A Chip ID That's Only Skin-Deep

Biotech: Firm plans to sell implantable devices that can store a variety of data about you.

> *Note from pastor Kevin: For many years Christians have been watching for technology to progress to the point where Revelation 13:16-17 can be literally fulfilled. The recent terrorist attacks have moved us ever so close to a national ID system. If it comes, there will be a call to ensure no one is able to forge or counterfeit this ID system, which is intended to give us security against further attack. How will they prevent forgery when it is widely known the 19 hijackers had false identification and many cities are experiencing a flood of counterfeit money? It is very possible the ultimate solution will be found in the chipping of all citizens and foreigners living in the US. If chipping is the solution, this technology could easily be adopted by financial institutions to the extent that people would be told if they do not have a chip, they cannot buy or sell. Time will tell how the prophecies of the Bible will be fulfilled, but the day will come when:*
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> > *Rev 13:16 He causes all, both small and great, rich and poor, free and slave, to receive a mark on their right hand or on their foreheads, 17 and that no one may buy or sell except one who has the mark or the name of the beast, or the number of his name.*

By DAVID STREITFELD, Times Staff Writer, Copyright 2001 Los Angeles Times

A Florida company is poised to become the first to sell microchips designed to be implanted into human beings, an achievement that opens the door to new systems of medical monitoring and ID screening. Implantable chips have long been discussed by technologists and denounced by those who object on religious grounds or fear their use by a totalitarian state. But the company that did the test, Applied Digital Solutions of Palm Beach, said the specter of terrorism is shifting attitudes. The direct union of man and computer is no longer dismissed out of hand. "The bottom line is, when people are trying to regain their peace of mind, they're more open to new approaches," said Keith Bolton, Applied Digital's chief technology officer.

Applied Digital, which had revenue of $165 million last year, has made its mark by selling electronic chips that help farmers keep tabs on the health and safety of their cows and other livestock. The company also makes a monitoring bracelet for Alzheimer patients, so that families can use global positioning satellite systems to help find loved ones who might have wandered off.

Now the company sees a market among those who have artificial organs and limbs. These folks will have up to 60 words of relevant medical information implanted on chips. If the patients are brought unconscious into an emergency room, technicians equipped with special scanners will easily decipher the body's internal topography.

The chips would need approval from the Food and Drug Administration, which Applied Digital said it expects to receive by midyear. The company said it already

has secured permission from the Federal Communications Commission--necessary because the chips use radio frequencies.

Regulatory approval is not necessary overseas, however. Applied Digital expects to be selling chips in South America in about 90 days. One potential market is kidnap targets, who could use these chips in combination with global positioning devices. Other potential applications would put the chips in the role of an ultimate ID, capable of performing many of the roles that are performed by keys and ATM cards. "I'd be shocked if within 10 years you couldn't get a chip implanted that would unlock your house, start your car and give you money," said Chris Hables Gray, an associate professor of computer science at the University of Great Falls in Montana and author of "The Cyborg Citizen."

English cyberneticist Kevin Warwick won considerable notoriety three years ago by implanting an electronic transmitter above his left elbow. The implant opened doors and switched on lights at his British University of Reading offices. He now is working on experiments in which his nervous system is linked with a computer. If Warwick is the equivalent of the mad genius who injects himself with a new vaccine to see whether it works, the Applied Digital volunteer, 55-year-old New Jersey surgeon Richard Seelig, sees himself as simply a consultant thrust by events into an unexpected role. Seelig had been working with Applied Digital since early this year. He expected to do a traditional scientific study, calling for volunteers who wanted to test out the role of chip implants. Then came the terrorist attacks Sept. 11. Five days later, Seelig injected himself with the chips. "I was so compelled by what had happened," he said in a phone interview. "One of the potential applications suddenly jumped out--the ability to have a secure form of identification--and I felt I had to take the next step."

So he injected one chip into his left forearm; the other went in his right leg, next to his artificial hip. Each could hold several sentences of information, although at the moment they just contain serial numbers. "There's no deformity of the skin," Seelig said. "I feel just the same as I did before."

The chips that will be marketed next year are not true tracking devices. For one thing, they have no internal power source. Their data can't be read without a scanner. The next generation of body chips, which transmits signals from a distance, is still several years away. At the moment, this kind of tracking device would have to be about 1 inch by 1 inch, raising the likelihood of a rather unsightly bulge. Applied Digital has a market value of 95 million. Its shares closed unchanged Tuesday at 38 cents on Nasdaq.

No one interviewed Tuesday questioned that Applied Digital had done what it said it did, but not everyone thought there would be a huge market. "It's a glorified bar code, and there are not a lot of people who are going to want it," said Michael Nova, the founder of Graviton, a La Jolla company developing wireless machine-to-machine communication systems. Using such a chip as a built-in credit card, Nova said, would require a great deal of work. "Stores would have to get the right software; credit card companies would have to want to do it," Nova said. "At the moment, this is an intriguing idea that doesn't have a market." Which isn't necessarily going to keep it from being popular, said futurist Paul Saffo. "As some people wring their hands about the invasion of privacy and civil liberty, a whole other generation is going to go, 'Cool! I've always wanted to embed technology in my body.' It's going to be fashion," Saffo said. "One sure sign that teenagers will love it is if it terrifies their parents."