



6198-A

VIDICON

600-LINE RESOLUTION

For use in industrial applications

6198-A

The 6198-A is an improved version of the 6198 and is unilaterally interchangeable with it.

DATA

General:

Heater, for Unipotential Cathode:

Voltage. $6.3 \pm 10\%$ ac or dc volts

Current. 0.6 amp

Direct Interelectrode Capacitance:*

Signal electrode to
all other electrodes 4.5 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 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 $6-1/4" \pm 1/4"$ Greatest Diameter. $1.125" \pm 0.010"$

Weight (Approx.) 2 oz

Operating Position Approx. horizontal, or faceplate up

Bulb T8

Base Connector Cinch No.54A18088, or equivalent

Base Small-Button Ditetra 8-Pin (JETEC No.E8-11)

Basing Designation for BOTTOM VIEW 8HM

Pin 1—Heater

Pin 2—Grid No.1

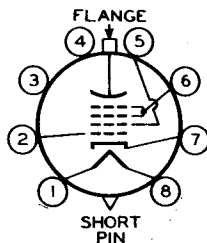
Pin 3—Internal

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—Signal

Electrode

Short Index Pin —

Same as

Pin 3

Maximum Ratings, Absolute Values:

SIGNAL-ELECTRODE VOLTAGE 100 max. volts

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

GRID-No.2 VOLTAGE. 350 max. volts

* This capacitance, which effectively is the output impedance of the 6198-A, 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.



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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

FACEPLATE:

Illumination (Highlight)	1000 max.	ft-c
Temperature.	60 max.	°C

Typical Operation and Characteristics:

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

Faceplate Illumination (Highlight)	10 to 20	ft-c
Signal-Electrode Voltage	10 to 70	volts
Grid-No.4 (Decelerator) & Grid-No.3 (Beam Focus) Voltage	250 ^{••} to 300	volts
Grid-No.2 (Accelerator) Voltage.	300	volts
Grid-No.1 Voltage for picture cutoff [↓]	-45 to -100	volts
Highlight Signal-Output Current.	0.1 to 0.2	μa
Maximum Dark Current	0.02	μa
Uniform 2870° K Tungsten Illumination on Tube Face to Produce Signal-Output Current of 0.1 to 0.2 μa	3 to 10	ft-c
Average "Gamma" of Transfer Characteristic for Signal-Output Current between 0.02 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 Device.	40	gausses
Field Strength of Adjustable Alignment Coil	0 to 4	gausses

^{••} Definition, focus uniformity, and picture quality decrease with decreasing grid-No.3 and grid-No.4 voltage. In general, grid No.3 and grid No.4 should not be operated below 250 volts.

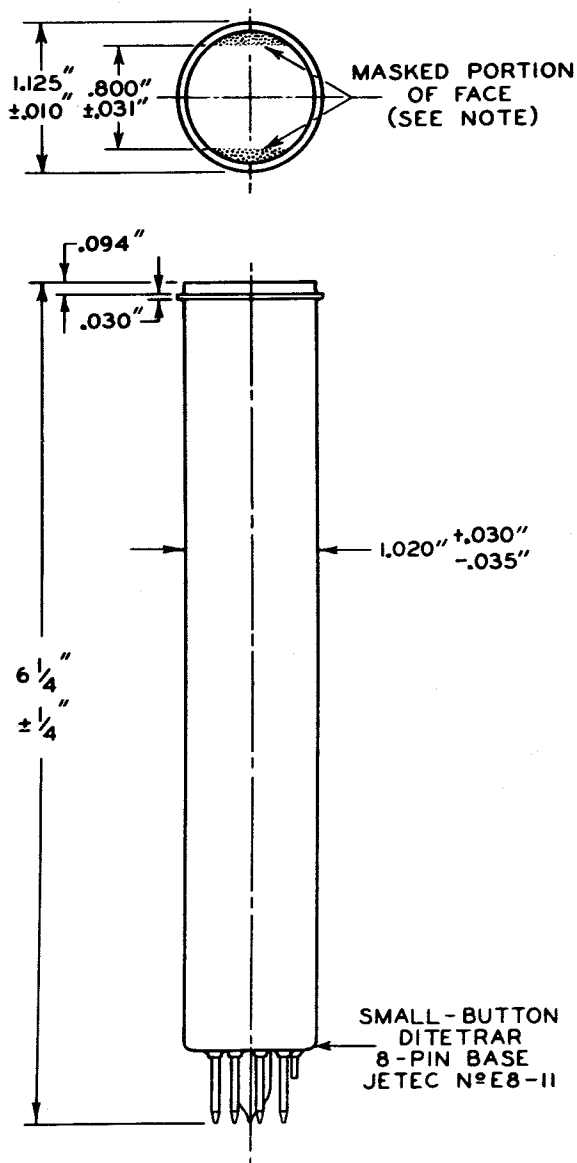
[↓] With no blanking voltage on grid No.1.

