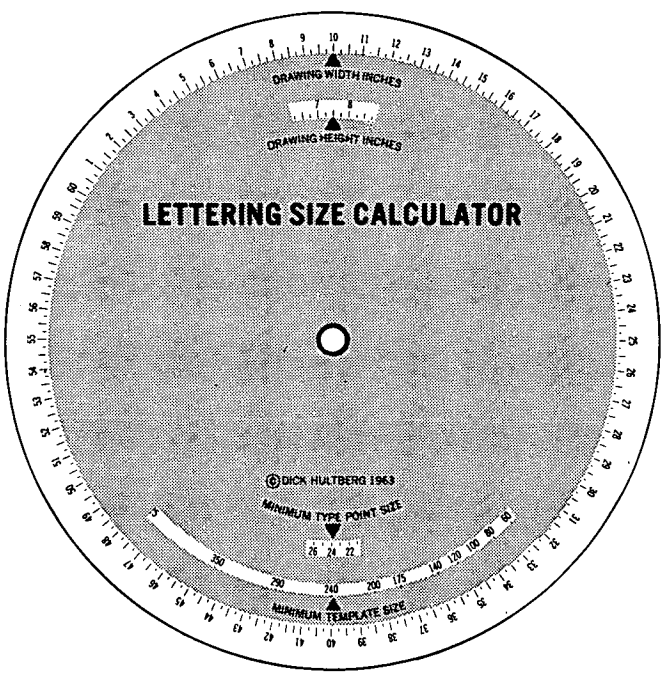
ASO-3E

November 1965

Brief 65-10339

NASA TECH BRIEF

Disk Calculator Indicates Legible Lettering Size for Slide Projection



The problem: Constructing a simple calculator that would indicate the minimum size of letters and numbers to be placed on a working drawing which is to be made into a slide. If the lettering is less than this minimum it may not be legible when the slide is projected on a screen.

The solution: A hand-operated disk calculator that indicates the minimum lettering size in relation to working-drawing width or height.

How it's done: The calculator consists of two pivoted concentric disks with numerical scales. The lower disk has four scales — one each for the drawing width, drawing height, type size (in points), and lettering template size (in thousandths of an inch). The upper disk has openings through which the scales on the lower disk can be read. To determine the minimum letter size to be placed on the working drawing, the upper disk is rotated until a width or height arrow, for whichever dimension is going to be reduced by the greatest amount, is in line with the original drawing dimension on the lower scale. The minimum type size and lettering template size are then indicated by arrows on the upper disk

(continued overleaf)

pointing to numbers on the lower disk.

Example (see illustration): If the original drawing has a working-area width of 10 inches and a working-area height of 7 1/2 inches or less (or a height of 7 1/2 inches and a width of 10 inches or less) the minimum letter size is 24 points. These values will assure legibility when the drawing is reduced to a slide and projected.

Notes:

1. The minimum letter size was determined by trial and error in a medium-size auditorium. If the slides are projected in a conference room the letters would be larger than necessary. If they are projected in a large auditorium the letters might not be legible. An additional scale which indicates viewing distance or final projection size would make the device more versatile.
2. This device should be of general interest in the graphic arts field.
3. Inquiries concerning this invention may be directed to:

   Technology Utilization Officer
   Goddard Space Flight Center
   Greenbelt, Maryland, 20771
   Reference: B65-10339

Patent status: NASA encourages the immediate commercial use of this invention. Inquiries about obtaining rights for its commercial use may be made to NASA, Code AGP, Washington, D.C., 20546.

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