CLAIMS

What is claimed is:

1. A method of decoding implemented by a video decoder, comprising:

receiving, by the video decoder, a picture unit (PU) including only one coded picture, wherein the PU is a set of network abstraction layer (NAL) units that contain zero picture header (PH) NAL units; and

decoding, by the video decoder, the only one coded picture from the PU to obtain a decoded picture.

2. The method of claim 1, wherein the PU includes one or more video coding layer (VCL) NAL units.

3. The method of any of claims 1 to 2, wherein the PU includes one or more non-video coding layer (VCL) NAL units.

4. The method of any of claims 1 to 3, wherein the only one coded picture comprises one or more slices each including a slice header, and wherein each of the one or more slices is disposed in a video coding layer (VCL) NAL unit.

5. The method of any of claims 1 to 4, wherein the PU includes decoding capability information (DCI) disposed in a DCI NAL unit.

6. The method of any of claims 1 to 5, wherein the PU includes a video parameter set (VPS) disposed in a VPS NAL unit.

7. The method of any of claims 1 to 5, wherein the PU includes a sequence parameter set (SPS) disposed in a SPS NAL unit and a picture parameter set (PPS) disposed in a PPS NAL unit.

8. The method of any of claims 1 to 5, further comprising displaying the decoded picture on a display of an electronic device.

9. A method of encoding implemented by a video encoder, the method comprising:

generating, by the video encoder, a picture unit (PU) including only one coded picture, wherein the PU is a set of network abstraction layer (NAL) units that contains zero picture header (PH) NAL units;

encoding, by the video encoder, the PU into a video bitstream; and

storing, by the video encoder, the video bitstream for communication toward a video decoder.

10. The method of claim 9, wherein the PU includes one or more video coding layer (VCL) NAL units and one or more non-video coding layer (VCL) NAL units.

11. The method of any of claims 9 to 10, wherein the only one coded picture comprises one or more slices each including a slice header, and wherein each of the one or more slices is disposed in a video coding layer (VCL) NAL unit.

12. A decoding device, comprising:

a receiver configured to receive a picture unit (PU) including only one coded picture, wherein the PU is a set of network abstraction layer (NAL) units that contain zero picture header (PH) NAL units;

a memory coupled to the receiver, the memory storing instructions; and

a processor coupled to the memory, the processor configured to execute the instructions to cause the decoding device to decode the only one coded picture from the PU to obtain a decoded picture.

13. The decoding device of claim 12, wherein the PU includes one or more video coding layer (VCL) NAL units and one or more non-video coding layer (VCL) NAL units.

14. The decoding device of claim 13, wherein the only one coded picture comprises one or more slices each including a slice header, and wherein each of the one or more slices is disposed in a video coding layer (VCL) NAL unit.

15. An encoding device, comprising:

a memory containing instructions;

a processor coupled to the memory, the processor configured to implement the instructions to cause the encoding device to:

generate a picture unit (PU) including only one coded picture, wherein the PU is a set of network abstraction layer (NAL) units that contain zero picture header (PH) NAL units; and

encode the PU into a video bitstream; and

a transmitter coupled to the processor, the transmitter configured to transmit the video bitstream toward a video decoder.

16. The encoding device of claim 18, wherein the PU includes one or more video coding layer (VCL) NAL units and one or more non-video coding layer (VCL) NAL units, wherein the only one coded picture comprises one or more slices each including a slice header, and wherein each of the one or more slices is disposed in one of the one or more VCL NAL units.

17. A coding apparatus, comprising:

a receiver configured to receive a picture to encode or to receive a bitstream to decode;

a transmitter coupled to the receiver, the transmitter configured to transmit the bitstream to a decoder or to transmit a decoded image to a display;

a memory coupled to at least one of the receiver or the transmitter, the memory configured to store instructions; and

a processor coupled to the memory, the processor configured to execute the instructions stored in the memory to perform the method in any of claims 1 to 8 or any of claims 9 to 11.

18. The coding apparatus of claim 17, further comprising a display configured to display a decoded picture.

19. A system, comprising:

an encoder; and

a decoder in communication with the encoder, wherein the encoder or the decoder includes the decoding device, the encoding device, or the coding apparatus of any of claims 13 to 18.

20. A means for coding, comprising:

receiving means configured to receive a picture to encode or to receive a bitstream to decode;

transmission means coupled to the receiving means, the transmission means configured to transmit the bitstream to a decoding means or to transmit a decoded image to a display means;

storage means coupled to at least one of the receiving means or the transmission means, the storage means configured to store instructions; and

processing means coupled to the storage means, the processing means configured to execute the instructions stored in the storage means to perform the method in any of claims 1 to 8 or any of claims 9 to 11.

21. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program that can be executed by a processor, and when the computer program is executed by the processor, the processor performs the method according to any one of claims 1 to 8 or any one of claims 9 to 11.

22. A storage medium, wherein the storage medium stores a bitstream obtained by using the method according to any one of claims 1 to 8 or any one of claims 9 to 11.

23. A program comprising program code for performing the method according to any one of claims 1 to 8 or any one of claims 9 to 11 when executed on a computer or a processor.

24. A coder comprising processing circuitry for carrying out the method according to any one of claims 1 to 8 or any one of claims 9 to 11.