

# Safeguards Technology Client List

## Client List

### **CORRECTIONAL FACILITIES**

1000 Cell Close Security – Anson County, NC  
1000 Cell Close Security – Alexander County, NC  
1000 Cell Close Security – Bertie, NC  
1000 Cell Close Security – Maury, NC  
1000 Cell Close Security – Scotland County, NC  
Albemarle Correctional – New London, NC  
Anamosa State Penitentiary – Anamosa, IA  
Avery Mitchell Correctional – Spruce Pine, NC  
Bedford Hills Corp. – Bedford Hills, NY  
Bergen County Annex Jail – Hackensack, NJ  
Bergen Pines Youth Center – Paramus, NJ  
Beto Unit – Tennessee Colony, TX  
Boyd Unit – Teague, TX  
Bristol County Jail – Holbrook, MA  
Central Booking & Intake – Baltimore, MD  
Charles Moore Unit – Bonham, TX  
Charleston Detention Center – Charleston, SC  
Chester Correctional Facility – Chester, PA  
Chuckawalla Valley Correctional – Blythe, CA  
Clallam Bay Correctional – Clallam Bay, WA  
Clemens Unit – Brazoria, TX  
Clinton Correctional Facility – Dannemora, NY  
Cotulla Unit – Cotulla, TX  
Coxsackie Correctional – Coxsackie, NY  
Craven Correctional – Vanceboro, NC  
Delaware Correctional – Smyrna, DE  
Diboll Unit – Diboll, TX  
Downstate Correctional – Fishkill, NY  
El Dorado Correctional – El Dorado, KS  
Ellis I Unit – Huntsville, TX  
Ellsworth Correctional – Ellsworth, KS  
Elmira Correctional – Elmira, NY  
Estelle Unit – Huntsville, TX  
Fairfax County Jail – Fairfax, VA  
Five Points Correctional – Seneca, NY  
Foot Hills Correctional – Morganton, NC  
Fort Dodge Correctional – Fort Dodge, IA  
Fort Stockton Unit – Fort Stockton, TX  
Fulton Diagnostic Center – Fulton, MO  
Golden Grove Correctional – St. Croix, U.S.V.I.  
Goodman Unit – Jasper, TX  
Hocking Correctional – Nelsonville, OH  
Hyde Correctional – Hyde, NC  
Ionia Level 4 Correctional – Ionia, MI  
Iowa Medical Correctional Center – Oakdale, IA  
Iowa State Penitentiary – Ft. Madison, IA  
Jackson Correctional – Black River Falls, WI  
Jamesburg Training Center – Jamesburg, NJ

Kershaw Correctional – Kershaw, SC  
Lakeview Shock Unit – Rockland, NY  
Larned Mental Health – Larned, KS  
Leblanc Unit – Beaumont, TX  
Luther Unit – Navasota, TX  
Maine State Prison – Warren, ME  
Marion Correctional – Marion, NC  
Maryland Correctional Trg. Ctr. – Hagerstown, MD  
Maximum Prison – Cranston, RI  
McDougal Correctional – Suffield, CT  
Minnesota Correctional – Stillwater, MN  
Minnesota Correctional – Rush City, MN  
Moore Unit – Bonham, TX  
Mt. Pleasant Correctional – Mt. Pleasant, IA  
Newton Correctional – Newton, IA  
Northern Corp. – Somers, CT  
NY Central Psychiatric Center – Marcy, NY  
Old Colony Correctional – Bridgewater, MA  
Pamlico Correctional – Bayboro, NC  
Pasquotank Correctional – Pasquotank, NC  
Pickaway Correctional Inst. – Orient, OH  
Pitches Honor Jail (North) – Saugus, CA  
Pitches Honor Jail (South) – Saugus, CA  
Powledge Unit – Palestine, TX  
Rudd Unit – Brownfield, TX  
SCI Cambridge Springs – Cambridge Springs, PA  
SCI Graterford – Montgomery Co., PA  
SCI Muncy – Muncy, PA  
SCI Pine Grove – Indiana, PA  
Segovia Unit – Edinburg, TX  
Shawangunk Correctional – Walkkill, NY  
Somerset State Hospital – Somerset, PA  
Southern Ohio Correctional Facility – Lucasville, OH  
Southport Correctional (Chemung) – Pine City, NY  
Stafford Creek Correctional – Stafford Creek, WA  
State Correctional – Pittsburgh, PA  
Suffolk County Jail – Boston, MA  
Sullivan Correctional – Woodburn, NY  
Taycheedah Correctional – Fond du Lac, WI  
Toledo Correctional – Toledo, OH  
Tulia Unit – Tulia, TX  
United States Penitentiary (FBOP) – Atwater, CA  
Walls Unit – Huntsville, TX  
Warren Correctional – Manson, NC  
Wende Correctional – Alden, NY  
Willard Drug Treatment Center – Willard, NY  
WRDC, Missouri Dept. of Correction – St. Joseph, MO  
Wyoming Medium Correctional Inst. – Torrington, WY

### **NUCLEAR /ENERGY FACILITIES**

Alabama Power Co. – Fairly Nuclear Power Plant, AL  
Braidwood Generating Station – Braceville, IL  
Byron Generating Station – Byron, IL  
Callaway Generating Station – Fulton, MO  
Callaway Nuclear Plant – Fulton, MO  
Cherokee Gas Company – Atlanta, GA  
Clinton Power Station – Clinton, IL  
Columbia LNG. Corp. – Cove Point, MD  
Dresden Generating Station – Morris, IL  
Haverhill Gas Company – North Avenue Terminal  
Hydro One Networks – Ontario, CA  
Kansas Gas & Electric Co. – Wolf Cr. Nuclear Plant, KS  
LaSalle Generating Station – Marseilles, IL  
Limerick Generating Station – Pottstown, PA  
Lowell Gas Co. – Wilmington Storage Terminal, MA  
Lowell Gas Company – Westford Satellite  
Macon Storage Room – Atlanta, GA

## ***U.S. DEPARTMENT OF ENERGY***

Allied Gen. Nuclear Services – Barnwell, SC  
Argonne National Lab – Scoville, ID  
Bayou Choctaw SPR – Plaquemine, LA  
Big Hill SPR – Winnie, TX  
Bryan Mound – Freeport, TX  
E.I. du Pont- Savannah River Project, SC  
Engineering Dev. Lab – FMEF, WA  
Hanford Battle NW Lab – Richland, WA – 200 area  
Idaho Nuclear, Env. Eng. Lab – Idaho Falls, ID  
Lawrence Livermore Nat'l Lab – Livermore, CA  
Los Alamos Labs – Los Alamos, NM  
Sandia National Labs – Albuquerque, NM  
Sandia National Labs – Rocky Flats Facility, CO

## ***U.S. DEPARTMENT OF DEFENSE***

U.S. Air Force – Altus, A.F.B  
U.S. Air Force – Anvil Sari, NY  
U.S. Air Force – Beale A.F.B., CA  
U.S. Air Force – Cape Canaveral, FL  
U.S. Air Force – Carswell, TX  
U.S. Air Force – Kirtland A.F.B., NM  
U.S. Air Force – Dyess, TX  
U.S. Air Force – Edwards A.F.B., CA  
U.S. Air Force – Eglin A.F.B., FL  
U.S. Air Force – Grand Forks, ND  
U.S. Air Force – Griffiss A.F.B., NY  
U.S. Air Force – McClellan A.F.B., CA  
U.S. Air Force – Nellis, NV  
U.S. Air Force – Norton A.F.B., CA  
U.S. Air Force – Pease A.F.B., NH  
U.S. Air Force – Robins, GA  
U.S. Air Force – Tamuning, Guam  
U.S. Air Force – Travis A.F.B., CA

Niagara Mohawk Power Co. – 9 Mile Nuclear Gen. Station, NY  
New Brunswick PNC - Point Lepreau, New Brunswick, CA  
Oyster Creek Nuclear Generating Station – Forked River, NJ  
OPG – Darlington Nuclear Gen. Stn., Bowmanville, Ont., CA  
OPG – Pickering Nuclear Gen. Stn., Pickering, Ont., CA  
Pacific Gas & Electric – Diablo Canyon, CA  
Peach Bottom Atomic Power Station – Delta, PA  
Progress Energy – Brunswick Nuclear Plant – Southport, NC  
Progress Energy – Crystal River – Crystal River, FL  
Progress Energy – Harris Plant – New Hill, NC  
Progress Energy – Robinson Nuclear Plant – Hartsville, SC  
PSE&G Salem/Hope Cr. Nuclear Plant – Hancock's Br., NJ  
Quad Cities Nuclear Power Station – Cordova, IL  
Sohio Pipeline Company – Zawalla Station  
Tree Mile Island – Middleton, PA  
Vogtle Nuclear Plant – Waynesboro, GA

