

**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)

Applicant's or agent's file reference <b>07P00194</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/JP2007/061759</b>	International filing date (day/month/year) <b>11.06.2007</b>	Priority date (day/month/year) <b>12.06.2006</b>
International Patent Classification (IPC) or both national classification and IPC		
Applicant <b>OLYMPUS MEDICAL SYSTEMS CORP.</b>		

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"/> the translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).</p>
2.	<p>With regard to any <b>nucleotide and/or amino acid sequence</b> disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:</p> <p>a. type of material</p> <p><input type="checkbox"/> a sequence listing</p> <p><input type="checkbox"/> table(s) related to the sequence listing</p> <p>b. format of material</p> <p><input type="checkbox"/> on paper</p> <p><input type="checkbox"/> in electronic form</p> <p>c. time of filing/furnishing</p> <p><input type="checkbox"/> contained in the international application as filed</p> <p><input type="checkbox"/> filed together with the international application in electronic form</p> <p><input type="checkbox"/> furnished subsequently to this Authority for the purposes of search</p>
3.	<p><input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) 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.</p>
4.	<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																			
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding: 2px;">Novelty (N)</td> <td style="padding: 2px;">Claims <u>1-4</u></td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims _____</td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> <tr> <td style="padding: 2px;">Inventive step (IS)</td> <td style="padding: 2px;">Claims <u>2</u></td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims <u>1, 3, 4</u></td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> <tr> <td style="padding: 2px;">Industrial applicability (IA)</td> <td style="padding: 2px;">Claims <u>1-4</u></td> <td style="width: 10%; text-align: right; padding: 2px;">YES</td> </tr> <tr> <td></td> <td style="padding: 2px;">Claims _____</td> <td style="width: 10%; text-align: right; padding: 2px;">NO</td> </tr> </table>	Novelty (N)	Claims <u>1-4</u>	YES		Claims _____	NO	Inventive step (IS)	Claims <u>2</u>	YES		Claims <u>1, 3, 4</u>	NO	Industrial applicability (IA)	Claims <u>1-4</u>	YES		Claims _____	NO	
Novelty (N)	Claims <u>1-4</u>	YES																	
	Claims _____	NO																	
Inventive step (IS)	Claims <u>2</u>	YES																	
	Claims <u>1, 3, 4</u>	NO																	
Industrial applicability (IA)	Claims <u>1-4</u>	YES																	
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2. Citations and explanations:																			
<p>Document 1: JP 1-136500 A</p> <p>Document 2: JP 62-48900 A</p> <p>Document 3: JP 2001-87265 A &amp; US 6461304 B1</p> <p>&lt;Claim 1&gt;</p> <p style="padding-left: 40px;">See document 1: page 2, lower left column, line 8-page 3, upper left column, line 13; fig. 1(a).</p> <p style="padding-left: 40px;">The "first flexible base plate 20", "second flexible base plate 23", "terminal region 22", "electrically-conducting path 21" and "electrically-conducting path 25" in document 1 correspond to the "ultrasonic vibrator printed board", "printed board for signal pattern direction conversion", "second electrode group", "first signal pattern group" and "second signal pattern group" in claim 1, respectively.</p> <p style="padding-left: 40px;">(1) Then, the invention of claim 1 and the invention described in document 1 differ from each other in that the array direction of the second electrode group corresponds to a longitudinal direction of the ultrasonic vibrator printed board in the former, whereas the latter is arrayed in a minor axis direction.</p> <p style="padding-left: 40px;">However, in document 1 too, it is evident that the</p>																			

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relation between the long side and the short side of the ultrasonic vibrator printed board would be reversed when the number of elements is reduced, for example; therefore, the issue of which of the array direction or the direction orthogonal to it is longer in an ultrasonic vibrator printed board is inconsequential in itself.

Furthermore, the technology to extend an ultrasonic vibrator printed board in a direction orthogonal to the array direction is publicly known, as described in document 2 (fig. 1).

(2) Meanwhile, according to fig. 1(a) of document 1, the electrically-conducting path 25 is not only bent once in a direction orthogonal to the array direction, which is the same as the invention of claim 1, but also bent once again in the array direction. Now the double bendings will be examined.

Document 1 employs a constitution of two bendings so as to cause the signal pattern to be projected in the array direction as mentioned above, while document 2 discloses a constitution of the signal pattern being projected in a direction orthogonal to the array direction.

Therefore, in the invention described in document 1 too, it is obvious for a person skilled in the art to employ the constitution of the signal pattern being projected in a direction orthogonal to the array direction as described in document 2.

In view of the above, it is obvious for a person skilled in the art to arrive at the invention of claim 1 based on the invention described in document 1 or by adding thereto the technology described in document 2.

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<Claim 2>

The invention of claim 2 is neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.

<Claim 3>

Arranging ultrasonic vibrators in a convex circular arc configuration is a well-known technique, as described in document 2 (fig. 1), for example; therefore, it is obvious for a person skilled in the art to employ such a well-known technique for the invention described in document 1.

<Claim 4>

Providing an ultrasonic probe at the distal end of an insert portion of an endoscope is a well-known technique, as described in document 3 (fig. 2), for example.