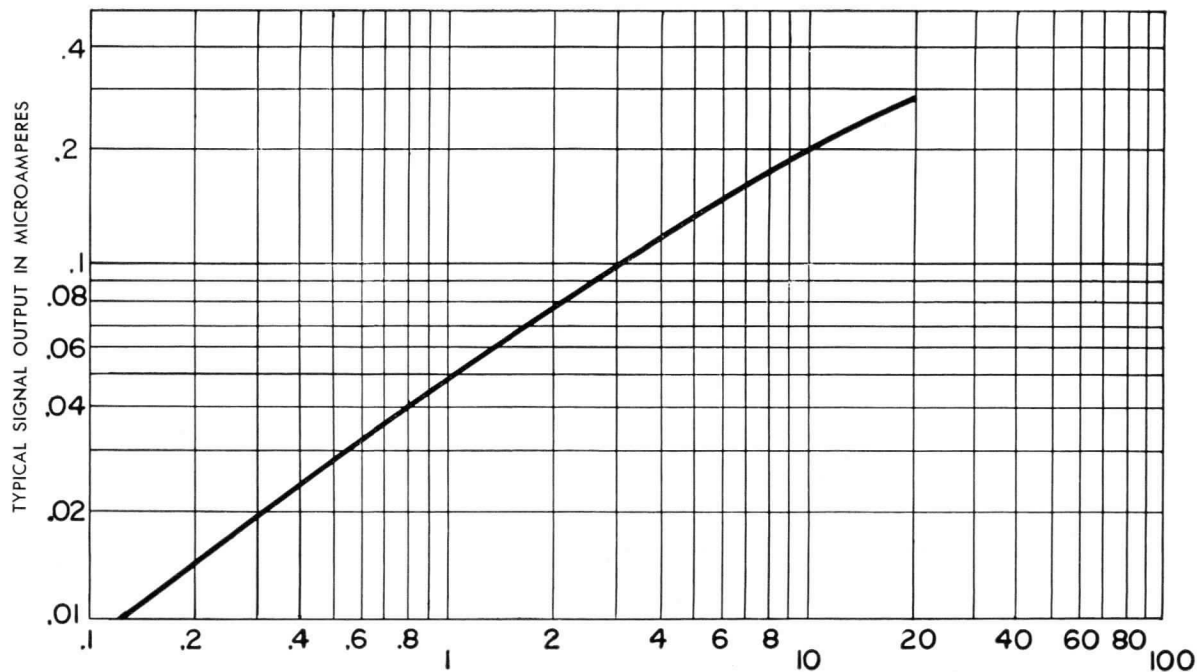
† Beam focus is obtained by combined effect of grids No. 4 and No. 3 voltage which should be adjustable over indicated range and focusing coil with 40 milliamperes passing through it.

‡ Static beam focus is obtained by combined effect of grid-No. 4 voltage which should be adjustable over indicated range, and focusing coil with 40 milliamperes passing through it. Dynamic beam focus to give improved edge focus is supplementary to static beam focus and is accomplished by adjusting the d-c grid-No. 3 voltage to the same value as that of grid-No. 4 and by applying to grid-No. 3 an a-c voltage having parabolic waveform. Parabolic voltage is minimum at center of scan.

§ The component of signal-electrode current after subtracting dark-current component.

## TYPICAL SIGNAL OUTPUT

ILLUMINATION: UNIFORM OVER PHOTOCONDUCTIVE LAYER  
SCANNED AREA OF PHOTOCONDUCTIVE LAYER— $\frac{1}{2}$ " X  $\frac{3}{8}$ "