St. James Terminal SPR – St. James, LA  
Strategic Pet. Reserve – New Orleans, LA  
Sulphur Mines SPR – Sulphur, LA  
Texoma Meter Station – Lake Charles, LA  
United Nuclear Corp. – Hanford, WA  
United Nuclear Corp. – N-Reactor, WA  
Weeks Island SPR – New Iberia, LA  
West Hackberry SPR – Hackberry, LA  
Westinghouse Hanford, Co. – Richland, WA – 300 area  
Westinghouse Nuclear Corp. – Hanford, WA  
Westinghouse Savannah River Co. – Aiken, SC  
Y-12 – Oakridge, TN

U.S. Air Force – Whiteman, MO  
U.S. Army – Cold Region Test Center, ME  
U.S. Army – Corp. of Engineers, LA  
U.S. Army – Defense Depot, Susquehanna, PA  
U.S. Army – Ft. Bragg, NC  
U.S. Army – Ft. McNair, Washington, DC  
U.S. Army – Kuwait  
U.S. Army – Meradcom  
U.S. Navy – Pearl Harbor Navy Station, Oahu, HI  
U.S. Navy – Naples, Italy  
U.S. Navy – Naval Weapons Station, Earle, NJ  
U.S. Navy – Space & Naval Warfare Ctr., Charleston, SC  
U.S. Navy – NPWTC, Norfolk, VA  
U.S. Navy – Patuxent River, MD  
U.S. Navy – Roosevelt Roads, PR  
U.S. Navy – Rota, Spain  
U.S. Navy – Signella, Cubi Point  
U.S. Navy – Subase, New London, CT

## ***U.S. INFORMATION AGENCY***

Voice of America Relay Station – Kuwait  
Voice of America Relay Station – Morocco

Voice of America Relay Station – Philippines  
Voice of America Relay Station – Thailand

## ***INDUSTRIAL CLIENTS***

Baker Roberts Construction – Pasco, WA  
Boeing North America – Classified  
Chevron – Salt Lake City, UT  
Commonwealth Electric Co. – Lincoln, ME

E.I. du Pont – Wilmington, DE  
E-Systems, Inc. – Greenville, TX  
Reynolds Elec. & Eng. Comp. – Classified  
Stone & Webster Engineers – Boston, MA

## ***AIRPORTS***

O'Hare International Airport – Chicago, IL  
St. Louis International Airport – St. Louis, MO

Tucson International Airport – Tucson, AZ  
The Chhatrapathi Shivaji Int'l Airport – Mumbai, India

## ***PRIVATE SECTOR/CRITICAL ASSET***

American Hebrew Academy – Greensboro, NC  
Amtrak – Los Angeles, CA  
Bergen County Prosecutor's Lot – Hackensack, NJ  
Brazilian Aeronautical Society  
Bushwick Family Shelter – Brooklyn, NY  
Center for Disease Control – Atlanta, GA  
CARMAX – Nationwide, US

Jardine Water Purification Plant – Chicago, IL  
LA County Trans. Comm. – Metro Green Line–Los Angeles, CA  
National Institute of Health – Bethesda, MD  
NYC Teleport, Port Authority – Staten Island, NY  
Six Flags/Great Adventure Amusement Park – Jackson, NJ  
South Water Purification Plant - Chicago, IL

**Secure Barrier - AnchorBlockade700**

Highly versatile and easy to maintain, Welded Mesh is one of the most widely used materials in many industries including corrections, utilities, airports, transportation, distribution, port authorities and military facilities.

Safeguards Technology offers a variety of welded mesh sizes which are used for safety barriers, perimeter fencing and aesthetic purposes in commercial, industrial, military and government projects.

 AnchorBlockade700



## Features & Benefits

### Size:

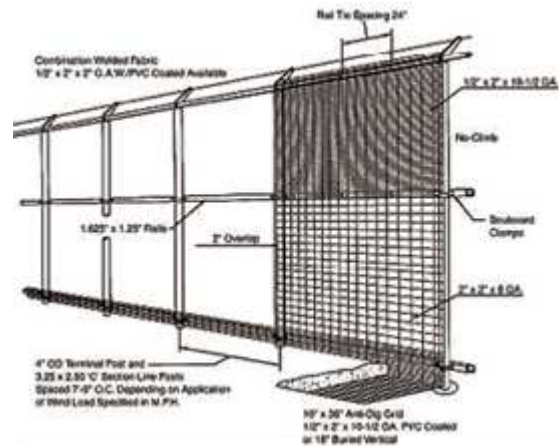
- 1/2" x 3" 8-gauge for high security needs

### General Uses:

- Perimeters
- Bridge overpass fences
- Security fencing
- Catwalks and recreational enclosures
- Storage
- Balustrades

## Application

Safeguards Technology's Welded Mesh Security Fencing is perfectly suited to industrial, commercial and government applications which demand high security fencing.



### Wire Size

Spacing of Cross Wires	Spacing of Line Wires	Gauge	Decimal Size of Wire
0.5	3	8	.162

### Approx. lbs./100 sq. ft.

Spacing of	Spacing of	Gauge	Decimal Size



Cross Wires	Line Wires		of Wire
	P/S	GBW	GAW
32	-	34	41
67	-	-	-
36	-	38	43
79	-	83	101
198	-	210	-

### Secure Barrier - Welded Razor Mesh

The “razor blade” design makes this fence virtually impossible to climb. The pattern of the welded mesh has been designed to require an intruder to make approximately 25 separate cuts before a person can even attempt to climb through the fence.

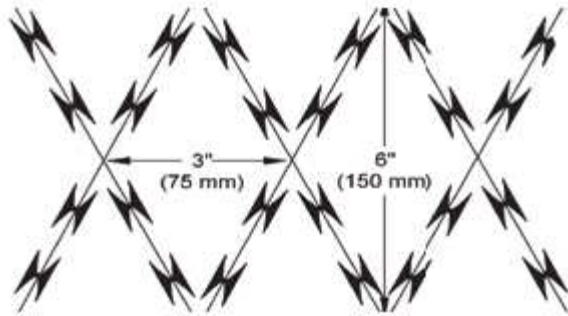
Welded Razor Mesh is constructed from high quality tensile steel. Stainless or galvanized steel options are available.

 **Welded Razor Mesh**



## Features & Benefits

- Virtually impossible to climb over or cut through
- Visual and psychological deterrent
- Presents a formidable physical barrier
- Neat unobtrusive design
- Extremely rigid, ideal for fence-mounted sensors
- Can easily be added to existing perimeters
- Constructed of high quality tensile steel
- Does not have to be periodically re-tensioned
- Installation by standard fence crew
- Ships in manageable panels for easy installation
- Can assume a central role in delay fence configurations

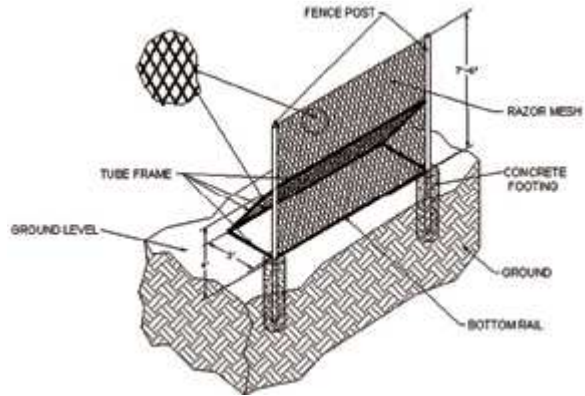


## Application

Welded Razor Mesh Fence is the ideal solution for any facility perimeter where an aggressive visual deterrent and physical barrier is required.

## Specifications

- Standard Heights: 6', 7 ½' and 10' (1.8m, 2.3 m and 3m)
- Aperture Size: 3" x 6" high density (7.62cm x 15.24cm. Standard density also available)
- Standard Panel Length: 20'6" (6.25m)
- Blade length: 0.98" (2.5cm)
- Blade thickness: 0.02" (0.5mm)
- Blade width: 0.74" (19mm)
- Blade spacing: 1.97" (5cm)



## Secure Barrier - Rapid Deployment Barrier

The system is designed to provide rapid deployment — 75 meters (246 ft.) to 1000 meters (3,280 ft.) of barbed tape/razor wire coils which can be deployed in seconds.

Depending on which model deployment barrier is desired, trucks or humvees may be used to tow/deploy the units.

### Rapid Deployment Barrier



## Features & Benefits

Barriers are fully recoverable and reusable. Equipment is supplied to upload and recompress the barrier into modules – simple to handle and compact to store. A single carrier unit can be quickly refilled to drop many miles of barrier in a short period of time.

- Semi-manual or automatic motorized collector
- Standard trailers or Load Lifter Style (with forklift)
- Standard or Humvee tires
- Customized paint to fit any requirements
- Three or six coil deployment
- Unit size varies upon model selection



## Application

Applications include crowd control and riot prevention, prisoner short term detention, site security, augmented fence perimeter security, and quick site security protection.

