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Less-Lethal Technology: Beaming Pain & Confusion

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Annotation

This article describes some less-lethal devices on the market that are called active denial systems (ADS), which emit a laser beam that causes an automatic, debilitating reaction in a targeted subject to prevent him/her from engaging in dangerous behavior.

Abstract

The Arizona-based Raytheon Co. developed its ADS, named the Silent Guardian, in 2006. The system sends a focused beam of millimeter wave energy that penetrates into the target's skin, producing an intolerable heating sensation that ceases when the target leaves the beam. The Silent Guardian's range is just over 250 meters. Although it has security and defense applications, it weighs more than 5 tons, which makes it suitable mainly for the defense of a

fixed location. Another ADS program was begun by Laser Energetic, Inc., in 2006. The program, known as "Dazer Laser," has produced an eye-safe handheld nonlethal laser weapon for use by law enforcement agencies and the military. The two products that use the Dazer Laser technology are the "Defender" and the "Guardian." They discharge a modulating green beam that temporarily impairs a target's vision, equilibrium, and awareness, while causing nausea. When hit in the eyes these effects occur immediately. The beam penetrates closed eyelids if the target closes his/her eyes. Vision impairment and imbalance disappear up to 30 seconds after the beam is removed, but nausea may last longer. The Defender looks like a pistol, and the Guardian resembles a flashlight or short baton at 6.6 inches long. The Defender has a maximum beam range of 2,400 meters (just under 1.5 miles), and the Guardian has a maximum range of 300 meters.

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