

REPUTATION

Wherever critical, dependable perimeter control and intrusion detection systems are required, you can find systems provided by Safeguards Technology, Inc. at work. Custom designed state-of-the-art "smart technology systems" encompass a broad spectrum of maximum security, government agencies, sensitive buildings, important facilities and protected land resource areas located throughout the world.

DESIGN & PROJECT MANAGEMENT

Safeguards Technology's design engineers have the operational real-world knowledge and first hand experience to design perimeter control and intrusion detection systems that meet your immediate requirements and future needs. Perimeter security systems are designed with the help of CAD software. Our project management team's experience assures the client of the highest quality installation and maximum performance for many years to come.

MANUFACTURING QUALITY AND RELIABILITY

Safeguards Technology combines the most advanced technology and processes with traditional craftsmanship to produce the highest quality perimeter control and intrusion detection systems available in the marketplace today. Time proven reliable designs, careful component selection, precision assembly, and extensive testing assure you of low false alarm rates, low maintenance costs, and a long life span.

MARKET AND INDUSTRIES SERVED

- ▲ Airports
- ▲ Banking
- ▲ Chemical
- ▲ Communications facilities
- ▲ Computer sites
- ▲ Correctional facilities
- ▲ Electrical utilities
- ▲ Government buildings
- ▲ Nuclear facilities
- ▲ Nuclear Power Plants
- ▲ Manufacturing
- ▲ Military
- ▲ Natural gas storage facilities
- ▲ Petroleum storage terminals
- ▲ Pharmaceuticals
- ▲ Ports
- ▲ R&D sites
- ▲ Refineries
- ▲ Sensitive buildings and land areas
- ▲ Railway facilities

HISTORY

Safeguards Technology, Inc. has been designing, manufacturing and installing smart perimeter control and intrusion detection systems since 1982. Today, Safeguards has grown to be the key supplier to many different markets and industries throughout the world. Our company headquarters is located in Hackensack, New Jersey, only a short distance from New York City. Regional sales offices are located in California and South Carolina.

For fully detailed explanations of every facet of our company and our world-class perimeter control and intrusion detection systems, visit our web site at: www.safeguards.com



Laser Guard Sensor

Safeguards Technology's Laser Guard Sensor (LGS™) is an advanced laser sensor utilizing state of the art laser technology for the detection of human intruders into a secured area. The LGS is suitable for stationary and rapid deployment applications and functions as a "forward looking" sensor, providing depth to the perimeter security system with pre-alarm alert.

Applications include electric/nuclear power plants, ports of entry, correctional facilities, airports, isolated sensitive sites, temporary surveillance needs, petroleum refineries and parking areas. Military applications include surveillance systems for rapid deployment forces, airfields, military bases, temporary camps, ambushes, ammunition storage facilities, fuel storage areas, and border monitoring.



FEATURES/ADVANTAGES

- Portable
- Quick and simple installation
- Provides the distance and azimuth of the intruder
- Tracking by slaved camera, flood lights, etc.
- No masking effect against a wall
- Pre-alarm capability
- Tracking data saved and stored electronically
- Mask out capability
- Mapping of objects such as trees, houses, etc.
- Able to be integrated with other controls/systems
- Minimal maintenance required

The Laser Guard System (LGS™) has an imbedded PC 104 for communication and control. A dedicated computer with LGS software is used for remote control of the system. The monitoring screen resembles a radar screen and displays the mapped/detection area. The screen is scaled according to the existing distances. Targets appear on the screen as they are detected and tracked. Existing objects can be noted/drawn on the screen for orientation and control purposes. Areas that are not "of interest" can be "masked out" in the software, allowing the LGS to be customized to the site.

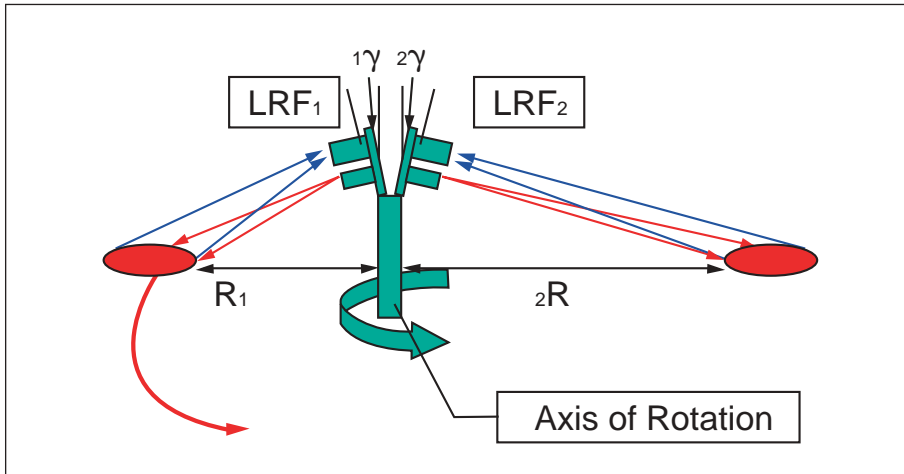


75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

Principal of Operation

The LGS utilizes two laser range finders (LRF) in an environmentally sealed housing. As the LRF rotates it sends out laser pulses. By manipulating the return pulse, it maps the area boundary and an additional inner boundary by measuring the distance to the surrounding objects/ground. During this process, the LGS “learns” the position of existing objects and creates the basic

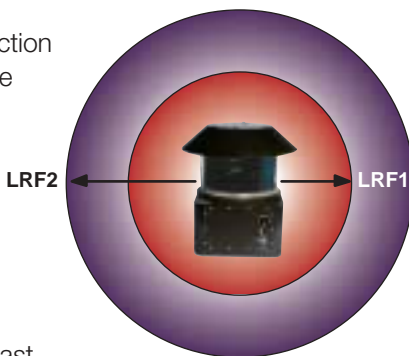
statistics of the data during eight scans. As the LGS continues to operate, it continuously adapts the algorithm to allow for changes in the data due to rain, wind (moving bushes) sun rise/set, etc. Once an intruder enters the secure area (mapped area), the LGS recognizes the changes in the data that are meaningful, and in accordance with other parameters, initiates an alarm.



PRINCIPAL OF OPERATION

Detection Band

The LGS provides a high probability of detection while operating at a low false alarm/nuisance rate. The high probability of detection is achieved by using two LRF's, offset from each other by 180° and each with a different inclination angle towards the ground, providing a “detection band” to detect crawling intruders. Sophisticated algorithms filter out nuisance alarms by analyzing the data received (range and contrast measurements) from the laser pulses as the LGS LRF's rotate.

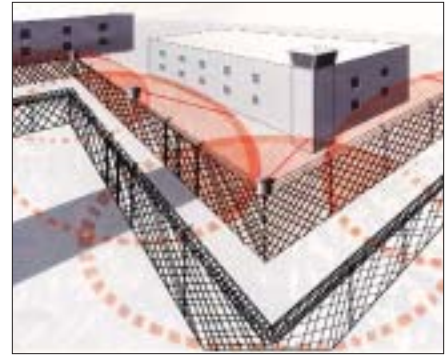
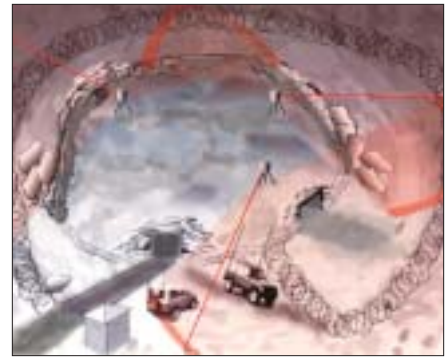


Integration

The LGS can provide the distance and azimuth of the intruder. With this data, CCTV cameras, flood lights, etc. can be “slaved” to the LGS and follow/track the intruder allowing the incident to be recorded.

Long Life Sensors

Laser Guard Sensors have a Mean Time Between Failures (MTBF) of approximately 340,000 operating hours. The two laser range finders are easily replaced in the field.





DEPARTMENT OF THE AIR FORCE
HEADQUARTERS ELECTRONIC SYSTEMS CENTER (AFMC)
HANSCOM AIR FORCE BASE MASSACHUSETTS

MEMORANDUM FOR Safeguards Technology Inc
75 Atlantic Street
Hackensack, NJ 07601-4132

11 AUG 2000

FROM: ESC/FDP
5 Eglin Street, Building 1624
Hanscom AFB, MA 01731-2100

SUBJECT: Evaluation Results on the LaserGuard Intrusion Detection Sensor, June-July 2000

1. Reference: AAC Letter Report 00-20, Foreign Release Number JSINF0-004, January 2000

2. Evaluation of the LaserGuard Intrusion Detection Sensor was sponsored by the Department of Defense Commercial Off-the-Shelf Working Group. We have recently completed the evaluation of the LaserGuard Intrusion Detection Sensor at Site C-3 Eglin Air Force Base, FL. This evaluation concentrated on areas where you implemented product improvements based on your participation and the results of the reference report based on testing conducted in November and December 1999.

3. The improvements in the following areas were substantial:

| | |
|---------------------------|---|
| Nuisance/False Alarm Rate | The average rate of nuisance/false alarms during a 10 day, 240 hour period was less than one (1) per 24 hours. No sunset/sunrise glare problems were observed. |
| Operating Manual | The operations manual was adequate. Dr. Frucht observed the experience of a technician operating the LaserGuard and acknowledged areas where further clarification would be beneficial. |
| Environmental Housing | The LaserGuard did not show any evidence of leaking from rain or humidity as observed in the earlier test article. |

4. The improvements were accomplished while maintaining the Probability of Detection and effective ranges identified in the reference report.

5. We will forward the complete results of the recent evaluation upon completion of the report and the assignment of a Foreign Release Number for the test report. If we can provide further detail on this CWG evaluation, my point of contact is Mr. Phil Resca, ESC/FDP, DSN 478-4126 or e-mail Phil.Resca@hanscom.af.mil.

6. Thank you for providing the equipment and training that enabled us to conduct this evaluation of the LaserGuard Intrusion Detection Sensor.

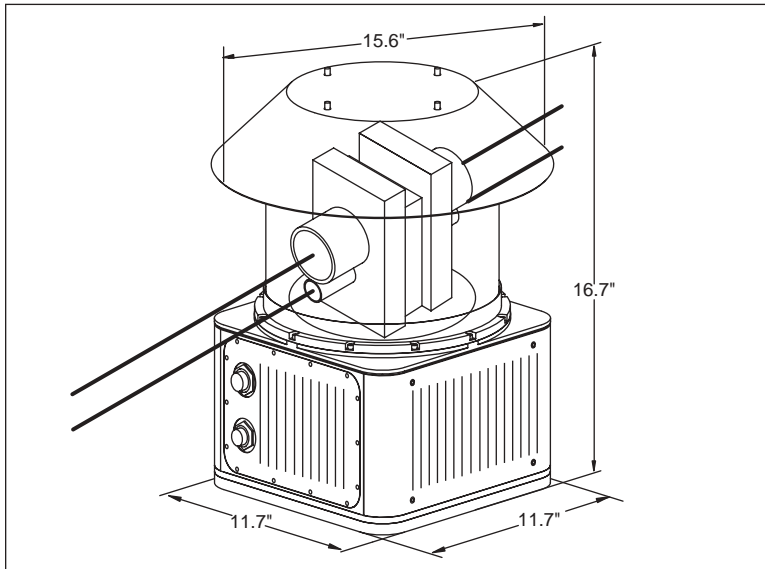
Roy A. Higgins

ROY A. HIGGINS
Product Division Chief
Force Protection C2 Systems

LASER GUARD SPECIFICATIONS*

TECHNICAL SPECIFICATIONS

Detection Range: 490 feet radius (150 m)
Eye Safe Range: Class 1 ANSIZ136.1-99
Wavelength: 905 nm
Solid State Laser Diode
Weight: 35 lbs. (16 kg)
Input Voltage: 12V DC, 12V/1.5A, solar panel or battery
Communication: RS435 / RS232 / RF / Fiber Optic
Operational Temperatures: -40°F to 140°F
Control and Display Computer: Pentium 3 (minimum)



LASER GUARD SENSOR



*Specifications subject to change without prior notice.



Absolute IR/MW Dual-Technology Intrusion Detection System

Safeguards Technology's Absolute Intrusion Detection System utilizes both Infrared and Microwave technologies working together and enclosed inside an extruded aluminum column. Signals from both technologies are processed through a single logic "and" gate strengthening the system's ability to filter and minimize both false and nuisance alarms.

The system provides for maximum reliability in the detection of intruders with minimum false alarm activity. Absolute columns can be custom designed to any height and component array suiting each security situation. Additional options include CCTV cameras for immediate visual verification of alarms, anti-climb covers, and heaters for use in extremely cold climates.

With its esthetically pleasing design, expandability, and seamless integration into existing intrusion detection systems, the Absolute is the ideal solution whether upgrading an existing facility's intrusion detection system or designing a new security sensitive site.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



APPLICATIONS

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 490 feet between transmitter and receiver columns. The combination of microwave and infrared sensors significantly reduces the possibility of false or nuisance alarms ensuring a high probability of detection. Doppler technology 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.

Nuisance alarms

Nuisance alarms are often caused by external, environmental, 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 nuisance alarm rate.

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.

Microwave

The microwave 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 doppler can be installed in case there are no overlapping columns. This covers the blind area in proximity to the columns that the microwave’s elliptical beam does not cover.

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 when there is no modulated signal received or 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).

Disqualification of the Infrared Beams

The built-in disqualifying circuits de-activate the active infrared units in case of an attenuation of the signal, e.g. by fog, heavy rain or snowfall. In a case where the infrared disqualification circuits start functioning, the sensitivity of the microwave device decreases automatically, (customized setting) and during this time span (of disqualification) the system functions using one technology only.

Expandability

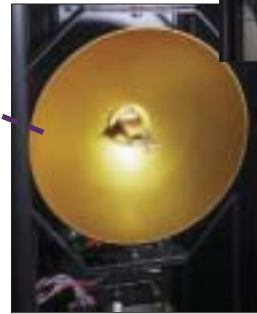
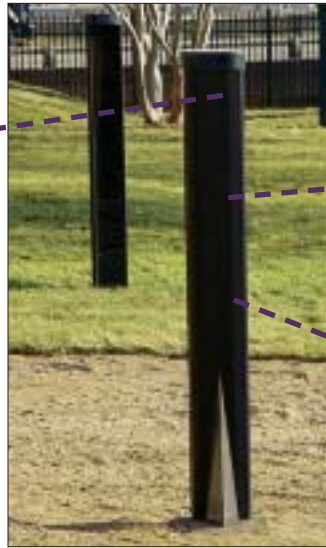
In its basic configuration, an Absolute column is equipped with three pairs of active infrared devices, and one microwave transmitter or receiver in a 8' 3" high column. The system is expandable on customer's request and up to six infrared beams can be used. A Doppler radar may be installed for anti-crawling protection in situations where microwave beam overlap 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.

"Absolute" Video

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 (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 VIDEO
For immediate verification of all alarms.