## Specifications

### HD-300\*

- Deploys 75-300 meters (246–984 feet) in 20-30 seconds
- Refillable
- Approximate weight of trailer excluding barrier: 5,291 lbs. empty; 9,259 lbs. loaded
- Rapid Barrier Modules: Trailer capacity is four modules. Each module is 75 meters (246 feet) long and weighs 992 lbs.
- Barrier collects with reversing/manual operation which is assisted with the electric collector wheel
- Electric winch barrier compactor supplied
- Shipping: Trailers shipped (in knockdown condition) plus 300 meters (984 feet); barrier in 20 foot container.

*\*HD-300 specifications are presented here for conceptual understanding only. Each model varies in size and capabilities. Each Rapid Deployment Barrier System can be customized to meet the customer's requirements.*



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**Secure Barrier - Palisades High Security Fence**



**The Palisades High Security Fence is a rugged, dependable, attractive perimeter security fence that provides an economical solution whenever privacy, property, or personal safety are at risk.**

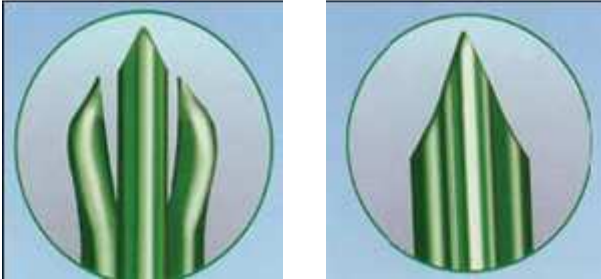
Safeguards Technology has developed a system of fencing and gate components that meet the most demanding requirements of site specifications and security. A proven configuration of premium grade, hot rolled steel pales are available in galvanized or stainless steel material.

Installation is easy. Bolted assemblies with tamper-resistant connection points throughout produce a rigid barrier of strong integrity along the full fence.



***Deterrent Features:***

The pointed steel pales serve as a formidable obstacle. The steel pales defeat attempts at climbing, straddling, grabbing or gaining a foot hold.



***Longevity:***

The Palisades Fence provides exceptional resistance to harsh atmospheric conditions and has an expected lifetime in excess of 25 years.



***Specifications***

***Pales – Construction and Specifications***

- Secured to the rails at every intersection by bolting with special, classic steel anti-vandal shear bolts
- Square shaped holes to accommodate the anti-vandal shear nuts so that head does not protrude more than 0.2” (5mm). Also provides counter force to opening and tightening of nut.
- Head of pale triple pointed and splayed to afford greatest deterrent
- Hot rolled corrugated pales: 0.12” thick x 2.6” wide x 0.88” deep (from commercial quality hot rolled sheets pickled and diled suitable for galvanizing)
- Minimum deflection at 2.5kn applied load: 0.4” for a sample 24” long Posts – Construction and Specifications
- Standard section provided at 9.85’ center, pointed at the top
- For non-standard designs that have different centers, the fence can be custom designed to the site requirements
- Posts are embedded in concrete foundation. Depth to be determined by soil characteristics.

***Main Post Dimensions:***

1. Length of point: 4.8”; Length of splay: 3.6”

### Customizable:

; Set of splay: 1.6"

The height and configuration of the Palisades can be custom made to the client's needs.

### Application

Palisades High Security Fence is the optimal fence solution for high security sites where attractive high strength security fencing is required.



### Security Barrier - ClearVu® Security Fence

Safeguards Technology's ClearVu™ Security Fence has been engineered as a security barrier which disappears into its surroundings. It is an ideal solution to protect your critical assets, without distracting from the existing environment.

Our newest and most innovative fence provides a high level of security, while allowing for unobstructed views of the environment inside the perimeter. With a large variety of coatings to choose from, the ClearVu™ Security Fence can be colored to match your environment. This barrier is a visually pleasing and cost-efficient alternative to traditional fencing.

 ClearVu® Security Fence



### Features & Benefits

- Anti-climb/Anti-cut: Apertures too narrow for foothold and bolt cutters
- Vandal Proof: All fixtures are bolted to the inside of the fence
- Highly Transparent: From a distance, horizontal wire rods virtually disappear
- Rigidity: Reinforced ribs make heavy support barriers redundant
- Flush Finish: System provides a flush panel post finish
- Polymeric Coating: 4 Standard finish colors (custom also available)



## Specifications

- Post Options:  
[fitted w/end caps + 250mm, 30x3mm angle]
  - Taper: 1¼-3½ in./3 in. depth  
(85-45mm/85mm depth)
  - Mesh: 3-6 in./6 in. depth  
(75- 50mm/150mm depth)
- Panel Heights: [4mm - high tensile wire/8-gauge]
  - from 6 to 10 ft.
- Panel Width: 7 ft.
- Aperture Size: 3 x 5 in. (76.2 x 12.7mm)
- Foundation: 20in. deep x 16 in. sq./15Mpa concrete  
(500mm deep x 400mm sq./15Mpa concrete)
- Coating Options:
  - Line galvanized (standard)
  - Line galvanized w/alu-galv coating (corrosion resistant)
  - Line galvanized w/deep etch primer & epoxy enamel
  - Line galvanized w/polymeric 8k coating (corrosion proof)
- Topping Options: Razor mesh panels, Razor wire coils,

## Secure Detect

### Versatile Intrusion Detection

SecureDetect is one of five SecureMaster solutions that encompasses a major area of security. Incorporating all five elements produce a highly integrated and scalable solution that is custom-tailored for each application.

#### Features

- Detection for specific zones
- System reduces false alarms
- Adaptive to hostile environments
- Installable on existing barriers
- Compatible with fences, walls, underground and marine locations
- Network ready

#### Benefits

- Rapid notification and threat isolation
- Fills security gaps
- Improves security of existing barriers
- Provides flexible installation options

- Open architecture with plug-and-play capability



#### **Absolute IR/MW**

Absolute IR/MW Dual Technology Intrusion Detection System utilizes both Infrared and Microwave technologies working together and enclosed inside an extruded aluminum column. The system provides for maximum reliability of intruder detection with minimum false alarms. Absolute columns can be custom designed to any height and component array suiting each security situation.



#### **ATS-3000 Taut wire**

The ATS-3000 Taut Wire Intrusion Detection System is the leading perimeter protection solution currently available. Taut wire is applied to a wire fence in various configurations. The horizontal taut wires are fixed to the sensors that are mounted in a sensor post in the center of the zone. The sensors are high-voltage insulated. Sensor management and environmental compensation is managed by individual microprocessors.



#### **STI-Series Taut wire**

The STI Series of Taut Wire Intrusion Detection Systems is based on the traditional concept that revolutionized the perimeter security market by combining a true physical barrier with highly reliable intrusion detection in one cost-effective solution



#### **DualSense®**

The DualSense® sensor measures the kinetic energy released within a structure when it is disturbed and signals an alarm event when certain parameters are exceeded. This sensor can be used either as a stand-alone warning device or as part of a larger system when networked through a custom designed control unit.



#### **FiberDefense™**

FiberDefense™ Fiber Optic Intrusion Detection System is now available for any facility that strives to improve perimeter security and to provide continuous, 24-hour monitoring for the protection of lives and property.



#### **Pipeline Track & Trace™**

Pipeline Track & Trace™ is a state-of-the-art fiber optic system that provides a clean, high fidelity reproduction of detected events over tens of kilometers.



### Photons

The Photon Infrared Intrusion Detection System is called “The Great Small Barrier” for good reason. Each tower can provide over 150 feet of intrusion detection coverage – while physically measuring just over an inch wide. Unlike conventional systems, the Photon Infrared Barrier System can be set-up in minutes, thanks to the convenient test unit and user friendly features of the barriers.



### STI-103 Seismic

The STI-103 Geo-phononic Seismic Intrusion Detection System is placed in or on soil, asphalt or concrete to detect low-level intruder vibrations. These signals are processed and analyzed to selectively discriminate between actual intruders and natural disturbances.



### STI-390B Shakers

The STI-390B is a system designed to detect attempted intrusion through a perimeter fence. The vibration sensors fasten to the fence fabric and detect vibrations caused by climbing the fence or by cutting through it.



### Perimeter Control Center

Safeguards Technology's Perimeter Control Center (PCC) is a security control system that processes data from various intrusion detection systems.



### DiverAlert™

**DiverAlert™** is a completely passive underwater monitoring system that provides detection, localization, classification and tracking of underwater intruders. As a passive system, it will cause no harm to the aquatic life or the environment, and requires no environmental approvals. DiverAlert™ is entirely environmentally friendly.



### AquaShield™

Designed with a single purpose in mind – superior performance – the **AquaShield™** is the most advanced and capable underwater site security system available.



### PointShield™

The **PointShield™** underwater zone security system is lightweight, mobile, sonar diver detection with a unique modular design that enables tailoring of the system to customer requirements and site specific geography.

