

CLAIMS

1. A method for encoding colour mapping information comprising at least one colour transform, said method comprising:
 - encoding (100) first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
 - encoding (102) second parameters representative of said at least one colour transform.
2. The method of claim 1, wherein said pictures are decoded pictures.
3. The method of claim 1 or 2, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:
 - a video signal range indicating a black level and range of the color components;
 - color primaries;
 - a transfer characteristic; and
 - matrix coefficients for deriving luma and chroma signals from RGB primaries.
4. The method according to one of claim 2 or 3, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:
 - a first syntax element (colour_map_video_full_range_flag), wherein said first syntax element has the same semantics as the Video Usability Information video full range flag syntax element (video_full_range_flag) except that said first syntax element describes the decoded pictures colour mapped by said at least one color transform;
 - a second syntax element (colour_map_primaries), wherein said second syntax element has the same semantics as the Video Usability Information colour primaries syntax element (colour_primaries) except that said second syntax element describes the decoded pictures colour mapped by said at least one color transform;

- a third syntax element (colour_map_transfer_characteristics), wherein said third syntax element has the same semantics as the Video Usability Information transfer characteristics syntax element (transfer_characteristics) except that said third syntax element describes the decoded pictures colour mapped by said at least one color transform; and
- a fourth syntax element (colour_map_matrix_coeffs), wherein said fourth syntax element has the same semantics as the Video Usability Information matrix coefficients syntax element (matrix_coeffs) except that fourth syntax element describes the decoded pictures colour mapped by said at least one color transform.

5. The method according to any one of claims 1 to 4, wherein said method further comprises encoding a fifth syntax element (colour_map_id) for identifying the purpose of the color_mapping_model.

6. The method according to any one of claims 1 to 5, wherein said first and second parameters are encoded in a supplement enhancement information message.

7. The method according to claim 6, wherein said method further comprises encoding a sixth syntax element (colour_map_cancel_flag) indicating that the color mapping information Supplement Enhancement Information message cancels the persistence of any previous color mapping information Supplement Enhancement Information message in output order in the case where said sixth syntax element equals to 1 and indicating that color mapping information follows in the case where said sixth syntax element equals to 0.

8. The method according to claim 6 or 7, wherein said method further comprises encoding a seventh syntax element (color_map_repetition_period) specifying the persistence of the color mapping information Supplement Enhancement Information message.

9. The method according to any one of claims 1 to 8, wherein at least first and second sets of second parameters are encoded, said first set being representative of

a first colour transform and said second set being representative of a second colour transform and wherein said first parameters are representative of video signal characteristics of said pictures colour mapped by said first colour transform and further by said second colour transform.

10. The method according to any one of claims 1 to 9, wherein data values produced by said encoding method are stored on a processor readable medium.

11. The method according to claim 10, wherein the processor readable medium is an optical disc.

12. A method for decoding colour mapping information comprising at least one colour transform, said method comprising:

- decoding (200) first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- decoding (202) second parameters representative of said at least one colour transform.

13. The method of claim 12, wherein said pictures are decoded pictures.

14. The method of claim 12 or 13, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic ; and
- matrix coefficients for deriving luma and chroma signals from RGB primaries.

15. The method according to any one of claims 13 to 14, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a first syntax element (colour_map_video_full_range_flag), wherein said first syntax element has the same semantics as the Video

Usability Information video full range flag syntax element (video_full_range_flag) except that said first syntax element describes the decoded pictures colour mapped by said at least one color transform;

- a second syntax element (colour_map primaries), wherein said second syntax element has the same semantics as the Video Usability Information colour primaries syntax element (colour_primaries) except that said second syntax element describes the decoded pictures colour mapped by said at least one color transform;
- a third syntax element (colour_map_transfer_characteristics), wherein said third syntax element has the same semantics as the Video Usability Information transfer characteristics syntax element (transfer_characteristics) except that said third syntax element describes the decoded pictures colour mapped by said at least one color transform; and
- a fourth syntax element (colour_map_matrix_coeffs), wherein said fourth syntax element has the same semantics as the Video Usability Information matrix coefficients syntax element (matrix_coeffs) except that fourth syntax element describes the decoded pictures colour mapped by said at least one color transform.

16. The method according to any one of claims 12 to 15, wherein said method further comprises decoding a fifth syntax element (colour_map_id) for identifying the purpose of the color mapping model.