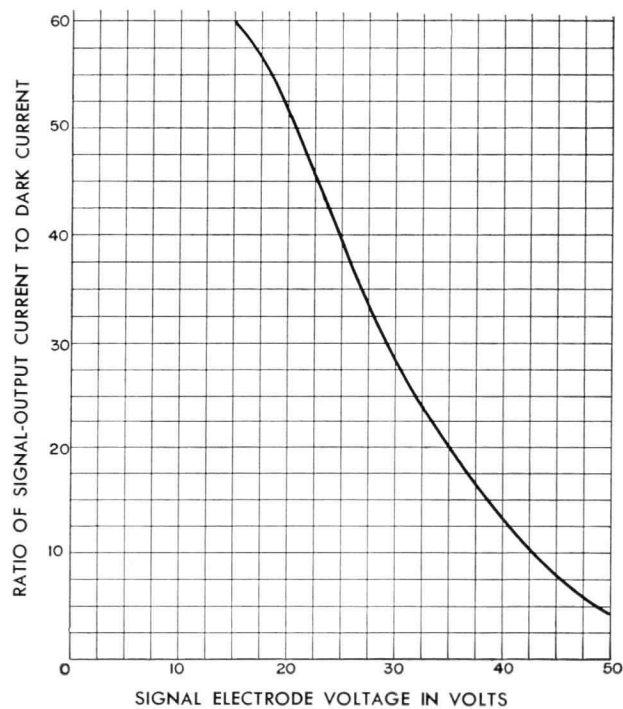
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2870 K TUNGSTEN ILLUMINATION ON TUBE FACE IN FOOT-CANDLES

12-6-55

## TYPICAL CHARACTERISTIC

CONSTANT ILLUMINATION

SCANNED AREA OF PHOTOCONDUCTIVE LAYER— $\frac{1}{2}$ " X  $\frac{3}{8}$ "

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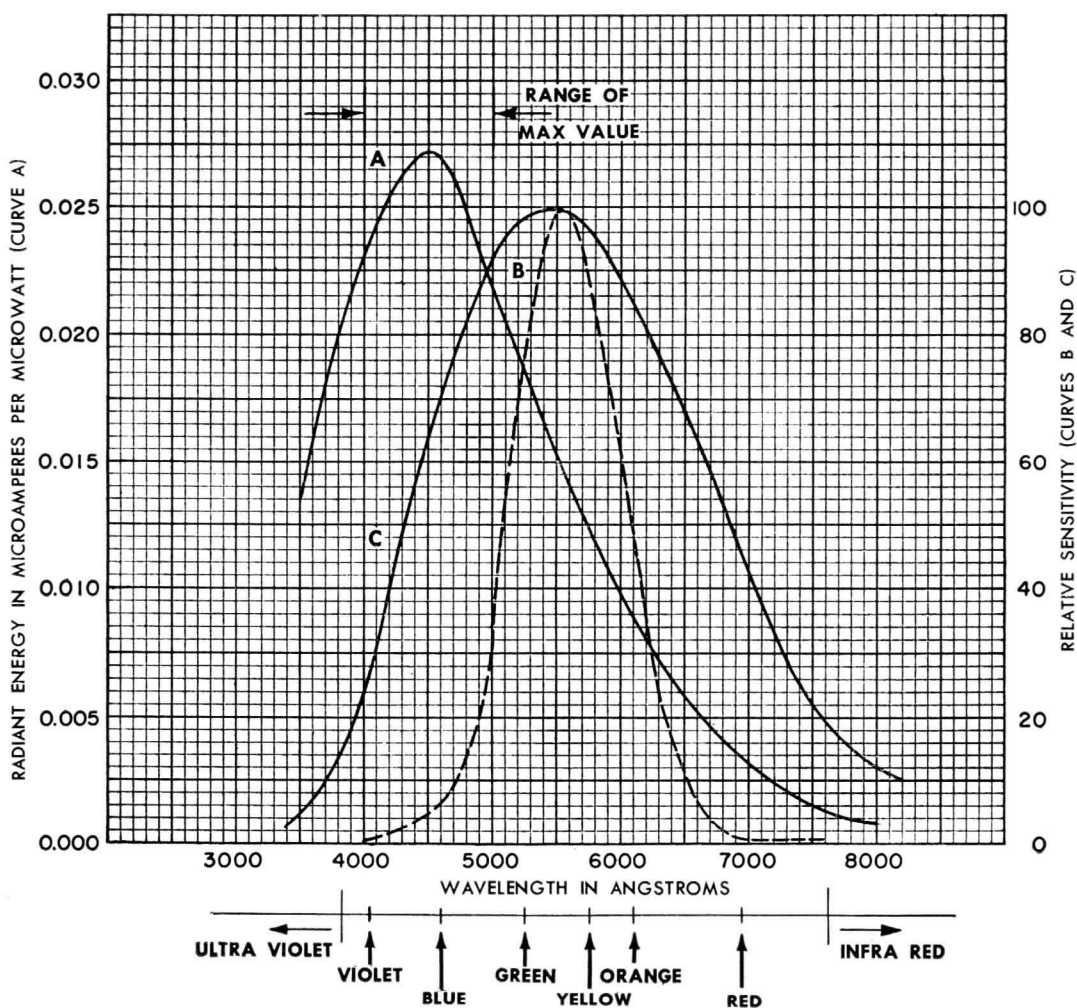
12-6-55