## Secure Detect - Absolute IR/MW Dual Technology System

**Safeguard's Absolute IR/MW Dual Technology Intrusion Detection System utilizes both Infrared and Microwave technologies working together and enclosed inside an extruded aluminum column.**

The system provides for maximum reliability of intruder detection with minimum false alarms. Absolute columns can be custom designed to any height and component array suiting each security situation.



### Features & Benefits

The microwave and active infrared signals are received and processed individually. The activation of the alarm signal comes as a result of precise synchronizations and sophisticated coordination between the two technologies.

Microwave is the signal that functions as the "activator" because it is usually activated first. Its detection capacity is determined by a Fresnel zone that can be regulated with its own trimmer, up to 19 feet in diameter.

Infrared sensors are incorporated inside each column. Each set of beams has its own receiver and transmitter which form a quad multiplexed beam-per-sensor offering the added advantage of greater area protection over traditional single beam devices.

Absolute columns may be equipped with two built-in CCTV cameras, one of which is equipped with a 16 mm lens (wide

angle) and one with a 50 mm lens (telescopic viewing).



### Application

Ideal applications for the Absolute Intrusion Detection System include the protection of industrial, commercial, correctional, or highly sensitive business and land areas in which a high degree of perimeter security is required. The system is also ideal for rooftops, sally ports, hatches and door locations. The combination of infrared and microwave technologies allows maximum perimeter protection with coverage of up to 650 feet between transmitter and receiver columns.

### Specifications

- Power Requirement: 12.5 VDC, 24VAC (Optional 110 V w/heater for extreme cold climates)
- Maximum Coverage: 650 ft.
- Optics: 6 Fresnel lenses (42 mm)
- Wavelength: 940 nm
- Max. number of beams: 6
- Sampling time: 80- 720 mS (master) 40 - 80 mS (slave)
- Color: Black, with front-mounted black plexiglass panel
- Construction: extruded aluminum
- Dimensions: width 10.2"; depth 5.7"; standard height 8' 3"
- Units can be custom ordered to any height



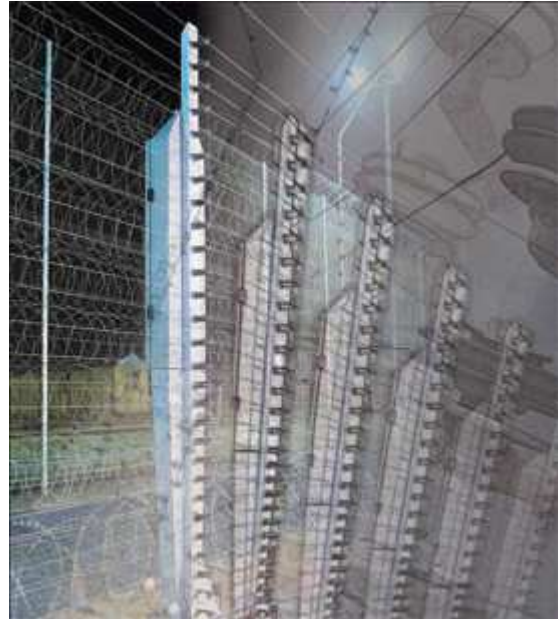
### Secure Detect - ATS-3000 Taut Wire

**The ATS -3000 Taut Wire Intrusion Detection System is the leading perimeter protection solution currently available.**

Taut wire is applied to a wire fence in various configurations. The horizontal taut wires are fixed to the sensors that are mounted in a sensor post in the center of the zone. The sensors are high-voltage insulated. Sensor management and environmental compensation is managed by individual microprocessors.

When the taut wires are deflected, the corresponding sensors will be mechanically deflected, resulting in a change in electrical potential. The change in electrical potential is transferred to the algorithm processing system. The system will signal an alarm condition if the change exceeds preset detection limits.

 **ATS-3000 Taut Wire**



## ***Features & Benefits***

- Integrity of alarms and information
- Each sensor post controls zones up to 320 feet
- Minimal maintenance
- Ease of operation
- Environmental adaptability
- Ability to integrate with third-party security management equipment
- Offers terrain-following sensing capabilities due to the design of the insulation and intermediate (slider) posts
- Can monitor up to 63 taut wires per sector
- Dummy taut wire arrangements can also be facilitated
- The detection sensitivity is normally set to between 50mm and 75mm wire deflection
- Sensors can be adjusted from a control room
- Taut wire can even sense wire deflection around corners.
- Can be used in conjunction with short circuit and non-lethal technology on the same fence

## ***Application***

The ATS-3000 Taut Wire Intrusion Detection System is a state-of-the-art development in perimeter intrusion detection. It combines a physically deterrent barrier and a sophisticated detection system to offer one of the most effective ways to provide perimeter security of the highest integrity. Taut Wire fencing is the ideal solution for any facility perimeter where an aggressive visual deterrent and physical barrier is required.



## Specifications

The Taut wire sensor is a unique self-contained sensor with integral microprocessor. The sensor is able to detect extremely small changes in wire tension and is controlled by a microprocessor. The sensor has the following attributes:

- Hermetically sealed
- UV Resistant
- Electrically insulated
- Operate in exposed environmental

## Secure Detect - STI-Series Taut Wire

**Safeguards Technology's ST I Series of Taut Wire Intrusion Detection Systems is based on the traditional concept that revolutionized the perimeter security market by combining a true physical barrier with highly reliable intrusion detection in one cost-effective solution.**

Over the years, taut wire intrusion detection systems have established a solid reputation for successfully detecting and preventing perimeter intrusion and escape attempts while maintaining the lowest false alarm and nuisance rates available in the marketplace today. Taut Wire Systems are currently in use worldwide - in all terrains and environmental conditions.



### STI-Series Taut Wire



## Features & Benefits

- **Minimal Maintenance**  
Taut Wire Intrusion Detection Systems feature minimal maintenance requirements over many years of use.
- **Low False Alarm Rate**  
The combination of the self-adjusting taut wire sensors and the unique high tensile double strand reverse twisted barb wires reduce the false/nuisance alarm rate to less than 1 per km (0.62 miles) per three months.
- **EMI/RFI and Climate Proof**  
The taut wire electro-mechanical sensor is not affected by Electro Mechanical Interference (EMI), Radio Frequency Interference (RFI), climatic or atmospheric conditions, including lightning and electrical transients from nearby power lines.
- **Taut Wire Control System**  
The Perimeter Control Center (PCC) is based on a Pentium platform and communicates with reporting

units. It utilizes Safeguards Technology's Securnet© Software (Microsoft Windows© based) that is extremely user friendly and custom designed specifically for each facility.



## Application

Safeguards Technology's STI Series Taut Wire Intrusion Detection Systems operate using electromechanical sensors incorporated into a taut wire fence. The system provides intrusion detection and a true physical barrier. The system can be installed as a "stand-alone" system, wall/roof mounted or as an add-on to an existing fence. A taut wire fence can also be installed on swing and sliding gates in order to provide continuous detection and protection to any perimeter. For added protection, corners can be fully overlapped or just at the outriggers. At correctional facilities, taut wire systems are typically installed as the inner fence providing both immediate detection and delay.

## Specifications

- Fence Length: No practical limitation
- Fence Height: According to customer specifications
- Standard Configuration: 8 ft. vertical with a 40 in. outrigger
- Sensitivity: Fixed and independent of climatic conditions
- Deflection Force: 25 kg (55 lbs.) or more will activate alarm
- False Alarm Rate (FAR): 1 per km (0.62 miles) per 3 months maximum [standard configuration]
- Alarm System: Combined alarm system and physical barrier
- Alarm Resolution: Adjustable intrusion location resolution
- Temperature Range: -40° to 140°C
- Relative Humidity: Up to 95%
- Rain, Hail, Snow: Unaffected
- Dust, UV Radiation: Unaffected
- Corrosive Atmosphere: Stainless steel option for high corrosion environment (galvanized is standard)
- Lightning and Electronics:
  - **Meets MIL-STD-9094**
  - EMI/RFI: Meets MIL-STD-461/462
  - Reliability:

**MTBF Detector: 4.6 x 106 hours**

**MTTR: 30 minutes**

## Secure Detect - DualSense

The DualSense® sensor measures the kinetic energy released within a structure when it is disturbed and signals an alarm event when certain parameters are exceeded.

This sensor can be used either as a stand-alone warning device or as part of a larger system when networked through a custom designed control unit.



