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(54) **HUMAN ACTIVITY MONITORING DEVICE**

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702/141, 150, 155, 158, 160, 187, 189;
708/100, 101, 105, 131, 160, 200, 212
IPC G01B 5/00,5/02; G01C 22/00, 25/00; G01D
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G06F 17/00, 17/40, 19/00

(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)

See application file for complete search history.

(73) Assignee: **DP Technologies, Inc.**, Scotts Valley, CA
(US)

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patent is extended or adjusted under 35
U.S.C. 154(b) by 115 days.

This patent is subject to a terminal dis-
claimer.

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Related U.S. Application Data

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Primary Examiner — Edward Cosimano

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

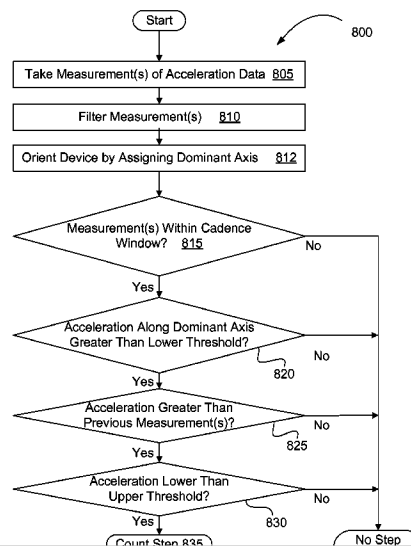
(52) **U.S. Cl.**
USPC **702/160**; 73/1.79; 377/24.2; 702/97;
702/187; 702/189; 708/105; 708/200

(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.

(58) **Field of Classification Search**
USPC 33/700, 701; 73/1.01, 1.37, 1.38, 1.75,
73/1.76, 1.77, 1.78, 1.79, 1.81, 432.1,
73/865.4, 865.8; 377/1, 13, 15, 17, 19, 20,

19 Claims, 9 Drawing Sheets



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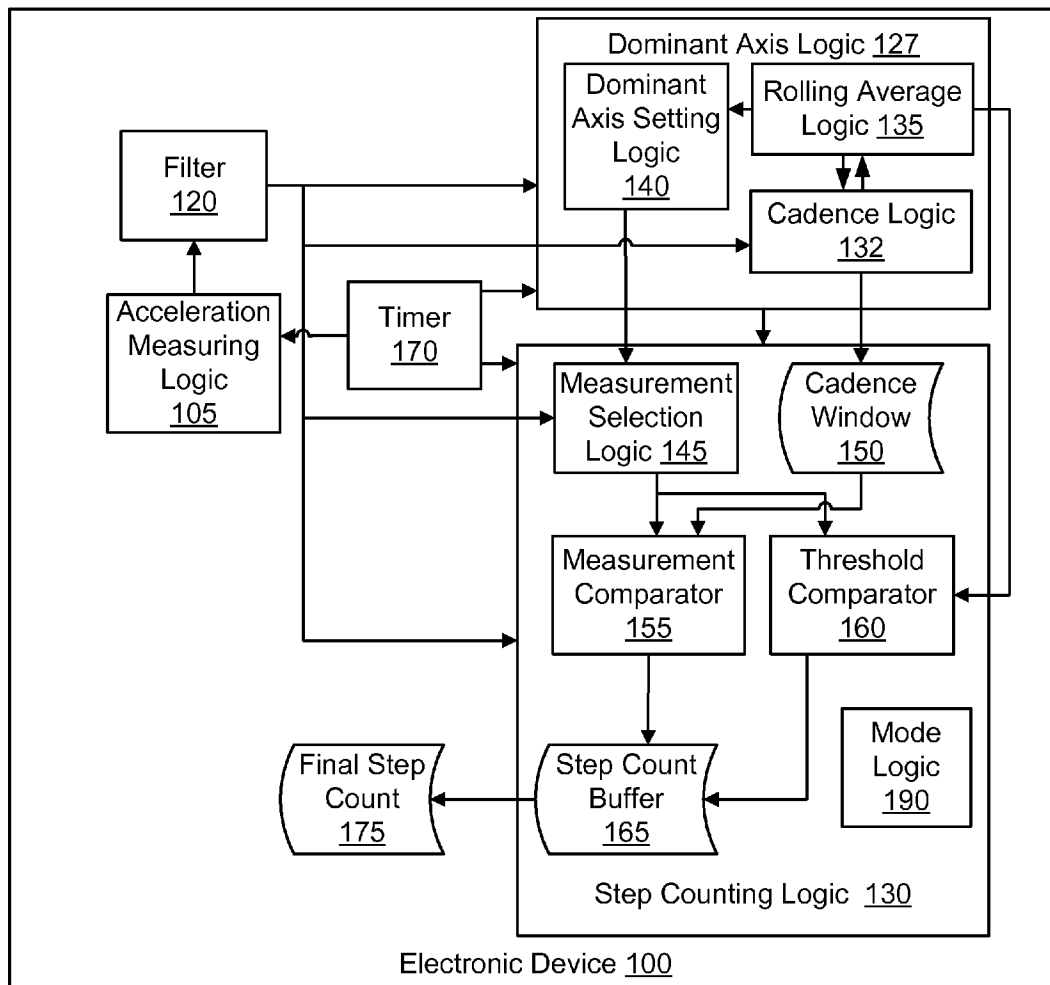


