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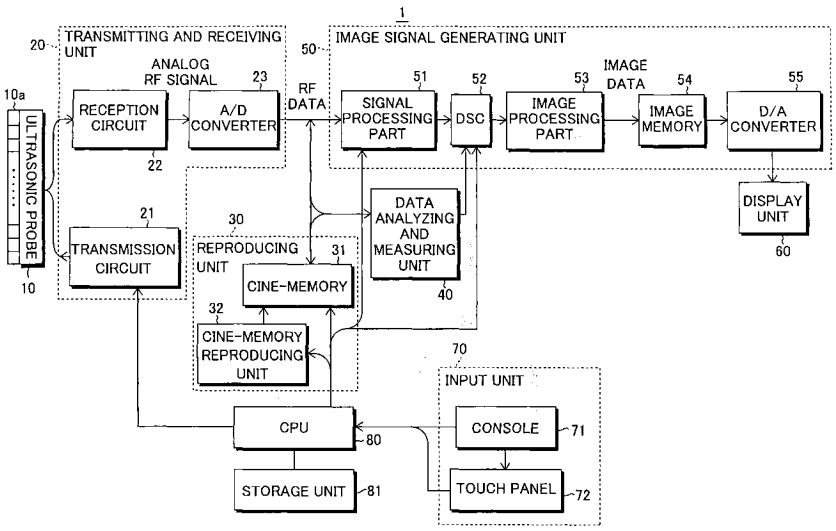
(54) **Ultrasonic diagnostic apparatus and data analysis and measurement apparatus**

(57) An ultrasonic diagnostic apparatus having a reproducing function at the equally high frame rate to that at the time of ultrasonic imaging and capable of analysis and/or measurement with high accuracy in moving picture observation by reproduction. The apparatus includes: a transmitting and receiving unit (20) for generating RF signals based on detection signals and A/D-converting the RF signals to generate RF data; a cine-memory (31) for storing the RF data with information on frame rate; a cine-memory reproducing unit (32) for generating address information of the RF data in synchronization with a clock signal having a frequency controlled based on the information on frame rate when the RF data is loaded; a data analyzing and measuring unit (40) for performing analysis and/or measurement on a region of interest based on the RF data; and an image signal generating unit (50) for generating an image signal based on the RF data.

FIG.1



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EUROPEAN SEARCH REPORT

Application Number
EP 07 00 5391

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	US 6 322 505 B1 (HOSSACK JOHN A [US] ET AL) 27 November 2001 (2001-11-27) * abstract; figures 1-3 * * column 1, line 6 - column 4, line 22 * * column 4, line 62 - column 9, line 52 * * column 13, line 10 - column 14, line 17 * -----	1,2,4,5, 7,9-11 3,6	INV. A61B8/08 G01S15/89
Y	US 2005/004459 A1 (BERTORA FRANCO [IT]) 6 January 2005 (2005-01-06) * abstract; figures 1-7 * * paragraphs [0003] - [0010] * * paragraphs [0039] - [0059] * -----	3,6	
A	US 2003/083563 A1 (KATSMAN IGOR [IL] ET AL) 1 May 2003 (2003-05-01) * the whole document * -----	1-7,9-11	
A,D	JP 2005 118314 A (SHIMADZU CORP; YAMAZAKI YOSHIMITSU; MEDIA CROSS KK) 12 May 2005 (2005-05-12) * the whole document * -----	1-7,9-11	
			TECHNICAL FIELDS SEARCHED (IPC) G01S

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
Munich	22 April 2010	Zaneboni, Thomas

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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EPO FORM 1503 03.82 (P04C01)

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Application Number
EP 07 00 5391

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

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:

1-7, 9-11

☐ The present supplementary 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 (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 07 00 5391

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: 1-7, 9-11

   Ultrasonic diagnostic apparatus having a high frame rate

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2. claims: 8, 12

   Ultrasonic diagnostic apparatus with a particular cine-memory play function.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 07 00 5391

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.

22-04-2010

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US 2005004459 A1	06-01-2005	EP 1411495 A1	21-04-2004
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		JP 2003190098 A	08-07-2003
JP 2005118314 A	12-05-2005	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	超声诊断设备和数据分析和测量设备		
公开(公告)号	EP1840594A3	公开(公告)日	2011-01-12
申请号	EP2007005391	申请日	2007-03-15
[标]申请(专利权)人(译)	富士胶片株式会社		
申请(专利权)人(译)	富士胶片株式会社		
当前申请(专利权)人(译)	富士胶片株式会社		
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发明人	SATOH, YOSHIAKI		
IPC分类号	A61B8/08 G01S15/89		
CPC分类号	A61B5/02007 A61B5/7232 A61B8/08 A61B8/0858 A61B8/465 A61B8/467 A61B8/469 A61B8/56 A61B8/565 G01S15/8977		
优先权	2006088899 2006-03-28 JP		
其他公开文献	EP1840594B1 EP1840594A2		
外部链接	Espacenet		

摘要(译)

一种超声波诊断装置，具有与超声波成像时的帧速率相同的帧速率的再现功能，并且能够通过再现进行运动图像观察，并且能够高精度地进行分析和/或测量。该装置包括：发送和接收单元（20），用于根据检测信号产生RF信号，并对RF信号进行A / D转换以产生RF数据;电影存储器（31），用于存储具有帧速率信息的RF数据;电子存储器再现单元（32），用于与时钟信号同步地产生RF数据的地址信息，该时钟信号具有基于加载RF数据时的帧速率信息控制的频率;数据分析和测量单元（40），用于基于RF数据对感兴趣区域进行分析和/或测量;图像信号产生单元（50），用于根据RF数据产生图像信号。

FIG.1