United States Patent [19]

Highfill

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[54] **INTERACTIVE IMAGE PROJECTION APPARATUS**

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[52] **U.S. Cl.** **353/122**; 353/35; 353/DIG. 3; 353/DIG. 5; 353/44; 353/42

[58] **Field of Search** ..... 353/DIG. 3, DIG. 1, 353/DIG. 5, 98, 122, 121, 44, 42, 30, 35, 36; 340/712, 707; 350/331 R, 333; 364/520, 521

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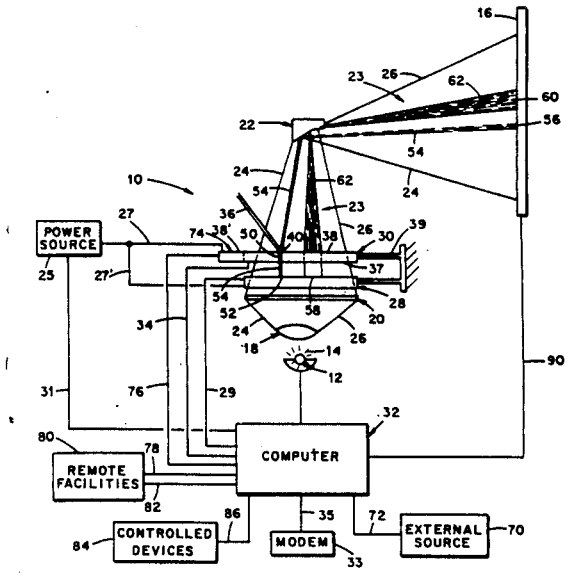
[57] **ABSTRACT**

An interactive image projection apparatus for the projection of computer generated images on a projection surface in cooperation with a light source and projection optics for projecting a beam of light from the light source onto the projection surface. The apparatus includes a substantially transparent image display device disposed in the beam of light and including means for receiving image-defining signals from a computer and producing an image based on the image-defining signals that is projected onto the projection surface in the beam of light. A touch screen, at least a portion of which is substantially transparent, is disposed in the beam of light between the image display device and the projection surface and includes means for generating a signal when touched for use as input information at the computer. Preferably, the touch screen is supported directly over the image display device. The signal from the screen may be used to modify the projected image to facilitate interaction in a convenient manner which promotes the interest and maintains the attention of persons viewing the image.

13 Claims, 2 Drawing Sheets