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**Su et al.**

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(54) **METHODS AND APPARATUS USING VIRTUAL REFERENCE PICTURES**

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(51) **Int. Cl.**  
**H04N 7/12** (2006.01)

(52) **U.S. Cl.** ..... **375/240.15; 375/240.01; 375/240.12**

(58) **Field of Classification Search** ..... None  
See application file for complete search history.

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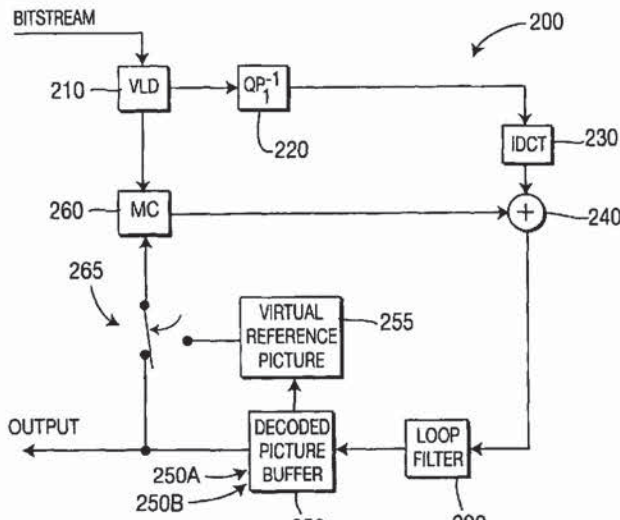
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(57) **ABSTRACT**

There are provided methods and apparatus using virtual reference pictures. An apparatus includes an encoder for encoding at least one picture, using at least one virtual reference picture, to form a resultant bitstream. The at least one virtual reference picture is different than a previously decoded picture.

**87 Claims, 5 Drawing Sheets**



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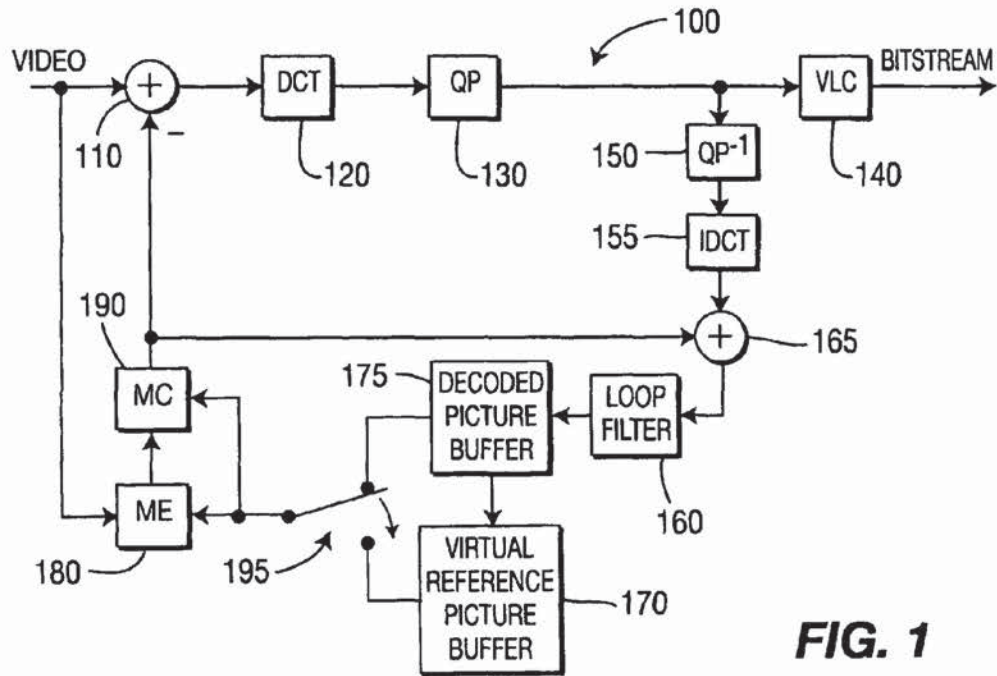


