6326
VIDICON

600-LINE RESOLUTION

For film pickup
with color or black-and-white TV cameras

DATA

General:

Heater, for Unipotential Cathode:
- Voltage . . . . . 6.3 ± 10% . . . . ac or dc volts
- Current . . . . . 0.6 . . . . . amp

Direct Interelectrode Capacitance:♦
- Target (Signal electrode) to all other electrodes. . . . . 4.5 μμf

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 plane passing through the tube axis and short index pin.

Focusing Method . . . . . Magnetic
Deflection Method . . . . . Magnetic
Overall Length. . . . . 6.25" ± 0.25"
Greatest Diameter (Excluding side tip). . . . 1.125" ± 0.010"
Maximum Radius (Including side tip) . . . . . 0.805"
Weight (Approx.). . . . . 2 oz
Operating Position. . . . Approx. Horizontal, or faceplate up
Bulb. T8
Base Connector. . . . . Cinch No.54A18088, or equivalent
Base. . . . . Small-Button Ditetrar 8-Pin (JETEC No.E8-11)
Basing Designation for BOTTOM VIEW. . . . . 8HL ←

Pin 1 - Heater
Pin 2 - Grid No.1
Pin 3 - Grid No.3
Pin 4 - Internal Connection—Do Not Use
Pin 5 - Grid No.2
Pin 6 - Grid No.4, Grid No.5
Pin 7 - Cathode
Pin 8 - Heater
Flange - Target (Signal Electrode)
Short Index Pin - Internal Connection—Do Not Use

SHORT PIN

DIRECTION OF LIGHT: INTO FACE END OF TUBE

Maximum Ratings, *Absolute Values:* ←

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

GRID-No.5 & GRID-No.4 VOLTAGE	350 max.	volts
GRID-No.3 VOLTAGE	350 max.	volts
GRID-No.2 VOLTAGE	350 max.	volts

♦: See next page. ← Indicates a change.

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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
DARK CURRENT	0.025 max.	μa
PEAK TARGET (SIGNAL-ELECTRODE) CURRENT	0.5 max.	μa
FACEPLATE:		
Illumination	1000 max.	ft-c
Temperature	60 max.	°C

→ **Typical Operation:**

Grid No.3 connected to grids No.4 and No.5; scanned area of 1/2" x 3/8"; faceplate temperature of 30° to 35° C

Faceplate Illumination:		
Average highlight▲, for pickup from film	50 to 300	ft-c
Constant highlight, for pickup from live scenes	20	ft-c
Maximum Target (Signal-Electrode) Voltage required to produce dark current of 0.02 μa in any tube**	100	volts
Target (Signal-Electrode) Voltage:†		
For pickup from film	20 to 40	volts
For pickup from live scenes	40 to 70	volts
Grid-No.5 (Decelerator) and Grids-No.4 & No.3 (Beam-Focus-Electrodes*) Voltage	250⊕ to 300	volts
Grid-No.2 (Accelerator) Voltage	300	volts
Grid-No.1 Voltage for picture cutoff●	-45 to -100	volts
Signal-Output Current:#		
Peak	0.3 to 0.4	μa
Average	0.1 to 0.2	μa
Dark Current:		
For pickup from film	0.004	μa
For pickup from live scenes	0.02	μa
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	40	volts
When applied to cathode	10	volts
Field Strength at Center of Focusing Coil (Approx.)	40	gausses
Field Strength of Adjustable Alignment Coil□	0 to 4	gausses

♦,▲,**,†,*,⊕,●,#,○,□: See next page.

→ Indicates a change.

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♦ This capacitance, which effectively is the output impedance of the 6326, 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.

▲ Averaged over the time of one TV frame.

** The target (signal-electrode) voltage for each 6326 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- (signal-electrode-) voltage range normally encountered.

* Beam focus is obtained by combined effect of grids-No.4 & No.3 voltage which should be adjustable over indicated range, and a focusing coil having an average field strength of 40 gausses. If desired, grid No.3 may be operated separately to permit vernier control of focus. Under such conditions, the instantaneous grid-No.3 voltage must always be equal to or greater than the grid-No.4 voltage.

