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Kahn et al.

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- (54) **HUMAN ACTIVITY MONITORING DEVICE** 5,976,083 A 11/1999 Richardson et al.
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- (75) Inventors: **Philippe Kahn**, Aptos, CA (US);
Arthur Kinsolving, Santa Cruz, CA
(US); **Mark Andrew Christensen**, Santa
Cruz, CA (US); **Brian Y. Lee**, Aptos, CA
(US); **David Vogel**, Santa Cruz, CA (US)
- (73) Assignee: **DP Technologies, Inc.**, Scotts Valley, CA
(US)
- (*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.
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- (51) **Int. Cl.**
G01C 22/00 (2006.01)
G06F 19/00 (2006.01)
- (52) **U.S. Cl.** **702/160; 377/24.2; 702/97**
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33/701; 73/1.01, 1.37, 1.38, 1.75, 1.76, 1.77,
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377/24, 24.1, 24.2; 702/1, 85, 97, 127, 141,
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See application file for complete search history.

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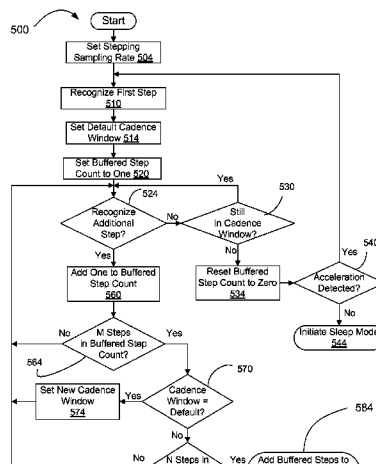
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Primary Examiner—Edward R Cosimano
(74) *Attorney, Agent, or Firm*—Blakely, Sokoloff, Taylor &
Zafman, LLP; Judith A. Szepesi

(57) **ABSTRACT**

A method for monitoring human activity using an inertial
sensor includes continuously determining an orientation of
the inertial sensor, assigning a dominant axis, updating the
dominant axis as the orientation of the inertial sensor
changes, and counting periodic human motions by monitor-
ing accelerations relative to the dominant axis.

11 Claims, 9 Drawing Sheets



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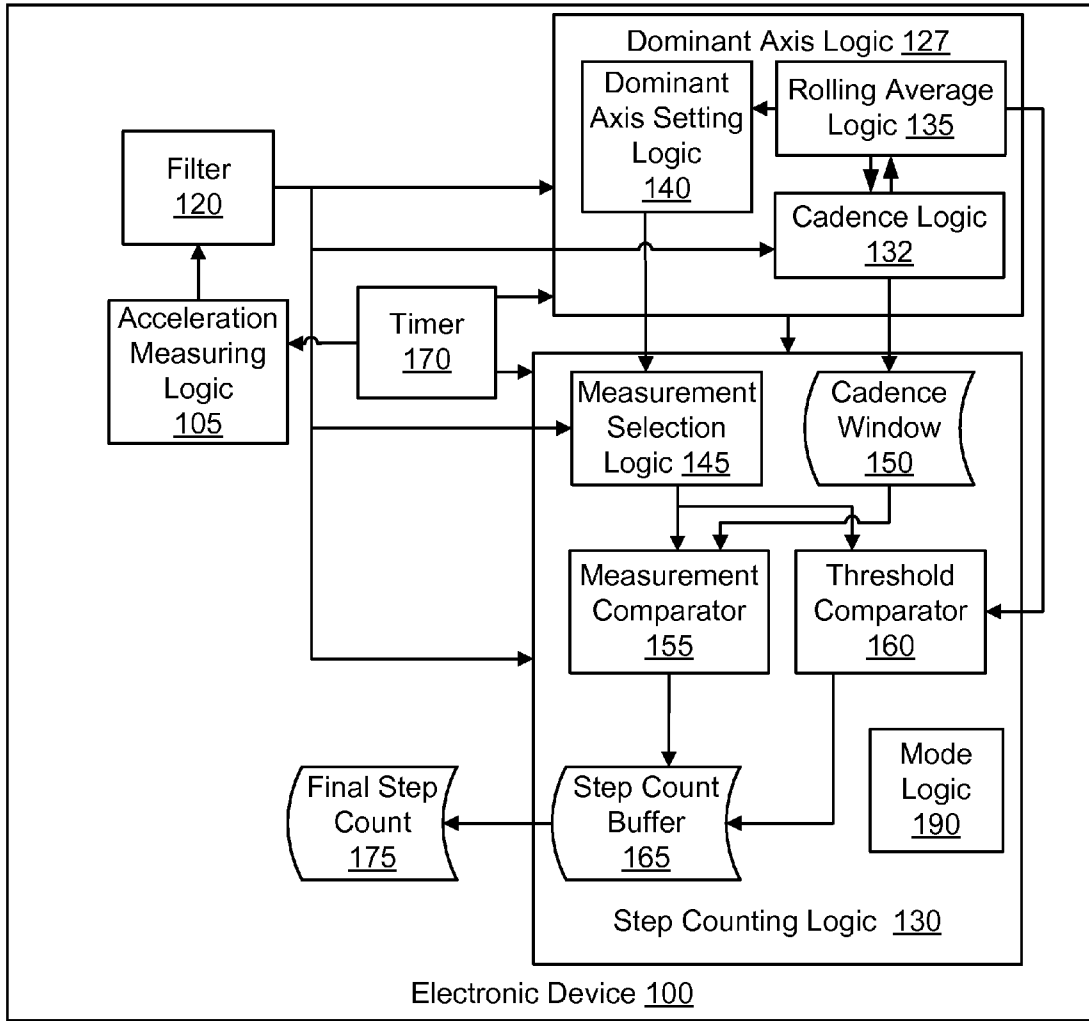


