

~~WHAT IS CLAIMED IS:~~**CLAIMS**

1. A method of decoding video data, the method comprising:
determining samples for generating a DC value to use for DC intra mode prediction for a current block, wherein determining the samples comprises determining a plurality of samples in at least one of:

a non-adjacent row of samples having a last sample that is in the same column as a last column of the current block and a first sample that is in the same column as a first column of the current block, wherein the non-adjacent row of samples is more than one row above the current block, and wherein the non-adjacent row of samples includes only the first sample that is in the same column as the first column of the current block, the last sample that is in the same column as the last column of the current block, and samples in the non-adjacent row between the first sample that is in the same column as the first column of the current block and the last sample that is in the same column as the last column of the current block, or

a non-adjacent column of samples having a last sample that is in the same row as a last row of the current block and a first sample that is in the same row as a first row of the current block, wherein the non-adjacent column of samples is more than one column left of the current block; ~~and~~, and wherein the non-adjacent column of samples includes only the first sample that is in the same row as the first row of the current block, the last sample that is in the same row as the last row of the current block, and samples in the non-adjacent column between the first sample that is in the same row as the first row of the current block and the last sample that is in the same row as the last row of the current block; and

decoding the current block using DC intra mode prediction using the ~~determined~~
~~samples~~ DC value.

2. ~~The method of claim 1, wherein at least one of:~~

~~the non-adjacent row of samples having the last sample that is in the same column as the last column of the current block includes a first sample that is in the same column as a first column of the current block, or~~

~~the non-adjacent column of samples having the last sample that is in the same row as the last row of the current block includes a first sample that is in the same row as a first row of the current block.~~

32. The method of claim 1, wherein the current block comprises a first block, the non-adjacent row of samples comprises a first non-adjacent row of samples, and the non-adjacent column of samples comprises a first non-adjacent column of samples, the method further comprising:

determining samples to use for DC intra mode prediction for a second block, wherein determining the samples to use for DC intra mode prediction for the second block comprises determining a plurality of samples in at least one of:

a second non-adjacent row of samples having a first sample that is in first column of the second block and having a last sample that is in the same column as a last column of the ~~current~~second block, wherein the second non-adjacent row of samples is more than three rows above the second block, or

a second non-adjacent column of samples having a first sample that is in first row of the second block and having a last sample that is in the same row as a last row of the second block, wherein the second non-adjacent column of samples is more than three columns left of the second block; and

decoding the second block using DC intra mode prediction using the determined samples to use for DC intra mode prediction for the second block.

43. The method of claim 1, further comprising:

receiving a syntax element indicative of a number of rows or columns the non-adjacent row of samples is above the current block or the non-adjacent column of samples is left of the current block.

~~54.~~ The method of claim 1, wherein a coordinate for a top-left sample of the current block is (x_0, y_0) , nW is width of the current block, and nH is height of the current block, and $MRLIdx$ is indicative of a number of rows or columns the non-adjacent row of samples is above the current block or the non-adjacent column of samples is left of the current block, the method further comprising determining at least one of:

the non-adjacent row of samples having coordinates $(x, y_0 - MRLIdx - 1)$, where $x = x_0 \dots x_0 + nW - 1$, or

the non-adjacent column of samples having coordinates $(x_0 - MRLIdx - 1, y)$, where $y = y_0 \dots y_0 + nH - 1$.

~~65.~~ The method of claim 1, further comprising:

performing a weighted average of the determined samples,

wherein decoding the current block comprises decoding the current block using DC intra mode prediction using the weighted average of the determined samples.

~~76.~~ The method of claim 1, wherein decoding comprises:

generating a prediction block based on the plurality of samples;

determining a residual block, the residual block indicating a difference between the current block and the prediction block; and

reconstructing the current block based on the residual block and the prediction block.