17. The method according to any one of claims 12 to 16, wherein said first and second parameters are decoded from a supplement enhancement information message.

18. The method according to claim 17, wherein said method further comprises decoding a sixth syntax element (colour_map_cancel_flag) indicating that the color mapping information Supplement Enhancement Information message cancels the persistence of any previous color mapping information Supplement Enhancement Information message in output order in the case where said sixth syntax element equals to 1 and indicating that color mapping information follows in the case where said sixth syntax element equals to 0.

19. The method according to claim 17 or 18, wherein said method further comprises decoding a seventh syntax element (`color_map_repetition_period`) specifying the persistence of the color mapping information Supplement Enhancement Information message.

20. The method according to any one of claims 12 to 19, wherein at least first and second sets of second parameters are decoded, said first set being representative of a first colour transform and said second set being representative of a second colour transform and wherein said first parameters are representative of video signal characteristics of said pictures colour mapped by said first colour transform and further by said second colour transform.

21. The method according to any one of claims 12 to 20, further comprising:

- decoding pictures;
- colour mapping said decoded pictures with said at least one colour transform into mapped decoded pictures.

22. An encoder configured to encode colour mapping information comprising at least one colour transform, said encoder comprising:

- means for encoding first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- means for encoding second parameters representative of said at least one colour transform.

23. The encoder of claim 22, wherein said encoder is configured to execute the steps of the method for encoding according to any one of claims 1 to 11.

24. A decoder configured to decode colour mapping information comprising at least one colour transform, said decoder comprising:

- means for decoding first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- means for decoding second parameters representative of said at least one colour transform.

25. The decoder of claim 24, wherein said decoder is configured to execute the steps of the method for decoding according to any one of claims 12 to 21.

26. The decoder of claim 24 or 25, wherein the decoder is part of a Blu-Ray player.
27. A video signal representative of colour mapping information comprising at least one colour transform, said signal comprising first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform and second parameters representative of said at least one colour transform.
28. The video signal according to claim 27, wherein said pictures are decoded pictures.
29. The video signal of claim 27 or 28, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:
- a video signal range indicating a black level and range of the color components;
 - color primaries;
 - a transfer characteristic ; and
 - matrix coefficients for deriving luma and chroma signals from RGB primaries.
30. The video signal according to any one of claims 28 to 29, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:
- a first syntax element (colour_map_video_full_range_flag), wherein said first syntax element has the same semantics as the Video Usability Information video full range flag syntax element (video_full_range_flag) except that said first syntax element describes the decoded pictures colour mapped by said at least one color transform;
 - a second syntax element (colour_map_primaries), wherein said second syntax element has the same semantics as the Video Usability Information colour primaries syntax element (colour_primaries) except that said second syntax element describes the decoded pictures colour mapped by said at least one color

transform;

- a third syntax element (colour_map_transfer_characteristics), wherein said third syntax element has the same semantics as the Video Usability Information transfer characteristics syntax element (transfer_characteristics) except that said third syntax element describes the decoded pictures colour mapped by said at least one color transform; and
- a fourth syntax element (colour_map_matrix_coeffs), wherein said fourth syntax element has the same semantics as the Video Usability Information matrix coefficients syntax element (matrix_coeffs) except that fourth syntax element describes the decoded pictures colour mapped by said at least one color transform.

31. The video signal according to any one of claims 27 to 30, wherein said video signal further comprises a fifth syntax element (colour_map_id) for identifying the purpose of the color mapping model.

32. The video signal according to any one of claims 27 to 30, wherein said first and second parameters are encoded in a supplement enhancement information message.

33. The video signal according to claim 32, wherein said video signal further comprises a sixth syntax element (colour_map_cancel_flag) indicating that the color mapping information Supplement Enhancement Information message cancels the persistence of any previous color mapping information Supplement Enhancement Information message in output order in the case where said sixth syntax element equals to 1 and indicating that color mapping information follows in the case where said sixth syntax element equals to 0.

34. The video signal according to claim 32 or 33, wherein said video signal further comprises a seventh syntax element (color_map_repetition_period) specifying the persistence of the color mapping information Supplement Enhancement Information message.