Figure 1

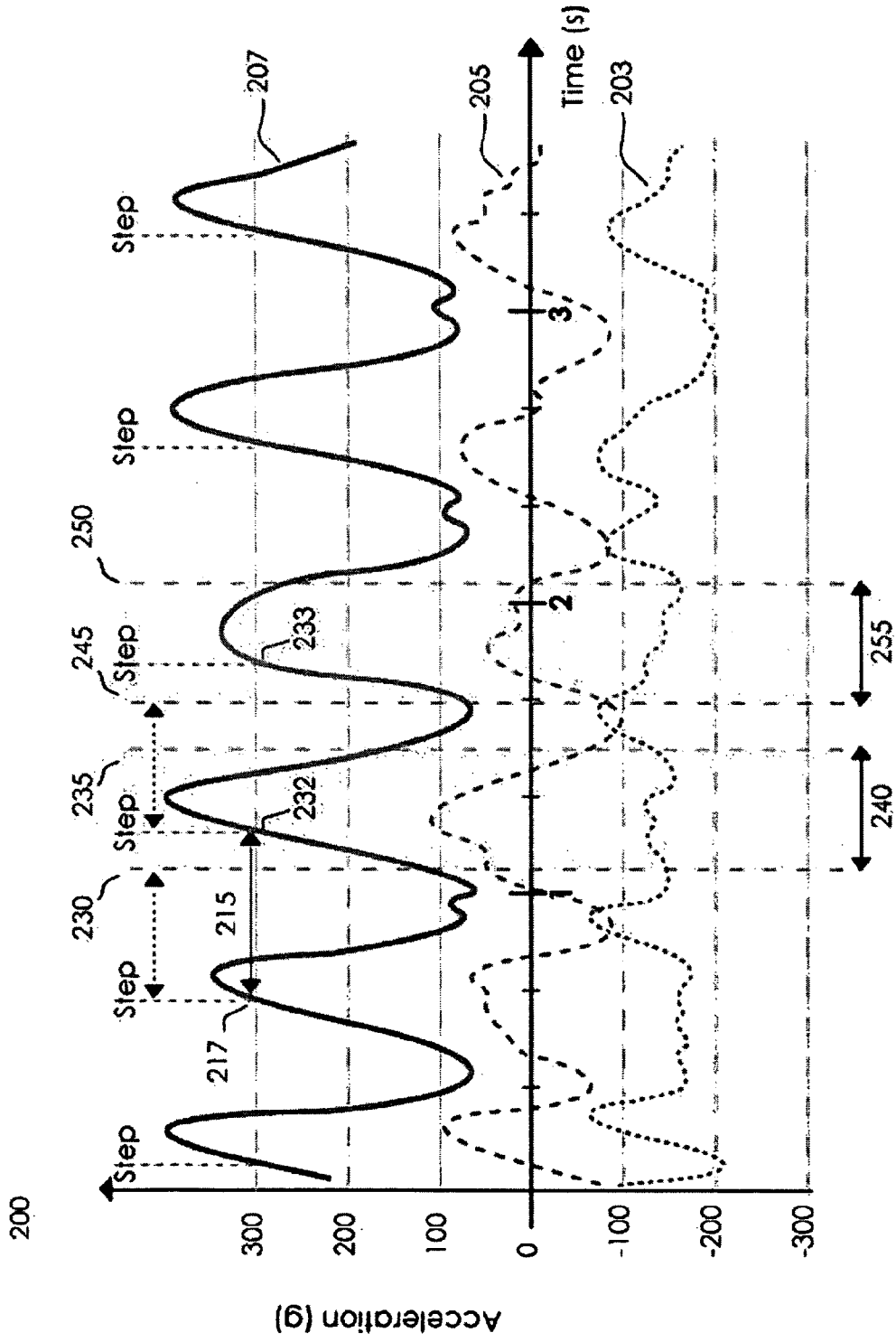


Figure 2

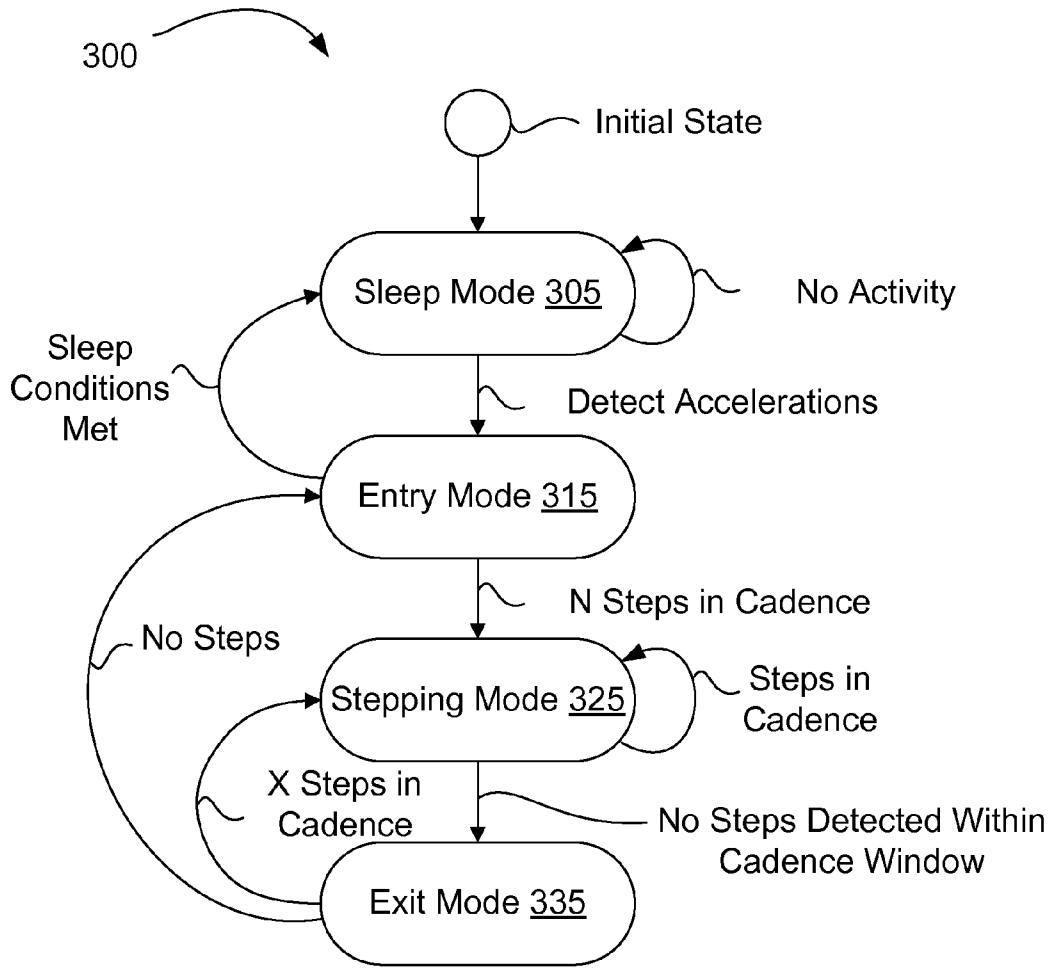


Figure 3

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