

**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>07.08.2012</b>
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Applicant's or agent's file reference <b>PC-15309</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
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International application No. <b>PCT/JP2012/065738</b>	International filing date (day/month/year) <b>20.06.2012</b>	Priority date (day/month/year) <b>27.06.2011</b>
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International Patent Classification (IPC) or both national classification and IPC  
**H01L31/042 (2006.01) i**

Applicant  
**Sharp Kabushiki Kaisha**

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

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- 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
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- 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/JP2012/065738

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 43bis.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/JP2012/065738
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<b>Box No. V</b>	<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			
Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO
2. Citations and explanations:			
<p>Document 1: JP 2007-27150 A (HITACHI CHEMICAL CO., LTD.) 01 February 2007, fig. 1-6 &amp; WO 2004/114418 A1</p> <p>Document 2: JP 2011-503902 A (QUALCOMM MEMS TECHNOLOGIES, INC.) 27 January 2011, paragraph [0020], fig. 1-13 &amp; US 2009/0126792 A1 &amp; EP 2061092 A1 &amp; EP 2061093 A1 &amp; WO 2009/064701 A1 &amp; CN 101904016 A</p> <p>Document 3: JP 2005-19587 A (KURARAY CO., LTD.) 20 January 2005, claim 5, paragraph [0032]</p> <p>Document 4: JP 2007-103713 A (SHARP CORP.) 19 April 2007, paragraphs [0013], [0036], [0044]-[0046], fig. 2-7 &amp; US 2009/0050192 A1 &amp; WO 2007/040086 A1</p> <p>Document 5: JP 11-354824 A (SANYO ELECTRIC CO., LTD.) 24 December 1999, paragraphs [0022]-[0030], fig. 1-6</p> <p>Document 6: JP 2005-90889 A (KUROSAWA, Hideo) 07 April 2005, fig. 1, 2</p> <p>Document 7: JP 02-130430 A (OSATO, Yoshiyuki) 18 May</p>			

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2012/065738

**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

1990, page 2, upper left column to upper right column

Document 8: JP 11-046008 A (TOYOTA MOTOR CORP.) 16 February 1999, fig. 1

Document 9: JP 2010-205764 A (MITSUBISHI ELECTRIC CORP.) 16 September 2010, paragraph [0018], fig. 1-7

The invention as in claims 1-3 and 6-7 does not involve an inventive step in the light of document 1 or 2 cited in the ISR and document 3 cited in the ISR.

Regarding the invention as in claim 1, documents 1 and 2 do not disclose the tracking device set forth in claim 1, but document 3 indicates that a tracking device that causes a light converging member to rotate so as to follow the sun is provided. Therefore, taking document 3 into consideration, a person skilled in the art could easily configure the inventions disclosed in documents 1 and 2 so as to achieve the invention as in claim 1.

Regarding the invention as in claims 2-3, whether to rotate in accordance with annual motion or diurnal motion can be said to be a feature that a person skilled in the art could select as appropriate.

Regarding the invention as in claims 6-7, see document 1 or 2.

The invention as in claim 4 does not involve an inventive step in the light of documents 1 to 3 and document 4 cited in the ISR.

See the configuration of the control unit and drive unit disclosed in document 4.

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INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2012/065738

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The invention as in claim 5 does not involve an inventive step in the light of documents 1 to 3 and document 5 or 6 cited in the ISR.

See the configuration of the movable units disclosed in documents 5 and 6.

The invention as in claims 8-10 does not involve an inventive step in the light of documents 1 to 3 and document 7 or 8 cited in the ISR.

Regarding the invention as in claim 8, see the fluorescent light converging plates disclosed in documents 7 and 8.

The invention as in claims 9 and 10 is merely a feature that can be achieved through appropriate combination.

The invention as in claims 11-12 does not involve an inventive step in the light of documents 1 to 3 and document 9 cited in the ISR.

See the configuration disclosed in document 9 wherein a plurality of solar cell modules are simultaneously rotated around a single axis of rotation.