

Mark Hanson

Valcom

Mark Hanson offers living proof that doing engineering as a hobby can pay off in the workplace. As a senior design engineer at Valcom, Inc. in Roanoke, Virginia, he designs switching power supplies, class-D amplifiers, and microprocessor-based controls for paging equipment. Valcom provides loudspeaker paging, intercom, public address, and voice evacuation systems for high schools, office buildings, and big-box stores such as Wal-Mart, K-Mart, Home Depot, and Lowes.

One day, the president of the company saw Hanson pull up in his electric car and remarked, "Boy, you drive a real big switching power supply. Maybe you could do that for us." As Hanson recalls, "I ended up getting all the power electronics jobs at the company because he saw an electric car and realized that took a bit of effort to put together."

The 49-year-old Hanson grew up in Columbia, Maryland the son of a rocket scientist and first became interested in electrical engineering at age four when he stuck a paper clip into a wall socket. His career has taken a zig-zag path between the East Coast and Colorado. After getting an associates degree in electronic engineering from Catonsville Community College in Maryland, he worked at several companies before finding a home at Valcom. Along the way, he picked up a B.S. degree in computer science and technical management from Regis University in Colorado Springs.

In carrying out a typical project, Hanson says the president of the company will come to him wanting a certain device designed. "We'll hash it back and forth and get a written spec, which is key in the success of any project. Then I go off and design a circuit. You calculate it and draw it up," he relates. "I'll look around at all the different possible integrated circuits available and see which are the cheapest and easiest to work with. Then I'll build a prototype and test it." This includes testing for electromagnetic interference (EMI) to meet Federal Communications Commission regulations and Underwriters Laboratories (U.L.) testing to make sure the device is safe. "Then we'll go into production." He adds, "I work sort of by myself, but I have a technician there and manufacturing folks and quality engineers."

What pleasure does Hanson get out of this? "I enjoy electronics, the design process, the invention and creating something that's never existed before," he replies. "Everybody looks to you to create something that will work and is viable and go into production. Seeing something come out of nothing is what keeps you going."

Outside of Valcom, Hanson serves as president of Solectrol Electronics, a one-man company he started as a hobby to design and build controls for electric cars and solar and wind power systems. "I've been interested in alternative energy since I was kid," he explains.

Such a practical approach to electronics can prove beneficial for young engineers, Hanson says. Some entry-level engineers "know the theory part but don't have any practical background. Hands-on building circuits is very good in the manufacturing real-world production environment -- understanding what's involved in putting a circuit together, putting it in a box, and actually making it work."

Both at Valcom and at home, Hanson has proven this an effective strategy.