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KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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**Declarations under Rule 4.17:**

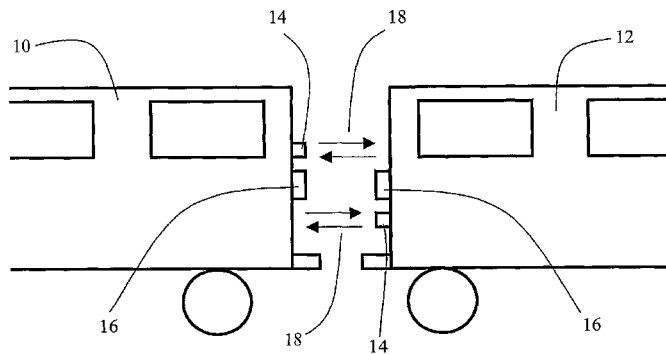
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

**Published:**

- with international search report (Art. 21(3))
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(88) Date of publication of the international search report:  
1 October 2009

(54) Title: METHOD AND APPARATUS FOR DETERMINING WHETHER COMPONENTS OF VEHICLES ARE COUPLED TOGETHER AND FOR INFORMATION TRANSMISSION BETWEEN THEM



**FIG. 4A**

(57) Abstract: According to an aspect of the invention, there is provided a method for determining whether first and second components of a vehicle are physically coupled together, the method comprising: transmitting a first signal from the first component of the vehicle; receiving a second signal from the second component of the vehicle; processing the second signal to determine whether the first and second components of the vehicle are coupled.

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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/GB2008/004194

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV., B61L15/00

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)  
B61L

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	EP 1 205 370 A (CIT ALCATEL [FR]) 15 May 2002 (2002-05-15)	1-2, 6, 8-20, 24, 28-37, 40-43, 76, 78-81
Y A	paragraphs [0001], [0006] - [0008], [0012], [0013]; figures 2,3	3-5, 7, 21-23, 25-27, 49, 77 38-39, 44-45
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Further documents are listed in the continuation of Box C.       See patent family annex.

\* Special categories of cited documents :

<p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p>	<p>*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</p> <p>*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</p> <p>*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.</p> <p>* &amp; * document member of the same patent family</p>
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Date of the actual completion of the international search  <b>16 July 2009</b>	Date of mailing of the international search report  <b>23/07/2009</b>
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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  <b>Massalski, Matthias</b>
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## INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2008/004194

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 40 27 186 A1 (ADCOUNT LTD [GB]) 7 March 1991 (1991-03-07)	1-2, 6, 8-20, 24-39, 42-45, 76, 78-81
Y A	column 1, line 34 - column 3, line 28; figures 1-6	3-5, 7, 21-23, 77 40-41
Y	----- US 2003/182030 A1 (KRAELING MARK BRADSHAW [US] ET AL) 25 September 2003 (2003-09-25) paragraphs [0002], [0006], [0020] - [0023], [0028] - [0030]; figures 1-4	3-5, 7, 77
Y	----- EP 1 403 162 A (DB REGIO AG [DE]) 31 March 2004 (2004-03-31) paragraphs [0001], [0005], [0006], [0010]; figure 1	21-23
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A	----- WO 2005/056362 A (WABTEC HOLDING CORP [US]; RING MICHAEL E [US]) 23 June 2005 (2005-06-23) page 11, line 14 - page 12, line 5	1-45, 76-81
A	----- WO 01/07310 A (HONEYWELL AG [DE]; SCHMISCHKE HORST [DE]; WIEGAND ROLF [DE]; KORTENHOE) 1 February 2001 (2001-02-01) page 2, line 5 - line 20 page 6, line 8 - line 18 figure 1	3-5
A, P	----- EP 1 914 146 A (SIEMENS AG [DE]) 23 April 2008 (2008-04-23) paragraphs [0009], [0012]	1-45, 76-81
X	----- US 5 450 226 A (KHAN JEHANZEB H [US] ET AL) 12 September 1995 (1995-09-12)	46-48, 51-54
Y	column 3, line 3 - column 5, line 27 figures 1-4	49-50
X A	----- WO 2007/118837 A1 (SIEMENS AG [DE]; GOEBEL STEFFEN [DE]) 25 October 2007 (2007-10-25) page 3, line 22 - page 5, line 35 line 33 - page 14, line 5; figures 1-6	55-56, 58-75 57
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## INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2008/004194

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 814 006 A1 (DEUTSCHE BAHN AG [DE]) 29 December 1997 (1997-12-29)	55-56, 58-64, 67-75
A	column 3, line 26 - column 4, line 59	57, 65-66
X	EP 1 065 128 A1 (DEUTSCHE BAHN AG [DE]) RAILION DEUTSCHLAND AG [DE]) 3 January 2001 (2001-01-03) paragraphs [0013] - [0022]; figures 1-3	55-75

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2008/004194

## 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 allsearchable 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.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

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

1. claims: 1-45, 76-81

Method, device and apparatus for determining whether components of vehicles are coupled together.  
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2. claims: 46-54

Method, device and apparatus for wirelessly transmitting information between components of vehicles.  
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3. claims: 55-75

Method, device and apparatus for transmitting information indicative of a properties of components of vehicles.  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/GB2008/004194
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