

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
8 February 2007 (08.02.2007)

PCT

(10) International Publication Number
WO 2007/016704 A3

- (51) **International Patent Classification:**
G09G 5/00 (2006.01)
- (21) **International Application Number:**
PCT/US2006/030571
- (22) **International Filing Date:** 1 August 2006 (01.08.2006)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
60/595,744 2 August 2005 (02.08.2005) US
- (71) **Applicant (for all designated States except US):** **IPIFINI, INC.** [US/US]; 14 Babe Ruth Drive, Suite 200, Sudbury, MA 01776 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **WOOLF, Tod, M.** [US/US]; 14 Babe Ruth Drive, Suite 200, Sudbury, MA 01776 (US). **MARKS, Andrew, S.** [US/US]; 47 Rice Road, Wayland, MA 01778 (US).
- (74) **Agents:** **WILLIAMS, Megan, E.** et al.; Lahive & Cockfield, LLP, One Post Office Square, Boston, MA 02109-2127 (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, 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.

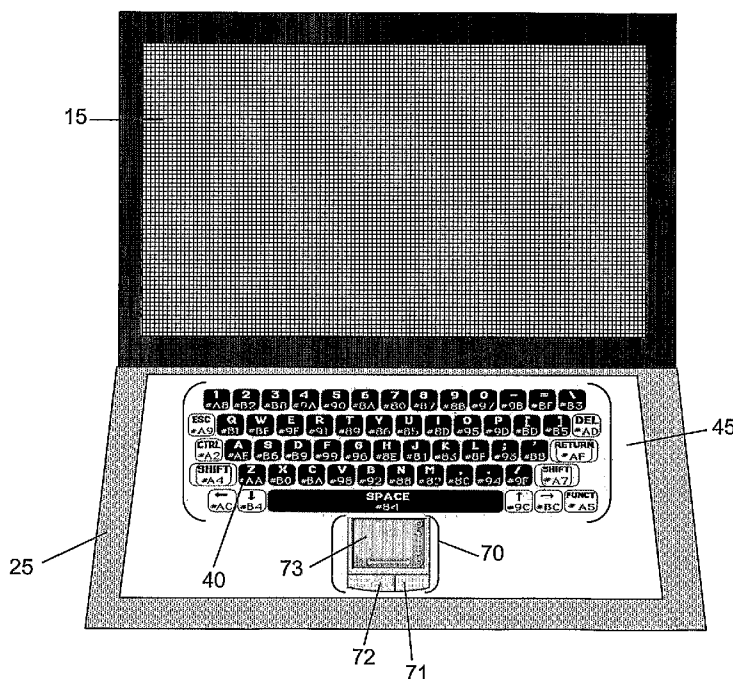
(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, 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).

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:**
10 May 2007

[Continued on next page]

(54) **Title:** INPUT DEVICE HAVING MULTIFUNCTIONAL KEYS



(57) **Abstract:** The invention relates to an input device having multifunctional keys, wherein the different functions are triggered by varying the pressure on the keys or by varying the depth to which the key is depressed or the distance it is moved (see figure 3). The input device requires substantially fewer keys than a standard qwerty keyboard to input data and requires less physical space. In certain instances the keyboard can be operated with one hand.

WO 2007/016704 A3



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.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/30571

A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **G09G 05/00**

USPC: 345/173,174,177,179,156-159,163,167,184;178/18.01-18.05
 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. : 345/173.174.177.179.156-159.163.167.184.; 178/18.01-18.05

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/0122779 A1 (Martin et al.) 03 July 2003 (03.07.2003) pages 1-3, paragraphs 9-22, pages 4,5, paragraphs 32-43, pages 6-9, paragraphs 53-76, pages 10, 11, paragraphs 77-90	1-34
Y	US 6,424,338 B1 (Anderson) 23 July 2002 (23.07.2002) Col. 1, Lines 4-56, Col. 5, Line 20 to Col. 6, Line 20 Col. 7, lines 2-67, Col. 8, Lines 49-67, Col. 9, Line 1 to Col. 10, Line 40, Col. 11, Line 16 to Col. 12, Line 67,	1,8-11,16-18,21,30-34
Y	US 2005/0093847 A1 (Altkorn et al.) 05 May 2005 (05.05.2005) p[age 1, paragraph 3, pages 2,3, paragraphs 11,32,37, pages 4,5, paragraphs 48-50, page 6, paragraphs 59,62,63, pages 7,8, paragraphs 82-87	1,7-18,32-34

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:		"T"	
"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: **13 January 2007 (13.01.2007)**

Date of mailing of the international search report: **08 MAR 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
Jacqueline A. Whitfield
 Prabodh M. Dharia
Special Project Asst.
 Telephone No. 571-272-7668