87. A method of encoding video data, the method comprising:

determining samples for generating a DC value to use for DC intra mode prediction for a current block, wherein determining the samples comprises determining a plurality of samples in at least one of:

a non-adjacent row of samples having a last sample that is in the same column as a last column of the current block and a first sample that is in the same column as a first column of the current block, wherein the non-adjacent row of samples is more than one row above the current block, ~~or~~ and wherein the non-adjacent row of samples includes only the first sample that is in the same column as the first column of the current block, the last sample that is in the same column as the last column of the current block, and samples in the non-adjacent row between the first sample that is in the same column as the first column of the current block and the last sample that is in the same column as the last column of the current block, or

a non-adjacent column of samples having a last sample that is in the same row as a last row of the current block and a first sample that is in the same row as a first row of the current block, wherein the non-adjacent column of samples is more than one column left of the current block; ~~and,~~ and wherein the non-adjacent column of samples includes only the first sample that is in the same row as the first row of the current block, the last sample that is in the same row as the last row of the current block, and samples in the non-adjacent column between the first sample that is in the same row as the first row of the current block and the last sample that is in the same row as the last row of the current block; and

encoding the current block using DC intra mode prediction using the ~~determined~~ samples DC value.

98. The method of claim 8, ~~wherein at least one of:~~

~~the non-adjacent row of samples having the last sample that is in the same column as the last column of the current block includes a first sample that is in the same column as a first column of the current block, or~~

~~the non-adjacent column of samples having the last sample that is in the same row as the last row of the current block includes a first sample that is in the same row as a first row of the current block.~~

~~10. The method of claim 87, wherein the current block comprises a first block, the non-adjacent row of samples comprises a first non-adjacent row of samples, and the non-adjacent column of samples comprises a first non-adjacent column of samples, the method further comprising:~~

~~determining samples to use for DC intra mode prediction for a second block, wherein determining the samples to use for DC intra mode prediction for the second block comprises determining a plurality of samples in at least one of:~~

~~a second non-adjacent row of samples having a first sample that is in first column of the second block and having a last sample that is in the same column as a last column of the currentsecond block, wherein the second non-adjacent row of samples is more than three rows above the second block, or~~

~~a second non-adjacent column of samples having a first sample that is in first row of the second block and having a last sample that is in the same row as a last row of the second block, wherein the second non-adjacent column of samples is more than three columns left of the second block; and~~

~~encoding the second block using DC intra mode prediction using the determined samples to use for DC intra mode prediction for the second block.~~

~~119. The method of claim 87, further comprising:~~

~~signaling a syntax element indicative of a number of rows or columns the non-adjacent row of samples is above the current block or the non-adjacent column of samples is left of the current block.~~

~~12~~10. The method of claim ~~8~~7, wherein a coordinate for a top-left sample of the current block is (x_0, y_0) , nW is width of the current block, and nH is height of the current block, and $MRLIdx$ is indicative of a number of rows or columns the non-adjacent row of samples is above the current block or the non-adjacent column of samples is left of the current block, the method further comprising determining at least one of:

the non-adjacent row of samples having coordinates $(x, y_0 - MRLIdx - 1)$, where $x = x_0 \dots x_0 + nW - 1$, or

the non-adjacent column of samples having coordinates $(x_0 - MRLIdx - 1, y)$, where $y = y_0 \dots y_0 + nH - 1$.

~~13~~11. The method of claim ~~8~~7, further comprising:

performing a weighted average of the determined samples,

wherein encoding the current block comprises encoding the current block using DC intra mode prediction using the weighted average of the determined samples.

~~14~~12. The method of claim ~~8~~7, wherein encoding comprises:

generating a prediction block based on the plurality of samples;

determining a residual block, the residual block indicating a difference between the current block and the prediction block; and

signaling information indicative of the residual block.

