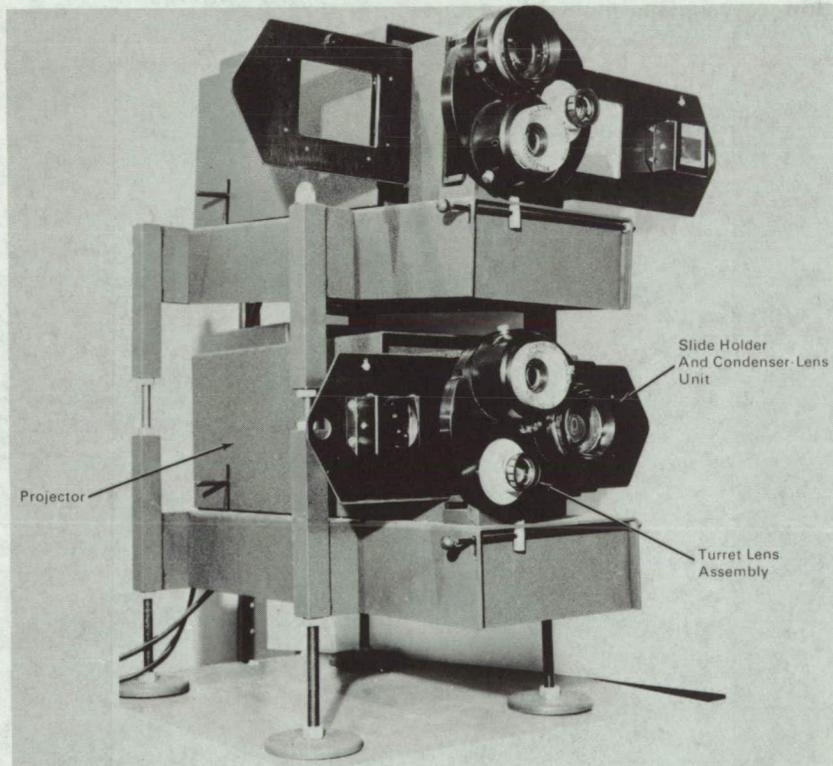


# NASA TECH BRIEF



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## Single Projector Accommodates Slides of Different Size and Format



**The problem:** To design a slide projector that will accommodate 3 X 4 and 35 mm double-frame slides on a horizontal format, 35 mm slides on a vertical format, and 2 X 2 jumbo (square) slides, without requiring the changing or substituting of internal condenser-lens assemblies.

**The solution:** A projector with two adjustable external units. One unit, the holder for different size slides, includes mounting means for appropriate condensing lenses and heat filters. The other unit is a turret lens assembly.

**How it's done:** The projector uses a standard light source. The slide holder-condensing lens unit is mounted between the light source and the turret lens. All lenses are prefocused and require only occasional adjustment. These units allow the rapid selection of a desired slide and the corresponding objective lens. With this machine, the slides can be rapidly changed in any sequence.

For special effects, two projector assemblies can be mounted as shown in the illustration. A separate power supply and control panel provide unusual flexibility, permitting smooth transitions and dissolves

(continued overleaf)

from one display to the next without a break on the screen, as well as superimposition of the display from a slide in one projector over the display from a slide in the second projector. For normal operation, one machine would project a slide on the screen while the second machine is being loaded with the next slide of a given format. When there is a cue for a slide change, a relay rapidly switches the light from one projector to the other, thus eliminating annoying movements of the display across the screen, brilliant light flashes, and blank screens. The control unit provides single-button operation of one or more projectors in conjunction with one or more screens.

**Notes:**

1. Flexibility of operation, effectiveness of visual display, and relatively low cost are the main advantages of the system.

2. The machines are easily adaptable to rear-screen and front-screen projection over a wide range of distances.
3. This equipment will find effective use at conferences, symposia, and lectures.
4. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer  
Goddard Space Flight Center  
Greenbelt, Maryland, 20771  
Reference: B66-10016

**Patent status:** NASA encourages commercial use of this innovation. No patent action is contemplated by NASA.

Source: Gilman M. Gates  
(GSFC-439)