* Measured with a high-gain, low-noise, cascode-input-type amplifier having bandwidth of 5 Mc and determined primarily by the signal-output level of the vidicon and the noise generated in the input amplifier. 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.



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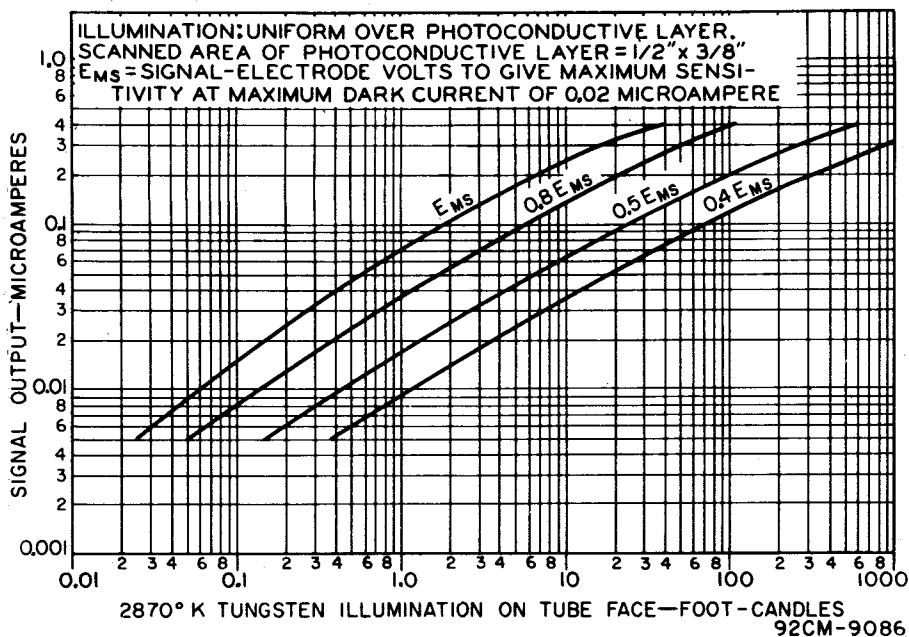
NOTE: STRAIGHT SIDES OF MASKED PORTIONS ARE PARALLEL TO THE PLANE PASSING THROUGH TUBE AXIS AND SHORT INDEX PIN.

