



The Dash Pro Tailored by Starkey® Hearing Technologies

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Introduction

Bragi is a company based out of Munich, Germany, and the creator of the first ever hearable to hit the market. Their successful Kickstarter campaign raised \$260,000 in two days. After two months, the total grew to \$3.4 million. Bragi remains one of the top 20 campaigns on Kickstarter and the sixth largest design campaign of all time. Starkey Hearing Technologies is proud to have partnered with Bragi on their latest innovative product. This was more than just a business agreement: it was a true partnership grounded in the shared interest of connecting people around the globe.

Starkey Hearing Technologies is excited to partner with Bragi to co-launch The Dash Pro tailored by Starkey Hearing Technologies. This is a special edition Bragi Dash Pro that is enhanced with Starkey Sound and a 3D-printed custom shell made from an impression of the consumer's ear. The Dash Pro tailored by Starkey is a wireless hearable that combines three features into one product: a one-touch stand-alone music player, live fitness tracker and smartphone companion.

Listen

The Dash Pro tailored by Starkey offers superior sound quality by featuring Starkey Signature Sound utilizing Knowles® balanced armature receivers with a back vent for elevated bass. When paired with a smartphone or by utilizing the stand-alone music player, music sounds rich and vibrant due to the wide 20–20,000 Hz frequency range. The stand-alone music player has a 4 GB capacity, which is enough space to store approximately 1,000 songs for smartphone-free playback. The EarTouch

user interface, or the new virtual 4D menu, provides full control to select from stored playlists, play/pause music, skip tracks and change the volume. When paired with a smartphone, the consumer can expect best-in-class wireless performance free from drops or other artifacts. Bluetooth performance has been significantly improved over the previous version, The Dash. Battery life has also been improved over the first-generation Dash. When listening to either the stand-alone music player or streamed audio from a smartphone, the Dash Pro tailored by Starkey offers approximately five hours of battery life and may be recharged up to five times from the portable storage case.

Track

The Dash Pro tailored by Starkey is also a personal fitness companion. It can automatically detect running, cycling or swimming and tracks important metrics specific to each activity. When running is detected, it will begin tracking heart rate, distance traveled, number of steps and duration. Because the Dash Pro tailored by Starkey is waterproof to 1 meter, it is able to track heart rate, duration, number of laps and number of breaths while the user is swimming. In addition to tracking heart rate, duration, and distance while cycling, the device records pedaling cadence and speed. Performance may be monitored in real-time using the Bragi mobile application, or the user's smartphone may be left at home as the Dash Pro tailored by Starkey will report metrics verbally at set intervals and will send the stored data to the Bragi mobile application when reconnected to a smartphone. Fitness activities are archived and stored within the mobile application or can be

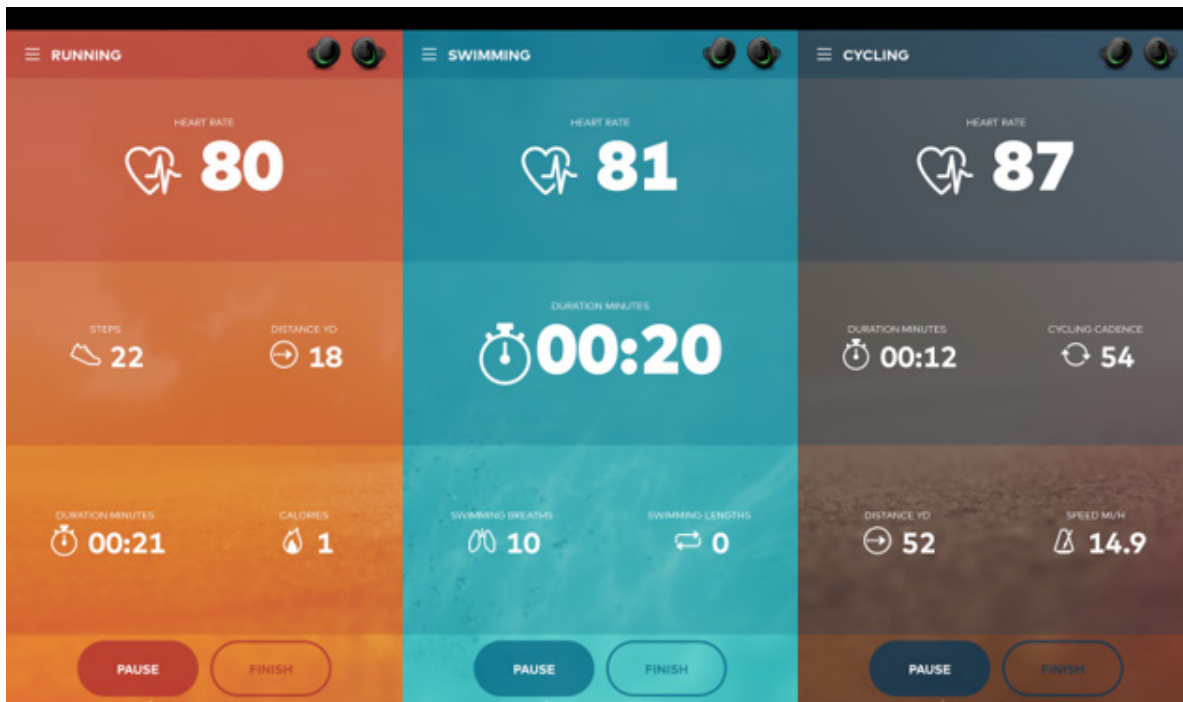


Figure 1. The Bragi mobile application activity tracking screens.

shared with other mobile fitness applications like Google Fit or Apple Health. See Figure 1 for the activity tracking screens displayed in the Bragi mobile application.