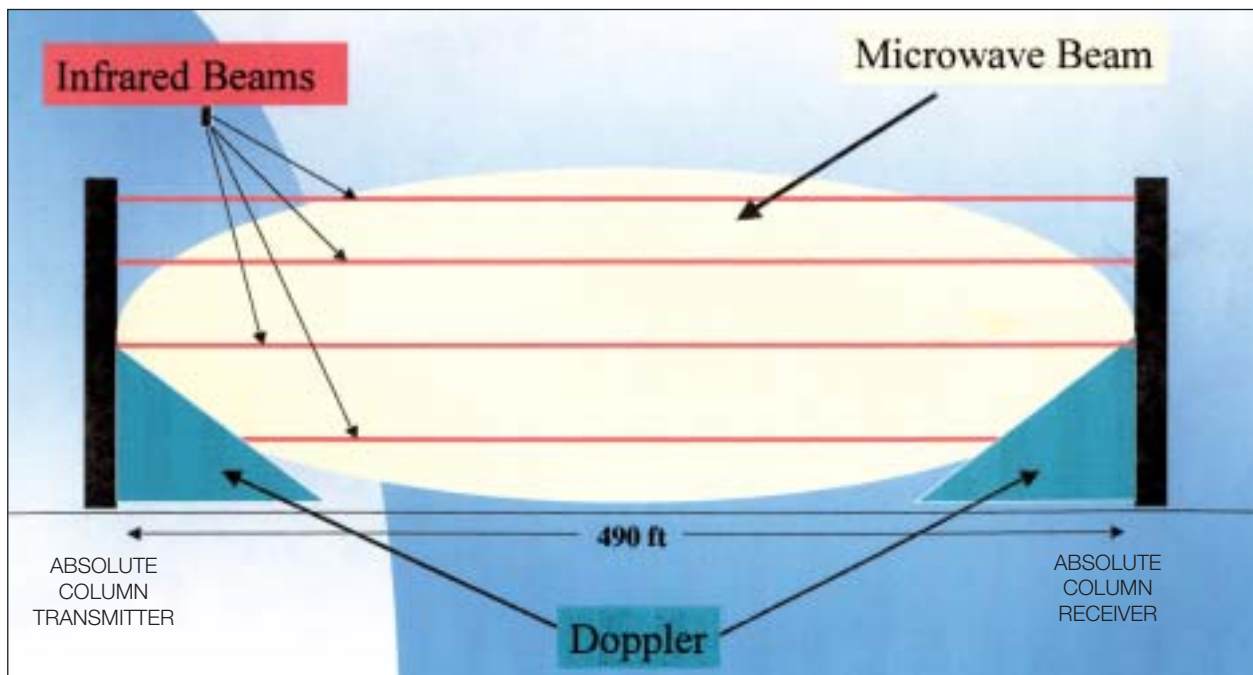


MICROWAVE DEVICE
The microwave coverage is provided by a microwave transmitter and a receiver using parabolic antennas. The coverage pattern can reach 490 feet, and 19 feet in diameter.



QUAD BEAM
The ultimate infrared-based technology: 4 encoded beams for a high degree of security.

GENERAL COVERAGE DIAGRAM



ABSOLUTE PRODUCT SPECIFICATIONS*

GENERAL SPECIFICATIONS

Power supply: 12.5 VDC, 24VAC/DC
 Coverage: 490 ft.
 Optics: 4 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: aluminum extruded
 Dimensions: width 10.2"; depth 5.7"; standard height 8' 3"
 Units can be custom ordered to any height

POWER CONSUMPTION

Transmitter Column: Interface Board: 30 mA; Microwave: 50 mA;
 Infrared Master: 45 mA; Infrared Slave: 25 mA
 Receiver Column: Interface Board: 145 mA; Microwave: 80 mA;
 Infrared Master: 110 mA; Infrared Slave: 40 mA
 Infrared Heaters: 24V ~ 220 mA
 Doppler: 100 mA
 Absolute Dual Technology: Standard assembly of 8" 3" TX+RX
 columns with 1 MW and 3 quad beams 1.91A per set
 Operating Temperature: 14°F ~ 122°F
 Optional with Additional Heaters: -40°F to 140°F

MICROWAVE SPECIFICATIONS

Frequency: 10.525 GHz
 Coverage: 490 ft.
 Sheaf diameter: from 3 to 19 ft.
 Power supply: 12 VDC

DOPPLER SPECIFICATIONS

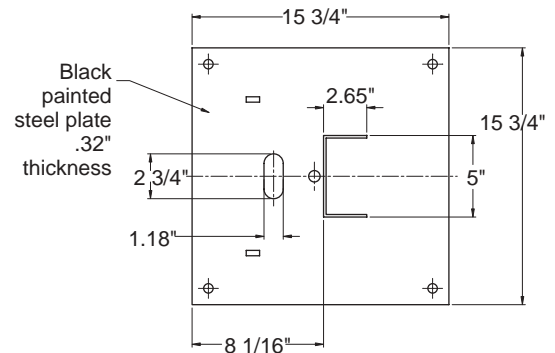
Power: 10.3-15 VDC
 Consumption: 100 mA
 Range: 32 ft. (10 m)
 Delay: 0.5 to 2 sec.

INFRARED SPECIFICATIONS

Power Supply: 12.5 VDC
 Coverage: 490 ft.
 Optics: 4 Fresnel Lenses (42mm)
 Wavelength: 940 nm
 Max. Number of Beams: 6
 Sampling Time: 80-120 mS (master); 40-80 mS (slave)



GROUND MOUNTING BASE SPECIFICATIONS



BASE FOR "ABSOLUTE" COLUMN
 WITH SLOT FOR COMMUNICATION CABLE

THE ABOVE BASE DRAWING IS FOR GROUND MOUNTING. SYSTEM MOUNTING MAY VARY FOR UNIQUE INSTALLATIONS.

TotalTrack® - Streamline Automated Surveillance Technology

The TotalTrack® system, powered by VTD™ technology converts security systems into open-eyed intelligent security sentinels and transforms disorder into systemized efficient security control. From the moment TotalTrack is deployed, the always watching, always vigilant, unrelenting security is resolute in protecting your assets. It autonomously holds watch, detects intruders and tracks them automatically. Security officers can take charge with TotalTrack® TRK-Monitor software where command center operations and ground controls are laid out at their fingertips. Its features provide instantaneous information and command capabilities over an array of site cameras and external devices, such as fence sensors, automatic doors, equipment overrides, lock devices, alarms, auto barriers, security gates, etc. Excelling beyond human capacity and with unblinking vigilance the TotalTrack® System monitors video images when they are on or off screen. It alleviates hours of watching monitor screens and unshackles the security personnel from being fixated to monitors. This flexibility allows them to redistribute their time to other areas of a security plan or to handle a greater number of videos simultaneously without needlessly tying up monitors with persistent uneventful video. Upon detection of a threat, TotalTrack® initiates automatic incident responses that inform security officers with on screen displays and live feeds.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



ABOUT THE SYSTEM

The TotalTrack® system can be matched to your site requirements and is comprised of a combination of the following components:

- TRK Units**
 The heart of the system, converts analog cameras into IP cameras and, powered by VTD™ technology, transforms inanimate cameras into smart proficient cameras that automatically identify threats, track intruders, and take action.
- TRK-Setup Software**
 An intuitive easy-to-use administrative software that allows for quick configuration and security policy design for one or more TRK units
- TRK-Monitor Software**
 An out-of-the-box command and control-center software solution that provides a remarkable workspace and features ideal for serious security site management
- TRK-NVR**
 A Network Video Recorder software design specifically for the TotalTrack® system that allows the efficient management, archive, and retrieval of MPEG-4 audio and video, as well as associated data.

TotalTrack® TRK Units

Always Watching, Always Vigilant, Unrelenting Security

Imagine the power and savings of having the video monitor hold the watch – automatically!

What was once only a dream is now reality! You can convert your current passive security surveillance into a reliable smart surveillance video that automatically detects, notifies, and takes action.

A revolutionary technology with a proven record of achievement, the VTD™ technology of the TRK Units automatically identifies and tracks intruders, threats and incidents while maintaining a dramatically low false alarm rate.

Units can be easily added to existing indoor or outdoor analog security surveillance systems for capturing incoming scenarios and detecting threats every second of every minute for every inch of your monitored site.

Three in one, a TRK unit:

- Converts analog cameras into IP cameras.
- Transforms inanimate cameras into smart proficient cameras.
- Provides Network Video Recording (NVR) capabilities.

Benefits

- Easy to install, sets up in minutes – setup software included
- Cost effective, integrates with existing stationary and Pan/Tilt/Zoom (PTZ) cameras and security infrastructures
- Units can operate as stand alone or as part of an integrated network configuration
- Superior non-flat detection, sees intruders in 3D-scape and at long distances

Highlights

Provides 24/7 unmanned surveillance that alerts only when a threat is detected

Reduces resource and variable costs for dedicated video surveillance

Increases response time and provides a probability of detection that excels past human factors

Transforms existing analog devices to IP

Performs predefine actions on the event of detected threats

Features several built-in recording options: continuous, event driven, and scheduled recording

Supports up to 10 min. pre-alarm recording for capturing the moments before an alert

High Resolution – low latency-MPEG-4 audio & video streaming

Supports unicast and multicast routing

Maintains QoS: automatically optimizes quality of service for one or more units adjusting audio & video streams to bandwidth, traffic characteristics and priority

Supports external devices, such as PIR, magnetic switches, fire sensors, etc. providing status control, device query, and on-event macro execution

Unit supports future firmware upgrades

Remote field-deployment allows local or remote configuration



TRK-200 SERIES

Revolutionary Security

Safeguards Technology has leveraged the most modern and advanced technology to design the TotalTrack[®] system that increases response time, heightens awareness, reduces costs, and manages effective site security.

TotalTrack[®] raises security site management to all new levels by providing a line of products so advanced no one will ever look at surveillance in the same way again, nor will they need to!

A revolutionary technology with a proven record of achievement, Total Track's VTD[™] technology automatically identifies and tracks intruders, threats, and incidents while maintaining a dramatically low false alarm rate. Years in development, VTD[™] technology provides superior non-flat detection and sees intruders in 3D-scape and at distances using high-end algorithms that automatically identify intrusions and threats. VTD[™] tackles 3D, depth analysis, varied terrain, lighting, directional movements, size, shape, and much more. It also handles hard to see scenarios, such as camouflaged intruders (white dressed intruders in the snow), extremely slow and fast moving intruders (human or car), as well as intruders moving in and out of shadows.

Running analysis per pixel at a rapid rate of 30 times per second, it learns and adjusts using algorithms and built in sight-logic all while applying user-defined security policies, further preventing false alarms and saving security personnel from ongoing global sensitivity calibrations such as for growing shadows and light changes.

Ignoring common nuisances, such as small animals, swaying branches, cloud shadows, light changes, rain, snow, and trivial movements in the scenery, that generate false alarms in less advanced surveillance technologies, VTD[™] technology provides hassle free unblinking, security that is truly revolutionary.

Applications

Seascape, maritime, remote locations, forestry service, refineries, chemical plants, nuclear plants, mobile field OPS, military compounds, prisons, schools and universities, airport terminals, runways, hangers, dockyards, storage facilities, border patrol, hospitals, private dwellings, corporate office, pipeline, consulates, government buildings, construction sites, industrial monitoring, parking structures, railway, waterway monitoring, amusement parks, mining, ranching/farm, special events, rail stations, police surveillance, bus terminals, refueling stations, retail, ski resorts, casinos, banks, stadiums, museums, research facilities, distribution centers, water treatment plants, and more.



TRK-400 SERIES





TRK-Monitor

Making Sense of Console Surveillance Safeguards understands that presenting the right information in a clear and easy to explore format is key to control-room operations. Executing standard operation procedures for incident scenarios relies on the ability of the control room to get answers in real-time without being overwhelmed by nonessential information and images.

Control room personnel need to dispatch rapid intervention personnel according to the type of alarm as well as dispatch them from a strategic location. Whether it's breached containment, trespass, fire or imminent threats, often there are only moments to react, analyze the images, and overcome the threats before they get out of hand.

Making sense of it all, Safeguards presents the TRK-Monitor software that is a remote monitoring center and centralized site management in one. Its smart design provides a complete solution that keeps simplicity in mind by giving an uncluttered view of resources, annunciating alarms, distributed video and security logs. Specially designed to work with TotalTrack® suit of intelligent surveillance products that automatically detect, notify, and take action, the TRK-Monitor out-of-the-box solution provides a remarkable workspace and features ideal for serious security site management.

TRK Monitor Highlights

(please make this into a chart form)

Notifies on alarm with heads-up annunciations, flashing alarm-indicators and automatic switching to a primary alarm view that shows high priority video

Provides the functionality of a remote alarm control module for clearing alarms, arming and disarming of remote TRK unit cameras

Features interlinked sitemap capabilities (aerial view, floor plan, etc) for wide-area incident command with drill-down for examination of nested sitemaps

Integrates in a network architecture rendering high quality MPEG-4 audio and video transmitted over IP for centralized and distributed deployment supporting unlimited scalability with multiple clients Supports full-duplex audio allowing two-way communication, ideal for integrating with loudspeaker systems or communicating with rapid responders

Drag and drop functionality allows you to display what you want from virtually every area of the workspace

Works with the TRK units security policy including security events, incident response (event macros), and threat classification per camera.

Features

Dual-Screen-Console Support
Expanded workspace allows the distribution of video layout across dual monitor consoles NVR Video Search and Playback Supports multiple criteria search and playback of TRK-NVR archived and recorded video:

Multi-User Roles and User Provisioning

Password protection, camera access privileges and personalized workspace layouts; ideal for creating roles, job distribution and delegating specific cameras Lock and Track Targets Supports PTZTrack™ to lock on a moving threat to automatically track it autonomously keeping the PTZ camera focused and centered on the moving target.

Virtual Monitor

Connectivity feature that allows you to use a TRK-Monitor client to remotely manage content display of other TRK-Monitors, ideal for video wall control

Automated Incident Response Synergy

The TRK-Monitor receives instructions, signals, and displays information related to automated incident responses (event macros) specified in the TRK unit setup. This feature allows the TRK-Monitor clients to provide realtime information, indicators and notifications, change layout views, etc. according to instructions specified in automated incident responses. For instance upon an alarm, a user-defined html page could open displaying standard operating procedures, "dos and don'ts" or scene-safety, (e.g. how to evacuate, contain threats, lockdown, initiate response, etc.)

