CLAIMS

1. A method, comprising:

determining one or more gradients for reference pixels surrounding a current video block, wherein there is no substitution of unavailable reference pixels, and the one or more gradients are determined exclusively at an available reference pixel, and no gradient is determined at an unavailable reference pixel;

determining an intra prediction mode to use for encoding the current video block based on said gradients; and,

encoding the current video block using the determined intra prediction mode.

2. An apparatus, comprising:

a processor, configured to perform:

determining one or more gradients for reference pixels surrounding a current video block, wherein there is no substitution of unavailable reference pixels, and the one or more gradients are determined exclusively at an available reference pixel, and no gradient is determined at an unavailable reference pixel;

determining an intra prediction mode to use for encoding the current video block based on said gradients; and,

encoding the current video block using the determined intra prediction mode.

3. A method, comprising:

determining one or more gradients for reference pixels surrounding a current video block, wherein there is no substitution of unavailable reference pixels, and the one or more gradients are determined exclusively at an available reference pixel, and no gradient is determined at an unavailable reference pixel;

determining an intra prediction mode to use for decoding the current video block based on said gradients; and,

decoding the current video block using the determined intra prediction mode.

4. An apparatus, comprising:

a processor, configured to perform:

determining one or more gradients for reference pixels surrounding a current video block, wherein there is no substitution of unavailable reference pixels, and the one or more gradients are determined exclusively at an available reference pixel, and no gradient is determined at an unavailable reference pixel;

determining an intra prediction mode to use for decoding the current video block based on said gradients; and,

decoding the current video block using the determined intra prediction mode.

5. The method of any one of claims 1, 3 or the apparatus of any one of claims 2, 4 wherein said reference pixels comprise one or more rows above the current video block, one or more columns left of the current video block, pixels above and left of the current video block.

6. The method or apparatus of Claim 5 wherein said reference pixels further extend above and right of current video block and below left of said current video block.

7. The method of any one of claims 1, 3, 5, 6, or the apparatus of any one of claims 2, 4 to 6, wherein said gradients are determined using horizontal and vertical filters.

8. The method or apparatus of Claim 7 wherein said gradients are further determined using a convolution of said horizontal and vertical filters.

9. The method of any one of claims 1, 3, 5 to 8, or the apparatus of any one of claims 2, 4 to 8, further comprising assigning an index to intra prediction mode.

10. The method or apparatus of claim 9, wherein said index is reassigned based on said index value.

11. The method of any one of claims 1, 3, 5 to 10, or the apparatus of any one of claims 2, 4 to 10, wherein determination of said gradients uses reference pixels within a reference area.

12. A device comprising:

an apparatus according to Claim 4; and

at least one of (i) an antenna configured to receive a signal, the signal including the coding unit, (ii) a band limiter configured to limit the received signal to a band of frequencies that includes the coding unit, and (iii) a display configured to display an output representative of a coding unit.

13. A non-transitory computer readable medium containing data content generated according to the method of any one of claims 1 and 5 to 11, or by the apparatus of any of claims 2 and 5 to 11, for playback using a processor.

14. A signal comprising video data generated according to the method of any one of claims 1 and 5 to 11, or by the apparatus of any of claims 2 and 5 to 11, for playback using a processor.

15. A computer program product comprising instructions which, when the program is executed by a computer, cause the computer to carry out the method of any of Claims 1, 3 and 5 to 11.