

1) Family number: 41576260 (US2008055074A)

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Title: SENSOR-BASED ADAPTIVE WEARABLE DEVICES AND METHODS

Abstract: The present disclosure is directed towards apparatuses, systems and methods for providing improved sensor-based patient monitoring and tracking. In accordance with one aspect, a method is provided for adjusting a vital sign alarm threshold of a vital status sensor as a function of a patient's GPS data, which may comprise: altitude data, velocity data, and position data. In accordance with another aspect, a method is provided for adjusting one or more alarm detection parameters based in part on a patient's calculated heart rate variability (HRV) data. According to yet another aspect, an electronic triage tag is configured to include a colored card insertion region for inserting a colored card for preventing the device from being inadvertently activated, an LCD screen and a series of LEDs for displaying the triage status of a patient (red, yellow, green, black).

Classifications:

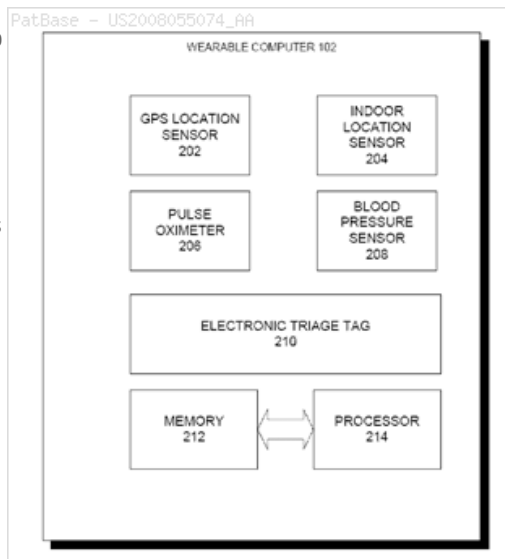
International (IPC 8-9): A61B5/0404 G06F17/00 G08B1/08 G09F1/10 G09F3/10 (Advanced/Invention);

A61B5/0402 G06F17/00 G08B1/00 G09F1/00 G09F3/10 (Core/Invention)

CPC: A61B5/0002 A61B5/0205 A61B5/024 A61B5/02405 A61B5/1112 G16H40/67

European: A61B5/00B A61B5/024 A61B5/024A A61B5/11M G06F19/34C K61B5/0205

US: 340/539.12 340/539.120P 340/539.120S 340/539.13 340/539.130P 340/539.130S 40/124.06 40/299.01 600/515 600/515S 701/300 701/300S



Family:

Publication number	Publication date	Application number	Application date
US2008055074 AA	20080306	US20070741756	20070429
US2010171611 AA	20100708	US20090632890	20091208
US7629881 BB	20091208	US20070741756	20070429

Priority:

US20060795815P 20060428	US20060828282P 20061005	US20060849570P 20061005
US20070741756 20070429	US20090632890 20091208	

Probable Assignee: UNIV JOHNS HOPKINS

Assignee(s): (std): ALM ALEXANDER M ; BABIN STEVEN M ; CHAVIS JEFFREY S ; GAO TIA ; UNIV JOHNS HOPKINS

Assignee(s): JOHNS HOPKINS UNIV ; THE JOHNS HOPKINS UNIVERSITY

Inventor(s): (std): GAO TIA ; BABIN STEVEN M ; JUANG RADFORD R ; BISHOP WILLIAM E ; WHITE DAVID M ; ALM ALEXANDER M ; CRAWFORD DAVID A ; CHAVIS JEFFREY S

Inventor(s): ALM ALEXANDER ; CHAVIS JEFFREY ; BABIN STEVEN ; JUANG RADFORD ; CRAWFORD DAVID ; BISHOP WILLIAM ; WHITE DAVID

Agent(s): THE JOHNS HOPKINS UNIVERSITYAPPLIED PHYSICS LABORA, OFFICE OF PATENT COUNSEL; JOHNS HOPKINS UNIVERSITYAPPLIED PHYSICS LABORA OFFICE OF PATENT COUNSEL; THE JOHNS HOPKINS UNIVERSITYAPPLIED PHYSICS LABORA,OFFICE OF PATENT COUNSEL; FRANCIS A

2) Family number: 49578390 (US2011224498A)

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Title: BODY-WORN VITAL SIGN MONITOR

Abstract: The invention provides a body-worn vital sign monitor that measures a patient's vital signs (e.g. blood pressure, SpO2, heart rate, respiratory rate, and temperature) while simultaneously characterizing their activity state (e.g. resting, walking, convulsing, falling) and posture (upright, supine). The monitor processes this information to minimize corruption of the vital signs and associated alarms/alerts by motion-related artifacts. It also features a graphical user interface (GUI) rendered on a touchpanel display that facilitates a number of features to simplify and improve patient monitoring and safety in both the hospital and home.

Classifications:

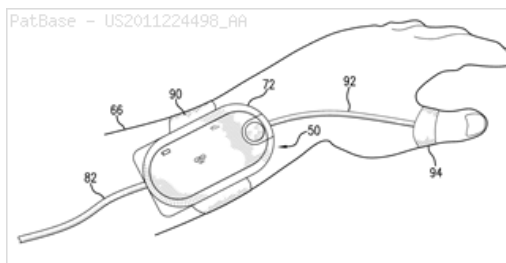
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H04W4/20 (Advanced/Invention); H04W4/02 (Advanced/Non-invention)

CPC: A61B5/00 A61B5/0002 A61B5/411 A61B5/6824 A61B5/746 A61B5/746S H04W4/02 H04W4/029

European: A61B5/00 A61B5/41B A61B5/68B2H

US: 1/1 340/313 340/69 340/7.58 345/173 345/173S 348/376
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600/301P 600/485 600/485P 600/509 600/509P 600/545



Family:

Publication number	Publication date	Application number	Application date
DE602011041734 D1	20171102	DE201160041734T	20110310
EP2544584 A1	20130116	EP20110754055	20110310
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WO11112782 A1	20110915	WO2011US27843	20110310

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WO2011US27843 20110310	US20190285015 20190225	US20190404435 20190506

Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; DHILLON MARSHAL ; DIBATTISTA CAROLINE ; MCCOMBIE DEVIN ; MOON JIM ; SOTERA WIRELESS ; SOTERA WIRELESS INC ; WATLINGTON TOM ; TROMMER GUNNAR ; TROMMER GUNNER

Assignee(s): SOTERA WIRELESS INC SAN DIEGO

Inventor(s): (std): TROMMER GUNNER ; BANET MATT ; DIBATTISTA CAROLINE ; MOON JIM ; TROMMER GUNNAR ; WATLINGTON TOM ; MCCOMBIE DEVIN ; DHILLON MARSHAL

Agent(s): SCHIWECK WEINZIERL AND KOCH; SCHIWECK WEINZIERL AND KOCH PATENTANWALTE PARTNERSCHAFT MB; MCLAUGHLIN IP PTE LTD; MICHAEL A; ACUITY LAW GROUP PC; WHITTAKER MICHAEL A; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

