CLAIMS

1. A method of using a deblocking filter on video data, the method comprising:

obtaining a reconstructed video block comprising pixel samples of a picture arranged in rows and columns, the reconstructed video block having a height that is the number of the rows of the reconstructed video block and a width that is the number of the columns of the reconstructed video block, the first reconstructed video block having a boundary with a neighboring video block, the neighboring video block comprising pixel samples of the picture arranged in rows and columns, the neighboring video block having a height that is the number of the rows of the neighboring video block and a width that is the number of the columns of the neighboring video block;

determining deblocking filter parameters for a boundary of the reconstructed video block with the neighboring video block in the picture based on a first dimension of the reconstructed video block and a second dimension of the neighboring video block, the first dimension being one of the width or the height of the first reconstructed video block and the second dimension being one of the width or the height of the neighboring video block,

the first dimension being the width of the reconstructed video block when the boundary is vertical or the height of the reconstructed video block when the boundary is horizontal, and

the second dimension being the width of the neighboring video block when the boundary is vertical or the height of the neighboring video block when the boundary is horizontal,

the filter parameters comprising a filter to be applied or a number of pixels along the boundary with the neighboring video block to which the filter is to be applied,

wherein determining the deblocking filter parameters for the boundary of the reconstructed video block comprises determining whether the first dimension is less than or equal to a first threshold and determining whether the second dimension is less than or equal to the first threshold; and

applying the deblocking filter to the pixel samples of the reconstructed video block based on the determined filter parameters.

2. The method of claim 1, wherein the filter parameters comprise the number of

pixels on either side of the boundary to be filtered, which is determined based on one or both of the first dimension and the second dimension.

3. The method of claim 1, wherein the filter parameters comprise the number of pixels on either side of the boundary to be filtered, which is determined to be less than half of the minimum of a specified dimension of the reconstructed video block and of the neighboring video block.

4. The method of claim 1, wherein the reconstructed video block and the neighboring video block are coding units.

5. The method of claim 1, wherein determining the deblocking filter parameters comprises determining whether to disable the deblocking filter, and wherein applying the deblocking filter to filter samples of the video block based on the determined filter parameters comprises filtering none of the pixel samples of the reconstructed video block based on a determination to disable the deblocking filter for the reconstructed video block.

6. The method of claim 1, wherein the deblocking filter parameters comprising one or more of the number of pixels along the boundary to which the filter is to be applied, a length of the filter, or a function defining the filter.

7. The method of claim 1, wherein determining the filter comprises determining whether to use one of a plurality of filters, the filters comprising a first, N, tap filter, or a second M, tap filter, with M and N being different numbers.

8. The method of claim 1, further comprising:

calculating a smoothness characteristic of pixel samples of the video block, wherein determining the deblocking filter parameters based on the calculated smoothness characteristic.

9. The method of claim 8, wherein determining the deblocking filter parameters is based on the calculated smoothness characteristic only if the reconstructed video blocks has a

specified first dimension.

10. The method of claim 8, wherein calculating the smoothness characteristic of the pixel samples comprises calculating a function of all pixels of the video block.

11. The method of claim 8, wherein calculating the smoothness characteristic of the pixel samples comprises calculating a derivative of a plurality of the pixel samples of the video block.

12. The method of claim 1, further comprising calculating a smoothness characteristic of pixel of the neighboring video block.

13. The method of claim 12, wherein calculating the smoothness characteristic of the pixel samples further comprises calculating a derivative of a plurality of the pixel samples of the neighboring video block.

14. The method of claim 8, wherein determining the deblocking filter parameters based on the calculated characteristic comprises comparing the calculated characteristic to a threshold.

15. The method of claim 14, wherein the threshold is coded in a video bitstream for the video block.

16. The method of claim 1, further comprising storing a picture including the video block into a decoded picture buffer.

17. The method of claim 1, wherein obtaining the reconstructed video block comprises:

predicting the video block; and

combining the predicted video block with a residual block to obtain the reconstructed video block.

18. The method of claim 17, wherein obtaining the reconstructed video block comprises:

decoding data from a video bitstream for predicting the block;

decoding at least one transform coefficient from the video bitstream; and

generating the residual block from the at least one transform coefficient.

19. The method of claim 17, wherein obtaining the reconstructed video block comprises:

determining and encoding data into a video bitstream for predicting the block; and

encoding at least one transform coefficient indicative of the residual block into the video bitstream.

20. An apparatus for using a deblocking filter on video data, the apparatus comprising:

a memory configured to store a reconstructed video block comprising pixel samples of a picture, arranged in rows and columns, the reconstructed video block having a height that is the number of the rows of the reconstructed video block and a width that is the number of the columns of the reconstructed video block, the first reconstructed video block having a boundary with a neighboring video block, the neighboring video block comprising pixel samples of the picture arranged in rows and columns, the neighboring video block having a height that is the number of the rows of the neighboring video block and a width that is the number of the columns of the neighboring video block; and

a processor configured to:

obtain the reconstructed video block;

determine deblocking filter parameters for the boundary of the reconstructed video block with the neighboring video block in the picture based on a first dimension of the video block and a second dimension of the neighboring video block, the first dimension being one of the width or the height of the first reconstructed video block and the second dimension being one of the width or the height of the neighboring video block

the first dimension being the width of the reconstructed video block when the

boundary is vertical or the height of the reconstructed video block when the boundary is horizontal, and

the second dimension being the width of the neighboring video block when the boundary is vertical or the height of the neighboring video block when the boundary is horizontal,

the filter parameters comprising a filter to be applied or a number of pixels along the boundary with the neighboring video block to which the filter is to be applied determined based on the at least one dimension,

wherein to determine the deblocking filter parameters for the boundary of the reconstructed video block based on the dimension, the processor is further configured to determine whether the first dimension is less than or equal to a first threshold and to determine whether the second dimension is less than or equal to the first threshold; and

apply the deblocking filter to the pixel samples of the reconstructed video block based on the determined filter parameters.

21. The apparatus of claim 20, wherein the filter parameters comprise the number of pixels on either side of the boundary to be filtered, which is determined based on one or both of the first dimension and the second dimension.

22. The apparatus of claim 20, wherein the filter parameters comprise the number of pixels on either side of the boundary to be filtered, which is determined to be less than half of the minimum of a specified dimension of the reconstructed video block and of the neighboring video block.

23. The apparatus of claim 20, wherein the processor is configured to obtain the reconstructed video block by:

predicting the reconstructed video block; and

combining the predicted video block with a residual block to obtain the reconstructed video block.

24. The apparatus of claim 23, wherein the processor is further configured to:

decode data from a video bitstream for predicting the reconstructed video block;

decode at least one transform coefficient from the video bitstream; and

generate the residual block from the at least one transform coefficient.

25. The apparatus of claim 24, further comprising a display configured to display the picture including the reconstructed video block.

26. The apparatus of claim 20, wherein the processor is further configured to:

determine and encode data into a video bitstream for predicting the reconstructed video block; and

encode at least one transform coefficient indicative of the residual block into the video bitstream.

27. The apparatus of claim 26, further comprising a camera configured to capture the picture including the reconstructed video block.

28. The apparatus of claim 20, wherein the processor is further configured to calculate a smoothness characteristic of pixel samples of the reconstructed video block and further configured to determine the deblocking filter parameters based on the calculated smoothness characteristic.