

## 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.

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.

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.

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.

## 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.