CLAIMS

1. A method of decoding video data, the method comprising:

receiving, in a bitstream, a syntax element as part of a sequence parameter set syntax structure for a picture, wherein the syntax element indicates a maximum block size for both a transform skip mode and a block-based delta pulse code modulation (BDPCM) mode;

determining a maximum block size for the BDPCM mode based on the syntax element, wherein the maximum block size is limited to a range of sizes from 4 to 32;

determining the maximum block size for the transform skip mode based on the syntax element; and

based on the determined maximum block size for the transform skip mode, determining that a BDPCM mode flag is present in the bitstream for the first block in response to a size for the first block being less than or equal to the maximum block size for the BDPCM mode and decoding the BDPCM mode flag from the bitstream;

determining that a first block of the picture is coded using the BDPCM mode based on the BDPCM mode flag;

decoding the first block based on the determined maximum block size; determining that a second block of the picture is coded using the transform skip mode;

decoding the second block based on the determined maximum block size; and

outputting a decoded version of the picture.

2. The method of claim 1, wherein determining the maximum block size for the BDPCM mode based on the syntax element comprises determining the maximum block size for the BDPCM mode to be equal to the maximum block size used for the transform skip mode.

3. The method of claim 1, wherein the syntax element has a value equal to X, wherein X is an integer value in a range of 0 to 3 inclusive, and wherein the maximum block size for the BDPCM mode is equal to 1 << (X + 2), wherein << represents a left shift operation.

4. The method of claim 3, wherein the maximum block size for the BDPCM mode comprises a maximum block width for the BDPCM mode.

5. The method of claim 3, wherein the maximum block size for the BDPCM mode comprises a maximum block height for the BDPCM mode.

6. The method of claim 1, wherein the BDPCM mode comprises a residual domain BDPCM (RDPCM) mode.

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

determining, for a first block of a picture, a maximum block size used for a transform skip mode, wherein the maximum block size is limited to a range of sizes from 4 to 32;

determining, for a second block of the picture, a maximum block size for a block-based delta pulse code modulation (BDPCM) mode based on the maximum block size used for the transform skip mode;

based on the maximum block size for the transform skip mode, include a BDPCM mode flag in a bitstream of the encoded video data in response to a size for the second block being less than or equal to the maximum block size for the BDPCM mode; and

encoding the second block based on the determined maximum block size for the BDPCM mode, wherein encoding the second block based on the determined maximum block size for the BDPCM mode comprises generating, for inclusion in a sequence parameter set syntax structure applying to the picture, a syntax element indicating the maximum block size used for both the transform skip mode and the BDPCM mode.

8. The method of claim 7, wherein determining the maximum block size for the BDPCM mode comprises determining the maximum block size for the BDPCM mode to be equal to the maximum block size used for the transform skip mode.

9. The method of claim 7, wherein the syntax element has a value equal to X, wherein X is an integer value in a range of 0 to 3 inclusive, and wherein the maximum block size for the BDPCM mode is equal to $1 << (X + 2)$, wherein << represents a left shift operation.

10. The method of claim 9, wherein the maximum block size for the BDPCM mode comprises a maximum block width for the BDPCM mode.

11. The method of claim 9, wherein the maximum block size for the BDPCM mode comprises a maximum block height for the BDPCM mode.

12. The method of claim 7, wherein the BDPCM mode comprises a residual domain BDPCM (RDPCM) mode.

13. A device for decoding video data, the device comprising:
a memory configured to store video data; and
one or more processors configured to:

receive, in a bitstream, a syntax element as part of a sequence parameter set syntax structure for a picture, wherein the syntax element indicates a maximum block size for both a transform skip mode and a block-based delta pulse code modulation (BDPCM) mode;

determine a maximum block size for the BDPCM mode based on the syntax element, wherein the maximum block size is limited to a range of sizes from 4 to 32;

decode the first block based on the determined maximum block size; determine that a second block of the picture is coded using the transform skip mode;

decode the second block based on the determined maximum block size; and

output a decoded version of the picture.

14. The device of claim 13, wherein to determine the maximum block size for the BDPCM mode based on the syntax element, the one or more processors are further configured to determine the maximum block size for the BDPCM mode to be equal to the maximum block size used for the transform skip mode.

15. The device of claim 13, wherein the syntax element has a value equal to X, wherein X is an integer value in a range of 0 to 3 inclusive, and wherein the maximum block size for the BDPCM mode is equal to 1 << (X + 2), wherein << represents a left shift operation.