1513. A device for decoding video data, the device comprising:

memory configured to store one or more samples of rows and columns that are non-adjacent to a current block; and

processing circuitry configured to:

determine samples for generating a DC value to use for DC intra mode prediction for a current block, wherein to determine the samples, the processing circuitry is configured to determine a plurality of samples in at least one of:

a non-adjacent row of samples having a last sample that is in the same column as a last column of the current block and a first sample that is in the same column as a first column of the current block, wherein the non-adjacent row of samples is more than one row above the current block, ~~or~~ and wherein the non-adjacent row of samples includes only the first sample that is in the same column as the first column of the current block, the last sample that is in the same column as the last column of the current block, and samples in the non-adjacent row between the first sample that is in the same column as the first column of the current block and the last sample that is in the same column as the last column of the current block, or

a non-adjacent column of samples having a last sample that is in the same row as a last row of the current block and a first sample that is in the same row as a first row of the current block, wherein the non-adjacent column of samples is more than one column left of the current block; and

~~decode the current block using DC intra mode prediction using the determined samples.~~

16. ~~The device of claim 15, wherein at least one of:~~

~~the non-adjacent row of samples having the last sample that is in the same column as the last column of the current block of samples includes~~ only the first sample that is in the same column row as a the first column row of the current block, the last sample that is in the same row as the last row of the current block, or

and samples in the non-adjacent column of samples having between the first sample that is in the same row as the first row of the current block and the last sample that is in the same row as the last row of the current block includes a first sample that is in the same row as a first row of the current block.; and
decode the current block using DC intra mode prediction using the DC value.

~~1714.~~ The device of claim ~~1513~~, wherein the current block comprises a first block, the non-adjacent row of samples comprises a first non-adjacent row of samples, and the non-adjacent column of samples comprises a first non-adjacent column of samples, the processing circuitry is configured to:

determine samples to use for DC intra mode prediction for a second block, wherein to determine the samples to use for DC intra mode prediction for the second block, the processing circuitry is configured to determine a plurality of samples in at least one of:

a second non-adjacent row of samples having a first sample that is in first column of the second block and having a last sample that is in the same column as a last column of the ~~current~~second block, wherein the second non-adjacent row of samples is more than three rows above the second block, or

a second non-adjacent column of samples having a first sample that is in first row of the second block and having a last sample that is in the same row as a last row of the second block, wherein the second non-adjacent column of samples is more than three columns left of the second block; and

decode the second block using DC intra mode prediction using the determined samples to use for DC intra mode prediction for the second block.

~~1815.~~ The device of claim ~~1513~~, wherein the processing circuitry is configured to:

receive a syntax element indicative of a number of rows or columns the non-adjacent row of samples is above the current block or the non-adjacent column of samples is left of the current block.

~~19~~16. The device of claim ~~15~~13, wherein a coordinate for a top-left sample of the current block is (x_0, y_0) , nW is width of the current block, and nH is height of the current block, and $MRLIdx$ is indicative of a number of rows or columns the non-adjacent row of samples is above the current block or the non-adjacent column of samples is left of the current block, the processing circuitry is configured to determine at least one of:

the non-adjacent row of samples having coordinates $(x, y_0 - MRLIdx - 1)$, where $x = x_0 \dots x_0 + nW - 1$, or

the non-adjacent column of samples having coordinates $(x_0 - MRLIdx - 1, y)$, where $y = y_0 \dots y_0 + nH - 1$.——

~~20~~17. The device of claim ~~15~~13, wherein the processing circuitry is configured to:

perform a weighted average of the determined samples,

wherein to decode the current block, the processing circuitry is configured to decode the current block using DC intra mode prediction using the weighted average of the determined samples.

~~21~~18. The device of claim ~~15~~13, wherein to decode, the processing circuitry is configured to:

generate a prediction block based on the plurality of samples;

determine a residual block, the residual block indicating a difference between the current block and the prediction block; and

reconstruct the current block based on the residual block and the prediction block.

~~22~~19. The device of claim ~~15~~13, further comprising a display configured to display decoded video data.

~~23~~20. The device of claim ~~15~~13, wherein the device comprises one or more of a camera, a computer, a mobile device, a broadcast receiver device, or a set-top box.