## Features & Benefits

- Uses pre-programmed behavioral profiles to discriminate between alarm and non-alarm events.
- Focuses on alarm events and minimizes non-alarm events.
- Can be used as a stand-alone sensor or can be daisy-chained in multiple sensor applications by means of splitters.
- Provides a potential-free relay contact that opens when an alarm event is detected (normally closed).
- Each sensor can be uniquely identified by means of a sensor address. Important for multiple sensor installations.
- Pre-programming of behavioral profiles carried out from a normal PC using a terminal program such as Hyper Terminal.
- The pre-programmed parameters are sensor address, tilt (TL), dynamic (DN) and event time thresholds (i.e. the length of an event for it to be labeled as a single event).
- Built-in tilt sensing to protect the sensor against movement

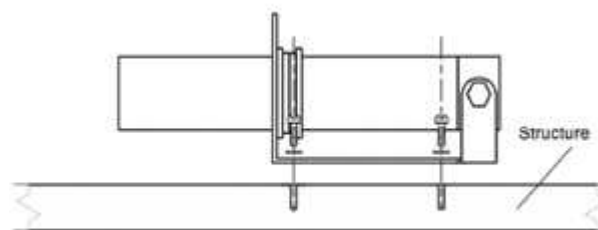


Figure 35: Sensor Mounting

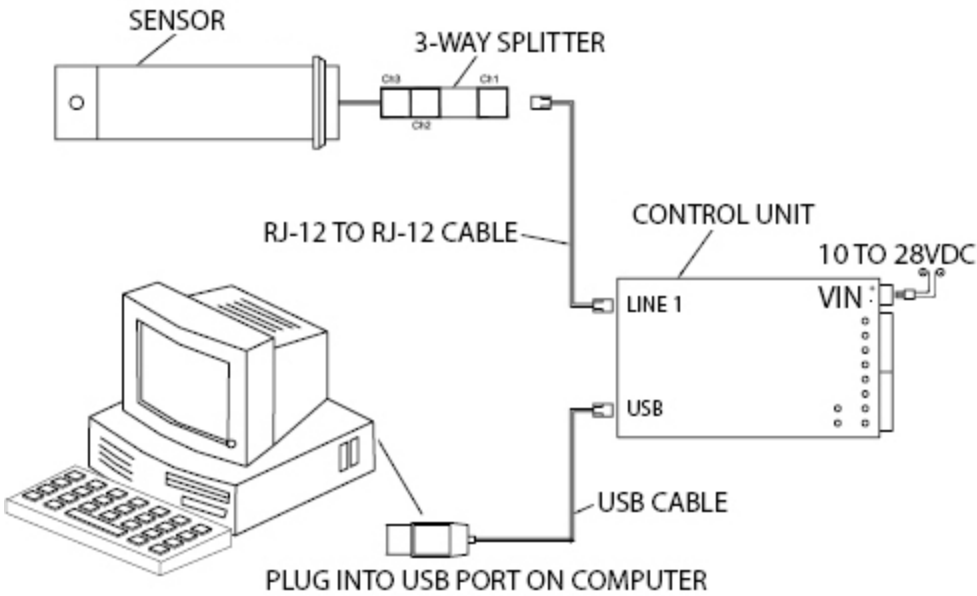


## Application

**Easy to install and use.** Designed for integration into existing systems.

## Specifications

- Power supply voltage: 10 – 24 VDC
- Power supply current: 5mA max (Relay output disabled) 15mA max (Relay output enabled)
- Relay output type: Potential free, normally closed
- Relay output rating: I <1A, V <48 VAC/DC, I x V <15 Watt Load
- Physical dimensions: 98 L x 32 W x 19 H (mm)
- Weight: 86 grams
- Operating temperature: -20 (Min) to +70 (Max) Deg. Celsius
- Operating humidity: 5% to 90% (non condensing)



**Secure Detect - FiberDefense™**

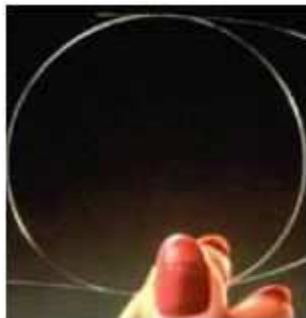
**Safeguards Technology's FiberDefense™ Fiber-optic Intrusion Detection System is now available for any facility that strives to improve perimeter security and to provide continuous, 24-hour monitoring for the protection of lives and property.**

FiberDefense™ incorporates the latest, most advanced fiber-optic technology into intrusion detection. The system works by sensing disturbances along a perimeter with a high-sensitivity fiber optic cable coupled with a high-speed processor that will alert potential intrusions while minimizing false and nuisance alarms.



### **Features & Benefits**

- Simple to install and maintain; a single rugged fiber optic cable serves as both the sensor and the telemetry path.
- The fiber optic cable is rodent, weather, tamper, and crush resistant.
- System automatically adapts to any environment, from freezing arctic temperatures to the desert sun, and can detect through wind, rain, ice, or snow.
- Fiber optic cable is unaffected by EMI due to electrical storms, nearby power lines, electrical equipment, radio transmissions, or any magnetic anomalies.
- Fiber optic cable is lightweight, yet very strong and durable. A one mile segment weighs only about 40 pounds, and has a breaking strength in excess of 350 pounds.
- A one mile cable can include up to 200 sensing zones, and the sensitivity range for each zone is independently adjustable from the operator console.
- No special fencing is required; may be installed on existing fencing with minimal mounting hardware.
- System requires no calibration; simply plug in the all-optical sensor cable and the system configures and calibrates itself.
- A continuous built-in monitoring process guarantees the highest accuracy without the need for periodic calibration.

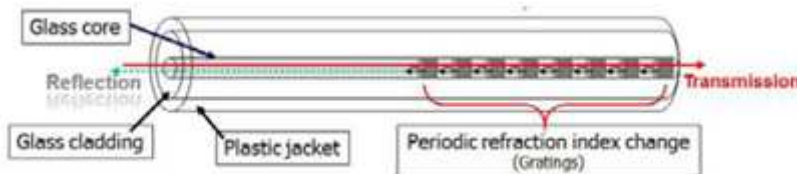


## Application

The FiberDefense™ Intrusion Detection System is ideal for factories, energy plants & substations, business parks, water reservoirs & treatment grounds, airports, storage areas, military facilities, cell phone towers, harbors, and anywhere perimeter security is required.

## Specifications

- Minimum Detectable Disturbance: 2  $\mu$ strain
- Dynamic Range: 80 dB
- Acoustic Bandwidth: 10 kHz
- System Update Rate: 100 Hz
- Max. Individual Sensor Cable Length: 1 mi.
- Output Interface: RS232/422/USB
- Power Requirements: 12 Vdc/10 watts
- Number of Zones per Sensor Cable: Up to 200
- Zone Length/Event Resolution: 25 feet
- Sensor Operating Life: 10 Years
- Operating Temperature:
  - Sensor Cable: -40 to +185°F
  - Interrogation Unit: -40 to +140°F
- Non-Operating Temperature
  - Sensor Cable: -55 to +185°F
  - Interrogation Unit: -55 to +185°F
- Optical Connector Type: FC/APC
- Cable Break Strength: 350 lbs.



## Secure Detect - STI-103 Seismic Buried Geophone Sensors

**Safeguards Technology's Geo-phonic Seismic Intrusion Detection System is placed in or on soil, asphalt or concrete to detect low-level intruder vibrations.**

These signals are processed and analyzed to selectively discriminate between actual intruders and natural disturbances.

 **STI-103 Seismic**



### *Features & Benefits*

- Unaffected by temperature extremes or weather conditions such as fog, dust, rain or snow
- Geo-phonic sensors are easily installed in concrete, asphalt or dirt. Sensors are terrain-following, making seismic ideal for hilly or irregular sites
- State-of-the-art technology utilizes the latest in integrated circuit design providing long term reliability
- A buried system is difficult to locate, approach or compromise for increased security
- Discriminator geophones screen out ambient noises and vibrations to reduce nuisance alarms
- An optional audio system monitors intruder noise or movement to verify intruder presence
- Modular zoning allows expandable detection zone by adding geophones, and/or discriminator lines without changing the basic system
- Portable systems can protect construction sites or other areas requiring temporary security



### *Application*

The STI-103 Seismic systems are ideal for protecting utilities, military sites, prisons, refineries, estates, residential, industrial sites or sensitive land areas.

### *Specifications*

The STI-103 System consists of the following:

- **Zone Processor** with wall mount enclosure, 115/16V AC transformer
- **Detector sensor lines** built to length Maximum of 25 sensors on a line
- **Discriminator sensor lines** built to length

**Wall Mount Enclosure**

- 1 and 2 Zone Dimensions(L x W x D): 13.5" x 12.25" x 5"
- Weight: Enclosure 7.25 lb
- Type and number zone: 1 zone/processor
- Alarm relay ratings: 12V, 5 amps

**Detector Sensor Lines S-201, S-204**

- Typical Detection Range: 7 ft. radius
- Maximum Sensors: 25 per Processor
- Recommended Spacing: 10 ft
- Cables: Direct burial, 4 conductor shielded, .5 in. diameter
- Input Voltage: 14-18 volts AC, 20VA min.
- Charging Circuit Type: 13.5 volt constant

**Discriminator Sensor Lines S-401, S-404**

- Typical Detection Range: 7 ft. radius
- Maximum Sensors: 25 per Processor
- Recommended Spacing: 10 ft
- Cables: Direct burial, 4 conductor shielded, .5 in. diameter
- Input Voltage: 14-18 volts AC, 20VA min.
- Charging Circuit Type: 13.5 volt constant



## Secure Detect - STI-390B Shakers -Fence Vibration System

**The ST I-390B is a system designed to detect attempted intrusion through a perimeter fence.**

The vibration sensors fasten to the fence fabric and detect vibrations caused by climbing the fence or by cutting through it. This system is particularly easy to install. It is supplied with the sensors assembled on the cables and ready for mounting. The sensors are usually installed in pairs in a line across the fence. Installation can be in any degree plane with virtually no loss of sensitivity. The sensors can be individually adjusted for sensitivity.



