

The Soldier's Answer to Tactical Perimeter Security

The Battlefield Anti-Intrusion System

PHILLIP CHEATHAM

One of the most critical missions facing leaders at all levels today is that of providing security and protection for their personnel. During deployments or field training exercises, commanders are responsible for providing security for government property and personnel. The key element in solving this problem is the ability to receive early warning of an approaching threat.

The need to provide early warning is well documented and can be traced back as far as the Civil War and earlier. During the Civil War and especially in World Wars I and II, Soldiers would manufacture crude devices to assist in their protection and provide themselves with early warning of approaching danger. Some of these devices were as simple as tying empty tin cans on trip strings/wires located in front of their positions. A more sophisticated early warning device is the pyrotechnic trip flare that is still in use today.

The Army approved a requirements document for the Platoon Early Warning System (PEWS) on July 14, 1970. Development began of the PEWS (AN/TRS-2) and was later fielded in the late '70s and early '80s. The initial buy was for a total of 10,541 systems, but only 5,500 systems were ever delivered. In May 1991, orders for the PEWS were halted based on feedback from users in the field. Soldiers advised that the system consistently failed to detect targets or provided faulty alarms; transmitters would not provide infrared alarms at the required distance (1,500 meters); and the battery life was limited. Even though funding for this program was stopped, commanders continued to request that similar systems be developed as Soldiers continued to create makeshift devices to provide protection and early warning.

As a result of this demand, the U.S. Army Infantry Center (USAIC) began to develop requirements for a replacement system. In May of 1997, the Battlefield Anti-Intrusion System (BAIS) operational requirements document was approved by the Department of the Army and development began.

While it was the best the Army had at the time, PEWS is being retired after more than 20 years of service. The replacement system — BAIS — is a much lighter and more reliable system. Instead of worrying about a costly, unreliable system, Soldiers will soon be able to rest easier during deployments knowing there is an easily programmed, highly dependable, early warning system watching out for them.

As the overseer of the BAIS, the Product Manager, Force Protection Systems at Fort Belvoir, Virginia, continues to place emphasis on ease of deployment, operation, and recovery. Using the requirements outlined by USAIC, the basic BAIS will provide the capability for early detection of vehicles and personnel to enhance Soldier survivability during ambush and defensive operations. The sensors used by BAIS will possess sophisticated



software algorithms that determine what type of potential threat is activating the sensor (people, wheeled vehicle, tracked vehicle), which will greatly enhance a Soldier's ability to use the appropriate tactical response.

The BAIS consists of a handheld monitor, sensors, and a communications subsystem. It will come in a durable, soft-sided carrying case with a system weight of less than 15 pounds. No single component will weigh more than 1.65 pounds, making it less burdensome for the Soldier. Detection range of the sensors provides frontage coverage for up to 450 meters with radio line of sight transmission range being up to two kilometers. It also can be linked to a notebook computer to provide increased situational awareness. Since the system's monitoring device can accommodate a large number of sensors, it makes the system ideal for conducting area security missions. The BAIS will be capable of being rapidly emplaced and retrieved by personnel minimally trained in the use of the system.

The Army expects to acquire almost 6,900 BAIS systems. The basis of issue for the new system is one per infantry platoon, two per military police platoon, one per reconnaissance platoon, and one per combat engineer platoon. The roll-out schedule includes initial fielding in the third quarter of fiscal year 2005. Currently, Company A, 1st Battalion, 505th Parachute Infantry Regiment, has deployed with two prototypes; and the 3rd Brigade, 2nd Infantry Division (Stryker Brigade Combat Team) has deployed with 30 of the production version of the system. This will be the first "real-world" test for the BAIS.

For more information, contact Lieutenant Colonel Gene Stockel via e-mail at eugene.stockel@belvoir.army.mil or call (703) 704-2416 or DSN 654-2416.

Phillip Cheatham currently serves as a security analyst with Computer Sciences Corp. in the Electronics and Special Developments Division, Directorate of Combat Developments.