3) Family number: 33208463 (US2007024946A)

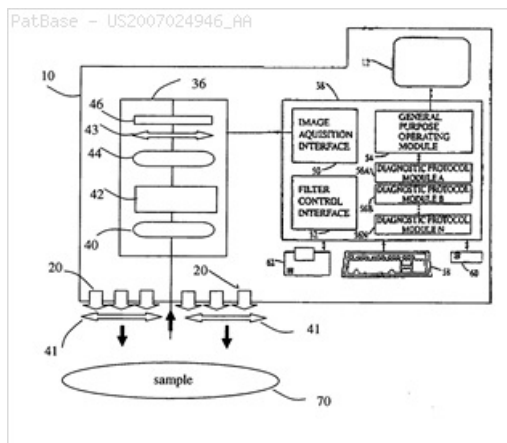
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Title: HYPERSPECTRAL/MULTISPECTRAL IMAGING IN DETERMINATION, ASSESSMENT AND MONITORING OF SYSTEMIC PHYSIOLOGY AND SHOCK

Abstract: The present invention provides a hyperspectral imaging system which demonstrates changes in tissue oxygen delivery, extraction and saturation during shock and resuscitation including an imaging apparatus for performing real-time or near real-time assessment and monitoring of shock, including hemorrhagic, hypovolemic, cardiogenic, neurogenic, septic or burn shock. The information provided by the hyperspectral measurement can deliver physiologic measurements that support early detection of shock and also provide information about likely outcomes.

Classifications:

International (IPC 8-9): A61B A61B1/04 A61B10/00 A61B5/00
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G01J3/10 G01J3/28 G01J3/32 G01N21/31
G02F1/07 (Advanced/Invention);
A61B5/02 A61B5/029 G01J5/00 (Advanced/Non-invention);
A61B1/04 A61B10/00 A61B5/00 A61B6/00 G02F1/01 (Core/Invention);
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CPC: A61B5/0059 A61B5/0088 A61B5/02 A61B5/0261 A61B5/029
A61B5/14552 A61B5/412 A61B5/416 A61B5/445 A61B5/7264
G01J3/0224 G01J3/10 G01J3/2823 G01J3/32 G01J2005/0077
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Family:

Publication number	Publication date	Application number	Application date
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EP1835845 A4	20080910	EP20050857613	20051228
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JP2008525158 T2	20080717	JP20070549525T	20051228
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WO06086085 A3	20080117	WO2005US46919	20051228

Priority:

US20040639315P 20041228	US20040639282P 20041228	US20050653081P 20050216
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AU20130202796 20130406		

Probable Assignee: HYPERMED INC

Assignee(s): (std): FREEMAN JENNY E ; HOPMEIER MICHAEL J ; HYPERMED IMAGING INC ; HYPERMED INC ; HYPERSPECTRAL IMAGING INC ; PANASYUK ALEXANDER A ; PANASYUK SVETLANA V ; TRACEY BRIAN H

Inventor(s): (std): PANASYUK SVETLANA V ; FREEMAN JENNY E ; HOPMEIER MICHAEL J ; PANASYUK ALEXANDER A ; TRACEY BRIAN H ; FREEMAN JENNY E ; PANASYUK ALEXANDER A ; HOPMEIER MICHAEL J J ; TRACEY BRIAN H H ; FREEMAN JENNY E E ; PANASYUK SVETLANA V V

Inventor(s): HOPMEIER MICHAEL ; PANASYUK SVETLANA ; TRACEY BRIAN ; FREEMAN JENNY ; PANASYUK ALEXANDER ; MICHAEL J HOPMEIER ; ALEXANDER A PANASYUK ; JENNY E FREEMAN ; BRIAN H TRACEY ; SVETLANA V PANASYUK

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; MBM INTELLECTUAL PROPERTY LAW LLP; ZELLER ANDREAS; CLT PATENT AND TRADEMARK HK LTD; OSAKI KATSUMASA; KAWAGUCHI YOSHIO; JAMES REMENICK; NOVAK DRUCE DELUCA AND QUIGG; JAMES REMENICK NOVAK DRUCE DELUCA AND QUIGG; MORGAN LEWIS AND BOCKIUS LLP; BRETT A; ANDREW J

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

4) Family number: 47677552 (US2010298650A)

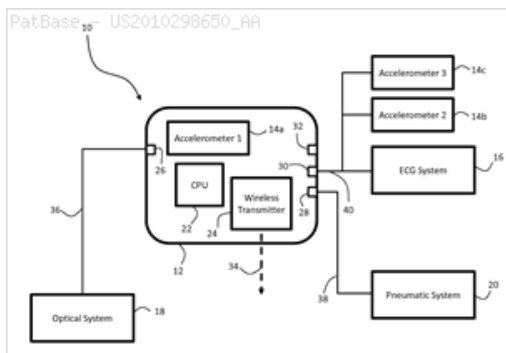
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Title: VITAL SIGN MONITORING SYSTEM FEATURING 3 ACCELEROMETERS

Abstract: The invention provides a system and method for measuring vital signs (e.g. SYS, DIA, SpO2, heart rate, and respiratory rate) and motion (e.g. activity level, posture, degree of motion, and arm height) from a patient. The system features: (i) first and second sensors configured to independently generate time-dependent waveforms indicative of one or more contractile properties of the patient's heart; and (ii) at least three motion-detecting sensors positioned on the forearm, upper arm, and a body location other than the forearm or upper arm of the patient. Each motion-detecting sensor generates at least one time-dependent motion waveform indicative of motion of the location on the patient's body to which it is affixed. A processing component, typically worn on the patient's body and featuring a microprocessor, receives the time-dependent waveforms generated by the different sensors and processes them to determine: (i) a pulse transit time calculated using a time difference between features in two separate time-dependent waveforms, (ii) a blood pressure value calculated from the time difference, and (iii) a motion parameter calculated from at least one motion waveform.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/02 A61B5/0205 A61B5/021 A61B5/022 A61B5/024 A61B5/0285 A61B5/0295 A61B5/04 A61B5/0402 A61B5/0408 A61B5/0428 A61B5/044 A61B5/0452 A61B5/08 A61B5/11 A61B5/1455 (Advanced/Invention); A61B5/022 A61B5/024 A61B5/0452 A61B5/08 A61B5/11 (Advanced/Non-invention)
CPC: A61B5/0002 A61B5/0006 A61B5/0205 A61B5/021 A61B5/02125 A61B5/022 A61B5/02225 A61B5/02416 A61B5/0285 A61B5/0402 A61B5/0452 A61B5/1116 A61B5/1117 A61B5/1118 A61B5/1123 A61B5/447 A61B5/681 A61B5/6824 A61B5/7207 A61B5/7239 A61B5/7257 A61B2560/0261 A61B2562/0219 A61B5/0024 A61B5/0082 A61B5/02028 A61B5/0295 A61B5/04012 A61B5/0408 A61B5/04085 A61B5/0428 A61B5/044 A61B5/0816 A61B5/1122 A61B5/14551 A61B5/6823 A61B5/6826 A61B5/746
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Family:

