CLAIMS

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

determining that a block of video data is a palette coded block;

determining a palette for the block including one or more palette entries that indicate one or more respective color values;

determining index values for one or more pixels of the block, each of the index values corresponding to one of the palette entries that indicates a color value for one of the pixels of the block;

reconstructing the block of video data based on the palette and the index values for the block; and

determining, based on the block being a palette coded block, to disable filtering of the reconstructed block.

2. The method of claim **1**, wherein determining to disable filtering of the reconstructed block comprises disabling at least one of deblocking filtering of the reconstructed block or sample adaptive offset (SAO) filtering of the reconstructed block.

3. The method of claim **1**, wherein reconstructing the block comprises reconstructing the block of the video data by a video decoder, the method further comprising based on the filtering being disabled, at least one of outputting the video data by the video decoder for display or storing the video data by the video decoder in a decoded picture buffer without filtering the reconstructed block of the video data.

4. The method of claim **1**, wherein reconstructing the block comprises reconstructing the block of the video data by a video encoder, the method further comprising, based on the filtering being disabled, storing the video data by the video encoder in a decoded picture buffer without filtering the reconstructed block of the video data.

5. The method of claim **1**, wherein determining the palette for the block comprises:

determining, by a video encoder, a palette size and the palette entries for the palette using a pixel value clustering method; and

determining whether to modify at least one of the palette size or one or more of the palette entries for the palette based at least partially on rate-distortion costs.

6. The method of claim **5**, wherein determining whether to modify the palette size comprises determining whether to keep or remove a given index value that corresponds to a given one of the palette entries of the palette, wherein removing the given index value and the corresponding one of the palette entries of the palette reduces the palette size.

7. The method of claim **6**, further comprising:

calculating a first rate-distortion cost for encoding at least one pixel of the block using the given index value that corresponds to the given one of the palette entries that indicates a color value for the at least one pixel;

calculating a second rate-distortion cost for encoding the at least one pixel of the block as an escape pixel, including encoding a quantized pixel value for the at least one pixel; and

determining whether to keep or remove the given index value and the corresponding one of the palette entries of the palette based on a comparison of the first and second rate-distortion cost calculations.

8. The method of claim **5**, wherein determining whether to modify the palette size comprises determining whether to merge a given index value that corresponds to a given one of the palette entries of the palette into a neighboring index value that corresponds to a neighboring one of the palette entries of the palette, wherein merging the given index value and the corresponding one of the palette entries of the palette into the neighboring index value and the neighboring one of the palette entries of the palette reduces the palette size.

9. The method of claim **8**, wherein the neighboring index value is one of a nearest index value in terms of a smallest Euclidean distance from the given index value, or a nearest index value in terms of index order with respect to the given index value.

10. The method of claim **8**, further comprising:

calculating a first rate-distortion cost for encoding at least one pixel of the block using the given index value that corresponds to the given one of the palette entries that indicates a first color value for the at least one pixel;

calculating a second rate-distortion cost for encoding the at least one pixel of the block using the neighboring index value that corresponds to the neighboring one of the palette entries that indicates a second color value for the at least pixel, wherein the second color value is similar to the first color value; and

determining whether to merge the given index value and the corresponding one of the palette entries of the palette into the neighboring index value and the neighboring one of the palette entries of the palette based on a comparison of the first and second rate-distortion cost calculations.

11. The method of claim **5**, wherein determining whether to modify one or more of the palette entries of the palette comprises:

determining a representative palette for the block of the video data using a k-means clustering method, the representative palette including representative palette entries indicating respective average pixel values;

determining, for a given one of the representative palette entries of the representative palette, a pixel value of one of the pixels mapped to the given one of the representative palette entries that is nearest the average pixel value indicated by the given one of the representative palette entries; and

based on the nearest pixel value being different than the color value indicated by a corresponding one of the palette entries of the palette, selecting the nearest pixel value as a final color value indicated by the given one of the palette entries of the palette.

12. The method of claim **11**, wherein determining the representative palette using the k-means clustering method comprises:

calculating, for each of the palette entries of the palette, an average pixel value of one or more pixels of the block that are mapped to the respective color value indicated by the respective one of the palette entries; and

determining the representative palette for the block of the video data including the representative palette entries indicating the respective average pixel values, wherein a number of iterations of the k-means clustering method is determined by a threshold value.

13. The method of claim **5**, wherein determining the palette size and the palette entries for the palette using the pixel value clustering method comprises:

determining, for the block of the video data, a histogram including a plurality of entries, each entry including a respective color value and a respective quantity of pixels of the block that map to the color value;

sorting the entries of the histogram in descending order based on the respective quantity of pixels for each of the entries such that a first entry of the histogram includes the color value having a highest quantity of pixels relative to the other color values; and

determining the palette size and the palette entries of the palette based on the entries of the histogram.

14. A video processing device comprising:

a memory configured to store video data; and

one or more processors in communication with the memory and configured to:

determine that a block of video data is a palette coded block;

determine a palette for the block including one or more palette entries that indicate one or more respective color values;

determine index values for one or more pixels of the block, each of the index values corresponding to one of the palette entries that indicates a color value for one of the pixels of the block;

reconstruct the block of video data based on the palette and the index values for the block; and

determine, based on the block being a palette coded block, to disable filtering of the reconstructed block.

15. The device of claim **14**, wherein the one or more processors are configured to disable at least one of deblocking filtering of the reconstructed block or sample adaptive offset (SAO) filtering of the reconstructed block.

