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Shaffer et al.

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[54] **APPARATUS AND METHOD FOR FOCUSING A PROJECTED IMAGE**

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[52] **U.S. Cl.** **353/122**; 353/42; 353/121

[58] **Field of Search** 353/42, 101, 122; 345/180, 181, 182, 183

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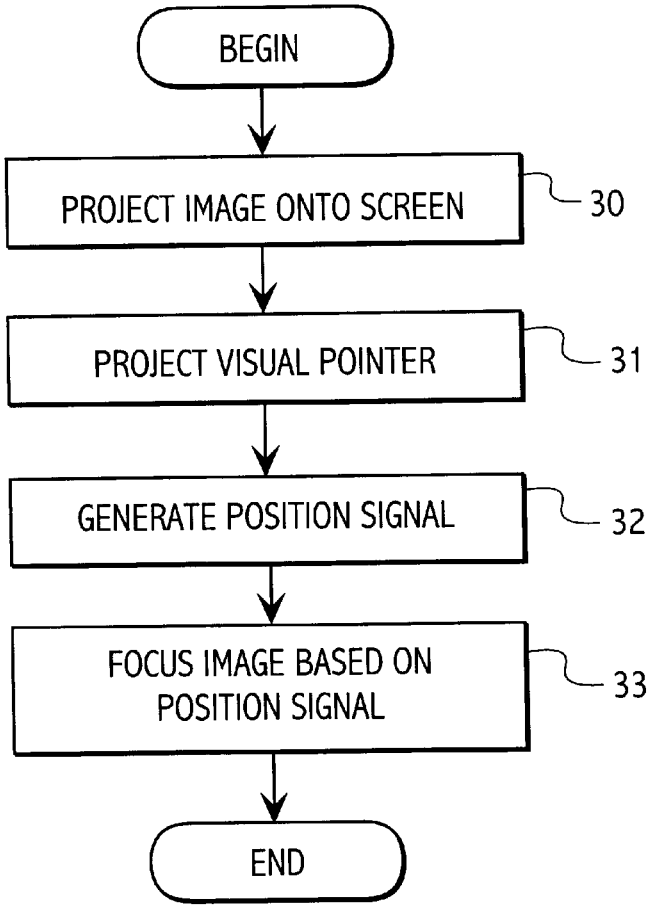
[57] **ABSTRACT**

An apparatus and method controlling a projected image **(24)** is provided. The apparatus **(10)** includes a detector **(16)** that tracks a visual pointer **(22)** appearing on a projection screen **(20)**. The visual pointer **(22)** is positioned on the image **(24)** by a viewer. The visual pointer **(22)** can be generated by a computer cursor, or a light pen or laser pointer **(12)**. The detector **(16)** generates a position signal indicating the location of the pointer **(22)**. An auto-focus device **(18)** focuses the portion of the image **(24)** referenced by the visual pointer **(22)** as a function of the position signal. To focus the image portion, the auto-focus device **(18)** positions a projector lens **(26)** based on the measured image contrast within the selected image portion.

21 Claims, 11 Drawing Sheets