

(51) International Patent Classification:
H04N 7/12 (2006.01) *H04N 7/24* (2006.01)(21) International Application Number:
PCT/KR2010/002244(22) International Filing Date:
12 April 2010 (12.04.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2009-0031903 13 April 2009 (13.04.2009) KR(71) Applicants (for all designated States except US): **SAM-SUNG ELECTRONICS CO., LTD.** [KR/KR]; 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 442-742 (KR). **KOREA UNIVERSITY RESEARCH AND BUSINESS FOUNDATION** [KR/KR]; 1, Anam-dong 5-ga, Seongbuk-gu, Seoul 136-713 (KR).(72) Inventors: **KIM, Sung-Kee**; 453, Solbitmaeul Ssangyong Sweet Dot Homeyega APT., Bansong-dong, Hwaseong-si, Gyeonggi-do 445-752 (KR). **PARK, Tae-Sung**; #533-507, Sinan APT., Yeongtong-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do 443-470 (KR). **KO, Sung-Jae**; #Na-304, Bangbae Samho APT., 725, Bangbae-dong,Seocho-gu, Seoul 137-759 (KR). **NAM, Hyeong-Min**; 39, Anam-dong 4-ga, Seongbuk-gu, Seoul 136-074 (KR).(74) Agent: **LEE, Keon-Joo**; Mihwa Bldg. 110-2, Myongryun-dong 4-ga, Chongro-gu, Seoul 110-524 (KR).

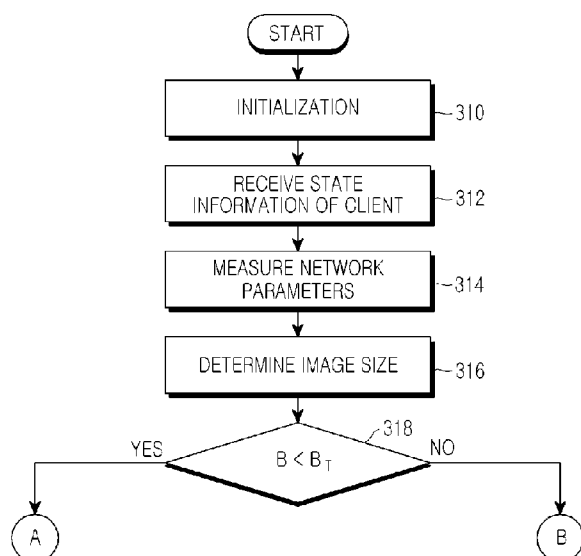
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, GM, KE, LR, 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, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: CHANNEL ADAPTIVE VIDEO TRANSMISSION METHOD, APPARATUS USING THE SAME, AND SYSTEM PROVIDING THE SAME

[Fig. 3]



(57) Abstract: A video transmission method is provided, which includes receiving state information from at least one mobile terminal that intends to perform a video stream service through a wireless network, determining a size of an image by selecting a specified spatial layer bit stream on the basis of the state information of the mobile terminal from a plurality of spatial layer bit streams generated at different bit rates during encoding of the bit stream, selecting a specified time and an SNR layer bit stream by increasing or decreasing time of the image and a layer position of the SNR layer bit stream on the basis of network parameters included in the state information of the mobile terminal, and transmitting the bit stream generated by extracting the specified layer bit stream of the selected layer to the mobile terminal.

**Published:****(88) Date of publication of the international search report:**

23 December 2010

- *with international search report (Art. 21(3))*
- *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))*

A. CLASSIFICATION OF SUBJECT MATTER***H04N 7/12(2006.01)i, H04N 7/24(2006.01)i***

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 7/12; H04N 7/24; H04N 7/173; H04N 7/16; H04L 12/56

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: scalable coding, mobile, transmission

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2005-0166245 A1 (SHIN, SUNG-CHOL; LEE, BAE-KEUN) 28 July 2005 See abstract, [0061]-[0068], claims 1,2,6,7, figure 3.	1,5,12 2-4,6-11,13
A	KR 10-2007-0039459 A (ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE; RESEARCH AND INDUSTRIAL COOPERATION GROUP) 12 April 2007 See abstract, claims 1,20,25,44, figure 1.	1-13
A	KR 10-2005-0077874 A (SAMSUNG ELECTRONICS CO., LTD.) 04 August 2005 See abstract, page 3 paragraph 5, claims 1,3.	1-13
A	EP 1478181 A1 (SONY CORPORATION) 17 November 2004 See abstract, [0056]-[0058], [0073],[0094]-[0095],[0156],[0177]-[0178].	1-13



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 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

27 OCTOBER 2010 (27.10.2010)

Date of mailing of the international search report

27 OCTOBER 2010 (27.10.2010)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-
gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

CHOI, Seong Jin

Telephone No. 82-42-481-8366



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/KR2010/002244

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005-0166245 A1	28.07.2005	CN 1906938 A CN 1906938 C0 KR 10-2005-0077874 A WO 2005-074277 A1	31.01.2007 31.01.2007 04.08.2005 11.08.2005
KR 10-2007-0039459 A	12.04.2007	CN 101283596 A CN 101283596 A0 EP 1932354 A1 JP 2009-510966 A US 2008-0247460 A1 WO 2007-043770 A1	08.10.2008 08.10.2008 18.06.2008 12.03.2009 09.10.2008 19.04.2007
KR 10-2005-0077874 A	04.08.2005	CN 1906938 A CN 1906938 C0 US 2005-0166245 A1 WO 2005-074277 A1	31.01.2007 31.01.2007 28.07.2005 11.08.2005
EP 1478181 A1	17.11.2004	CN 100359945 C0 CN 1636400 A CN 1636400 C0 EP 1478181 A4 JP 04-150951 B2 JP 2003-244676 A KR 10-2004-0083528 A US 2005-0244070 A1 US 7639882 B2 WO 03-071801 A1	02.01.2008 06.07.2005 02.01.2008 07.01.2009 17.09.2008 29.08.2003 02.10.2004 03.11.2005 29.12.2009 28.08.2003