

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
23 February 2006 (23.02.2006)

PCT

(10) International Publication Number
WO 2006/020320 A3

(51) International Patent Classification:
H04N 7/167 (2006.01)

(21) International Application Number:
PCT/US2005/025728

(22) International Filing Date: 19 July 2005 (19.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/914,478 9 August 2004 (09.08.2004) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:
US 10/914,478 (CON)
Filed on 9 August 2004 (09.08.2004)

(71) Applicant (for all designated States except US): **COMCAST CABLE HOLDINGS, LLC** [US/US]; 34th Floor, 1500 Market Street, Philadelphia, PA 19102-2148 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FAHRNY, James, William** [US/US]; 1829 South Pueblo Boulevard, #335, Pueblo, CO 81005 (US). **COMPTON, Charles, L.** [US/US]; 930 Academy Lane, Bryn Mawr, PA 19010 (US).

(74) Agents: **MANSFIELD, Stephanie, M.** et al.; Brooks Kushman, Twenty-Second floor, 1000 Town Center, Southfield, MI 48075 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US (patent), UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

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:
14 June 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM AND METHOD FOR REDUCED HIERARCHY KEY MANAGEMENT

(57) Abstract: A controller for managing media stream decryption keys includes a media decryption engine, a table, and a content key list. The media decryption engine receives an encrypted media stream from a headend and presents a decrypted media stream to a receiving device in response to a decryption key, wherein the decryption key is a function of a content key. The table contains a content key index and a plurality of corresponding content keys. Content keys that correspond to a particular encrypted media stream are selected from the content key list using an index from the content key table, and that is referenced by an identifier received from a headend in connection with the encrypted media stream.

WO 2006/020320 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/25728

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **H04N 7/167(2006.01)**

USPC: 725/31;380/200,239,242
 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)
 U.S. : 725/31;380/200,239,242

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)
 EAST

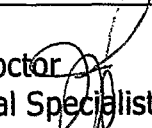
C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/0002577 A1 (Pinder) Jan 2, 2003 (2.1. 2003), abstract, paragraph [0001], [0008]-[0010], [0072]-[0074], [0098]-[0136]	1-22
Y	US 2003/0123667 A1 (Weber et al.) 3 July 2003 (3.7.2003), abstract, fig. 2, 4, 5, paragraph [0001], [0031]-[0051]	1-22

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	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 07 March 2007 (07.03.2007)	Date of mailing of the international search report 26 APR 2007
---	--

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer April Shan Telephone No. (571) 270-1014	Jean Proctor  Paralegal Specialist
---	--	---