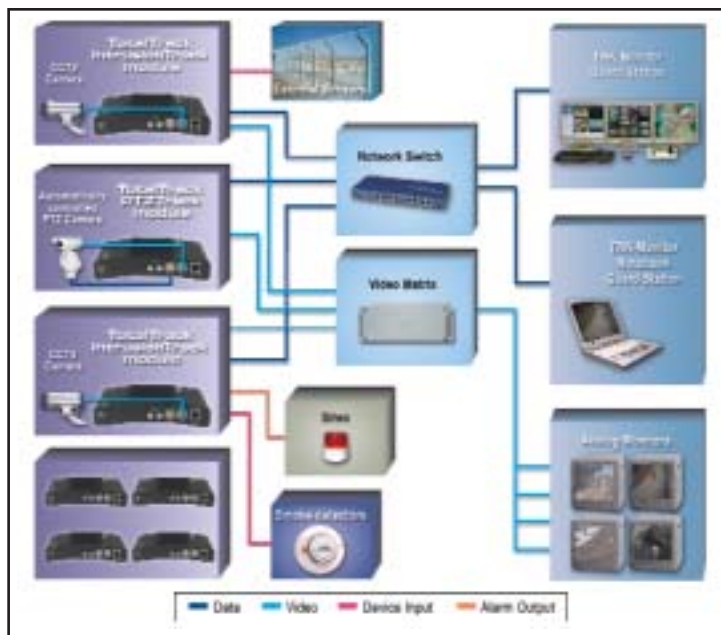
Sitemap Navigation and On Screen Display

The sitemap feature, which is configured in the setup of TRK units, allows you to create on screen site overview boards (e.g. floor-plans, ground-plans, city sub-divisions or aerial photo.) with plotted cameras and external devices. These sitemap boards can then be interlink for multi-tiered navigation. The TRK-Monitor renders sitemaps into an informative workspace that allows security personnel to answer questions about the array of cameras and external devices across all areas of the site. At a glance, security personnel can identify camera/device type, status, relative location, name, region of interest, field of view and if an alarm has been triggered.

A simple drill-down navigation allows navigation from one sitemap to another within the user-defined sitemap model. For example, sitemap navigation could be modeled so that from a aerial sitemap view of an airport, security personnel can drill-down into a terminal floor-plan and then to the departures wing. The benefits of graphical overviews of monitored areas, proves invaluable when incident response requires strategic approach or scene safety such as dispatching first responders or directing emergency services.

From the sitemap, cameras and external devices can be selected and then arm, disarm, or clear alarms. In addition, camera videos can be viewed in a video window overlay on the sitemap.

External Device Interfacing: Supports location display, on screen alarms, and commanding of external devices that are connected to the TRK units. For example monitor fire alarms, fence sensors, etc. and issue commands, such as to shut down hazards, lock doors, sound alarms, deploy auto barriers, etc.



System Full Configuration

More Features

Efficient Alarm Management: Alarm identification reporting system with video archive allows easy search for investigating and managing of alarms and their video

All-Inclusive Display Capabilities: Live viewing of up to 32 cameras on a single computer with dual-monitor setup

Customized Layout and OSD Overlay: Allows users to save camera-preferences of window-layouts, as well as customize and show/hide of OSD overlays that display camera status (armed or live), name, time stamp, and alarm status on video windows

LAN/WAN Accessible: IP-based architecture allows authorized users to access the system from local or remote computers on the network

Live or Archive Playback: Offers simultaneously multiple view of live and recorded footage

Video Investigation: Includes a digital zoom for examining security images and inspecting live and archived footage

Multiple Layout Views: Offers tile-view or full screen enlargement, as well as toggles among numerous predefined layouts

Optimized: Internal management engine assures quality of service (QoS) assuring the highest quality MPEG-4 audio and video playback for the available CPU
PTZ remote-control panel

TRK-Monitor includes a PTZ remote-control panel for PTZ commanding in addition to standard PTZ joystick controllers (PELCO KBD-100, KBD-200, KBD-300) support.

MINIMUM SYSTEM REQUIREMENTS:

CPU: Pentium III 1GHz Processor
Sound Card: Any
Memory: 256MB of RAM
Hard Disk: 200MB free disk space
Display Adapter: AGP Video Card (Minimum of 64MB of memory with MS DirectX 9 Support and True Color 32bit)
OS: Win2000 Service Pack 2, or WinXP Service Pack 1
Monitor: 17" 1024*768 with 32bit color display
Network: Ethernet 10/100

RECOMMENDED SYSTEM

CPU: Intel® Pentium 4 3GHz FSB-800MHz
Main Board: Intel® I865E Chipset or later
Memory: 1GB 400 MHz
Hard Disk: 80GB 7200RPM IDE or SATA
Display Adapter: Matrox Parhelia AGP 8x (Minimum of 256MB of memory with MS DirectX 9 Support and True Color 32bit)
OS: MS Windows XP Pro with Service Pack 2
Monitor: 19" 1600*1200 with 32bit color display

IntrusionTrack™ - Intrusion Detection

An intelligent module that watches with unblinking vigilance for threats in surveillance video, IntrusionTrack™ doesn't give intruders a chance. Built-in VTD™ technology detects intruders while ignoring distractions that cause false alarms, like small animals, swaying branches, cloud shadows, rain, snow, etc.

It automatically learns and adjusts to changes locally using its unique automatic per-pixel sensitivity applied at a rapid rate of 30 times per second, further preventing false alarms and saving security personnel from ongoing global sensitivity calibrations such as for growing shadows and light changes.

IntrusionTrack™ high-end algorithms detect intruders in 3D-scape and at great distances. This means intruders are detected by their relative position and size in 3D perspective for the terrain (non-planar sites) and depth of view. This allows IntrusionTrack™ to differentiate among cars, persons, birds, and blowing debris. It also handles hard to see scenarios such as camouflaged intruders (white dressed intruders in the snow), extremely slow and fast moving intruders (human or car), as well as intruders moving in and out of shadows.

IntrusionTrack™ operates on stationary and PTZ cameras and supports all types of analog camera types (B/W, color, thermal, and infrared).

PTZTrack™ - Automatic Autonomous Pan/Tilt/Zoom Tracking

PTZTrack is an innovative module that transforms manually controlled Pan/Tilt/Zoom cameras to automated intruder-tracking systems that keep the intruder in focus and centered in the video frame.

It is a fully independent spot and track system that does not require helper cameras or outside inputs. The benefit of this stand-alone technology is that it provides autonomous-movement that is self-directing; the PTZ camera is animated by what it sees and unhindered in its own field of movement.



In addition to solo operation, PTZTrack™ can also receive a handoff of tracking-tasks from other stationary cameras or auxiliary sensor devices. This chain of cooperation enhances overall point-to-point surveillance of intruder threats for instance, providing tracking surveillance from the point an intruder is detected outside the perimeter through every movement even as he leaves the stationary camera's field of view. This allows accurate dispatch of rapid response units and provides real-time pinpoint intruder location inside or outside the perimeter. PTZTrack™ can be coupled with IntrusionTrack™ to seek out intruders in different areas by looping through preset location sequence. In addition, PTZ cameras can be commanded by security personnel to automatically lock on and track a designated threat.

MINI TRK Units**mini-TRK-100 • mini-TRK-140**

The Mini TRK Units are miniature units that can be used for indoor and outdoor applications. The units, about the size of a deck of cards, are small enough that they can be installed inside the camera enclosure and casings of some models.

By plugging the unit inline, you can upgrade common cameras with IntrusionTrack™ and PTZTrack™ capabilities and convert their output into a MPEG-4 streaming multimedia over IP. Their size makes them ideal for adding functionality to OEM products, inconspicuous, or confined space installations.




The built-in network switch allows the interconnecting of multiple TRK units in daisy-chain configuration rather than parallel wiring, providing a significant savings on cable deployment, thus making it suitable for extended and remote location installations.

| TRK-MINI-100 | | |  |
|---|-------------------------------------|---|---|
| Channels 1 x Audio 1 x Video | Resolution MPEG-4 4CIF | Network dual-port built-in network switch | |
| TRK-MINI-140 | | |  |
| Channels 1 x Audio 1 x Video | Resolution MPEG-4 4CIF | Network dual-port built-in network switch | |

COMPACT TRK Units**TRK-100 _ TRK-140 _ TRK-200**

The Compact TRK Units are small shelf units that can be used for indoor and outdoor applications. Compact TRK Units are ideal for small to medium sized security operation with one or more camera or for scalable installations where the units are dispersed in multiple locations of one and two camera cells.




The built-in network switch allows the interconnecting of multiple TRK units in daisy-chain configuration rather than parallel wiring, providing a significant savings on cable deployment, thus making it suitable for extended and remote location installations.

| TRK-100 | | |  |
|---|---|---|---|
| Channels 1 x Audio 1 x Video | Resolution MPEG-4 4CIF | Network dual-port built-in network switch | |
| TRK-MINI-140 | | |  |
| Channels 1 x Audio 1 x Video | Resolution MPEG-4 4CIF | Network dual-port built-in network switch | |
| TRK-200 | | |  |
| Channels 2 x Audio 2 x Video | Resolution MPEG-4 CIF (per channel) | Network dual-port built-in network switch | |

ENTERPRISE TRK Units**TRK-400 _ TRK-440 _ TRK-800**

The Enterprise TRK Units are 19" rack units for installations that are centralized, such as a security control room.

Ideal for medium to enterprise security operation with a large number of cameras, the Enterprise TRK Units help optimize rack space by consolidated support for multiple analog cameras in each unit.

| TRK-400 | | |  |
|---|---|--|---|
| Channels 4 x Audio 4 x Video | Resolution MPEG-4 CIF (per channel) | Network single-port direct connect | |
| TRK-440 | | |  |
| Channels 4 x Audio 4 x Video | Resolution MPEG-4 CIF (per channel) | Network single-port direct connect | |
| TRK-800 | | |  |
| Channels 8 x Audio 8 x Video | Resolution MPEG-4 CIF (per channel) | Network single-port direct connect | |

Technical Specifications:

| | TRK-100 | TRK-140 | TRK-200 | TRK-400 | TRK-440 | TRK-800 | TRK-MINI 100 | TRK--MINI 140 |
|--|-------------------|-------------------|-------------------|-----------------|-------------------|-------------------|-------------------|-------------------|
| VTD™ Channels | | | | | | | | |
| Number of Intelligent Audio & Video Threat Analysis Channels | 1 | 1 | 2 | 4 | 4 | 8 | 1 | 1 |
| Analog Video Inputs | | | | | | | | |
| Standard – NTSC/PAL | √ | √ | √ | √ | √ | √ | √ | √ |
| Physical Connector – BNC 75Ω | 1 | 1 | 2 | 4 | 4 | 8 | 1 | 1 |
| Analog Audio Inputs | | | | | | | | |
| Unbalanced Mini Jack– Audio impedance 10kΩ | 1 | 1 | 2 | 4 | 4 | 8 | 1 | 1 |
| Analog Video Outputs | | | | | | | | |
| Standard – NTSC/PAL | √ | √ | √ | √ | √ | √ | √ | √ |
| Physical Connector – BNC 75Ω | 1 | 1 | 2 | 4 | 4 | 8 | 1 | 1 |
| Graphical Overlay | √ | √ | √ | √ | √ | √ | √ | √ |
| Analog Audio Outputs | | | | | | | | |
| Unbalanced Mini Jack Connector – Audio Impedance 10kΩ | 1 | 1 | 2 | 4 | 4 | 8 | 1 | 1 |
| Standard Compliance | | | | | | | | |
| ISO/IEC 14496 (MPEG-4) | √ | √ | √ | √ | √ | √ | √ | √ |
| Digital Video Output | | | | | | | | |
| Max Resolution per Channel | CIF | 4CIF | CIF | CIF | 4CIF | CIF | CIF | 4CIF |
| 128Kbps – 4Mbps | √ | √ | √ | √ | √ | √ | √ | √ |
| Frame Rate | Full | Full | Full | Full | Full | Full | Full | Full |
| CBR/VBR | √ | √ | √ | √ | √ | √ | √ | √ |
| Digital Audio Output | | | | | | | | |
| Standard – ADPCM (G.729) | √ | √ | √ | √ | √ | √ | √ | √ |
| 8-96 Kbps√ | √ | √ | √ | √ | √ | √ | √ | √ |
| Frequency Response, 20 Hz – 20 kHz, +/- 0.25 dB | √ | √ | √ | √ | √ | √ | √ | √ |
| Sampling Frequency 32, 44.1, 48@20 bits/sample | √ | √ | √ | √ | √ | √ | √ | √ |
| Audio Gain Control: -90 dB – 30dB with 8dB level steps | √ | √ | √ | √ | √ | √ | √ | √ |
| Network | | | | | | | | |
| Ethernet RJ-45 Interface | 2x10/100 | 2x10/100 | 2x10/100 | 1x10/100 | 1x10/100 | 2x10/100 | 2x10/100 | 2x10/100 |
| Audio & Video – RTP/IP Multicast | √ | √ | √ | √ | √ | √ | √ | √ |
| Alarms /Commands – TCP/IP | √ | √ | √ | √ | √ | √ | √ | √ |
| Serial I/O | | | | | | | | |
| RS-232/RS-485 | 2/1 | 2/1 | 2/1 | 4/2 | 8/4 | 8/4 | 1 | 1 |
| Discrete I/O Interface | | | | | | | | |
| IN – Dry Contacts (max. 12VDC 50mA) | 4 | 4 | 8 | 16 | 16 | 32 | 4 | 4 |
| OUT – Relay Dry Contacts (max. 24VDC 1A, 125VAC 0.5A) | 2 | 2 | 4 | 8 | 8 | 16 | 1 | 1 |
| Power Source | | | | | | | | |
| Voltage | 12V DC | 12V DC | 12V DC | 120V 240V DC | 120V 240V DC | 120V 240V DC | 12V DC / | 12V DC / |
| Amperage | 1000m | 1000m | 1000m | | | | | |
| Power Consumption | | | | | | | | |
| Wattage | 5.5W | 5.5W | 8.5W | | | | | |
| Physical | | | | | | | | |
| Dimensions (W/H/D) | 182/38/163 mm | 182/38/163 mm | 182/38/163 mm | | 483/44/325 mm | 483/44/325 mm | 103/36/68 mm | 103/36/68 mm |
| | 7.2/1.5 6.4 in | 7.2/1.5 6.4 in | 7.2/1.5 6.4 in | | 19/1.7 12.8 in | 19/1.7 12.8 in | 4/1.4 2.7 in | 4/1.4 2.7 in |
| Mounting | Shelf | Shelf | Shelf | 19" Rack | 19" Rack | 19" Rack | Camera Housing | Camera Housing |

ATS-3000 Taut Wire Intrusion Detection System

Safeguards Technology's ATS-3000 Taut Wire Intrusion Detection System is the leading perimeter protection solution currently available. It has proven itself as the international technology of choice in high-security environments.

In general, taut wire systems measure the mechanical disturbance of a tensioned barbed wire fence. They typically measure the force balance in the structure and determine alterations when any structural disturbance occurs.



Taut Wire Is The Leading Perimeter Protection Solution

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 centre of the zone. The sensors are high-voltage insulated. Sensor management and environmental compensation are carried out by the individual microprocessors.

If the taut wires are deflected, the sensors to which they are attached will be mechanically deflected, resulting in a corresponding change in electrical signal. This change is entered into the processing algorithm, which will signal an alarm condition if the change exceeds preset limits. Other parameters used by the algorithm can also be individually set, e.g. Intrusion duration and size.

