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Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

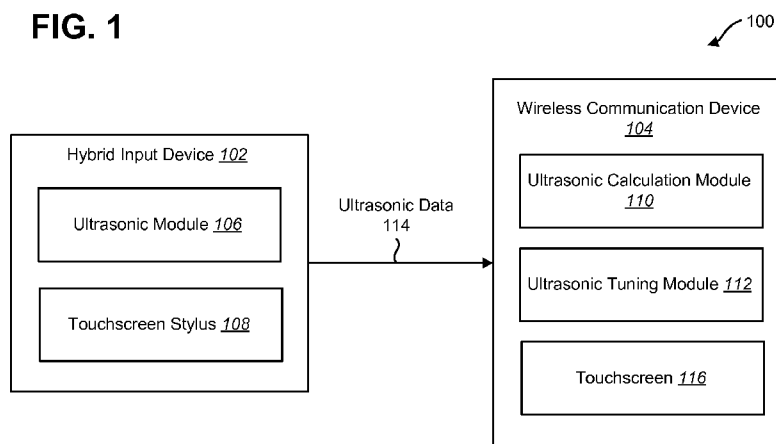
Published:

- *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:
18 December 2014

(54) Title: ULTRASONIC HYBRID INPUT DEVICE

FIG. 1



(57) Abstract: A hybrid input device is described. The hybrid input device includes a stylus for writing on a touchscreen, a writing instrument and a pressure sensor. The hybrid input device also includes an ultrasonic transmitter that transmits an ultrasonic data pattern. The hybrid input device also includes a control element that toggles ultrasonic functionality of the hybrid input device.

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INTERNATIONAL SEARCH REPORT

International application No PCT/US2014/018746

A. CLASSIFICATION OF SUBJECT MATTER INV. G06F3/043 B43K24/10 G06F3/0354 ADD.		
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) G06F B43K		
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) 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	US 2002/060665 A1 (SEKIGUCHI HIDENORI [JP] ET AL) 23 May 2002 (2002-05-23) paragraph [0005] paragraph [0095] - paragraph [0098] paragraph [0149] paragraph [0166] - paragraph [0172] -----	1-18
A	WO 2011/008533 A2 (LETO GERALD [US]) 20 January 2011 (2011-01-20) paragraph [0012] - paragraph [0015] paragraph [0018] - paragraph [0021] paragraph [0044] - paragraph [0047] -----	1-18
A	US 2002/130850 A1 (KOBAYASHI KATSUYUKI [JP] ET AL) 19 September 2002 (2002-09-19) paragraph [0028] - paragraph [0030] paragraph [0033] - paragraph [0034] paragraph [0090] - paragraph [0093] ----- -/--	1-18
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 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 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	Date of mailing of the international search report	
11 July 2014	28/10/2014	
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 Agante da Silva, P	

INTERNATIONAL SEARCH REPORT

International application No PCT/US2014/018746

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003/122803 A1 (CHUANG WEI-PIN [TW]) 3 July 2003 (2003-07-03) paragraph [0005] - paragraph [0011] paragraph [0018] - paragraph [0019] -----	1-18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/018746

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-18

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-18

Hybrid input device comprising a touchscreen stylus, a writing instrument, a pressure sensor and an ultrasonic transmitter that transmits an ultrasonic data pattern; and a control element that turns on or off ultrasonic functionality of the hybrid input device.

2. claims: 19-37

Tuning an ultrasonic tracking algorithm comprising: receiving touchscreen coordinate points and ultrasonic coordinate points; comparing the touchscreen coordinate points and ultrasonic coordinate points; and determining tuning parameters for the ultrasonic tracking algorithm based on the comparison.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2014/018746

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002060665 A1	23-05-2002	JP 3871524 B2 JP 2002215316 A US 2002060665 A1	24-01-2007 02-08-2002 23-05-2002

WO 2011008533 A2	20-01-2011	US 2012086664 A1 WO 2011008533 A2	12-04-2012 20-01-2011

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US 2003122803 A1	03-07-2003	NONE	
