

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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FITBIT, INC. and WAHOO FITNESS LLC,  
Petitioners,  
v.

BLACKBIRD TECH LLC d/b/a BLACKBIRD TECHNOLOGIES,  
Patent Owner.

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Case IPR2017-02012  
Patent 6,434,212

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**PETITIONER FITBIT'S REPLY TO PATENT OWNER'S RESPONSE**

## **I. Introduction**

The Board's Institution Decision correctly found that claims 2 and 5 were obvious in view of Amano, and that claim 6 is obvious in view of the combination of Amano and Kato. Blackbird's arguments are centered on the data processing limitations of each challenged claim. In finding that claims 2 and 5 were not anticipated by Amano, the Board appears to have accepted Blackbird's argument that the Amano device does not calculate distance traveled by the user, but instead determines the user's speed based upon data taken from a single step every 30 seconds. (ID at 18; POR at 17-20). Blackbird advances this argument again in its Patent Owner Response, and argues that because Amano's invention relates to calculating blood oxygen levels, its other teachings should be ignored. (POR at 22).

Blackbird's "single step" argument is wrong and contradicted by the explicit teachings of Amano. As explained by Fitbit's expert (and ignored by Blackbird in its Response), Amano teaches performing calculations using an overall time interval of data (30 seconds is provided as one example) in order to determine pitch (number of steps run per unit time), as well as the distance traveled by a runner during that time interval. (Ex. 1005 at ¶106).

Blackbird's Patent Owner Response is silent on how its single step theory is possible given the fact that Amano teaches performing the calculations using signal processing techniques, such as Fast Fourier Transform ("FFT"). The unrebutted explanation by Fitbit's expert establishes that these techniques analyze data from an extended time sample, and Amano's reference to these techniques is inconsistent with Blackbird's assertion that Amano only teaches performing calculations for a single step. Indeed, Blackbird's expert admitted during his deposition that signal processing techniques disclosed by Amano (such as wavelet analysis) would use a time period longer than a single step, and that a POSITA who wanted to implement these signal processing techniques would be motivated to use a longer period of data to allow for more accurate step count and stride rate calculations.

While the Board found at the Institution Decision stage that Amano discloses a single step calculation, it is clear that Amano's calculation is not based upon only a single step, but an interval of data (such as 30 seconds). As explained by Fitbit's expert, Amano teaches the claimed distance calculation of multiplying the number of steps counted by a stride length that varies in accordance with a stride rate. For these reasons, the Board should find that the challenged claims are not only obvious, but anticipated by Amano.

Blackbird's second argument, that Amano's teachings may be rejected because the invention is used to calculate blood oxygen levels, mischaracterizes the extensive teachings of Amano for the operation of exercise devices and is legal error. The Federal Circuit has consistently held that it is the teachings contained within a prior art reference that is relevant and not merely the claimed invention.

With respect to the Amano and Kato ground, Blackbird re-raises multiple alternate arguments regarding the combination, including an alleged lack of motivation to combine and the supposed lack of similarity of the references. (*See* PPOR at 43-54, POR at 25-40, ID at 24-28). These arguments lack merit and fail to address Fitbit's explanation and evidence showing that a POSITA would have been motivated to substitute Kato's stride length calculations that do not use the specific user's own stride length measurements with Amano's calculations that are based on user-specific stride length measurements. As explained below, Blackbird's arguments do not hold up to scrutiny, are not supported by its own expert's testimony, and are contradicted by the teachings of Amano and Kato.

The Board should also be wary of relying on Blackbird's expert. He was unable to answer basic questions, including being unable to provide definitions to terms included in his declaration, such as fitness trackers, health trackers, and pedometers. (*See, e.g.*, Ex. 1021 at 15:18-16:3; 22:20-23:5; 24:10-24; 25:15-26:1;

29:1-18; 33:7-25). He struggled to explain what specific calculation was required by the claims. (Ex. 1021 at 63:5-74:16). And Dr. Caloyannides refused to take a position on what knowledge a POSITA possessed, claiming that such knowledge would depend on the *specific* (hypothetical) individual. (Ex. 1021 at 118:25-120:9). Such a flawed fundamental position should render his entire declaration without merit. Finally, Blackbird's constitutional arguments against the application of inter partes review should be rejected.

**II. Amano anticipates and renders obvious “calculat[ing] a distance traveled by multiplying a number of steps counted by a stride length” as claimed.**

In the Institution Decision, the Board found that the limitation that requires “calculat[ing] a distance traveled by multiplying a number of steps counted by a stride length that varies in accordance with a stride rate” is rendered obvious by Amano. (ID at 18). In making this finding, the Board credited Dr. Choudhury's (Fitbit's expert) explanation that Amano calculates a distance by multiplying the user's pitch (i.e., the number of steps per unit time) by the user's stride length, and that Amano adjusts the stride length according to the user's pitch. (ID at 17-18 (citing Ex. 1005 at ¶106)). In mathematical terms, Amano performs the following calculation:

$$\left(\frac{\text{number of steps}}{\text{unit time}}\right) \times (\text{stride length}) = \frac{\text{distance travelled}}{\text{unit time}}$$

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