【CLAIMS】

1. An image coding method, comprising:

generating a prediction block using intra prediction mode or motion information;

transforming residual signals generated using an original block and the prediction block to generate a transformed block;

quantizing the transformed block using a quantization parameter to generate a quantized block;

determining a scan pattern and applying the scan pattern to the quantized block to generate one-dimensional coefficient information; and

entropy-coding the one-dimensional coefficient information,

wherein a transform type used for transforming the residual signals of luma components is DCT-based integer transform if prediction mode is inter prediction, and a transform type used for transforming the residual signals of chroma components is a DCT-based integer transform,

wherein a differential quantization parameter is generated by subtracting a quantization parameter predictor from the quantization parameter,

wherein the quantization parameter predictor is generated using a previous quantization parameter of a current coding unit and available quantization parameters of a left quantization parameter and an above quantization parameter of a current coding unit,

wherein the quantization parameter predictor is set equal to the previous quantization parameter if both of the left quantization parameter and the above quantization parameter are unavailable, and

wherein the quantization parameter is a quantization parameter for the luma components, and a parameter indicating a relationship between the quantization parameter for the luma components and quantization parameter for the chroma components is included in a picture parameter set.

2. The method of claim 1, wherein when the residual signals are luma signals and a prediction mode is an intra prediction, the transform type used for transforming the residual signals is a DST-based integer transform if the size of the transform unit is smaller than 8×8, and the type used for transforming the residual signals is a DCT-based integer transform if the size of the transform unit is not smaller than 8×8.

3. The method of claim 1, wherein when the residual signals are chroma signals, the transform type used for transforming the residual signals is a DCT-based integer transform.

4. The method of claim 1, wherein if the left and above quantization parameters are available, an average of the left and above quantization parameters is set as the quantization parameter predictor.

5. The method of claim 1, wherein if the left quantization parameter is not available, an average of the above quantization parameter and the previous quantization parameter is set as the quantization parameter predictor, and if the above quantization parameter is not available, an average of the left quantization parameter and the previous quantization parameter is set as the quantization parameter predictor.

6. The method of claim 1, wherein the quantization parameter is generated per quantization unit, and a minimum size of the quantization unit is adjusted per picture.

7. The method of claim 1, wherein when a prediction mode is an intra prediction, the residual signals are luma signals and a size of the transform unit is equal to or smaller than 8×8, the scan pattern is selected among a diagonal scan, a vertical scan and a horizontal scan.

8. The method of claim 1, wherein when a prediction mode is an intra prediction, the residual signals are chroma signals and a size of the transform unit is equal to 4×4,

the scan pattern is selected among a diagonal scan, a vertical scan and a horizontal scan.

9. The method of claim 1, wherein when a size of the transform unit is larger than 4×4, the quantized block is divided into plural subsets, the scan pattern is applied to significant flags, coefficient signs and coefficient levels of each subset, and the plural subsets.

10. The method of claim 9, wherein the significant flags, the coefficient signs and the coefficient levels of each subset, and the plural subsets are scanned in reverse direction, and non-zero subset flags indicating whether the subset contains non-zero coefficients or not are generated.