[CLAIMS]

[Claim 1]

A moving picture coding method for coding a moving picture signal for each first processing unit, the moving picture coding method comprising:

transforming, for each of one or more second processing units included in the first processing unit, the moving picture signal in a spatial domain into a frequency domain coefficient and quantizing the frequency domain coefficient; and

performing arithmetic coding on a luminance CBF flag indicating whether or not a quantized coefficient is included in each of the second processing units for which the transform and the quantization are performed,

wherein, in the performing of arithmetic coding, a probability table for use in the arithmetic coding is determined according to whether or not a size of the first processing unit is identical to a size of the second processing unit and whether or not the second processing unit has a predetermined maximum size.

[Claim 2]

The moving picture coding method according to Claim 1,

wherein, in the performing of arithmetic coding, a probability table for use in the arithmetic coding is further determined according to a type of a slice to which the first processing unit belongs.

[Claim 3]

The moving picture coding method according to one of Claims 1 and 2,

wherein the first processing unit is a coding unit, and

the second processing unit is a transform unit.

[Claim 4]

The moving picture coding method according to any one of Claims 1 to 3,

wherein switching is performed between coding conforming to a first standard and coding conforming to a second standard, and the transform and quantization and the arithmetic coding are performed as the coding conforming to the first standard, and

the moving picture coding method further comprises coding an identifier indicating a coding standard.

[Claim 5]

A moving picture decoding method for decoding a coded moving picture signal for each first processing unit, the moving picture decoding method comprising:

performing arithmetic decoding on a luminance CBF flag indicating whether or not a quantized coefficient is included in one or more second processing units included in the first processing unit; and

reconstructing the moving picture signal using the quantized coefficient of the second processing unit when the luminance CBF flag indicates that the quantized coefficient is included in each of the second processing units, the luminance CBF flag being decoded in the arithmetic decoding,

wherein, in the performing of arithmetic decoding, a probability table for use in the arithmetic decoding is determined according to whether or not a size of the first processing unit is identical to a size of the second processing unit and whether or not the second processing unit has a predetermined maximum size.

[Claim 6]

The moving picture decoding method according to Claim 5,

wherein, in the performing of arithmetic decoding, a probability table for use in the arithmetic decoding is further determined according to a type of a slice to which the first processing unit belongs.

[Claim 7]

The moving picture decoding method according to one of

Claims 5 and 6,

wherein the first processing unit is a coding unit, and

the second processing unit is a transform unit.

[Claim 8]

The moving picture decoding method according to any one of Claims 5 to 7,

wherein switching is performed between decoding conforming to a first standard and decoding conforming to a second standard according to an identifier which is included in a coded signal and indicates the first standard or the second standard, and

the arithmetic decoding and the reconstructing are performed as the decoding conforming to the first standard when the identifier indicates the first standard.

[Claim 9]

A moving picture coding apparatus for coding a moving picture signal for each first processing unit, the moving picture coding apparatus comprising:

a transform and quantization unit configured to transform, for each of one or more second processing units included in the first processing unit, the moving picture signal in a spatial domain into a frequency domain coefficient and to quantize the frequency domain coefficient; and

an arithmetic coding unit configured to perform arithmetic coding on a luminance CBF flag indicating whether or not a quantized coefficient is included in the second processing unit processed by the transform and quantization unit,

wherein the arithmetic coding unit is configured to determine a probability table for use in the arithmetic coding according to whether or not a size of the first processing unit is identical to a size of the second processing unit and whether or not the second processing unit has a predetermined maximum size.

[Claim 10]

A moving picture decoding apparatus for decoding a coded moving picture signal for each first processing unit, the moving picture decoding apparatus comprising:

an arithmetic decoding unit configured to perform arithmetic decoding on a luminance CBF flag indicating whether or not a quantized coefficient is included in one or more second processing units included in the first processing unit; and

a reconstruction unit configured to reconstruct a moving picture signal using the quantized coefficient of the second processing unit when the luminance CBF flag indicates that the quantized coefficient is included in the second processing unit, the luminance CBF flag being processed by the arithmetic decoding unit,

wherein the arithmetic decoding unit is configured to determine a probability table for use in the arithmetic decoding according to whether or not a size of the first processing unit is identical to a size of the second processing unit and whether or not the second processing unit has a predetermined maximum size.

[Claim 11]

A moving picture coding and decoding apparatus comprising:

the moving picture coding apparatus according to Claim 9; and

the moving picture decoding apparatus according to Claim 10.

CLAIMS:

1. A decoding method for decoding a coded picture signal for a first unit, the first unit including one or more second units, the decoding method comprising:

obtaining, from the coded picture signal, a luminance CBF flag indicating whether or not a quantized coefficient is included in a second unit from among the one or more second units;

judging whether or not a size of the first unit is identical to a size of the second unit;

selecting a first probability table or a second probability table so that (i) the first probability table is selected when the size of the first unit is identical to the size of the second unit and (ii) the second probability table is selected when the size of the first unit is not identical to the size of the second unit regardless of the size of the second unit;

performing arithmetic decoding on the luminance CBF flag using the selected one of the first probability table and the second probability table; and

reconstructing a picture signal for the first unit using the quantized coefficient of the second unit when the luminance CBF flag indicates that the quantized coefficient is included in the second unit,

wherein when the size of the second unit is a first size which is not identical to the size of the first unit, said selecting selects the second probability table, and

wherein when the size of the second unit is a second size which is not identical to the size of the first unit and not identical to the first size, said selecting selects the second probability table.

2. A decoding apparatus for decoding a coded picture signal for a first unit including one or more second units, the decoding apparatus comprising:

a processor; and

a non-transitory memory having stored thereon executable instructions, which when executed by the processor, cause the processor to perform the following:

obtaining, from the coded picture signal, a luminance CBF flag indicating whether or not a quantized coefficient is included in a second unit from among the one or more second units;

judging whether or not a size of the first unit is identical to a size of the second unit;

selecting a first probability table or a second probability table so that (i) the first probability table is selected when the size of the first unit is identical to the size of the second unit and (ii) the second probability table is selected when the size of the first unit is not identical to the size of the second unit regardless of the size of the second unit;

performing arithmetic decoding on the luminance CBF flag using the selected one of the first probability table and the second probability table; and

reconstructing a picture signal for the first unit using the quantized coefficient of the second unit when the luminance CBF flag indicates that the quantized coefficient is included in the second unit,

wherein when the size of the second unit is a first size which is not identical to the size of the first unit, said selecting selects the second probability table, and

wherein when the size of the second unit is a second size which is not identical to the size of the first unit and not identical to the first size, said selecting selects the second probability table.