Publication number	Publication date	Application number	Application date
EP2432378 A2	20120328	EP20100778375	20100520
EP2432378 A4	20141217	EP20100778375	20100520
IN02713MN2011 A	20120511	IN2011MN02713	20111215
SG10201403414Q A1	20140926	SG20141003414	20100520
SG176189 A1	20111229	SG20110085933	20100520
US2010298650 AA	20101125	US20090469094	20090520
US2010298651 AA	20101125	US20090469107	20090520
US2010298652 AA	20101125	US20090469115	20090520
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US2017035305 AA	20170209	US20160332733	20161024
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US8738118 BB	20140527	US20090469107	20090520
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WO10135516 A2	20101125	WO2010US35550	20100520
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Priority:

US20090469094	20090520	US20090469107	20090520	US20090469115	20090520
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Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; DHILLON MARHSALL ; DHILLON MARSHAL ; MCCOMBIE DEVIN ; TRIAGE WIRELESS INC ; MOON JIM ; SOTERA WIRELESS INC

Inventor(s): (std): MCCOMBIE DEVIN ; BANET MATT ; MOON JIM ; DHILLON MARSHAL ; DHILLON MARHSALL ; BANET MATTHEW

Agent(s): SCHIWECK WEINZIERL AND KOCH; MCLAUGHLIN IP PTE LTD; BIOTECHNOLOGY LAW GROUP,12707 HIGH BLUFF DRIVE; BIOTECHNOLOGY LAW GROUP 12707 HIGH BLUFF DRIVE; MICHAEL A; ACUITY LAW GROUP PC; ACUITY LAW GROUP P C; WHITTAKER MICHAEL A; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

5) Family number: 47677553 (US2010298656A)

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Title: ALARM SYSTEM THAT PROCESSES BOTH MOTION AND VITAL SIGNS USING SPECIFIC HEURISTIC RULES AND THRESHOLDS

Abstract: The invention provides a body-worn monitor that measures a patient's vital signs (e.g. blood pressure, SpO2, heart rate, respiratory rate, and temperature) while simultaneously characterizing their activity state (e.g. resting, walking, convulsing, falling). The body-worn monitor processes this information to minimize corruption of the vital signs by motion-related artifacts. A software framework generates alarms/alerts based on threshold values that are either preset or determined in real time. The framework additionally includes a series of 'heuristic' rules that take the patient's activity state and motion into account, and process the vital signs accordingly. These rules, for example, indicate that a walking patient is likely breathing and has a regular heart rate, even if their motion-corrupted vital signs suggest otherwise.

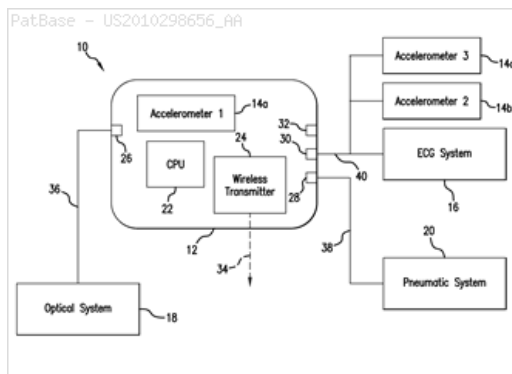
Classifications:

International (IPC 8-9): A61B5/00 A61B5/02 A61B5/0205 A61B5/021 A61B5/022 A61B5/04 A61B5/0402 A61B5/08 A61B5/103 A61B5/11 A61B5/1455 G06F19/00 G08B19/00 G08B21/04 G08B23/00 G16H15/00 G16H50/50 (Advanced/Invention); A61B5/00 A61B5/01 A61B5/021 A61B5/024 A61B5/0245 A61B5/04 A61B5/0404 A61B5/0452 A61B5/0456 A61B5/08 A61B5/11 A61B5/145 G06F19/00 (Advanced/Non-invention)
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Family:

Publication number	Publication date	Application number	Application date
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US2015164437 AA	20150618	US20150623444	20150216
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Priority:

US20090469182	20090520	US20090469192	20090520	US20090469236	20090520
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Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; DHILLON MARSHAL ; MCCOMBIE DEVIN ; MOON JIM ; TRIAGE WIRELESS INC ;
TROMMER GUNNAR ; SOTERA WIRELESS INC ; MOON JIN

Inventor(s): (std): MCCOMBIE DEVIN ; BANET MATT ; MOON JIM ; DHILLON MARSHAL ; TROMMER GUNNAR ; MOON JIN ;
DHILLON MARSHALL ; BANET MATTHEW ; DHILLON MARSHAL SINGH

Agent(s): SCHIWECK WEINZIERL AND KOCH; SCHIWECK WEINZIERL AND KOCH PATENTANWALTE
PARTNERSCHAFT MB; MCLAUGHLIN IP PTE LTD; BIOTECHNOLOGY LAW GROUP, 12707 HIGH BLUFF
DRIVE; BIOTECHNOLOGY LAW GROUP 12707 HIGH BLUFF DRIVE; MICHAEL A; ACUITY LAW GROUP PC;
WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU
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6) Family number: 33351638 (US2006206011A)

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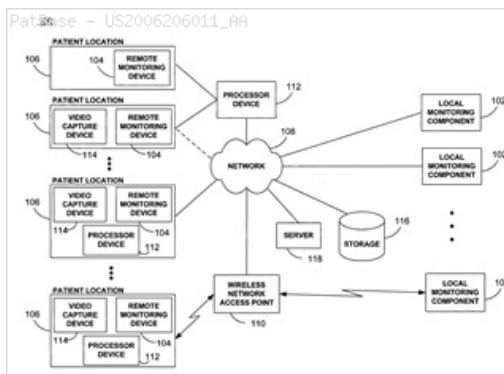
Title: SYSTEM AND METHOD FOR REMOTE MONITORING OF MULTIPLE HEALTHCARE PATIENTS

Abstract: A system and method for remotely monitoring multiple healthcare patients simultaneously is described. Multiple patients in multiple locations can be monitored for a variety of healthcare conditions and indicators. Information about the monitored patients is transmitted to a local monitoring component, which can be part of a portable processing system, and can be monitored by a healthcare professional using the portable processing system at any location convenient to the professional. An adaptive algorithm dynamically determines if an alert should be generated for a patient based on historical information associated with the patient or a procedure, situational information associated with a schedule, coordination or prioritization of multiple procedures, or predictive information based on the likelihood of a future condition based on a patient's current condition, a procedure being performed, or other factors.

