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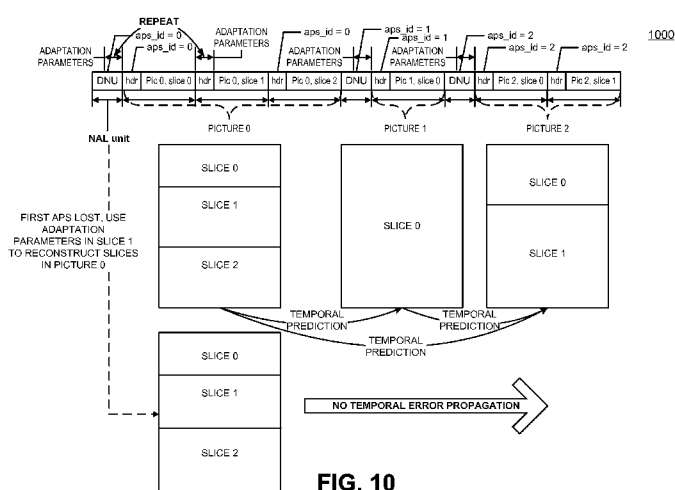
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(54) **Title:** METHODS, APPARATUS AND SYSTEMS FOR SIGNALING VIDEO CODING ADAPTATION PARAMETERS

**FIG. 10**

(57) **Abstract:** A high-level signaling of adaptation parameters for facilitating reconstruction of, and/or used for reconstructing, decoded video is provided. In an embodiment, a method may include selectively conveying adaptation parameters in a video bit stream using a signaling method selected from a set including (i) inserting adaptation parameters in a slice header, and (ii) inserting adaptation parameters in a dedicated network abstraction layer (NAL) unit. The method may include signaling the selection of the signaling method by a flag inserted to the slice header to indicate whether the adaptation parameters are obtainable from the dedicated NAL unit, or included in a current slice header. The flag, when set to a first value, may indicate that the adaptation parameters are retrievable or otherwise obtainable from the dedicated NAL unit. The flag, when set to a second value, may indicate that the adaptation parameters are retrievable or otherwise obtainable from the current slice.

INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

INV. H04N7/26

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, 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	WENGER S ET AL: "Adaptation Parameter Set (APS)", 6. JCT-VC MEETING; 97. MPEG MEETING; 14-7-2011 - 22-7-2011; TORINO; (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-F747, 21 July 2011 (2011-07-21), XP030009770, abstract sections 1 and 4 ----- -/-	1-4, 27-30



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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

24 April 2013

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CHEN Y ET AL: "AHG15: Syntax elements in adaptation parameter set", 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-G330, 9 November 2011 (2011-11-09), XP030110314, abstract sections 1-5 -----	1-9, 27-30
X,P	YE Y ET AL: "On Adaptation Parameter Signalling", 8. JCT-VC MEETING; 99. MPEG MEETING; 1-2-2012 - 10-2-2012; SAN JOSE; (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-H0132, 21 January 2012 (2012-01-21), XP030111159, abstract sections 1 and 3 -----	1-9, 27-30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/021450

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.:
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.:

1-9, 27-30

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: 1-9, 27-30

Indicating via a flag whether the adaptation parameters are conveyed in the slice header or dedicated network abstraction layer.

2. claims: 10-24

Deciding whether the adaptation parameters are conveyed in the slice header or dedicated network abstraction layer based on a threshold, frequency of use as reference picture, quantization parameters or long-term reference pictures.

3. claims: 25, 26, 31-34

Decoupling a region of interest (ROI) slice from other slices by different signaling of adaptation parameters.