16. The device of claim 15, wherein the maximum block size for the BDPCM mode comprises a maximum block width for the BDPCM mode.

17. The device of claim 15, wherein the maximum block size for the BDPCM mode comprises a maximum block height for the BDPCM mode.

18. The device of claim 13, wherein the BDPCM mode comprises a residual domain BDPCM (RDPCM) mode.

19. The device of claim 13, wherein the device comprises a wireless communication device, further comprising at least one of a receiver configured to receive an encoded representation of the video data or a display configured to display a decoded version of the picture.

20. The device of claim 19, wherein the wireless communication device comprises a telephone handset and wherein the receiver is configured to demodulate, according to a wireless communication standard, a signal comprising the encoded representation of the video data.

21. A device for encoding video data, the device comprising:
a memory configured to store video data; and
one or more processors configured to:

determine, for a first block of a picture, a maximum block size used for a transform skip mode, wherein the maximum block size is limited to a range of sizes from 4 to 32;

determine, for a second block of the picture, a maximum block size for a block-based delta pulse code modulation (BDPCM) mode based on the maximum block size used for the transform skip mode;

based on the maximum block size for the transform skip mode, include a BDPCM mode flag in a bitstream of the encoded video data in response to a size for the second block being less than or equal to the maximum block size for the BDPCM mode; and

encode, into the bitsteam, the second block based on the determined maximum block size for the BDPCM mode, wherein encoding the second block based on the determined maximum block size for the BDPCM mode comprises generating, for inclusion in a sequence parameter set

syntax structure applying to the picture, a syntax element indicating the maximum block size used for both the transform skip mode and the BDPCM mode.

22. The device of claim 21, wherein to determine the maximum block size for the BDPCM mode, the one or more processors are further configured to determine the maximum block size for the BDPCM mode to be equal to the maximum block size used for the transform skip mode.

23. The device of claim 21, wherein the syntax element has a value equal to X, wherein X is an integer value in a range of 0 to 3 inclusive, and wherein the maximum block size for the BDPCM mode is equal to 1 << (X + 2), wherein << represents a left shift operation.

24. The device of claim 23, wherein the maximum block size for the BDPCM mode comprises a maximum block width for the BDPCM mode.

25. The device of claim 23, wherein the maximum block size for the BDPCM mode comprises a maximum block height for the BDPCM mode.

26. The device of claim 21, wherein the BDPCM mode comprises a residual domain BDPCM (RDPCM) mode.

27. The device of claim 21, further comprising:
a camera configured to capture the video data.

28. A non-transitory computer-readable storage medium storing instructions that when executed by one or more processors cause the one or more processor to:

receive, in a bitstream, a syntax element as part of a sequence parameter set syntax structure for a picture, wherein the syntax element indicates a maximum block size for both a transform skip mode and a block-based delta pulse code modulation (BDPCM) mode;

determine a maximum block size for the BDPCM mode based on the syntax element, wherein the maximum block size is limited to a range of sizes from 4 to 32;

determine the maximum block size for the transform skip mode based on the syntax element; and

based on the determined maximum block size for the transform skip mode, determine that a BDPCM mode flag is present in the bitstream for the first block in response to a size for the first block being less than or equal to the maximum block size for the BDPCM mode and determine the BDPCM mode flag from the bitstream;

determine that a first block of the picture is coded using the BDPCM mode based on the BDPCM mode flag;

decode the first block based on the determined maximum block size; determine that a second block of the picture is coded using the transform skip mode;

decode the second block based on the determined maximum block size; and

output a decoded version of the picture.

29. An apparatus for decoding video data, the apparatus comprising:

means for receiving, in a bitstream, a syntax element as part of a sequence parameter set syntax structure for a picture, wherein the syntax element indicates a maximum block size for both a transform skip mode and a block-based delta pulse code modulation (BDPCM) mode;

means for determining a maximum block size for the BDPCM mode based on the syntax element, wherein the maximum block size is limited to a range of sizes from 4 to 32;

means for determining the maximum block size for the transform skip mode based on the syntax element; and

means for, based on the determined maximum block size for the transform skip mode, determining that a BDPCM mode flag is present in the bitstream for the first block in response to a size for the first block being less than or equal to the maximum block size for the BDPCM mode and means for decoding the BDPCM mode flag from the bitstream;

means for determining that a first block of the picture is coded using the BDPCM mode;

means for decoding the first block based on the determined maximum block size; means for determining that a second block of the picture is coded using the transform skip mode;

means for decoding the second block based on the determined maximum block size; and

means for outputting a decoded version of the picture.