Principle Of Operation

Taut wire detection is a mechanically measured barrier that defines the specific boundary on the perimeter. It has been the solution of choice in the international high-security environment due to the following attributes:

- Very high probability of detection
- Very low nuisance alarm rate
- Very low maintenance
- Very long life cycle

It is important to note that historically, taut wire has been internationally to be the best performer in each of the above categories.

The ATS-3000 has established itself as the product of choice in the taut wire class due to the following unique features not commonly available in standard systems:

- Auto calibration of sensors
- Individual processor per sensor
- Individual sensor per wire
- Qualified and proven algorithm software
- Highly responsive sensor

The above distinctive qualities contribute to the following added-value to the facility:

- No seasonal wire tension adjustment required (Auto-calibration)
- No sensor calibration required (Auto calibration)
- Equal sensitivity on each wire (Individual sensor per wire)
- Recognition of environmental noise and intrusion attempts per wire (individual sensor per wire)
- Absolute distinction between environment conditions and intrusion (Qualified and proven algorithm software)
- Less strain on wires, therefore lighter structures with better performance (Highly responsive sensor)



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com



ATS-3000: Corner Roller Post

Bringing The Versatility Of Hi-Tech Technology To Perimeter Protection.

The ATS-3000 Taut Wire Intrusion Detection System is a state of the art development in perimeter intrusion detection. It combines a physical deterrent barrier and a sophisticated detection system to offer one of the most effective ways to provide perimeter security of the highest integrity.

Perimeter security and control systems require substantial initial investments in infrastructure. Chances are that future expansion will be required. In conventional perimeter security and control systems, those changes may involve expensive and inconvenient adjustments to the initial infrastructure. Safeguards recognizes the need for system design that would enable the owners to expand, reduce or modify their perimeter system at their convenience without replacing the initial investment.

We go beyond perimeter security. The fully modular network allows for full perimeter control. All systems or components that may be attached to perimeter systems can be monitored and managed.

At the heart of the system is the Safeguards design approach offering a Field Equipment Monitoring and Management System bringing the following features within reach of the user:

- Integrity of alarms and information
- Reliability of equipment
- Minimal maintenance
- Ease of operation
- Environmental adaptability
- Low-tech support
- Ability to integrate with 3rd party security management equipment.

Safeguards Perimeter Control Technology is a truly modular perimeter control system that has been designed to control and manage one or more perimeters. Safeguards is known throughout the industry for high integrity detection with the addition of deterrence or delay. The system can be used to control external devices such as cameras, lights and gates or to accept inputs from various external devices such as infrared beams, gate switches and guard monitoring.

As an intrusion detection system, the ATS-3000 combines physical deterrents, such as security perimeters, with a smart detection system to offer one of the most effective ways of providing perimeters security of the highest integrity.

Additional Features Of ATS-3000 Taut Wire Intrusion Detection System Include:

- Offers terrain-following sensing capabilities due to the design of the insulations 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.
- Sensitivity is adjustable per sensor and other parameters in the algorithm e.g. Intrusion duration and size.
- Taut wire can even sense wire deflection around corners.
- Can be used in conjunction with Short Circuit & Non-lethal Technology on the same fence structure.



ATS-3000: Perimeter Application

TAUT WIRE SENSOR -PURPOSE OF THE MODULE

The Taut wire sensor is a unique self-contained taut wire sensor with integral microprocessor. The sensor is able to detect extremely small changes in wire tension but is managed by the microprocessor to provide output information according to defined control algorithms. The sensors are rugged in construction and completely sealed from environmental influences. Sensors may be individually programmed for local conditions and all programming performed at the field controller without computers or special equipment. Sensors are connected to the common bus cable using industrial connectors for rapid installation and maintenance.

TAUT WIRE SENSOR FEATURES

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

NETWORK CAPABILITY

Robust data communication and device control network.



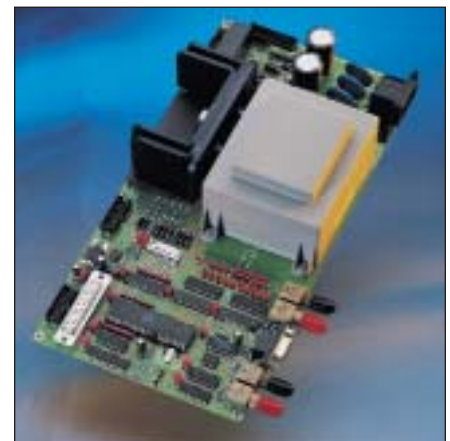
ATS-3000 Sensor



Taut Wire Interface Module



Digital IO Expansion Module



Field Processor Unit

Field Nodes

Field Nodes apply perimeter detection measures to a specific sector of a security perimeter and repeats data and commands from the System Controller to adjacent Field Nodes and vice-versa (normally security perimeters are divided into separate sectors, each controlled by its own Field Node). Under control of the System Controller, the Field Node applies detection and prevention measures to its designated sector of the security perimeter.

A field node is controlled by the field processor module and may contain the following plug in devices such as energizers, field I/O modules, taut wire interface modules, taut-wire sensor, digital interface module and fiber detection units.

A field node is therefore able to include, manage and control any of the following:

- Taut wire detection
- Short circuit detection
- Fiber optic detection
- Non-lethal shock
- Other detection devices i.e. infra-red detection, microwave detection or any other device with an alarm output.
- Gate control and monitoring
- Switching of lights
- Switching of cameras
- Reporting and management of any other analogue or digital device

Purpose of the Module

This forms the backbone for integrating all the field detection and control modules. It acts as a communication node, to be interrogated by the System Controller and to execute controls received.

Principle of Operation

The field processor is equipped with a power supply and a number of interface ports to control, monitor and power all the expansion modules attached to it. The optical data communication interfaces connect the field processor to the field communication network for the purpose of transporting data to and from adjacent nodes and the System Controller.

System Software

The System Controller is run by a distributed, scalable and event driven software system comprising a number of software modules that can operate independently and on different physical platforms. Modules can be split across a geographical network and balanced load distribution can be achieved by running modules on different platforms and in various locations, leading to excellent scalability and upgradeability. Advantages to this type of system are improved processing speed of single events, minimized network traffic (only

information that has changed is shipped across the networks) and reduced hardware requirements. Built in safeguards ensure that the status of the devices controlled by the system always remain in synchronization.

The Operating System run by the System Controller is a Linux operating system based on a standard qualified kernel. The Application Software is designed to run under the Linux operating system specified and uses site specific rules determined by configuration files (no software changes) to perform its functions.

This networking system ensures the timely and accurate delivery of data execution of instructions. The components of the network includes the two core multimode fiber ring, the field nodes and the master controller.

Provision is made for two full-duplex multi-mode optical fiber links to connect the Master Controller to the Field Nodes. A loop arrangement is used for each link wherein it starts at and returns to the Master Controller through the Field Nodes of the system. The Field Nodes are arranged as a daisy chain with the first and last nodes connected to the Master Controller, and each node acting as a data repeater for the next. Each communication link comprises two separate optic fiber conductors with one acting as the standby for the other. This arrangement ensures that the link is not lost if one of its conductors is compromised.

System Controller Description

The Controller is based on a PC-104 Single Board Computer (SBC) that is mounted in a 19-inch rack cabinet. Designed to integrate seamless with the MODUTEQ Perimeter Control Product, the Controller can run a point and click mouse driven Graphical User Interface under an embedded Unix operating system. Or the controller can be used without the Graphical User Interface.

This combination of hardware and software makes the System Controller an easy to use device through which operators, supervisors and maintenance personnel concerned with perimeter control can perform their duties easily, effectively and efficiently.

Various connectors are provided for connecting the System Controller to a video monitor, keyboard and mouse. In addition, two RJ-45 ports are present for connection to external networks. The TCP/IP based networking capabilities of the System Controller means that there are many ways in which it can be deployed from simple systems only requiring one System Controller to large complex systems required a number of System Controllers interconnected by local or wide networks.

Further connectivity is provided by means of two USB Type 1 ports through which USB devices such as a USB modem can be connected.

Features of the Controller

- Embedded Unix operating system for speed and stability.
- Compact Flash Disk for program and data storage.
- Event driven device-based system for scalability, increased processing speed, minimal network traffic and reduced hardware requirements.
- No complicated start-up procedures, simply switch on and wait for Centari User Interface to be displayed.
- Integrates seamlessly with existing Perimeter Control Products
- Integrates seamlessly with other 3rd party products.
- TCP/IP protocol based networking capability allows extensive networking and deployment possibilities.
- Easy to use. The Graphical User Interface allows operators, supervisors and maintenance personnel to make use of mouse-based point-and-click movements to set up and control security sectors.
- Secure. Extensive configuration possibilities establish specific business rules and profiles for different levels of user.
- Performance characteristics set by means of configuration files.

Short Circuit & Non-lethal Option Overview

All the fence wires are isolated from the main structure and form a continuous loop terminated by a resistance. The low-voltage detection module utilizes this feature to monitor the continuity of the fence circuit. Should this circuit be interrupted or shorted or even grounded, then an alarm condition will result. The non-lethal energizer provides a pulsed high-voltage signal to the fence wires in the range of 6000 Volts. The power of this pulse is configured to meet the applicable IEC regulations. The system can further be programmed to allow for digital outputs to indicated events of alarm or maintenance and it has inputs that may be used as resets or day/night activation of high voltage.

Further, the system may be setup to only go into high voltage mode on detection. This allows for safety of personnel when accidentally touching the fence without the intention of intrusion. It also facilitates a longer equipment life and lower power consumption especially when on backup power. This can normally not be done by other similar energizer setups due to the fact that their detection only works on pulse detect i.e. the system has to have detection capability.

The system uses dual loop detection. A dual loop system has positive and nega-

tive high voltage circuits. **All the wires in the fence are therefore live wires and it also allows for redundancy of the system.**

Parameters in the algorithm e.g. Pulse duration and intrusion size are also adjustable.

Deterrent Measures

The non-lethal shock can be configured to pulse continuously as a deterrent to intrusion. These pulses are applied by means of the same Energizer modules that apply the low-voltage detection current to the dual loops, and can be switched ON or OFF at will. Pulse strength is in the range of 6000 volts and is configured to meet IEC safety regulations. The repeat rate for the pulses is set to be about 1.2 seconds apart.

1. The voltage applied to each loop is 180° out of phase, so a potential difference is always present between the two loops and each loop and ground.
2. Although the high-voltage pulses can be switched ON or OFF, the low-voltage detection current is always present.
3. None of the applied voltages is life threatening.

Short circuit detection can be used as a stand alone system in lower risk installations or in conjunction with other technologies to serve as a deterrent and delay system.

Alarm Processing

Alarms can be generated by optical fiber and/or fence wire deflection, fence wire short-circuit or open circuit conditions, activation of supervised alarm inputs, tampering with Field Node enclosures and maintenance conditions. The alarms are routed to the System Controller through the optical fiber communication links. The System Controller can be configured with business rules to instruct the relevant Field Node to apply shock or activate an output (based on user set-up parameters if an alarm is received.)

The System Controller will annunciate any alarms it receives on the relevant display devices (such as Mimic Panel) and Graphical User Interface. This information will include the type of alarm condition, detection sector number and taut-wire address if required. Alarm information together with operator responses and IDs will be logged by the control system.

Coded Tag Readers can be used to reset alarms. This provides a higher degree of security and operator responsibility. The tag readers are provided on the door of each field node and the System Controller.

The controller also accommodates various interface protocols with 3rd party security management systems or distributed control and management via the end-user LAN.

STI-90 & STI-2000 Taut Wire Intrusion Detection Systems

Safeguards Technology's 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 product.

Over the years, taut wire intrusion detection systems have established a solid reputation for successfully preventing and detecting perimeter intrusion/ 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 harsh environmental conditions.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



True Physical Barrier

A STI Taut Wire Intrusion Detection System operates using electromechanical sensors incorporated into a taut wire fence. The sensors provide intrusion detection to a fence that is 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. Whereas most intrusion detection systems provide alarm only, the STI electronic taut wire adds further delay and contributes to the effectiveness of the outer fence.

Self-Adjusting Sensors

At the heart of the STI Taut Wire Intrusion Detection System are electro-mechanical sensors that automatically self-adjust to any wire creepage caused by temperature variations, soil movements, etc. This important, self-compensating feature significantly contributes to the reduction of false alarms. The sensors are hermetically sealed and suitable for deployment in extreme weather and geographic conditions.

Recent Technological Advancements

- Traditional taut wire sensors are contained in plastic which, over time, have a tendency to crack allowing the damping material to leak and in essence, cause system failure. Safeguards has developed a system where long-lasting aluminum has replaced the traditional plastic encasement.
- The flexibility of the sensors no longer relies on rubber housing, which may crack. The flexibility of the STI-90 and 2000 sensor relies on dependable metal springs.
- The traditional "cup and pin" concept is still utilized in the STI Taut Wire Series, however, two major advancements in this design were developed. First, the cup and pin have been joined to create one structure preventing the occurrence of separation of the two components. Secondly, the contact "pin" which initiates the alarm condition, has been changed to a more flexible unit preventing the common problem of the pin bending or breaking during testing. In the older style systems, bending or breaking of the pin caused commonly during testing, required the purchase of a new sensor. The flexible "pin" prevents this problem.
- The STI series' advanced sensors have gotten smaller during its evolution, we can provide wire spacing as close as 2.25 inches if required,

Minimal Maintenance

Keeping consistent with the system's original conceptual design for usage along hostile perimeters, the STI Taut Wire Intrusion Detection Systems feature minimal maintenance requirements over many years of use.

Very 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 3 months. The extremely low False Alarm Rate (FAR) and Nuisance Alarm Rate (NAR) allows the protected facility to operate without unnecessary disturbances. This increases the confidence of the security officers tremendously, ensuring an effective and immediate response when an alarm occurs.

EMI/RFI and Climate Proof

The taut wire electro-mechanical sensor is not affected by Electro-Mechanical Interference (EMI), Radio Frequency Interference (RFI), climactic or atmospheric conditions, including lightning and electrical transients from nearby power lines. All of the control and reporting units incorporate lightning protection circuits and devices to ensure maximum system availability.

Taut Wire Control System

The Perimeter Control Center (PCC) is based on a Pentium platform and communicates with Reporting Units. It utilizes Safeguards' Secunet© Software (Microsoft Windows© based) that is extremely user friendly and custom designed specifically for each facility. All occurrences within the system are recorded and formatted for analysis and maintenance procedures. The PCC can accommodate up to 100,000 linear feet of the taut wire system, as well as other systems. Taut Wire Intrusion Detection Systems are also able to integrated and annunciated by any control system receiving dry contacts.