35. The video signal according to any one of claims 27 to 34, comprising at least first and second sets of second parameters, said first set being representative of a first colour transform and said second set being representative of a second colour transform and wherein said first parameters are representative of video signal characteristics of said pictures colour mapped by said first colour transform and further by said second colour transform.

36. A processor readable medium having stored thereon instructions for causing a processor to perform at least the steps of the method for encoding according to any one of claims 1 to 11.

37. A processor readable medium having stored thereon instructions for causing a processor to perform at least the steps of the method for decoding according to any one of claims 12 to 21.

38. A storage medium having stored thereon a video signal according to any one claims 27 to 35.

39. An optical disc having stored thereon a video signal according to any one claims 27 to 35.

CLAIMS

1. A method for encoding colour mapping information comprising at least one colour transform, said method comprising:

- encoding (100) first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- encoding (102) second parameters defining said at least one colour transform,

wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic; and
- matrix coefficients for deriving luma and chroma signals from RGB primaries.

2. The method according to claim 1, wherein said pictures are decoded pictures.

3. The method according to one of claim 1 or 2, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a first syntax element (colour_map_video_full_range_flag), wherein said first syntax element has the same semantics as the Video Usability Information video full range flag syntax element (video_full_range_flag) except that said first syntax element describes the decoded pictures colour mapped by said at least one color transform;

- a second syntax element (colour_map primaries), wherein said second syntax element has the same semantics as the Video Usability Information colour primaries syntax element (colour_primaries) except that said second syntax element describes the decoded pictures colour mapped by said at least one color transform;
- a third syntax element (colour_map_transfer_characteristics), wherein said third syntax element has the same semantics as the Video Usability Information transfer characteristics syntax element (transfer_characteristics) except that said third syntax element describes the decoded pictures colour mapped by said at least one color transform; and
- a fourth syntax element (colour_map_matrix_coeffs), wherein said fourth syntax element has the same semantics as the Video Usability Information matrix coefficients syntax element (matrix_coeffs) except that fourth syntax element describes the decoded pictures colour mapped by said at least one color transform.

4. The method according to any one of claims 1 to 3, wherein said method further comprises encoding a fifth syntax element (colour_map_id) for identifying the purpose of the color_mapping_model.

5. The method according to any one of claims 1 to 4, wherein said first and second parameters are encoded in a supplement enhancement information message.

6. The method according to claim 5, wherein said method further comprises encoding a sixth syntax element (colour_map_cancel_flag) indicating that the color mapping information Supplement Enhancement Information message cancels the persistence of any previous color mapping information Supplement

Enhancement Information message in output order in the case where said sixth syntax element equals to 1 and indicating that color mapping information follows in the case where said sixth syntax element equals to 0.

7. The method according to claim 5 or 6, wherein said method further comprises encoding a seventh syntax element (`color_map_repetition_period`) specifying the persistence of the color mapping information Supplement Enhancement Information message.

8. A method for decoding colour mapping information comprising at least one colour transform, said method comprising:

- decoding (200) first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- decoding (202) second parameters defining said at least one colour transform,

wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic ; and
- matrix coefficients for deriving luma and chroma signals from RGB primaries.

9. The method according to claim 8, wherein said pictures are decoded pictures.

10. The method according to any one of claims 8 to 9, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a first syntax element (colour_map_video_full_range_flag), wherein said first syntax element has the same semantics as the Video Usability Information video full range flag syntax element (video_full_range_flag) except that said first syntax element describes the decoded pictures colour mapped by said at least one color transform;
- a second syntax element (colour_map_primaries), wherein said second syntax element has the same semantics as the Video Usability Information colour primaries syntax element (colour_primaries) except that said second syntax element describes the decoded pictures colour mapped by said at least one color transform;
- a third syntax element (colour_map_transfer_characteristics), wherein said third syntax element has the same semantics as the Video Usability Information transfer characteristics syntax element (transfer_characteristics) except that said third syntax element describes the decoded pictures colour mapped by said at least one color transform; and
- a fourth syntax element (colour_map_matrix_coeffs), wherein said fourth syntax element has the same semantics as the Video Usability Information matrix coefficients syntax element (matrix_coeffs) except that fourth syntax element describes the decoded pictures colour mapped by said at least one color transform.

11. The method according to any one of claims 8 to 10, wherein said method further comprises decoding a fifth syntax element (colour_map_id) for identifying the purpose of the color mapping model.