Classifications:

International (IPC 8-9): A61B5/00 G08B23/00 (Advanced/Invention);
A61B5/00 G08B23/00 (Core/Invention)

CPC: A61B5/0006 A61B5/002 A61B5/0022 G06F19/3418 G16H40/20 G16H40/63 G16H50/20
European: A61B5/00B A61B5/00B2 A61B5/00B3B G06F19/32G G06F19/34A G06F19/34C G06F19/34K
US: 128/920 128/920S 340/573.1 340/573.100S 600/300 600/300P



Family:

Publication number	Publication date	Application number	Application date
US2006206011 AA	20060914	US20050074004	20050308
US2009054735 AA	20090226	US20060496025	20060731

Priority:

US20050074004 20050308 US20050703424P 20050729 US20060496025 20060731

Probable Assignee: VANDERBILT UNIV

Assignee(s): (std): HIGGINS MICHAEL S ; PATEL NIMESH P ; ST JACQUES PAUL J ; VANDERBILT UNIV OFFICE O ; VANDERBILT UNIVERSITY OFFICE O

Assignee(s): VANDERBILT UNIVERSITY OFFICE OF TECHNOLOGY TRANSFER AND ENTERPRISE DEVELOPMENT ; VANDERBILT UNIV OFFICE OF TECHNOLOGY TRANSFER AND ENTERPRISE DEVELOPMENT ; VANDERBILT UNIV

Inventor(s): (std): HIGGINS MICHAEL S ; ST JACQUES PAUL J ; PATEL NIMESH P

Inventor(s): PATEL NIMESH ; ST JACQUES PAUL ; HIGGINS MICHAEL

Agent(s): MILES AND STOCKBRIDGE PC

7) Family number: 60056716 (US2016345844A)

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Title: BODY-WORN SYSTEM FOR CONTINUOUS, NONINVASIVE MEASUREMENT OF VITAL SIGNS

Abstract: The invention provides methods and systems for continuous noninvasive measurement of vital signs such as blood pressure (cNIBP) based on pulse arrival time (PAT). The invention uses a body-worn monitor that recursively determines an estimated PEP for use in correcting PAT measurements by detecting low frequency vibrations created during a cardiac cycle, and a state estimator algorithm to identify signals indicative of aortic valve opening in those measured vibrations.

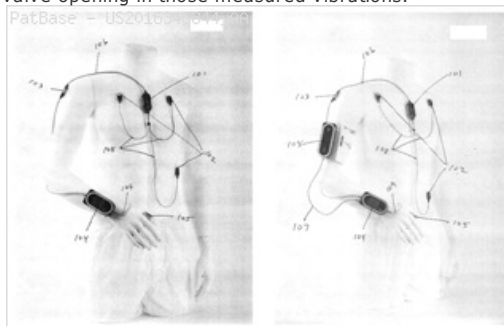
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International (IPC 8-9): A61B5/00 A61B5/02 A61B5/021 A61B5/026 A61B5/0295 A61B5/04 A61B5/0456 A61B5/11 (Advanced/Invention)

CPC: A61B5/0024 A61B5/02125 A61B5/02416 A61B5/0456 A61B5/1102 A61B5/7221 A61B5/725 A61B5/7253 A61B5/02028

A61B5/0261 A61B5/0295 A61B5/04017 A61B5/6826

US: 1/1 600/480



Family:

Publication number	Publication date	Application number	Application date
CN106028918 A	20161012	CN201580010786	20150206
EP3102097 A1	20161214	EP20150745843	20150206
EP3102097 A4	20171004	EP20150745843	20150206
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Priority:

US20140936850P 20140206 US20150117162 20150206 WO2015US14915 20150206

Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): SOTERA WIRELESS INC

Inventor(s): (std): MCCOMBIE DEVIN ; ZHANG GUANQUN ; HENRY ISAAC

Agent(s): SCHIWECK WEINZIERL AND KOCH; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: APPARATUS AND METHOD FOR PROVIDING A CONSCIOUS PATIENT RELIEF FROM PAIN AND ANXIETY ASSOCIATED WITH MEDICAL OR SURGICAL PROCEDURES

Abstract: A care system and associated methods are provided for alleviating patient pain, anxiety and discomfort associated with medical or surgical procedures. The care system facilitates a procedural physician's safely and efficaciously providing conscious sedation to a patient by providing a responsiveness monitoring system which monitors the responsiveness of the patient and generates a value representing the level of patient responsiveness. In further aspects of the invention, the responsiveness monitoring system is an automated system which includes patient query and response devices. Additional embodiments of the system and methods are directed to alleviating patient pain or discomfort while enabling safe patient controlled drug delivery in correlation with the monitoring of patient health conditions.

Classifications:

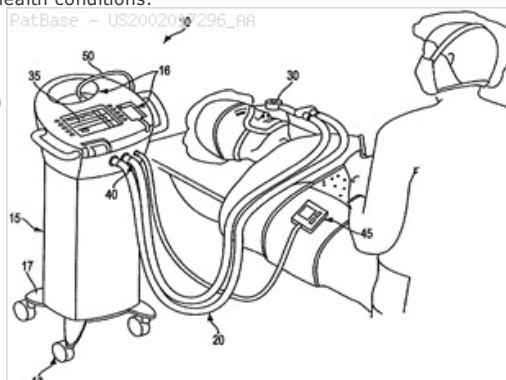
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International (ipc 1-7): A61B19/00 A61B5/00 A61B5/02 A61B5/022 A61B5/08 A61B5/11 A61B5/145 A61B5/16 A61G12/00 A61K9/22 A61M11/00 A61M15/00 A61M16/00 A61M16/01 A61M16/10 A61M16/12 A61M21/02 A61M31/00 A61M5/00 A61N1/18 A61N1/30 A62B1/00 A62B18/02 A62B18/08 A62B7/00 B32B1/00 D06N7/04 F16K31/02 G06F17/60

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US: 128/200.24 128/203.12 128/203.120P 128/203.120S 128/203.13 128/203.14 128/203.140P 128/203.140S 128/204.18 128/204.180P 128/204.21 128/204.210P 128/204.210S 128/204.23 128/204.230S 128/205.19 128/205.190S 128/205.23 128/205.25 128/205.250S 128/206.24 128/206.240S 128/898 428/121 428/121P 428/141 428/141P 514/329 600/301 604/19 604/19S 604/500 604/503 604/65 604/65S 604/66 604/66P 604/67 604/890.1 700/236 700/237 705/2 705/3



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Publication number	Publication date	Application number	Application date
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Probable Assignee: SCOTT LABORATORIES INC

Assignee(s): (std): HICKLE RANDALL S ; SCOTT LAB ; SCOTT LAB INC ; SCOTT LABORATORIES INC

Assignee(s): SCOTT LABORATORIES INC 2804 N LOOP 289 LUBBOCK TX 79415 ; SCOTT LABORATORIES INC2804 N. LOOP 289LUBBOCKTX79415US ; SCOTT LABORATORIES