TECHNICAL SPECIFICATIONS*

STI-90, STI-2000 TAUT WIRE SYSTEM SPECIFICATIONS

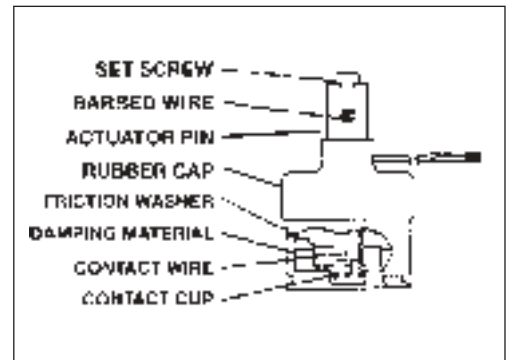
- Fence Length: No practical limitation
- Fence Height: According to customer specifications
- Standard Configuration: 8 ft. vertical with a 40 in. outrigger
- Sensitivity: Fixed and independent of climactic conditions
- Deflection Force: 25 kg (55 lbs.) or more will activate alarm
- False Alarm Rate (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

ENVIRONMENT

- All external components are designed to meet MIL-STD-810 C. No degradations in performance when exposed to or operated in the following environmental conditions:*
- 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 & Electronic: Meets MIL-STD-9094 transients
 - EMI/RFI: Meets MIL-STD-461/462
 - Reliability: MTBF Detector: 4.6 x 10⁶ hours
MTTR: 30 minutes



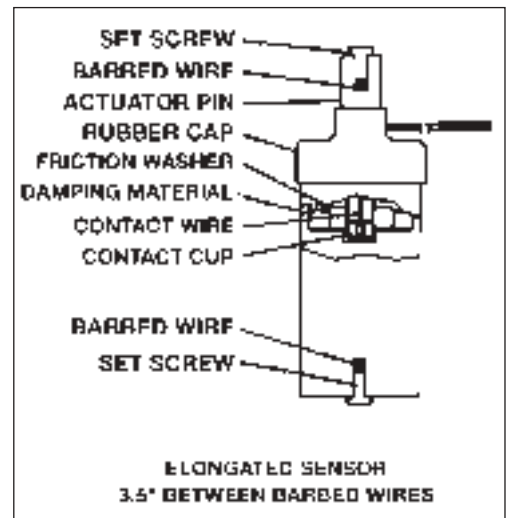
STI-90 SENSOR



STI-90 SENSOR



STI-2000 SENSOR



STI-2000 SENSOR

Fiber Optic Detection Cable

Safeguards Technology's Fiber Optic Detection Cable is a hi-tech perimeter security solution that enables you to covertly detect an intruder before he is aware of detection. It is often seen today that detecting an intruder once he is in a secured area, it is too late. This is a very reliable intrusion detection system that uses fiber optic cable as the medium for detection. It can be used as buried system in soil, crushed stone, sand or beneath any normal ground type. It may also be used on structures such as; walls, fences, gates, doors or anywhere intrusion detection is needed. It works by detecting any deflection in the cable. This is usually caused by pressure, bending or shaking of the fiber optic cable. The signal is then reported by the processor to the control unit immediately alerting security personnel to the intrusion event.

Previous methods of perimeter detection using the "old style" of this technology either had a low probability of detection, high nuisance alarm rate, high maintenance or high installation cost. Often most other solutions available have a combination of the above problems. Alarms reported by other detection systems are often caused by the environment and regarded as false/nuisance alarms.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



Reducing False Alarms

The Fiber Optic Detection Cable's Processor unit has a unique feature to do automatic analysis of the environment. A learning period is set in which the system recognizes common movements and disturbances that occur regularly in the detection field. The processor stores this information into its memory and compares this signals with that of true alarm conditions. Using this comparison method, the system virtually eliminates alarms caused by wind, rain, small animals, and vibrations commonly caused by large vehicles or normal site activity. Next the installer/operator sets the Fiber Optic Detection Cable System into the Alarm Learning Mode. Here you are actually able to inform the system as to what various alarm conditions are. Again the system stores this information and uses it when in operational mode. After simulating both of these conditions, the unit will automatically determine detection parameters.

Another option in reducing the false alarms when using the Fiber Optic Detection Cable is selecting from the seven preset detection parameters. This allows you to choose between seven simulated environmental conditions that most closely match your site installation. Here once again, the alarm processing software will reject environmental conditions such as changes in temperatures and disturbances caused by wind and rain.

Detection parameters can be set to achieve the best balance between probability of detection and false alarms.

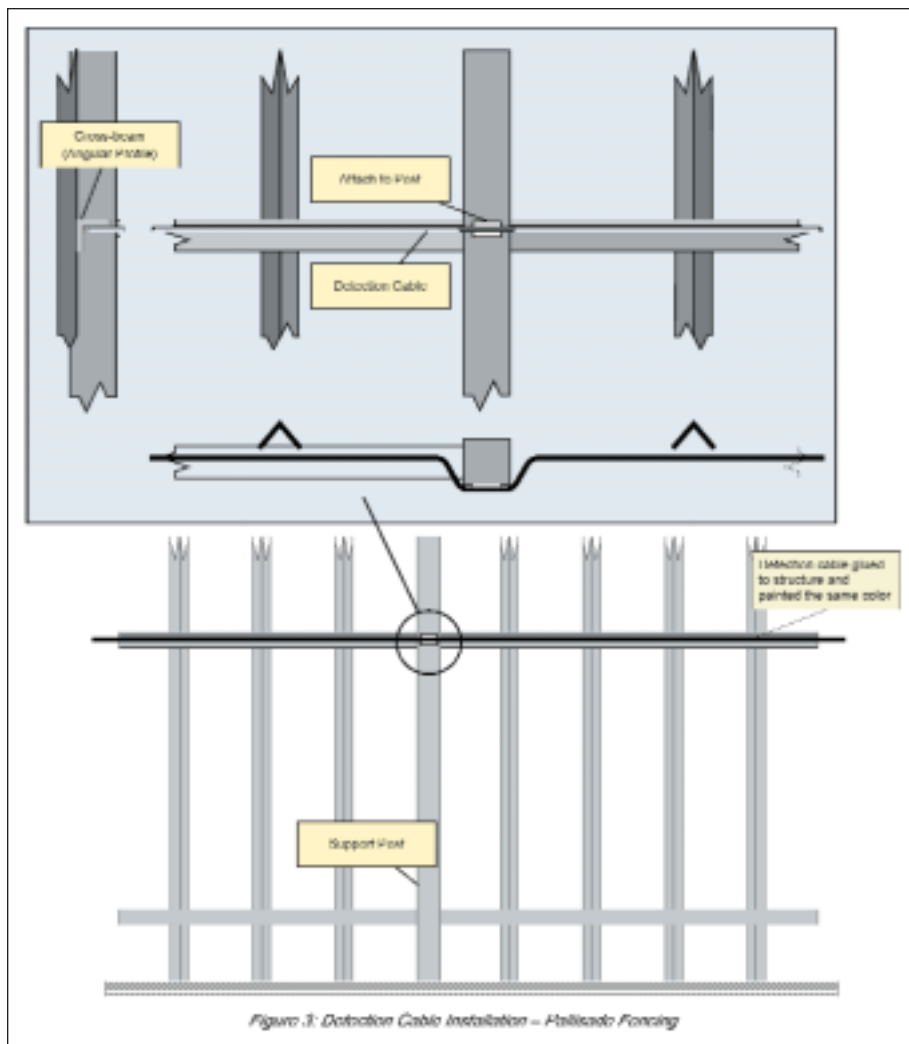
Two Configuration Options

Stand-alone

In stand-alone mode, Safeguards' Fiber Optic Detection Cable System operates independently and provides an alarm indication by means of a potential free relay contact. The user interface is done through a liquid crystal display (LCD). Diagnostic information is reflected on the LCD, while operating parameters and diagnostic modes are adjustable through a touchpad connected to the LCD.

Networked

In networked mode, the fiber detection processor unit is connected to the Safeguards perimeter network usually deployed where the perimeter is more than 600 meters. The Safeguards network and other detection technologies have been successfully utilized on many sites including many nuclear facilities in the US and several international applications. This configuration offers the user expandability and versatility in his application of various detection methods and monitoring devices.



Applications

The versatility of the application of Safeguards Technology’s Fiber Optic Detection Cable System enables the solution to be applied to protect almost any perimeter.

Structure Protection

In addition to the structure mentioned above, the Fiber Optic Detection Cable can be used to protect various structures (such as palisade fencing, suitable wire mesh fencing and pre-fabricated walling). Suitable structures must be rigid enough to ensure that deflections caused by environmental conditions to which the structure is exposed (such as wind), are not excessive. When attaching the detection cable to the structure to be protected, a method must be used that will ensure that:

- * Relative movement between the structure and detection cable is kept to a minimum.
- * Points of attachment do not introduce localized points of stress on the detection cable.
- * Minimum bending radius as prescribed by the cable manufacturer is not exceeded.

Underground Protection

A trench is used to bury the fiber optic detection cable underground. The cable is installed at a depth of between 50mm and 200mm, depending on the application. Coarse river sand (non-compacting) is used 50mm below and above the cable for bedding. The width of the trench and pattern of the cable depends on the area of coverage required. Detection can also be achieved under carpets and under tiles.

SPECIFICATIONS:

POWER:

Type: AC or DC unregulated
 Voltage: 12 to 30 VDC or 9 to 20 VAC
 Consumption: 1.9 Watt

OUTPUTS:

Type: Potential Free Contacts
 Configuration: Single Pole Changeover
 Rating: 1A @ 24VDC
 Function: 1 output ALARM, 1 Output MAINTENANCE

DETECTION FIBRE:

Type: Multimode 50/100 um or 62/125 um
 Termination: ST Connectors

DIMENSIONS:

W x L x D: 150 x 235 x 70mm

WEIGHT:

1.3 kg

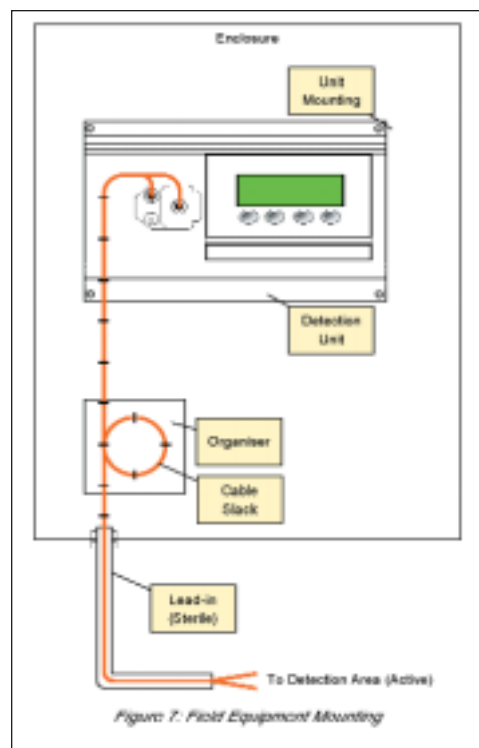


Figure 7: Field Equipment Mounting

STI-103 Buried Seismic Intrusion Detection System

Safeguards Technology's Geophonic Seismic Intrusion Detection System is placed in or on earth, asphalt or concrete to detect low-level intruder vibrations. These signals are processed and analyzed to selectively discriminate between actual intruders and natural disturbances. The STI-103 offers a reliable and cost-effective solution for a number of terrain situations. Seismic systems are ideal for protecting utilities, military sites, prisons, refineries, estates, residential, industrial sites or sensitive land areas.

The seismic signal processors compare signals generated by the geophones to a user adjustable threshold. As each signal crosses this threshold, it is scanned for timing, count and other criteria. It also compares detector line inputs to discriminator line inputs to filter out ambient disturbances. When all criteria are met, the logic system generates an alarm condition.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



FEATURES

Dependable

- All-weather system. Unaffected by temperature extremes or weather conditions such as fog, dust rain or snow.
- Geophone sensors are easily installed in concrete, asphalt or dirt. Sensors are terrain-following, making seismic ideal for hilly or irregular sites.

Reliable

- Solid-state technology utilizes the latest in integrated circuit design and 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.

Versatile

Modular zoning allows expand-able 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. Outputs provided to drive sirens, turn on lights, connect to a central station or CCTV.

SYSTEM DESCRIPTION

The STI-103 System consists of the following items:

- S-103 Zone Processor with wall mount enclosure, 115/16V AC transformer
- S202/S-204 Detector Sensor Lines built to length. Maximum of 25 sensors on a line.
- S-401/S-404 Discriminator Sensors Lines built to length. Maximum of 25 sensors. Home Run Cable cut to length.

STI-103 TECHNICAL SPECIFICATIONS*

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 charge

DISCRIMINATOR SENSOR LINES S-401, S-404

Typical Detection Range: 7 ft. radius
 Maximum Sensors: 25 per Processor
 Recommended Spacing: 40 ft.
 Audio output signal: 600 ohm output impedance
 Battery: 12VDC, 2.6 AG or higher, lead acid or gel cell

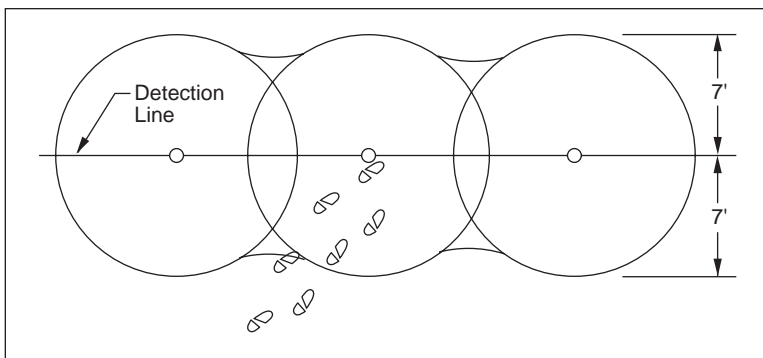
STANDARD PART NUMBERS

1 zone processor: STI-103-017
 Detector lines and sensors for soil: STI-202
 Detector lines and sensors for asphalt/concrete: STI-204
 Discriminator lines and sensors for soil: STI-401
 Discriminator lines and sensors for asphalt/concrete: STI-404
 Home run cable for sensor and discriminator lines: STI-908
 Balance Amplifier: STI-909

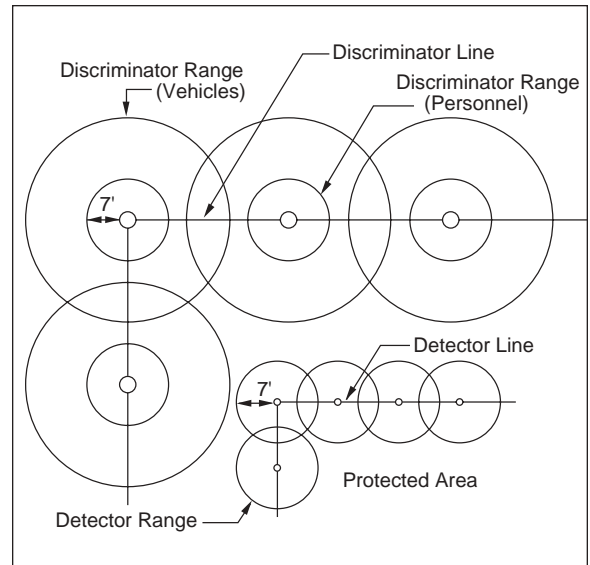
Processor operating temp. range: -40°F to 140°F
 Frequency range: geophones respond to low frequencies between 5 and 20Hz