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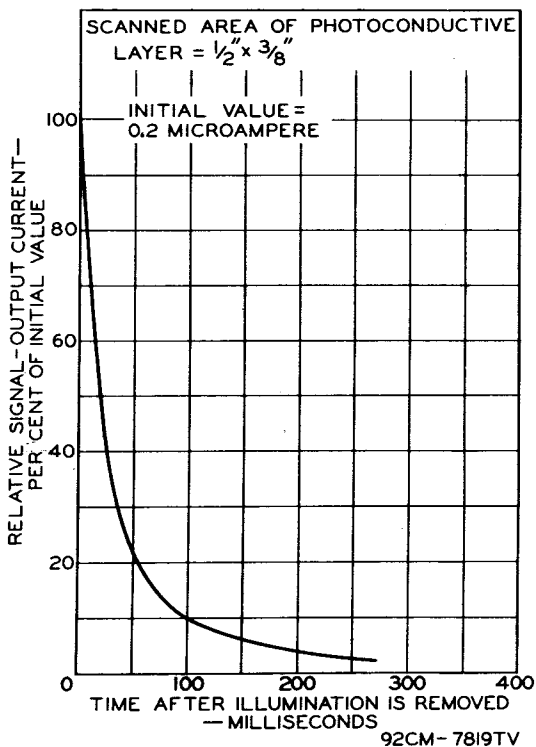


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TYPICAL LIGHT-TRANSFER CHARACTERISTICS



PERSISTENCE CHARACTERISTIC



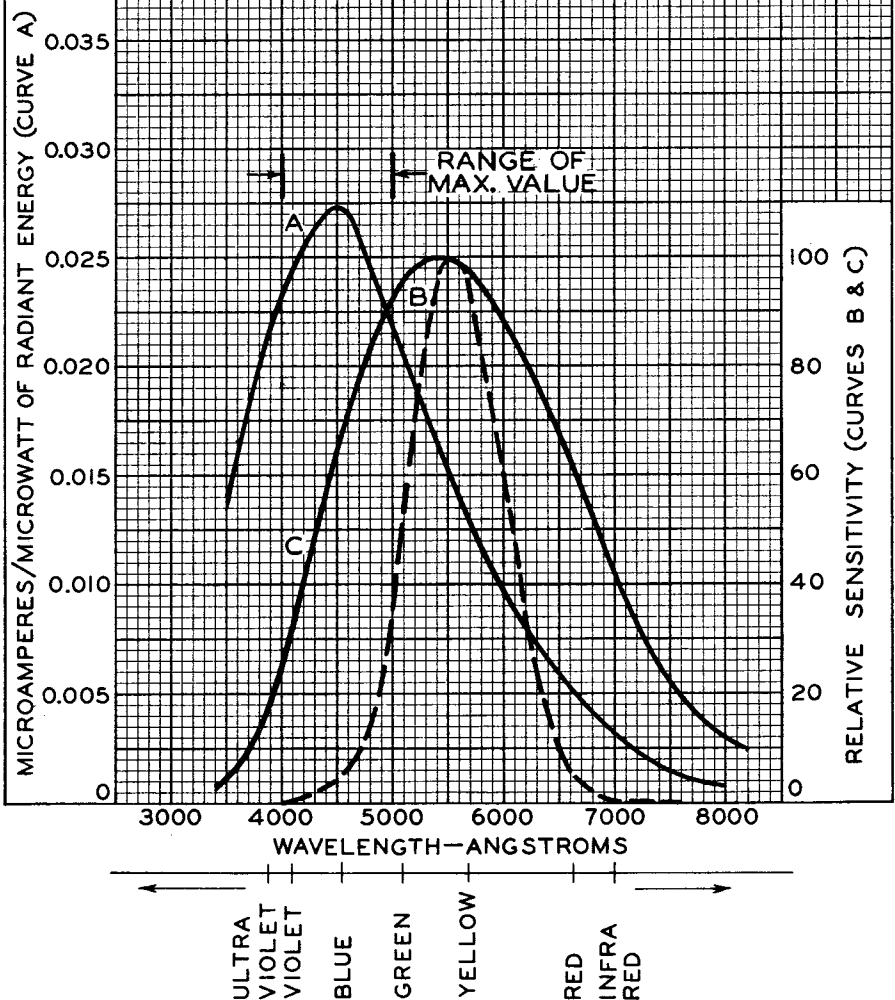


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SPECTRAL SENSITIVITY CHARACTERISTICS

