

What is claimed is:

1. A method in a decoder to extract source color volume information of an input bitstream from an SEI message, the method executed on a processor, the method comprising:

receiving, by the processor, the SEI message that includes a source color volume identification SEI messaging variable identifying the presence of source color volume information in the SEI message;

receiving, by the processor, a first SEI messaging variable as part of the source color volume information in the SEI message;

if the first SEI messaging variable matches a first predetermined value, then

for each of one or more color primaries, extracting, by the processor, first x and y chromaticity coordinates from the source color volume information in the SEI message, the first x and y chromaticity coordinates of the one or more color primaries defining a 2D color gamut of the source color volume;

extracting, by the processor, a minimum, a maximum, and an average luminance value from the source color volume information in the SEI message, wherein the minimum, the maximum, and the average luminance values are for one or more decoded pictures or an active region of one or more decoded pictures in the input bitstream; and

generating an output video signal based on the input bitstream and the extracted source color volume information.

2. The method of claim 1, further comprising:

receiving, by the processor, a second SEI messaging variable as part of the source color volume information in the SEI message; and

if the second SEI messaging variable matches a second predetermined value, then

for each of one or more color primaries, extracting, by the processor, second x and y chromaticity coordinates for each of the minimum, maximum, and average luminance values from the source color volume information in the SEI message, the second x and y chromaticity coordinates of the one or more color primaries identifying a sliced 2D color gamut of the source color volume at the minimum, maximum and average luminance values, respectively.

3. The method of claim 1, further comprising extracting, by the processor, a third SEI messaging variable from the source color volume information in the SEI message, wherein if the third SEI messaging variable is equal to 0, it indicates that source color volume information follows in

the source color volume information, and if it is 1, it indicates canceling any previous message related to persistence of source color volume information in the input bitstream.

4. The method of claim 1, further comprising extracting, by the processor, a fourth SEI messaging variable from the source color volume information in the SEI message, wherein the fourth SEI messaging variable is related to persistence of the source color volume information in the input bitstream.

5. The method of claim 1, wherein the first predetermined value is equal to 2.

6. The method of claim 2, wherein the second predetermined value is equal to 1.

7. The method of claim 1, further comprising receiving a fifth SEI messaging variable as part of the source color volume information in the SEI message, wherein the fifth SEI messaging variable indicates the presence of information related to the active region in the one or more decoded pictures in the input bitstream.

8. The method of claim 7, wherein the information related to the active region comprises at least one of a left offset, a right offset, a top offset, and a bottom offset for the active region.

9. An apparatus comprising a video bitstream stored on one or more non-transitory machine-readable media, the bitstream characterized by:

data representing one or more picture frames in a compressed format, wherein a portion of the data that represents the one or more picture frames in the compressed format comprises:

a SEI message including a source color volume identification SEI messaging variable identifying the presence of source color volume information in the SEI message, wherein the source color volume information in the SEI message further comprises:

a first SEI messaging variable indicating the presence of a first set of x and y chromaticity coordinates for one or more color primaries for identifying a 2D color gamut of the source color volume of the data in the bitstream; and

a minimum, a maximum, and an average luminance variable for the data in the bitstream, wherein the minimum, the maximum, and the average luminance variables are for

one or more decoded pictures or an active region of one or more decoded pictures in the bitstream.

10. The apparatus of claim 9, wherein the SEI message further comprises:

a second SEI messaging variable indicating the presence of a second set of x and y chromaticity coordinates for one or more color primaries of the minimum, maximum, and average luminance variables for identifying 2D sliced color gamut of the source color volume of the data in the bitstream at the minimum, maximum and average luminance values, respectively.

11. The apparatus of claim 9, the source color volume information in the SEI message further comprising a third SEI messaging variable indicating the presence of information related to the active region.

12. The apparatus of claim 11, wherein the information related to the active region comprises at least one of a left offset, a right offset, a top offset, and a bottom offset for the active region.

13. The apparatus of claim 9, wherein the average luminance variable applies to more than one picture in the bitstream.

14. An apparatus comprising a processor and configured to perform any one of the methods recited in claims 1-8.

15. A non-transitory computer-readable storage medium having stored thereon computer-executable instruction for executing a method with one or more processors in accordance with any of the claims 1-8.