

# Infantry News



## New Device Will Sense Through Concrete Walls

DONNA MILES

Troops conducting urban operations soon will have the capabilities of superheroes, being able to sense through 12 inches of concrete to determine if someone is inside a building.

The new "Radar Scope" will give warfighters searching a building the ability to tell within seconds if someone is in the next room, said Edward Baranoski from the Defense Advanced Research Projects Agency's (DARPA's) Special Projects Office.

By simply holding the portable, handheld device up to a wall, users will be able to detect movements as small as breathing, he said.

The Radar Scope, developed by DARPA, is expected to be fielded to troops in Iraq as soon as this spring, Baranoski said. The device is likely to be fielded to the squad level, for use by troops going door to door in search of terrorists.

The Radar Scope will give warfighters the capability to sense through a foot of concrete and 50 feet beyond that into a

room, Baranoski explained.

It will bring to the fight what larger, commercially available motion detectors couldn't, he said. Weighing just a pound and a half, the Radar Scope will be about the size of a telephone handset and cost just about \$1,000, making it light enough for a Soldier to carry and inexpensive enough to be fielded widely.

The Radar Scope will be waterproof and rugged, and will run on AA batteries, he said.

"It may not change how four-man stacks go into a room (during clearing operations)," Baranoski said. "But as they go into a building, it can help them prioritize what rooms they go into. It will give them an extra degree of knowledge so they know if someone is inside."

Even as the organization hurries to get the devices to combat forces, DARPA already is laying groundwork for bigger plans that build on this technology.

Proposals are expected this week for the new "Visi Building" technology that's more



*DARPA expects the portable Radar Scope to look similar to this model.*

than a motion detector. It will actually "see" through multiple walls, penetrating entire buildings to show floor plans, locations of occupants, and placement of materials such as weapons caches, Baranoski said.

"It will give (troops) a lot of opportunity to stake out buildings and really see inside," he said. "It will go a long way in extending their surveillance capabilities."

The device is expected to take several years to develop. Ultimately, servicemembers will be able to use it simply by driving or flying by the structure under surveillance, Baranoski said. *(Donna Miles writes for the American Forces Press Service.)*

## Doctrine Corner

Where can you find the most recent doctrine and collective training manuals?

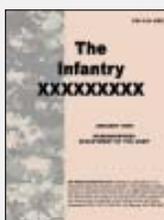
Visit the following Web sites:

\* [https://akocomm.us.army.mil/usapa/doctrine/Active\\_FM.html](https://akocomm.us.army.mil/usapa/doctrine/Active_FM.html)

\* [http://atiam.train.army.mil/soldierPortal/appmanager/soldierstart?\\_nfpb=true&\\_pageLabel=rdlservicespage](http://atiam.train.army.mil/soldierPortal/appmanager/soldierstart?_nfpb=true&_pageLabel=rdlservicespage)



For more information, contact the **U.S. Army Infantry School's Combined Arms and Tactics Directorate** at: DSN: 835-7114, COMM: (706) 545-7114, or e-mail: [doctrine@benning.army.mil](mailto:doctrine@benning.army.mil).



## REUNIONS

The **Society of the First Infantry Division** will hold its 88th annual reunion July 12-16, 2006, in Phoenix at the Arizona Biltmore.

For more information, visit the society's Web site ([www.1stID.org](http://www.1stID.org)) or contact the society at:

Society of the First Infantry Division  
1933 Morris Road, Blue Bell, PA 19422  
(888) 324-4733; fax: (215) 661-1934;  
e-mail: [Soc1ID@aol.com](mailto:Soc1ID@aol.com)

The **45th Infantry Division (Thunderbirds)** will hold its annual reunion September 28 to October 1, 2006.

For more information, contact Raul Trevino at: 2145 NE Street, Oklahoma City, OK 73111  
(210) 681-9134

# NEWS BRIEFS

**Soldiers testing cooling vests in Iraq** — About 500 liquid-filled cooling vests are now being tested by HMMWV crews in Iraq and Kuwait.

