

# Technology Today

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Alan Pierce

## LifeGuard

A plane has gone down during the night somewhere between New Jersey and Martha's Vineyard. At the very moment that I am writing this column, a major search for John Kennedy Jr.'s plane is being chronicled on CNN and every other news network. Could the technology that I am about to report on play a role in the attempted rescue? I planned to write this column much later in the year. However, today's news events made me change topics, even though I know you won't get to read this column until October.

By the time I completed this column, the chances of finding John Kennedy Jr., his wife, and his sister-in-law alive were gone. The last steps in my research process also called into question the validity

buried alive underground. The machine doesn't amplify sound as does a sensitive microphone, see in the dark as does a starlight scope, or pick up the thermal signature of a warm body as does an infrared detector. It actually detects the very weak electromagnetic signal of a pumping human heart.

The LifeGuard model 3.0 in some ways resembles a Geiger counter (see photo). To visually appreciate what the manufacturer indicates that this unit can do, an analogy that compares it to some technology that was used in a science fiction movie is in order. In the movie *Total Recall*, Arnold Schwarzenegger has a homing device implanted in his nose. The men who are pursuing him use a hand-held device that looks similar to the LifeGuard.

The movie device matches this real technology when it gives bearing directions to the target on its display, tracks Arnold through concrete and other barriers, with some loss of signal power penetrating all camouflage, and uses GPS to determine the exact location of the target. The fictional device is, however, inferior to LifeGuard because it required a homing device on the target that could be removed. LifeGuard only requires a beating heart. According to DKL, the unit's electronics

can tell when it is tracking a person versus a similar-structured animal, such as a gorilla. Since the unit is passive in nature, it doesn't send out any type of radiation that might harm the very people it is trying to find.

Of course when it comes to power, the movie technology has greater range. DKL reports that their model 3.0 detector can track the human heart at a range of about 2,000 feet. They indicate that barriers do diminish the effective range of the unit, even though it can filter out all other radio or microwave electromagnetic fields that might be in the search area.

Let's look at how this technology works. Our beating heart is controlled by a series of very small electric signals. Doctors use this field to check on the condition of the human heart by attaching a patient to an EKG (electrocardiogram) machine that

produces a graphic readout of a heating heart. The field that the medical equipment measures is actually projected beyond the human body as if the body is a very weak radio station. The strength of this dielectrophoresis field is extremely weak actually producing a signal that measures only 1.2 to 2 Hertz on the electromagnetic spectrum. What is interesting about these ULFs (Ultra-Low Frequencies) is that they can pass through materials that reflect or absorb higher frequencies, and ULFs also travel further on less power than the rest of the electromagnetic spectrum. For this very reason, the U.S. Navy uses the next step up on the electromagnetic spectrum, 76 Hertz (ELF) to communicate with submerged submarines.

According to news releases from Brusels supplied to me by DKL, LifeGuard has proven 100 percent effective in finding illegal aliens hidden in trucks and trailers. DKL's news releases indicate that in the U.S., LifeGuard is currently being tested in search-and-rescue operations, foiling drug traffickers, and finding and rescuing hostages. You can learn more about this technology at DKL's internet site: [dklabs.com](http://dklabs.com).

A lot of positive and negative traffic on the subject can be found by typing "dkl lifeguard" into an internet search engine. The Sandia National Laboratory report can be found at [www.sandia.gov/media/hudet.htm](http://www.sandia.gov/media/hudet.htm). When Dennis Karwatka and I were finishing our textbook, *Introduction to Technology* (Glencoe/Mc-Graw Hill, 1999), we prepared a feature that included the cloning of Dolly the lamb. At publishing deadline, we found that the scientific community was having problems replicating this cloning experiment. In time, the cloning of Dolly was replicated. What do you think will be the final outcome for this LifeGuard technology? **TD**

## Recalling the facts:

1. Describe the difference between this detector and the one used in the movie *Total Recall*.

2. Name six situations where the manufacturer indicates that this equipment could be used to help locate people.

3. Based on your independent research, do you feel this equipment works? Why?

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DKL LifeGuard Model 3.0

of the LifeGuard hardware. Since my column is written for educators and their students, I have decided to encourage you to ask your students to perform some investigative reporting using internet search engines and the internet addresses given at the end of this column. That makes this a very different type of column, one that becomes a Technology Learning Research Experience. The question becomes, Is this an example of "cold fusion" technology, or does this hardware actually work?

LifeGuard has been developed by DKL (Dielectrokinetic Laboratories LLC) to help rescuers, the military, or the police locate people who are lost, trapped, or in hiding. The detection equipment has been designed to find people who are trapped under water, encased in concrete rubble, hiding inside a steel cargo container, or