

Claims

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

- encoding (100) first parameters representative of video signal characteristics of ~~colour output decoded~~ pictures ~~remapped~~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.

~~2. The method of claim 1, wherein said first and second parameters are encoded in a supplement enhancement information message.~~

39. The method ~~of claim according to any one of claims 1 to 8~~^{1 or 2}, 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 ~~colour output decoded~~^{said} pictures ~~remapped~~^{colour mapped} by said first colour transform ~~followed 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.

412. A method for decoding ~~colour mapping information comprising at least one colour transform, at least one colour transform~~^{said method} comprising:

- decoding (200) first parameters representative of video signal characteristics of ~~colour output decoded~~^{remapped}^{colour mapped} pictures 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:

5 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;

10 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

15 (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

20 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.

25 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.

30 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.

~~5. The method of claim 4, further comprising :~~

- ~~—decoding colour pictures;~~
- ~~—remapping said colour decoded pictures with said at least one colour transform into colour mapped output decoded pictures.~~

~~6. The method of claim 5, further comprising transmitting said colour mapped output decoded pictures and said first parameters.~~

~~7. The method according to any of claims 4 to 6, wherein said first and second parameters are decoded from a supplement enhancement information message.~~

~~820.~~ The method according to ~~any of~~ any one of claims ~~4-12~~ to ~~719~~, 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 ~~colour output decoded said pictures~~ colour remapped mapped by said first colour transform ~~followed 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.

5 ~~9. A method of display comprising:~~

- ~~—receiving colour mapped output decoded pictures and first parameters representative of video signal characteristics of said colour mapped output decoded pictures;~~
- ~~—displaying said colour mapped output decoded pictures using said first parameters.~~

1022. 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.

~~An encoder for encoding at least one colour transform comprising:~~

- ~~—means for encoding first parameters representative of video signal characteristics of colour output decoded pictures remapped 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.

1124.— 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.

~~A decoder for decoding at least one colour transform comprising:~~

~~- means for decoding first parameters representative of video signal characteristics of colour output decoded pictures remapped 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.

~~12. The decoder of claim 11, further comprising :~~

~~- means for decoding colour pictures;~~
~~- means for remapping said colour pictures with said at least one colour transform into colour mapped output decoded pictures.~~

~~13. The decoder of claim 12, further comprising means for transmitting said colour mapped output decoded pictures and said first parameters.~~

~~14. A display device comprising means for receiving colour mapped output decoded pictures and first parameters representative of video signal characteristics of said colour mapped output decoded pictures and means for displaying said colour mapped output decoded pictures using said first parameters.~~

~~1527. An encoded video~~A video signal representative of colour mapping information comprising at least one colour transform, said signal at least one
~~colour transform~~ comprising first parameters representative of video signal characteristics of ~~colour output decoded pictures remapped~~ colour mapped by

said at least one color transform and second parameters representative of said at least one colour transform.

~~16. The video signal of claim 15, wherein said encoded video signal is a supplement enhancement information message.~~

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.

~~17. A computer program product comprising program code instructions to execute of the steps of the coding method according to any of claims 1 to 3 when this program is executed on a computer.~~

~~18~~36. A processor readable medium having stored ~~therein~~thereon instructions for causing a processor to perform at least the steps of the ~~coding~~ method for encoding according to any one of claims 1 to ~~3~~11.

~~19. A computer program product comprising program code instructions to execute of the steps of the decoding method according to any of claims 4 to 8 when this program is executed on a computer.~~

~~20~~37. A processor readable medium having stored ~~therein~~thereon instructions for causing a processor to perform at least the steps of the ~~decoding~~ method for decoding according to any one of claims ~~4~~12 to ~~8~~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.