CLAIMS

1. A method for entropy decoding of video data, the method comprising: retrieving, from a memory, a pre-defined initialization value for a context of a plurality of contexts used in a context-adaptive entropy coding process to entropy code a value for a syntax element for an independently codable unit of video data; determining, based on the pre-defined initialization value, a slope index value and an offset index value; determining, based on the slope index value, a value of a parameter, m; determining, based on the offset index value, a value of a parameter, n in accordance with the following equation n=(OffsetIdx*18)+1 where OffsetIdx is the offset index value; obtaining an initial value of a quantization parameter associated with the independently codable unit; determining, based on the pre-defined initialization value, the parameter m, the parameter n, and the initial value of the quantization parameter, an initial probability state of the context, wherein determining the initial probability state is further based on a difference between the initial value of the quantization parameter associated with the independently codable unit and a non-zero value that defines a quantization parameter anchor point; and entropy decoding, from a video bitstream and based on the initial probability state of the context, a bin of the value for the syntax element.

2. The method of claim 1, wherein determining the initial probability state of the context comprises determining the initial probability state of the context in the linear domain without intermediately determining the initial probability state of the context in the logarithmic domain.

3. The method of claim 1, wherein the initial value of the quantization parameter is $SliceQP_Y$.

4. The method of claim 1, wherein the value defining the quantization parameter anchor point is 16.

5. The method of claim 1, wherein determining the initial probability state comprises determining the initial probability state in accordance with the following equation:

$$InitProbState=clip3(1, 127, ((m*(SliceQP_Y - QP_{anchor}))>>rshift)+n),$$

where InitProbState is the initial probability state, $SliceQP_Y$ is the initial value of the quantization parameter, QP_{anchor} is the quantization parameter anchor point, and rshift is a right shift value.

6. The method of claim 1, wherein entropy decoding comprises entropy decoding using context adaptive binary arithmetic coding (CABAC).

7. A video decoding device comprising: a memory storing video data; and one or more processors implemented in circuitry and configured to: retrieve, from the memory, a pre-defined initialization value for a context of a plurality of contexts used in a context-adaptive entropy coding process to entropy code a value for a syntax element for an independently codable unit of video data; determine, based on the pre-defined initialization value, a slope index value and an offset index value; determine, based on the slope index value, a value of a parameter, m; determine, based on the offset index value, a value of a parameter, n in accordance with the following equation n=(OffsetIdx*18)+1 where OffsetIdx is the offset index value; obtain an initial value of a quantization parameter associated with the independently codable unit; determine, based on the pre-defined initialization value, the parameter m, the parameter n, and the initial value of the quantization parameter, an initial probability state of the context, wherein to determine the initial probability state, the processors are further configured to determine the initial probability state based on a difference between the initial value of the quantization parameter associated with the independently codable unit and a non-zero value that defines a quantization parameter anchor point; and entropy decode, from a video bitstream and based on the initial probability state of the context, a bin of the value for the syntax element.

8. The device of claim 7, wherein, to determine the initial probability state of the context, the one or more processors are configured to determine the initial probability state of the context in the linear domain without intermediately determining the initial probability state of the context in the logarithmic domain.

9. The device of claim 7, wherein the initial value of the quantization parameter is $SliceQP_Y$.

10. The device of claim 7, wherein the value of the quantization parameter anchor point is 16.

11. The device of claim 7, wherein, to determine the initial probability state, the one or more processors are configured to determine the initial probability state in accordance with the following equation:

$$InitProbState=clip3(\ 1,\ 127,\ ((m*(\ SliceQP_Y - QP_{anchor}))>>rshift)+n\ ),$$

where InitProbState is the initial probability state, $SliceQP_Y$ is the initial value of the quantization parameter, QP_{anchor} is the quantization parameter anchor point, and rshift is a right shift value.

12. The device of claim 7, wherein, to entropy decode the bin, the one or more processors are configured to decode the bin using context adaptive binary arithmetic coding (CABAC).

13. A method for entropy encoding of video data, the method comprising: retrieving, from a memory, a pre-defined initialization value for a context of a plurality of contexts used in a context-adaptive entropy coding process to entropy code a value for a syntax element for an independently codable unit of video data; determining, based on the pre-defined initialization value, a slope index value and an offset index value: determining, based on the slope index value, a value of a parameter, m; determining, based on the offset index value, a value of a parameter, n in accordance with the following equation n=(OffsetIdx*18)+1 where OffsetIdx is the offset index value; obtaining an initial value of a quantization parameter associated with the independently codable unit; determining, based on the pre-defined initialization value, the parameter m, the parameter n, and the initial value of the quantization parameter, an initial probability state of the context, wherein determining the initial probability state is further based on a difference between the initial value of the quantization parameter associated with the independently codable unit and a non-zero value that defines a quantization parameter anchor point; and entropy encoding, in a video bitstream and based on the initial probability state of the context, a bin of the value for the syntax element.

