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(54) Title: METHOD FOR SIMPLYING BLOCK MATCHING MOTION ESTIMATION

(57) Abstract

A method of performing motion estimation is disclosed which reduces the memory bandwidth requirements and simplifies the computations for performing block matching. First, multibit pixel values of frames are converted to single bit pixel values. Then, a previous frame of single bit pixel values and a reference frame of single bit pixel values are stored. To find a best match block in the previous frame, sum–of–absolute differences of pixel values between the reference frame and a block in a search area within the previous frame are compared. Finally, a motion vector representing the difference between the reference block and the best matched block in the previous frame is calculated. The value of a reference pixel is thresholded with respect to a low–pass filtered average value around the reference pixel. The reference pixel is substituted by the average value of the neighboring pixels. The multibit pixel values may be eight bit intensity values. Further, the reference block may be an 8 by 8 block of pixel values and the search area may be a 136 by 136 block of pixel values.

