#### (19) World Intellectual Property Organization

International Bureau



## T TERRE BUILDING DE BUILD BUILD BERNE BUILD DE FAN BERNE BUILD BUILD BUILD BUILD BUILD BUILD BUILD BUILD BUILD

(43) International Publication Date 17 June 2004 (17.06.2004)

PCT

# (10) International Publication Number WO 2004/051451 A3

(51) International Patent Classification<sup>7</sup>: G06F 3/00, 3/033, 3/00, 3/033

(21) International Application Number:

PCT/IB2003/005499

(22) International Filing Date:

28 November 2003 (28.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/430,915 4 December 2002 (04.12.2002) US

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

(72) Inventor; and

(75) Inventor/Applicant (for US only): JANEVSKI, Angel [US/US]; P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).

(74) Common Representative: KONINKLIJKE PHILIPS ELECTRONICS N.V.; INTELLECTUAL PROPERTY & STANDARDS, c/o Belk, Michael, E., P.O. Box 3001, Briarcliff Manor, NY 10510-8001 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### **Declaration under Rule 4.17:**

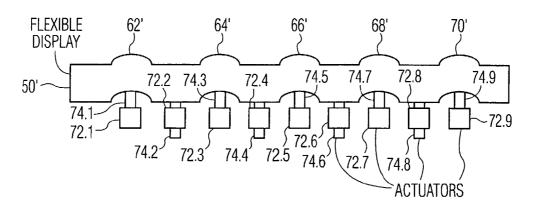
as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii)) for all designations

#### **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: 14 October 2004

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: GRAPHIC USER INTERFACE HAVING TOUCH DETECTABILITY



(57) Abstract: A control panel for a device which includes a graphical user interface (GUI) which displays several control icons that represent various control functions for the device. The control icons on the GUI have tactile detectability which is provided by either vibrotactile display, electrotactile display, or a combination of the two. A method of providing such a control panel is additionally disclosed.

) 2004/051451 A3 |||||||

#### INTERNATIONAL SEARCH REPORT

Intertional Application No PCT/IB 03/05499

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G06F3/00 G06F G06F3/033 G06F3/033 G06F3/00 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)  $IPC\ 7\ G06F$ 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, WPI Data C. DOCUMENTS CONSIDERED TO BE RELEVANT Category ° Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X WO 01/54109 A (IMMERSION CORP) 1 - 2026 July 2001 (2001-07-26) page 2, line 1 - page 3, line 12 Page 5, second paragraph page 7, line 1 - page 10, line 21 page 11, line 24 - line 39 page 13, line 4 - page 20, line 8 figures 1-8 claims 1,3,6,11,16,21-32,37 Further documents are listed in the continuation of box C. Patent family members are listed in annex. X ° Special categories of cited documents: \*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 "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to filing date 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) 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 docudocument referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. other means document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 30 July 2004 05/08/2004 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016 Butler, M

## INTERNATIONAL SEARCH REPORT

Internal Application No PCT/IB 03/05499

ation) DOCUMENTS CONSIDERED TO BE RELEVANT	PC1/1B 03/05499		
Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
US 2002/149561 A1 (SUGIMURA TOSHIAKA ET AL) 17 October 2002 (2002-10-17) paragraph '0007! paragraph '0146! - paragraph '0149! paragraph '0156! paragraph '0165! - paragraph '0167! paragraph '0177! paragraph '0270! - paragraph '0275! paragraph '0412! paragraph '0353! - paragraph '0355! figures 1-3,12,16,23,38,39,59,60,81	1-20		
US 5 717 423 A (PARKER DAVID N) 10 February 1998 (1998-02-10) column 2, line 32 - column 3, line 42 column 5, line 13 - line 29 column 6, line 40 - column 7, line 46 column 11, line 61 - column 12, line 15 column 15, line 48 - line 63 figures 1-18	1		
US 3 932 869 A (KANE GABRIEL) 13 January 1976 (1976-01-13) column 1, line 6 - line 43 column 4, line 24 - line 30 figures 8-10	8,12		
US 5 186 629 A (ROHEN JAMES E) 16 February 1993 (1993-02-16) column 2, line 27 - line 52 column 5, line 13 - line 21 column 6, line 12 - line 38	8,12		
EP 0 817 110 A (NOKIA MOBILE PHONES LTD) 7 January 1998 (1998-01-07) column 1, line 40 - column 2, line 54 column 5, line 44 - line 54 figures 1,2,5	1,12		
EP 1 293 882 A (TRW AUTOMOTIVE ELECTRON & COMP) 19 March 2003 (2003-03-19) paragraph '0001! paragraph '0004! paragraph '0006! paragraph '0009! - paragraph '0011! figures 1-4	1,12		
	US 2002/149561 A1 (SUGIMURA TOSHIAKA ET AL) 17 October 2002 (2002-10-17) paragraph '0007! paragraph '0146! - paragraph '0149! paragraph '0156! paragraph '0156! paragraph '0167! paragraph '0177! paragraph '0270! - paragraph '0275! paragraph '0353! - paragraph '0355! figures 1-3,12,16,23,38,39,59,60,81  US 5 717 423 A (PARKER DAVID N) 10 February 1998 (1998-02-10) column 2, line 32 - column 3, line 42 column 5, line 40 - column 7, line 46 column 11, line 61 - column 12, line 15 column 15, line 48 - line 63 figures 1-18  US 3 932 869 A (KANE GABRIEL) 13 January 1976 (1976-01-13) column 4, line 6 - line 43 column 4, line 24 - line 30 figures 8-10  US 5 186 629 A (ROHEN JAMES E) 16 February 1993 (1993-02-16) column 2, line 12 - line 38  EP 0 817 110 A (NOKIA MOBILE PHONES LTD) 7 January 1998 (1998-01-07) column 1, line 40 - column 2, line 54 column 5, line 44 - line 54 figures 1,2,5  EP 1 293 882 A (TRW AUTOMOTIVE ELECTRON & COMP) 19 March 2003 (2003-03-19) paragraph '0004! paragraph '0006! paragraph '0009! - paragraph '0011!		

## **INTERNATIONAL SEARCH REPORT**

Interitional Application No				
PCT/IB	03/05499			

					<del></del>
Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 0154109	A	26-07-2001	US AU WO US US US	2001035854 A1 2954301 A 0154109 A1 2003038776 A1 2004075676 A1 2002033795 A1	01-11-2001 31-07-2001 26-07-2001 27-02-2003 22-04-2004 21-03-2002
US 2002149561	A1	17-10-2002	JP AU AU CN EP WO	2002149312 A 770872 B2 7671901 A 1392977 T 1310860 A1 0212991 A1	24-05-2002 04-03-2004 18-02-2002 22-01-2003 14-05-2003 14-02-2002
US 5717423	Α	10-02-1998	NONE	-	
US 3932869	Α	13-01-1976	NONE		
US 5186629	Α	16-02-1993	CA	2068452 A1	23-02-1993
EP 0817110	Α	07-01-1998	FI EP JP	962692 A 0817110 A2 10097382 A	29-12-1997 07-01-1998 14-04-1998
EP 1293882	A	19-03-2003	DE DE EP ES JP US	10144634 A1 1293882 T1 1293882 A2 2194625 T1 2003108311 A 2003071795 A1	10-04-2003 27-11-2003 19-03-2003 01-12-2003 11-04-2003 17-04-2003