



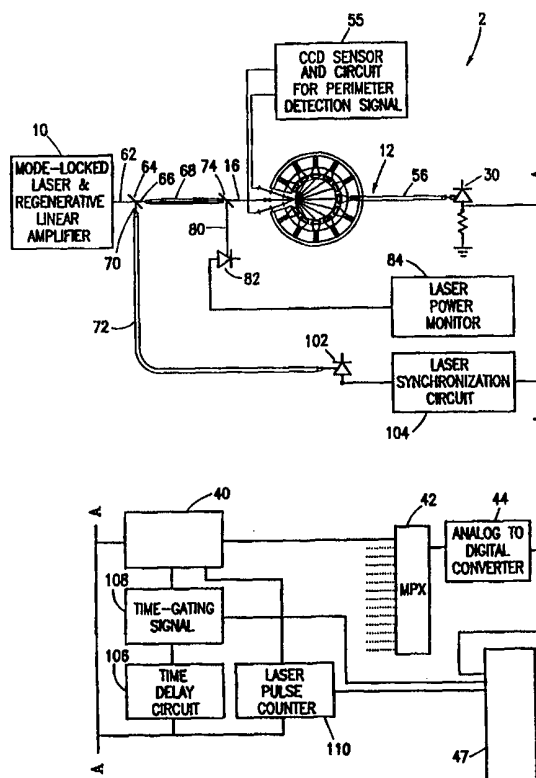
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT) -

<p>(51) International Patent Classification <sup>6</sup> : <b>A61B 6/00</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 99/27343</b> (43) International Publication Date: 3 June 1999 (03.06.99)</p>
<p>(21) International Application Number: PCT/US98/24939 (22) International Filing Date: 25 November 1998 (25.11.98) (30) Priority Data: 60/066,479 26 November 1997 (26.11.97) US (71) Applicant (for all designated States except US): IMAGING DIAGNOSTIC SYSTEMS, INC. [US/US]; 6531 N.W. 18th Court, Plantation, FL 33313 (US). (72) Inventor; and (75) Inventor/Applicant (for US only): WAKE, Robert, H. [US/US]; 6531 N.W. 18th Court, Plantation, FL 33313 (US). (74) Agent: DE LEON, Josefino, P.; Shlesinger, Arkwright &amp; Garvey LLP, 3000 South Eads Street, Arlington, VA 22202 (US).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p> <p>(88) Date of publication of the international search report: 12 August 1999 (12.08.99)</p>

(54) Title: TIME-RESOLVED BREAST IMAGING DEVICE

(57) Abstract

A photodetection circuit for use in a laser imaging apparatus comprises a photodetector (30) adapted to respond to a laser pulse exiting from a breast being scanned; a multi-gain preamplifier circuit (40) connected to the output of the photodetector; a switch (140) connected to the output of the multi-gain preamplifier for sampling the output of the photodetector; an RC circuit (142) for spreading the sampled signal; an amplifier (142) connected to the output of the RC circuit; and an integrator (146) for integrating each sample of the output. A time-gating circuit (108) is operably connected to the switch to open and close the switch at regular intervals of time during the occurrence of the output. A laser pulse synchronization circuit (104) is operably connected to the time-gating circuit to provide a signal to the time-gating circuit as to when the laser pulse is expected to arrive at the photodetector.



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INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US98/24939

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(6) :A61B 6/00  
US CL :600/473

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. : 250/208.2, 339.02; 356/372; 600/310, 473, 475-477

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)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P	US 5,692,511 A (GRABLE) 02 December 1997, entire document.	1-8, 13-21
X,P	US 5,694,938 A (FENG et al.) 09 December 1997, entire document.	1-8, 13-21
X,P	US 5,851,181 A (TALMOR) 22 December 1998, entire document	9-12
A, P	US 5,813,987 A (MODELL et al.) 29 September 1998, entire document.	1-21

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Date of the actual completion of the international search

13 MAY 1999

Date of mailing of the international search report

15 JUN 1999

Name and mailing address of the ISA/US  
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