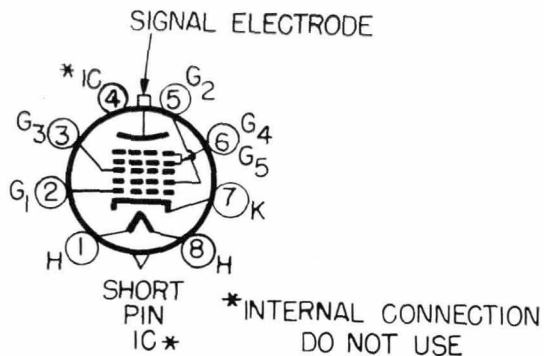
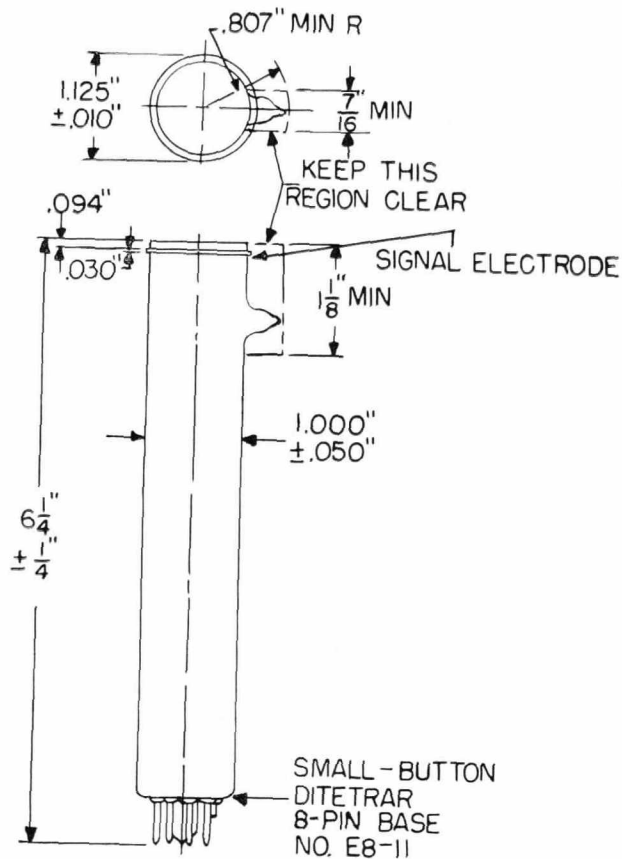
## SPECTRAL SENSITIVITY CHARACTERISTIC

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

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.





BOTTOM VIEW

K-69087-72A739

12-6-55

TUBE DEPARTMENT  
**GENERAL  ELECTRIC**  
 Schenectady 5, N. Y.