WHAT IS CLAIMED IS:

1. A method of determining a reference picture set (RPS) which is a set of reference pictures that are used in predictive decoding of a current picture, the method comprising:

determining whether or not to determine the RPS based on a delta RPS which is a difference value between a picture order count (POC) value of a reference picture comprised in a reference RPS which is one of pre-defined RPSs and is referred to in determining the RPS and a POC value of a reference picture comprised in the RPS; and

determining the RPS based on a result of the determining.

2. The method of claim 1, wherein the determining of the RPS comprises:

obtaining a flag indicating whether the RPS is determined based on the delta RPS which is determined based on POC values of the current picture and a previous picture or whether the RPS is determined based on an index of the reference RPS, which is an identification value of the reference RPS, and the delta RPS; and

determining the RPS according to a value of the flag.

3. The method of claim 1, wherein the RPS is an RPS which is not pre-defined in a sequence parameter set (SPS).

4. The method of claim 2, wherein the determining of the RPS comprises:

determining the delta RPS of the RPS, based on a difference value between the POC value of the current picture and the POC value of the previous picture; and

determining the RPS based on the delta RPS of the RPS and an RPS used in predictive decoding of the previous picture.

5. The method of claim 2, wherein the determining of the RPS comprises:

obtaining the delta RPS and the index of the reference RPS;

obtaining the reference RPS based on the index of the reference RPS; and

determining the RPS based on a value of the delta RPS added to POC values of the reference pictures comprised in the reference RPS.

6. A method of signaling a reference picture set (RPS), the method comprising:

determining the RPS which is a set of reference pictures used in predictive decoding of a current picture that is to be decoded;

determining whether to signal the RPS based on a delta RPS which is a difference value between a picture order count (POC) value of a reference picture comprised in a reference RPS which is one of pre-defined RPSs and is referred to in the determining of the RPS and a POC value of a reference picture comprised in the RPS; and

signaling the RPS based on a result of the determining.

7. The method of claim 6, wherein the signaling of the RPS comprises:

determining whether the RPS is determined based on the delta RPS which is determined based on POC values of the current picture and a previous picture or whether the RPS is determined based on an index of the reference RPS, which is an identification value of the reference RPS, and the delta RPS; and

adding a flag to a predetermined domain of a bit stream according to a result of the determining.

8. The method of claim 6, wherein the RPS is an RPS which is not pre-defined in a sequence parameter set (SPS).

9. The method of claim 7, wherein when the RPS is obtained based on the POC values of the current picture and the previous picture, the delta RPS of the RPS is determined based on a difference value between the POC value of the current picture and the POC value of the previous picture and the RPS is obtained based on the delta RPS of the RPS and an RPS used in predictive decoding of the previous image.

10. The method of claim 7, further comprising adding the delta RPS and the index of the reference RPS to the predetermined domain of the bit stream, when the RPS is obtained based on the delta RPS and the index of the reference RPS, and wherein the RPS is obtained based on the reference RPS obtained based on the index of the reference RPS and the delta RPS.

11. A video decoding apparatus comprising, in order to determine a reference picture set (RPS) which is a set of reference pictures used in predictive decoding of a current picture that is to be decoded, an RPS determination unit that determines whether or not to determine the RPS based on a delta RPS which is a difference value between a picture order count (POC) value of a reference picture comprised in a reference RPS which is one of pre-defined RPSs and is referred to in determining the RPS and a POC value of a reference picture comprised in the RPS, and determines the RPS based on a result of the determining.

12. The video decoding apparatus of claim 11, further comprising a flag obtaining unit that obtains a flag indicating whether the RPS is determined based on the delta RPS which is determined based on POC values of the current picture and a previous picture or whether the RPS is determined based on an index of the reference RPS, which is an identification value of the reference RPS, and the delta RPS,

and wherein the RPS determination unit determines the RPS according to a value of the flag.

13. The video decoding apparatus of claim 11, wherein the RPS is an RPS that is not pre-defined in a sequence parameter set (SPS).

14. A video encoding apparatus comprising:

a reference picture set (RPS) determination unit that determines an RPS which is a set of reference pictures used in predictive encoding of a current picture that is to be encoded; and

a signaling method determination unit that determines whether to signal the RPS based on a delta RPS which is a difference value between a picture order count (POC) value of a reference picture comprised in a reference RPS which is one of pre-defined RPSs and is referred to in determining the RPS and a POC value of a reference picture comprised in the RPS, and signals the RPS based on a result of the determining.

15. The video encoding apparatus of claim 14, wherein the signaling method determination unit determines, whether the RPS is determined based on the delta RPS which is determined based on POC values of the current picture and a previous picture or whether the RPS is determined based on an index of the reference RPS, which is an identification value of the reference RPS, and the delta RPS,

and further comprising a flag adding unit that adds a flag to a predetermined domain of a bit stream according to a result of the determining.

CLAIMS

1. A method of decoding, by a video decoding apparatus, an encoded video, the method comprising:

obtaining, from a bitstream, a number of reference picture sets included in a portion regarding a sequence parameter set of the bitstream;

determining whether an index of a current reference picture set is same as the number of reference picture sets;

when it is determined that a value of the index of the current reference picture set is the same as the number of reference picture sets, obtaining, from the bitstream, delta information about a difference between the index of the reference picture set and an index of a candidate reference picture set;

determining the index of the candidate reference picture set based on the delta information; and

determining the current reference picture set based on the index of the candidate reference picture set.

2. The decoding method of claim 1, wherein the reference picture sets are obtained from at least one of a first portion regarding the sequence parameter set of the bitstream and a second portion regarding a slice header of the bitstream.

3. The decoding method of claim 2, wherein a value of an index of the reference picture set determined based on the first portion of the bitstream is smaller than the number of reference picture sets, and a value of an index of the reference picture set obtained by using the second portion of the bitstream is

equal to a number of the candidate reference picture sets.

4. The decoding method of claim 2, wherein the delta information indicates a value obtained by subtracting 1 from a difference between the index of the current reference picture set and the index of the candidate reference picture set.

5. The decoding method of claim 2, wherein the candidate reference picture set is a reference picture set obtained from the first portion of the bitstream.

6. A decoding apparatus comprising:

a receiver configured to receive a bitstream of an encoded video; and

a reference picture set determiner configured to:

obtain, from a bitstream, a number of reference picture sets included in a portion regarding a sequence parameter set of the bitstream;

determine whether an index of a current reference picture set is same as the number of reference picture sets;

when it is determined that a value of the index of the current reference picture set is the same as the number of reference picture sets, obtain, from the bitstream, delta information about a difference between the index of the reference picture set and an index of a candidate reference picture set;

determine the index of the candidate reference picture set based on the delta information; and

determine the current reference picture set based on the index of the candidate reference picture set.