EXHIBIT C

(12) **United States Patent**
Frix et al.

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(54) **CONTINUOUS TRANSDERMAL MONITORING SYSTEM AND METHOD**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

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Related U.S. Application Data

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(Continued)

(51) **Int. Cl.**
A61B 5/02 (2006.01)
A61B 5/00 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC *A61B 5/721* (2013.01); *A61B 5/0004* (2013.01); *A61B 5/02416* (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC A63B 2220/40; A61B 5/1118; A61B 5/02; A61B 5/024; A61B 5/00; A61B 5/1455;
(Continued)

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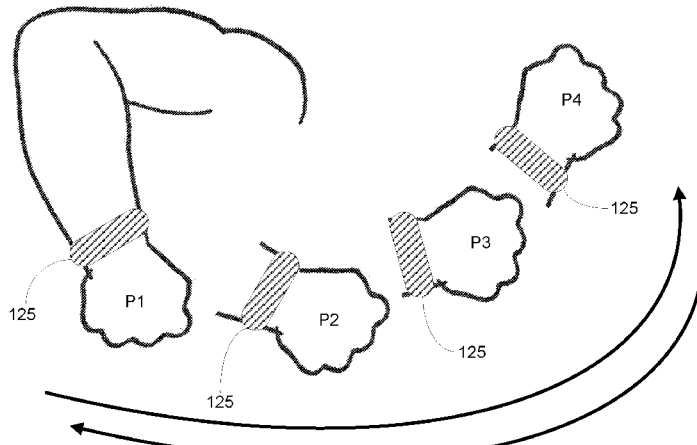600/310
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(57) **ABSTRACT**

Various embodiments of methods and systems for continuous transdermal monitoring ("CTM") are disclosed. One exemplary method for CTM begins by monitoring an output signal from an accelerometer. The accelerometer output signal may indicate acceleration and deceleration of a body part of a user, such as the user's wrist. Based on the accelerometer output signal, it may be determined that the body part of the user has decelerated to a minimum, e.g., substantially zero. With a determination that the body part has decelerated to the minimum, e.g., substantially zero, or has not accelerated beyond the minimum, e.g., substantially zero, the method may determine a reading from a pulse oximeter associated with the accelerometer. Advantageously, the pulse oximetry reading, or a reading from other sensors associated with the accelerometer, may be optimally accurate as motion artifact may be minimized. The pulse oximetry reading may be recorded for later query and/or rendered for the benefit of the user.

20 Claims, 8 Drawing Sheets

Related U.S. Application Data

continuation of application No. 14/324,963, filed on Jul. 7, 2014, now Pat. No. 9,107,644.

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(51) **Int. Cl.**

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A61B 5/11	(2006.01)
A61B 5/01	(2006.01)
A61B 5/0205	(2006.01)
A61B 5/021	(2006.01)
A61B 5/053	(2006.01)

(52) **U.S. Cl.**
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(58) **Field of Classification Search**
CPC A61B 5/02416; A61B 5/14551; A61B 5/6824; A61B 5/0004; A61B 5/02433; A61B 5/14552; A61B 5/74; A61B 5/742; A61B 5/721; A61B 5/1126; A61B 2560/0475; A61B 5/0024; A61B 5/01; A61B 5/0205

See application file for complete search history.