Inventor(s): (std): HICKLE RANDALL ; RANDALL S HICKLE ; HICKALE RANDALL S ; HICKLE RANDALL S ; RANDALL S HICKS

Inventor(s): RANDALL HICKLE ; HICKLE RANDALL SUS

Agent(s): FB RICE; FB RICE PTY LTD; RIDOUT AND MAYBEE LLP; MOZZI MATTEO; DEACONS 3RD 7TH; DEACONS SOLICITORS AND NOTARIES; SOGA MICHITERU; SOGA MICHIHARU; MOCHIZUKI SHIRO; HOGAN AND HARTSON LLP IP GROUP COLUMBIA SQUARE; HOGAN AND HARTSON LLP, IP GROUP COLUMBIA SQUARE; HOGAN AND HARTSON LLP; DORSEY L

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

9) Family number: 48463747 (US2011066007A)

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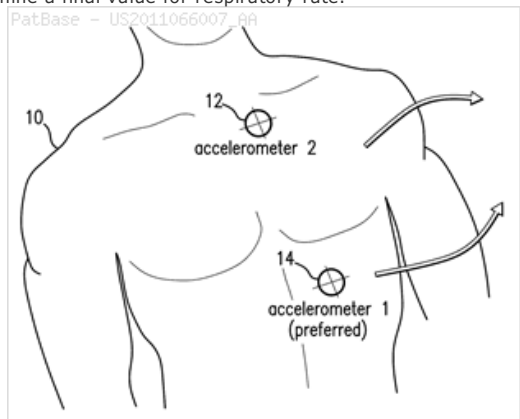
Title: BODY-WORN MONITOR FOR MEASURING RESPIRATION RATE

Abstract: The invention provides a multi-sensor system that uses an algorithm based on adaptive filtering to monitor a patient's respiratory rate. The system features a first sensor selected from the following group: i) an impedance pneumography sensor featuring at least two electrodes and a processing circuit configured to measure an impedance pneumography signal; ii) an ECG sensor featuring at least two electrodes and an ECG processing circuit configured to

measure an ECG signal; and iii) a PPG sensor featuring a light source, photodetector, and PPG processing circuit configured to measure a PPG signal. Each of these sensors measures a time-dependent signal which is sensitive to respiratory rate and, during operation, is processed to determine an initial respiratory rate value. An adaptive digital filter is determined from the initial respiratory rate. The system features a second sensor (e.g. a digital 3-axis accelerometer) that attaches to the patient's torso and measures an ACC signal indicating movement of the chest or abdomen that is also sensitive to respiratory rate. This second signal is processed with the adaptive filter to determine a final value for respiratory rate.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/0205 A61B5/024 A61B5/0402 A61B5/053 A61B5/08 A61B5/11 A61B5/113 (Advanced/Invention); A61B5/00 A61B5/024 A61B5/053 (Advanced/Non-invention)
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Family:

Publication number	Publication date	Application number	Application date
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Priority:

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US20180188125 20181112

Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; DHILLON MARSHAL ; MCCOMBIE DEVIN ; SOTERA WIRELESS INC

Assignee(s): TRIAGE WIRELESS INC ; SOTERA WIRELESS INC SAN DIEGO

Inventor(s): (std): MCCOMBIE DEVIN ; BANET MATT ; DHILLON MARSHAL ; BANET MATTHEW ; DHILLON MARHSALL

Agent(s): KOCH AND SCHIWECK GBR PATENTANWALTE; SCHIWECK WEINZIERL AND KOCH; MCLAUGHLIN IP PTE LTD; MICHAEL A; ACUITY LAW GROUP PC; WHITTAKER MICHAEL A; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

10) Family number: 42802772 (US2009018409A)

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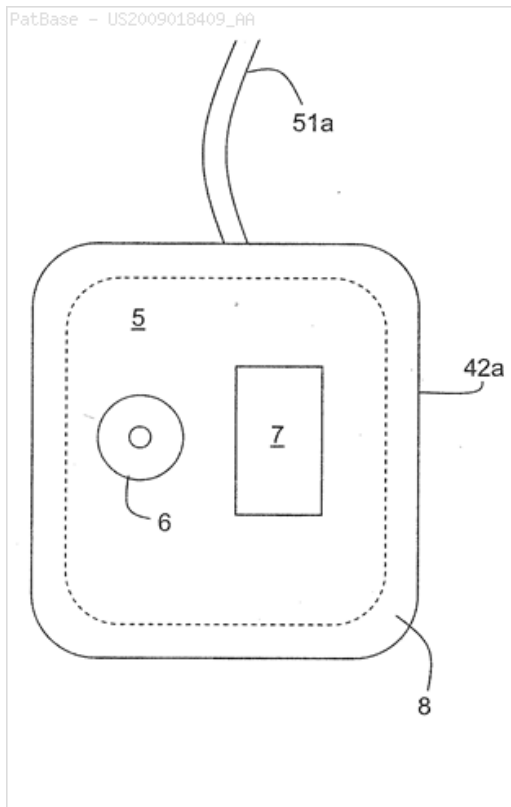
Title: DEVICE FOR DETERMINING RESPIRATORY RATE AND OTHER VITAL SIGNS

Abstract: A body-worn sensor that measures respiratory rate and other vital signs using an acoustic sensor (e.g., a small-scale sensor). The body-worn sensor features a chest-worn patch sensor that combines both the acoustic sensor and an ECG electrode into a single adhesive patch. To measure blood pressure, the device additionally performs a 'composite' PTT-based measurement that features both pressure-dependent and pressure-free measurements. The acoustic sensor measures respiration rate by recording sounds related to the patient's inspiration and expiration. The acoustic sensor is typically placed near the patient's trachea, but can also be placed on the middle right and left side of the chest, and the middle right and left side of the back.

Classifications:

International (IPC 8-9): A61B A61B5/00 A61B5/02 A61B5/021 A61B5/022 A61B5/024 A61B5/0245 A61B5/0402 A61B5/0408 A61B5/08 A61B5/11 A61B5/1455 A61B5/1477 (Advanced/Invention);

A61B5/0205 A61B5/021 A61B5/022 A61B5/0245 A61B5/0452
A61B5/08 A61B5/11 (Advanced/Non-invention);
A61B5/00 A61B5/08 (Core/Invention);
A61B (Subclass/Invention)
CPC: A61B5/02225 A61B5/0245 A61B5/1117 A61B5/1118
A61B5/14551 A61B5/7207 A61B2562/0219 A61B5/7239 A61B5/1116
A61B5/002 A61B5/0022 A61B5/0816 A61B5/02055 A61B5/022
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A61B5/7257 A61B5/726 A61B7/04 A61B2560/0412 A61B2560/0462
A61B2560/0468 A61B5/0002 A61B5/0823 A61B5/021 A61B5/0452
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G16H40/67
European: A61B5/022C A61B5/0408 A61B5/08R A61B5/11P
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Family:

