

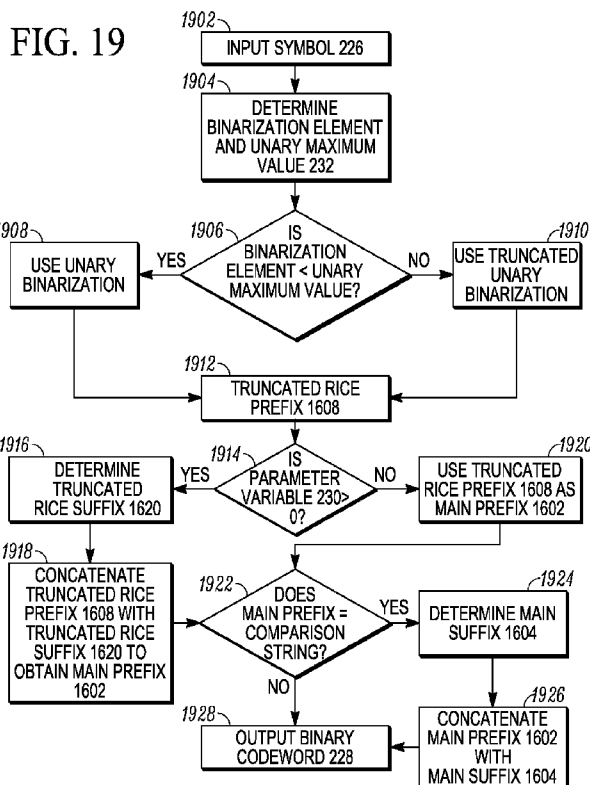


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- (71) **Applicant:** MOTOROLA MOBILITY LLC [US/US];
600 North US Highway 45, Libertyville, IL 60048 (US).
- (72) **Inventors:** LOU, Jian; 5240 Fiore Ter, Apt #413, San
Diego, California 92122 (US). WANG, Limin; 13641
Shoal Summit Drive, San Diego, California 92128 (US).
- (74) **Agents:** WARD, Thomas et al.; 600 North US Highway
45, Libertyville, Illinois 60048 (US).

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[Continued on next page]

(54) **Title:** METHOD OF DETERMINING BINARY CODEWORDS FOR TRANSFORM COEFFICIENTS

(57) **Abstract:** A system is provided for determining a binary codeword for a symbol representing a transform coefficient within transform units (TUs) that divide up coding units (CUs) in a High Efficiency Video Coding (HEVC) system. The system determines a truncated rice prefix and, when a parameter variable is greater than zero, determines a truncated rice suffix for the symbol. The system determines a main prefix either from the truncated rice prefix alone, or from a combination of the truncated rice prefix and the truncated rice suffix. When the main prefix is the same as a comparison string, the system also determines a main suffix. The system determines the final binary codeword for the symbol either from the main prefix alone, or from a combination of the main prefix and the main suffix.

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- *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))*

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/064236

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04N7/30 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, 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	TUNG NGUYEN ET AL: "Reduced-complexity entropy coding of transform coefficient levels using truncated golomb-rice codes in video compression", IMAGE PROCESSING (ICIP), 2011 18TH IEEE INTERNATIONAL CONFERENCE ON, IEEE, 11 September 2011 (2011-09-11), pages 753-756, XP032080600, DOI: 10.1109/ICIP.2011.6116664 ISBN: 978-1-4577-1304-0	1-3,7-9, 11,12, 16-18
Y	sections 3-5, in particular section 3 with tables 1 and 2 ----- -/--	4-6,10, 13-15, 19,20



Further documents are listed in the continuation of Box C.



See patent family annex.

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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
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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	NGUYEN T ET AL: "Reduced-complexity entropy coding of transform coefficient levels using a combination of VLC and PIPE", 4. JCT-VC MEETING; 95. MPEG MEETING; 20-1-2011 - 28-1-2011; DAEGU; (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-D336, 16 January 2011 (2011-01-16), XP030008375, ISSN: 0000-0013	1-3,7-9, 11,12, 16-18
Y	section 2 with figure 3 and tables	4-6,10, 13-15, 19,20
Y	----- BROSS B ET AL: "WD4: Working Draft 4 of High-Efficiency Video Coding", 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-F803, 8 September 2011 (2011-09-08), XP030009800,	4-6, 13-15, 19,20
A	sections 9.3.2.2-4 and 9.3.2.10	1-3, 7-12, 16-18
Y	----- NGUYEN (FRAUNHOFER HHI) T: "CE11: Coding of transform coefficient levels with Golomb-Rice codes", 20110310, no. JCTVC-E253, 10 March 2011 (2011-03-10), XP030008759, ISSN: 0000-0007	10
A	sections 1 and 2	1-9, 11-20
T	----- JOEL SOLE ET AL: "Transform Coefficient Coding in HEVC", IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 22, no. 12, 1 December 2012 (2012-12-01), pages 1765-1777, XP011487805, ISSN: 1051-8215, DOI: 10.1109/TCSVT.2012.2223055 section VI, in particular VI.b with figure 5 and table V -----	