MECHANICAL – WALL MOUNT ENCLOSURE

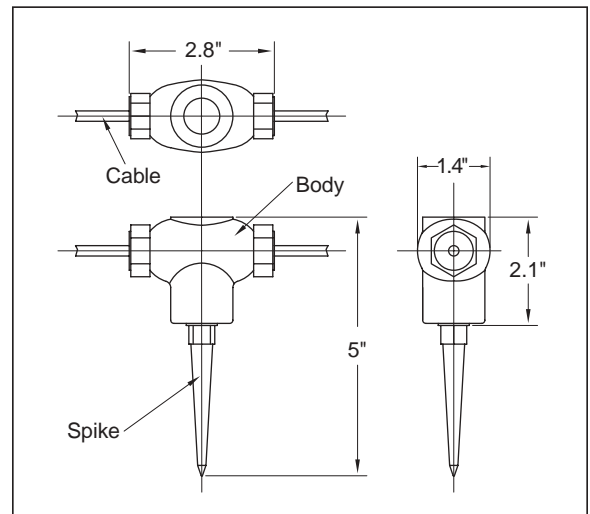
1 and 2 Zone Dimensions (L x W x D): 13.5" x 12.25" x 5"
 Weight: Enclosure 7.25 lb
 Type and number zone: 1 zone/processor
 Alarm relay ratings: 12V, 5 amps



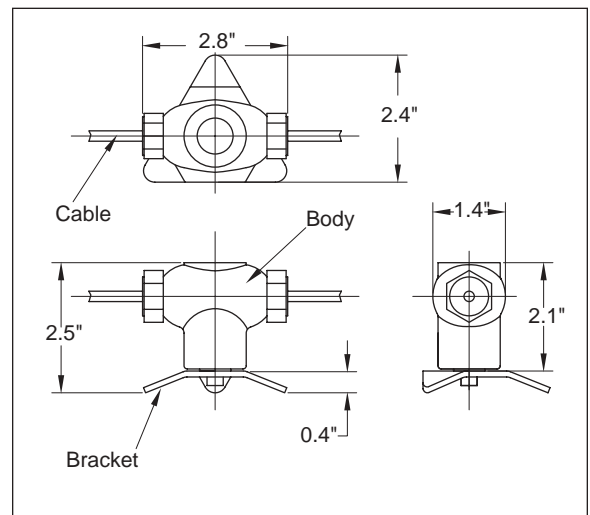
WALK TESTING THE STI-103 SEISMIC PERIMETER



STI-103 TYPICAL CAPTURE RANGE



STI-103 SEISMIC SENSOR WITH SPIKE



STI-103 SEISMIC SENSOR WITH BRACKET

*Specifications subject to change without prior notice.

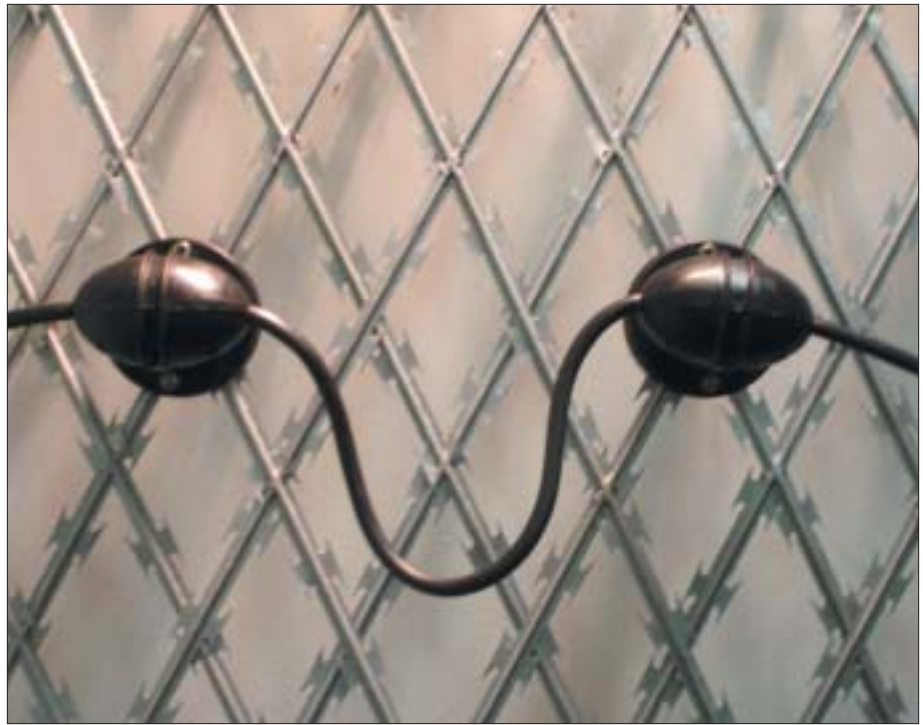
STI-390B Advanced Fence Vibration System

Safeguards Technology offers the STI-390B Advanced Fence Vibration System, which is an enhanced version of its predecessor, the STI-290B advanced outdoor "shaker style" system. The STI-390B has elevated the level of system sensitivity by utilizing four imbedded detectors in a single housing. This results in greater reliability, superior system flexibility, and a very low false alarm rate, while maintaining the ease of installation associated with the previous model. 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. These intrusion vibrations produce electronics signals which are analyzed by the control unit.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



ADVANTAGES

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.

Supplied Ready to Install

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 at any degree plane with virtually no loss of sensitivity. The sensors can be individually adjusted for sensitivity. In high-risk sites, it is recommended to install a second line of sensors on the upper section of the fence to prevent any attempt to climb over the barrier with a ladder.

Reliable Operation

Like its predecessor, the STI-390B sensors are made from a special high-resistant, long-lasting plastic that require 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.

VSSU Processor

The VSSU processor board features a unique capability to simultaneously analyze multiple zones, while automatically adjusting system sensitivity to fit the current weather conditions. This eliminates the use of a weather station because the VSSU processor filters out weather related nuisance alarms.

The STI-390B's utilization of the VSSU processor allows for system checks at both the processor and central control level. The board allows for 4 inputs and 4 outputs, while using RS485 communication.

Central control

The STI-390B can be linked to a Perimeter Control Center (PCC) that analyzes data from the sensors, filters out false alarms, and then informs the guardhouse of unauthorized intrusion attempts, specifying the precise zone of entry. An audible alarm is sounded when an alarm signal is received from any zone.

A Perimeter Control Center (PCC) is capable of supervising an unlimited number of zones and is available with an illuminated map, recorder and hard-copy printer. The STI-390B is also capable of communicating with most alarm panels or control systems.

STI-390B TECHNICAL SPECIFICATIONS*

No degradation in performance when exposed to or operated in the following environmental conditions.

STI-390B FENCE VIBRATION SYSTEM SPECIFICATIONS

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

VIBRATION SECURITY SYSTEM UNIT (VSSU)



Description

The VSSU is an outdoor transponder unit for vibration detection system STI-390B. It is designed to process signals gathered from the fence-mounted vibration sensors and to transmit alarms to a control center. Each VSSU unit can serve up to four vibration sensor assemblies, where each zone-assembly can extend to about 150 meters in length (normally, the sensors are spaced 2.5 - 3 meters apart along the information cable).

STI-290B Fence Vibration System

Safeguards Technology offers an advanced “shaker” Fence Vibration System featuring enhanced reliability, low false alarm rate, and ease of installation. The STI-290B is designed to detect attempted intrusion over or through a perimeter fence. The vibration sensors fasten to the fence fabric, then, using geophone technology, detect vibrations caused by scaling the fence or by cutting through it. These intrusion vibrations produce electronics signals which are analyzed by the control unit.



ADVANTAGES

Suitable for All Fences

The STI-290B Fence Vibration System is a cost-effective electronic intrusion detection system based on highly reliable sensors that can be mounted on any type of fence, including chain link, welded razor mesh or welded mesh. The STI-290B can transform any fence into an intrusion-proof barrier with only minimum modification.

Supplied Ready to Install

This system is extremely easy to install. It is supplied with the sensors assembled on the cables and ready for mounting. The sensors are always installed in pairs for maximum reliability. Installation can be in any 270-degree plane with virtually no loss of sensitivity. The sensors can be individually adjusted for sensitivity. In high-risk sites, it is recommended to install a second line of sensors on the upper section of the fence to prevent any attempt to climb over the barrier with a ladder.

FENCE APPLICATIONS

- Chain link fence
- Razor mesh
- Welded mesh



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

STI-290B TECHNICAL SPECIFICATIONS*

No degradation in performance when exposed to or operated in the following environmental conditions.

STI-290B FENCE VIBRATION SYSTEM SPECIFICATIONS

Temperature Range: -40°F +140°F

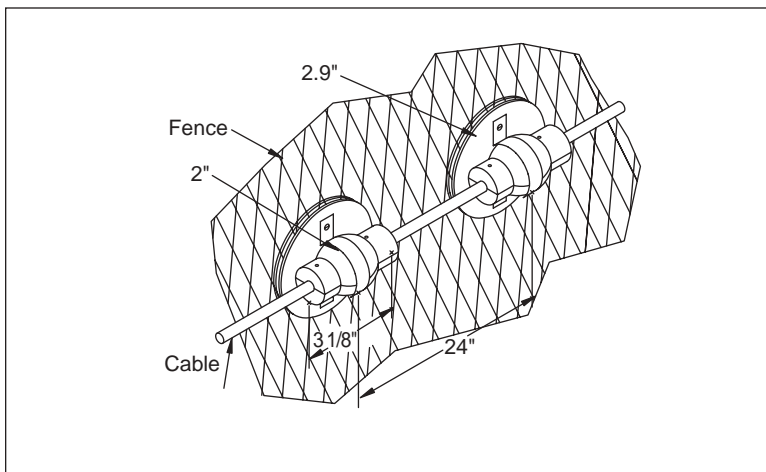
Relative Humidity: Sensors, cables and junction boxes are completely waterproof, TE-10FZ control unit up to 95%

Rain, Hail, UV Radiation: Unaffected

Lightning & Electronic Transients: Meets Mil.-SPECS A-9094D

Corrosive Salt Spray: Resistant

EMI/RFI Processor: Protected against induced voltage and no disturbance induced in regular activation



STI-290B FENCE VIBRATION SENSOR

Reliable Operation

The STI-290B sensors are made from a special high-resistant, long-lasting plastic that require 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-290B meets strict military specifications.

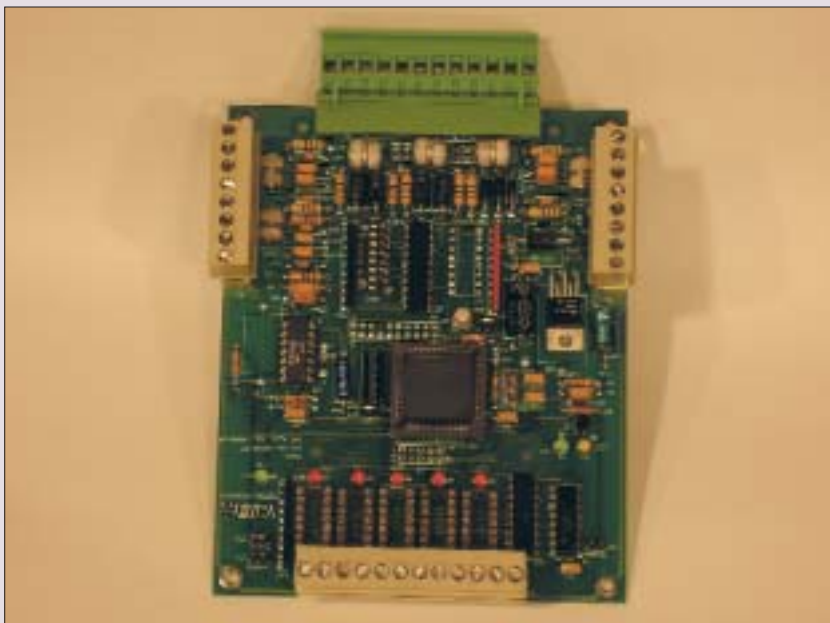
Central Control

The STI-290B can be linked to a Perimeter Control Center (PCC) that analyzes data from the sensors, filters out false alarms, and then informs the guardhouse of unauthorized intrusion attempts, specifying the precise zone of entry. An audible alarm is sounded when an alarm signal is received from any zone.

A Perimeter Control Center (PCC) is capable of supervising an unlimited number of zones and is available with an illuminated map, recorder and hard-copy printer. The STI-290B is also capable of communicating with most alarm panels or control systems.

In the event of an electricity breakdown, a rechargeable battery, can automatically power the control unit for up to 24 hours.

VIBRATION SECURITY SYSTEM UNIT (VSSU)



Description

The VSSU is an outdoor transponder unit for vibration detection system STI-290B. It is designed to process signals gathered from the fence-mounted vibration sensors and to transmit alarms to a control center. Each VSSU unit can serve up to four vibration sensor assemblies, where each zone-assembly can extend to about 150 meters in length (normally, the sensors are spaced 2.5 - 3 meters apart along the information cable).

*Specifications subject to change without prior notice.

Welded Razor Mesh® Fence

Safeguards Technology's Welded Razor Mesh Fence is the ideal solution for perimeter fences where a fierce visual, mental and physical barrier is required.

Razor blade design makes the fence virtually impossible to climb and the welded mesh pattern requires approximately 25 separate cuts before a person can even attempt to climb through.