Publication number	Publication date	Application number	Application date
■ CN104114089 A	20141022	CN201280065708	20121109
■ EP2442709 A1	20120425	EP20100790195	20100617
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■ EP2775917 A2	20140917	EP20120848585	20121109
■ EP2775917 A4	20150819	EP20120848585	20121109
■ HK1200078 A1	20150731	HK20150100625	20150120
■ IN00019MN2012 A	20120518	IN2012MN00019	20120103
■ IN00839MN2014 A	20150703	IN2014MN00839	20140503
■ JP2015502197 T2	20150122	JP20140541296T	20121109
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■ SG11201402137Q A1	20140627	SG20141102137	20121109
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■ US2009018409 AA	20090115	US20080171886	20080711
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■ US2010324388 AA	20101223	US20090559403	20090914
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■ US2018042495 AA	20180215	US20170723039	20171002
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■ WO09009761 A1	20090115	WO2008US69862	20080711
■ WO10148205 A1	20101223	WO2010US39000	20100617
■ WO13071014 A2	20130516	WO2012US64302	20121109
■ WO13071014 A3	20140828	WO2012US64302	20121109

Priority:

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Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; BANET MATTHEW J ; DHILLON MARSHAL ; DHILLON MARSHAL SINGH ; DHILLON

MARSHALL SINGH ; TRIAGE WIRELESS INC ; TERRY ANDREW STANLEY ; KOPOTIC ROBERT J ; VISSER HENK II ; SOTERA WIRELESS INC ; MCCOMBIE DEVIN ; MOON JIM ; VISSER II HENK ; SOTERA WIRELESS INC ; ZHOU ZHOU

Inventor(s): (std): TERRY ANDREW S ; VISSER II HENK ; DHILLON MARSHAL SINGH ; BANET MATTHEW J ; ZHOU ZHOU ; KOPOTIC ROBERT J ; TERRY ANDREW STANLEY ; DHILLON MARSHALL SINGH ; VISSER HENK II ; MCCOMBIE DEVIN ; BANET MATT ; MOON JIM ; DHILLON MARSHAL ; DHILLON MARSHALL ; DHILLON MARSHALL ; BANET MATTHEW ; BANET MATT M ; MCCOMBIE DEVIN D ; MOON JIM J ; DHILLON MARSHALL M

Agent(s): SCHIWECK WOLFRAM; SCHIWECK WEINZIERL AND KOCH; P C WOO AND CO; MCLAUGHLIN IP PTE LTD; WILMERHALE/TRIAGE WIRELESS; WILMERHALE TRIAGE WIRELESS; BIOTECHNOLOGY LAW GROUP,12707 HIGH BLUFF DRIVE; BIOTECHNOLOGY LAW GROUP 12707 HIGH BLUFF DRIVE; MICHAEL A; ACUITY LAW GROUP P C; ACUITY LAW GROUP PC; WHITTAKER MICHAEL A; PRAHL ERIC L ET AL; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

11) Family number: 51433772 (US2014249431A)

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Title: BODY-WORN SYSTEM FOR CONTINUOUS, NONINVASIVE MEASUREMENT OF CARDIAC OUTPUT, STROKE VOLUME, CARDIAC POWER, AND BLOOD PRESSURE

Abstract: The invention provides a system for measuring stroke volume (SV), cardiac output (CO), and cardiac power (CP) from a patient that features: 1) an impedance sensor connected to at least two body-worn electrodes and including an impedance circuit that processes analog signals from the electrodes to measure an impedance signal (e.g. TBEV waveform); 2) an ECG sensor connected to at least two chest-worn electrodes and including an ECG circuit that processes analog signals from the electrodes to measure and ECG signal; 3) an optical sensor connected to a body-worn optical probe and including an optical circuit that processes signals from the probe to measure at least one optical signal (e.g. a PPG waveform) from the patient; 4) a processing system, typically worn on the patient's wrist and connected through a wired interface to the optical sensor, and through either a wired or wireless interface to the TBEV and ECG sensors.

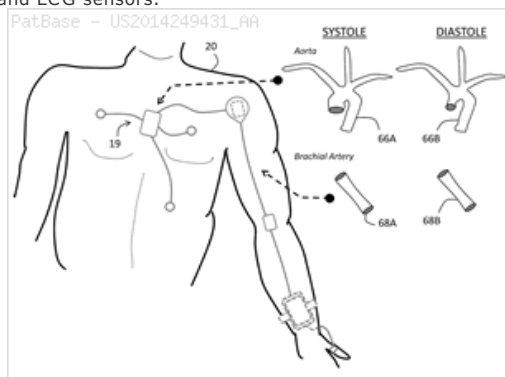
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International (IPC 8-9): A61B A61B5/00 A61B5/01 A61B5/02 A61B5/0205 A61B5/021 A61B5/024 A61B5/0245 A61B5/029 A61B5/0295 A61B5/0402 A61B5/053 A61B5/08 A61B5/091 A61B5/11 A61B5/145 A61B5/1455 G06F19/00 (Advanced/Invention); A61B5/00 A61B5/024 A61B5/0245 (Advanced/Non-invention); A61B (Subclass/Invention)

CPC: A61B5/0004 A61B5/02055 A61B5/0225 A61B5/0402 A61B5/091 A61B5/72 A61B5/7221 A61B5/7225 A61B5/01 A61B5/029 A61B5/0816 A61B5/14551 A61B5/6823 A61B5/6824 A61B5/746 A61B5/0008 A61B5/0022 A61B5/02028 A61B5/0205 A61B5/021 A61B5/02427 A61B5/0245 A61B5/0295 A61B5/0535 A61B5/1116 A61B5/14542 A61B5/681 A61B5/6826 A61B5/6833 A61B5/7239 A61B5/725 A61B2562/04 G06F19/00

European: A61B5/01 A61B5/029 A61B5/0295 A61B5/053F A61B5/08R A61B5/11P A61B5/1455N

US: 1/1 600/324 600/485 600/506 600/526 600/547



Family:

Publication number	Publication date	Application number	Application date
CN103491868 A	20140101	CN201180066468	20111227
CN103491868 B	20160504	CN201180066468	20111227
CN105832317 A	20160810	CN201610222420	20111227
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Priority:

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Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; BERNSTEIN DONALD ; HENRY ISAAC ; SOTERA WIRELESS INC ; SOTERA WIRELESS INC

Inventor(s): (std): HENRY ISAAC I ; BANET MATT M ; BERNSTEIN DONALD D ; BANET MATTHEW ; HENRY ISAAC ; BANET MATT ; BERNSTEIN DONALD

Agent(s): SCHIWECK WEINZIERL AND KOCH; SCHIWECK WEINZIERL KOCH PATENTANWAELTE PARTNERSCHAFT MBB; P C WOO AND CO; CHANG TSI AND PARTNERS INTELLECTUAL PROPERTY HK LTD; MC LAUGHLIN IP PTE LTD; MICHAEL A; ACUITY LAW GROUP PC; WHITTAKER MICHAEL A; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

12) Family number: 49245791 (US2011172504A)

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Title: MULTIVARIATE RESIDUAL-BASED HEALTH INDEX FOR HUMAN HEALTH MONITORING

Abstract: Ambulatory or in-hospital monitoring of patients is provided with early warning and prioritization, enabling proactive intervention and amelioration of both costs and risks of health care. Multivariate physiological parameters are estimated by empirical model to remove normal variation. Residuals are tested using a multivariate probability density function to provide a multivariate health index for prioritizing medical effort.

