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United States Patent [19]

Meijers

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[54] **PARALLACTIC DEPTH-DEPENDENT PIXEL SHIFTS**

[75] Inventor: **Patrick F. P. Meijers**, Eindhoven, Netherlands

[73] Assignee: **U.S. Philips Corporation**, New York, N.Y.

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[30] **Foreign Application Priority Data**

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Jul. 1, 1996 [EP] European Pat. Off. 96201823

[51] **Int. Cl.^{6}** **G06T 17/00**
[52] **U.S. Cl.** **345/419**
[58] **Field of Search** 345/418, 419, 345/420, 421, 422, 423, 424, 433

[56] **References Cited**

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[57] **ABSTRACT**

An output image is created through a parallactic transformation of an input image. Pixels of the input image are supplied as a color value and a depth value. A depth converter **520** converts the depth value into a depth-dependent pixel shift, which is stored in a memory **510** together with the color value. A processor **530** generates the output image from the stored input image for 'on the fly' supply to a stereoscopic display system by shifting the input pixels. A 3D-rendering process may be used to generate one input image for a pair of stereoscopic output images, or occasionally for moving images, whereas the depth-dependent shifts are used to create the parallactic image effects. Artifacts such as undesired holes or overlaps resulting from the shifts are avoided.

17 Claims, 7 Drawing Sheets

MEM1

150

3D.OB —140

REND —130

100— MEM3 —10

110— 2D.iM   2D.iM —210

120— Z   Z —220

MEM2 —230

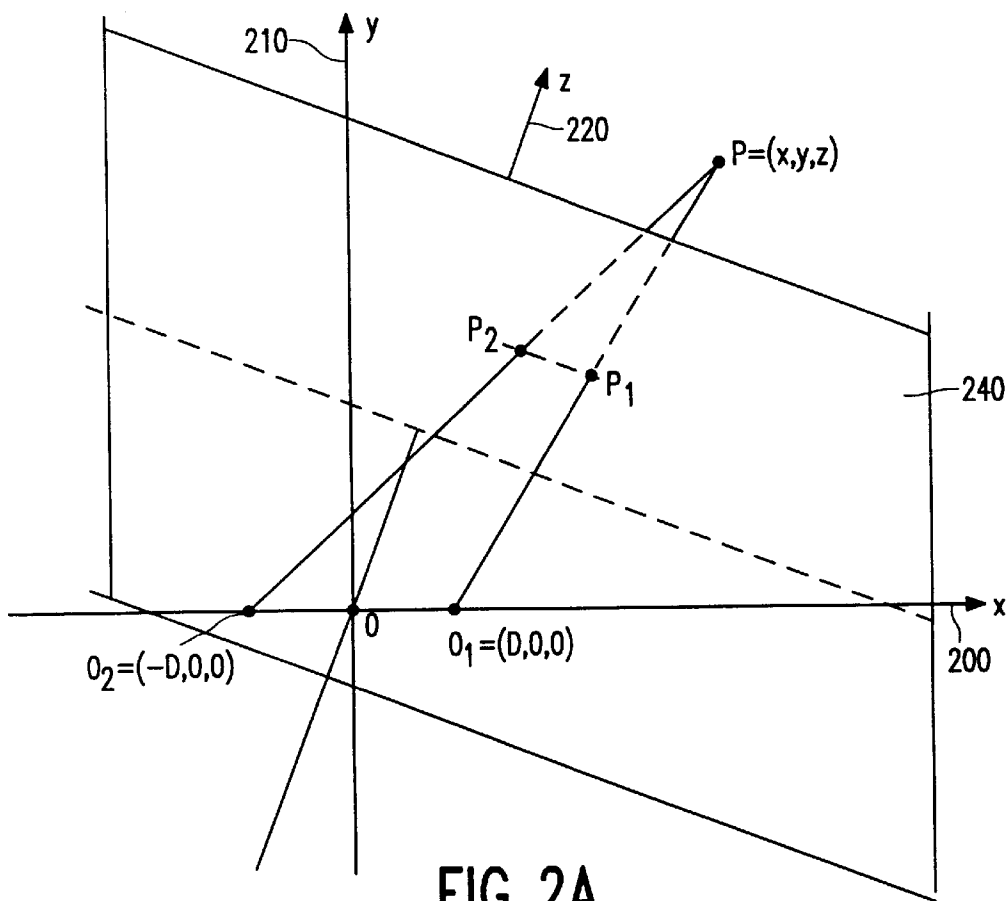PROC —160

170   180

L–iM   R–iM   MEM4

190

D/A —200

DISP —210

FIG. 1

FIG. 2A
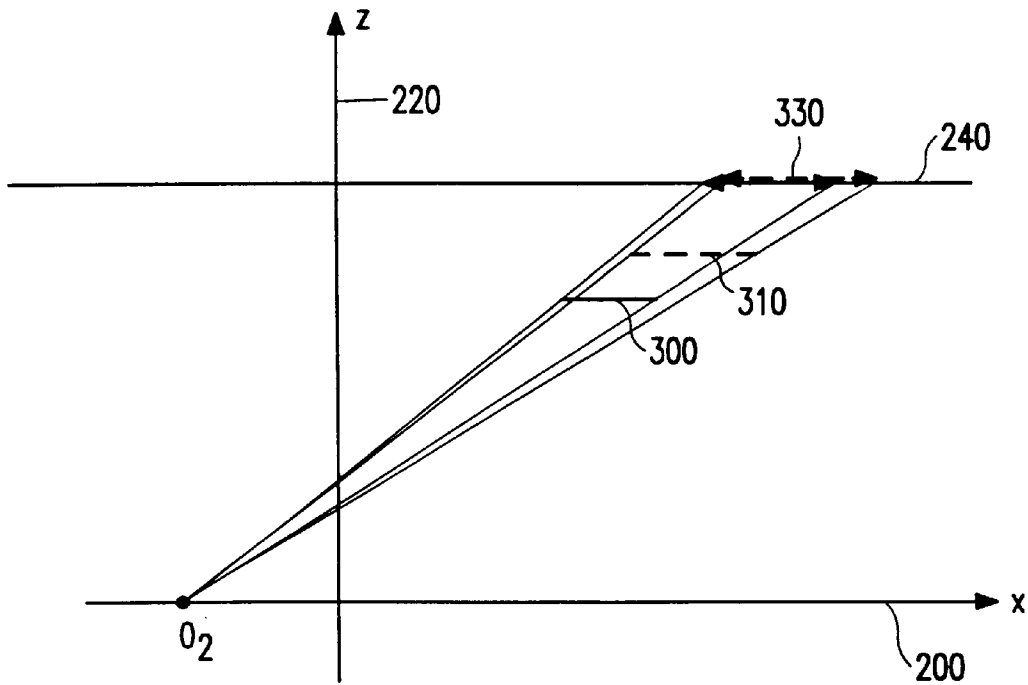

FIG. 2B

FIG. 2C
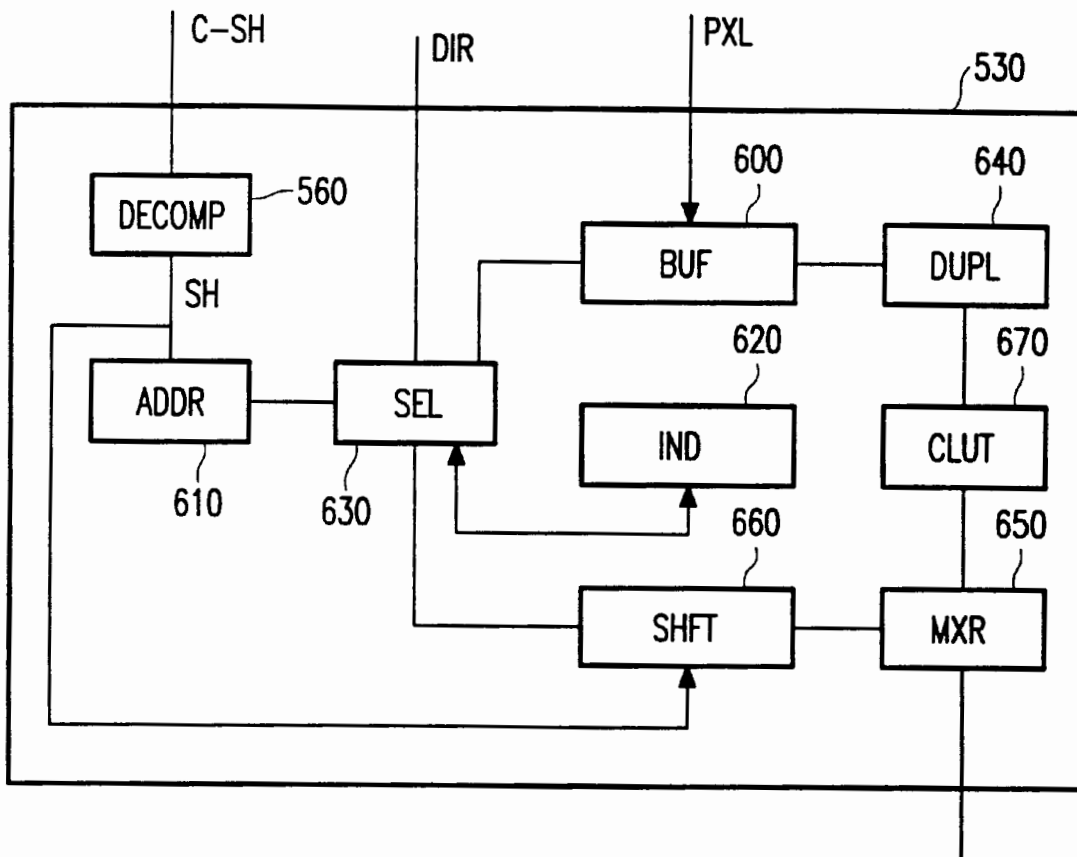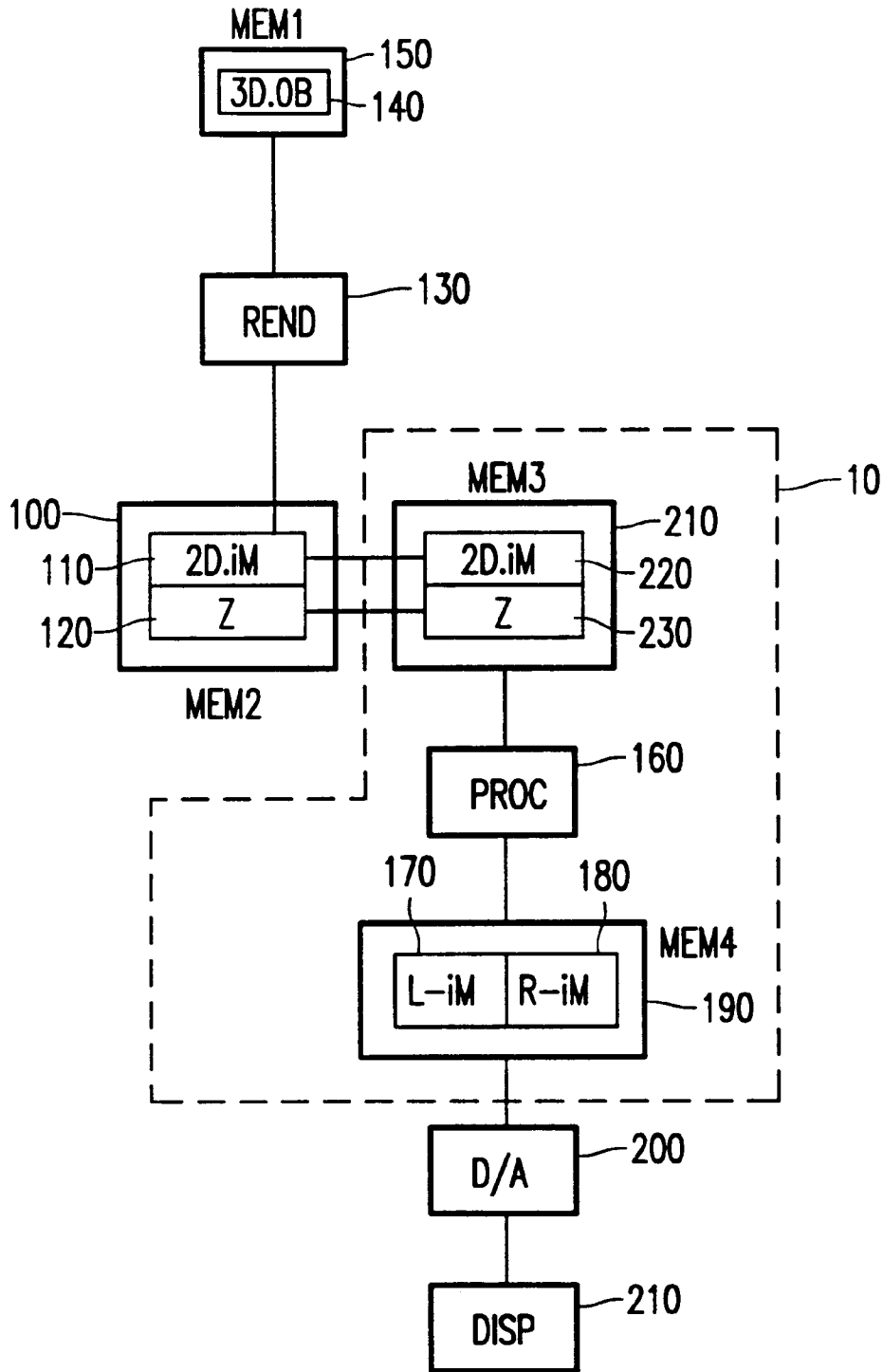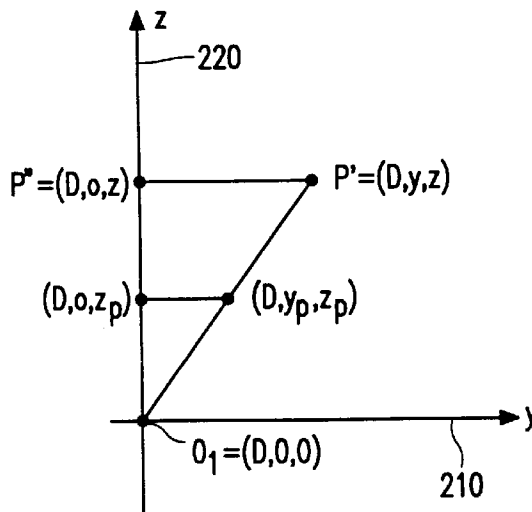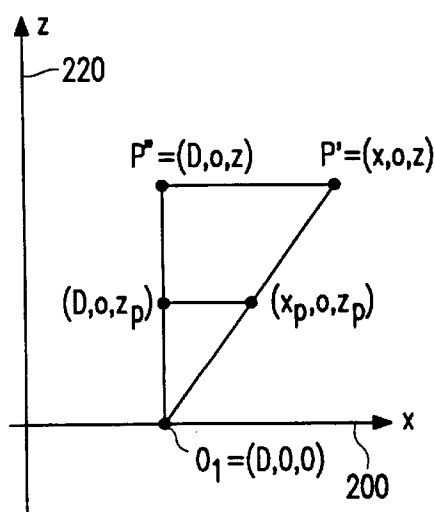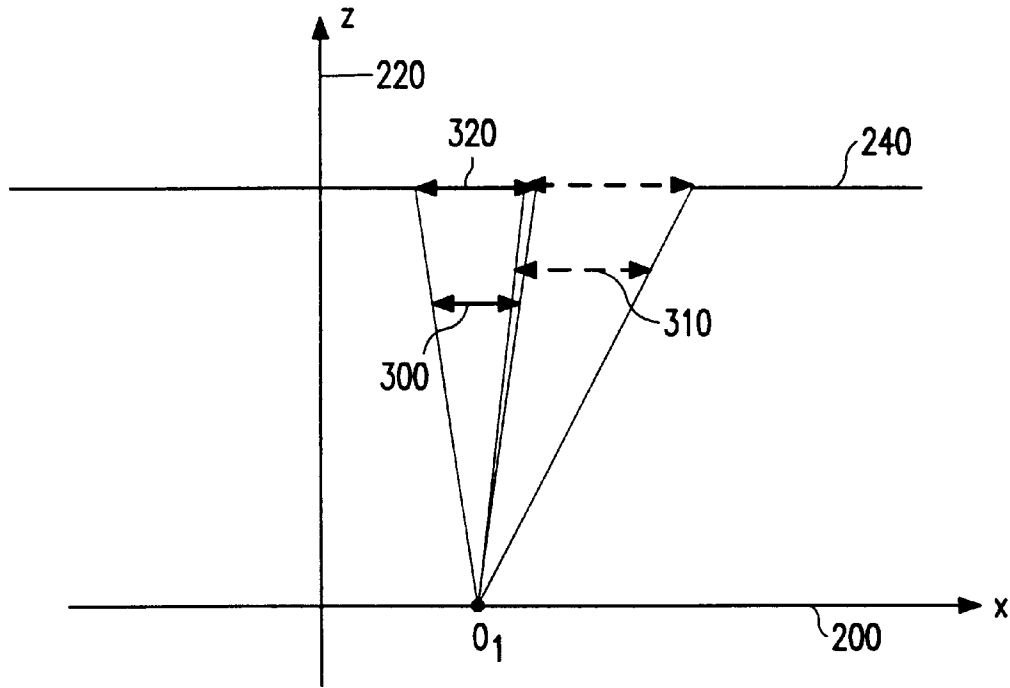
FIG. 3A