⊕ Definition, focus uniformity, and picture quality decrease with decreasing grids-No.5 & No.4 & No.3 voltage. In general, grids No.5 & No.4 & No.3 should not be operated below 250 volts.

● With no blanking voltage on grid No.1.

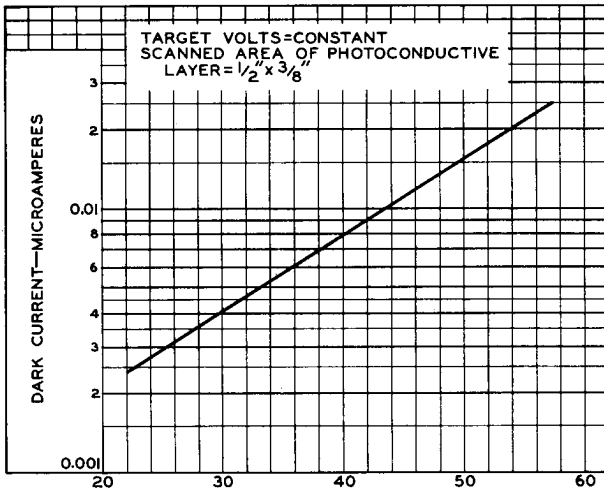
Defined as the component of the target (signal-electrode) current after the dark-current component has been subtracted.

○ Measured with high-gain, low-noise, cascode-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 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.

DATA 2

TYPICAL CHARACTERISTIC



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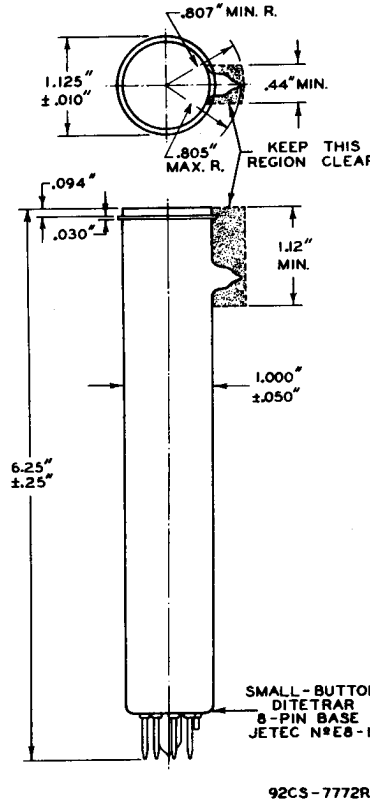

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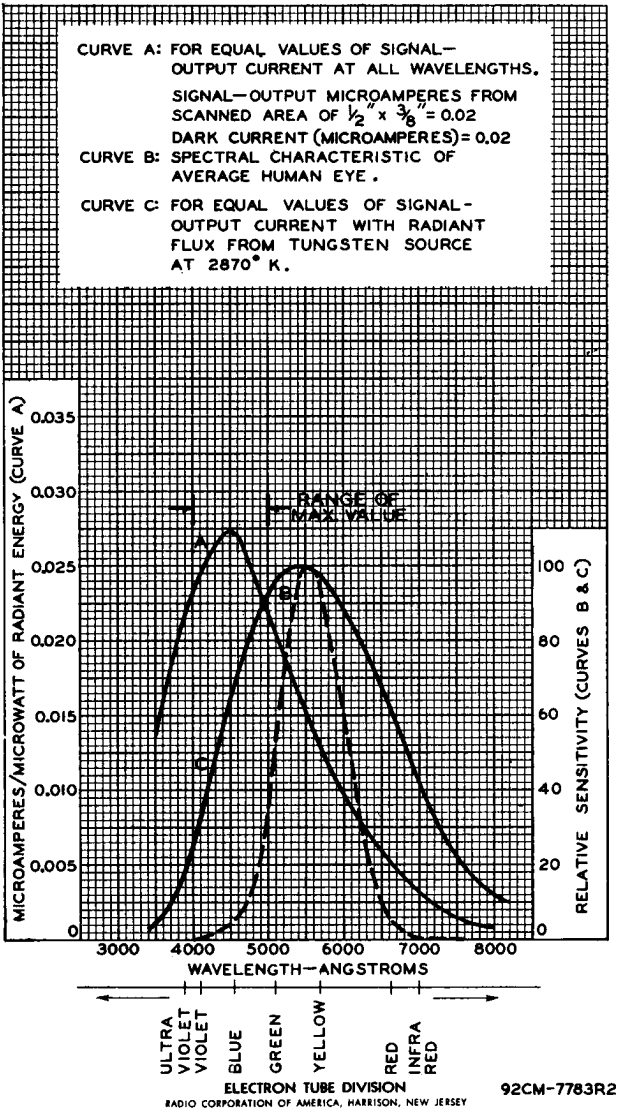
SPECTRAL-SENSITIVITY CHARACTERISTICS



