



6198-A VIDICON

TENTATIVE DATA

RCA-6198-A is a small, television camera tube intended primarily for use in industrial applications. Its resolution capability is about 600 lines.

Utilizing a photoconductive layer as its light-sensitive element, the 6198-A has a sensitivity which permits televising scenes with 100 to 200 foot-candles of incident illumination on the scene. The photoconductive layer is characterized by a spectral response approaching that of the eye.

Uniform 2670°K Tungsten illumination on Tube Face to Produce Signal-Output Current of 0.1 to 0.2 μ amp	3 to 10	ft-c
Ratio (Approx.) of Tube-Face Illumination Required to Produce Signal-Output Current of 0.2 μ amp to that Required to Produce 0.02 μ amp.	30	
Minimum Peak-to-Peak Blanking Voltage:		
When applied to grid No.1	30	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

DATA

General:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	6.3 \pm 10%	volts
Current	0.6	ampere
Direct Interelectrode Capacitance:		
Signal Electrode to All Other Electrodes	4.5	μ mf
Spectral Response		See Curve
Photoconductive Layer:		
Maximum Useful Diagonal of Rectangular Image ($\frac{1}{4}$ x $\frac{3}{8}$ 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	6-1/4" \pm 1/4"	
Greatest Diameter (Excluding Side Tip)	1.125" \pm 0.010"	
Maximum Radius (Including Side Tip)	0.805"	
Bulb		T-8
Base		Small-Button Ditetra 8-Pin (JETEC No. EB-11)
Operating Position		Any

Maximum Ratings, Absolute Values:

SIGNAL-ELECTRODE VOLTAGE	125 max.	volts
GRID-NO.4 & 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 TEMPERATURE	60 max.	°C

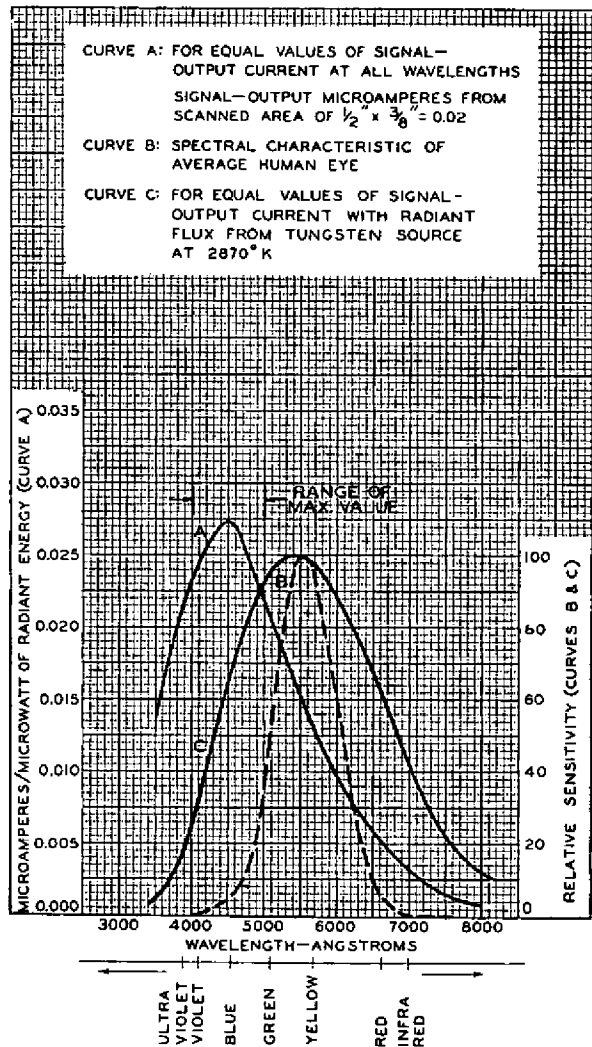
Typical Operation and Characteristics:

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

Signal-Electrode Voltage for Dark Current of 0.02 μ amp.		
Grid-No.4 (Decelerator) & Grid-No.3 (Beam Focus) Voltage.	200 to 300	volts
Grid-No.2 (Accelerator) Voltage.	300	volts
Grid-No.1 Voltage (For picture cutoff)	-45 to -100	volts
Signal-Output Current:		
Normal Operating Range	0.1 to 0.2	μ amp
Minimum, with 0.6 foot-candle of uniform 2670°K tungsten illumination on tube face.	0.035	μ amp

With no blanking voltage on grid No.1.

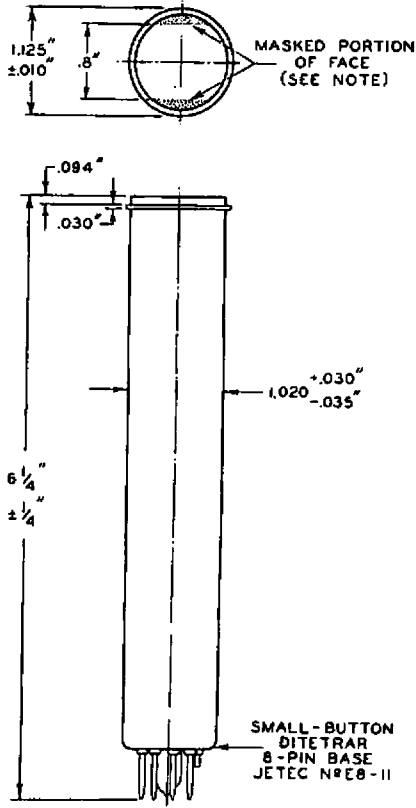
* Defined as the component of the signal-electrode current after the dark-current component has been subtracted.



