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

(19) World Intellectual Property Organization

International Bureau

(43) International Publication Date 5 February 2009 (05.02.2009)





(10) International Publication Number WO 2009/018485 A3

- (51) International Patent Classification: G01V 1/24 (2006.01)
- (21) International Application Number:

PCT/US2008/071826

(22) International Filing Date:

31 July 2008 (31.07.2008)

(25) Filing Language:

English

(26) Publication Language:

English

US

(30) Priority Data:

60/963,135 2 August 2007 (02.08.2007) 12/171,864 11 July 2008 (11.07.2008)

DA LIMITED [CA/CA]; 525 - 3rd Avenue S.W., Calgary, Alberta T2P 0G4 (CA).

(71) Applicant (for CA only): SCHLUMBERGER CANA-

- (71) Applicant (for all designated States except CA, ST, US): GECO TECHNOLOGY B.V. [NL/NL]; Gevers Deynootweg 61, NL-2586 BJ S. Gravenhage (NL).
- (72) Inventor; and
- Inventor/Applicant (for US only): SHERRILL, Francis, G. [US/US]; 2717 Carson Drive, Katy, Texas 77493
- (74) Agent: YE, Liangang (Mark); WesternGeco L.L.C., US 10001 Richmond Avenue, Houston, Texas 77042 (US).
 - (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

[Continued on next page]

(54) Title: DYNAMICALLY ALLOCATING DIFFERENT NUMBERS OF BITS TO WINDOWS OF A SERIES REPRESENT-ING A SEISMIC TRACE

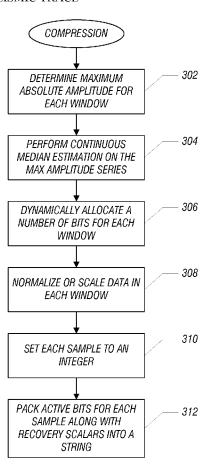


FIG. 3

(57) Abstract: To process seismic data, a set of data values representing a seismic trace is received, and amplitudes of data values associated with plural groups in the set are analyzed. Different numbers of bits are dynamically allocated to at least some of the groups of the set according to the analyzing.

AO, 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, ST, 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, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- 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))
- (88) Date of publication of the international search report: 25 March 2010

INTERNATIONAL SEARCH REPORT

International application No PCT/US2008/071826

A. CLASSIFICATION OF SUBJECT MATTER INV. G01V1/24

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) **G01V**

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 practical, search terms used)

EPO-Internal, INSPEC, COMPENDEX

C. DOCUMENTS CONSIDERED TO BE RELEVANT						
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.				
X	WO 2005/096016 A (SCHLUMBERGER TECHNOLOGY BV [NL]; SCHLUMBERGER SERVICES PETROL [FR]; SC) 13 October 2005 (2005-10-13) paragraphs [0001], [0006] - [0011], [0038], [0044], [0046], [0055], [0060]	1				
A	AVERBUCH A Z ET AL: "Low bit-rate efficient compression for seismic data" IEEE TRANSACTIONS ON IMAGE PROCESSING IEEE USA, vol. 10, no. 12, December 2001 (2001-12), pages 1801-1814, XP002562818 ISSN: 1057-7149 the whole document ————————————————————————————————————	1				

X Further documents are listed in the continuation of Box C.	X 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 document 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 another 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 13 January 2010	Date of mailing of the international search report 04/02/2010
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 Lorne, Benoît

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2008/071826

C(Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
1	P.DONOHO ET AL.: "High-performance seismic trace compression" PROC. SEG, 1995, pages 160-163, XP002562819 the whole document	1
1	US 4 359 608 A (WATSON BOBBY L ET AL) 16 November 1982 (1982-11-16) claim 1	1

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2008/071826

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 2005096016	A	13-10-2005	CA GB RU US	2561434 A1 2427945 A 2371741 C2 2005222775 A1	13-10-2005 10-01-2007 27-10-2009 06-10-2005
US 4359608	Α	16-11-1982	NONE		