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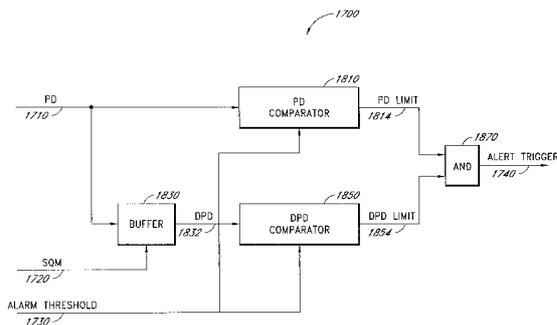
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PULSE OXIMETRY DATA CONFIDENCE INDICATOR



(57) Abstract: An intelligent, rule-based processor provides a pulse indicator designating the occurrence of each pulse in a pulse oximeter-derived photo-plethysmograph waveform. When there is relatively no distortion corrupting the plethysmograph signal, the processor analyzes the shape of the pulses in the waveform to determine where in the waveform to generate the pulse indication. When distortion is present, looser waveform criteria are used to determine if pulses are present. If pulses are present, the pulse indication is based upon an averaged pulse rate. If no pulses are present, no indication occurs. The pulse indicator provides a trigger and amplitude output. The trigger output is used to initiate an audible tone "beep" or a visual pulse indication on a display, such as a vertical spike on a horizontal trace or a corresponding indication on a bar display. The amplitude output is used to indicate data integrity and corresponding confidence in the computed values of saturation and pulse rate. The amplitude output can vary a characteristic of the pulse indicator, such as beep volume or frequency or the height of the visual display spike. The visual pulse indicator is supplemented by a signal quality alert. Combined with several indicators of signal quality, the alert is used to initiate a warning when data confidence is very low. The alert may be in the form of a message generated on the pulse oximeter display to warn that the accuracy of saturation and pulse rate measurements may be compromised. A confidence-based alarm utilizes signal quality measures to reduce the probability of false alarms when data confidence is low and to reduce the probability of missed events when data confidence is high.

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# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61B5/00 H03K5/1252

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)  
IPC 7 A61B H03K

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 practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 222 044 A (BOSCHUNG) 9 September 1980 (1980-09-09) abstract column 3, line 21 -column 4, line 12 column 6, line 49 -column 7, line 58 column 11, line 48-59; figures 1,12,13 ---	1,2, 10-12
X	EP 0 813 102 A (EASTMAN KODAK COMPANY) 17 December 1997 (1997-12-17) abstract column 4, line 42 -column 6, line 12; figure 2 ---	1,2, 10-12
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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International Application No

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