



Business

sound

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Ralph Beckman, left, chief technology officer at Bionica Corp., and Kipp Bradford, vice president of project development of the Providence company, say their work in low-end consumer audio equipment has given them an edge in the hearing-aid industry.

The Providence Journal / Glenn Osmundson
Glenn Osmundson

PROVIDENCE — Their credentials dangle off rafters and line metal shelves: Teenage Mutant Ninja Turtles, Bert and Ernie dolls and other bright and chatty playthings.

To the scientists at Bionica Corp., the talking toys are more than decoration in the company's Ship Street headquarters. They make up a quirky resumé, proof of Bionica's expertise in audio technology, which is now being brought to bear on a more serious project: designing a better hearing aid.

The Clio, Bionica's prototype "personal communication system," will not resemble a talking Kermit the Frog squeeze toy.

But Bionica's founders — chief technology officer Ralph Beckman and vice president of project development Kipp Bradford — say their experience in low-end consumer audio equipment has given them an edge in the hearing-aid industry.

“All this stuff informed our thinking,” Bradford said in a recent interview. “We could use different solutions and better solutions.”

Beckman and Bradford have more traditional credentials, as well.

Beckman, 61, of Providence, is an architect, engineer and industrial designer who has worked as a technical consultant to NASA.

He studied at the University of Michigan and the Rhode Island School of Design, where he also taught architecture and industrial design.

Bradford, 33, of Pawtucket, studied bioengineering at Brown University. He was chief scientist at Q-Labs, a dental diagnostic firm that performed mechanical-failure analysis of dental implants.

Bradford also worked at Providence-based Design Lab Inc., an industrial-design firm and an incubator for start-up companies.

(Beckman started Design Lab in 1978. Bionica, founded in 2005, is its first spinoff.)

It was the researchers' toy-making experience that helped them differentiate the Clio from its competitors, according to Peter T. Hahn, a veteran of the medical-device industry hired as Bionica's chief executive officer in February.

In their years building talking toys for children, Hahn said, Beckman and Bradford became adept at designing durable and user-friendly products.

Those skills are critical for building a new hearing aid, Hahn said. Although costly, the most popular brands are often fragile, and their tiny switches frustrate many hearing-impaired patients, he said.

Many models are uncomfortable and tend to distort sound at high volume — problems that have been largely overcome in the Clio, Hahn said.

“It's a radically different design and approach, which is what really excited me about getting involved with the company,” said Hahn, a former president of U.S. operations for Oticon, a global hearing-aid manufacturer. “It really will make a huge impact.”

Many of the toys Beckman and Bradford engineered also included voice-recognition and voice-playback components. That experience, Hahn said, helped train the Clio designers in acoustics and in the miniaturization of audio technology.

(Bay Computer Associates, in Cranston, is also assisting in developing the Clio.)

The Slater Technology Fund, a taxpayer-backed organization that supports start-up companies, is also convinced of the Clio's promise.

Last month, Slater invested \$250,000 in Bionica. In a statement, Richard G. Horan, the fund's managing director, called the Clio a “fundamentally new technology for the hearing impaired.”

The investment will help pay for several patent applications associated with the Clio, including software

designed to separate speech from background noise.

Bionica hopes to release the device sometime next year.

That prospect pleases Beckman, who began researching hearing aids at the urging of his father, Irving, who suffered age-related hearing loss that made it difficult for him to hear in crowded restaurants or speak with his grandchildren.

“Watching him, I became incredibly frustrated with the ineffectiveness of hearing aids,” Beckman said. The Clio, he added, “is a cool thing that is going to make a difference.”

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