16. The device of claim **14**, wherein the device comprises a video decoder, and wherein the one or more processors of the video decoder are configured to, based on the filtering being disabled, reconstruct the block of the video data, and at least one of output the video data for display or store the video data in a decoded picture buffer without filtering the reconstructed block of the video data.

17. The device of claim **14**, wherein the device comprises a video encoder, and wherein the one or more processors of the video encoder are configured to, based on the filtering being disabled, reconstruct the block of the video data, and store the video data in a decoded picture buffer without filtering the reconstructed block of the video data.

18. The device of claim **14**, wherein the device comprises a video encoder, and wherein, to determine the palette for the block, the one or more processors of the video encoder are configured to:

determine a palette size and the palette entries for the palette using a pixel value clustering method; and

determine whether to modify at least one of the palette size or one or more of the palette entries for the palette based at least partially on rate-distortion costs.

19. The device of claim **18**, wherein, to determine whether to modify the palette size, the one or more processors are configured to determine whether to keep or remove a given index value that corresponds to a given one of the palette

entries of the palette, wherein removing the given index value and the corresponding one of the palette entries of the palette reduces the palette size.

20. The device of claim **19**, wherein the one or more processors are configured to:

calculate a first rate-distortion cost for encoding at least one pixel of the block using the given index value that corresponds to the given one of the palette entries that indicates a color value for the at least one pixel;

calculate a second rate-distortion cost for encoding the at least one pixel of the block as an escape pixel, including encoding a quantized pixel value for the at least one pixel; and

determine whether to keep or remove the given index value and the corresponding one of the palette entries of the palette based on a comparison of the first and second rate-distortion cost calculations.

21. The device of claim **18**, wherein, to determine whether to modify the palette size, the one or more processors are configured to determine whether to merge a given index value that corresponds to a given one of the palette entries of the palette into a neighboring index value that corresponds to a neighboring one of the palette entries of the palette, wherein merging the given index value and the corresponding one of the palette entries of the palette into the neighboring index value and the neighboring one of the palette entries of the palette reduces the palette size.

22. The device of claim **21**, wherein the neighboring index value is one of a nearest index value in terms of a smallest Euclidean distance from the given index value, or a nearest index value in terms of index order with respect to the given index value.

23. The device of claim **21**, wherein the one or more processors are configured to:

calculate a first rate-distortion cost for encoding at least one pixel of the block using the given index value that corresponds to the given one of the palette entries that indicates a first color value for the at least one pixel;

calculate a second rate-distortion cost for encoding the at least one pixel of the block using the neighboring index value that corresponds to the neighboring one of the palette entries that indicates a second color value for the at least pixel, wherein the second color value is similar to the first color value; and

determine whether to merge the given index value and the corresponding one of the palette entries of the palette into the neighboring index value and the neighboring one of the palette entries of the palette based on a comparison of the first and second rate-distortion cost calculations.

24. The device of claim **18**, wherein, to determine whether to modify one or more of the palette entries of the palette, the one or more processors are configured to:

determine a representative palette for the block of the video data using a k-means clustering method, the representative palette including representative palette entries indicating respective average pixel values;

determine, for a given one of the representative palette entries of the representative palette, a pixel value of one of the pixels mapped to the given one of the representative palette entries that is nearest the average pixel value indicated by the given one of the representative palette entries; and

based on the nearest pixel value being different than the color value indicated by a corresponding given one of the palette entries of the palette, select the nearest pixel value as a final color value indicated by the given one of the palette entries of the palette.

25. The device of claim **24**, wherein, to determine the representative palette using the k-means clustering method, the one or more processors are configured to:

calculate, for each of the palette entries of the palette, an average pixel value of one or more pixels of the block that are mapped to the respective color value indicated by the respective one of the palette entries; and

determine the representative palette for the block of the video data including the representative palette entries indicating the respective average pixel values, wherein a number of iterations of the k-means clustering method is determined by a threshold value.

26. The device of claim **18**, wherein, to determine the palette size and the palette entries for the palette using the pixel value clustering method, the one or more processors are configured to:

determine, for the block of the video data, a histogram including a plurality of entries, each entry including a respective color value and a respective quantity of pixels of the block that map to the color value;

sort the entries of the histogram in descending order based on the respective quantity of pixels for each of the entries such that a first entry of the histogram includes the color value having a highest quantity of pixels relative to the other color values; and

determine the palette size and the palette entries of the palette based on the entries of the histogram.

27. The device of claim **14**, wherein the device comprises at least one of:

an integrated circuit;

a microprocessor; or

a wireless communication device.

28. A video processing device comprising:

means for determining that a block of video data is a palette coded block;

means for determining a palette for the block including one or more palette entries that indicate one or more respective color values;

means for determining index values for one or more pixels of the block, each of the index values corresponding to one of the palette entries that indicates a color value for one of the pixels of the block;

means for reconstructing the block of video data based on the palette and the index values for the block; and

means for determining, based on the block being a palette coded block, to disable filtering of the reconstructed block.

29. A non-transitory computer-readable medium having stored thereon instructions for processing video data that, when executed, cause one or more processors to:

determine that a block of video data is a palette coded block;

determine a palette for the block including one or more palette entries that indicate one or more respective color values;

determine index values for one or more pixels of the block, each of the index values corresponding to one of the palette entries that indicates a color value for one of the pixels of the block;

reconstruct the block of video data based on the palette and the index values for the block; and

determine, based on the block being a palette coded block, to disable filtering of the reconstructed block.