

Title (en)  
PHYSIOLOGICAL STRESS DETECTOR DEVICE AND METHOD

Title (de)  
VORRICHTUNG ZUR DETEKTION VON PHYSIOLOGISCHEM STRESS UND ZUGEHÖRIGES VERFAHREN

Title (fr)  
DISPOSITIF DE DETECTION DE STRESS PHYSIOLOGIQUE ET PROCEDE CORRESPONDANT

Publication  
**EP 1083822 A4 20051012 (EN)**

Application  
**EP 98924548 A 19980611**

Priority  
IL 9800270 W 19980611

Abstract (en)  
[origin: WO9963883A1] This invention is a method and device for measurement of a level of at least one blood constituent. The device includes a light source, and a light detector proximate the surface of an organ. The device also includes a pair of adjustable gain amplifiers (A1, A2), and a processor/controller (44) connected within a processing unit. The processing unit operates to separate an AC signal component from a DC signal component. The light source includes at least one light emitting unit. Preferably the light source alternately emits light at two different wavelength ranges, and normalizes the AC and DC output signals corresponding with the intensity of the light reflected from the organ and calculates a ratio of the normalized signals for each wavelength range. The device may determine the level of the blood constituent, and may also use this level for monitoring and/or to activate an alarm (48) when the level falls outside a predetermined range. The device, and the method may be applied to monitoring, inter alia, conditions of apnea, respiratory stress, reduced blood flow in organ regions, heart rate, jaundice, and blood flow velocity.

IPC 1-7  
**A61B 5/00**; **G01N 21/31**

IPC 8 full level  
**A61B 5/00** (2006.01); **A61B 5/024** (2006.01); **A61B 5/026** (2006.01); **G01N 21/31** (2006.01)

CPC (source: EP)  
**A61B 5/14535** (2013.01); **A61B 5/14551** (2013.01); **A61B 5/4818** (2013.01); **A61B 5/6804** (2013.01); **A61B 5/681** (2013.01); **A61B 5/6814** (2013.01); **A61B 5/14552** (2013.01); **A61B 2503/06** (2013.01)

Citation (search report)  
• [X] US 5351685 A 19941004 - POTRATZ ROBERT S [US]  
• [A] WO 9220273 A2 19921126 - NIM INC [US]  
• [XA] US 4824242 A 19890425 - FRICK GENE [US], et al  
• [A] WO 9802087 A1 19980122 - CRITICARE SYSTEMS INC [US]  
• [A] US 5203329 A 19930420 - TAKATANI SETSUO [US], et al  
• [A] US 4190804 A 19800226 - PYNE CLIVE R [GB], et al  
• [A] WO 9822018 A1 19980528 - UNIV SOUTH FLORIDA [US]  
• [A] WO 9805252 A1 19980212 - NELLCOR PURITAN BENNETT INC [US]  
• [A] US 4880304 A 19891114 - JAEB JONATHAN P [US], et al  
• [A] EP 0487726 A1 19920603 - TOMITA MITSUEI [JP]  
• [EX] EP 0870465 A1 19981014 - HEWLETT PACKARD CO [US]  
• [A] PATENT ABSTRACTS OF JAPAN vol. 1998, no. 01 30 January 1998 (1998-01-30)  
• See references of WO 9963883A1

Designated contracting state (EPC)  
DE FI FR GB IT

DOCDB simple family (publication)  
**WO 9963883 A1 19991216**; AU 7672698 A 19991230; CA 2334964 A1 19991216; CA 2334964 C 20090324; EP 1083822 A1 20010321; EP 1083822 A4 20051012

DOCDB simple family (application)  
**IL 9800270 W 19980611**; AU 7672698 A 19980611; CA 2334964 A 19980611; EP 98924548 A 19980611