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



ADVANTAGES

- Virtually impossible to climb over or cut through
- Visual mental deterrent
- Formidable physical barrier
- Neat unobtrusive design
- Extremely rigid, ideal for fence mounted sensors
- Can easily be added to existing fences, gates, and sally ports, or used as a stand-alone perimeter fence
- Constructed of high quality tensile steel
- Does not have to be constantly retensioned, as does chain link
- Does not require highly skilled workers for installation
- Comes in manageable panels for easy installation
- Low maintenance
- Can assume the central role in delay fence configurations



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

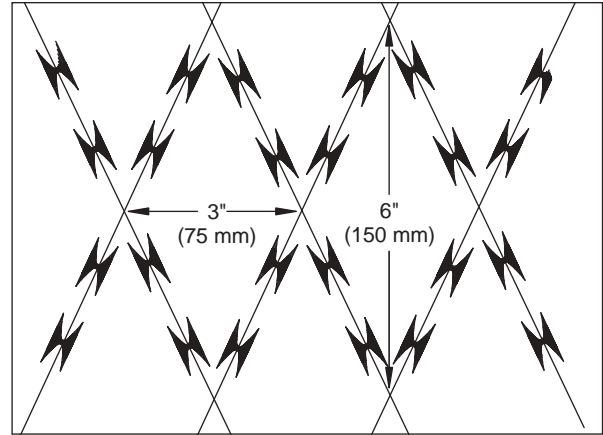
WELDED RAZOR MESH TECHNICAL SPECIFICATIONS*

DIMENSIONS

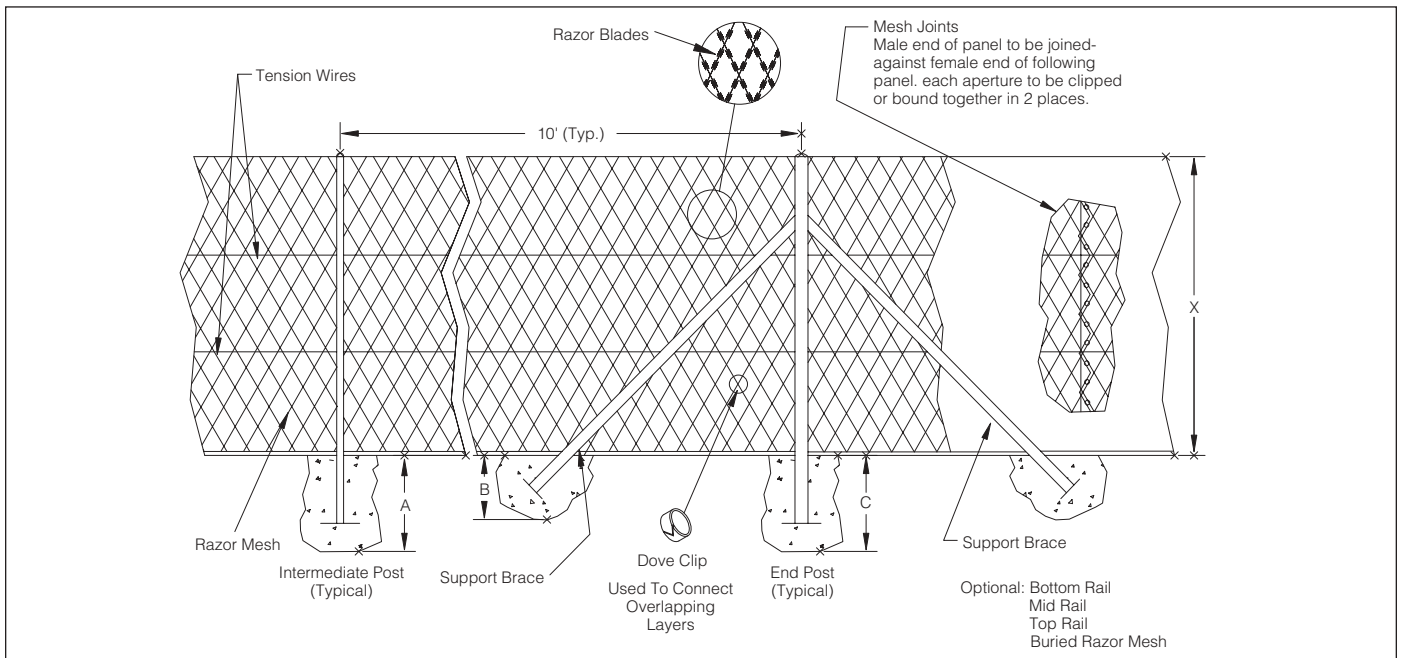
Standard Heights: 7'6"
Aperture Size: 3" x 6" high density
Standard Panel Length: 20'6"

BLADE SPECIFICATIONS

Blade length: 0.98" (25 mm)
Blade thickness: 0.02" (0.5 mm)
Blade width: 0.74" (19 mm)
Blade spacing: 1.97" (50 mm)



HIGH DENSITY MESH PROFILE



TYPICAL MOUNTING CONFIGURATION



TYPICAL SHIPPING METHOD

*Specifications subject to change without prior notice.

Welded Mesh Security Fencing

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



GENERAL USES

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

STI-Welded Mesh security fencing is the essential solution to hardening perimeters for property protection. It offers the benefits of masonry walls at or below the cost of other wire barriers.

With STI-Welded Mesh fencing you get a virtually impenetrable barrier that outlasts and out performs nearly all other fencing options.

STI-Welded Mesh is available in a variety of mesh configurations thereby making it an aesthetically appealing choice for a wide variety of installations.

2.4 X 2.4 WELDED MESH

2.4 Welded Mesh features superior performance and is cost competitive to 2", 9-gauge chain link fence. In addition, because each individual wire is welded, the material is more difficult to climb and cut than chain link fence.



MOST POPULAR MESH SIZES

- 1/2" x 3" 8-gauge for highest security needs
- 2" x 2" 8-gauge for medium security needs
- 2.4" x 2.4" 9-gauge for basic perimeter requirements



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

WELDED WIRE MESH STANDARD SIZES*

| Wire Size | | | | Approx. lbs./100 sq. ft. | | | |
|------------------------|-----------------------|-------|----------------------|--------------------------|-----|-----|-----|
| Spacing of Cross Wires | Spacing of Line Wires | Gauge | Decimal Size of Wire | P/S | GBW | GAW | PVC |
| 3 | 3 | 11 | .1205 | 32 | -- | 34 | 41 |
| 2.4 | 2.4 | 9 | .148 | .67 | | | |
| 2 | 4 | 11 | .1205 | 36 | -- | 38 | 43 |
| 2 | 2 | 8.5 | .155 | 79 | -- | 83 | 101 |
| 0.5 | 3 | 8 | .162 | 198 | -- | 210 | -- |

* Other sizes available. Available in galvanized, green or black.



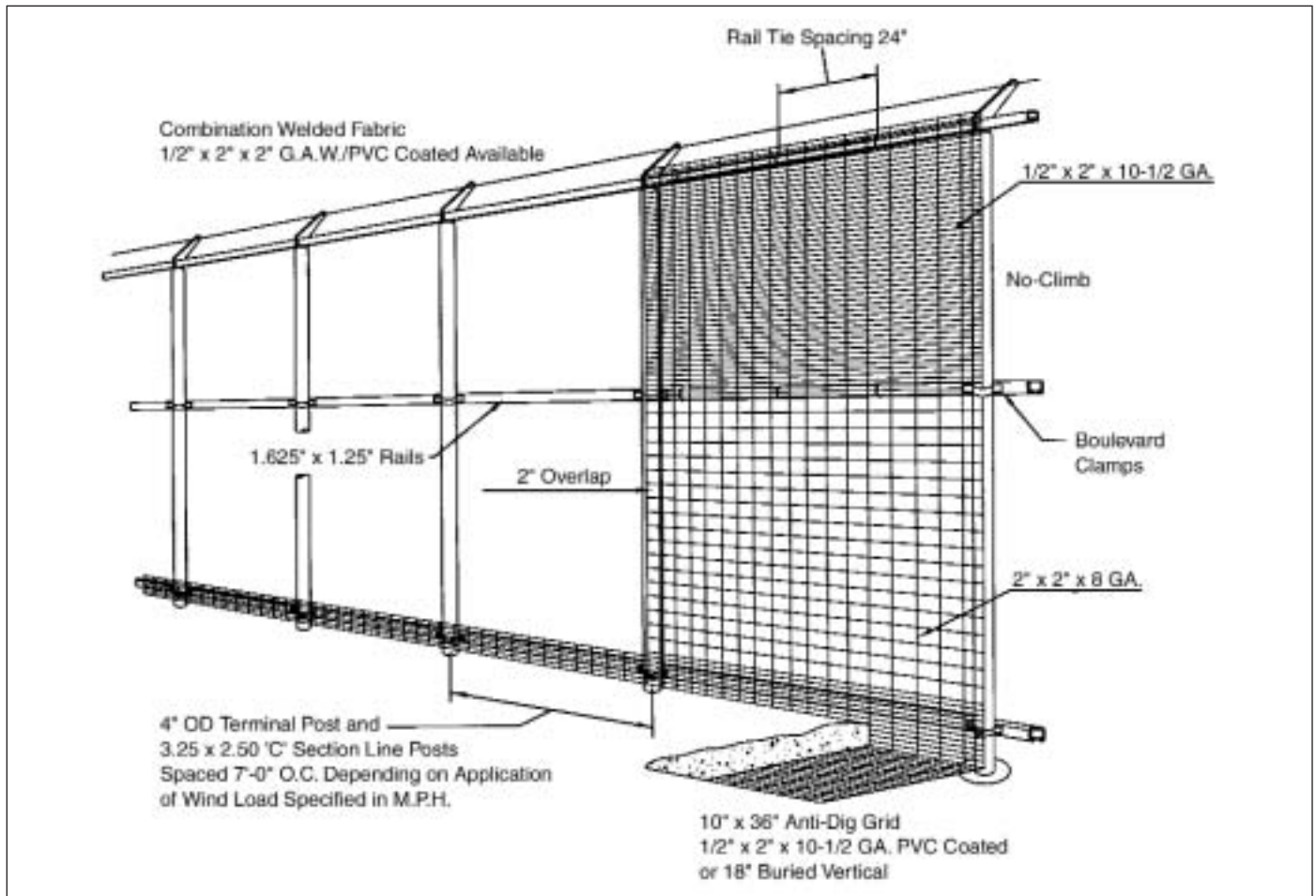
WELDED MESH "C" POST OVERLAP



WELDED MESH "C" POST MOUNT



WELDED MESH CORNER POSTS



TYPICAL WELDED MESH FENCE CONFIGURATION

*Specifications subject to change without prior notice.

Palisades High Security Fencing

Safeguards Technology's 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.

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



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



Appearance

The Palisades fence has an attractive appearance and can be color coated to blend with any type of surroundings. It will maintain its attractive look and bright tough finish years after the original installation. The Palisades is also able to follow ground contours making it suitable for many applications.

Deterrent Features

The Palisades pointed steel pales serve as a formidable obstacle. The steel pales defeat attempts at climbing, straddling, grabbing or gaining a foot hold. The spacing between posts allows no hiding place for the intruder and allows security personnel to monitor suspicious movements both inside and outside site perimeters.

Durability

The Palisades fence is constructed of premium Hot Rolled Profiled steel

pales that are galvanized and then coated with a polyester powder coated finish. Stainless steel is also available uncoated. These pales are able to resist attempts to pry, ram, bend, or cut. The Palisades installation is made more simple through the use of high tensile, anti-vandal locking bolts, rather than welding the rails together.

Longevity

The Palisades Fence provides exceptional resistance to harsh atmospheric conditions and has an expected lifetime in excess of 25 years. It is a cost effective alternative to wrought iron fencing.

Customized

The height and configuration of the Palisades can be custom made to the client's needs. It can be mounted on gates, therefore providing the same deterrent to climbing, cutting and dismantling.

PALISADES FENCE 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:

Length of point: 4.8"; Length of splay: 3.6" ; Set of splay: 1.6"

Main Post – One (1):

- Post per 9.85 ft. section
- Two Angle Iron Braces (2" x 2" x 1/4") per 9.85 ft. section

Spikes:

(to be fitted between top rail and pale)

Thickness: 0.064"

Spike height: 1.6"

Spikes per feet: 1.9

Hardware:

- Special Classic Steel anti-vandal shear nuts as supplied by Safeguards Technology.
- 5/16" for pales
- 1/2" for rails

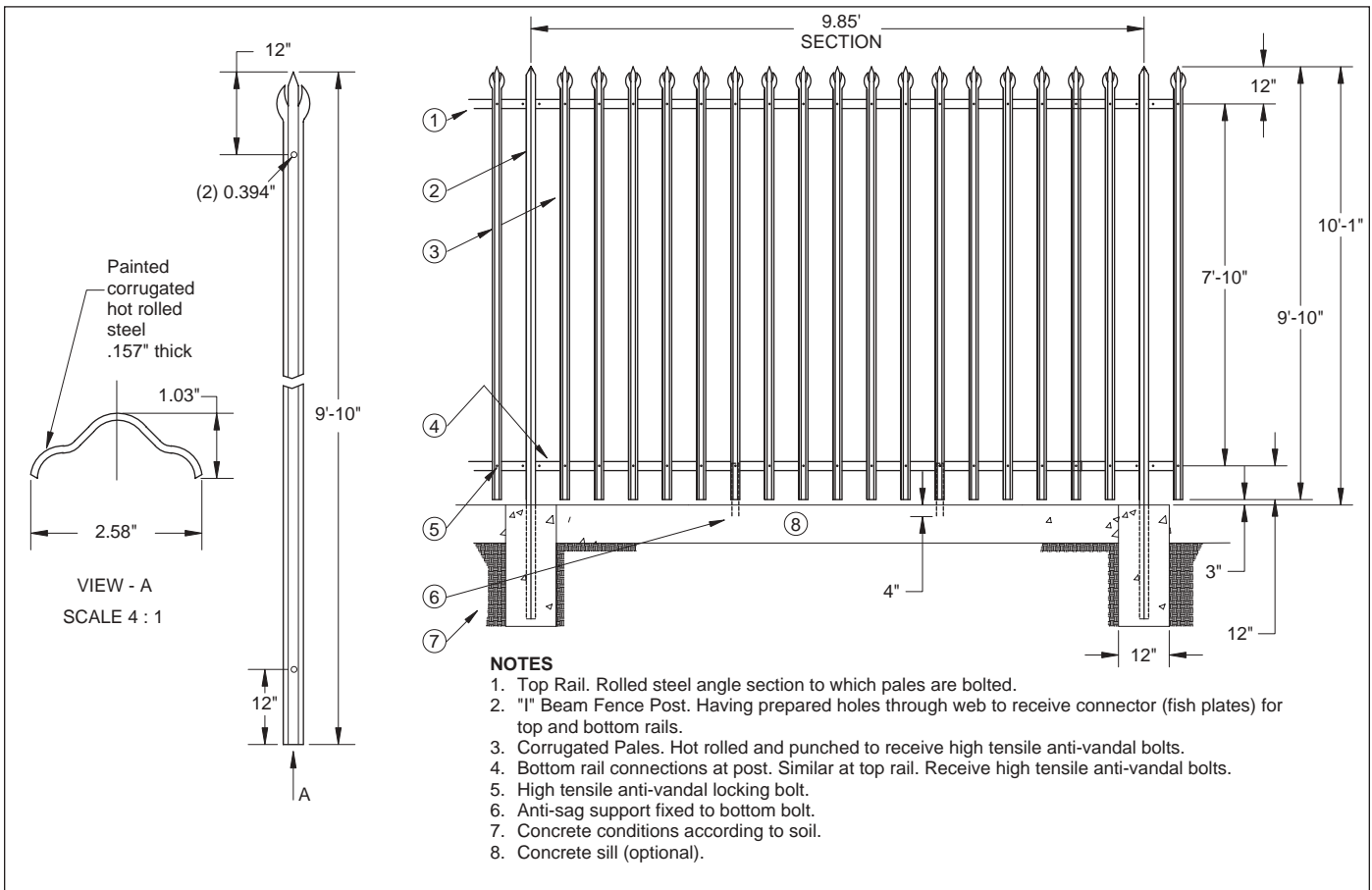


TRIDENT STYLE



SPEARPOINT STYLE

PALISADES FENCE TYPICAL CONFIGURATION



*Specifications subject to change without prior notice.

