

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
23 April 2009 (23.04.2009)

PCT

(10) International Publication Number  
WO 2009/051719 A3

- (51) International Patent Classification:  
H04N 7/46 (2006.01) H04N 7/26 (2006.01)
- (21) International Application Number:  
PCT/US2008/011756
- (22) International Filing Date: 15 October 2008 (15.10.2008)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/980,297 16 October 2007 (16.10.2007) US
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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, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

- Published:
  - with international search report
  - before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:  
9 July 2009

(54) Title: METHODS AND APPARATUS FOR VIDEO ENCODING AND DECODING GEOMETRICALLY PARTITIONED SUPER BLOCKS

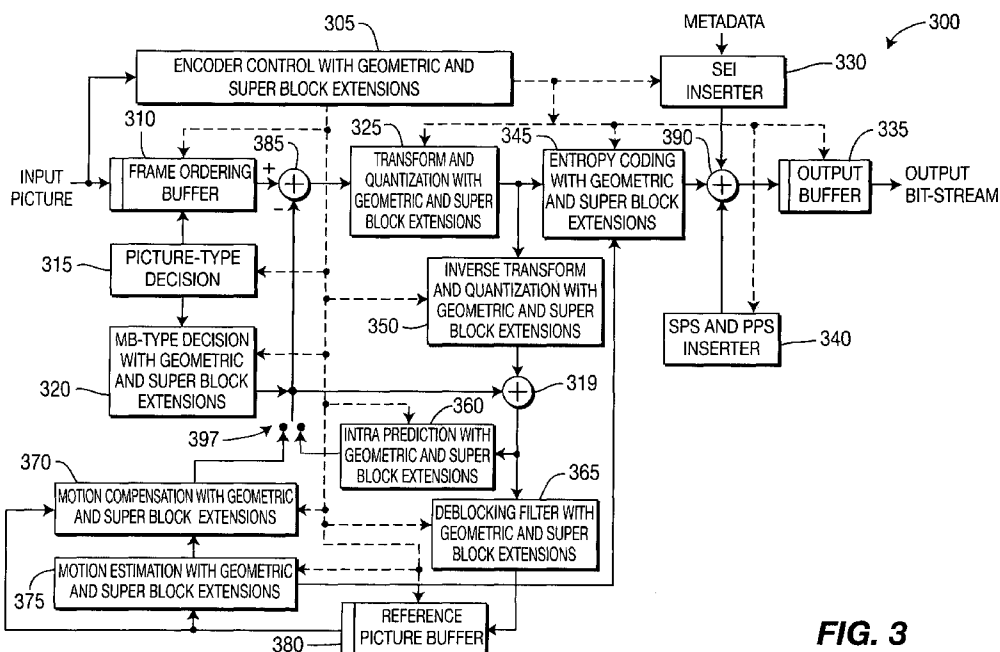


FIG. 3

(57) Abstract: There are provided methods and apparatus for video encoding and decoding geometrically partitioned super blocks. An apparatus includes an encoder (300) for encoding image data for at least a portion of a picture. The image data is formed by a geometric partitioning that applies geometric partitions to picture block partitions. The picture block partitions are obtained from at least one of top-down partitioning and bottom-up tree joining.

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**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/US2008/011756

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. H04N7/46 H04N7/26

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 practical, search terms used)

EPO-Internal, WPI Data, COMPENDEX, INSPEC

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KONDO S ET AL: "A motion compensation technique using sliced blocks and its application to hybrid video coding" VISUAL COMMUNICATIONS AND IMAGE PROCESSING; 12-7-2005 - 15-7-2005; BEIJING,, 12 July 2005 (2005-07-12), XP030080839 paragraphs [000I], [00II]; figures 1-3  ----- -/--	1-33

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Date of the actual completion of the international search

18 May 2009

Date of mailing of the international search report

27/05/2009

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International application No

