(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 7 February 2008 (07.02.2008)

- (51) International Patent Classification: GlOL 19/14 (2006.01) GlOL 19/02 (2006.01)
- (21) International Application Number:
- PCT/US2007/074898
- 31 July 2007 (31.07.2007) (22) International Filing Date:
- (25) Filing Language: English
- (26) Publication Language: English (30) Priority Data:
- 60/834,674 31 July 2006 (31.07.2006) US 11/674,745 14 February 2007 (14.02.2007) US
- (71) Applicant (for all designated States except US): QUAL-COMM Incorporated [US/US]; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, CA 92121 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): KRISHNAN, Venkatesh [IN/CA]; 10930 Caminito Alvarez, San Diego, CA 92126 (US). KANDHADAI, Ananthapadmanabhan A. [IN/US]; 12526 Heatherton Court, #183, San Diego, CA 92128 (US).
- (74) Agents: BACHAND, Richard A. et al; Attn: International Ip Administration, 5775 Morehouse Drive, San Diego, CA 92121 (US).

(10) International Publication Number

# WO 2008/016945 A3

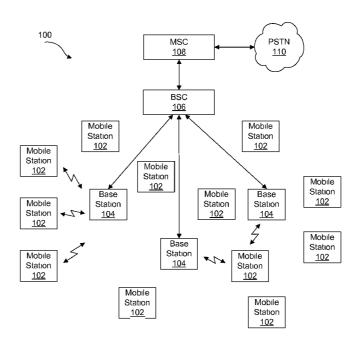
- (81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, 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, 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, HU, IE, IS, IT, LT, LU, LV, MC, MT, 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(U))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(Ui))

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR MODIFYING A WINDOW WITH A FRAME ASSOCIATED WITH AN AUDIO SIGNAL



(57) Abstract: A method for modifying a window with a frame associated with an audio signal is described. A signal is received. The signal is partitioned into a plurality of frames. A determination is made if a frame within the plurality of frames is associated with a non-speech signal. A modified discrete cosine transform (MDCT) window function is applied to the frame to generate a first zero pad region and a second zero pad region if it was determined that the frame is associated with a non-speech signal. The frame is encoded. The decoder window is the same as the encoder window.

### **Published:**

— with international search report

(88) Date of publication of the international search report: 10 April 2008

## INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/074898

	G10L19/02 G10L19/14						
According to	o International Patent Classification (IPC) or to both national classifica	tion and IPC					
B. FIELDSS	EARCHED						
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$							
Documentatio	on searched other than minimum documentation b the extent that s	such documents are included in the fields se	arched				
Electronic da	ata base consulted during the International search (name of data bas	se and where practical, search terms used)					
EPO-Inte	ernal , WPI Data, IBM-TDB, INSPEC						
C DOCUME	NTS CONSIDERED TO BE RELEVANT						
Category*	Citation of document, with indication, where appropriate, of the rele	evant passages	Relevant to claim No				
Y	EP 1 278 184 A (MICROSOFT CORP [1 22 January 2003 (2003-01-22) paragraphs [0006], [0007], [001		1-22				
i	figure 2a						
γ	IWADARE M ET AL: "A 128 KB/S HI- CODEC BASED ON ADAPTIVE TRANSFORM WITH ADAPTIVE BLOCK SIZE MDCT" IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, IEEE SERVICE CENT PISCATAWAY, NJ, US, vol. 10, no. 1, January 1992 (199 pages 138-144, XP000462072 ISSN: 0733-8716 Pages 139-141, paragraph "Adaptiv Block-Size Selection Algorithm"	I CODING N FER, 92-01),	1-22				
X Furth	her documents are listed in the continuation of Box C	X See patent family annex	L- <u></u>				
* Special o	categories of cited documents						
<sup>1</sup> A <sup>1</sup> documer , conside <sup>1</sup> E* earlier o filing c "L" documer which citation	ant defining the general state of the art which is not ered to be of particular relevance document but published on or afterthe International date nt which may throw doubts on priority clatm(s) or is cited to establish the publication date of another n or other special reason (as specified)	<ul> <li>"T" later document published afterthe international filing date or priority date and not in conflict with the application but cited b understand the principle or theory underlying the invention</li> <li>"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to invention the special reason (as specified)</li> <li>"Y" later document published afterthe international "X" document of particular relevance, the claimed invention cannot be considered to inventive step when the</li> </ul>					
other "P <sup>1</sup> docume	ent referring to an oral disclosure, use, exhibition or means ant published prior to the international filing date but han the priority date claimed	<ul> <li>document is combined with one or mo ments, such combination being obviou in the art</li> <li>*&amp; document member of the same patent f</li> </ul>	s to a person skilled				
	and the priority date claimed actual completion ot the international search	Date of mailing of the international sear					
	3 December 2007	27/12/2007					
Name and	mailing address of the ISA/ European Patent Office, P B 5816 Patentlaa π Z	Authorized officer					
	NL - 2280 HV RIJSWIJk Tel (+31 ~70) 340-2040, Tx 31 651 epo nl, Fax (+31-70) 340-3016	Dobler, Ervin					

Form PCT/ISA/210 (second sheet) (April Z0O5)

1

## INTERNATIONAL SEARCH REPORT

International application No PCT/US2007/O74898

	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	
Categoiy*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2006/046546 A (MATSUSHITA ELECTRIC IND CO LTD [JP]; OSHIKIRI MASAHIRO) <u>4 May 2006 (2006-05-04.)</u> paragraphs [0001] - [0008]; figure 2 & EP 1 793 372 A (MATSUSHITA ELECTRIC IND CO LTD [OP]) 6 JUNE 2007 (2007-06-06)	1-22
A	BAUMGARTE F ET AL: "Binaural cue coding-part II: schemes and applications" IEEE TRANSACTIONS ON SPEECH AND AUDIO PROCESSING, IEEE SERVICE CENTER, NEW YORK, NY, US, vol. 11, no. 6, November 2003 (2003-11), pages 520-531, XPOIL104739 ISSN: 1063-6676 Pages 522-523, paragraph "A. Time-Frequency Transform"	1-22

IN	INTERNATIONAL SEARCH REPORT				International application No PCT/US2007/074898	
Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 1278184	A	22-01-2003	JP US	2003044097 2003004711		14-02-2003 02-01-2003
WO 2006046546	A	04-05-20M	£P_ KR	U933Z2- 20070068424		<b>96</b> _β <sub>§ -*2007</sub> . 29-06-2007
EP 1793372	A	06-06-2007	WO KR	2006046546 20070068424		04-05-2006 29-06-2007