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Patent Number(s): DE202012101911-U1

Title: Active stylus for touch sensor of e.g. laptop computer, has control unit measuring change of capacitance between movable and stationary electrodes, and determining intensity of force exerted on center shaft based on change of capacitance

Patent Assignee(s): ATMEL CORP (ATML)

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Abstract: NOVELTY - The stylus (20) has a force sensor (42) e.g. capacitive sensor, including a spring structure (62), which is coupled with a center shaft (41). A control unit (50) detects a movement of the spring structure, measures change of a capacitance between movable and stationary electrodes (64, 66), and determines an intensity of force exerted on the center shaft based on change of the capacitance. The spring structure is formed by multiple sinuous line-like sections in a printed circuit board (60) of the stylus. The electrodes are designed from a metal layer or the board in the sections.

USE - Active stylus for a touch sensor for a device. Uses include but are not limited to a desktop computer, laptop computer, tablet computer, personal digital assistant (PDA), satellite navigation device, portable media player, portable game console, kiosk computer, point of sale system, and household device.

ADVANTAGE - The utilization of the force sensor compensates effect of inclination of the stylus in force measurements. THz stylus measures change of the capacitance relative to a capacitance to be measured without exerting force on a tip for compensating inclination components.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a computer-readable permanent storage medium comprising a set of instructions for detecting a movement of a spring structure of a force sensor

(2) a device.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic view of a capacitive force sensor of an active stylus.

Active stylus (20)

Center shaft (41)

Force sensor (42)

Control unit (50)

Printed circuit board (60)

Spring structure (62)

Movable electrode (64)

Stationary electrode (66)

Derwent Class Code(s): S01 (Electrical Instruments including e.g. instrument panels); S02 (Engineering Instrumentation, recording equipment, general testing methods); T01 (Digital Computers); T04 (Computer Peripheral Equipment); T05 (Counting, Checking, Vending, ATM and POS Systems); V04 (Printed Circuits and Connectors)

Derwent Manual Code(s): S01-D05A3; S02-F01B; T01-J05A1; T01-J30C; T04-F02A; T04-F02C; T05-L01H; V04-Q30C; V04-Q30H; V04-Q30K; V04-Q30Q

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