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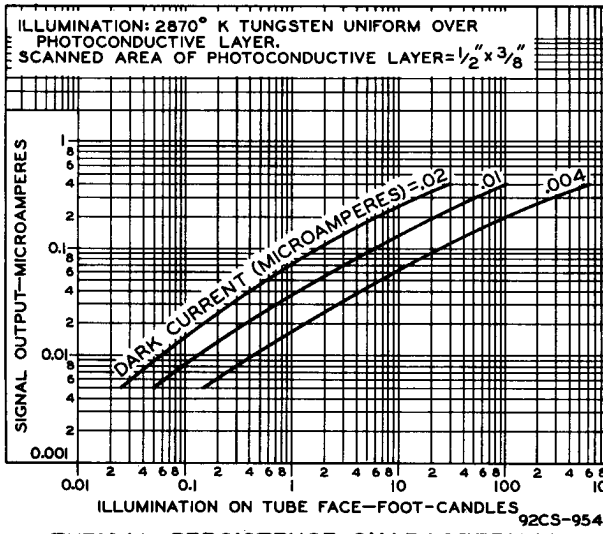
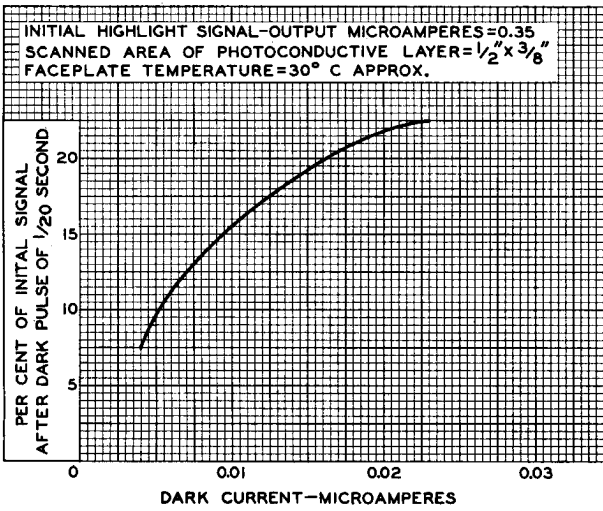
TYPICAL LIGHT-TRANSFER CHARACTERISTICS



