CLAIMS

1. A method of processing video data, the method comprising: obtaining a current picture and a reference picture; identifying filter index information for a current block of the current picture; determining that a first picture size value of the current picture and a second picture size value of the reference picture are different; and based on determining that the first picture size value of the current picture and the second picture size value of the reference picture are different, performing a sample rate conversion process on at least one of the current picture or the reference picture using a default filter index in place of a current filter index identified by the filter index information.

2. The method of claim 1, further comprising: storing the current filter index identified by the filter index information with the current block; and using the current filter index in motion vector candidate derivation for a subsequent block based on the current filter index being identified by the filter index information.

3. The method of claim 1, further comprising: assigning a default value for the current filter index to replace an original value when the sample rate conversion process is performed without using the current filter index to create the default filter index; and assigning the original value for the current filter index after the sample rate conversion process.

4. The method of claim 3, wherein the default value for the current filter index indicates that switchable filtering is not applied as part of the sample rate conversion process.

5. The method of claim 1, wherein the filter index information comprises neighbor block information, and wherein the current filter index is derived from the neighbor block information during a merge mode motion vector candidate list derivation.

6. The method of claim 1, wherein the filter index information comprises adaptive motion vector resolution (AMVR) mode signaling, and wherein the current filter index is signaled though the AMVR mode signaling.

7. The method of claim 1, wherein the sample rate conversion process includes a resampling process.

8. The method of claim 1, wherein the sample rate conversion process includes an interpolation process.

9. The method of claim 1, further comprising using the reference picture for inter-prediction of the current block of the current picture.

10. The method of claim 1, further comprising: determining that the current filter index is not used for the sample rate conversion process; and replacing a value of the current filter index with a default value in response to determining that the current filter index is not used for the sample rate conversion process.

11. The method of claim 10, further comprising: processing the default value to determine that an alternative switchable filter is not applied.

12. The method of claim 11, wherein the alternative switchable filter is a smoothing filter.

13. The method of claim 1, wherein a current filter index value is not signaled in response to a determination that the current filter index is not used in the sample rate conversion process.

14. The method of claim 1, wherein the current filter index is selected from a set of filters, wherein a subset of the set of filters are used for performing the sample rate conversion process, and wherein a remaining portion of the set of filters are not usable for sample rate conversion.

15. The method of claim 14, wherein the current filter index is selected using a syntax element indicating that selection of the current filter index from the remaining portion of the set of filters is prohibited.

16. The method of claim 1, wherein the sample rate conversion process includes a resampling process, and further comprising: identifying a first group of filters for interpolation, and a second group of filters for resampling, wherein the current filter index is from the second group of filters.

17. The method of claim 16, further comprising: obtaining a second current picture and a second reference picture; determining that a third picture size value of the second current picture and a fourth picture size value of the second reference picture are a same size value; and based on determining that the third picture size value of the second current picture and the fourth picture size value of the second reference picture are the same size value, performing a second resampling process for a second current block using a second selected filter, wherein the second selected filter is from the first group of filters.

18. The method of claim 16, wherein each filter of the first group of filters and the second group of filters is identified by an associated filter index, the associated filter index indicating an associated index value from a filter set for interpolation or a filter set for resampling.

19. The method of claim 16, further comprising: obtaining the current filter index from a filter index by a lookup operation for a selected filter index value; wherein the selected filter index value is associated with the second group of filters; and wherein association between the selected filter index value and the second group of filters is based on determining that the first picture size value and the second picture size value are different.

20. The method of claim 1, wherein determining that the first picture size value of the current picture and the second picture size value of the reference picture are different comprises determining at least one of: a current picture width is different from a reference picture width; and a current picture height is different from a reference picture height.

21. The method of claim 1, further comprising: generating an encoded video bitstream comprising the current picture and the reference picture.

22. The method of claim 21, further comprising: sending the encoded video bitstream to a decoding device, the encoded video bitstream being sent with signaling information, the signaling information comprising the default filter index.

23. The method of claim 21, further comprising: storing the encoded video bitstream.

24. The method of claim 1, further comprising: obtaining an encoded video bitstream comprising the current picture and the reference picture; identifying signaling information associated with the encoded video bitstream, the signaling information comprising the filter index information; and decoding the current block of the current picture from the encoded video bitstream.

25. The method of claim 24, wherein decoding the current block of the current picture from the encoded video bitstream comprises reconstructing the current block based on the default filter index.

26. An apparatus for processing video data, the apparatus comprising: one or more memory units storing instructions; and one or more processors that execute the instructions, wherein execution of the instructions by the one or more processors causes the one or more processors to: obtain a current picture and a reference picture; identify filter index information for a current block of the current picture; determine that a first picture size value of the current picture and a second picture size value of the reference picture are different; and based on a determination that the first picture size value of the current picture and the second picture size value of the reference picture are different, perform a sample rate conversion process on at least one of the current picture or the reference picture using a default filter index in place of a current filter index identified by the filter index information.

