ELECTRONIC DATA CONNECTOR OF DATA STORAGE CARTRIDGE AND ASSOCIATED CARTRIDGE DRIVE

A data storage cartridge (12) comprising a hard drive and a cartridge housing. The hard drive includes a non-tape storage medium and an electronic data connector including a plurality of connection pads (116) for accessing the non-tape storage medium. The cartridge housing substantially encloses the hard drive. The plurality of connection pads (116) are transversely accessible by a cartridge drive, with plunger-like pins (120) to transversely contact the connection pads (116). Thus a non-sliding connection to prevent scratching is achieved. After an approach of the cartridge towards the pins (120) a motor may apply an additional load to achieve a proper contact.
INTERNATIONAL SEARCH REPORT

PCT/US2005/030495

A. CLASSIFICATION OF SUBJECT MATTER

INV. G11B33/12 HO1R23/26 HO1R13/22 HO1R13/24

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)

G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of database and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>US 2004/097122 A1 (GARRETT WILLIAM W ET AL) 20 May 2004 (2004-05-20) paragraph [0092]; figures 1A,2,4,5A</td>
<td>1,2,4,6, 10-12,16 5</td>
</tr>
<tr>
<td>Y</td>
<td>the whole document</td>
<td>7</td>
</tr>
</tbody>
</table>

☑ 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

*C* 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)

*D* document referring to an oral disclosure, use, exhibition or other means

*F* 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

9 February 2006

Date of mailing of the international search report

12 & 04, 2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 H-V Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

Authorized officer

Poth, H
INTERNATIONAL SEARCH REPORT

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. [X] Claims Nos.: 3, 13, 14
   because they relate to subject matter not required to be searched by this Authority, namely:
   see FURTHER INFORMATION sheet PCT/ISA/210

2. [X] Claims Nos.: 3, 13, 14
   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:
   see FURTHER INFORMATION sheet PCT/ISA/210

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. [X] 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, 2, 4–7, 10–12, 16

Remark on Protest

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

[ ] No protest accompanied the payment of additional search fees.
This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,4-7,10-12,16
   "Plunger pins"

2. claims: 8,9
   "Motor"

3. claim: 15
   "Transverse contact"

4. claims: 17-19
   "Zero-penetration"

5. claim: 20
   "Additional load"
Continuation of Box II.1

Claims Nos.: 3,13,14

The features of claims 3 and 13 stipulate an extension feature or a configured surface to prevent overloading or overdriving without reflecting constructional features for achieving those objects; this is not clear as the description relates to those objects in various different ways (e.g. p.13 1.23, p.14 1.15-19, p.17 1.30-p.18 1.2, p.19 1.14-19, p.20 1.25-p.22 1.10).

Continuation of Box II.2

Claims Nos.: 3,13,14

The features of claims 3 and 13 stipulate an extension feature or a configured surface to prevent overloading or overdriving without reflecting constructional features for achieving those objects; this is not clear as the description relates to those objects in various different ways (e.g. p.13 1.23, p.14 1.15-19, p.17 1.30-p.18 1.2, p.19 1.14-19, p.20 1.25-p.22 1.10).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.
<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
<th>Publication date</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 2004097122 A1</td>
<td>20-05-2004</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>US 2004098244 A1</td>
<td>20-05-2004</td>
<td>NONE</td>
<td></td>
</tr>
<tr>
<td>US 6079999 A</td>
<td>27-06-2000</td>
<td>NONE</td>
<td></td>
</tr>
</tbody>
</table>