CLAIMS:

1. A method of removing blocking artifacts, the method comprising:

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

determining whether deblocking filtering is performed on the 4-sample edge or not if the boundary strength is not equal to zero;

selecting a deblocking filter if the deblocking filtering is performed on the 4-sample edge, wherein the deblocking filter is selected using a boundary quantization parameter; and

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

wherein the boundary quantization parameter is an average of a quantization parameter of P block containing sample p0 and a quantization parameter of Q block containing sample q0, and

wherein the quantization parameter of the P block containing the sample p0 is generated by adding a quantization parameter predictor for the P block and a differential quantization parameter for the P block.

2. The method of claim 1, wherein the boundary strength is set equal to zero if the 4-sample edge is not the edge of the transform block and the 4-sample edge is not the edge of the prediction block.

3. The method of claim 1, wherein the boundary strength is set equal to 0, 1 or 2.

4. The method of claim 1, wherein vertical 4-sample edges are filtered first and then horizontal 4-sample edges are filtered.

5. The method of claim 4, wherein the boundary strength is set equal to 2 if a prediction unit containing the sample p0 or a prediction unit containing the sample q0 is intra-coded.

6. The method of claim 5, wherein the boundary strength is set equal to 1 or 0 if a prediction unit containing the sample p0 and a prediction unit containing the sample q0 are inter-coded.

7. The method of claim 1, wherein the average is a value rounded off.

8. The method of claim 1, wherein the quantization parameter predictor is set to an average value of two quantization parameters which are determined according to a predetermined order among a left quantization parameter, an above quantization parameter and a previous quantization parameter of a coding unit containing the sample p0.