【CLAIMS】

【Claim 1】

A method of removing blocking artifact in a reconstructed picture, the method comprising:

generating a prediction block based on prediction mode;

generating a quantization block by inversely scanning quantization coefficient information;

generating a transform block by inversely quantizing the quantization block by using a quantization parameter;

generating a residual block by inversely transforming the transform block;

generating a reconstructed block by the prediction block and the residual block;

determining a boundary strength per each 4-sample edge which is a boundary of a transform unit or a prediction unit and lies on 8x8 sample grid;

determining whether to apply deblocking filtering on the 4-sample edge or not when the boundary strength of the 4-sample edge is not zero;

selecting a deblocking filter to be applied on the 4-sample edge when it is determined to apply deblocking filtering on the 4-sample edge; and

filtering the 4-sample edge by using the selected filter,

wherein, in the operation of determining the boundary strength, the boundary strength is not determined for a 4-sample edge which does not lie on the 8x8 sample grid, and

wherein the boundary strength of the 4-sample edge is 0, 1, or 2.

【Claim 2】

The method of claim 1, wherein the boundary strength is set to 0 when the 4-sample edge is neither a boundary of a transform unit nor a boundary of a prediction unit.

【Claim 3】

The method of claim 1, wherein 4-sample horizontal edges are filtered after the 4-sample vertical edges are filtered.

【Claim 4】

The method of claim 2, wherein, for a sample p0 and sample q0 located on each side of the 4-sample edge, the boundary strength is set to 2 when a prediction unit including the sample p0 or a prediction unit including the sample q0 is intra coded.

【Claim 5】

The method of claim 4, wherein the boundary strength is set to 0 or 1 when the prediction unit including the sample p0 and the prediction unit including the sample q0 are inter coded.

【Claim 6】

The method of claim 1, wherein the quantization parameter is derived by using a residual quantization parameter and a quantization parameter predictor, and, when at least two of a left quantization parameter, an above quantization parameter and a previous quantization parameter are available, an average of two available quantization parameters selected in order of the left quantization parameter, the above quantization parameter and the previous quantization parameter is set as the quantization parameter predictor.

【Claim 7】

The method of claim 6, wherein an average of the above quantization parameter and the previous quantization parameter is set as the quantization parameter predictor when the left quantization parameter is unavailable.

【Claim 8】

The method of claim 6, wherein an average of the left quantization parameter and the previous quantization parameter is set as the quantization parameter predictor when the above quantization parameter is unavailable.

【Claim 9】

The method of claim 6, wherein the average of the two available quantization parameters is rounded off.

【Claim 10】

The method of claim 6, wherein the previous quantization parameter is set as the quantization parameter predictor when both of the left quantization parameter and the above quantization parameter are unavailable.