Figure 1

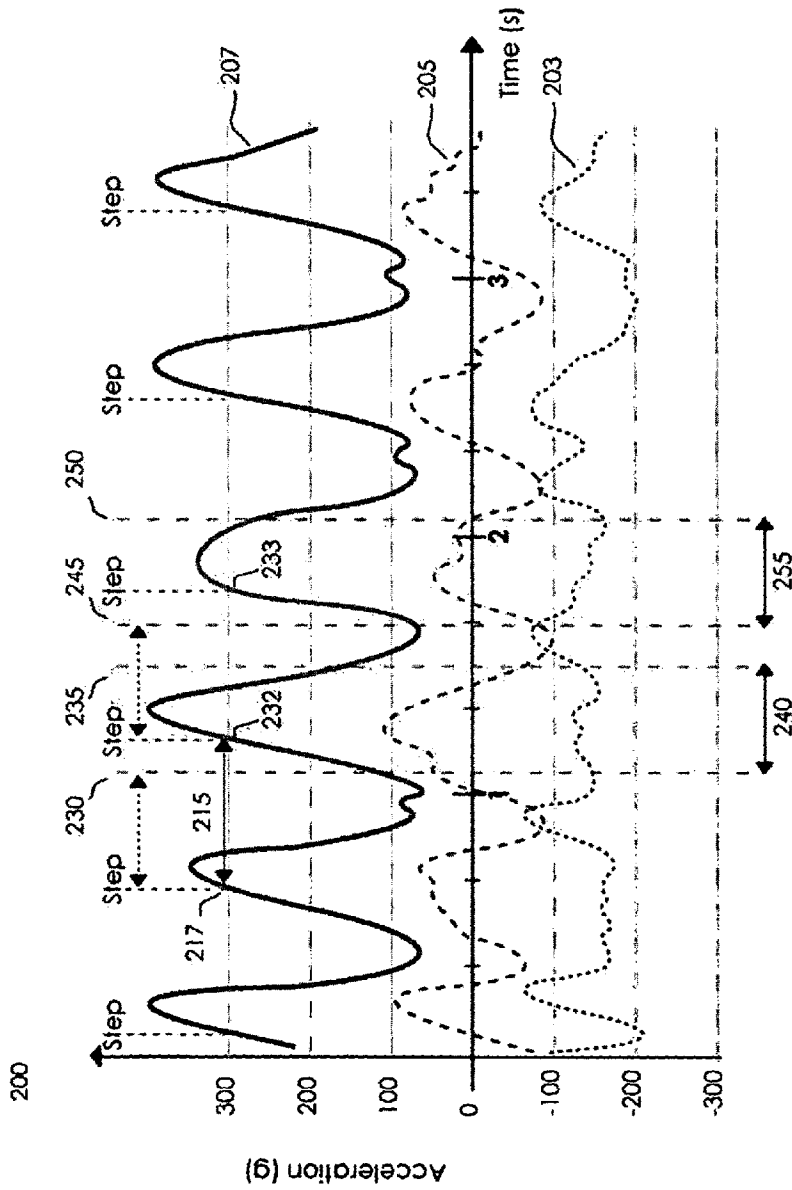


Figure 2

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