14. The method of claim 13, wherein determining the initial probability state of the context comprises determining the initial probability state of the context in the linear

domain without intermediately determining the initial probability state of the context in the logarithmic domain.

15. The method of claim 13, wherein the initial value of the quantization parameter is $SliceQP_Y$.

16. The method of claim 13, wherein the value of the quantization parameter anchor point is 16.

17. The method of claim 13, wherein determining the initial probability state comprises determining the initial probability state in accordance with the following equation:

$$InitProbState=clip3(\ 1,\ 127,\ ((m*(\ SliceQP_Y - QP_{anchor}))>>rshift)+n\ ),$$

where InitProbState is the initial probability state, $SliceQP_Y$ is the initial value of the quantization parameter, QP_{anchor} is the quantization parameter anchor point, and rshift is a right shift value.

18. A video encoding device comprising: a memory storing video data; and one or more processors implemented in circuitry and configured to: retrieve, from the memory, a pre-defined initialization value for a context of a plurality of contexts used in a context-adaptive entropy coding process to entropy code a value for a syntax element for an independently codable unit of video data; determine, based on the pre-defined initialization value, a slope index value and an offset index value; determine, based on the slope index value, a value of a parameter, m; determine, based on the offset index value, a value of a parameter, n in accordance with the following equation n=(OffsetIdx*18)+1 where OffsetIdx is the offset index value; obtain an initial value of a quantization parameter associated with the independently codable unit; determine, based on the pre-defined initialization value, the parameter m, the parameter n, and the initial value of the quantization parameter, an initial probability state of the context, wherein to determine the initial probability state, the processors are further configured to determine the initial probability state based on a difference between the initial value of the quantization parameter associated with the independently codable unit and a non-zero value that defines a quantization parameter anchor point; and entropy encode, in a video bitstream and based on the initial probability state of the context, a bin of the value for the syntax element.

19. The device of claim 18, wherein, to determine the initial probability state of the context in the linear domain, the one or more processors are configured to determine the initial probability state of the context in a linear domain without intermediately determining the initial probability state of the context in the logarithmic domain.

20. The device of claim 18, wherein the initial value of the quantization parameter is $SliceQP_Y$.

21. The device of claim 18, wherein the value of the quantization parameter anchor point is 16.

22. The device of claim 18, wherein, to determine the initial probability state, the one or more processors are configured to determine the initial probability state in accordance with the following equation:

$$InitProbState=clip3(1, 127, ((m*(SliceQP_Y - QP_{anchor}))>>rshift)+n),$$

where InitProbState is the initial probability state, $SliceQP_Y$ is the initial value of the quantization parameter, QP_{anchor} is the quantization parameter anchor point, and rshift is a right shift value.

23. A device comprising: means for obtaining a pre-defined initialization value for a context of a plurality of contexts used in a context-adaptive entropy coding process to entropy code a value for a syntax element for an independently codable unit of video data; means for determining, based on the pre-defined initialization value, a slope index value and an offset index value; means for determining, based on the slope index value, a value of a parameter, m; means for determining, based on die offset index value, a value of a parameter, n in accordance with the following equation n=(OffsetIdx*18)+1 where OffsetIdx is the offset index value; means for obtaining an initial value of a quantization parameter associated with the independently codable unit; means for determining, based on the pre-defined initialization value, the parameter m, the parameter n, and the initial value of the quantization parameter, an initial probability state of the context, wherein the means for determining the initial probability state comprises means for determining the initial probability state based on a difference between the initial value of the quantization parameter associated with the

independently codable unit and a non-zero value that defines a quantization parameter anchor point; and means for entropy decoding, from a bitstream and based on the initial probability state of the context, a bin of the value for the syntax element.

24. A non-transitory computer-readable storage medium storing instructions that, when executed, cause one or more processors of a video coder to: obtain a pre-defined initialization value for a context of a plurality of contexts used in a context-adaptive entropy coding process to entropy code a value for a syntax element for an independently codable unit of video data; determine, based on the pre-defined initialization value, a slope index value and an offset index value; determine, based on the slope index value, a value of a parameter, m; determine, based on the offset index value, a value of a parameter, n in accordance with the following equation n=(OffsetIdx*18)+1 where OffsetIdx is the offset index value; obtain an initial value of a quantization parameter associated with the independently codable unit; determine, based on the pre-defined initialization value, the parameter m, the parameter n, and the initial value of the quantization parameter, an initial probability state of the context, wherein to determine the initial probability state, the processors are further configured to determine the initial probability state based on a difference between the initial value of the quantization parameter associated with the independently codable unit and a non-zero value that defines a quantization parameter anchor point; and entropy encode, in a bitstream and based on the initial probability state of the context, a bin of the value for the syntax element.