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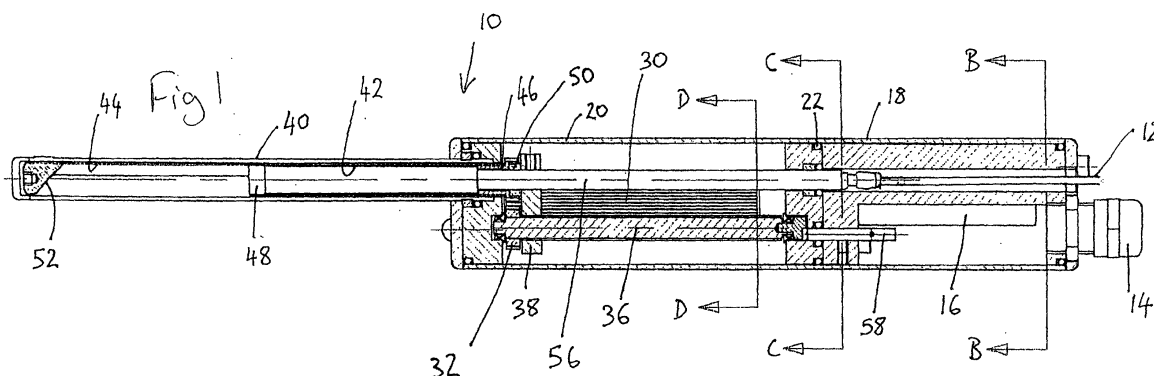
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(54) **Three-dimensional ultrasonic image producing apparatus**

(57) Image producing apparatus (10, 100) comprising means (48, 112) for producing and also receiving an ultrasound signal, the apparatus being arranged such

that a plurality of ultrasound signals are sequentially produced in different directions to cover a volume of a required shape, with the signals received being analysed to provide a three dimensional image of the volume.





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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 8756

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	HEIDEN VAN DER M S ET AL: "A HIGH RESOLUTION ULTRASONIC IMAGING SYSTEM FOR THE DETECTION OF CERVICAL CANCER" PROC. 1996 IEEE ULTRASONICS SYMP. SAN ANTONIO, NOV. 3 - 6, 1996, NEW YORK, US, vol. 2, 3 November 1996 (1996-11-03), pages 1341-1344, XP000753582 ISBN: 0-7803-3616-X * paragraph [0002]; figures 2,3,5 *	1-5, 16-19, 23-25	A61B8/12 G10K11/35 G01S15/89 A61B8/00
X	PATENT ABSTRACTS OF JAPAN vol. 017, no. 547 (C-1116), 4 October 1993 (1993-10-04) & JP 05 154149 A (ALOKA CO LTD), 22 June 1993 (1993-06-22) * abstract *	1-5	
X	PATENT ABSTRACTS OF JAPAN vol. 1996, no. 04, 30 April 1996 (1996-04-30) & JP 07 328006 A (OLYMPUS OPTICAL CO LTD), 19 December 1995 (1995-12-19)	1,2,6, 13, 16-19, 23-25	
A	* abstract *	12	TECHNICAL FIELDS SEARCHED (Int.Cl.7) A61B G10K G01S G01N
X	US 5 255 681 A (ISHIMURA TOSHIRO ET AL) 26 October 1993 (1993-10-26) * abstract; figures 1,5 *	1,18,19, 24,25	
A	PATENT ABSTRACTS OF JAPAN vol. 1999, no. 01, 29 January 1999 (1999-01-29) -& JP 10 262963 A (OLYMPUS OPTICAL CO LTD), 6 October 1998 (1998-10-06) * abstract; figure 4C *	12	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 18 December 2002	Examiner Jonsson, P
CATEGORY OF CITED DOCUMENTS 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		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 & : member of the same patent family, corresponding document	

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

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

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present 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, namely claims:

1-13,18,19,24,25



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
EP 01 30 8756

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: 1-13,18,19,24,25

An ultrasonic imaging apparatus for producing three dimensional images further comprising a movable transducer and/or a movable reflecting mirror

2. Claims: 1,14,15

An ultrasonic imaging apparatus for producing three dimensional images further comprising two mirrors

3. Claims: 1,20-22

An ultrasonic imaging apparatus for producing three dimensional images further comprising position detection means

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

EP 01 30 8756

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.

18-12-2002

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JP 10262963 A	06-10-1998	NONE	

专利名称(译)	三维超声图像产生装置		
公开(公告)号	EP1199033A3	公开(公告)日	2003-05-28
申请号	EP2001308756	申请日	2001-10-15
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发明人	REYES, LIONEL SHAND, GEOFFREY CLARKE GIORGI, CESARE GIOVANNI		
IPC分类号	A61B8/12 G10K11/35 G01S15/89 A61B8/00		
CPC分类号	A61B8/12 A61B8/4461		
优先权	2000025646 2000-10-19 GB		
其他公开文献	EP1199033A2		
外部链接	Espacenet		

摘要(译)

图像产生装置 (10,100) 包括用于产生并接收超声信号的装置 (48,112) , 该装置被布置成使得在不同方向上顺序产生多个超声信号以覆盖所需形状的体积, 分析接收的信号以提供体积的三维图像。

