

CLAIMS

What is Claimed:

1. An apparatus for decoding media content, comprising one or more processors, wherein the one or more processors are configured to:

determine which attribute sub-bitstream to use for decoding visual volumetric content based on a message that indicates which attribute sub-bitstream of a plurality of attribute sub-bitstreams indicated in a parameter set associated with the visual volumetric content is active; and
decode the visual volumetric content using an active attribute sub-bitstream based on the message.

2. An apparatus for media content processing, comprising one or more processors, wherein the one or more processors are configured to:

determine to deactivate an attribute sub-bitstream of a plurality of attribute sub-bitstreams indicated in a parameter set associated with visual volumetric content; and
generate a message indicating the deactivation of the attribute sub-bitstream.

3. An apparatus for decoding media content, comprising one or more processors, wherein the one or more processors are configured to:

obtain a parameter set associated with visual volumetric content;
receive a message that indicates which attribute sub-bitstream of a plurality of attribute sub-bitstreams indicated in the parameter set is active;
determine an active attribute sub-bitstream and an inactive attribute sub-bitstream based on the message; and
decode the visual volumetric content using the active attribute sub-bitstream and skip the inactive attribute sub-bitstream.

4. A method for decoding media content, comprising:

determining which attribute sub-bitstream to use for decoding visual volumetric content based on a message that indicates which attribute sub-bitstream of a plurality of attribute sub-bitstreams indicated in a parameter set associated with visual volumetric is active; and
decoding the visual volumetric content using an active attribute sub-bitstream based on the message.

5. A method for processing media content, comprising:
 - determining to deactivate an attribute sub-bitstream of a plurality of attribute sub-bitstreams indicated in a parameter set associated with visual volumetric content; and
 - generating a message indicating the deactivation of the attribute sub-bitstream.
6. A method for decoding media content, comprising:
 - obtaining a parameter set associated with visual volumetric content;
 - receiving a message that indicates which attribute sub-bitstream of a plurality of attribute sub-bitstreams indicated in the parameter set is active;
 - determining an active attribute sub-bitstream and an inactive attribute sub-bitstream based on the message; and
 - decoding the visual volumetric content using the active attribute sub-bitstream and skipping the inactive attribute sub-bitstream.
7. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the message is signaled in a bitstream.
8. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the message comprises a supplemental enhancement information (SEI) message.
9. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the message has a persistence scope that persists until an end of a bitstream.
10. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the message has a persistence scope that persists until another message that is different from the message is received.
11. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the message comprises an indicator that indicates a number of active attribute sub-bitstreams of the plurality of attribute sub-bitstreams indicated in the parameter set associated with the visual volumetric content.
12. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the parameter set comprises a visual volumetric video-based parameter set (VPS) that comprises attribute information, wherein the message refers to a piece of the attribute information for the active attribute sub-bitstream.

13. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the plurality of attribute sub-bitstreams indicate texture information, material information, transparency information, or reflectance information associated with the visual volumetric content.
14. The apparatus of claim 1 or 2 or 3 or the method of claim 4 or 5 or 6, wherein the parameter set indicates map information associated with a respective attribute sub-bitstream of the plurality of attribute sub-bitstreams, and the message indicates which map information of the map information associated with the respective attribute sub-bitstream of the plurality of attribute sub-bitstreams is active, wherein the visual volumetric content is decoded using active map information.
15. The apparatus of claim 1 or the method of claim 4, wherein the message comprises an indicator that the plurality of attribute sub-bitstreams indicated in the parameter set associated with the visual volumetric content are active.
16. The apparatus of claim 1 or the method of claim 4, wherein an inactive attribute sub-bitstream is determined based on the message, wherein the inactive attribute sub-bitstream is skipped for the decoding of the visual volumetric content.
17. The apparatus of claim 1 or the method of claim 4, wherein an attribute sub-bitstream that is indicated in the parameter set but not indicated in the message is determined to be an inactive attribute sub-bitstream, wherein the inactive attribute sub-bitstream is skipped for the decoding of the visual volumetric content.
18. The apparatus of claim 2 or the method of claim 5, wherein the message indicates the deactivation of the attribute sub-bitstream by not referring to an indicator associated with the attribute sub-bitstream indicated in the parameter set.
19. The apparatus of claim 2 or the method of claim 5, wherein the deactivation of the attribute sub-bitstream is determined based on bitrate adaptation.
20. A non-transitory computer readable medium containing data content generated according to the method of any one of claims 4 -19.

21. A computer readable medium including instructions for causing one or more processors to perform the method of any one of claims 4 -19.
22. A computer program product comprising instructions for performing the method of any one of claims 4-19 when executed by one or more processors.
23. A device comprising:
a media content processing or decoding apparatus according to any one of claims 1, 2, 3 and 7-19; and
at least one of (i) an antenna configured to receive a signal, the signal including data representative of an image, (ii) a band limiter configured to limit the received signal to a band of frequencies that includes the data representative of the image, or (iii) a display configured to display the image.
24. A device according to any one of claims 1, 2, 3 and 7-19, comprising:
a TV, a cell phone, a tablet, or a set-top box (STB).
25. A signal comprising the message according to the method of any one of claims 4 -19.