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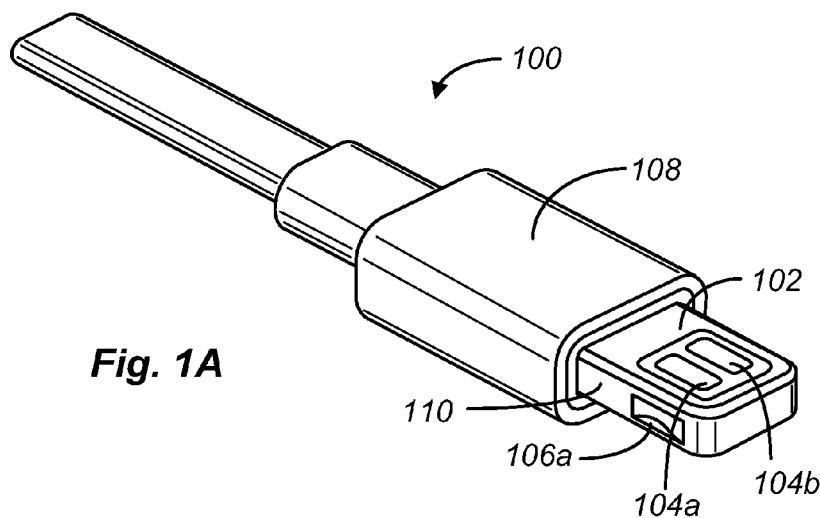


Fig. 1A

(57) Abstract: A plug connector (100) with external contacts (104a-d) is provided. The connector has one pair of contacts (104a, 104b) for transmitting data and one pair of contacts (104c, 104d) for receiving data. All data transmitted and received using the plug connector is serialized/de-serialized to enable data transmission at a very high rate. A corresponding receptacle connector (200) has configurable contacts (206(1)-206(4)) that are configured based on the orientation of the plug connector with respect to the receptacle connector. The receptacle connector may be included in a host device (400) and has associated circuitry (404) to detect orientation of the plug connector and to configure the contacts of the receptacle connector.



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/022795

A. CLASSIFICATION OF SUBJECT MATTER
INV. H01R29/00 H01R107/00
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)
H01R

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)

EP0-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 2006/024997 A1 (TEICHER MORDECHAI [IL]) 2 February 2006 (2006-02-02)	1-3
Y	figures 2g, 3a, 3f, 4a-ag paragraphs [0126], [0128], [0129] -----	4-6, 13, 14
Y	EP 2 034 423 A2 (APPLE INC [US]) 11 March 2009 (2009-03-11) figure 4 -----	4-6
X	W0 2009/069969 A2 (LEE MOON KEY [KR]) 4 June 2009 (2009-06-04) figures 2,6,7 table 4 paragraph [0070] - paragraph [0073] paragraph [0002] ----- -/--	7



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 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

1 August 2012

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INTERNATIONAL SEARCH REPORT

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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.:

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.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/022795

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2008/167828 A1 (TERLIZZI JEFFREY J [US] ET AL) 10 July 2008 (2008-07-10)	7-12
Y	figures 1-11 paragraphs [0027] - [0030] paragraphs [0009], [0038] -----	13,14
X	US 2010/080563 A1 (DIFONZO JOHN C [US] ET AL) 1 April 2010 (2010-04-01) figures 15-16 -----	7
X	US 6 908 340 B1 (SHAFFER MATTHEW S [US]) 21 June 2005 (2005-06-21)	15
Y	figure 1 -----	16-18
X	"1394b IEEE Standard for a High-Performance Serial Bus - Amendment 2", IEEE STANDARD; [IEEE STANDARD], IEEE, PISCATAWAY, NJ, USA, [Online] 6 March 2003 (2003-03-06), pages _1-369, XP017603568, ISBN: 978-0-7381-3253-2 Retrieved from the Internet: URL:http://ieeexplore.ieee.org/servlet/opac?punumber=8239>	15
Y	page 24, paragraph 3.10.4 page 55; figures 4-11AL; tables 4-11M -----	16-18
Y	EP 2 169 774 A1 (APPLE INC [US]) 31 March 2010 (2010-03-31) figure 6a -----	16-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/022795

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006024997 A1	02-02-2006	CN 101015096 A EP 1784896 A2 JP 2008508694 A KR 20070039956 A US 2006024997 A1 US 2007010115 A1 US 2007010116 A1 US 2007202725 A1 US 2008274633 A1 WO 2006013553 A2	08-08-2007 16-05-2007 21-03-2008 13-04-2007 02-02-2006 11-01-2007 11-01-2007 30-08-2007 06-11-2008 09-02-2006
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		W0 2010039712 A1	08-04-2010
		W0 2010039723 A1	08-04-2010

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 1-6

An electronic device including a circuitry determining the orientation of the connection of a plug into a receptacle

2. claims: 7-10

A method determining the type of plug connected into a receptacle

3. claims: 11-14

A method of reducing the number of contacts of a connector by the use of serialisation technique

4. claims: 15-18

An accessory including a bidirectional data connector
