

**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>9160427WO01</b>	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. <b>PCT/JP2016/072769</b>	International filing date ( <i>day/month/year</i> ) <b>03 August 2016 (03.08.2016)</b>	Priority date ( <i>day/month/year</i> ) <b>31 August 2015 (31.08.2015)</b>	
International Patent Classification (8th edition unless older edition indicated) <b>See relevant information in Form PCT/ISA/237</b>			
Applicant <b>SHARP KABUSHIKI KAISHA</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 7 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> <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 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 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 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 type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report <b>06 March 2018 (06.03.2018)</b>
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**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>11.10.2016</b>
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Applicant's or agent's file reference <b>9160427W001</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
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International application No. <b>PCT/JP2016/072769</b>	International filing date (day/month/year) <b>03.08.2016</b>	Priority date (day/month/year) <b>31.08.2015</b>
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International Patent Classification (IPC) or both national classification and IPC  
**H02J13/00 (2006.01) i, H02J3/00 (2006.01) i, H02J3/14 (2006.01) i, H02J3/38 (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.

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

WRITTEN OPINION OF THE  
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Box No. I	Basis of this opinion
1.	<p>With regard to the <b>language</b>, this opinion has been established on the basis of:</p> <p><input checked="" type="checkbox"/> the international application in the language in which it was filed</p> <p><input type="checkbox"/> 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)).</p>
2.	<p><input type="checkbox"/> This opinion has been established taking into account the <b>rectification of an obvious mistake</b> authorized by or notified to this Authority under Rule 91 (Rule 43<i>bis</i>.1(a))</p>
3.	<p><input type="checkbox"/> With regard to any <b>nucleotide and/or amino acid sequence</b> disclosed in the international application, this opinion has been established on the basis of a sequence listing:</p> <p>a. <input type="checkbox"/> forming part of the international application as filed:</p> <p style="padding-left: 20px;"><input type="checkbox"/> in the form of an Annex C/ST.25 text file.</p> <p style="padding-left: 20px;"><input type="checkbox"/> on paper or in the form of an image file.</p> <p>b. <input type="checkbox"/> furnished together with the international application under PCT Rule 13<i>ter</i>.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.</p> <p>c. <input type="checkbox"/> furnished subsequent to the international filing date for the purposes of international search only:</p> <p style="padding-left: 20px;"><input type="checkbox"/> in the form of an Annex C/ST.25 text file (Rule 13<i>ter</i>.1(a)).</p> <p style="padding-left: 20px;"><input type="checkbox"/> on paper or in the form of an image file (Rule 13<i>ter</i>.1(b) and Administrative Instructions, Section 713).</p>
4.	<p><input type="checkbox"/> 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 forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p>
5.	<p>Additional comments:</p>

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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	3, 4	YES
	Claims	1, 2, 5-7	NO
Inventive step (IS)	Claims	3	YES
	Claims	1, 2, 4-7	NO
Industrial applicability (IA)	Claims	1-7	YES
	Claims	_____	NO
2. Citations and explanations:			
<p>Document 1: WO 2015/016288 A1 (MITSUBISHI ELECTRIC CORP.) 05 February 2015, fig. 13 &amp; US 2016/0172906 A1, fig. 13 &amp; JP 2015-29371 A &amp; EP 3029805 A1</p> <p>Document 2: JP 2003-244848 A (YANMAR CO., LTD. et al.) 29 August 2003, paragraphs [0011], [0031], [0032], fig. 5, 6 &amp; US 2005/0128659 A1, paragraphs [0028], [0196], [0197], [0202], fig. 12, 13 &amp; WO 2003/069759 A1 &amp; EP 1482618 A1 &amp; CN 1643760 A</p> <p>Document 3: JP 2009-278759 A (PANASONIC CORP.) 26 November 2009, paragraph [0002] (Family: none)</p> <p>Document 4: JP 2013-243536 A (SONY CORP.) 05 December 2013, fig. 19, 25, 26 &amp; US 2015/0121273 A1, fig. 19, 25, 26 &amp; WO 2013/176065 A2</p> <p>Document 5: JP 2014-166077 A (SUMITOMO ELECTRIC INDUSTRIES, LTD.) 08 September 2014, fig. 6-8 (Family: none)</p> <p style="text-align: center; margin-top: 20px;">The invention as in claims 1, 2, and 5-7 lacks</p>			

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**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**

novelty in the light of document 1 cited in the ISR.

The purchased power of document 1 corresponds to the "information on the amount of AC power consumed by load devices" of the invention of the present application, the generated power of document 1 corresponds to the "information on the amount of DC power consumed by load devices" of the invention of the present application (see fig. 13 in particular), and it can be said that each of these are displayed in different modes.

Accordingly, there is no difference between the invention as in claims 1, 2, and 5-7 and the invention described in document 1.

The invention as in claims 1, 2, and 5-7 does not involve an inventive step in the light of documents 2 and 3 cited in the ISR.

Document 2 (see paragraph [0032], fig. 6 in particular) indicates that information on the commercial power amount of load devices 24a-24e and information on the generated power amount of the load devices 24a-24e are displayed in different modes (see the "meter displays 61a-61e" and the "time charts 62a-62e"). Here, the "information on the commercial power amount of load devices 24a-24e" of document 2 corresponds to the "information on the amount of AC power consumed by load devices" of the invention of the present application.

On comparing the invention of the present application and the invention described in document 2, the invention of the present application includes the "information on the amount of DC power consumed by load devices" as a component, whereas the invention described in document 2 includes the "information on the generated

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**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**

power amount of the load devices 24a-24e" as a component, and the invention described in document 2 differs from the invention of the present application in that this "generated power" is not DC power.

However, paragraph [0011] of document 2 indicates that the generator of this embodiment may also applied to a cogeneration system and, as cogeneration systems that output DC power are well known (see paragraph [0002] of document 3, for example), a person skilled in the art could easily conceive of replacing the "generated power" of document 2 with DC power.

The invention as in claim 4 does not involve an inventive step in the light of documents 2 and 3 cited in the ISR.

Paragraph [0031] and fig. 5 of document 2 describes the feature in which supplied power amount values Ca, Cb, Cc, Cd, and Ce are respectively multiplied by accumulated times Ta, Tb, Tc, Td, and Te during which a generator power source was selected as a power supply source, and the products thereof are divided by a predetermined time T so as to calculate amounts of power generated and supplied Ga, Gb, Gc, Gd, and Ge (503), and the feature in which the amounts of power generated and supplied Ga, Gb, Gc, Gd, and Ge are displayed for each power load 24a, 24b, 24c, 24d, and 24e (504).

This matter corresponds to "specifying the amount of power consumed for the time during which a load device was operated using the DC power as the amount of DC power consumed by the load device" in the invention of the present application.

Accordingly, a person skilled in the art could

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**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

easily arrive at the configuration of the invention of the present application on the basis of the inventions described in documents 2 and 3.

The invention as in claim 3 is novel and involves an inventive step in relation to documents 1-5 cited in the ISR.

Documents 1-5 do not describe the feature in which "the second display information is display information obtained by regarding, for each of the second periods, the entire power consumption amount of the second period as the DC power consumption amount when the DC power consumption amount as a proportion of the power consumption amount in the second period is equal to or greater than a prescribed ratio", and this feature could not be easily conceived of from documents 1-5, even by a person skilled in the art.