

### (19) United States

## (12) Patent Application Publication (10) Pub. No.: US 2007/0274385 A1

Nov. 29, 2007 (43) **Pub. Date:** 

(54) METHOD OF INCREASING CODING EFFICIENCY AND REDUCING POWER CONSUMPTION BY ON-LINE SCENE CHANGE DETECTION WHILE ENCODING INTER-FRAME

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(21) Appl. No.: 11/441,869

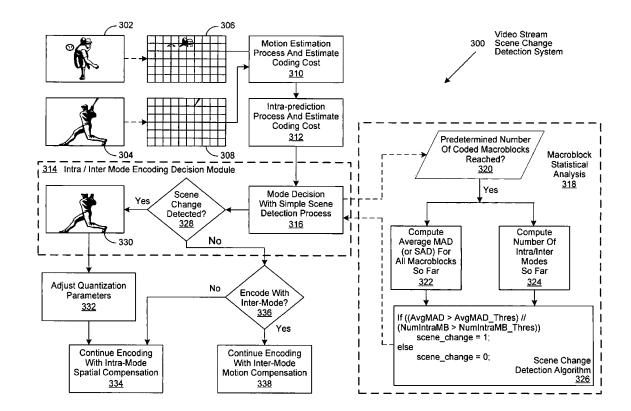
(22) Filed: May 26, 2006

#### **Publication Classification**

(51) Int. Cl. (2006.01)H04N 7/12 H04N 11/04 (2006.01) 

#### (57)ABSTRACT

A system and method for on-the-fly detection of scene changes within a video stream through statistical analysis of a portion of the macroblocks comprising each video frame as they are processed using inter-frame coding. If the statistical analysis of the selected macroblocks of the current frame differs from the previous frame by exceeding predetermined thresholds, the current video frame is assumed to be a scene change. Once a scene change is detected, the remainder of the video frame is encoded as an intra-frame, intra-macroblocks, or intra slices, through implementation of one or more predetermined or adaptively adjusted quantization parameters to reduce computational complexity, decrease power consumption, and increase the resulting video image quality. As decoding is the inverse of encoding, these improvements are similarly recognized by a decoder as it decodes a resulting encoded video stream.





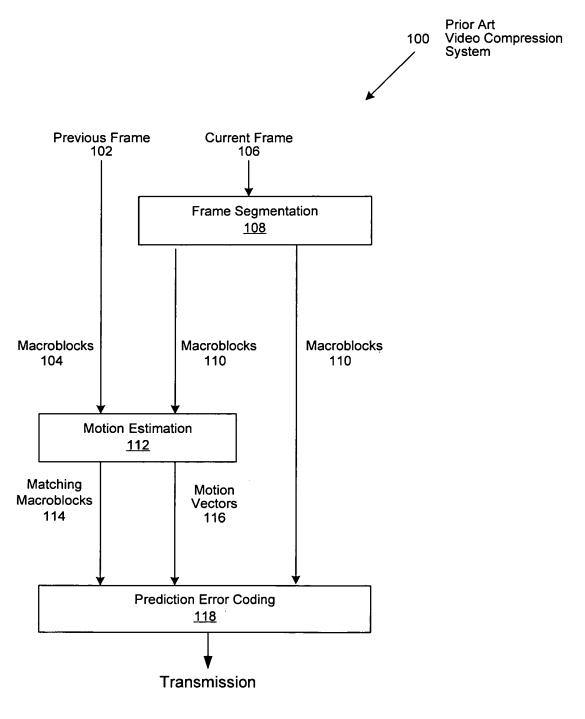
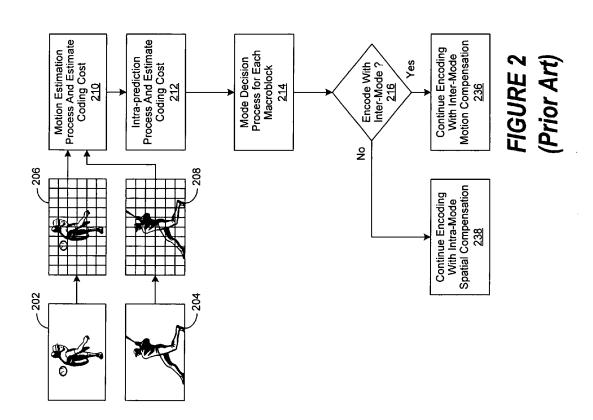
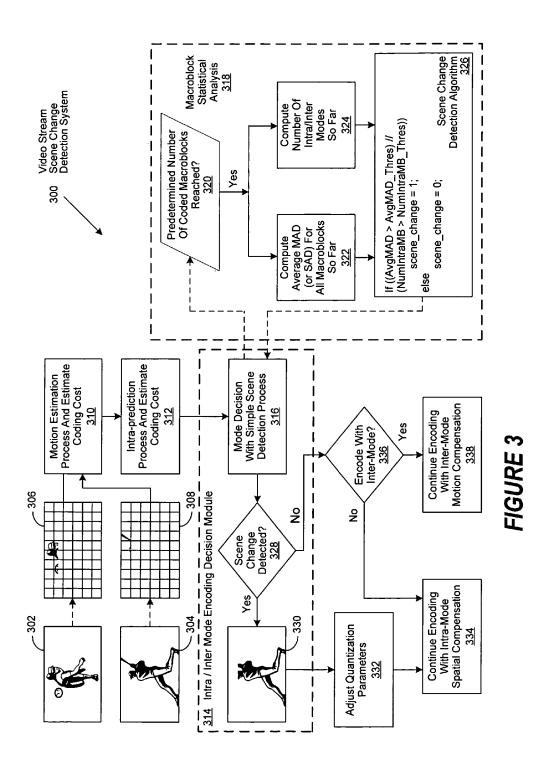


FIGURE 1 (Prior Art)

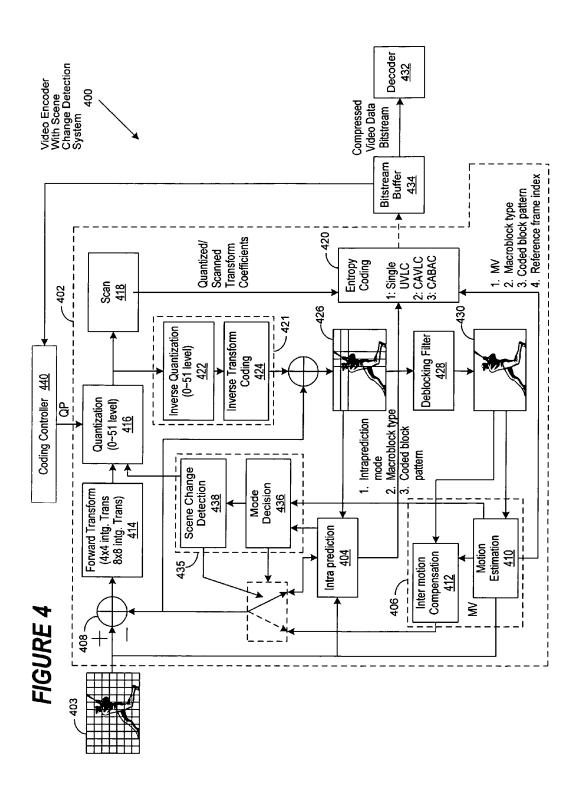














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