

**AMERICAN NATIONAL  
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**EIA RS-324-A**

# **EIA STANDARD**

REGISTERED SCREEN DIMENSIONS  
FOR  
COLOR PICTURE TUBES

# **RS-324-A**



APRIL 1982



***Engineering Department***

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## REGISTERED SCREEN DIMENSIONS FOR COLOR PICTURE TUBES

(From EIA Standards Proposal No. 1469, formulated under the cognizance of EIA JT-6 Committee on Television Picture Tubes.)

The minimum useful screen dimensions and area to be used for registration data of shadow mask type color picture tubes shall be established as a projected area from the inside geometry of the face panel. The boundary of this area is mainly determined by the principal axes dimensions of the face panel which are derived from the glass manufacturer's design drawing. After the boundary is established, the area is calculated and expressed to the nearest square inch or square centimeter for registration.

When establishing the minimum screen boundary, the length of each of the principal axes determined by the distance between the centers of the heel radii at the ends of each axis and by the heel radius as shown in Figure 1. The screen size on these axis is chosen to extend into the heel or blend radius of curvature at the edges of the panel face plate to a point which is  $30^\circ$  beyond the centers of the heel radius. Thus, the total length of a projected dimension,  $D$ , for any principal axis is equal to the distance between the centers of the heel radii,  $d$ , plus the magnitude of the heel radius ( $r \sin 30^\circ$  on each side). The heel radius and its center location are specified by the glass manufacturer's design drawing.

Having established the principal axes in the section view, the projected screen boundary is determined in the plan view shown in Figure 2. The screen corners are calculated by the dimension  $D_d$  (diagonal) and the centers of the panel corners. The corners of the projected screen boundary are assumed to be concentric with the corner of the glass panel and, therefore, have the same centers as the panel corners which are always located on the diagonal axis. The screen corner radius is then equal to the difference between  $D_d$  and the projected distance from

the panel centerface to the panel corners.  $\frac{2}{2}$  The panel corner centers are also derived from the glass manufacturer's drawing.

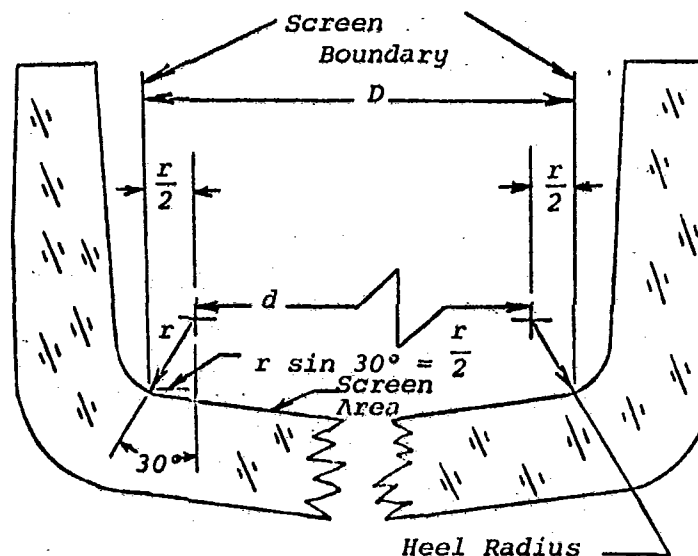


FIGURE 1

FACE PANEL, SECTION VIEW