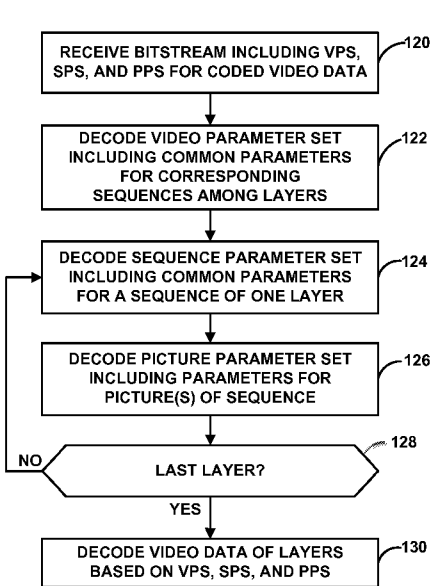




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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

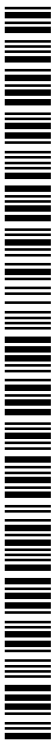
[Continued on next page]

(54) Title: CODING PARAMETER SETS AND NAL UNIT HEADERS FOR VIDEO CODING



(57) Abstract: In one example, a video coder, such as a video encoder or video decoder, is configured to code a video parameter set (VPS) for one or more layers of video data, wherein each of the one or more layers of video data refer to the VPS, and code the one or more layers of video data based at least in part on the VPS. The video coder may code the VPS for video data conforming to High-Efficiency Video Coding, Multiview Video Coding, Scalable Video Coding, or other video coding standards or extensions of video coding standards. The VPS may include data specifying parameters for corresponding sequences of video data within various different layers (e.g., views, quality layers, or the like). The parameters of the VPS may provide indications of how the corresponding video data is coded.

FIG. 8





GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
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— *with international search report (Art. 21(3))*

INTERNATIONAL SEARCH REPORT

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PCT/US2013/021227

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N19/31 H04N19/46 H04N19/70
ADD.
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
H04N
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, COMPENDEX, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/254575 A1 (HANNUKSELA MISKA [FI] ET AL) 17 November 2005 (2005-11-17)	1,2,5,8, 9,15,16, 26-29, 32, 34-39, 42, 44-46, 49,51
A	abstract paragraph [0046] - paragraph [0066]; figure 2; tables 1-3 paragraph [0106] - paragraph [0107] paragraph [0109] ----- -/--	3,4,6,7, 10-14, 30,31, 33,40, 41,43, 47,48,50

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
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- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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- "&" document member of the same patent family

Date of the actual completion of the international search 19 May 2014	Date of mailing of the international search report 23/05/2014
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Heising, Guido

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2013/021227

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BOYCE J ET AL: "Extensible High Layer Syntax for Scalability", 96. MPEG MEETING; 21-3-2011 - 25-3-2011; GENEVA; (MOTION PICTURE EXPERT GROUP OR ISO/IEC JTC1/SC29/WG11),, no. m19806, 22 March 2011 (2011-03-22), XP030048373,	1,6-9, 13,15, 16, 26-28, 33-38, 43-45, 50,51
Y	whole document, in particular sections 2.1 and 2.3	3,4,30, 31,40, 41,47,48
A		2,5, 10-12, 14,29, 32,39, 42,46,49
Y	----- SJOBERG (ERICSSON) R: "On num_reorder_frames and max_dec_frame_buffering", 5. JCT-VC MEETING; 96. MPEG MEETING; 16-3-2011 - 23-3-2011; GENEVA;(JOINT COLLABORATIVE TEAM ON VIDEO CODING OF ISO/IEC JTC1/SC29/WG11AND ITU-T SG.16); URL: HTTP://WFTP3.ITU.INT/AV-ARCH/JCTVC-SITE/,, no. JCTVC-E339, 11 March 2011 (2011-03-11) , XP030008845, ISSN: 0000-0005	3,4,30, 31,40, 41,47,48
A	the whole document	1,2, 5-16, 26-29, 32-39, 42-46, 49-51
A	----- BROSS B ET AL: "High Efficiency Video Coding (HEVC) text specification Working Draft 5", 7. JCT-VC MEETING; 98. MPEG MEETING; 21-11-2011 - 30-11-2011; GENEVA; (JOINT COLLABORATIVE TEAM ON VIDEO CODING OF ISO/IEC JTC1/SC29/WG11 AND ITU-T SG.16); URL: HTTP://WFTP3.ITU.INT/AV-ARCH/JCTVC-SITE/,, no. JCTVC-G1103, 19 December 2011 (2011-12-19), XP030111032, abstract sections 7.3.2.1 - 7.3.2.3 and 7.4.2.1 - 7.4.2.3 -----	1-16, 26-51

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/021227

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

1-16, 26-51

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1, 2, 6-12, 26-29, 33-39, 43-46, 50, 51

Layer type and dependency parameters for video coding parameter sets

2. claims: 3, 4, 13, 14, 30, 31, 40, 41, 47, 48

Control and tool parameters for video coding parameter sets

3. claims: 5, 15, 16, 32, 42, 49

Operational point and hypothetical reference decoder parameters for video coding parameter sets

4. claims: 17-25

Parameter set hierarchy and grouping for video coding parameter sets

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/021227

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005254575	A1	17-11-2005	
		AU 2005242601 A1	24-11-2005
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