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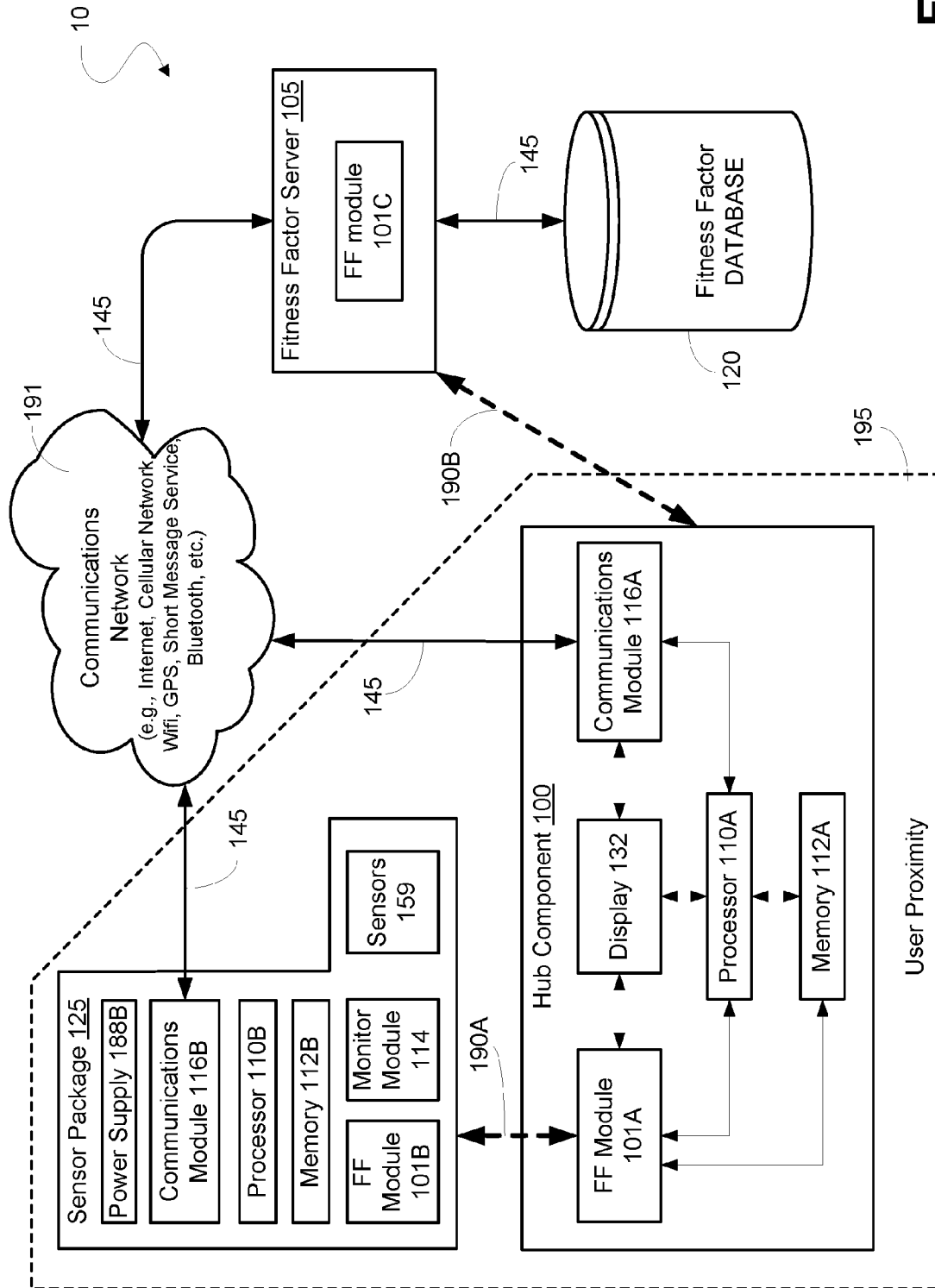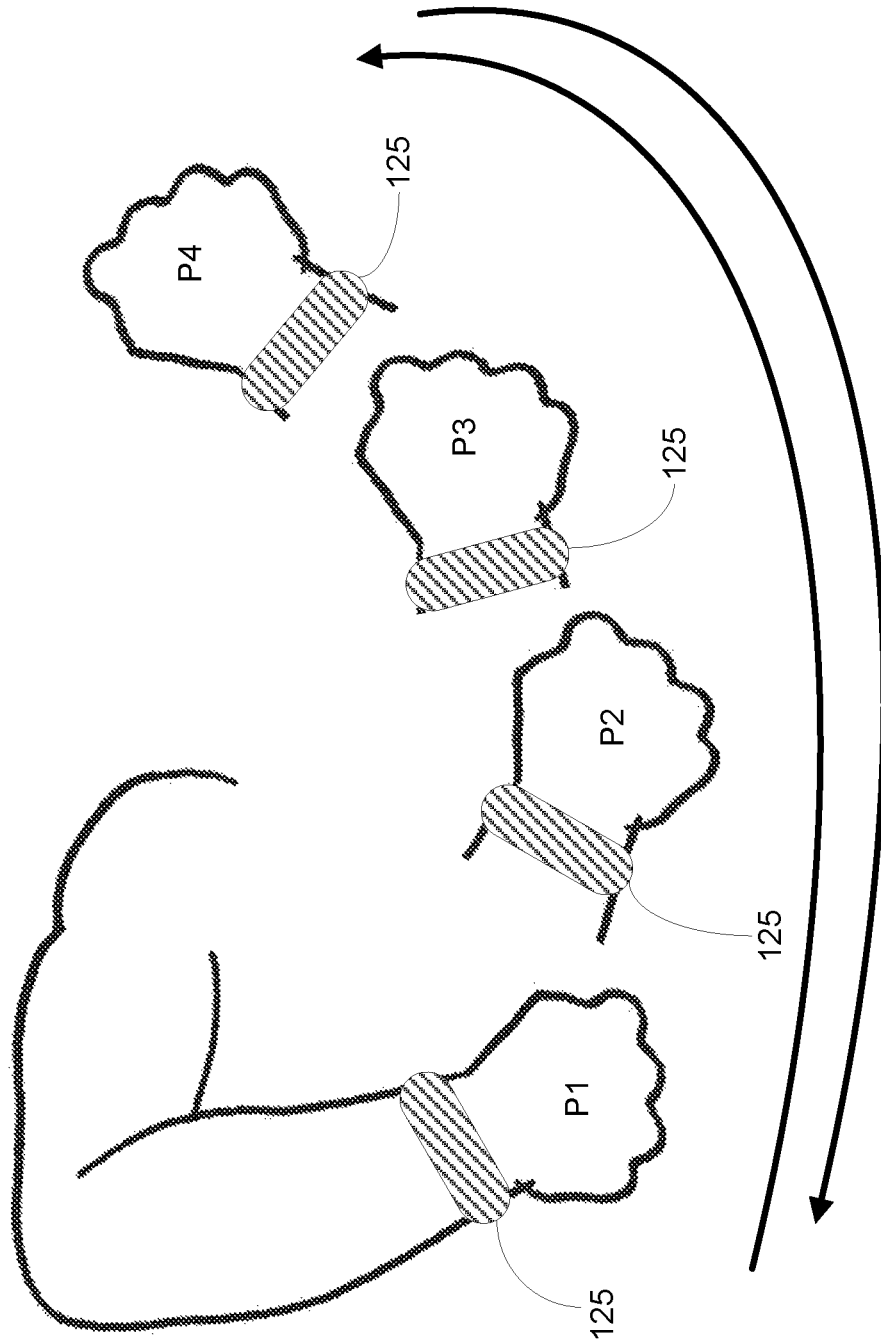|			
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FIG. 1

FIG. 2A

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