**STI-390B Shakers**



### *Features & Benefits*

Safeguards Technology's STI-390B sensors are made from a special high-resistant long-lasting plastic that requires very little maintenance. The built-in electromechanical filter can distinguish between real and false alarms (average of less than 4 false alarms per month per kilometer [0.62 miles] of fence). The sensors and all electrical connections are hermetically, epoxy sealed assuring absolute protection from dust, corrosion and humidity. The sealing allows the system to be completely operable even under water. The STI-390B meets strict nuclear industry specifications and has played an integral role in providing a high level of security in nuclear facilities throughout the world.

The STI-390B can be linked to a Perimeter Control Center (PCC) that analyzes data from the sensors while filtering out false alarms. With this technology, security personnel are informed of unauthorized intrusion attempts at the precise zone of entry.



## ***Application***

The STI-390B Fence Vibration System is a very cost-effective electronic intrusion detection system based on technologically enhanced sensors that can be mounted on any type of fence fabric. The STI-390B can transform any fence/wall/gate into an intrusion-proof barrier with only minimum modification.

## ***Specifications***

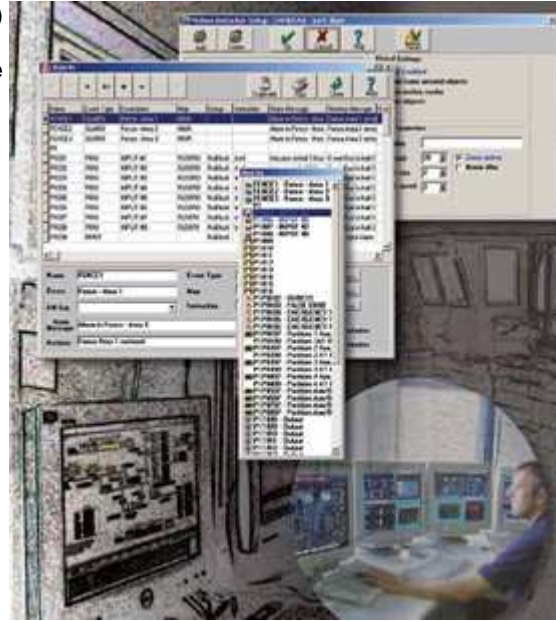
- Temperature Range: -40F +140F
- Relative Humidity: Sensors, cables and junction boxes are completely waterproof, TE-10FZ control unit up to 95%
- Rain, Hail, UV Radiation: Unaffected
- Lightning and Electronic Transients: Meets MIL SPEC A-9094D
- Corrosive Salt Spray: Resistant
- EMI/RFI Processor: Protected against induced voltage and no disturbance induced in regular activation

## **Secure Detect - Perimeter Control Center**

**Safeguards Technology's Perimeter Control Center (PCC) is a security control system that processes data from various intrusion detection systems. After processing the data, the control center displays the information on a graphic display monitor.**

In addition to displaying the data, the center sounds alarms, issues messages, and displays alarm reports. The PCC is an advanced on-line tool consisting of a real-time software package installed on an IBM or compatible industrial computer.

 Perimeter Control Center



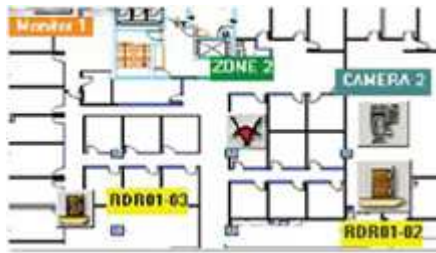
## Features & Benefits

One PCC can monitor unlimited reporting units, each of which can handle up to 7 inputs. Each center can also output up to 6 commands, such as intrusion alarms, floodlights, sirens, CCTV, etc. Approximate onscreen instructions alert the control center operator to a change in status.

One or more PCC's can be linked by standard modem and telephone lines to a host computer, which can display global system data (graphics and text). The control center can also be controlled by a host computer which can process data input from a number of systems. This arrangement may be useful in cases where large areas must be covered by alarm systems and a single computer would be practical. It's configuration for a particular site is designed and constructed to the site layout and security requirements. The configuration of hardware and software cannot be changed by system operators. However, data concerning security personnel may be entered into the computer and changed if necessary.



Name	Event Type	Description
FENCE1	GUARD	Fence - Area 1
FENCE2	GUARD	Fence - Area 2
FENCE3	GUARD	Fence - Area 3
PI		
PI001	PIRU	INPUT #1



## Application

The Safeguards PCC is fully customizable to suit your needs. It can interface with our various Perimeter Intrusion Detection Systems as well as be integrated into your existing system.

## Specifications

- Hardware Requirements
- Industrial Grade Computer: Pentium 3 or higher
- Memory: 650k bytes of RAM and 20m bytes of hard disk storage
- Display: Enhanced graphic color display unit and adaptor
- System Interface: Special Safeguards system interface with communications and lightning protection
- Keyboard: Special rugged, numeric-function keypad (supplied by Safeguards)

### **BUILT- IN AUTOMATIC SELF-TEST**

*The Control Center has a built-in ongoing automatic self-test (BIT) plus manual system integrity checks for maintaining optimal operations. Unauthorized tampering is prevented by compelling the user to go through the LOGON hierarchical personnel operations procedures immediately on startup.*

### **HARD-COPY PRINT-OUTS**

*The Control Center database logs and prints all events. The data can be manipulated to produce hard-copy reports covering events as far back as twelve months.*

### **HIGH RESOLUTION GRAPHIC COLOR DISPLAY**

*A high resolution graphic color display of the protected area is shown on the screen immediately following log-in. In the event of an alarm, the display automatically zooms in on the area in question. A higher level of zooming for greater detail is available on request. There are three different levels for clarity of information. All displays include graphics and/or text in color. Displays are specially tailored for*

*each site according to customer specifications.*









## **Absolute Dual Technology Detection System**

Absolute Dual-Technology Outdoor Intrusion Detection System



[Click to enlarge](#)

### Microwave:

The microwave device is the technology that functions as the “activator” because, in most cases, it is activated first. Its detection capacity is determined by a lobe that can be regulated with its own trimmer, up to 19 feet in diameter. Moreover, as an option, an anti-crawling device can be installed in case there are no overlapping columns. In such cases, a Doppler short-beam radar device is employed. This covers the blind area in proximity to the columns that the microwave “misses.”

False Alarm Comparison Chart  
ABSOLUTE IR/MW vs. IR or MW

Device	IR	MW	IR or MW
ABSOLUTE IR/MW	0%	0%	0%
IR	0%	0%	0%
MW	0%	0%	0%
IR or MW	0%	0%	0%
IR or MW (with Doppler)	0%	0%	0%
IR or MW (with anti-crawling)	0%	0%	0%

Click to enlarge

### Active Infrared “Quad Beam”:

Infrared sensors are incorporated inside a column. Each set of beams has its own receiver and transmitter which form a quad multiplexed beam per sensor, offering the added advantage of greater space protection over traditional single beam devices. The transmitter sends a continuously modulated infrared beam to the receiver which is tuned to recognize only the modulated signal ignoring non-modulated or visible signals, rendering it completely immune to sunlight. An alarm is generated under the following conditions: a) if no modulated signal is received or b) when the synchronizing signal between the two systems disappears. The amount of Quad Beams inside the column is determined by the height of the system and the application (high/medium security).