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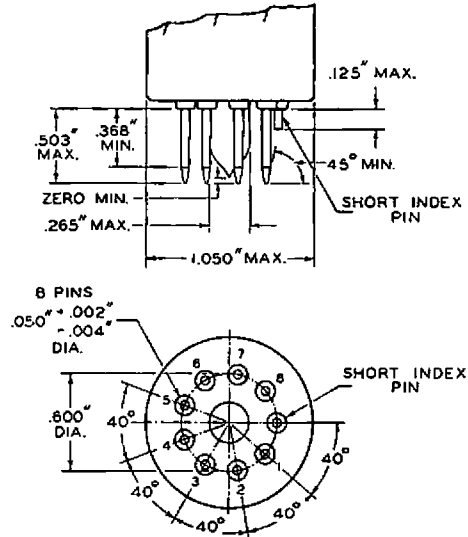
DIMENSIONAL OUTLINE



92CS-9144

BASE DRAWING

SMALL-BUTTON DITETRAR 8-PIN BASE JETEC N°E8-II



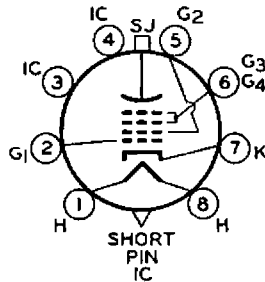
92CS-7765

Base-pin positions are held to tolerances such that pins will fit a flat-plate gauge having thickness of 1/4" and 9 holes 0.0700" ± 0.0005" so located on a 0.6000" ± 0.0005" diameter circle that the distance along the chord between any two adjacent hole centers is 0.2052" ± 0.0005". Gauge is provided with center hole having diameter of 0.300" ± 0.001" and same center as the pin circle.

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

SOCKET CONNECTIONS Bottom View

- 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: SIGNAL ELECTRODE (SJ)
- SHORT INDEX PIN: INTERNAL CONNECTION-- MAKE NO CONNECTION

8#M

DIRECTION OF LIGHT:
 INTO FACE END OF TUBE

Devices and arrangements shown or described herein may use patents of RCA or others. Information contained herein is furnished without responsibility by RCA for its use and without prejudice to RCA's patent rights.

<u>ITEM</u>	<u>AS REGISTERED</u>	<u>AS PROPOSED</u>	
<u>Under DATA, General:</u>			
Operating Position	Any	Approx. Horizontal,	
Greatest Diameter (Excluding Side Tip)	1.125" ± 0.010"	or faceplate up	
Greatest Diameter	None	Delete	
Maximum Radius (Including Side Tip)	0.805"	1.125" ± 0.010"	
<u>Under Maximum Ratings:</u>			
SIGNAL-ELECTRODE VOLTAGE . .	125 max.	100 max.	volts
FACEPLATE:			
Illumination	None	1000 max.	foot-candles
<u>Under Typical Operation and Characteristics:</u>			
Faceplate Illumination:			
Highlight	None	10 to 20	foot-candles
Signal-Electrode Voltage for Dark Current of			
0.02 μamp	10 to 125	Delete	volts
Signal-Electrode Voltage . .	None	20 to 70	volts
Grid-No.4 (Decelerator) & Grid-No.3 (Beam Focus) Voltage			
	200 to 300	250 [‡] to 300	volts
Signal Output Current:			
Normal Operating Range . .	0.1 to 0.2	Delete	μamp
Minimum, with 0.6 foot-candle of uniform 2870°K tungsten illumina- tion on tube face			
	0.035	Delete	μamp
Highlight Signal-Output Current			
	None	0.1 to 0.2	μamp
Maximum Dark Current			
	None	0.02	μamp
Ratio (Approx.) of Tube-Face Illumination Required to Produce Signal-Output Cur- rent of 0.2 μamp to that Required to Produce 0.02 μamp			
	30	Delete	
Average "Gamma" of Transfer Characteristic for Signal- Output Current between 0.02 and 0.2 μamp			
	None	0.65	
Minimum Peak-to-Peak Blanking Voltage:			
When applied to grid No.1.	30	40	volts
Visual Equivalent Signal-to- Noise Ratio (Approx.)# . .			
	None	300:1	
<u>Under Dimensional Outline</u>			
Distance between the Masked Portions of Face			
	0.8"	0.8" ± .031"	
Socket Connection Diagram . .			
	No Designation	8HM	

Release 1762A
Type 6198A

- § 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.
- # Measured with a high-gain, low-noise, cascode-type amplifier having bandwidth of 5 Mc and is 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.