CLAIMS

1. A method for video decoding, comprising:

receiving a bitstream comprising a video parameter set and bits representing a current picture;

parsing at least a portion of a slice header of the current picture;

performing a first determination, based on one or more syntax elements in the video parameter set, whether a removal operation from a decoded picture buffer (DPB) is to be performed on a per-picture basis or per-access unit (AU) basis, wherein an access unit comprises at least a base layer and an enhanced layer, and each layer represents a picture;

performing a second determination, separate from the first determination, based on one or more syntax elements in the video parameter set, whether a picture output operation from the DPB is to be performed on a per-picture basis or per-AU basis;

performing the removal operation from the DPB in accordance with the first determination whether the removal operation is to be performed on a per-picture basis or per-AU basis;

performing the picture output operation from the DPB in accordance with the second determination whether the picture output operation is to be performed on a per-picture basis or per-AU basis;

performing a decoding and storing of a current decoded picture in the DPB;

performing a third determination, based on the one or more syntax elements in the video parameter set, whether marking the current decoded picture is to be performed on a per-picture basis or per-AU basis;

marking the current decoded picture in the DPB in accordance with the third determination whether marking the current decoded picture is to be performed on a per-picture basis or per-AU basis; and

performing an additional picture output from the DPB in accordance with a fourth determination whether the additional picture output is to be performed on a per-picture basis or per-AU basis.

2. The method of claim 1, wherein the removal and the output from the DPB is based on at least one AU output flag.

3. The method of claim 2, wherein the AU output flag is one of an AU output flag, an AU no Random Access Skipped Leading (RASL) output flag and an AU no output of prior pictures flag.

4. The method of claim 2, wherein the AU output flag is obtained from a slice header.

5. The method of claim 1, wherein all picture output flag syntax element values are constrained to the same value for all coded pictures in an AU when a picture output flag is present in the slice header.

6. The method of claim 1, wherein the removal is performed on a per-picture basis, wherein the picture output is performed on a per-AU basis, wherein the storing and decoding are on a per-picture basis, wherein the marking is on a per-picture basis, and wherein the additional picture output is performed on a per-AU basis.

7. The method of claim 1, wherein the removal, the picture output, the decoding and storing, the marking and the additional picture output are performed on a per-AU basis.

8. The method of claim 1, wherein the removal, the decoding and storing and the marking are performed on a per-picture basis, and wherein the picture output and the additional picture output are performed on a per-AU basis.

9. The method of claim 1, wherein the removal, the picture output, the decoding and storing, the marking and the additional picture output are performed on a per-picture basis.

10. The method of claim 1, wherein the DPB comprises separately identified and managed picture buffers for decoded pictures having one or more of different resolutions, different bit-depths and different color chromaticity.

11. An electronic device configured for video coding, comprising:

a processor; and

memory in electronic communication with the processor, wherein instructions stored in the memory are executable to:

receive a bitstream comprising a video parameter set and bits representing a current picture,

parse at least a portion of a slice header of the current picture,

performing a first determination, based on one or more syntax elements in the video parameter set, whether a removal operation from a decoded picture buffer (DPB) is to be performed on a per-picture basis or per-access unit (AU) basis, wherein an access unit comprises at least a base layer and an enhanced layer, and each layer represents a picture,

perform a second determination, separate from the first determination, based on the one or more syntax elements in the video parameter set, whether a picture output operation from the DPB is to be performed on a per-picture basis or per-AU basis,

perform the removal operation from the DPB in accordance with the first determination whether the removal operation is to be performed on a per-picture basis or per-AU basis,

perform the picture output operation from the DPB in accordance with the second determination whether the picture output operation is to be performed on a per-picture basis or per-AU basis,

perform a decoding and storing of a current decoded picture in the DPB,

perform a third determination, based on the one or more syntax elements in the video parameter set, whether marking the current decoded picture is to be performed on a per-picture basis or per-AU basis,

mark the current decoded picture in the DPB in accordance with the third determination whether marking the current decoded picture is to be performed on a per-picture basis or per-AU basis, and

perform an additional picture output from the DPB in accordance with a fourth determination whether the additional picture output is to be performed on a per-picture basis or per-AU basis.

12. The electronic device of claim 11, wherein the removal and the output from the DPB is based on at least one AU output flag.

13. The electronic device of claim 12, wherein the AU output flag is one of an AU output flag, an AU no Random Access Skipped Leading (RASL) output flag and an AU no output of prior pictures flag.

14. The electronic device of claim 12, wherein the AU output flag is obtained from a slice header.

15. The electronic device of claim 11, wherein all picture output flag syntax element values are constrained to the same value for all coded pictures in an AU when a picture output flag is present in the first slice header.

16. The electronic device of claim 11, wherein the removal is performed on a per-picture basis, wherein the picture output is performed on a per-AU basis, wherein the storing and decoding are on a per-picture basis, wherein the marking is on a per-picture basis, and wherein the additional picture output is performed on a per-AU basis.

17. The electronic device of claim 11, wherein the removal, the picture output, the decoding and storing, the marking and the additional picture output are performed on a per-AU basis.

18. The electronic device of claim 11, wherein the removal, the decoding and storing and the marking are performed on a per-picture basis, and wherein the picture output and the additional picture output are performed on a per-AU basis.

19. The electronic device of claim 11, wherein the removal, the picture output, the decoding and storing, the marking and the additional picture output are performed on a per-picture basis.

20. The electronic device of claim 11, wherein the DPB comprises

separately identified and managed picture buffers for decoded pictures having one or more of different resolutions, different bit-depths and different color chromaticity.