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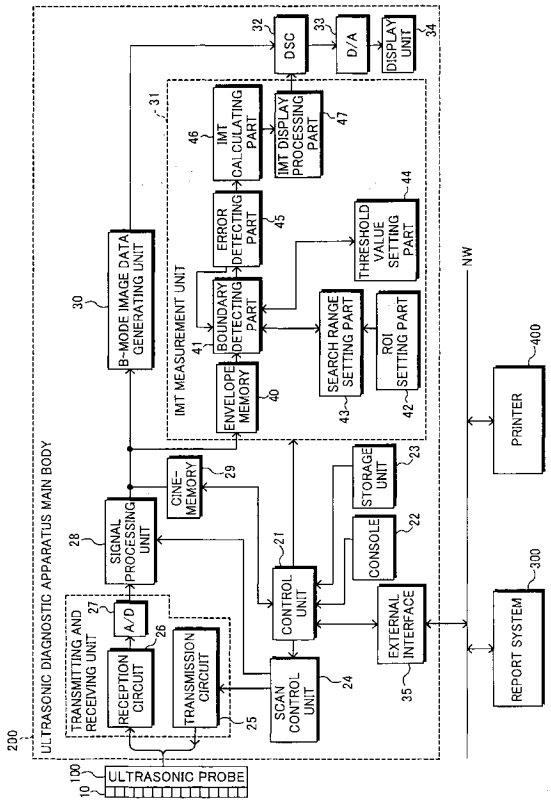
(54) **Ultrasonic diagnostic apparatus, IMT measurement method, and IMT measurement program**

(57) An ultrasonic diagnostic apparatus by which highly quantitative IMT (intima media thickness) measurement with little variations depending on examiners can be performed. The ultrasonic diagnostic apparatus includes: an ultrasonic probe 100 for transmitting ultrasonic waves to an object to be inspected and receiving ultrasonic echoes generated by reflection of the ultrasonic waves in the object to output reception signals; a signal processing unit 28 for performing at least envelope detection processing on the reception signals outputted from the ultrasonic probe to generate envelope data; a boundary detecting unit 41 for detecting two boundaries representing intima media of a blood vessel based on difference or differential of values of the envelope data and amounts of change in the values of the envelope data; and an IMT calculating unit 46 for calculating an IMT of the blood vessel based on the two boundaries detected by the boundary detecting unit.

FIG.1



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EUROPEAN SEARCH REPORT

Application Number
EP 08 00 0496

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	HOEKS A P ET AL: "Automated detection of local artery wall thickness based on M-line signal processing." ULTRASOUND IN MEDICINE & BIOLOGY 1997 LNKD- PUBMED:9330445, vol. 23, no. 7, 1997, pages 1017-1023, XP002589193 ISSN: 0301-5629	1-4, 9-12, 15-17,20	INV. A61B8/08
Y	* the whole document *	6-8,13, 14,18,19	

Y	WO 2005/032375 A2 (SONOSITE INC [US]) 14 April 2005 (2005-04-14) * page 12, lines 14-18 * * page 39, line 15 - page 40, line 19 * * figures 13,14 *	6-8,13, 14,18,19	

TECHNICAL FIELDS SEARCHED (IPC)

A61B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 June 2010	Willig, Hendrik

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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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 08 00 0496

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
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28-06-2010

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2005032375 A2	14-04-2005	EP 1677681 A2	12-07-2006

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

专利名称(译)	超声波诊断装置，IMT测量方法和IMT测量程序		
公开(公告)号	EP1943953A3	公开(公告)日	2010-08-18
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[标]申请(专利权)人(译)	富士胶片株式会社		
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IPC分类号	A61B8/08		
CPC分类号	A61B8/0858 A61B5/02007 G01S7/52026 G06T7/12 G06T7/60 G06T2207/10132 G06T2207/20104 G06T2207/30101		
优先权	2007005339 2007-01-15 JP		
其他公开文献	EP1943953A2 EP1943953B1		
外部链接	Espacenet		

摘要(译)

一种超声诊断设备，通过该超声诊断设备可以进行高度定量的IMT（内膜中层厚度）测量，其具有取决于检查者的很小变化。超声波诊断装置包括：超声波探头100，用于将超声波发送到被检查物体，并接收由物体中的超声波反射产生的超声波回波，以输出接收信号;信号处理单元28，用于对从超声波探头输出的接收信号进行至少包络检测处理，以产生包络数据;边界检测单元41，用于根据包络数据的值的差值或差值以及包络数据的值的变化量，检测表示血管的内膜中层的两个边界; IMT计算单元46，用于根据边界检测单元检测到的两个边界计算血管的IMT。