# Claims

1. A decoder for decoding a data stream comprising an encoded video including information related to a plurality of transform coefficients associated with the encoded video, the decoder comprising:

a context adaptive entropy decoder configured to, for a current transform coefficient, entropy decode, using a processor, a first symbol from the data stream using a context, determined by applying an operation related to at least a first previously decoded transform coefficient;

a desymbolizer configured to, for the current transform coefficient, map, using a processor, a second symbol from the data stream to a transform coefficient level based on a symbolization parameter, determined by applying the operation related to at least a second previously decoded transform coefficient; and

a picture decoder configured to apply, using a processor, predictive coding based on a prediction residual signal to reconstruct a block of a picture of the video,

wherein the prediction residual signal is associated with the entropy-decoded first symbol and the transform coefficient level, and

the decoder is configured to determine the first previously decoded transform coefficient based on a relative spatial arrangement of the current transform coefficient relative to the plurality of transform coefficients.

2. The decoder according to claim 1, wherein the decoder is configured to extract, from the data stream, information on a position of a last non-zero transform coefficient among transform coefficients of a transform coefficient block along a predetermined scan order, wherein the plurality of transform coefficients encompasses the transform coefficients of the transform coefficient block from the last non-zero transform coefficient along the scan order to a DC transform coefficient of the transform coefficient block.

3. The decoder according to claim 2, wherein the desymbolizer is configured to use a first symbolization scheme for mapping of the first symbol of the last non-zero transform coefficient to a first level less than or equal to a maximum level, wherein a zero level does not apply for the last transform coefficient.

4. The decoder according to claim 2, wherein the context adaptive entropy decoder is configured to entropy decode the first symbol for the last non-zero transform coefficient using a context that is different from a context used in entropy decoding the first symbol of a transform coefficient other than the last non-zero transform coefficient.

5. The decoder according to claim 2, wherein the context adaptive entropy decoder traverses the transform coefficients of the transform coefficient block in a scan order leading from the last non-zero transform coefficient to the DC transform coefficient of the transform coefficient block.

6. The decoder according to claim 1, wherein the decoder is configured to decode the plurality of transform coefficients from the data stream in two scans, wherein the context adaptive entropy decoder is configured to entropy decode the first symbol for the transform coefficients from the data stream in an order corresponding to a first scan of the transform coefficients, the decoder comprising an extractor configured to subsequently extract, from the data stream, the second symbols, for the transform coefficients for which the first symbols is mapped onto a maximum level associated with the respective first symbol, in an order corresponding to a second scan of the transform coefficients.

7. The decoder according to claim 1, wherein the decoder is configured to decode the plurality of transform coefficients from the data stream sequentially in one scan, wherein the second symbols are interspersed within the data stream between first symbols of the transform coefficients, and wherein the context adaptive entropy decoder and an extractor of the decoder are configured to, for each transform coefficient in a scan order of the one scan, extract, from the data stream, the second symbols of respective transform coefficients for which the first symbols is mapped onto a maximum level associated with the respective first symbol immediately subsequent to the context adaptive entropy decoder's entropy decoding of the first symbols of the respective transform coefficients for which the first symbols are mapped onto the maximum level.

8. The decoder according to claim 1, further comprising an extractor configured to extract the second symbol from the data stream directly or using entropy decoding using a fixed probability distribution.

9. The decoder according to claim 1, wherein the desymbolizer is configured to map the first symbol to a transform coefficient level less than or equal to a maximum level associated with the first symbol based on a truncated unary binarization scheme.

10. The decoder according to claim 1, wherein the desymbolizer is configured to map the second symbol based on a Rice code.

11. An encoder for encoding into a data stream information related to a plurality of transform coefficients associated with a video, the encoder comprising:

a picture encoder configured to apply, using a processor, predictive coding on a block of a picture of the video to obtain a prediction residual signal related to the block;

a context adaptive entropy encoder configured to, for a current transform coefficient related to the prediction residual signal, entropy encode, using a processor, a first symbol into the data stream using a context, determined by applying an operation related to at least a first previously encoded transform coefficient; and

a symbolizer configured to map, using a processor, a transform coefficient level of the current transform coefficient to a second symbol based on a symbolization parameter, determined by applying the operation related to at least a second previously encoded transform coefficient,

wherein the encoder is configured to determine the first previously encoded transform coefficient based on a relative spatial arrangement of the current transform coefficient relative to the plurality of transform coefficients.

12. The encoder according to claim 11, wherein the encoder is configured to insert, into the data stream, information on a position of a last non-zero transform coefficient among transform coefficients of a transform coefficient block along a predetermined scan order, wherein the plurality of transform coefficients encompasses the transform coefficients of the transform coefficient block from the last non-zero transform coefficient along the scan order to a DC transform coefficient of the transform coefficient block.

13. The encoder according to claim 12, wherein the symbolizer is configured to use a first symbolization scheme for mapping of the first symbol of the last non-zero transform coefficient to a first level less than or equal to a maximum level, wherein a zero level does not apply for the last transform coefficient.

14. The encoder according to claim 12, wherein the context adaptive entropy encoder is configured to entropy encode the first symbol for the last non-zero transform coefficient using a context that is different from a context used in entropy decoding the first symbol of a transform coefficient other than the last non-zero transform coefficient.

