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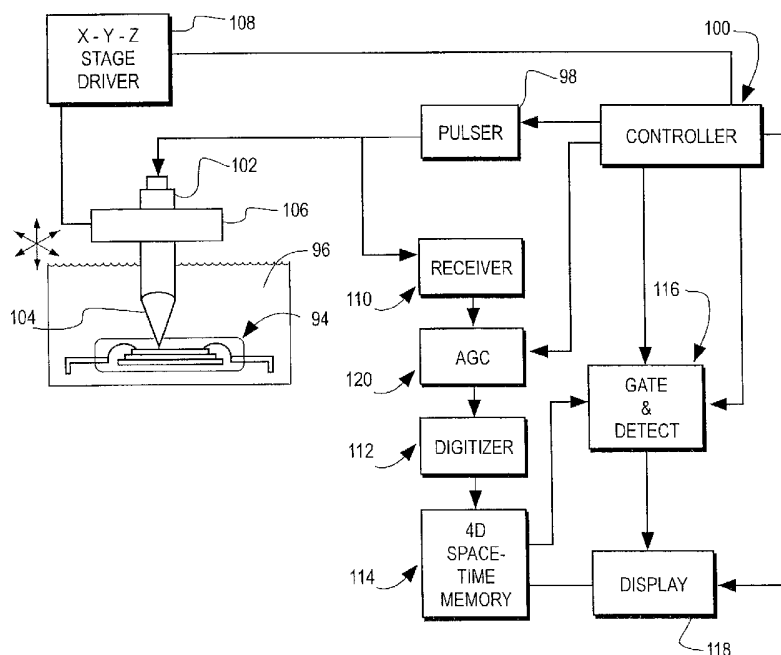
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[Continued on next page]

(54) Title: ACOUSTIC MICROIMAGING WITH 4D REFLECTION VIRTUAL SAMPLES



(57) Abstract: For use in acoustic micro imaging, a method (and implementing apparatus) is disclosed for creating a 4D virtual sample data memory (114). The method comprises employing a pulsed ultrasonic microscope probe (102) to interrogate a sample (94) at three-dimensionally varied locations in the sample (94). Data developed by the microscope probe (102) includes for each location interrogated a digitized A-scan for that location. The developed data is stored in a data memory (114).

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/22760

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61B 8/00, 8/14
 US CL : 73/602, 626; 600/440, 443

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : 73/602,606, 625, 626, 627, 629, 630, 631; 600/440, 441, 442, 443, 444, 445, 446, 447

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EAST: 4D, A-scan, 4 dimension, acoustic, ultrasonic, memory

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- A	JP 11009604A (HASHIMOTO, HIROSHI) 19 January 1999 (19.01.1999) see abstract, Figures	1-4 ----- 5-61
X / Y --- A	US 4,980,865 A (ISHIBASHI ET AL.) 25 December 1990 (25.12.1990) see abstract, Figures, column 1 lines 47-67, column 2 lines 4-8, column 2 lines 27-64, column 3 line 56 - column 4 line 44, column 5 lines 30-51, column 7 line 35 - column 8 line 30	1-2 / 19-39 ----- 40-61
X / Y --- A	US 6,200,266 B1 (SHOKROLLAHI ET AL.) 13 March 2001 (13.03.2001) see abstract, Figures, column 6 lines 38-45, column 7 lines 3-20, column 8 lines 1-9, column 11 line 7-16, column 14 lines 15-36, column 20 lines 4-33	5-6, 8-9 / 10-17 ----- 40-61
X --- A	JP 2000132664 A (HASHIMOTO, SHINICHI) 12 May 2000 (12.03.2000) see abstract, Figures	7 ----- 40-61

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X / Y --- A	US 5,515,856 A (OLSTAD ET AL.) 14 May 1996 (14.05.1996) see abstract, Figures, column 3 line 49 - column 7 line 48	7 / 10-17, 18 ----- 40-61
Y --- A	JP 10277042 A (SUZUKI ET AL.) 20 October 1998, see abstract and Figures	18 ----- 40-61
Y --- A	US 5,396,890 A (WENG, LEE) 14 March 1995 (14.03.1995) see abstract, Figures, column 3 line 18 - column 4 line 22, column 4 line 53 - column 5 line 40, column 6 lines 1-33, column 7 lines 23-43, column 8 lines 26-47, column 9 lines 1-13	19-39 ----- 40-61

INTERNATIONAL SEARCH REPORT

PCT/US02/22760

Continuation of Item 4 of the first sheet:

Title is too long.

New title:

Acoustic Microimaging with 4D Reflection Virtual Samples