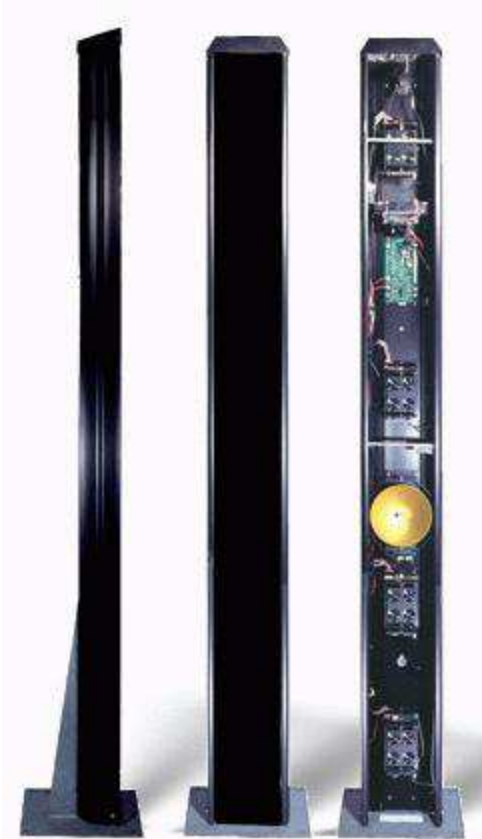
### “Absolute” Video:

Absolute columns may be equipped with two built-in CCTV cameras, one of which is equipped with a 16mm lens (wide angle) and one with a 50 mm lens (deep viewing). The CCTV cameras remain perfectly invisible, covered by a plexiglass cover, and therefore completely safe from atmospheric agents. By connecting a time-lapse video recorder or a video transmission system over telephone lines, it is possible to obtain a time record of the alarm sequences. The Absolute video may also be integrated with the site’s main CCTV system.

## Absolute Dual Technology Detection System

Absolute Dual-Technology Outdoor Intrusion Detection System

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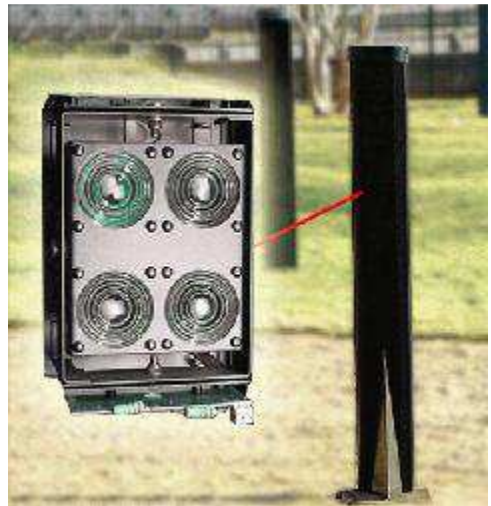


(click to enlarge)



(click to enlarge)

Absolute Video - For immediate verification of all alarms



(click to enlarge)

Quad Beam - The ultimate infrared-based technology: 4 encoded beams for a high degree of security

Safeguards Technology's Absolute Dual Technology Outdoor Intrusion Detection System is a high security dual-technology Infrared/Microwave detection system designed for outdoor installation, enclosed in columns made of extruded aluminum.

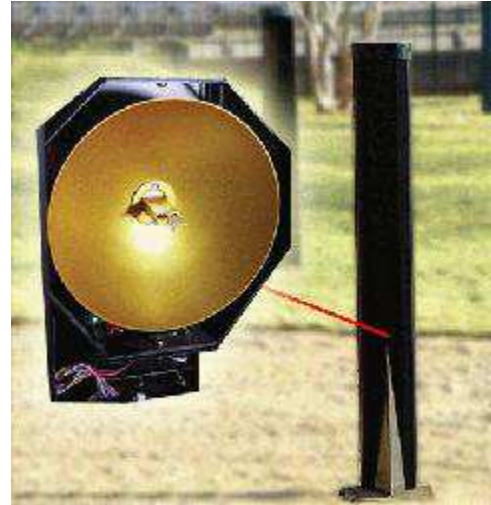
The system provides for maximum reliability and accuracy in the detection of intruders with minimum false alarm activity. Absolute columns can be fitted with optional video cameras for immediate visual verification and assessment of all alarms.

With its neat, unobtrusive design, expandability, and seamless integration into existing intrusion detection and perimeter detection systems, Absolute is the ideal solution for the upgrading and enhancement of existing facility security systems, and is the system of choice for new facilities.

Ideal applications for the Absolute Intrusion Detection System include the protection of industrial, commercial, correctional, or highly sensitive business and land areas, in which a high degree of perimeter security is required. The system is also ideal for rooftops, sally ports, hatches and door locations. This completely new combination of outdoor detection allows perimeter protection with coverage of up to 490 feet between Absolute columns. Microwave technology, combined with infrared sensors, considerably reduces the possibility of false and nuisance alarms while maintaining high security standards. Doppler radar is used to supplement detection fields where overlap is not possible.

**Integration:**

The Absolute system can be integrated with other sensor technologies to provide complete perimeter security. Dry contacts are provided for integration and annunciation. False and nuisance alarms are often caused by external, environmental, and atmospheric conditions, or by the movements of animals. This is where the combination (logic "AND" gate) of the microwave and infrared technologies complement each other. For example, where there is standing/moving water due to rain, the microwave occasionally false alarms, but the infrared does not, so no bonafide alarm is initiated. In a situation where a small bird blocks the infrared signal causing a pre-alarm, no bonafide alarm is annunciated since the bird is small and therefore is not detected by the microwave. The result is a system with a very low false/nuisance alarm rate.



(click to enlarge)

Microwave Device - The microwave coverage is provided by a microwave transmitter and receiver using a parabolic antenna. The coverage is cigar shaped and can reach 490 feet and 19 feet in diameter



(click to enlarge)

**Method of Operation:**

The microwave and active infrared signals are received and processed individually. The activation of the alarm signal comes as a result of precise synchronisms and a sophisticated coordination between the two technologies. Internal monitoring is carried out by means of a temporary window memory circuit. The pilot circuits of both detection technologies are equipped with a timer whose range is from 20 seconds to 2 minutes. The first device that receives a "stimulus" activates its own timer. During this time the other technology will be summoned to confirm the final alarm. Through this method of operation, nuisance alarms which are caused by environmental factors are significantly decreased.

**Expandability:**

In its basic configuration, an Absolute column is equipped with three pairs of active infrared devices, and one microwave transmitter or receiver in a 6.5 foot high column. The system is expandable on customer's request, using columns up to 13 feet high, and up to 6 beams. A Doppler radar may be installed for anti-crawling protection in situations where microwave beam lap is not possible. Absolute columns are delivered already assembled and ready to install on the site. A single Absolute "Link" or several "Links" could make up a zone.

## **Leaders in Perimeter Protection: An Exclusive Security Dealer Roundtable**

Panelists discuss outdoor protection technology advances and applications

## **The Latest from SIW**

[GE Security Names New CEO](#) Dean Seavers steps in from SimplexGrinnell [The Legal Side: Liability for Installed Surveillance Cameras](#) A discourse on liability issues, CCTV signage, and users' "sense of security" [Biological Detection Program Delayed](#) [The Security Week That Was: Aug. 10, 2007 Delaware Fifth to Pass Comprehensive State Alarm Policy](#) [The Value of Municipal Security Solutions](#)

By [Susan A. Brady](#)

**Security Dealer Magazine**

*Susan Brady: The sale and installation of outdoor perimeter security equipment often requires a different skill set than interior protection. Can you offer dealers some tips and pointers that they should follow to ensure that all components of the installation work to the correct specifications and are the right solution for the customer?*

**Bill Evenson, Vice President, Future Fibre Technologies:** Historically, the outdoor perimeter intrusion detection systems (PIDS) business has always been one of some risk to the installer if not approached carefully and of great value-

added reward when done well. History has also shown us that simply taking the technology solutions and installation techniques more widely used for interior applications and applying them outdoors rarely results in a successful project.

Three major developments have really revolutionized the outdoor sensor space. Interestingly, all three are direct responses by the sensor manufacturers to the higher demands and expectations of the users; and, as always of course, to the quest for lowered labor and infrastructure costs.

The most meaningful development to date is probably the application of sophisticated software algorithms to the signal processors. They analyze the myriad of “normal” outdoor events such as rain and wind and are now able to classify these signals as non-alarms. In some systems, these constantly evolving software techniques have now significantly lowered the rate of dreaded “false” or nuisance alarms to very acceptable levels and in some cases even eliminated them. This evolution alone has given some of the more mature outdoor technologies such as outdoor infrared and microwave (which suffered for years from a poor outdoor reputation) new life.

In the case of fence mounted cable-type sensors, military applications of these algorithms set the stage for a whole new class of fiber optic fence mounted sensors that require virtually no power or electronics infrastructure anywhere along the perimeter with all of the obvious benefits. As costs have lowered, these technologies have become more affordable and mainstream.

**Gary Buth, Director of Technical Sales, Security Sensor Division, Takex America, Inc:** Understanding the primary threat or concern a customer has is crucial to system design and specification. What types of weather will the sensors need to endure?

Each sensor has a specific function and detection capability, stay within the product's recommended range of operation. Each product or technology has its own strength and weakness, choose the best performance value of a sensor or technology based on the application.

If the customer wants to detect vehicle or equipment movement in or out of a specific area then a simple photo beam system may be sufficient. If there is a strong need for detection of people then a combination of perimeter devices may

be required, such as outdoor motion sensors and photoelectric beams, even a fence system.

Verify all wire and cabling requirements as well as acceptable power supply voltage. Make sure that each sensors relay outputs meet the needs of the system type and control panel they are to be integrated with.