FIG. 1

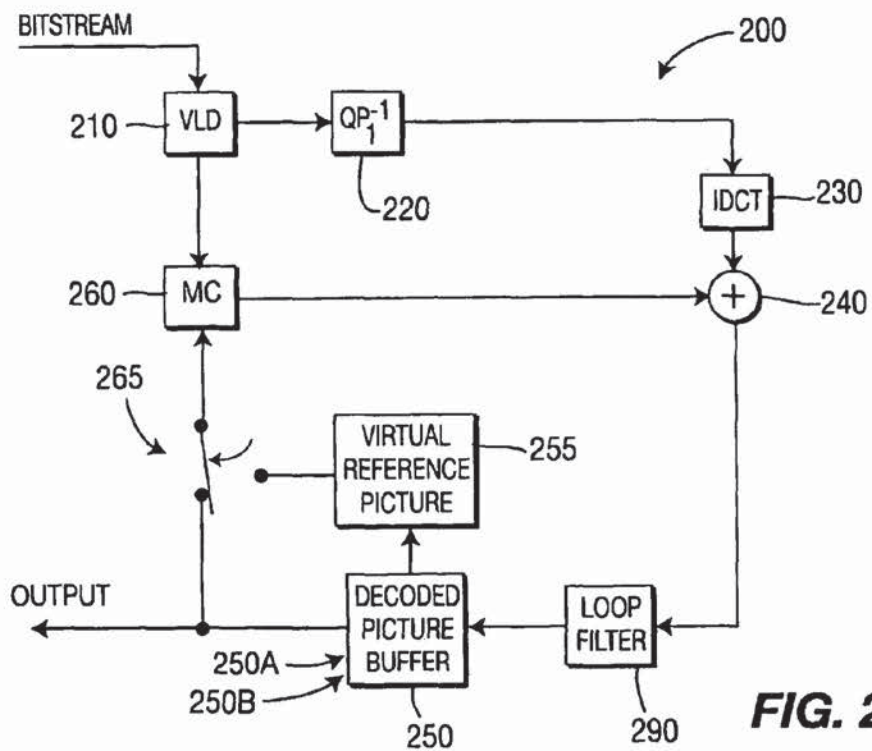


FIG. 2

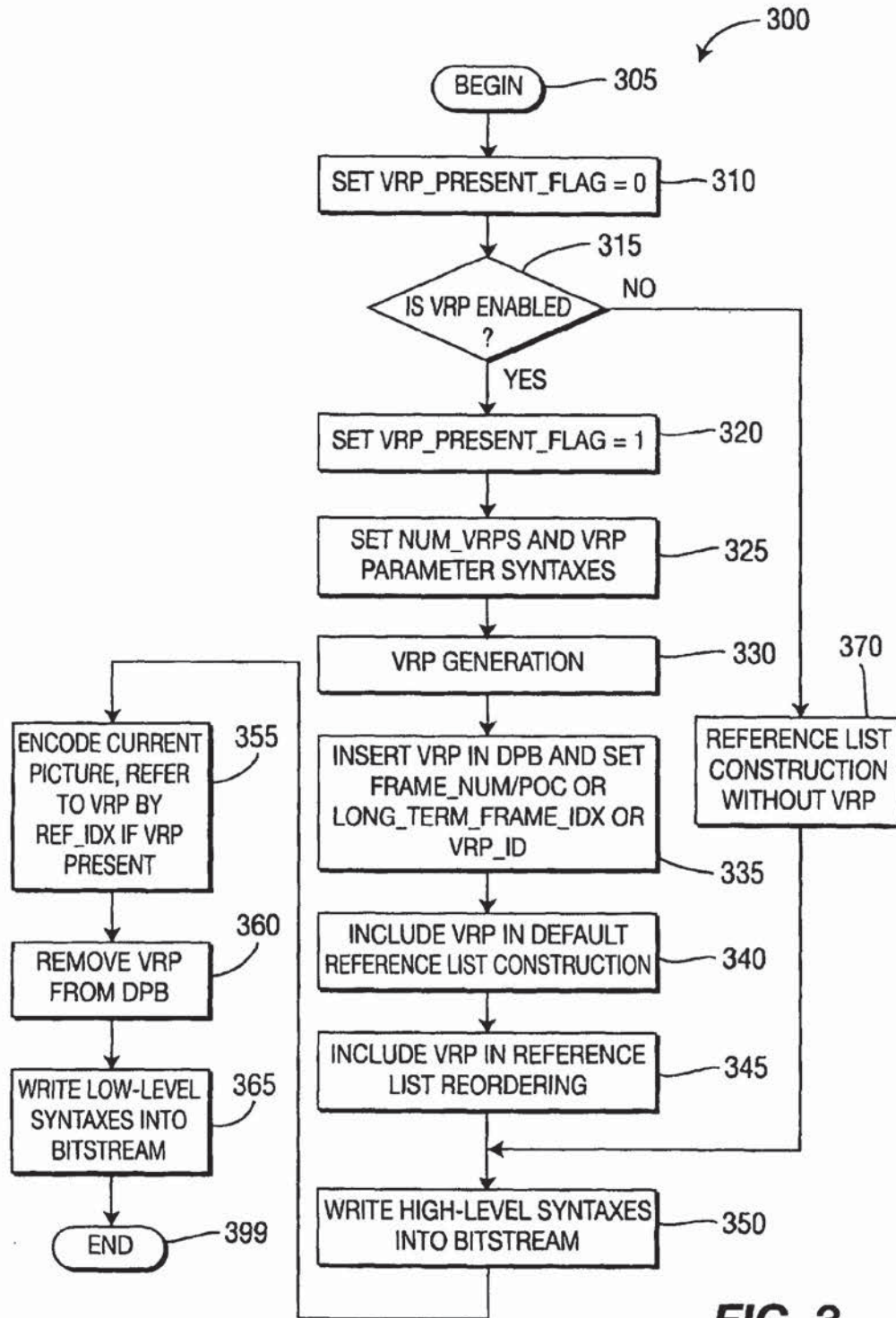


FIG. 3



