

Vidicon

Magnetic Focus 1"-Diameter Magnetic Deflection
For Non-Critical Industrial and Consumer
Product Closed-Circuit TV

The 4478 is the same as the 7735B except for the following items:

TYPICAL OPERATION AND PERFORMANCE DATA

Low-Voltage Operation

Grid-No.1 Voltage for Picture Cutoff^a . . . -45 to -110 V

Lag - Per Cent of Initial Value of Signal-

Output Current 1/20 Second After

Illumination is Removed:^b

Maximum Value 30 %

Limiting Resolution:

At center of picture - Typical value . . . 650 TV lines

AVERAGE SENSITIVITY OPERATION

Faceplate Illumination (Highlight) 1 fc

Target Voltage^{c,d} 10 to 70 V

Dark Current^e 0.02 μ A

Minimum Signal-Output Current^f 0.12 μ A

^a With no blanking voltage on grid No.1.

^b For initial signal-output current of 0.3 microampere and a dark current of 0.02 microampere.

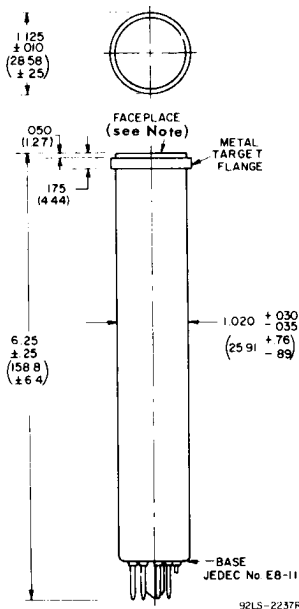
^c The target voltage for each tube must be adjusted to that value which gives the desired operating signal current.

^d Indicated range serves only to illustrate the operating target-voltage range normally encountered.

^e The deflecting circuits must provide extremely linear scanning for good black-level reproduction. Dark-current signal is proportional to the scanning velocity. Any change in scanning velocity produces a black-level error in direct proportion to the change in scanning velocity.

^f Defined as the component of the highlight target current after the dark-current component has been subtracted.

DIMENSIONAL OUTLINE—Dimensions in Inches (mm)

**NOTE:**

Faceplate glass is Corning No.7056 having a thickness of $0.094'' \pm 0.012''$.

SPURIOUS SIGNAL TEST

For scanned area of $1/2'' \times 3/8''$

Equivalent Number of Raster Lines	Zone 1 Allowed Spots	Zone 2 Allowed Spots
over 6	0	0
6 but not including 4	0	2
4 but not including 1	3	4
1 or less	*	*

Minimum separation between any 2 spots greater than 1 raster line is limited to 16 raster lines.

*Spots of this size are allowed unless concentration causes a smudged appearance.

Vidicons

MAGNETIC FOCUS

1"-DIAMETER

MAGNETIC DEFLECTION

For Televising Live Scenes in Educational, Industrial, and Other Closed-Circuit TV Applications Where Broadcast-Quality Scene Reproduction is Not Essential

The 4478 and 4488 are the same as the 7735B except for the following items:

GENERAL

Photoconductive Layer (4478)

Maximum useful diagonal of rectangular image (4x3 aspect ratio)^a

TYPICAL OPERATION AND PERFORMANCE DATA

	<u>4478</u>	<u>4488</u>	
Grid-No.1 Voltage for Picture Cutoff ^b	-45 to -110	-45 to -100	V
Limiting Resolution ^c at Center of Picture			
Typical value	700	700	TV lines
Minimum value	600	625	TV lines

Average-sensitivity operation— 1.0 footcandle on faceplate

	<u>4478</u>	<u>4488</u>	
Faceplate Illumination (Highlight)	1.0	1.0	fc
Target Voltage ^{d, e}	10 to 70	12 to 53	V
Dark Current ^f	0.035	0.030	μA
Signal-Output Current ^g			
Typical	0.265	0.270	μA
Minimum	0.240	0.250	μA

^a 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 pin.

^b With no blanking voltage on grid No.1.

^c Amplitude response values will be correspondingly lower than those of type 7735B.

^d The target voltage for each tube must be adjusted to that value which gives the desired operating signal current.

^e Indicated range for each type of service serves only to illustrate the operating target-voltage range normally encountered.

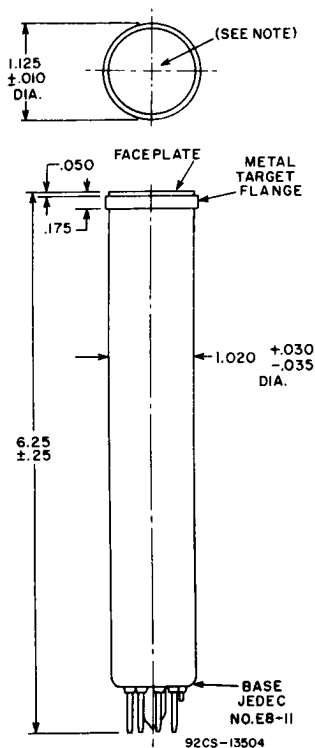
^f The deflecting circuits must provide extremely linear scanning for good black-level reproduction. Dark-current signal is proportional to the scanning velocity. Any change in scanning velocity produces a black-level error in direct proportion to the change in scanning velocity.

^g Defined as the component of the highlight target current after the dark-current component has been subtracted.



4478, 4488

DIMENSIONAL OUTLINE



DIMENSIONS IN INCHES

Note: Type 4488 has portion of face masked similar to type 7735B.

SPURIOUS SIGNAL TEST

4478

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

Equivalent Number of Raster Lines	Zone 1 Allowed Spots	Zone 2 Allowed Spots
over 6	0	0
6 but not including 4	0	2
4 but not including 1	3	4
1 or less	footnote h	footnote h

4488

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

Equivalent Number of Raster Lines	Zone 1 Allowed Spots	Zone 2 Allowed Spots
over 4	0	0
4 but not including 3	0	1
3 but not including 1	2	3
1 or less	footnote h	footnote h

Minimum separation between any 2 spots greater than 1 raster line is limited to 16 raster lines.

^h Spots of this size are allowed unless concentration causes a smudged appearance.