~~2421~~. A device for encoding video data, the device comprising:

memory configured to store one or more samples of rows and columns that are non-adjacent to a current block; and

processing circuitry configured to:

determine samples for generating a DC value to use for DC intra mode prediction for a current block, wherein to determine the samples, the processing circuitry is configured to determine a plurality of samples in at least one of:

a non-adjacent row of samples having a last sample that is in the same column as a last column of the current block and a first sample that is in the same column as a first column of the current block, wherein the non-adjacent row of samples is more than one row above the current block, ~~or~~ and wherein the non-adjacent row of samples includes only the first sample that is in the same column as the first column of the current block, the last sample that is in the same column as the last column of the current block, and samples in the non-adjacent row between the first sample that is in the same column as the first column of the current block and the last sample that is in the same column as the last column of the current block, or

a non-adjacent column of samples having a last sample that is in the same row as a last row of the current block and a first sample that is in the same row as a first row of the current block, wherein the non-adjacent column of samples is more than one column left of the current block; ~~and, and~~ and wherein the non-adjacent column of samples includes only the first sample that is in the same row as the first row of the current block, the last sample that is in the same row as the last row of the current block, and samples in the non-adjacent column between the first sample that is in the same row as the first row of the current block and the last sample that is in the same row as the last row of the current block; and

encode the current block using DC intra mode prediction using the ~~determined samples~~ DC value.

~~2522~~. The device of claim 24, ~~wherein at least one of:~~

~~the non-adjacent row of samples having the last sample that is in the same column as the last column of the current block includes a first sample that is in the same column as a first column of the current block, or~~

~~the non-adjacent column of samples having the last sample that is in the same row as the last row of the current block includes a first sample that is in the same row as a first row of the current block.~~

26. ~~The device of claim 24~~21, wherein to encode, the processing circuitry is configured to:
generate a prediction block based on the plurality of samples;
determine a residual block, the residual block indicating a difference between the current block and the prediction block; and
signal information indicative of the residual block.

~~27~~23. A non-transitory computer-readable storage medium storing instructions thereon that when executed cause one or more processors to:

determine samples for generating a DC value to use for DC intra mode prediction for a current block, wherein the instructions that cause the one or more processors to determine the samples comprise instructions that cause the one or more processors to determine a plurality of samples in at least one of:

a non-adjacent row of samples having a last sample that is in the same column as a last column of the current block and a first sample that is in the same column as a first column of the current block, wherein the non-adjacent row of samples is more than one row above the current block, and wherein the non-adjacent row of samples includes only the first sample that is in the same column as the first column of the current block, the last sample that is in the same column as the last column of the current block, and samples in the non-adjacent row between the first sample that is in the same column as the first column of the current block and the last sample that is in the same column as the last column of the current block, or

a non-adjacent column of samples having a last sample that is in the same row as a last row of the current block and a first sample that is in the same row as a first row of the current block, wherein the non-adjacent column of samples is more than one column left of the current block; ~~and,~~ and wherein the non-adjacent column of samples includes only the first sample that is in the same row as the first row of the current block, the last sample that is in the same row as the last row of the current block, and samples in the non-adjacent column between the first sample that is in the same row as the first row of the current block and the last sample that is in the same row as the last row of the current block; and

decode the current block using DC intra mode prediction using the ~~determined~~ samples DC value.

~~28~~24. A device for decoding video data, the device comprising:

means for determining samples for generating a DC value to use for DC intra mode prediction for a current block, wherein the means for determining the samples comprises means for determining a plurality of samples in at least one of:

a non-adjacent row of samples having a last sample that is in the same column as a last column of the current block and a first sample that is in the same column as a first column of the current block, wherein the non-adjacent row of samples is more than one row above the current block, ~~or~~ and wherein the non-adjacent row of samples includes only the first sample that is in the same column as the first column of the current block, the last sample that is in the same column as the last column of the current block, and samples in the non-adjacent row between the first sample that is in the same column as the first column of the current block and the last sample that is in the same column as the last column of the current block, or

a non-adjacent column of samples having a last sample that is in the same row as a last row of the current block and a first sample that is in the same row as a first row of the current block, wherein the non-adjacent column of samples is more than one column left of the current block; ~~and,~~ and wherein the non-adjacent column of samples includes only the first sample that is in the same row as the first row of the current block, the last sample that is in the same row as the last row of the current block, and samples in the non-adjacent column between the first sample that is in the same row as the first row of the current block and the last sample that is in the same row as the last row of the current block; and

means for decoding the current block using DC intra mode prediction using the ~~determined samples.~~ DC value.