Communicate

When running or cycling, it is important to be aware of your surroundings. The Dash Pro tailored by Starkey includes an Audio Transparency feature that, when activated, will mix environmental sounds with the music to increase the user's awareness of his or her surroundings, while also allowing the ability to communicate. This feature may be activated and the overall volume adjusted using the EarTouch interface or the Bragi mobile application. When the microphones are exposed to wind, the sound can be distracting. In situations where this occurs, WindShield may be enabled, which reduces the offending noise while still maintaining situational awareness and the ability to communicate. In addition to listening to music, the Dash Pro tailored by Starkey is a fully featured Bluetooth headset for telephone conversations. It offers the ability to answer incoming calls with a

simple nod of the head or to decline incoming calls by shaking the head from side-to-side. Unlike some headphones, telephone conversations are presented bilaterally and an in-canal microphone provides clear voice pickup for the party on the other end of the line. Figure 2 displays the sound configuration screen from the Bragi mobile application.

Compared to other high-end hearables on the market, the customized fit of the Dash Pro tailored by Starkey offers advantages both in sound quality and comfort. The customized fit also allows for precision positioning of the sensors that track heart rate and other fitness metrics.

Starkey Hearing Technologies' long history of custom hearing aid manufacturing makes them the ideal partner to produce the shells for this personalized product. One of the most fundamental but challenging adjustments for Starkey Hearing Technologies was to shift the design paradigm from hearing aid to hearable. The common thread is the artisan eye of Starkey Hearing Technologies' craftsmen when

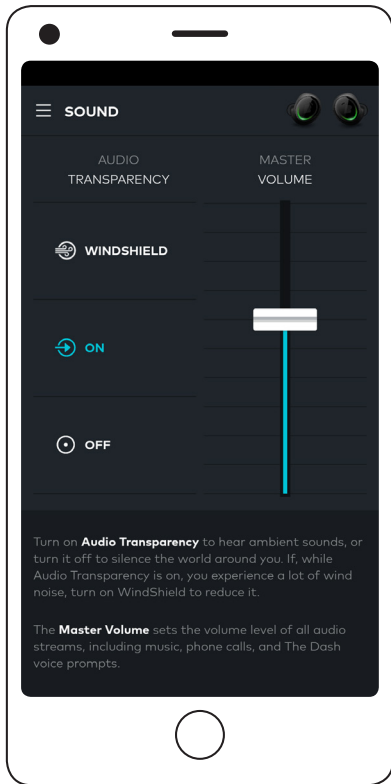


Figure 2. The sound configuration screen from the Bragi mobile application.

constructing custom devices. Depending on ear size, there are formidable challenges in creating a custom product. It has to be comfortable and it has to accommodate all the electronics within a very limited space. In addition, the product still needs to fit within the confines of the charging unit.

Starkey Hearing Technologies'

extensive experience with digital manufacturing software provides the capability to simultaneously visualize and coordinate the placement of the individual components to successfully create the best custom design for each ear. The Dash Pro tailored by Starkey includes a photo-optic sensor that detects the differences of transmitted and received light through the skin to measure heart

rate. It is crucial that the photo-optic sensor is positioned with the lenses touching the skin with enough pressure to read properly while still maintaining a comfortable fit. Starkey has refined the product modeling and styling to enhance both fit and sound isolation for the Dash Pro tailored by Starkey. Starkey Hearing Technologies' experience with customization provides the comfort and retention that every unique ear deserves. After completing the design and planning in Starkey's digital manufacturing software, the result is a printable CAD (computer-assisted design) file that manufacturing utilizes to complete the Dash Pro tailored by Starkey experience (Figure 3).

This CAD file is brought to life through Starkey's advanced 3D printing process, which includes the precisely positioned mating and alignment features for the electronic assemblies within the customized product. The state-of-the-art DLP 3D printers used to make the shells have the accuracy and resolution to replicate the customized design in an optimized black resin that also matches the Dash Pro tailored by Starkey's faceplate.

The incredible features of the Dash Pro tailored by Starkey combined with Starkey's modifications and custom manufacturing process create the first custom hearable. This special-edition Bragi Dash Pro that is enhanced with Starkey Sound is only available through Starkey Hearing Technologies' hearing care professionals.

Figure 3. Transforming a scanned earmold impression into the Dash Pro tailored by Starkey.

