(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 21 February 2008 (21.02.2008)

T (10) International Publication Number WO 2008/021387 A3

(51) International Patent Classification: *G06K 7/10* (2006.01)

(21) International Application Number:

PCT/US2007/018045

(22) International Filing Date: 16 August 2007 (16.08.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/838,151	17 August 2006 (17.08.2006)	US
60/838,152	17 August 2006 (17.08.2006)	US
60/838,153	17 August 2006 (17.08.2006)	US
60/838,155	17 August 2006 (17.08.2006)	US
60/838,201	17 August 2006 (17.08.2006)	US

- (71) Applicants and
- (72) Inventors: HOVIS, Gregory [US/US]; 355 Heath Way, Martinez, Georgia 30907 (US). RANSON, William [US/US]; 4015 Devereaux Road, Columbia, South Carolina 29205 (US). VACHON, Reginald [US/US]; 1414 Epping Forest Drive, Atlanta, Georgia 30319 (US).
- (74) Agents: JACOBSON, Harvey Jr. et al.; Jacobson Holman, PLLC, 400 Seventh Street, N.W., Washington, District Of Columbia 20004 (US).

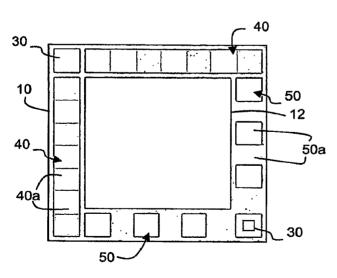
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, 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).

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:

 3 April 2008

(54) Title: MULTI-FORMAT, BINARY CODE SYMBOL FOR NON-LINEAR STRAIN MEASUREMENT



(57) Abstract: A binary code symbol for non-linear strain measurement that can be constructed in any geometric shape having a solid, continuous perimeter containing straight line segments. The symbol includes finder cells to "orient" the symbol in order to associate strain measurements with physical dimensions; and contains encoded data in "data regions" and/or "utility regions." The data and utility regions can be distinct and separate, combined, exclusive (i.e. data regions and no utility regions, or utility regions and no data regions), or omitted. The data "density" can be varied depending upon the application, by varying the number of distinct data or utility cells present in the data regions or utility regions.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 07/18045

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - G06K 7/10 (2007.10) USPC - 235/462.09 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) IPC(8)-G06K 7/10 (2007.10) USPC-235/462.09				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched USPC- 235/462.1; 235/494				
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PubWest (USPT, PG, PB, EPAB, JPAB); DialogPRO (Engineering); Google Scholar, IEEE Explore Search Terms Used: nonlinear strain, metrology, binary code, symmetry, symbology				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where ap	Relevant to claim No.		
Y	US 6,874,370 B1 (VACHON) 05 April 2005 (05.04.2005) (abstract)		1-25	
Υ	US 2006/0173638 A1 (HOVIS et al.) 03 August 2006 ((para [0022], [0045], [0049])	1-25		
Y	US 2004/0036853 A1 (VACHON et al.) 26 February 20 (para [0026], [0031], [0050], [0055]-[0056], [0060]-[006	8-25		
Further documents are listed in the continuation of Box C.				
* Special categories of cited documents: "T" later document published after the international filing date or priority				
"A" document defining the general state of the art which is not considered to be of particular relevance date and not in conflict with the application but cited to understand the principle or theory underlying the invention				
"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 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 being obvious to a person skilled in the art "P" document published prior to the international filing date but later than "&" document member of the same patent family				
Date of the actual completion of the international search Date of mailing of the international search report				
28 November 2007 (28.11.2007)		29 JAN 2008		
	nailing address of the ISA/US	Authorized officer:		
Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450				
Facsimile No. 571,273,3201		PCT Hetpdesk: 571-272-4300		