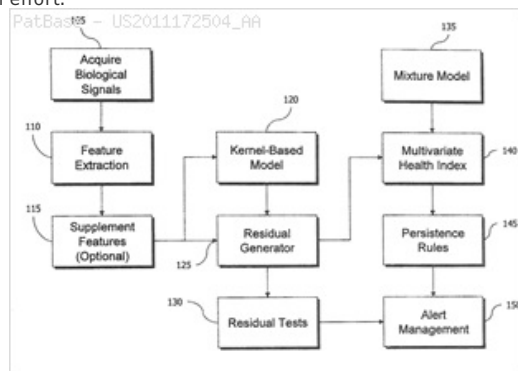
Classifications:

International (IPC 8-9): A61B19/00 A61B5/00 A61B5/0205
A61B5/021 A61B5/024 G01N33/48 G06F19/00 G06G7/58 G16H50/20
G16H50/30 G16H50/50 (Advanced/Invention);
A61B5/021 A61B5/024 A61B5/08 A61B5/091
A61B5/1455 (Advanced/Non-invention)

CPC: A61B5/7264 A61B5/7278 A61B5/6898 A61B5/746 A61B5/0205
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European: A61B5/0205 A61B5/41D A61B5/72M2 G06F19/34G
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US: 1/1 600/301 600/301P 702/19 703/11



Family:

Publication number	Publication date	Application number	Application date
AU2011205557 AA	20120906	AU20110205557	20110104
AU2016201807 AA	20160414	AU20160201807	20160322
AU2017239519 AA	20171026	AU20170239519	20171004
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CN102917661 A	20130206	CN201180013786	20110104
CN102917661 B	20150923	CN201180013786	20110104
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EP2523625 A4	20150325	EP20110733194	20110104
EP2523625 B1	20170308	EP20110733194	20110104
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JP2013517053 T2	20130516	JP20120548966T	20110104
JP5859979 B2	20160216	JP20120548966T	20110104
US2011172504 AA	20110714	US20110984400	20110104
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US2018325460 AA	20181115	US20180037045	20180717
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Priority:

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Probable Assignee: PHYSIQ INC

Assignee(s): (std): PHYSIQ INC ; VENTURE GAIN LLC ; WEGERICHP STEPHAN W

Assignee(s): PHYSIQ INC NAPERVILLE ; PIVOTAL CAPITAL FUND LP ; NATIONAL SCIENCE FOUNDATION

Inventor(s): (std): WEGERICHP STEPHAN W

Agent(s): SPRUSON AND FERGUSON; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; HOFFMANN EITL PATENT U RECHTSANWAELTE PARTMBB; HOFFMANN EITL; TANI AND ABE PC; KRATZ RUDY ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT

13) Family number: 49800798 (US2011257489A)

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Title: BODY-WORN MONITOR FOR MEASURING RESPIRATORY RATE

Abstract: The invention provides a system for measuring respiratory rate (RR) from a patient. The system includes an impedance pneumography (IP) sensor, connected to at least two electrodes, and a processing system that receives and processes signals from the electrodes to measure an IP signal. A motion sensor (e.g. an accelerometer) measures at least one motion signal (e.g. an ACC waveform) describing movement of a portion of the patient's body to which it is attached. The processing system receives the IP and motion signals, and processes them to determine, respectfully, frequency-domain IP and motion spectra. Both spectra are then collectively processed to remove motion components from the IP spectrum and determine RR. For example, during the processing, an algorithm determines motion frequency components from the frequency-domain motion spectrum, and then using a digital filter removes these, or parameters calculated therefrom, from the IP spectrum.

Classifications:**International (IPC 8-9):** A61B5/00 A61B5/02 A61B5/0205

A61B5/0402 A61B5/05 A61B5/08 A61B5/085 A61B5/113

A61B5/1455 (Advanced/Invention);

A61B5/00 A61B5/0205 A61B5/021 A61B5/0245 A61B5/0402

A61B5/11 A61B5/113 A61B5/1455 (Advanced/Non-invention)

CPC: A61B5/11 A61B5/6801 A61B5/02125 A61B5/1135 A61B5/0402

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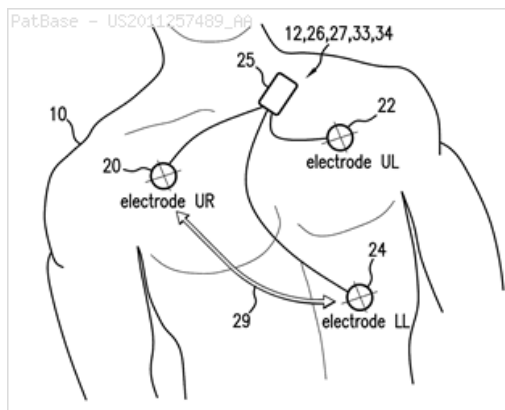
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**Family:**

Publication number	Publication date	Application number	Application date
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Priority:

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US20100762936 20100419	US20100762925 20100419	US20100762963 20100419
EP20110772576 20110419	WO2011US33100 20110419	US20160156138 20160516

Probable Assignee: SOTERA WIRELESS INC**Assignee(s):** (std): BANET MATT ; DHILLON MARSHAL ; MCCOMBIE DEVIN ; SOTERA WIRELESS INC**Assignee(s):** SOTERA WIRELESS INC SAN DIEGO**Inventor(s):** (std): MCCOMBIE DEVIN ; BANET MATT ; DHILLON MARSHAL**Inventor(s):** DHILLON MARSHAL SAN DIEGO ; BANET MATT KIHEI ; MCCOMBIE DEVIN SAN DIEGO**Agent(s):** SCHIWECK WEINZIERL AND KOCH; SCHIWECK WEINZIERL AND KOCH PATENTANWALTE PARTNERSCHAFT MB; MCLAUGHLIN IP PTE LTD; MICHAEL A; ACUITY LAW GROUP PC; WHITTAKER MICHAEL A; WHITTAKER MICHAEL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

14) Family number: 48465940 (US2011066009A)

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Title: BODY-WORN VITAL SIGN MONITOR

Abstract: The invention provides a body-worn monitor featuring a processing system that receives a digital data stream from an ECG system. A cable houses the ECG system at one terminal end, and plugs into the processing system, which is worn on the patient's wrist like a conventional wristwatch. The ECG system features: i) a connecting portion connected to multiple electrodes worn by the patient; ii) a differential amplifier that receives electrical signals from each electrode and process them to generate an analog ECG waveform; iii) an analog-to-digital converter that converts the analog ECG waveform into a digital ECG waveform; and iv) a transceiver that transmits a digital data stream representing the digital ECG waveform (or information calculated from the waveform) through the cable and to the processing system. Different ECG systems, typically featuring three, five, or twelve electrodes, can be interchanged with one another.

