【CLAIMS】

1. An image decoding method comprising:

deriving an intra prediction mode using three intra prediction modes which are determined by left and above intra prediction modes of a current prediction unit;

generating a prediction block according to the intra prediction mode;

generating a residual block using the intra prediction mode; and

generating a reconstructed block using the prediction block and the residual block,

wherein a size of the prediction block is determined by transform size information,

wherein the residual block is generated by inversely scanning the quantized coefficient information using an inverse scan pattern which is determined according to the intra prediction mode and the transform size information to generate a quantized block, by inversely quantizing the quantized block using a quantization parameter to generate a transformed block, and by inversely transforming the transformed block using an inverse transform matrix,

wherein a type of the inverse transform matrix is determined by a size of the transform unit,

wherein deriving an intra prediction mode of a prediction unit comprises:

constructing a Most Probable Mode (MPM) group including three intra prediction modes based on the left intra prediction mode and the above intra prediction mode;

setting an intra prediction mode of the MPM group specified by a prediction mode index as the intra prediction mode of the current prediction unit if a mode group indicator indicates the MPM group; and

determining the intra prediction mode of the current prediction unit by comparing the prediction mode index with the three intra prediction modes of the MPM group if the mode group indicator does not indicate the MPM group, and

wherein if only one of the left intra prediction mode and the above intra prediction mode is available, the MPM group includes the available intra prediction mode and two additional intra prediction modes determined according to the available intra prediction mode.

2. The method of claim 1, wherein if the available intra prediction mode is one of directional intra prediction modes, a DC mode and a planar mode are set as the two additional intra prediction modes.

3. The method of claim 1, wherein if the available intra prediction mode is one of two non-directional intra prediction modes, the other of two non-directional intra prediction modes and a vertical mode are set as the two additional intra prediction modes.

4. The method of claim 1, wherein the inverse scan pattern is selected among a diagonal scan, a vertical scan and a horizontal scan based on the intra prediction mode and the transform size information, and when a transform size is larger than a predetermined size, a plurality of subsets are generated and inversely scanned according to the inverse scan pattern to generate the quantized block.

5. The method of claim 1, wherein when two or more of a left quantization parameter, an above quantization parameter and a previous quantization parameter are available, the quantization parameter is generated using two available quantization parameters and a differential quantization parameter, and the two available quantization parameters are determined in a predetermined order.

6. The method of claim 5, wherein the quantization parameter is generated by adding an average of the two available quantization parameters and the differential quantization parameter, the differential quantization parameter is restored using a bin string indicating an absolute value of the differential quantization parameter and a bin indicating a sign of the differential quantization parameter.