

**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) **22.11.2010**

Applicant's or agent's file reference  
**P056524P0**

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
**PCT/JP2010/005325**

International filing date (day/month/year)  
**30.08.2010**

Priority date (day/month/year)  
**31.08.2009**

International Patent Classification (IPC) or both national classification and IPC  
**H03H19/00 (2006.01) i, H04B1/26 (2006.01) i, H04B1/30 (2006.01) i**

Applicant  
**PANASONIC CORPORATION**

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.

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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 43bis.1(a))</p>
3.	<p>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 filed or furnished:</p> <p>a. (means)</p> <p><input type="checkbox"/> on paper</p> <p><input type="checkbox"/> in electronic form</p> <p>b. (time)</p> <p><input type="checkbox"/> in the international application as filed</p> <p><input type="checkbox"/> together with the international application in electronic form</p> <p><input type="checkbox"/> subsequently to this Authority for the purposes of search</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 in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p>
5.	Additional comments:

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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:

The "special technical feature" of the invention in claim 1 and the claims dependent on claim 1 relate to the configuration and control of a direct sampling circuit (e.g., the configuration of an IQ circuit and a discrete time circuit group, the on-off control of a dump switch and a charge switch, and the like).

The "special technical feature" of the invention in claim 6 relates to outputting the sum of or the difference between the outputs from "a first direct sampling circuit which shifts the frequency having the maximum gain of frequency characteristics to a low frequency side" and "a second direct sampling circuit which shifts the frequency having the maximum gain of frequency characteristics to a high frequency side".

It is found that these inventions do not have a technical relationship including one or more of the same or corresponding special technical features, and therefore are not linked so as to form a single general inventive concept.

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. \_\_\_\_\_

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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>
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1. Statement			
Novelty (N)		Claims <u>1-17</u>	YES
		Claims _____	NO
Inventive step (IS)		Claims <u>1-17</u>	YES
		Claims _____	NO
Industrial applicability (IA)		Claims <u>1-17</u>	YES
		Claims _____	NO

2. Citations and explanations:	
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Document 1: JP 2006-211153 A (Sharp Corp.), 10 August 2006, fig. 2, 5 (Family: none)

Document 2: US 2005/0233725 A1 (TEXAS INSTRUMENTS INC.), 20 October 2005, entire text; all drawings & WO 2005/104380 A2 & CN 101061643 A

Document 3: WO 2008/108090 A1 (Panasonic Corp.), 12 September 2008, entire text; all drawings (Family: none)

None of the documents discloses or suggests the configuration of the direct sampling circuit (the configuration of an IQ generation circuit and a discrete time circuit group, and the configuration of the on-off control of switches) in claim 1 of the present application, or the feature of outputting the sum of or difference between the outputs of the first and second direct sampling circuit for shifting the frequency having the maximum gain of frequency characteristics in claim 6 of the present application.

Hence, the invention as in claims 1-17 of the

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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

present application is novel and involves an inventive  
step.

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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 6 does not describe, in a direct sampling circuit, the circuit configuration required to shift the frequency having the maximum gain of frequency characteristics to the low frequency side or the high frequency side, and therefore is unclear.