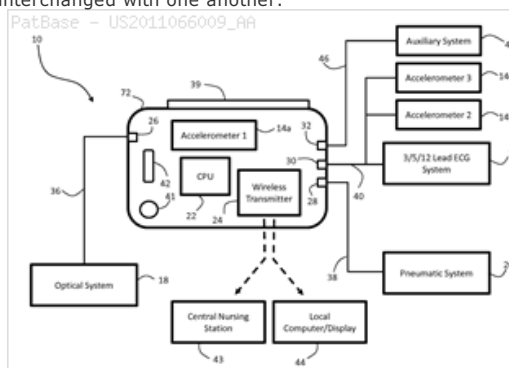
Classifications:

International (IPC 8-9): A61B5/00 A61B5/02 A61B5/0205 A61B5/021 A61B5/022 A61B5/024 A61B5/04 A61B5/0402 A61B5/103 A61B5/11 A61M16/00 A61M31/00 (Advanced/Invention); A61B5/0205 A61B5/0476 A61B5/08 A61B5/1455 (Advanced/Non-invention)

CPC: A61B5/743 A61B5/02141 A61B5/0002 A61B5/0006 A61B5/681 A61B5/7435 A61B2560/0276 A61B5/02055 A61B5/02233 A61B5/0245 A61B5/0809 A61B5/022 A61B5/0285 A61B5/0295 A61B5/04325 A61B5/02225 A61B5/02416 A61B5/0402 A61B5/0816 A61B5/1116 A61B5/1118 A61B5/6823 A61B5/6824 A61B5/6826 A61B5/721 A61B5/7495 A61B2560/0209 A61B2562/043 A61B5/742 A61B5/0205 A61B5/021 A61B5/02125 A61B5/0476 A61B5/08 A61B5/14551 A61B2562/0219 A61B2560/0223

European: A61B5/00B A61B5/00B2 A61B5/00B3B A61B5/0205 A61B5/0205B A61B5/021 A61B5/021B4 A61B5/021F A61B5/022C A61B5/022D A61B5/024D A61B5/0295 A61B5/0402 A61B5/0432B A61B5/08J A61B5/11P A61B5/11Q A61B5/1455N A61B5/68B1H A61B5/72B2B A61B5/74D6 K61B5/0205 K61B5/022 K61B5/0245 K61B5/0285 K61B5/0476 K61B5/08 K61B5/08J K61B5/08R K61B5/1455N K61B5/68B2H K61B560/02B2 K61B560/02H4 K61B562/02C

US: 1/1 128/204.21 128/204.210S 600/301 600/301P 600/485 600/485P 600/509 600/509P 600/509S 600/513 600/587 600/587S 604/65 604/65S



Family:

Publication number	Publication date	Application number	Application date
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EP2470067 A4	20131002	EP20100817733	20100915
IN00590MN2012 A	20130510	IN2012MN00590	20120310
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SG179149 A1	20120427	SG20120018289	20100915
US2011066009 AA	20110317	US20090560087	20090915
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US2011066044 AA	20110317	US20090560104	20090915
US2011066045 AA	20110317	US20090560111	20090915
US2011066050 AA	20110317	US20090560077	20090915
US2011066051 AA	20110317	US20090560093	20090915
US2018146862 AA	20180531	US20170717645	20170927
US2019328239 AA	20191031	US20190504798	20190708
US8321004 BB	20121127	US20090560077	20090915
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US8527038 BB	20130903	US20090560087	20090915
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US10420476 BB	20190924	US20090560138	20090915
WO11034881 A1	20110324	WO2010US48866	20100915

Priority:

US20090560077	20090915	US20090560087	20090915	US20090560138	20090915
US20090560093	20090915	US20090560104	20090915	US20090560111	20090915
WO2010US48866	20100915	US20170717645	20170927	US20190504798	20190708

Probable Assignee: SOTERA WIRELESS INC

Assignee(s): (std): BANET MATT ; DHILLON MARSHAL ; HUNT ROBERT ; MCCOMBIE DEVIN ; MOON JIM ; SOTERA WIRELESS INC ; VISSER HENK

Assignee(s): TRIAGE WIRELESS INC

Inventor(s): (std): VISSER HENK ; HUNT ROBERT ; MOON JIM ; HUNT ROBERT KENNETH ; BANET MATTHEW J ; DHILLON MARSHAL SINGH ; VISSER II HENK ; BANET MATT ; DHILLON MARSHAL ; MCCOMBIE DEVIN ; DHILLON MARSHALL

Agent(s): SCHIWECK WEINZIERL AND KOCH; MCLAUGHLIN IP PTE LTD; MICHAEL A; ACUITY LAW GROUP PC; WHITTAKER MICHAEL A; WHITTAKER MICHAEL A ET AL

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15) Family number: 76965942 (IN201941050124A)

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Title: IOT BASED PORTABLE PHYSIOLOGICAL SIGN MONITOR

Abstract: Consistent vital sign monitoring is critically important for early detection of clinical deterioration in hospital settings. In most hospitals, nurses routinely measure and document primary vital signs (e.g., pulse rate, oxygen saturation, respiratory rate, and blood pressure) for all patients 2-3 times per day to make an assessment of the patient's condition. However, such measurement and documentation is a repetitive and time-consuming task for nurses. They use different medical devices such as a stethoscope to measure chest wall movement as respiration rate, a pulse oximeter to measure heart rate and oxygen saturation and a sphygmomanometer to measure blood pressure. In particular, the measurement of respiratory rate is often omitted because having nurses count the chest wall movement in a busy hospital setting is not efficient. To reduce the workload of the nurses and thus improve the quality of patient care, the proposed system facilitates a smart vital sign monitor for simultaneous measurement of heart rate (HR), blood greater than pressure (BP), blood oxygen level (SpO2) and respiration rate (RR). The proposed invention makes use of the interdependence exists between the vital physiological measures like HR, BP and RR. Through applying the respective methods in internet of things (IoT) domain,

avails a real time monitoring capability with reduced sensor and circuitry design which works based on acquired single biological - electrocardiography (ECG) signal.

Classifications:

International (IPC 8-9): G01S5/06 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
■ IN201941050124 A	20191213	IN201941050124	20191205

Priority:

IN201941050124 20191205

Probable Assignee:

A SAMYDURAI

Assignee(s):

A SAMYDURAI

Inventor(s):

K REVATHII