This Sheet Has Been Replaced



Abstract

Block matching is a robust and simple method of motion estimation for television pictures. One important parameter in block matching is the block size. Large blocks give more reliable motion estimation than small blocks, particularly in the presence of noise on the input picture, but they produce a coarser motion vector field. However, if the motion estimation is being used for motion compensated interpolation, for example for upconversion between 50 and 100Hz display rates, the effects on picture quality of wrong vectors for whole blocks, and also of vectors that do not correctly follow the boundaries of moving objects, can be severe. According to the invention, large block (LB) matching is combined with the performance of more localized motion vectors to get pixel motion vectors. For any pixel, the motion vector will be one of four possibilities: the vector calculated for the block containing the pixel and the vectors (V1, V2, V3, V4) of the nearest blocks horizontally, vertically and diagonally.

Fig. 1