



DOCUMENTS CONSIDERED TO BE RELEVANT		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages		
X	US 5 638 820 A (CHEN ET AL) 17 June 1997 (1997-06-17) * abstract; figures 1-5B * * column 1, line 6 - column 5, line 61 * -----	1-12	A61B8/00 G01N29/06 G01S7/52 G01H5/00
X	US 5 415 173 A (MIWA ET AL) 16 May 1995 (1995-05-16) * abstract; figures 1-5,8-10,13 * * column 5, line 3 - column 9, line 50 * * column 13, line 5 - column 16, line 43 * -----	1-3,5	
X	WO 00/10463 A (HITACHI MEDICAL CORPORATION; MIWA, YUICHI; SHINOMURA, RYUICHI; BABA, H) 2 March 2000 (2000-03-02) all citations are given with respect to US6423005	1	
L	-& US 6 423 005 B1 (MIWA YUICHI ET AL) 23 July 2002 (2002-07-23) translation of WO 00/10463 * abstract; figures 1,2 * * column 2, line 8 - column 7, line 35 * * column 13, lines 31-49 * -----		TECHNICAL FIELDS SEARCHED (Int.Cl.7)
X	MIWA Y ET AL: "Two-directional phase aberration correction using a two-dimensional array" ULTRASONICS SYMPOSIUM, 1997. PROCEEDINGS., 1997 IEEE TORONTO, ONT., CANADA 5-8 OCT. 1997, NEW YORK, NY, USA, IEEE, US, vol. 2, 5 October 1997 (1997-10-05), pages 1733-1736, XP010271492 ISBN: 0-7803-4153-8 * abstract; figures 1,2 * Sections "Imaging System" and "Experiment" ----- -/-	1	G01S G01H
2	The supplementary search report has been based on the last set of claims valid and available at the start of the search.		
EPO FORM 1503 03-82 (P04C04)	Place of search	Date of completion of the search	Examiner
	Munich	10 May 2005	Reuss, T
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			



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	O'DONNELL M ET AL: "CORRELATION-BASED ABERRATION CORRECTION IN THE PRESENCE OF INOPERABLE ELEMENTS" IEEE TRANSACTIONS ON ULTRASONICS, FERROELECTRICS AND FREQUENCY CONTROL, IEEE INC. NEW.YORK, US, vol. 39, no. 6, 1 November 1992 (1992-11-01), pages 700-707, XP000329678 ISSN: 0885-3010 * abstract; figures 1,2 * * page 700, right-hand column - page 706, right-hand column * -----	1	
A	US 4 627 290 A (OGAWA ET AL) 9 December 1986 (1986-12-09) * the whole document * -----	1-12	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
2	The supplementary search report has been based on the last set of claims valid and available at the start of the search.		
EPO FORM 1503 03-82 (P04C04)	Place of search	Date of completion of the search	Examiner
	Munich	10 May 2005	Reuss, T
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 ..... & : member of the same patent family, corresponding document	
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			

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

EP 01 91 2260

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.

10-05-2005

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 5638820	A	17-06-1997	NONE		
US 5415173	A	16-05-1995	JP 3174450 B2	11-06-2001	
			JP 6304172 A	01-11-1994	
WO 0010463	A	02-03-2000	JP 2000060848 A	29-02-2000	
			WO 0010463 A1	02-03-2000	
			US 2002156374 A1	24-10-2002	
			US 6423005 B1	23-07-2002	
US 6423005	B1	23-07-2002	JP 2000060848 A	29-02-2000	
			WO 0010463 A1	02-03-2000	
			US 2002156374 A1	24-10-2002	
US 4627290	A	09-12-1986	JP 1885990 C	22-11-1994	
			JP 6009561 B	09-02-1994	
			JP 60220051 A	02-11-1985	

专利名称(译)	超声波成像装置		
公开(公告)号	<a href="#">EP1262148A4</a>	公开(公告)日	2005-07-06
申请号	EP2001912260	申请日	2001-03-12
[标]申请(专利权)人(译)	株式会社日立医药		
申请(专利权)人(译)	日立医疗器械股份有限公司		
当前申请(专利权)人(译)	日立医疗器械股份有限公司		
[标]发明人	BABA HIROTAKA SHINOMURA RYUICHI SATO YUTAKA MIWA YUICHI		
发明人	BABA, HIROTAKA SHINOMURA, RYUICHI SATO, YUTAKA MIWA, YUICHI		
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优先权	2000066764 2000-03-10 JP		
其他公开文献	EP1262148A1 EP1262148B1		
外部链接	<a href="#">Espacenet</a>		

### 摘要(译)

本发明的超声成像设备以与平均声速相对应的延迟时间对生物体内部进行超声波的初步扫描，通过使用从每个通道接收到的信号来计算延迟时间误差检测电路中的延迟时间误差。在数字延迟电路中执行了哪个延迟控制，在延迟时间比较单元中，使用声速作为预先存储在声速导出的延迟中的参数，在延迟时间比较单元中将所述计算出的数据与对应于各种声速的多个延迟时间误差数据进行比较时间误差存储单元，用声速选择单元从那些声速中选择与延迟时间误差数据相匹配的一个声速，并计算生物体内的声速。然后，将所述计算出的声速反馈给CPU，并且将与在超声波扫描中施加的延迟有关的延迟数据提供给延迟电路。以这种方式，可以通过简单的计算来计算在介质中传播的超声速度，并且可以使用与超声成像设备中的所述速度相对应的延迟数据来进行成像。

DOCUMENTS CONSIDERED TO BE RELEVANT			Relevant to claim	CLASSIFICATION OF THE DOCUMENT (Int.Cl.)
Category	Citation of document with indication, where appropriate, of relevant part(s)			
X	US 5 628 700 A (KOBAYASHI ET AL) 17 June 1997 (1997-06-17) * abstract; figures 1-5B * * column 1, line 6 - column 5, line 61 * * column 13, line 5 - column 16, line 43 *		1-12	A61B8/00 G01N29/06 G01S7/52 G01H5/00
X	US 6 415 173 A (MIWA ET AL) 16 March 2002 (2002-03-19) * abstract; figures 1-5, 8-10, 13, * * column 5, line 6 - column 16, line 43 * * column 13, line 5 - column 16, line 43 *		1-3, 5	
X	WO 00/10463 A (NITACHI MEDICAL CORPORATION; MIWA, YUICHI; SHINOMURA, RYUICHI; BABA, HIROTAKA) 2 March 2000 (2000-03-02) all citations are given with respect to US6423000		1	
L	US 6 423 005 B1 (MIWA YUICHI ET AL) 23 July 2002 (2002-07-23) * abstract; figures 1-5, 8-10, 13, * * column 5, line 6 - column 16, line 43 * * column 13, line 5 - column 16, line 43 *			TECHNICAL FIELDS SEARCHED (Int.Cl.)
X	MIWA Y ET AL: "Two-directional phase measurement system for displaying a two-dimensional array" - ULTRASONICS SYMPOSIUM 1997 - PROCEEDINGS., 1997-10-05 TO 1997-10-06, CANADA 5-8 OCT. 1997, NEW YORK, NY, USA, IEEE, US, vol.1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 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