

Abstract

The data-reducing coding/decoding of digital video signals is in many cases based upon a movement-compensated interpolation of picture element values. For the determination of the movement vectors for picture element blocks, a comparison is in each case carried out for a picture element block from the current image within a search zone consisting of an enlarged picture element block. By means of MSE or MAE, within the search zone the block with the highest correlation is determined and from the spatial position of the latter compared to the block from the current image the respective movement vector is determined. This method is extremely compute-intensive and requires very high cycle rates. Even in hierarchical search methods, complex and high-speed hardware is required.

In accordance with the invention, the movement estimation is carried out by the analysis of only specific bits, e.g. the MSB or the two MSBs, of the picture element values. For this purpose these bits are logic-linked by means of EXOR and/or EXNOR functions and the individual results for the different block positions of the current block within the search window are in each case combined. By means of a following minimum or maximum comparison the respective vector for the current block is then determined.

Fig. 2.

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