(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 28 December 2006 (28.12.2006) (10) International Publication Number WO 2006/137006 A3

(51) International Patent Classification: *H04N 13/00* (2006.01)

(21) International Application Number:

PCT/IB2006/051972

(22) International Filing Date: 20 June 2006 (20.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

05105621.6 23 June 2005 (23.06.2005) EF

(71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): FUNKE, Eric, P. [NL/NL]; C/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BEEKERS, Henricus, E., W. [NL/BE]; C/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BRASPENNING, Ralph [NL/NL]; C/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). VERBURGH, Reinout [BE/BE]; C/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agents: GROENENDAAL, Antonius, W., M. et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (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, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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, 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).

Declaration under Rule 4.17:

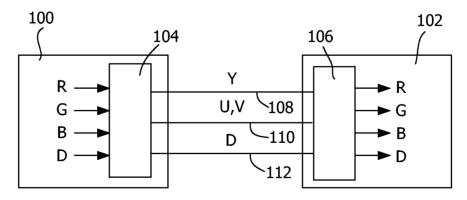
 as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

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: 12 April 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: TRANSMISSION OF 3D IMAGE USING 2D IMAGE AND DEPTH DATA



(57) Abstract: A method of combined exchange of image data and related depth data is disclosed. The method comprises: converting an input image signal, representing the image data, comprising a predetermined number of input color components (R,G,B) into an output image signal comprising a luminance component and a chrominance component; combining the output signal with the related depth data into a combined signal, comprising the luminance component, the chrominance component and a depth component (D) which is based on the depth data; and transmission of the combined signal over a number of channels (108-112) which is equal to the predetermined number of input color components (R,G,B).



/137006 A3 ||||||||||||

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2006/051972

A. CLASSIFICATION OF SUBJECT MATTER INV. H04N13/00								
	o International Patent Classification (IPC) or to both national classification	ation and IPC						
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols)								
HU4N	HO4N							
Documentat	ion searched other than minimum documentation to the extent that s	uch documents are included in the fields se	arched					
Electronic d	ata base consulted during the international search (name of data bas	se and, where practical, search terms used,						
EPO-In	ternal							
C. DOCUM	ENTS CONSIDERED TO BE RELEVANT							
Category*	Citation of document, with indication, where appropriate, of the rele	evant passages	Relevant to claim No.					
Х	US 2003/146883 A1 (ZELITT SHELDON	1-10						
	7 August 2003 (2003-08-07)	<u>•</u> · · · • ·	11					
Υ	abstract paragraphs [0057], [0059]	11						
	paragraphs [0068] - [0070]							
	paragraphs [0081] - [0083]; figures 11,12 claims 32,33,36							
		-/	:					
;								
<u> </u>								
		,						
	·	•	i					
X Furti	her documents are listed in the continuation of Box C.	X See patent family annex.						
ļ '	ategories of cited documents :	"T" later document published after the inte						
"A" document defining the general state of the art which is not considered to be of particular relevance or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention								
filing o	document but published on or after the international late ant which may throw doubts on priority claim(s) or	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						
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								
"O" document referring to an oral disclosure, use, exhibition or other means document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.								
later ti		"&" document member of the same patent	document member of the same patent family					
Date of the	Date of the actual completion of the international search Date of mailing of the international search report							
2	9 January 2007	08/02/2007						
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2		Authorized officer						
	NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016	Mao, Pauline						

INTERNATIONAL SEARCH REPORT

International application No PCT/IB2006/051972

C/Continue	ition). DOCUMENTS CONSIDERED TO BE RELEVANT	FC1/1B2000/0519/2
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	REDERT A ET AL: "Synthesis of multiviewpoint images at non-intermediate positions" ACOUSTICS, SPEECH, AND SIGNAL PROCESSING, 1997. ICASSP-97., 1997 IEEE INTERNATIONAL CONFERENCE ON MUNICH, GERMANY 21-24 APRIL 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, vol. 4, 21 April 1997 (1997-04-21), pages 2749-2752, XP010225725 ISBN: 0-8186-7919-0 cited in the application the whole document	11
A	DE 196 19 598 A1 (DEUTSCHE TELEKOM AG [DE]) 20 November 1997 (1997-11-20) abstract column 2, lines 35,36	1-10
A	US 5 193 000 A (LIPTON LENNY [US] ET AL) 9 March 1993 (1993-03-09) abstract	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2006/051972

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 2003146883	A1	07-08-2003	NONE		
DE 19619598	A1	20-11-1997	WO	9743863 A1	20-11-1997
US 5193000	Α	09-03-1993	US	5416510 A	16-05-1995