15. The encoder according to claim 12, wherein the context adaptive entropy encoder traverses the transform coefficients of the transform coefficient block in a scan order leading from the last non-zero transform coefficient to the DC transform coefficient of the transform coefficient block.

16. The encoder according to claim 11, wherein the encoder is configured to encode the plurality of transform coefficients from the data stream in two scans, wherein the context adaptive entropy encoder is configured to entropy encode the first symbol for the transform coefficients into the data stream in an order corresponding to a first scan of the transform coefficients, the encoder comprising an inserter configured to subsequently insert into the data stream the second symbols, for the transform coefficients for which the first symbols is mapped onto a maximum level associated with the respective first symbol, in an order corresponding to a second scan of the transform coefficients.

17. The encoder according to claim 11, wherein the encoder is configured to encode the plurality of transform coefficients into the data stream sequentially in one scan, wherein second symbols are interspersed within the data stream between first symbols of the transform coefficients, and wherein the context adaptive entropy encoder and an inserter of the encoder are configured to, for each transform coefficient in a scan order of the one scan, insert, into the data stream, the second symbols of respective transform coefficients for which the first symbols is mapped onto a maximum level associated with the first symbol, immediately subsequent to the context adaptive entropy encoder's entropy encoding of the first symbols of the respective transform coefficients for which the first symbols are mapped onto the maximum level.

18. The encoder according to claim 11, further comprising an inserter configured to insert the second symbol into the data stream directly or using entropy encoding using a fixed probability distribution.

19. The encoder according to claim 11, wherein the symbolizer is configured to map the first symbol to a transform coefficient level less than or equal to a maximum level associated with the first symbol, based on a truncated unary binarization scheme.

20. The encoder according to claim 11, wherein the symbolizer is configured to map the second symbol based on a Rice code.

21. A method for decoding a data stream comprising an encoded video including information related to a plurality of transform coefficients associated with the encoded video, the method comprising:

entropy decoding, for a current transform coefficient, a first symbol from the data stream using a context, the entropy decoding comprising applying an operation related to at least a first previously decoded transform coefficient to determine the context;

mapping, for the current transform coefficient, a second symbol from the data stream to a transform coefficient level based on a symbolization parameter, the mapping comprising applying the operation related to at least a second previously decoded transform coefficient to determine the symbolization parameter;

applying predictive coding based on a prediction residual to reconstruct a block of a picture of the vide, wherein the prediction residual signal is associated with the entropy-decoded first symbol and the transform coefficient level; and

determining the first previously decoded transform coefficient based on a relative spatial arrangement of the current transform coefficient relative to the plurality of transform coefficients.

22. The method according to claim 21, further comprising extracting, from the data stream, information on a position of a last non-zero transform coefficient among transform coefficients of a transform coefficient block along a predetermined scan order, wherein the plurality of transform coefficients encompasses the transform coefficients of the transform coefficient block from the last non-zero transform coefficient along the scan order to a DC transform coefficient of the transform coefficient block.

23. The method according to claim 21, further comprising: decoding the plurality of transform coefficients from the data stream sequentially in one scan, wherein the second symbols are interspersed within the data stream between first symbols of the transform coefficients; and for each transform coefficient in a scan order of the one scan, extracting, from the data stream, the second symbols of respective transform coefficients for which the first symbols is mapped onto a maximum level associated with the respective first symbol immediately subsequent to the entropy decoding of the first symbols of the respective transform coefficients for which the first symbols are mapped onto the maximum level.

24. The method according to claim 21, further comprising extracting the second symbol from the data stream directly or using entropy decoding using a fixed probability distribution.

25. The method according to claim 21, further comprising mapping the first symbol to a transform coefficient level less than or equal to a maximum level associated with the first symbol based on a truncated unary binarization scheme.

26. The method according to claim 21, wherein the mapping of the second symbol is based on a Rice code.

27. A non-transitory computer-readable medium for storing information related to a plurality of transform coefficients associated with an encoded video, comprising:

a data stream stored in the non-transitory computer-readable medium, the data stream comprising encoded information related to first and second symbols of a current transform coefficient, wherein the first and second symbols are processed based on a plurality of operations to reconstruct a block of a picture of the video, the plurality of operations comprising:

entropy decoding the first symbol from the data stream using a context, the entropy decoding comprising applying an operation related to at least a first previously decoded transform coefficient to determine the context;

mapping the second symbol from the data stream to a transform coefficient level based on a symbolization parameter, the mapping comprising applying the operation related to at least a second previously decoded transform coefficient to determine the symbolization parameter;

applying predictive coding based on a prediction residual to reconstruct the block of the picture, wherein the prediction residual signal is associated with the entropy-decoded first symbol and the transform coefficient level; and

determining the first previously decoded transform coefficient based on a relative spatial arrangement of the current transform coefficient relative to the plurality of transform coefficients.

28. The computer-readable medium according to claim 27, the plurality of operations further comprising extracting, from the data stream, information on a position of a last non-zero transform coefficient among transform coefficients of a transform coefficient block along a predetermined scan order, wherein the plurality of transform coefficients encompasses the transform coefficients of the transform coefficient block from the last non-zero transform coefficient along the scan order to a DC transform coefficient of the transform coefficient block.

29. The computer-readable medium according to claim 27, the plurality of operations further comprising extracting the second symbol from the data stream directly or using entropy decoding using a fixed probability distribution.

30. The computer-readable medium according to claim 27, wherein the mapping of the second symbol is based on a Rice code.