TYPICAL PERSISTENCE CHARACTERISTIC



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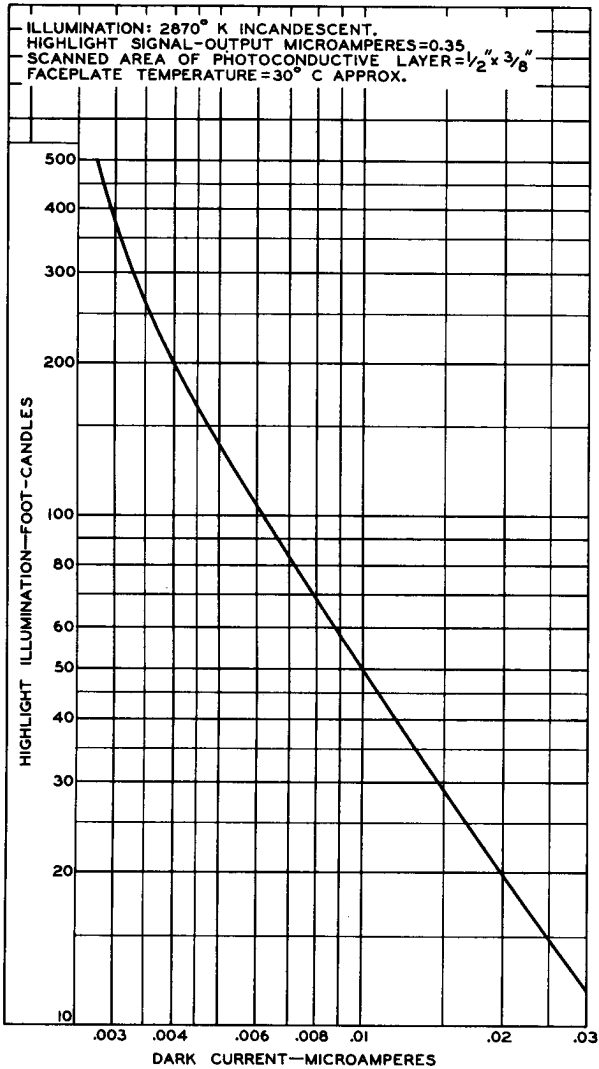
TYPICAL CHARACTERISTIC



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RCA

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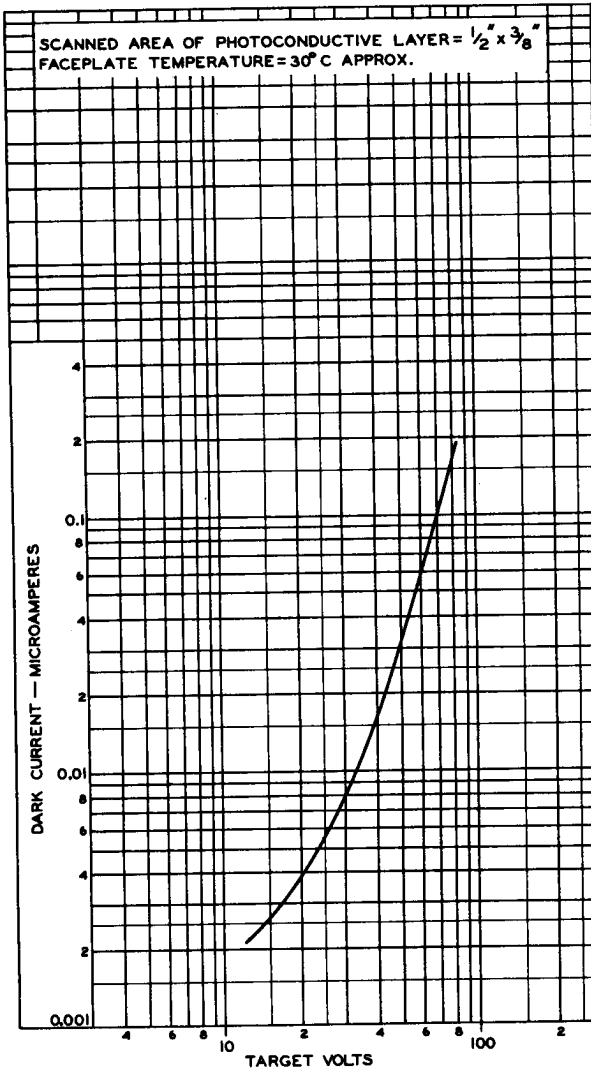
TYPICAL DARK-CURRENT CHARACTERISTIC



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TYPICAL CHARACTERISTICS

HIGHLIGHT SIGNAL-OUTPUT MICROAMPERES=0.3
DARK CURRENT (MICROAMPERES)=0.004
SCANNED AREA OF PHOTOCONDUCTIVE LAYER=$\frac{1}{2}$" x $\frac{3}{8}$"
CURVE A: TARGET VOLTAGE REQUIRED TO MAINTAIN DARK CURRENT OF 0.004μA.
CURVE B: 2870° K INCANDESCENT ILLUMINATION REQUIRED TO PRODUCE SIGNAL-OUTPUT CURRENT OF 0.3μA.