**Scott Simmons, Eastern Regional Manager - Outdoor Solutions, Optex Inc:**

The most important thing to find out is what the customer wants to protect and what they expect the system to do. Similar to an interior system, there is no “cookie cutter” solution that fits all outdoor perimeter applications, but there are some things that need to be decided before proposing a system.

Is there a defined perimeter border that needs to be protected, or is area coverage more suitable? Are there elements within the area that might restrict the ability to use certain technology (i.e. inability to get a clear line of sight for photobeams, moving items which might affect motion detectors, ability for animals to enter the area, etc.)? Is the system going to be responded to by the police, or by a local/on-site guard? Is there CCTV which can be integrated to provide video verification of what caused the alarm?

All of these, and more, need to be addressed before a suitable solution can be suggested. I also recommend that sales and installation professionals who are interested in providing outdoor perimeter security attend accredited training classes to learn more about the different options and what to be aware of when offering outdoor solutions. Most of these are offered free of charge and many will earn the attendees CEU credits.

**Larry Tracy, President/CEO, Aleph America :** An outdoor photo beam installation must be analyzed to ensure that the proper product is being used. When using photo beams there are fundamental questions that need to be addressed:

- a) Detection Distance - To determine which detection distance beam should be used.
- b) Alignment procedures - Should be followed completely. Some 90% of photo beam false alarms are related to alignment.



c) Detection environment - What type of surroundings are within the detection pattern? Growing trees, shrubs, grass will affect an installation.

d) For multi-unit installations - Plan TX / RX placement carefully to ensure optimal wire usage & minimize any possibility for crosstalk.

***Brady: Outdoor motion sensors, card access and other security integrated with alarm and video monitoring technology has become more cost-effective today. Once dealers complete a risk assessment how do they get the customer to put more emphasis on perimeter security when they have a limited amount of money to spend? Describe what you envision as a viable solution that covers interior and exterior security at the mid range system cost?***

**Evenson:** Outdoor perimeter systems are really the only means available to provide any kind of an “early warning” for a property or facility. Even the best interior IDS and access control systems still potentially puts intruders only a window or a door away from the assets you are trying to protect.

From simple chain link to decorative iron configurations fencing, a modern update on the acoustical cable sensor can be an unobtrusive and very cost effective solution. Low profile, fiber optic cables serving as linear “distributed” sensors are now playing a major role in these designs as they are immune to lightning, simple to install and in some cases do not even require any outside electronics or power making for very low maintenance and support.

**Buth:** Discuss with your customer the fact that earlier detection can minimize potential theft, vandalism or physical harm to people and even help in the apprehension of suspects. Security design should take into account whether the building or facility is occupied or not during the period of security system use. A physical barrier such as a fence is very common in perimeter security. The heart of a system is its security or access control panel; one that offers programming features such as cross-zoning is very desirable. Incorporate multiple perimeter based sensors such as photoelectric beams and outdoor motion sensors and create a perimeter detection layer or layers. These perimeter devices can specifically report activity locally and via a central monitoring station after multiple devices are activated. Sensors connected to event driven CCTV cameras in combination with a networked multiplexer are an excellent way to record and report movement of people and to verify alarms remotely.

Interior building security consisting of door /window glass breakage and motion sensor devices along with access control products help deter and detect intruders. Perimeter sensors combined with interior devices will provide valuable information as to movement of persons both outside and inside a building. Security and access control panels can store information regarding individual alarm and supervisory events relating to intrusion as well as authorized users who may arm or disarm the system or gain access to a restricted area.

**Simmons:** When it comes to security, outdoor or otherwise, cost needs to be separated from value. We have always been great advocates of “Zone Protection”...layered security that starts at the farthest perimeter and works its way inward toward the ultimate asset, usually a building or such. By including outdoor perimeter security as part of a total solution, you not only add protection to outside assets, but greatly limit the opportunity for a breach of the interior system by providing early detection of an intruder. It also helps to eliminate situations that interior systems are unable or slow to detect.

When integrated as part of a total solution, the addition of outdoor perimeter protection is a minimal cost, especially where other outdoor solutions (CCTV, access, etc.) are being utilized and installation costs can be combined, or when using wireless solutions to minimize labor costs. Also, by providing outdoor solutions you may actually be able to reduce the amount/type of other detection that is used, exchanging interior protection for exterior protection (a photobeam across a row of bay doors, rather than contacting each door individually) or replacing multiple fixed CCTV cameras with a single PTZ camera (using less-expensive motion detectors to cover multiple areas and triggering presets on the PTZ). The best solution for any system is one that protects the assets of concern and more, if possible. But when working on a budget, be sure to focus first on what the end user wants protected, and offer additional protection as an option.

**Tracy :** The addition of perimeter security moves the “Front Line” of the installation outside of the actual protected area (and in many situations prevents a break-in at the structure itself). This allows for a less elaborate interior detection setup in the interior, therefore allowing overall install cost to ideally remain the same.

***Brady:*** Describe some of the unique new applications that are coming online or are in the future design phase which dealers should be capitalizing on.

**Evenson:** Most manufacturers will agree that all outdoor sensor technologies benefit from some form of visual assessment such as CCTV. Fortunately, economies of scale have driven the costs for these subsystems down to the point where they have become affordable even for outdoor use. At risk users have an increasing need to accurately locate, image and archive intrusion events via video for more targeted, quicker, up close assessment and response and for evidentiary archiving of the intruder images. Just like in the real estate business, the newest name of the game in outdoor sensors today is LOCATION, LOCATION, LOCATION! Outdoor sensor products can now accurately locate and pinpoint an intruder and can then swiftly direct CCTV cameras to these very small sections of the fence (as small as 10 to 75 feet) for high resolution assessment. Virtual, software defined “zones” are now here!

**Buth:** Solar powered perimeter photoelectric beam systems and solar tower product improvements make for an improved product offering today. New towers disguise smaller photoelectric beams so they are not noticed and do not detract from the general surroundings. Combination photoelectric beam and microwave sensors perform well in all weather conditions including rain, snow and even dense fog.

**Simmons:** Interactive video monitoring is definitely the future of outdoor protection, especially as a guard augmentation or replacement solution. Utilizing off-site operators to monitor a site via an integrated CCTV and outdoor perimeter detection system gives the end user the best of all possible worlds, at a considerable cost savings from traditional protection methods.

**Tracy :** The photo beams can be used by integrating cameras to see the line of sight during an alarm. New technology has come out where you can wire a camera using the existing photo beam wire so you can monitor the photo beam line of sight—no coax needed to for the camera.

## Secure Access - Under Vehicle Inspection System

The TI-S Series are advanced Under Vehicle inspection Systems (UVIS) designed to provide a security solution for inspecting the most vulnerable part of a vehicle - the chassis.

Objects may vary from explosives, drugs, merchandise and even in some cases, the smuggling of human beings across borders or out of prison compounds. The versatile view angle allows the user to verify, from multiple angles, the suspicious threat before actually having to physically reach the subject. In the case of bomb squad technicians, being able to examine the object from a distance before having to physically deal with it could make the difference between life or death, as well as spare the inconvenience of false alarms. All data from the system can be recorded to the local DVR system for training and investigative uses. The data can also be linked to a LPR system for better documentation.



Under Vehicle Inspection System



## FEATURES & BENEFITS

- Capability to scan the vehicle while stationary.
- View above strut bars and other vehicle components from multiple angles and magnification.
- Live color video feed for constant eye contact with suspicious objects until threat confronted.
- System automatically scans chassis, using pre-programmed sequences or by user defined programs.
- 4 axis optical head unit.
- Manual mode for suspicious objects.
- Optional recording for training, investigation and documentation.
- The operator may be as far as 1500 meters from subject.
- Operator, Bomb squad technician may inspect objects from multiple angles before confronting them.
- Easy to use, only 20 minute training needed.
- Simple - no use of computers.
- Quick installation.

### Application

Government Offices, Embassies, Oil and Gas Refineries/Storage Depots, Border Checkpoints, Correctional Facilities, Power Plants, Sporting Events, Conventions and other sensitive sites.

### Specifications

#### Dimensions:

- TI-2500-S: 2ft.3in. x 8ft.2in. x 7 7/8 in. (70 x 250 x 20 cm)
- TI-4000-S: 2ft.3in. x 13ft. x 7 7/8 in. (70 x 400 x 20 cm)
- TI-2000-SM: 6ft.2in. x 19ft.8in. x 7 7/8 in. (190 x 600 x 20 cm)

Including ramps (the TI-2500-S unit is planted in the ramp system). This mobile system comes on a trailer and includes a generator making it fully functional without any external needs.

#### Camera:

- High resolution color camera
- 440,000 pixels, 530 TV lines
- 36x optical auto focus zoom lens
- Wide dynamic range feature
- Work temperature range: -15°C - + 60°C
- Monitor: 17" LCD
- Auto scanning sequence controls Pan, Tilt, Zoom and conveyer.

