

## CLAIMS

1. A video predictive decoding device comprising:

input means that inputs a bitstream including compressed picture data for a plurality of pictures constituting a video sequence, where each picture has a network abstraction layer unit type that identifies said picture as one of a plurality of picture types including random access picture, random access skipped (RAS) leading picture and non-RAS leading picture;

reconstruction means which decodes the compressed picture data to reconstruct pictures based on the picture types; and

output means which outputs the reconstructed pictures;

wherein

1) a random access picture is the first picture in the bitstream in decoding order when the decoding process, which starts at any random access picture in the bitstream, is started from said random access picture;

2) RAS leading picture is the picture which precedes the associated random access picture in output order, and is not decodable when the associated random access picture is the first picture in the bitstream in decoding order;

3) non-RAS leading picture is the picture which precedes the associated random access picture in output order, and is decodable,

and wherein

reference pictures used for inter prediction of the non-RAS leading picture do not include any of a RAS leading picture or a picture that precedes the associated random access picture in decoding order.

2. A video predictive decoding device according to Claim 1, wherein RAS leading picture is not output when the associated random access picture is the first picture in the bitstream in decoding order.

3. A video predictive decoding method executed by a video predictive decoding device, comprising:

an input step of inputting a bitstream including compressed picture data for a plurality of pictures constituting a video sequence, where each picture has a network abstraction layer unit type that identifies said picture as one of a plurality of picture types including random access picture, random access skipped (RAS) leading picture and non-RAS leading picture;

a reconstruction step of decoding the compressed picture data to reconstruct pictures based on the picture types; and

an output step of outputting the reconstructed pictures;

wherein

1) a random access picture is the first picture in the bitstream in decoding order when the decoding process, which starts at any random access picture in the bitstream, is started from said random access picture;

2) RAS leading picture is the picture which precedes the associated random access picture in output order, and is not decodable when the associated random access picture is the first picture in the bitstream in decoding order;

3) non-RAS leading picture is the picture which precedes the associated random access picture in output order, and is decodable,

and wherein

reference pictures used for inter prediction of the non-RAS leading picture do not include any of a RAS leading picture or a picture that precedes the associated random access picture in decoding order.

4. A video predictive decoding method according to Claim 3, wherein RAS leading picture is not output when the associated random access picture is the first picture in the bitstream in decoding order.

5. A video predictive decoding program for letting a computer function as:

input means that inputs a bitstream including compressed picture data for a plurality of pictures constituting a video sequence, where each picture has a network abstraction layer unit type that identifies said picture as one of a plurality of picture types including random access picture, random access skipped (RAS) leading picture and non-RAS leading picture;

reconstruction means which decodes the compressed picture data to reconstruct pictures based on the picture types; and

output means which outputs the reconstructed pictures;

wherein

1) a random access picture is the first picture in the bitstream in decoding order when the decoding process, which starts at any random access picture in the bitstream, is started from said random access picture;

2) RAS leading picture is the picture which precedes the associated random access picture in output order, and is not decodable when the associated random access

picture is the first picture in the bitstream in decoding order;

3) non-RAS leading picture is the picture which precedes the associated random access picture in output order, and is decodable,

and wherein

reference pictures used for inter prediction of the non-RAS leading picture do not include any of a RAS leading picture or a picture that precedes the associated random access picture in decoding order.

6. A video predictive decoding program according to Claim 5, wherein RAS leading picture is not output when the associated random access picture is the first picture in the bitstream in decoding order.

