

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
25 January 2007 (25.01.2007)

PCT

(10) International Publication Number  
**WO 2007/011937 A3**

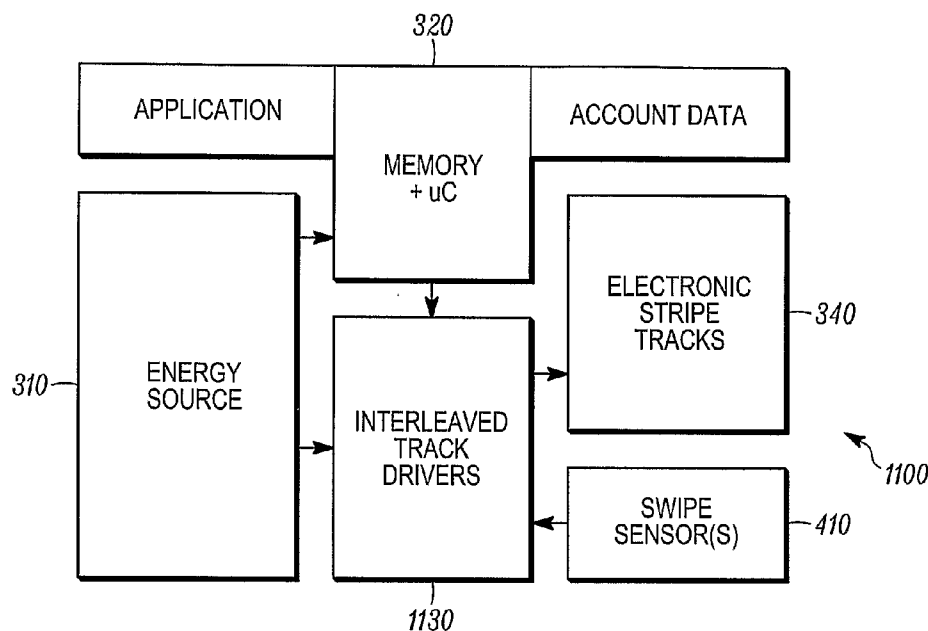
- (51) International Patent Classification:  
G06K 19/06 (2006.01) G06K 19/07 (2006.01)
- (21) International Application Number:  
PCT/US2006/027847
- (22) International Filing Date: 18 July 2006 (18.07.2006)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/700,089 18 July 2005 (18.07.2005) US  
60/700,200 18 July 2005 (18.07.2005) US  
60/700,248 18 July 2005 (18.07.2005) US
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- (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

[Continued on next page]

(54) Title: ELECTRONIC STRIPE CARDS



(57) Abstract: An electronic stripe card senses when it is being swiped passed a read head, and drives a conductive path to mimic a magnetic card track. Multiple conductive paths may be driven in an interleaved fashion one after another. The card may include multiple swipe sensors to detect when to start and stop driving the conductive paths. The conductive paths may include traces on a top metal layer and bottom metal layer without magnetic material therebetween.

WO 2007/011937 A3



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**(88) Date of publication of the international search report:**

19 July 2007

*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/US2006/027847

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. G06K19/06 G06K19/07

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)  
G06K

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/027030 A (HUMAN TECHNOLOGIES INC [JP]; KUROKAWA FUJIO [JP]; HIGUCHI TSUYOSHI [JP]) 24 March 2005 (2005-03-24)	1-5
Y	abstract figures 1-5,7,10,11	6-12
Y	WO 96/26500 A (PEEK GARRY [NZ]) 29 August 1996 (1996-08-29) page 1, line 20 - page 3, line 16 page 5, line 16 - page 10, line 11 claims 1,3 figures 2-4	6-12
A	US 6 039 260 A (EISELE RAYMUND [DE]) 21 March 2000 (2000-03-21) the whole document	1-12
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Further documents are listed in the continuation of Box C.

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

Date of mailing of the international search report

1 February 2007

29/03/2007

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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2006/027847

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2004/095169 A2 (OSTERWEIL JOSEF [US]; SHADMON MOSHE [US]) 4 November 2004 (2004-11-04) abstract paragraph [0042] - paragraph [0056] figures  -----	1-12

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2006/027847

## Box 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 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 fee, this Authority did not invite payment of any additional fee.
  
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.:

1-12

### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

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: 1-12

Independent apparatus claim 1 claims an electronic stripe card comprising a conductive path with two portions in sufficient distance to each other in order to allow the first portion to mimic a magnetic track without interference from a magnetic field from the second portion.

Independent apparatus claim 4 claims an electronic stripe card comprising two layers and a conductive path alternating between the two layers wherein the two path portions on the respective layers are in sufficient distance to each other in order to avoid magnetic interference.

The claims concern the problem of how to provide a magnetic track mimic using less material.

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2. claims: 13-23

Independent apparatus claim 13 claims an electronic stripe card having two conductive paths, each path to mimic a track in a magnetic card, further having a swipe sensor and an interleaved track driver circuit.

Independent method claim 19 claims a method comprising the step of detecting a swipe by swipe sensor and the step of interleaved driving first and second conductive paths to mimic a respective magnetic track.

Both claims concern the problem of how to save power in the reading mode and how to eliminate cross talk between two tracks.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2006/027847

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2005027030	A	24-03-2005	NONE	
WO 9626500	A	29-08-1996	AU 4498296 A	11-09-1996
US 6039260	A	21-03-2000	NONE	
WO 2004095169	A2	04-11-2004	NONE	