The vests are worn under body armor and a hose from each vest is plugged into the HMMWV's on-board air-conditioning system. Liquid from the vehicle's AC system circulates through the vest, cooling its wearer.

The vests were developed by the Army's Tank Automotive Research, Development & Engineering Center (TARDEC), in coordination with the Natick Soldier Center. They were sent to Kuwait this past summer and then forwarded to Iraq.

The HMMWVs with add-on armor were fitted with air conditioners after TARDEC engineers in Warren, Michigan, were given the requirement to figure out how Soldiers in armored vehicles could be kept cool under the desert sun.

Some of the same engineers had designed the add-on armor kits for the M-998 and M-1025 HMMWVs in theater. But with the extra armor and doors closed, temperatures inside the vehicles could reportedly reach more than 130 degrees.

About 21,000 of the air-conditioning systems have been ordered for HMMWVs in theater and more than 13,750 already have the AC systems installed, Bussee said. But even with air conditioning, temperatures inside the armored vehicles could still reach 95 degrees in the sun, Bussee said. So something more was needed.

Each HMMWV cooling kit consists of four water-filled vests known as Air Warrior Microclimatic Cooling Garments or MCGs. Fungicide-treated water is chilled by the AC system in the HMMWV and circulated through the garment.

A rapid-release system allows Soldiers to quickly disconnect the hoses so they can jump out of the vehicle and keep the vests on. *(Adapted from an Army News Service release by Gary Sheftick.)*

**Caffeine gum now in Army supply channels** — The Army recently finished testing "Stay Alert" caffeine gum as a countermeasure for fatigue, and the new product is now available through military supply channels.

The Walter Reed Army Institute of Research (WRAIR) tested



*The vests fit under a Soldier's normal body armor and are connected via hoses to the vehicle's air-conditioning system.*

the new gum.

"We wanted to show that the gum is a quick and safe method of maintaining or improving alertness and physical and mental performance, and our tests did that," said Dr. Gary Kamimori of the Department of Behavioral Biology at WRAIR.

Each piece of Stay Alert chewing gum contains 100 milligrams of caffeine, which is about the amount found in a six-ounce cup of coffee.

"Because it's chewed, it delivers caffeine to the body four

to five times faster than a liquid or pill because it's absorbed through tissues in the mouth — not the gut, like in traditional formulations," Kamimori said.

A sleep researcher, he learned of the idea of delivering caffeine through gum in 1998. Congress funded the first study on the gum a year later. When the study validated how fast the caffeine was absorbed in the body, the U.S. Army Medical Research and Materiel Command, the parent command of WRAIR, began developing and testing Stay Alert for use in sustained or continuous military operations when Soldiers typically don't get enough sleep.

WRAIR researchers have also conducted studies with colleagues from Defence Research and Development Canada-Toronto and the New Zealand Defense Forces, with promising results, Kamimori said.

"In three studies, using multiple administrations of caffeine with Stay Alert gum, they (Soldiers) reported that alertness, marksmanship — both simulated and live fire — vigilance on observation and reconnaissance tasks and physical performance during simulated operations were either maintained or improved as compared to those Soldiers who received a placebo chewing gum," he said.

The Department of Defense Combat Feeding Program of the Natick Soldier Center in Massachusetts also tested and approved the gum to become a component of the experimental "First Strike Ration." The lightweight ration is designed for Special Operations Forces. Three hundred cases of the Stay Alert gum went to Soldiers in the field in 2004. Stay Alert has a National Stock Number (NSN #8925-01-530-1219). *(Adapted from a USAMRMC release by Karen Fleming-Michael.)*

## 2006 Warfighting Conference

The 2006 Warfighting Conference is tentatively scheduled for September 11-14.

Once available, conference information such as agendas and reservation information will be posted to the Fort Benning Web site at <https://www.benning.army.mil>. Additional information about the conference will also appear in upcoming issues of *Infantry Magazine*.