FIG. 3B

FIG. 4A

FIG. 4B

DOCKET ALARM
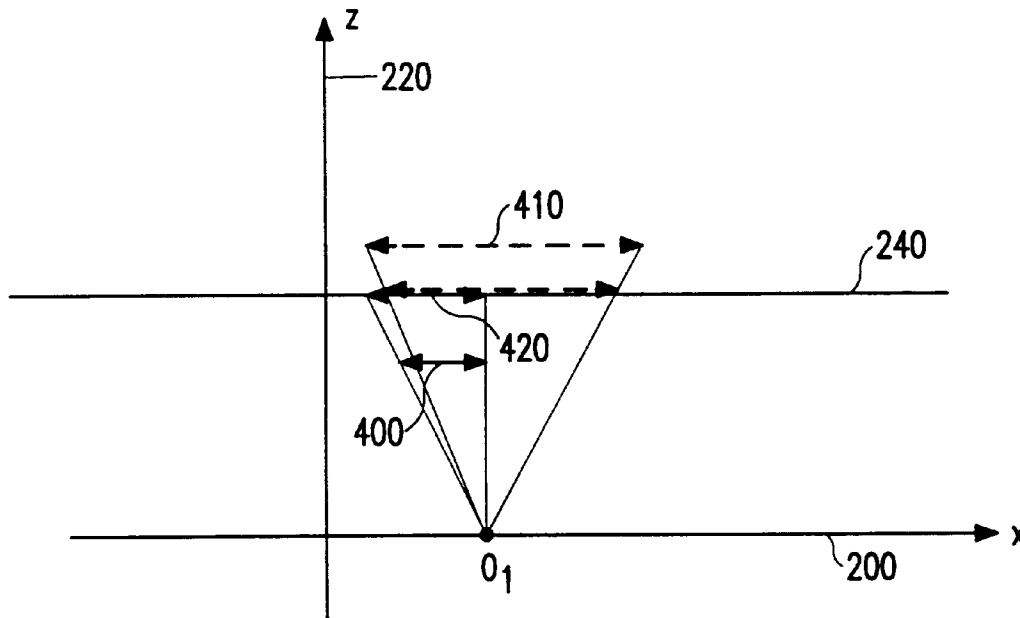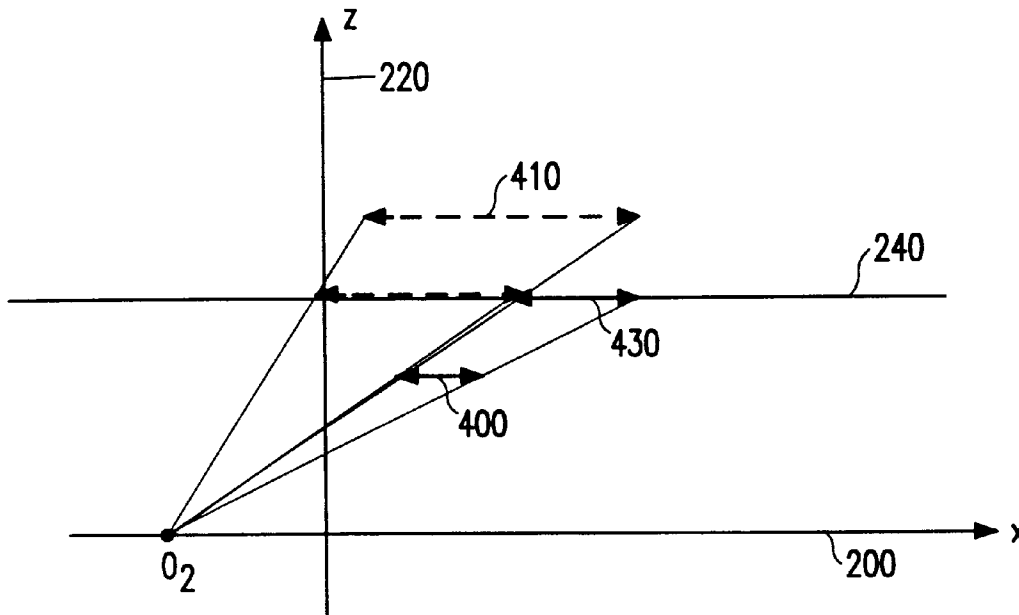
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