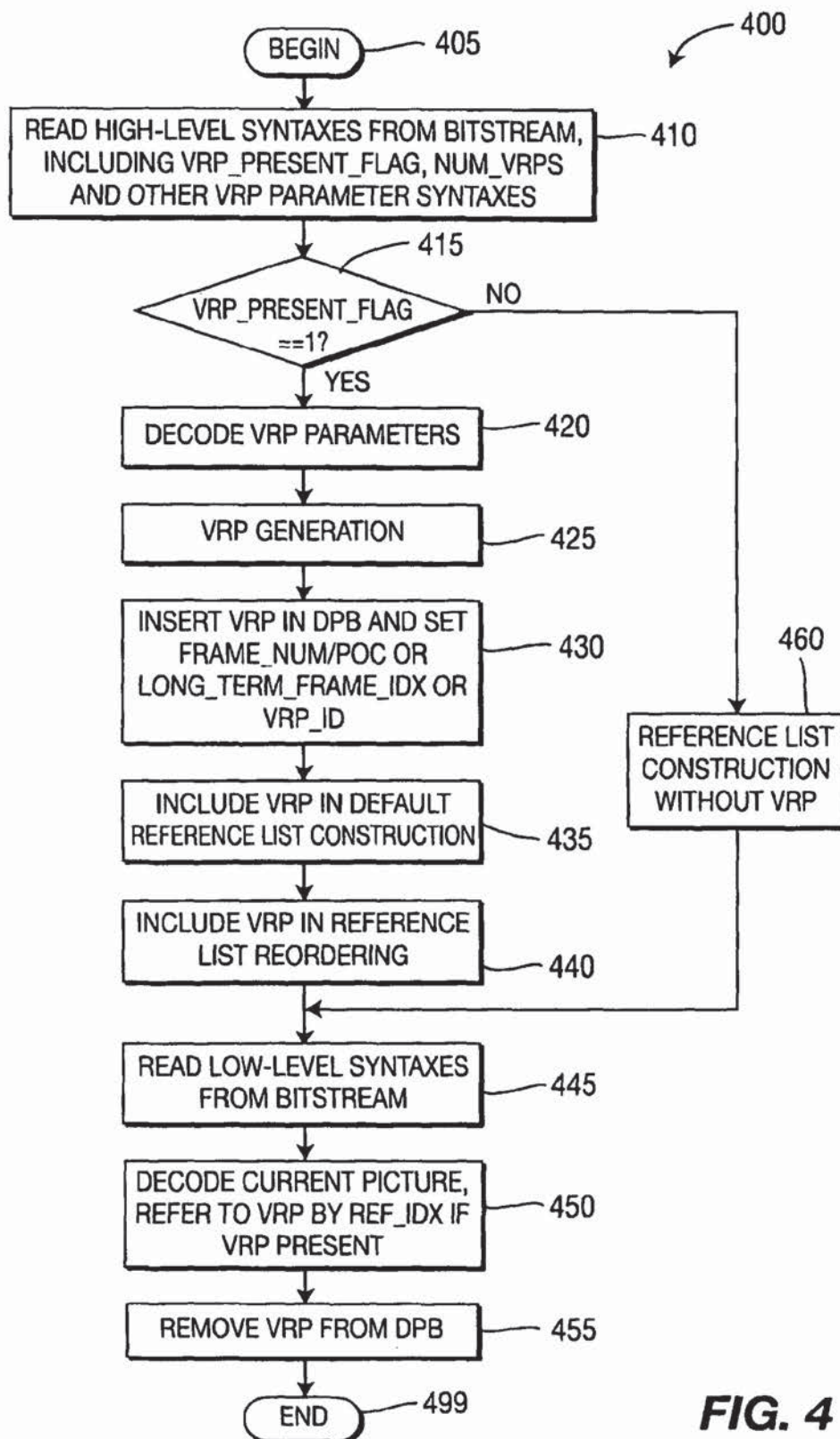


FIG. 4

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