

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2006/025445

International filing date (day/month/year)
28.06.2006

Priority date (day/month/year)
01.07.2005

International Patent Classification (IPC) or both national classification and IPC
INV. H02J13/00 H02J3/00
ADD. G01R19/00

Applicant
SQUARE D COMPANY

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 usually 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.

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see form
PCT/ISA/210

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2006/025445

Box No. I Basis of the 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. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - on paper
 - in electronic form
 - c. time of filing/furnishing:
 - contained in the international application as filed.
 - filed together with the international application in electronic form.
 - furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto 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.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2006/025445

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

1. Statement

Novelty (N)	Yes: Claims	2-11,13-25
	No: Claims	1,12,
Inventive step (IS)	Yes: Claims	-
	No: Claims	1-25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	-

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

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:

see separate sheet

Re Item V.

1 Reference is made to the following document:

D1: US-A-4 855 671 (FERNANDES ROOSEVELT A [US]) 8 August 1989 (1989-08-08)

D2: GB-A-2 220 753 (TELEMUS ELECTRONICS SYSTEMS IN [CA]) 17 January 1990 (1990-01-17)

D3: US 2003/014678 A1 (OZCETIN H KURTULUS [CA] ET AL) 16 January 2003 (2003-01-16)

2 The present application does not meet the criteria of Article 33(1) PCT, because:

2.1 The subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document):

A method of aligning data measured by monitoring devices coupled to a power monitoring system (Fig.1, Fig.9), comprising:

- receiving reference signal data from a reference monitoring device, said reference signal data representing at least frequency variations measured by said reference monitoring device for a predetermined number of cycles;
- receiving second signal data from a reference monitoring device, said reference signal data representing at least frequency variations measured by said reference monitoring device for a predetermined number of cycles (col.4 line 25 - col.5 line 43);
- automatically aligning said reference signal data with said second signal data (col.10 line 60 - col.11 line 44).

Therefore, the subject-matter of claim 1 is not new (Article 33(2) PCT).

2.2 The subject-matter of claim 12 relates to the computer readable medium encoded with instructions for performing the method of claim 1. In D1, microprocessor is used to perform the operation. Therefore, the subject-matter of claim 12 is implicitly disclosed the D1. Therefore, the subject-matter of claim 1 is not new.

2.3 The subject-matter of claim 13 is not inventive the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 13, and discloses (the references in parentheses applying to this document):

A method of aligning data in a power monitoring system (Fig.1, 9), comprising:

- receiving from a first of at least two monitoring devices first signal data corresponding to signal data stored by said first monitoring device, said first signal data representing frequency or amplitude variations;
- receiving from a second of at least two monitoring devices second signal data corresponding to signal data stored by said second monitoring device, said second signal data representing frequency or amplitude variations (col.4 line 25 - col.5 line 43);
- aligning said first signal data with said second signal data (col.10 line 60 - col.11 line 44).

The subject-matter of claim 13 therefore differs from this known D1 in that:

- aligning said first signal data with said second signal data by shifting in increments said second signal data relative to said first signal data until maximum cross-correlation coefficient is computed by a cross-correlation function that calculates a cross-correlation coefficient at each said increments.

The problem to be solved by the present invention may therefore be regarded as aligning two digitally recorded time functions.

The solution proposed in claim 13 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons. aligning two time function by shifting them against each other to achieve matching is trivial, and using a cross-correlation algorithm to carry out the shifting and comparing until a maximum cross-correlation coefficient is a common practice for a digital/numerical implementation of this trivial process. Therefore, the subject-matter of claim 13 can not be regarded as inventive in the sense of Article 33(3) PCT.

2.4 The subject-matter of the independent device claim 24 corresponds to that of the

independent method claim 13. Therefore, the subject-matter of claim 24 can not be considered inventive for the same reasoning as above (Article 33(3) PCT).

- 2.5 Dependent claims 2-11, 14-23, 25 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

Re Item VII.

1. Independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

Re Item VIII.

The application does not meet the requirements of Article 6 PCT, because:

1. The present application has 2 independent method claims 1 and 13 and two independent device claims 12 and 24, therefore does not comply with the requirements of conciseness (Article 6 PCT, Rule 6.1(a) PCT, Guideline 5.42, A5.42 PCT). According to the nature of the present application, one independent claim per category should be sufficient.
2. At present, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to estab-

lish the extent of the protection. The number of claims shall be reasonable in consideration of the nature of the invention claimed (Article 6 PCT, Rule 6.1(a) PCT).

3. The subject-matter of claim 1 is not clear, because it is defined by the results to be achieved. Claim 1 uses the definition "automatically aligning said reference signal data with said second signal data", without defining how the "aligning" can be achieved. Therefore, the subject-matter of claim 1 is not clear (Article 6 PCT).
4. Furthermore, the subject-matter of claim 1, 13 and 24 is not supported by the description. According to the description on page 9 and drawing Fig.4, the reference signal data (#1) and second signal data (#2) should contain the same frequency/amplitude variation line up, so that the correlation can be found. This is however not reflected the definition of claims 1, 13, 24. Therefore, lack of support by the description is identified in the present application (Article 6 PCT).