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Europäisches
Patentamt

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in Den Haag
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abteilung

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Patent Office

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The Hague
Search
division

Office européen
des brevets

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La Haye
Division de la
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Datum/Date
14.07.2005

Zeichen/Ref./Réf. GJS0845	Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°. 00989483.3 - 2318 /
Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire Therus Corporation	

COMMUNICATION

The European Patent Office herewith transmits the supplementary partial European search report under Rule 46(1) EPC relating to the above-mentioned European patent application.

Copies of the documents cited in the search report are enclosed.

The applicant's attention is drawn to the following:

The search Division informs the applicant that if the European search report is also to cover inventions other than the inventions first mentioned in the claims, a further search fee must be paid for each of these inventions, within ONE MONTH after notification of this communication.

If the application has been filed up to 30 June 1999, the search fee in force before 01 July 1999 (EUR 869,-) or the equivalent applicable on the date of payment is payable.

This applies also to the search fees requested under Rule 46(1) EPC.

See also OJ-EPO 06/1999, 405.

Moreover, the Search Division considers that the present European patent application does not comply with the provisions of the European Patent Convention to such an extent that it is not possible to carry out a meaningful search into the state of the art on the basis of some of the claims; reference is made to sheet C, which is attached to the search report.

Additional set(s) of copies of the documents cited in the European search report is (are) attached as well.



Note to users of the automatic debiting procedure:

Unless the EPO receives prior instructions to the contrary, the search fee(s) will be debited on the last day of the period for payment. For further details see the Arrangements for the automatic debiting procedure, Supplement to OJ EPO 02/2002.

REGISTERED LETTER



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X Y	US 5 823 962 A (SCHAETZLE ET AL) 20 October 1998 (1998-10-20) * the whole document *	1,3-5, 50,52 2,6-12, 17-21, 51,53-59	A61B17/22
Y	US 5 471 988 A (FUJIO ET AL) 5 December 1995 (1995-12-05) * column 49, line 54 - column 51, line 41 * * column 52, line 48 - column 53, line 13 * * column 59, line 49 - column 61, line 10 * * column 61, line 56 - column 62, line 2 * * figures 60,62,82-86,91,92 *	2,6-12, 51,53-59	
Y	US 4 957 099 A (HASSLER ET AL) 18 September 1990 (1990-09-18) * abstract * * figure 1 *	17	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A61N G10K A61B
LACK OF UNITY OF INVENTION			
The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:			
see sheet B			
The present partial European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.			
2	Place of search Munich	Date of completion of the search 5 July 2005	Examiner Willig, H
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		& : member of the same patent family, corresponding document	

EPO FORM 1503 03/82 (P04C23)



DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	WO 99/48621 A (EXOGEN, INC; RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY; CORNEJO, IVA) 30 September 1999 (1999-09-30) * page 11, line 16 - page 13, line 25 * * figures 3A,3B *	18,19,21	
Y	US 5 711 058 A (FREY ET AL) 27 January 1998 (1998-01-27) * column 5, lines 32-44 * * figure 6 *	18,20	
A	KOJIMA T ED - MCAVOY B R INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS: "MATRIX ARRAY TRANSDUCER AND FLEXIBLE MATRIX ARRY TRANSDUCER" PROCEEDINGS OF THE ULTRASONICS SYMPOSIUM. WILLIAMSBURG, VIRGINIA, NOV. 17 - 19, 1986, NEW YORK, IEEE, US, vol. VOL. 2, 1986, pages 649-653, XP002928261 * page 651, left-hand column, paragraph 5 * * figure 10 *	19	TECHNICAL FIELDS SEARCHED (Int.Cl.7)



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-21, 50-60

Ultrasound applicator capable of both ultrasound imaging and administering ultrasound therapy comprising a switch to vary the quality factor of the ultrasound transducer.

2. claims: 27-42

Flexible ultrasound transducer.

3. claims: 44-48

Ultrasound transducer with a plurality of separate ultrasound transducer elements which are pivotally mounted in an array.



Claim(s) not searched:
22-26,43,49

Reason for the limitation of the search (non-patentable invention(s)):

Article 52 (4) EPC - Method for treatment of the human or animal body by
therapy

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 98 9483

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

05-07-2005

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5823962	A	20-10-1998	DE	19635593 C1	23-04-1998
			EP	0826435 A2	04-03-1998
US 5471988	A	05-12-1995	JP	7227394 A	29-08-1995
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			EP	0327917 A1	16-08-1989
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			AU	3208299 A	18-10-1999
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			EP	1481738 A2	01-12-2004
			EP	1066119 A2	10-01-2001
			WO	9948621 A2	30-09-1999
US 5711058	A	27-01-1998	US	5541468 A	30-07-1996

专利名称(译)	用于成像和治疗的超声换能器		
公开(公告)号	EP1241994A4	公开(公告)日	2005-12-14
申请号	EP2000989483	申请日	2000-12-22
[标]申请(专利权)人(译)	塞鲁斯公司		
申请(专利权)人(译)	THERUS CORPORATION		
当前申请(专利权)人(译)	THERUS CORPORATION		
[标]发明人	WENG LEE PEROZEK DAVID ZHANG JIMIN		
发明人	WENG, LEE PEROZEK, DAVID ZHANG, JIMIN		
IPC分类号	A61B19/00 A61B8/12 A61B17/00 A61B17/22 A61B17/225 A61B18/00 A61H23/02 A61N7/02 G10K11/32 G10K11/34 H04R17/00		
CPC分类号	A61B8/4461 A61B8/12 A61B8/445 A61B17/0057 A61B2017/00504 A61B2017/00907 A61B2090/062 A61B2090/378 A61B2090/3904 A61B2090/3937 A61B2562/164 A61H23/0245 A61N7/02 A61N2007/0052 A61N2007/0065 A61N2007/0078 G10K11/32 G10K11/346		
优先权	60/171703 1999-12-23 US		
其他公开文献	EP1241994A2		
外部链接	Espacenet		

摘要(译)

能够对治疗部位成像并进行超声治疗的超声施加器包括可以聚焦的一系列换能器元件。在一些实施例中，电子相控阵用于控制超声束的焦点。由此产生的超声波束也可以被电子操纵。为了在将阵列用于成像时减小阵列的品质因数或Q，有选择地闭合电子开关，并与每个阵列元件并联放置一个电阻。在若干实施例中采用柔性阵列，并且柔性阵列被选择性地弯曲或弯曲以改变其曲率半径，从而控制阵列的焦点和/或聚焦方向。在另一个实施例中，包括阵列的每个换能器元件可单独地机械枢转以操纵由换能器元件产生的超声波束。