12. The method according to any one of claims 8 to 11, wherein said first and second parameters are decoded from a supplement enhancement information message.

13. The method according to claim 12, wherein said method further comprises decoding a sixth syntax element (`colour_map_cancel_flag`) indicating that the color mapping information Supplement Enhancement Information message cancels the persistence of any previous color mapping information Supplement Enhancement Information message in output order in the case where said sixth syntax element equals to 1 and indicating that color mapping information follows in the case where said sixth syntax element equals to 0.

14. The method according to claim 12 or 13, wherein said method further comprises decoding a seventh syntax element (`color_map_repetition_period`) specifying the persistence of the color mapping information Supplement Enhancement Information message.

15. An encoder configured to encode colour mapping information comprising at least one colour transform, said encoder comprising:

- means for encoding first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- means for encoding second parameters defining said at least one colour transform,

wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic ; and

- matrix coefficients for deriving luma and chroma signals from RGB primaries.

16. The encoder according to claim 15, wherein said encoder is configured to execute the steps of the method for encoding according to any one of claims 1 to 7.

17. A decoder configured to decode colour mapping information comprising at least one colour transform, said decoder comprising:

- means for decoding first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and
- means for decoding second parameters defining said at least one colour transform,

wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic ; and
- matrix coefficients for deriving luma and chroma signals from RGB primaries.

18. The decoder according to claim 17, wherein said decoder is configured to execute the steps of the method for decoding according to any one of claims 8 to 14.

19. A bitstream representative of colour mapping information comprising at least one colour transform, said bitstream comprising first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform and second parameters defining said at least one colour transform, wherein said first parameters representative of video signal

characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic ; and
- matrix coefficients for deriving luma and chroma signals from RGB primaries.

20. The bitstream according to claim 19, wherein said pictures are decoded pictures.

21. The bitstream according to any one of claims 19 to 20, wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a first syntax element (`colour_map_video_full_range_flag`), wherein said first syntax element has the same semantics as the Video Usability Information video full range flag syntax element (`video_full_range_flag`) except that said first syntax element describes the decoded pictures colour mapped by said at least one color transform;
- a second syntax element (`colour_map_primaries`), wherein said second syntax element has the same semantics as the Video Usability Information colour primaries syntax element (`colour_primaries`) except that said second syntax element describes the decoded pictures colour mapped by said at least one color transform;
- a third syntax element (`colour_map_transfer_characteristics`), wherein said third syntax element has the same semantics as the Video Usability Information transfer characteristics syntax element (`transfer_characteristics`) except that said third syntax element

describes the decoded pictures colour mapped by said at least one color transform; and

- a fourth syntax element (colour_map_matrix_coeffs), wherein said fourth syntax element has the same semantics as the Video Usability Information matrix coefficients syntax element (matrix_coeffs) except that fourth syntax element describes the decoded pictures colour mapped by said at least one color transform.

22. The bitstream according to any one of claims 19 to 21, wherein said bitstream further comprises a fifth syntax element (colour_map_id) for identifying the purpose of the color mapping model.

23. The bitstream according to any one of claims 19 to 22, wherein said first and second parameters are encoded in a supplement enhancement information message.

24. The bitstream according to claim 23, wherein said bitstream further comprises a sixth syntax element (colour_map_cancel_flag) indicating that the color mapping information Supplement Enhancement Information message cancels the persistence of any previous color mapping information Supplement Enhancement Information message in output order in the case where said sixth syntax element equals to 1 and indicating that color mapping information follows in the case where said sixth syntax element equals to 0.

25. The bitstream according to claim 23 or 24, wherein said bitstream further comprises a seventh syntax element (color_map_repetition_period) specifying the persistence of the color mapping information Supplement Enhancement Information message.

26. A storage medium having stored thereon a bitstream according to any

one claims 19 to 25.

27. A transmitter configured to transmit colour mapping information comprising at least one colour transform, said transmitter comprising:

- means for transmitting first parameters representative of video signal characteristics of pictures colour mapped by said at least one color transform; and

- means for transmitting second parameters defining said at least one colour transform,

wherein said first parameters representative of video signal characteristics comprise at least one of the following syntax elements:

- a video signal range indicating a black level and range of the color components;
- color primaries;
- a transfer characteristic ; and
- matrix coefficients for deriving luma and chroma signals from RGB primaries.