SPECIFICATION

TITLE OF THE INVENTION

IMAGE ENCODING DEVICE, IMAGE DECODING DEVICE, IMAGE ENCODING METHOD, AND IMAGE DECODING METHOD

FIELD OF THE INVENTION

[0001]

The present invention relates to an image encoding device for and an image encoding method of encoding a video with a high degree of efficiency, and an image decoding device for and an image decoding method of decoding a video which is encoded with a high degree of efficiency.

BACKGROUND OF THE INVENTION

[0002]

Conventionally, in accordance with an international standard video encoding method, such as MPEG or ITU-T H.26x, after an inputted video frame is partitioned into macroblocks each of which consists of blocks of 16x16 pixels and a motion-compensated prediction is carried out on each of the macroblocks, information compression is carried out on the inputted video frame by carrying out orthogonal transformation and quantization on a prediction error signal on a per block basis. A problem is, however, that as the compression ratio becomes high, the compression efficiency is reduced because of degradation in the quality of a prediction reference image used when carrying out a motion-compensated prediction. To solve this problem, in accordance with an encoding method such as MPEG-4 AVC/H.264 (refer to nonpatent reference 1), by carrying out an in-loop deblocking filtering process, a block distortion occurring in a prediction reference image and caused by quantization of orthogonal transform coefficients is