PCT/US2008/011756

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>KONDO S ET AL: "A Motion Compensation Technique Using Sliced Blocks In Hybrid Video Coding"            IMAGE PROCESSING, 2005. ICIP 2005. IEEE INTERNATIONAL CONFERENCE ON GENOVA, ITALY 11-14 SEPT. 2005, PISCATAWAY, NJ, USA, IEEE;            vol. 2, 11 September 2005 (2005-09-11), pages 305-308, XP010851050            ISBN: 978-0-7803-9134-5            paragraphs [0001], [0002]; figures 1,2</p>	1-33
X	<p>EDSON M HUNG ET AL: "On Macroblock Partition for Motion Compensation"            IMAGE PROCESSING, 2006 IEEE INTERNATIONAL CONFERENCE ON, IEEE, PI,            1 October 2006 (2006-10-01), pages 1697-1700, XP031048982            ISBN: 978-1-4244-0480-3            paragraphs [0002] - [0004]; figures 1,3</p>	1-33
X	<p>GBP OSCAR DIVORRA ET AL:            "Geometry-adaptive Block Partitioning"            JOINT VIDEO TEAM (JVT) OF ISO/IEC MPEG &amp; ITU-T VCEG(ISO/IEC JTC1/SC29/WG11 AND ITU-T SG16 Q6), XX, XX, no. VCEG-AF10,            19 April 2007 (2007-04-19), XP030003531            paragraphs [0001], [0003]; figures 3,4</p>	1-33
X	<p>DIVORRA ESCODA ET AL: "Geometry-Adaptive Block Partitioning for Video Coding"            INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNALPROCESSING, XX, XX,            vol. 1, 1 January 1900 (1900-01-01), pages I-657, XP007904123            paragraph [0003]; figures 2,3</p>	1-33
X	<p>CONGXIA DAI ET AL: "Geometry-Adaptive Block Partitioning for Intra Prediction in Image&amp;Video Coding"            IMAGE PROCESSING, 2007. ICIP 2007. IEEE INTERNATIONAL CONFERENCE ON, IEEE, PI,            1 September 2007 (2007-09-01), pages VI-85, XP031158268            ISBN: 978-1-4244-1436-9            paragraphs [0002], [0003]; figures 1-3</p> <p style="text-align: center;">-/--</p>	1-33

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International application No

PCT/US2008/011756

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>DIVORRA O ET AL: "Hierarchical B-frame results on geometry-adaptive block partitioning"  33. VCEG MEETING; 83. MPEG MEETING;  12-1-2008 - 13-1-2008; ANTALYA; (VIDEO CODING EXPERTS GROUP OF ITU-T SG.16),, no. VCEG-AH16, 11 January 2008 (2008-01-11), XP030003554  paragraph [0001]</p> <p style="text-align: center;">-----</p>	1-33
A	<p>CHANG H-H ET AL: "EDGE-BASED MOTION ESTIMATION AND REGION-BASED CONTOUR TRACING FOR VERY LOW BIT RATE VIDEO CODING"  JOURNAL OF ELECTRONIC IMAGING, SPIE / IS &amp; T,  vol. 7, no. 1,  1 January 1998 (1998-01-01), pages 127-135, XP000732633  ISSN: 1017-9909  paragraph [0002]; figure 10</p> <p style="text-align: center;">-----</p>	1-33
A	<p>BRONSHEIN I N ET AL: "HANDBOOK OF MATHEMATICS, PASSAGE"  HANDBOOK OF MATHEMATICS, SPRINGER, BERLIN,  1 January 2004 (2004-01-01), pages 194-195, XP002492447  ISBN: 978-3-540-43491-7  the whole document</p> <p style="text-align: center;">-----</p>	1-33
A	<p>RUHL G: "Simulation eines Verfahrens zur Bewegungsschätzung und -segmentierung in digitalen Bildsequenzen unter Verwendung eines Blockverzerrungsmodells, Approximation durch Geraden"  SIMULATION EINES VERFAHRENS ZUR BEWEGUNGSSCHÄTZUNG UND -SEGMENTIERUNG IN DIGITALEN BILDSEQUENZEN UNTER VERWENDUNG EINES BLOCKVERZERRUNGSMODELLS, TECHNISCHE UNIVERSITÄT BERLIN, INSTITUT FÜR FERNMELDETECHNIK,  1 February 1996 (1996-02-01), pages 28-45, XP002492446  the whole document</p> <p style="text-align: center;">-----</p>	1-33