4493, 4494, 4495

Vidicons

1-Inch Diameter

Electrostatic Focus — Magnetic Deflection

For use in the chroma channels of suitably designed color TV cameras in live pickup service

GENERAL

Overall Length	6.25 in ±0.10 in
Greatest Diameter	1.125 in ±0.010 in
Bulb Diameter	1.025 in ±0.003 in
Faceplate Thickness	0.094 in ±0.012 in
Direct Interelectrode Capacitance:[a]	
Target to all other electrodes	5.0 pF
Focusing Method	Electrostatic
Deflection Method	Magnetic
Heater Power	0.6 W
Photoconductive Layer:	
Maximum useful picture size	0.192 in x 0.256 in
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.	
Base	Small-Button Ditetrar 8-Pin, (JEDEC No. E8-11)
Socket	Cinch No. 133-98-11-015, or equivalent
Weight	2.8 oz
Operating Position	Any

ABSOLUTE MAXIMUM RATINGS

Grid-No. 6 & Grid-No. 3 Voltage[c]	1200 max. V
Grid-No. 5 Voltage[c]	750 max. V
Grid-No. 4 Voltage	400 max. V
Grid-No. 2 Voltage	850 max. V
Grid-No. 1 Voltage:	
Negative bias value	300 max. V
Positive bias value	0 max. V
Peak Heater-Cathode Voltage:	
Heater negative with respect to cathode	125 max. V
Heater positive with respect to cathode	10 max. V
Heater Voltage	7 max. V
Target Voltage	100 max. V
Target Dark Current	0.05 max. μA
Peak Target Current[d]	0.4 max. μA
Faceplate:	
Illumination	1000 max. fc
Temperature	71 max. °C

TYPICAL OPERATION AND PERFORMANCE DATA

For scanned area of 0.192 in x 0.256 in
Faceplate Temperature of 25° to 30° C

For All Types

Grid-No. 6 (Decelerator) & Grid-No.3 Voltage	750 V
Grid-No.5 Voltage	250 to 315 V
Grid-No.4 (Beam-Focus Electrode) Voltage	100 to 125 V
Grid-No.2 (Accelerator) Voltage	100 to 300 V
Grid-No.1 Voltage	-20 V

	4493 (Red)	4494 (Green)	4495 (Blue)	
Illumination[e]	4.5	4.5	4.0	fc
Signal Output Current[f]	0.060	0.060	0.020	μA
Signal-to-Dark Current Ratio[f]	6:1	6.1	4:1	
Typical Resolution:[f]				
Center	500	500	500	TV lines
Corner	400	400	400	TV lines
Amplitude Response to a 125 TV Line Square-Wave Test Pattern at Center of Picture[f]	60	60	60	%
Average "Gamma" of Transfer Characteristic[f]	0.65	0.65	0.65	
Lag - Per Cent of Initial Value of Signal-Output Current 1/20 Second after Illumination is Removed[f]	12	12	10	%

[a]This capacitance, which effectively is the output impedance of the tube, is increased when the tube is mounted in the deflecting-yoke assembly. The resistive component of the output impedance is in order of 100 megohms.

[c]The maximum voltage difference between grids No.6 & 3 and No.5 should not exceed 750 volts.

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

[e]Under the following conditions: The light source is a tungsten-filament lamp having a lime-glass envelope. It is operated at a color temperature of 3100° K. These illumination values are incident on the filters shown in (f) which are interposed between the light source and tube faceplate.

[f]These characteristics are measured using the following standard optical filters, or equivalent:

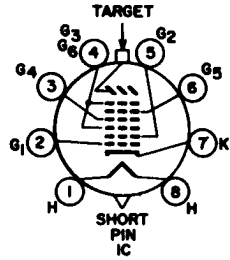
For type 4493 (Red) - Wratten No.25 (A) with 2 Fish-Shurman No. IR650

For type 4494 (Green) - Wratten No.58 with 1 Fish-Shurman No. IR650

For type 4495 (Blue) - Wratten No.47 with 1 Fish-Shurman No. IR650

BASING DIAGRAM (Bottom View)

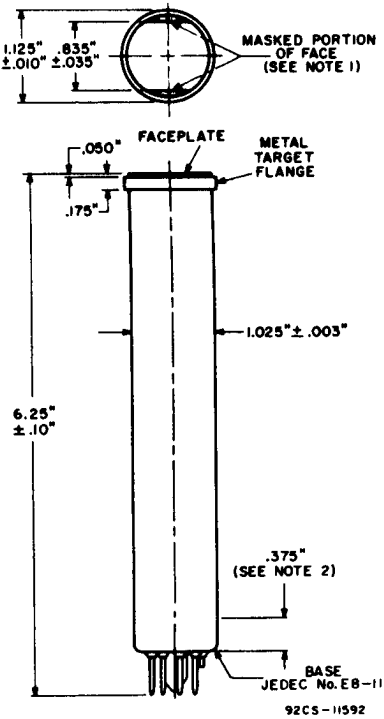
Pin 1 - Heater
Pin 2 - Grid No.1
Pin 3 - Grid No.4
Pin 4 - Grids No.3 & No.6
Pin 5 - Grid No.2
Pin 6 - Grid No.5
Pin 7 - Cathode
Pin 8 - Heater
Flange - Target
Short Index Pin - Internal Connection—Make No Connection



DIRECTION OF LIGHT: INTO FACE END OF TUBE

8LN

DIMENSIONAL OUTLINE



Note 1: Straight Sides Of Masked Portions Are Parallel To The Plane Passing Through Tube Axis And Short Index Pin.

Note 2: Within This Distance, Diameter Of Bulb Is 1.025" + 0.003"-0.030".