United States Patent [19]

Bolger

[11] **Patent Number: 4,528,585**

[45] **Date of Patent: Jul. 9, 1985**

[54] **TELEVISION RECEIVER HAVING PICTURE MAGNIFYING APPARATUS**

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[21] Appl. No.: **480,595**

[22] Filed: **Mar. 30, 1983**

[51] **Int. Cl.**[3] **H04N 9/535**; H04N 5/14; H04N 3/22; H04N 5/22

[52] **U.S. Cl.** **358/22**; 358/180; 358/183; 358/160

[58] **Field of Search** 358/22, 180, 287, 166, 358/160, 183

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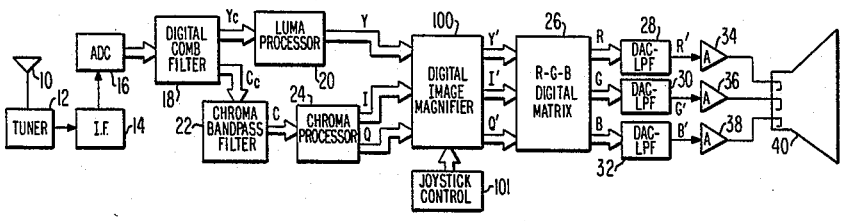
[57] **ABSTRACT**

Apparatus providing a magnified picture display for a television receiver employs a reduced-size digital memory which stores only the digitized video signal components necessary to generate video signals to produce the magnified picture display. A simplified user-controlled picture positioning arrangement generates write and read addressing signals for the digital memory representative of both the picture area of the magnified picture display and of the normal picture display therein which is to be magnified. Writing of the digitized video signal components of the normal picture display into the digital memory is accomplished in "real time" whereas reading of the stored data from the memory and signal processing to develop interpolated digitized video signal components of the magnified picture is accomplished at a reduced processing rate on a line-by-line basis in between memory write cycles. User selection of discrete degrees of magnification and of freeze-frame (still) or continuously-updated (essentially real-time) displays is provided.

20 Claims, 15 Drawing Figures