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

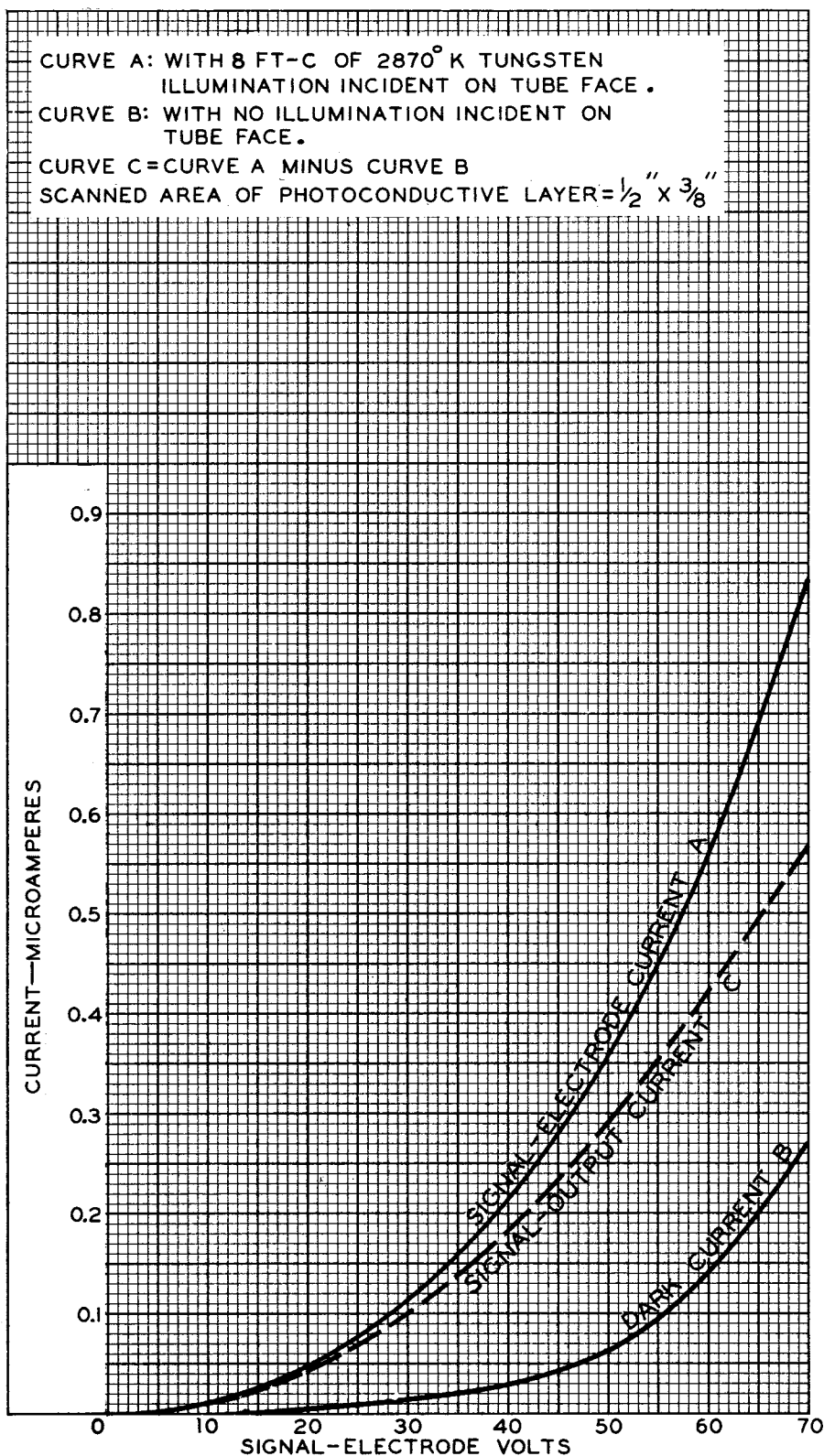


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TYPICAL CHARACTERISTICS



ELECTRON TUBE DIVISION

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7818



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TYPICAL CHARACTERISTIC