## CLAIMS

1. A video predictive decoding device comprising:

input means that inputs a bitstream including compressed picture data for a plurality of pictures constituting a video sequence, where each picture has a network abstraction layer unit type that identifies said picture as one of a plurality of picture types including random access picture, random access skipped (RAS) leading picture and non-RAS leading picture;

reconstruction means which decodes the compressed picture data to reconstruct pictures based on the picture types; and

output means which outputs the reconstructed pictures;

wherein

1) a random access picture is the first picture in the bitstream in decoding order when the decoding process, which starts at any random access picture in the bitstream, is started from said random access picture;

2) RAS leading picture is the picture which precedes the associated random access picture in output order, and is not decodable when the associated random access picture is the first picture in the bitstream in decoding order;

3) non-RAS leading picture is the picture which precedes the associated random access picture in output order, and is decodable,

and wherein

a reference picture set of the non-RAS leading picture including reference pictures used for inter prediction of the non-RAS leading picture does not include any of a RAS leading picture or a picture that precedes the associated random access picture in decoding order, and

a reference picture set of a second random access picture does not include any picture preceding a first random access picture in decoding order when the second random access picture is decoded after the first random access picture.

2. A video predictive decoding device according to claim 1, wherein the reference picture set of the second random access picture does not include any picture preceding the first random access picture in decoding order when the second random access picture is decoded after the first random access picture, the reference picture set of the second random access picture including reference pictures used for inter prediction of an other picture that succeeds the second random access picture in decoding order.

3. A video predictive decoding method executed by a video predictive decoding device, comprising:

an input step of inputting a bitstream including compressed picture data for a plurality of pictures constituting a video sequence, where each picture has a network abstraction layer unit type that identifies said picture as one of a plurality of picture types including random access picture, random access skipped (RAS) leading picture and non-RAS leading picture;

a reconstruction step of decoding the compressed picture data to reconstruct pictures based on the picture types; and

an output step of outputting the reconstructed pictures;

wherein

1) a random access picture is the first picture in the bitstream in decoding order when the decoding process, which starts at any random access picture in the bitstream, is started from said random access picture;

2) RAS leading picture is the picture which precedes the associated random access picture in output order, and is not decodable when the associated random access picture is the first picture in the bitstream in decoding order;

3) non-RAS leading picture is the picture which precedes the associated random access picture in output order, and is decodable,

and wherein

a reference picture set of the non-RAS leading picture including reference pictures used for inter prediction of the non-RAS leading picture does not include any of a RAS leading picture or a picture that precedes the associated random access picture in decoding order, and

a reference picture set of a second random access picture does not include any picture preceding a first random access picture in decoding order when the second random access picture is decoded after the first random access picture.

4. A video predictive decoding method according to claim 3, wherein the reference picture set of the second random access picture does not include any picture preceding the first random access picture in decoding order when the second random access picture is decoded after the first random access picture, the reference picture set of the second random access picture including reference pictures used for inter prediction of an other picture that succeeds the second random access picture in decoding order.

5. A video predictive decoding program for letting a computer function as:

input means that inputs a bitstream including compressed picture data for a plurality of pictures constituting a video sequence, where each picture has a network abstraction layer unit type that identifies said picture as one of a plurality of picture types including random access picture, random access skipped (RAS) leading picture and non-RAS leading picture;

reconstruction means which decodes the compressed picture data to reconstruct pictures based on the picture types; and

output means which outputs the reconstructed pictures;

wherein

1) a random access picture is the first picture in the bitstream in decoding order when the decoding process, which starts at any random access picture in the bitstream, is started from said random access picture;

2) RAS leading picture is the picture which precedes the associated random access picture in output order, and is not decodable when the associated random access picture is the first picture in the bitstream in decoding order;

3) non-RAS leading picture is the picture which precedes the associated random access picture in output order, and is decodable,

and wherein

a reference picture set of the non-RAS leading picture including reference pictures used for inter prediction of the non-RAS leading picture does not include any of a RAS leading picture or a picture that precedes the associated random access picture in decoding order, and

a reference picture set of a second random access picture does not include any picture preceding a first random access picture in decoding order when the second random access picture is decoded after the first random access picture.

6. A video predictive decoding program according to claim 5, wherein the reference picture set of the second random access picture does not include any picture preceding the first random access picture in decoding order when the second random access picture is decoded after the first random access picture, the reference picture set of the second random access picture including reference pictures used for inter prediction of an other picture that succeeds the second random access picture in decoding order.