

In Profile:

CLAUDIO LASTRUCCI

TECHNOLOGIST/ COMPANY FOUNDER

by Kevin Young

CLAUDIO LASTRUCCI HAS ALWAYS FELT DRIVEN to explore undiscovered territory. It's a quality that has informed all of his innovations as head of research and development and managing director of Italy-based Powersoft, and perhaps nowhere more than in the creation of DIGAM, the company's signature.

Short for Digital Audio Amplifiers, DIGAM is a patented amplifier technology employing Power Factor Correction (PFC) that has enabled Powersoft to create products so compact, powerful and efficient that some in the industry once believed their claims were simply too good to be true. Lastrucci understands the skepticism: "Changes in technology require time to show that the principles behind their development are correct. It's not something that happens in months. It takes years."

Indeed, in the June 2003 issue of *Live Sound International*, amplifier designer Jeff Kuells presented a thorough evaluation of the Powersoft model Q4002, leading his report with the statement, "How small can power amplifiers get before they become ergonomically difficult to use? I believe Powersoft might have found the limit."

The Q4002 is only 1RU, weighs just 21 pounds, but it packs four independent channels that deliver 950 watts per channel (RMS). It was mind-boggling at the time, and only a bit less-so now. Still, Lastrucci and company haven't found the limit on the size-to-power ratio front, with the more recent M50Q 4-channel model for touring and install applications capable of delivering 1,250 watts per channel (at 4 ohms) from a 1RU package that weighs just a bit more than 16 pounds.

Although PFC was a familiar concept in other industries, it was new to professional audio when it was first introduced by Powersoft 15 or so years ago. Combined with PWM (Pulse Width Modulation) technology, the result was one of the first true high-power, full-bandwidth Class D professional amplifiers, a product roughly a fifth the size and weight of traditional amplifiers while offering a significant increase in efficiency.

"It's a factor of 10," Lastrucci notes about the efficiency. "In 1995, our technology was outside the view of anybody in the business, and we were the first company to offer it, but now that it's commonly known we have something like 250,000 units worldwide."



Claudio Lastrucci with Kurt Springer, director of touring for MSI, at the Powersoft manufacturing plant in San Giovanni near Bologna, Italy.



FAST FACTS

Job Title: Founder, head of R&D and managing director for Powersoft

Location: Florence, Italy

Years in the Business: 19

Favorite Tools: Paper block notes, a pen and a portable calculator

Worked With: A variety of international pro audio manufacturers, major venues, events such as the Grammy Awards, Emmy Awards, Super Bowl, Burning Man Festival, Sturgis Motorcycle Rally and New Orleans Jazz and Heritage Festival, television shows including American Idol and Dancing With the Stars, artists such as U2, Bon Jovi, Eagles, Sting and many more

PFC also allows the amplifiers to operate at line voltage around the world, from 95 volts to 265 volts. The power supply remains stable under any AC line condition while maintaining a consistent power output from the amplifier. And perhaps most significantly to Lastrucci, it helps produce energy savings of approximately 40 percent.

In addition to DIGAM, which was patented worldwide in 1997, Lastrucci also holds international patents for a variety of power electronic topologies, control methods, acoustic transducers and other technologies, and as a result, he is often referred to as the inspiration behind Powersoft.

In conversation, however, he is quick to point out the contributions of the company's staff, insisting they all share a

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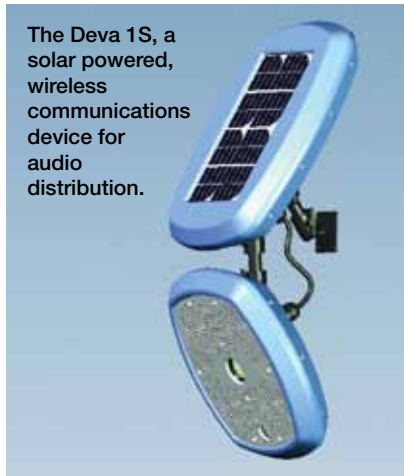
common drive to change the rules of the audio industry with the work they pursue. "Most of them are musicians and sound engineers, so music and sound are their life. They are very passionate about what they do. I don't know, maybe it's something that is in the blood."

NOT SO DIFFERENT

Given the company's base in Lastrucci's native Florence, that could very well be the case. Widely considered the birthplace of the Renaissance, the city has been home to a number of individuals whose contributions to art, architecture and technology have been dramatic to say the least - perhaps most famously, Leonardo da Vinci. "That's my first example," Lastrucci laughs, noting that da Vinci is a favored point of reference for him, an example of someone whose legacy underpins his own belief that art and technology are not so different from one another as some might think.

Both involve an initial moment of raw inspiration and a similar process of research, and development to achieve a finished product - regardless of whether the result is a work of art, an architectural achievement, or the establishment of a new scientific principle or technology. "Perhaps art can be more readily understood by some, but those who do not understand

The Deva 1S, a solar powered, wireless communications device for audio distribution.



there is some art in technology do not understand technology," he says simply.

For Lastrucci the connection between art and technology has been evident since he was a child, a product of his own long held passion for both music and engineering. "I've been a piano player for 30 years, since I was six. I've been a drummer for seven and a saxophone player for many years as well, but also I was always very curious about electronics, physics and chemistry."

