CLAIMS

1. A method of coding implemented by a decoding device, comprising:

obtaining a bitstream;

obtaining an index value of a predefined lookup table for a current block from the bitstream;

obtaining a value of a first parameter for the current block and a value of a second parameter for the current block based on the index value of the predefined lookup table as follows:

(first parameter, second parameter) = lookupTable(index value),

wherein the first and second parameters describe a separation line dividing the current block into two sub-blocks, with the first parameter representing an angle for partitioning the current block, and the second parameter representing a distance for partitioning the current block, wherein a value range for the first parameter is between 0 and 4K-1, and a value range for the second parameter is between 0 and N, where K is equal to 4 or 8, and N is an integer greater than 0, and wherein the lookup table includes all combinations of the first parameter and the second parameter except for the following combinations:

a value of the second parameter is equal to 0, and a value of the first parameter is equal to one of {0, K, 2K, 3K};

a value of the second parameter is equal to 0, and a value of the first parameter is equal to one of {K/2, 3K/2, 5K/2, 7K/2}; and

a value of the second parameter is equal to 0, and a value of the first parameter is greater than 2K;

obtaining a value of a sample distance for a sample which is located in the current block according to the value of the first parameter and the value of the second parameter;

obtaining a prediction value for the sample according to the value of the sample distance for the sample.

2. The method of claim 1, wherein the obtaining a prediction value for the sample according to the value of the sample distance for the sample comprises:

calculating two weighting factors according to the sample distance value; and

obtaining the prediction value for the sample according to a first prediction value, a second prediction value, and the two weighting factors.

3. The method of any one of claims 1 to 2, wherein the value of the sample distance represents the horizontal distance or the vertical distance, or a combination of the vertical and horizontal distances, of the said sample to the separation line.

4. A decoder, comprising:

one or more processors; and

a storage medium coupled to the one or more processors and storing programming for execution by the processors, wherein the programming, when executed by the processors, configures the decoder to carry out the method according to any one of claims 1 to 3.

5. A method of coding implemented by an encoding device, comprising:

selecting a value of a first parameter and a value of a second parameter for a current block, wherein the first and second parameters describe a separation line dividing the current block into two sub-blocks, with the first parameter representing an angle for partitioning the current block, and the second parameter representing a distance for partitioning the current block, wherein a value range for the first parameter is between 0 and 4K-1, and a value range for the second parameter is between 0 and N, where K is equal to 4 or 8, and N is an integer greater than 0;

obtaining an index value of a predefined lookup table for the current block based on the value of the first parameter and the value of the second parameter as follows:

(first parameter, second parameter) = lookupTable(index value),

wherein the lookup table includes all combinations of the first parameter and the second parameter except for the following combinations:

a value of the second parameter is equal to 0, and a value of the first parameter is equal to one of {0, K, 2K, 3K};

a value of the second parameter is equal to 0, and a value of the first parameter is equal to one of {K/2, 3K/2, 5K/2, 7K/2}; and

a value of the second parameter is equal to 0, and a value of the first parameter is greater than 2K;

encoding the index value into a bitstream.

6. The method of claim 5, wherein the method further comprises:

calculating a sample distance for a sample in the current block;

calculating weighting factors corresponding to the sample according to the calculated sample distance; and

calculating a combined prediction value for the sample according to a first prediction value, a second prediction value, and the weighting factors.

7. An encoder, comprising:

one or more processors; and

a storage medium coupled to the processors and storing programming for execution by

the processors, wherein the programming, when executed by the processors, configures the encoder to carry out the method according to claim 5 or 6.

8. A computer program product comprising a program code for performing the method according to any one of claims 1 to 3 and 5 to 6.

9. A computer-readable medium comprising a bitstream encoded/decoded by the method of any one of claims 1 to 3 and 5 to 6.