

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>TL-G04-11-13</b>	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. <b>PCT/JP2011/060731</b>	International filing date ( <i>day/month/year</i> ) <b>10 May 2011 (10.05.2011)</b>	Priority date ( <i>day/month/year</i> ) <b>11 May 2010 (11.05.2010)</b>	
International Patent Classification (8th edition unless older edition indicated) <b>See relevant information in Form PCT/ISA/237</b>			
Applicant <b>TELESYSTEMS Co., Ltd</b>			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 10 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																						
<input type="checkbox"/>	Box No. II	Priority																						
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																						
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention																						
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																						
<input type="checkbox"/>	Box No. VI	Certain documents cited																						
<input type="checkbox"/>	Box No. VII	Certain defects in the international application																						
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application																						

	Date of issuance of this report <b>10 December 2012 (10.12.2012)</b>
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  <b>Yukari Nakamura</b>
Facsimile No. +41 22 338 82 70	e-mail: pt07.pct@wipo.int

**PATENT COOPERATION TREATY**

**TRANSLATION**

From the  
INTERNATIONAL SEARCHING AUTHORITY

**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	<b>14.06.2011</b>
-------------------------------------	-------------------

Applicant's or agent's file reference <b>TL-G04-11-13</b>
--

<b>FOR FURTHER ACTION</b> See paragraph 2 below
--

International application No. <b>PCT/JP2011/060731</b>
---

International filing date (day/month/year) <b>10.05.2011</b>
---

Priority date (day/month/year) <b>11.05.2010</b>
---

International Patent Classification (IPC) or both national classification and IPC <b>A61B6/03 (2006.01) i, A61B6/02 (2006.01) i, A61B6/14 (2006.01) i</b>
--

Applicant <b>TELESYSTEMS Co., Ltd</b>
--

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2011/060731

**Box No. I**      **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
  - the international application in the language in which it was filed
  - a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2.  This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
  - a. (means)
    - on paper
    - in electronic form
  - b. (time)
    - in the international application as filed
    - together with the international application in electronic form
    - subsequently to this Authority for the purposes of search
4.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2011/060731

**Box No. IV**      **Lack of unity of invention**

1.  In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
- paid additional fees
  - paid additional fees under protest and, where applicable, the protest fee
  - paid additional fees under protest but the applicable protest fee was not paid
  - not paid additional fees
2.  This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- complied with
  - not complied with for the following reasons:  
  
[See supplemental box]

4. Consequently, this opinion has been established in respect of the following parts of the international application:

all parts

the parts relating to claims Nos. \_\_\_\_\_

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No. PCT/JP2011/060731
--

Box No. V	<b>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</b>																								
1. Statement	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; vertical-align: top; padding: 2px;">Novelty (N)</td> <td style="padding: 2px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table> </td> </tr> <tr> <td style="vertical-align: top; padding: 2px;">Inventive step (IS)</td> <td style="padding: 2px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table> </td> </tr> <tr> <td style="vertical-align: top; padding: 2px;">Industrial applicability (IA)</td> <td style="padding: 2px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table> </td> </tr> </table>	Novelty (N)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-21	YES	Claims		NO	Inventive step (IS)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-21	YES	Claims		NO	Industrial applicability (IA)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-21	YES	Claims		NO
Novelty (N)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-21	YES	Claims		NO																		
Claims	1-21	YES																							
Claims		NO																							
Inventive step (IS)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-21	YES	Claims		NO																		
Claims	1-21	YES																							
Claims		NO																							
Industrial applicability (IA)	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;">1-21</td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td style="padding: 2px;">Claims</td> <td style="border-bottom: 1px solid black; padding: 2px;"></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Claims	1-21	YES	Claims		NO																		
Claims	1-21	YES																							
Claims		NO																							
2. Citations and explanations:	<p>Claims 1-21</p> <p>None of the documents cited in the ISR discloses or suggests the following configuration set forth in the abovementioned claims. Therefore, the invention as in the abovementioned claims is novel and involves an inventive step.</p> <p>* The feature of providing a first calculation means for calculating distance information between a radiation source and a detector and height information for the aforementioned radiation source with respect to the aforementioned detector, on the basis of previously known marker position information and the position information for the aforementioned marker obtained from an image, and a second calculation means for calculating parameters that define positional relationships between the aforementioned radiation source, the aforementioned detector, and the tomographic plane in the imaging space, incorporating the amount of change in the position of a line, on the basis of the calculation results of the aforementioned first calculation means and data (claims 1-20).</p> <p>* The feature of providing a plurality of columns</p>																								

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2011/060731

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

respectively erected on the reference plane track generated by projecting the reference tomographic plane toward the base as a tomographic plane, and another track that is distanced from this reference plane track and follows that reference plane track (claim 21).

**Box No. VIII**      **Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1

Claim 1 recites a movement means for moving any of the radiation source and the detector, "the radiation source," or the aforementioned target, and recites using the aforementioned movement means to move the aforementioned radiation source and the aforementioned detector, "the detector," or the aforementioned target, but since these two recitations do not match, it is unclear if the movement means moves the radiation source or moves the detector.

Thus, the recitation of claim 1 lacks clearness within the meaning of PCT Article 6, second sentence.

Claim 2

Claim 2 recites "the aforementioned second calculation means," but since there is no recitation concerning a "second calculation means" in the portion prior to the recitation of claim 2, what is meant by "the aforementioned second calculation means" is unclear.

Thus, the recitation of claim 2 lacks clearness within the meaning of PCT Article 6, second sentence.

Claim 3

Claim 3 recites "the aforementioned calibration data" and "the aforementioned storage means," but since there is no recitation concerning "calibration data" or "a storage means" and the portion prior to the recitation of claim 3, what is meant by "the aforementioned calibration data" and "the aforementioned storage means" is unclear.

Thus, the recitation of claim 3 lacks clearness within the meaning of PCT Article 6, second sentence.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2011/060731

**Box No. VIII**      **Certain observations on the international application**

Claim 12

Claim 12 recites "the aforementioned position," but what position is meant is unclear.

Thus, the recitation of claim 12 lacks clearness within the meaning of PCT Article 6, second sentence.



**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: IV. 3

The matter common among the inventions in claims 1-21 is a "phantom having a marker." However, this common matter cannot be a special technical feature, since the common matter is disclosed in document JP 2007-136163 A (Axion Japan Co., Ltd.), 07 June 2007 cited in the ISR, and thus makes no contribution over the prior art. Therefore, this common matter is not a "special technical feature" in the meaning of PCT Rule 13.2, second sentence.

Thus, if limited to a comparison of claims 1-20 (the main invention) and the abovementioned prior art, the technical feature of the main invention is "provided with a first calculation means for calculating distance information between a radiation source and a detector and height information for the aforementioned radiation source with respect to the aforementioned detector, on the basis of previously known marker position information and position information for the aforementioned marker obtained from an image, and a second calculation means for calculating parameters that define positional relationships between the aforementioned radiation source, the aforementioned detector, and the tomographic plane in the imaging space, incorporating the amount of change in the position of a line, on the basis of the calculation results of the aforementioned first calculation means and data."

Also, if limited to a comparison of claim 21 (the second invention) and the abovementioned prior art, the technical feature of the second invention is "provided with a plurality of columns respectively erected on the reference plane track generated by projecting the reference tomographic plane toward the base as a tomographic plane, and another track that is

**Supplemental Box**

distanced from this reference plane track and follows said reference plane track."

There is no technical relationship involving one or more of the same or corresponding special technical features between the main invention and the second invention.

Therefore, this international application includes two inventions that do not satisfy the requirement of unity of invention.