



Highly sophisticated space exploration tools, such as the Orbiter shown here, rely on Rancho Bernardo-based Express Logic's ThreadX embedded microprocessor technology.

Express Logic Threads Itself Through All Types of Gadgetry

High-Tech: NASA, HP Among the Clients Using Company's Technology

■ BY JESSICA LONG

Learning how to operate today's high-tech gadgets can be difficult for some users, leaving little time to wonder about the inner workings of a product.

But should someone wonder about such things and begin examining the issue, there's a good chance the name **Express Logic** will appear.

The Rancho Bernardo-based company and its flagship ThreadX technology product is used to make everything from inkjet and laser jet printers to America's space missions possible. In fact, the company estimates that more than 200 million electronic products today contain a piece of Express Logic technology.

As an embedded microprocessor, ThreadX is comparable to a very small operating system, or a computer within a larger gadget's system, said Bill Lamie, the founder and chief executive officer for the company, which was founded in 1996 and has about 30 employees.

To quantify just how big the embedded microprocessor industry is, Lamie said that consumers need only walk into a store and see how many new electronic devices are coming on the market each year.

"Just about everywhere you go in life these days is touched by it," Lamie said, noting that even cars and trucks today come standard with multiple embedded microprocessors that help control things such as the timing of an air bag deployment upon impact.

According to ZD Net, a research engine specializing in technology business issues, the embedded microprocessor market is a \$30 billion a year industry that will reach \$35 billion by 2007. Express Logic officials also estimate that they have the potential to sell to as many as 250,000 embedded developers worldwide, manufacturing everything from hand-held organizers to lifesaving medical devices.

Client Roster

Express Logic's client list includes NASA. In August, the agency launched its Mars Reconnaissance Orbiter spacecraft on a seven-month journey to the Red Planet. Onboard are ThreadX-infused devices to

record information about comets, the Earth's origin and other planets.

While NASA may be Express Logic's most prolific client, it is not the company's biggest. Still, Lamie said the fact that ThreadX is being used by the agency for such sensitive operations surrounded by huge pressure to do well is one of the best selling points he can think of for his business.

"We think that's a very strong compliment," Lamie said of the NASA use.

One client that is a big and frequent purchaser of Express Logic's product is Hewlett-Packard's Inkjet Lab, which is also in Rancho Bernardo and employs some 1,900 people.

A major advantage to using embedded microprocessors in a printer system is the ability for users to start a print job and move on to other system functions before the job is completed.

The company also uses the technology for its latest digital camera and all-in-one devices. In a client testimonial, Dave Staudacher of HP said ThreadX and other Express Logic products were fast and sophisticated.

Another Express Logic client, San Diego-based **DriveCam Inc.**, uses ThreadX in its digital camera systems too. DriveCam sells digital camera systems that monitor commercial driver behavior.

DriveCam inventor Gary Rayner gave Express Logic's technology high praise, saying he would recommend it to others.

Industry Growth

As a privately held company, Express Logic does not disclose financial records. But Lamie said the company has turned an annual profit each year since its inception in 1996 and is growing at an average rate of about 30 percent each year.

Maybe that's because less than 10 percent of the computers made today are made for home and office desktop systems, leaving more than 90 percent of the computer-making market dependent on embedded microprocessors.

John Carbone, the vice president of marketing for Express Logic, said that the company has no plans for any drastic changes in the near future. Rather, the company will continue on a steady growth plan based on roughly 30 percent increases to revenues and employees each year.

The need for embedded microprocessors is also expected to grow considerably in the next few years. According to a 2005 study by Forrester Research, 14 billion new electronic devices are expected to be made between now and 2010.