While that combination of interests fueled the initial inspiration for DIGAM and ultimately led to the founding of Powersoft, Lastrucci's family and their willingness to support both his technological and musical aspira-

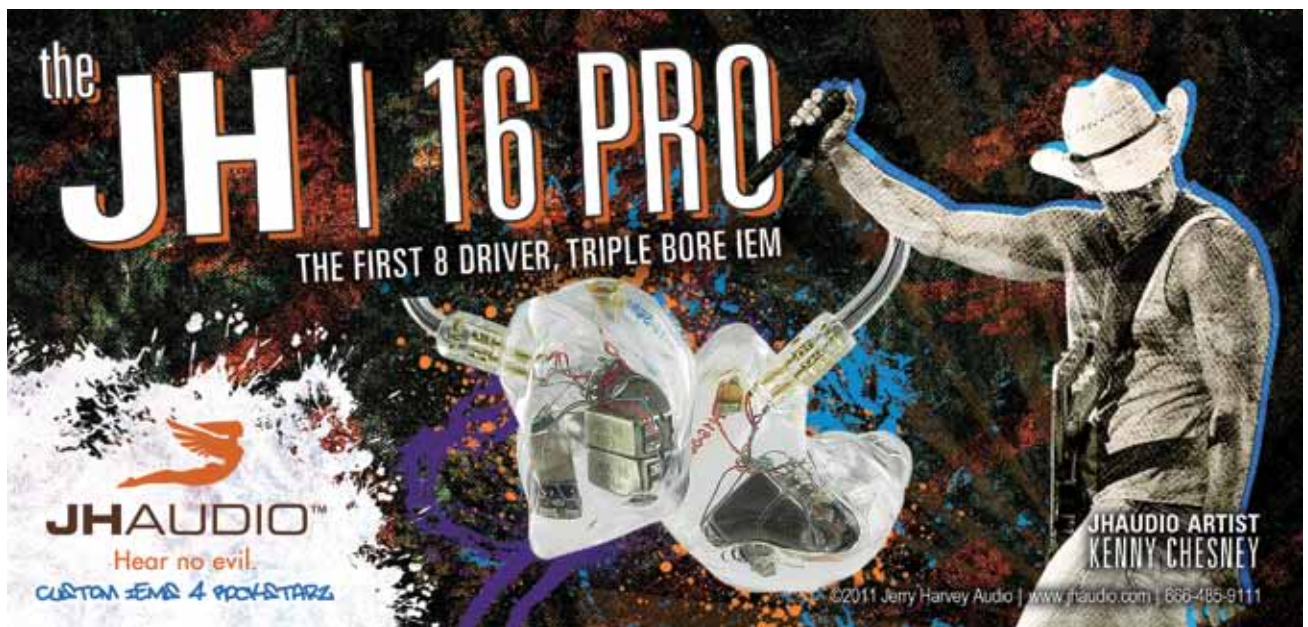
tions were extremely important as well. In fact, Powersoft began very much as a family business and remains so to this day, with Lastrucci's brother Luca and their mutual friend, Antonio Peruch, also serving as managing directors and Lastrucci's father, Carlo, as president.

IDEAS INTO REALITY

Lastrucci, his brother and Peruch actually formed the company two months before their graduation from the University of Florence, where both Lastrucci and Peruch studied electronic engineering. They started out with limited resources, developing the technology for the products that are now their core business in a small apartment while providing consultancy services for others for the first year and a half of their existence.

"We had no employees, but we had a lot of ideas," Lastrucci says, and steadily, they worked to make those ideas reality, consistently expanding their offerings and consistently growing 20 to 30 percent annually for 16 years. The second generation of DIGAM was followed by D and Q Series amplifiers in 1999, then the installation-specific QTU1400, and by 2003, mass production of the company's PowerMod and DigiMod DSP hardware.

Aside from DIGAM, Lastrucci



believes that the K Series, a line of amplifiers unveiled in 2004, represented a major technological step forward, and it also opened up the U.S. market. Even so, he maintains that every new product and innovation represents an important milestone, from the 2008 launch of the IPAL Integrated Powered Adaptive Loudspeaker in cooperation with B&C Speakers and the 2010 release of Armonia remote control and monitoring software, to the most recent offering, the M Series, in 2011.

The apartment workshop gave way to a larger production space in 2002, and to their current complex shortly thereafter. Now, in addition to the administration and engineering facilities in Florance, Powersoft runs dedicated manufacturing plants in Bologna and Gorizia, employing roughly 100 people in total. A third building is currently under construction in Florence to serve as a main demo facility and provide warehouse space. Earlier this year, the company set up a dedicated U.S. office and service center in Southern California under the direction of pro audio veteran Ken Blecher.

FUTURE LOOK

At the time Powersoft came into being, “green” products, generally speaking, were not prevalent. “My perception is that people don’t understand what kind of impact a specific product can have. For instance, some will argue about whether or not an efficient amplifier will have a measurable environmental benefit, but the same person would never think of opening the window during the winter with the heat on.” For Lastrucci, the equation is simple: “If it’s green, it’s better.”

As much as that perspective is informed by his explorations of uncharted territory as a technologist, it is also rooted firmly in a deep-seated fascination with nature. It often leads he and his family to explore decidedly less traveled regions far removed from the cultured environment of Florence - trekking and diving, for example, in Africa, Indonesia and South America. “We go on long, often complex trips,” he says. “And in very harsh conditions, let’s say.”

This passion continues to drive Powersoft’s creation of new products like the Deva 1S, a solar powered, wireless A/V communications device for audio distribution and surveillance in public spaces ranging from theme parks, to transport hubs, to live venues. While not necessarily representative of their core business, finding compact, energy-efficient solutions for a variety of applications is part of the DNA of the company, Lastrucci says.

“If you desire to do a lot of things you can find time to do everything,” Lastrucci concludes, a philosophy informed in part by the fact that he and his wife of 12 years recently welcomed a new addition to their family. “With two boys and a baby girl, there’s a lot to do,” he adds, laughing. ■

Based in Toronto, KEVIN YOUNG is a freelance music and tech writer, professional musician and composer.

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