27. The apparatus of claim 26, wherein the execution of the instructions by the one or more processors further causes the one or more processors to: store the current filter index identified by the filter index information with the current block; and use the current filter index in motion vector candidate derivation for a subsequent block based on the current filter index being identified by the filter index information.

28. The apparatus of claim 26, wherein the execution of the instructions by the one or more processors further causes the one or more processors to: assign a default value for the current filter index to replace an original value when the sample rate conversion process is performed without using the current filter index to create the default filter index; and assign the original value for the current filter index after the sample rate conversion process.

29. The apparatus of claim 28, wherein the default value for the current filter index indicates that switchable filtering is not applied as part of the sample rate conversion process.

30. The apparatus of claim 26, wherein the filter index information comprises neighbor block information, and wherein the current filter index is derived from the neighbor block information during a merge mode motion vector candidate list derivation.

31. The apparatus of claim 26, wherein the filter index information comprises adaptive motion vector resolution (AMVR) mode signaling, and wherein the current filter index is signaled though the AMVR mode signaling.

32. The apparatus of claim 26, wherein the sample rate conversion process includes a resampling process.

33. The apparatus of claim 26, wherein the sample rate conversion process includes an interpolation process.

34. The apparatus of claim 26, wherein the execution of the instructions by the one or more processors further causes the one or more processors to use the reference picture for inter-prediction of the current block of the current picture.

35. The apparatus of claim 26, wherein the execution of the instructions by the one or more processors further causes the one or more processors to: determine that the current filter index is not used for the sample rate conversion process; and replace a value of the current filter index with a default value in response to determining that the current filter index is not used for the sample rate conversion process.

36. The apparatus of claim 35, wherein the execution of the instructions by the one or more processors further causes the one or more processors to process the default value to determine that an alternative switchable filter is not applied.

37. The apparatus of claim 36, wherein the alternative switchable filter is a smoothing filter.

38. The apparatus of claim 26, wherein a current filter index value is not signaled in response to a determination that the current filter index is not used in the sample rate conversion process.

39. The apparatus of claim 26, wherein the current filter index is selected from a set of filters, wherein a subset of the set of filters are used for performing the sample rate conversion process, and wherein a remaining portion of the set of filters are not usable for sample rate conversion.

40. The apparatus of claim 39, wherein the current filter index is selected using a syntax element indicating that selection of the current filter index from the remaining portion of the set of filters is prohibited.

41. The apparatus of claim 26, wherein the sample rate conversion process includes a resampling process, and wherein the execution of the instructions by the one or more processors further causes the one or more processors to: identify a first group of filters for interpolation, and a second group of filters for resampling, wherein the current filter index is from the second group of filters.

42. The apparatus of claim 41, wherein the execution of the instructions by the one or more processors further causes the one or more processors to: obtain a second current picture and a second reference picture; determine that a third picture size value of the second current picture and a fourth picture size value of the second reference picture are a same size value; and based on determining that the third picture size value of the second current picture and the fourth picture size value of the second reference picture are the same size value, perform a second resampling process for a second current block using a second selected filter, wherein the second selected filter is from the first group of filters.

43. The apparatus of claim 41, wherein each filter of the first group of filters and the second group of filters is identified by an associated filter index, the associated filter index indicating an associated index value from a filter set for interpolation or a filter set for resampling.

44. The apparatus of claim 26, wherein the execution of the instructions by the one or more processors further causes the one or more processors to: obtain the current filter index from a

filter index by a lookup operation for a selected filter index value; wherein the selected filter index value is associated with a second group of filters; and wherein association between the selected filter index value and the second group of filters is based on determining that the first picture size value and the second picture size value are different.

45. The apparatus of claim 26, wherein determining that the first picture size value of the current picture and the second picture size value of the reference picture are different comprises determining at least one of: a current picture width is different from a reference picture width; and a current picture height is different from a reference picture height.

46. The apparatus of claim 26, wherein execution of the instructions by the one or more processors causes the one or more processors to: generate an encoded video bitstream comprising the current picture and the reference picture.

47. The apparatus of claim 46, wherein execution of the instructions by the one or more processors causes the one or more processors to: send the encoded video bitstream to a decoding device, the encoded video bitstream being sent with signaling information, the signaling information comprising the default filter index.

48. The apparatus of claim 46, wherein execution of the instructions by the one or more processors causes the one or more processors to: store the encoded video bitstream.

49. The apparatus of claim 26, wherein execution of the instructions by the one or more processors causes the one or more processors to: obtain an encoded video bitstream comprising the current picture and the reference picture; identify signaling information associated with the encoded video bitstream, the signaling information comprising the filter index information; and decode the current block of the current picture from the encoded video bitstream.

50. The apparatus of claim 49, wherein decoding the current block of the current picture from the encoded video bitstream comprises reconstructing the current block based on the default filter index.

51. The apparatus of claim 26, wherein the apparatus is a mobile device.

52. The apparatus of claim 26, wherein the apparatus includes a display configured to display the video data.

53. The apparatus of claim 26, wherein the apparatus includes a camera configured to capture one or more video frames of the video data.