

CLAIMS

1. An image processing device comprising:
 - circuitry configured to
 - ~~a quantization section configured to quantize image data using a quantization matrix to generate quantized data;~~
 - ~~a generating section configured to generate~~ set a parameter indicating whether to use a reference quantization matrix which is selected according to a type of the reference quantization matrix that includes a prediction mode and a size of the reference quantization matrix as a current quantization matrix; ~~copy another matrix in order to set the quantization matrix to be used when inversely quantizing the quantized data; and~~
 - quantize image data using the current quantization matrix to generate quantized data; and
 - ~~an encoding section configured~~ encode the quantized data to generate an encoded stream including the parameter by encoding the parameter generated by the generating section and the quantized data generated by the quantization section.

2. The image processing device according to claim 1, wherein the circuitry is configured to, in a case where the parameter indicates that the reference quantization matrix is to be used as the current quantization matrix, set the current quantization matrix by using the same values as the values of the reference quantization matrix ~~the quantization matrix can be set by copying another matrix, the generating section generates the parameter indicating that another matrix is to be copied.~~

3. The image processing device according to claim 2, wherein the reference quantization matrix is selected as the current quantization matrix from different reference quantization matrices
 - ~~the generating section generates identification information for identifying a copy source matrix, and~~
 - ~~the encoding section encodes the identification information generated by the generating section.~~

4. ~~The image processing device according to claim 3, wherein~~
 - ~~the generating section generates the identification information which is different for each size of the quantization matrix.~~

5. ~~The image processing device according to claim 3, wherein~~
~~the generating section generates the identification information that distinguishes different~~
~~classes of quantization matrices.~~

64. The image processing device according to claim 1, wherein the type of the reference quantization matrix includes the identification information that distinguishes different classes of quantization matrices by at least one of a prediction mode and a color component.

7. ~~The image processing device according to claim 3, wherein~~
~~in a case where a default matrix is to be used as the quantization matrix, the generating~~
~~section generates the identification information interpreted such that the quantization matrix~~
~~itself which is to be set is indicated as a copy source.~~

8. ~~The image processing device according to claim 3, wherein~~
~~the identification information identifies one of the quantization matrices previously used~~
~~by the quantization section as a copy source matrix.~~

95. The image processing device according to claim 1,
 further comprising: wherein the parameter is set as a transmitting section that transmits the
~~parameter encoded by the encoding section within a picture parameter set of the encoded stream.~~

106. An image processing method comprising:
~~quantizing image data using a quantization matrix to generate quantized data;~~
generating setting a parameter indicating whether to use a reference quantization matrix
which is selected according to a type of the reference quantization matrix that includes a prediction
mode and a size of the reference quantization matrix as a current quantization matrix; copy another
~~matrix in order to set the quantization matrix to be used when inversely quantizing the quantized~~
~~data; and~~

quantizing image data using the current quantization matrix to generate quantized data; and
generating encoding the quantized data to generate an encoded stream including the parameter
~~by encoding the parameter and the generated quantized data.~~

7. The image processing method according to claim 6, further comprising, in a case the parameter indicates that the reference quantization matrix is to be used as the current quantization matrix, setting the current quantization matrix by using the same values as the values of the reference quantization matrix.
8. The image processing method according to claim 7, wherein the reference quantization matrix is selected as the current quantization matrix from different reference quantization matrices.
9. The image processing method according to claim 6, wherein the type of the reference quantization matrix includes at least one of a prediction mode and a color component.
10. The image processing method according to claim 6, wherein the parameter is set as a picture parameter set of the encoded stream.
11. A non-transitory computer-readable storage medium storing computer-readable instructions thereon, which, when executed by a computer, cause the computer to perform an image processing method comprising:
 - setting a parameter indicating whether to use a reference quantization matrix which is selected according to a type of the reference quantization matrix that includes a prediction mode and a size of the reference quantization matrix as a current quantization matrix;
 - quantizing image data using the current quantization matrix to generate quantized data; and
 - encoding the quantized data to generate an encoded stream including the parameter.