



Silent Guardian™ Protection System

Less-than-Lethal Directed Energy Protection



Silent Guardian™ Protection System's proven safe technology provides instantaneous effects at standoff distances to stop aggressors, protect assets and save lives.

Benefits

- Provides a zone of protection that saves lives and protects assets
- Minimizes collateral damage
- Provides real-time ability to establish intent and de-escalate outbreaks of aggression and violence
- Does not cause physical harm; helps prevent injury and death
- Provides precise effects at range greater than current less-than-lethal systems

Silent Guardian™ Protection System uses millimeter wave technology to repel individuals without causing injury. This capability enables users to stop, deter and turn back adversaries without the use of lethal force. The system disrupts an aggressor's ability to effectively use a weapon. Silent Guardian provides the tactical ability to control outbreaks of violence, minimize collateral damage and save lives.

The system's antenna directs a focused beam of millimeter wave energy. The beam travels at the speed of light and penetrates the skin to a depth of 1/64 of an inch, producing an intolerable heating sensation that causes targeted individuals to instinctively flee or take cover. This sensation ceases immediately when an individual moves out of the beam or

the operator steers the beam away. Silent Guardian does not cause injury because of the shallow penetration depth of the millimeter wave and safety features designed within the system.

Thorough government testing was conducted to characterize the effects of millimeter waves on the human body. These tests confirmed the technology's safety and determined there is a significant margin between safe and harmful exposure levels.

Silent Guardian can operate across a broad range of scenarios, including maritime and desert environments. Silent Guardian is sealed from dust and supports operations in conditions up to 125 degrees Fahrenheit ambient. The antenna is capable of sustaining multiple bullet

strikes with minimum system performance degradation and is protected from rain, dust and salt fog environmental damage.

Silent Guardian is transportable on standard military tactical vehicles and can be integrated into combat vehicles. The system's magazine is only limited by fuel availability.



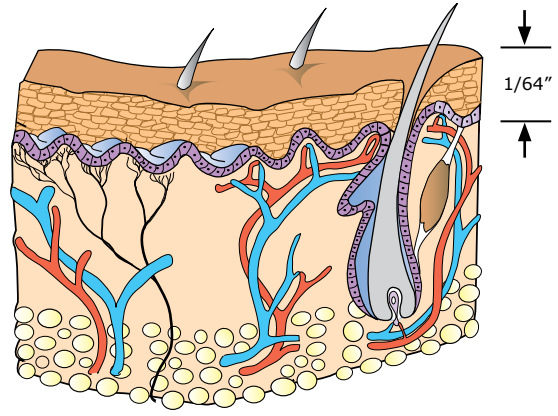
Silent Guardian™ Protection System



Stationary firing position with 360-degree coverage.



Easy-to-use joystick control with auto-tracking capabilities.



Penetrates skin to 1/64 of an inch.



Various applications for law enforcement, facility protection and homeland security.

The focused collimated beam allows precise targeting of specific individuals.

Silent Guardian™ Specifications

	Height	Width	Length	Weight
AC/DC Converter	65 in	45 in	74 in	3,870 lb
Transmitter Unit	95 in	83 in	94 in	6,440 lb
Transmitter with Antenna	136 in (level) 147 in (maximum interference)			
Antenna	45 in by 45 in			

System Characteristics

Range:	Greater than 250 meters*
Targeting:	Stationary firing position with 360-degree coverage Integrated sensor(s) with joystick control
System Setup:	Automatic target tracking Modular architecture Secure antenna stabilization platform – able to operate in 40 mph winds
Mission Profile:	Less than 2 seconds retargeting capability Shoot and scoot capability Less than 2 seconds to switch from standby mode to armed
Contractor Support:	Complete logistics support package available to include <ul style="list-style-type: none"> • Return and repair maintenance • System training • Web-enabled supply support • Supports Army two-level maintenance system



Military applications include checkpoint security, perimeter and point defense, force protection and peacekeeping missions.



Images courtesy of the Defense Visual Information Center

*The Joint Non-Lethal Weapons Directorate has stated that the long-range active denial systems (ADS) are effective beyond small-arms range, typically up to 500 meters. The range of the Raytheon-funded Silent Guardian, mid-range ADS is greater than 250 meters.

Raytheon Company
Missile Systems
 Directed Energy
 P.O. Box 11337
 Tucson, Arizona
 85734-1337 USA
 520.794.0418 phone
 520.794.7915 fax

www.raytheon.com

Raytheon

Customer Success Is Our Mission