Rapid Deployment Mobile Barrier Systems

Safeguards Technology's Rapid Deployable Mobile Barrier Systems are rapidly deployable razor wire fencing systems that are deployed from towable trailers. The entire product line including the HD-300, the Load Lifter, and the Modular Barrier System enable the user to dispense, virtually hands free, thousands of meters of preconstructed pyramid barrier at incredible speed. Rapid deployment provides immediate protection and, in the case of restless mobs, a clear signal of who is in control. The Rapid Deployable Mobile Barriers are a cost-effective means of deploying a three or six coil razor or entanglement barrier for use in ground control, temporary protection of a building, or as a temporary prisoner of war containment area.

No police or military organization can afford to be without this valuable tool.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



FEATURES

Barbed Tape Concertina/Razor Wire is already well known in the security industry as a highly effective barrier incorporating razor sharp barbs that cut and grip an intruder. The nature of the product, however, provides a logistical problem in that it is difficult to handle, deploy and virtually impossible to recover. Safeguards Technology Rapid Deployment Barrier Systems allow for full and simple deployment and recovery of the razor wire hundreds of times. Collection of the wire coils may be done semi-manually or automatically using a motorized collector.

Applications include crowd control and riot prevention, prisoner short term detention, site security, augmented fence perimeter security, and quick site security protection. The Rapid Deployable Mobile Barrier Systems also include a mechanically assisted means of recovering the barrier and "on-site" compaction into modules for ease of handling and storage.

The standard modules stretch to 75 meters and are joined together

for the deployment of multiple modules in "one drop." Lengths of modules can be altered to suit users' requirements.

SYSTEM CONCEPT

The system is designed to provide rapid protection — 75 meters (246 ft.) to 1000 meters (3,280 ft.) barriers 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.

Barriers are fully recoverable and re-useable.

Equipment is supplied to uplift 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.

Systems can be tailored to meet customer's exact requirements.

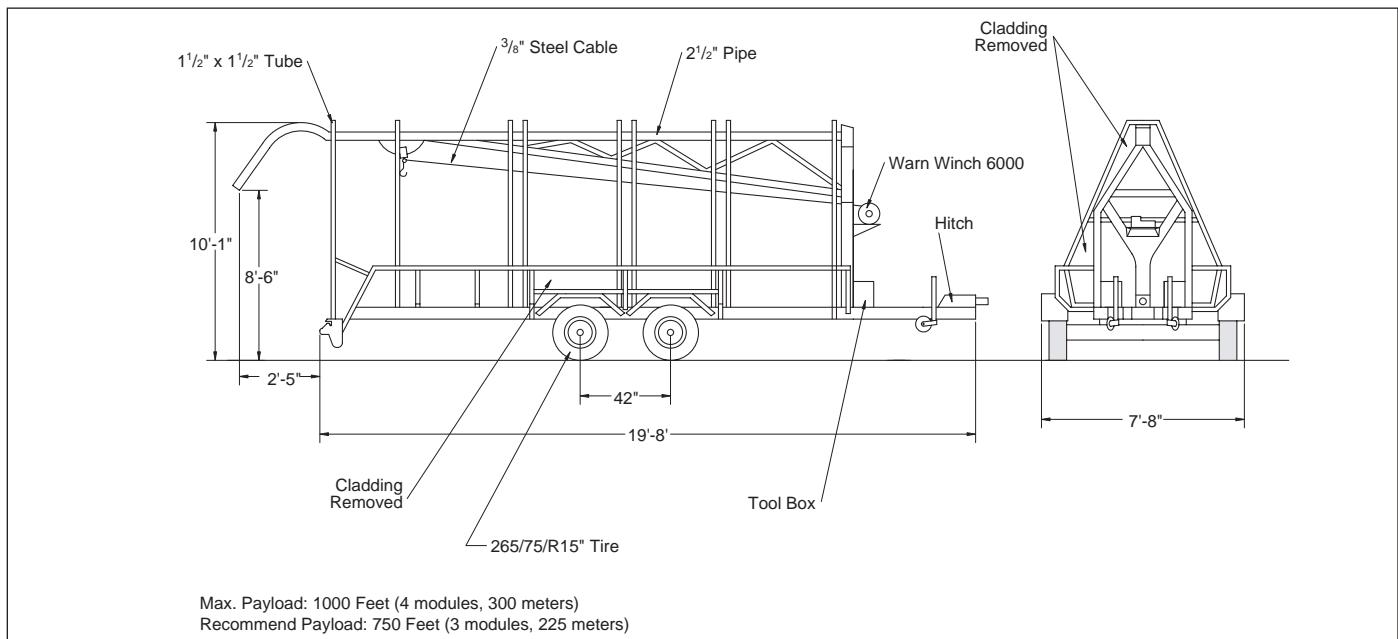
LOAD LIFTER DEPLOYMENT OF 3 x 150' BARRIER MODULES



Options

- 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

HD-300 TRAILER SPECIFICATIONS*



TYPICAL HD-300 RAPID MOBILE BARRIER CONFIGURATION

HD-300 MOBILE RAPID BARRIER SYSTEM SPECIFICATIONS*

HD-300 TECHNICAL SPECIFICATIONS

- 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 4 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 (1,984 feet); Barrier in 20 foot Container

NOTE:

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

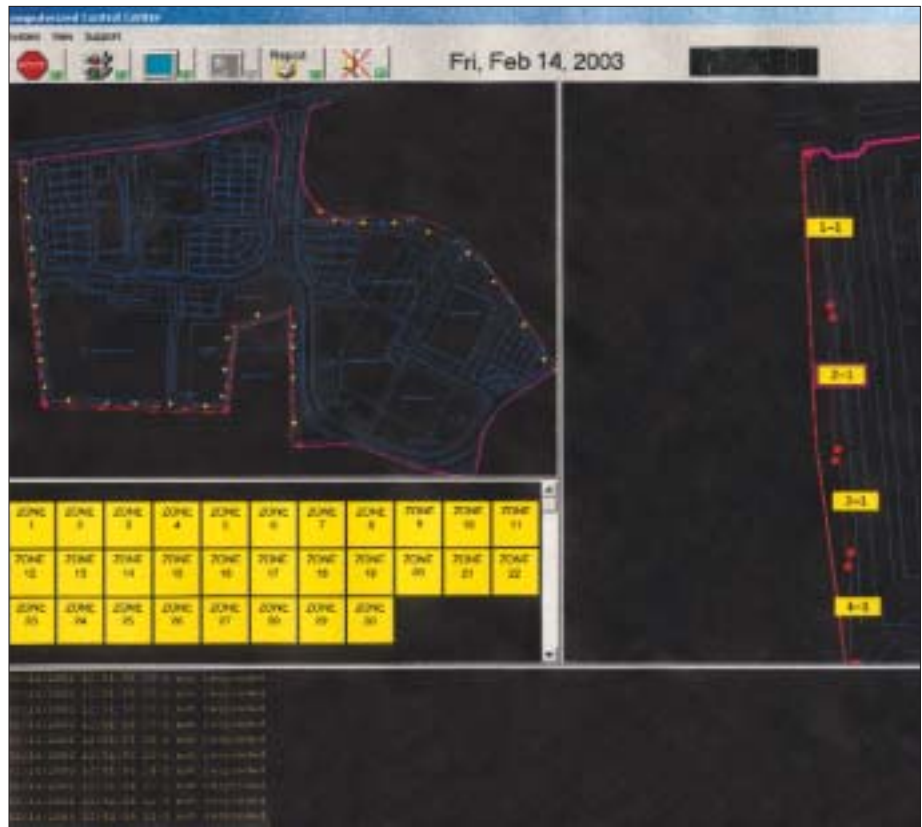
Perimeter Control Center

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 PCC displays the information on a graphic display monitor. In addition to displaying the data, the PCC 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. The PCC can interface with the Safeguards Taut Wire Perimeter Intrusion Detection Systems, STI Fence Vibration Systems, STI-Absolute IR/MW Intrusion Detection System, STI-103 Seismic Detection System, Fiber Optic Detection Cable, or any dry contact alarm system (such as PIR, volumetric, smoke, or fire.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



Continuous Broad Communication

The data gathered from the active sensors of various alarm systems is processed through Multi Purpose Reporting Units (MRUs), Vibration Sensor System Unit (VSSU)s, and or Multi Purpose Fiber Optic Reporting Units (MFRU)s. The reporting units convert the sensor data into digital form and transmit this data to the perimeter control center.

In the Taut Wire configuration, the PCC incorporates closed-loop communication that maintains continuous contact with the system's reporting units even in the event of a break in the communication line. Communication with the reporting unit is bi-directional.

PCC System Configuration

One PCC can monitor unlimited reporting units, each of which can handle up to 7 inputs. Each PCC can also output up to 6 commands, such

as intrusion alarms, floodlights, sirens, CCTV, etc. Approximate on-screen instructions alert the PCC operator to a change in status. One or more PCC can be linked by standard modem and telephone lines to a host computer, which can display global system data (graphics and text).

The PCC 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.

The PCC configuration for a particular site is designed and constructed to the site layout and security requirements. The PCC 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.

Built- in Automatic Self-Test

The PCC 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 PCC 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.

HARDWARE REQUIREMENTS

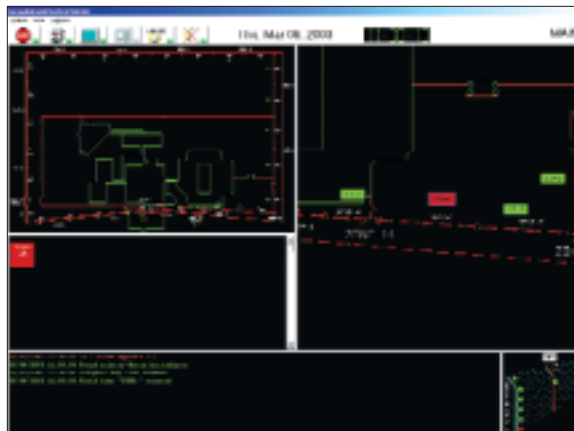
Industrial Grade Computer: Pentium 3 or higher

Memory: 650k bytes of RAM and 20m bytes of hard disk storage

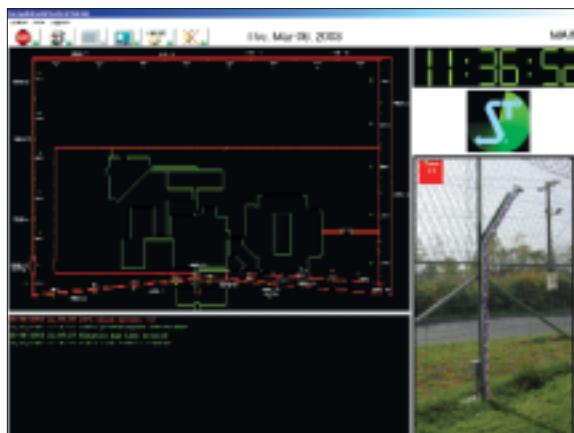
Display: Enhanced graphic color display unit and adaptor

System Interface: Special Safeguards system interface with communications and lightning protection

Keyboard: Special rugged, numeric-function keypad (supplied by Safeguards)



SCREEN DISPLAY – ALARM CONDITION



MAIN SCREEN DISPLAY

*Specifications subject to change without prior notice.

STI-3010 Mobile Map Graphic Display System

Safeguards Technology's STI-3010 Mobile Map is a reliable Mobile Radio Graphic Display System. The STI-3010 can be integrated with a perimeter intrusion detection system, with or without control units. Alarms received by the Mobile Map encoder are checked and formatted into an error-checking frequency-shift-keying (FSK) signal which is sent to the radio transmitter for wireless signaling to the Mobile Map Radio Graphic Displays. The radio signal is received no matter where the location of the STI-3010 display. The alarm information is checked for accuracy, then displayed on the graphic front panel map of the STI-3010 display producing an audible warning signal. The audible warning can be silenced using the top-mounted acknowledge switch. However, any new alarm appearing at the mobile map unit will cause the audible alarm to resound.



CONSTANT SUPERVISION

The STI-3010 is continually supervised "in use" for both communications to the central control unit and interference by outside signals. The STI-3010 encoder periodically sends a test signal to each STI-3010 regardless of whether alarms are present or not. Each display continuously checks for transmissions from the transmitter and for unidentified radio signals on the designated radio frequency.

ALARM SIGNAL TRANSMISSION

Separate front panel lamps indicate loss of communications with the central transmitter and/or the presence of an interference signal. The STI-3010 encoder can format and transmit up to 64 independent alarm signals plus an optional security code to each STI-3010 mobile radio graphic display. An optional touch screen mobile map is also available.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.

STI-3010 TECHNICAL SPECIFICATIONS***MOBILE RADIO GRAPHIC DISPLAY**

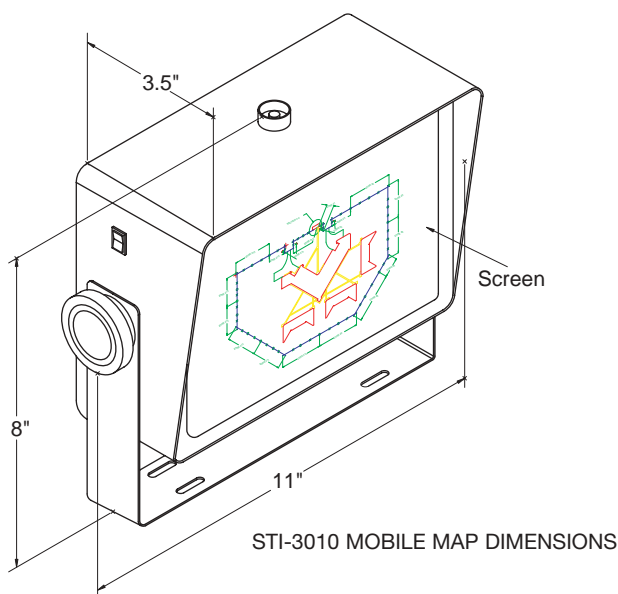
Frequency: 450-470 MHz
 Sensitivity: 0.5 μ V
 Signal-to-Noise Ratio: 12 dB SINAD
 Signal Decoder: FSK
 Circuit Logic: CMOS
 Power Supply: 12 VDC, 1 amp from vehicle battery
 Screen: 1/4-inch polycarbonate display
 Alarm Lamps: Ultrabrite LEDs
 Dimensions: 8" x 11" x 3.5", plus sunshield;
 Weight: Approx. 3.5 lbs.

RADIO TRANSMITTER

Frequency Range: 450-470 MHz
 Power Output: 2 watts into 50 ohms
 Signal Input: Current loop from encoder unit
 Power Supply: 12 VDC, 1 amp plug-in power supply (included)
 Enclosure: 12" x 12" x 4"

ALARM ENCODER

Alarm Inputs: 8 per basic unit.
 Expandable in groups of 8 to a maximum of 64
 Signal Output: 2-wire "telephone line" current loop.
 Transmits up to 3000 feet.
 Power Supply: 12 VDC, 1 amp provided from wall-mounted plug-in transformer
 Enclosure: 12" x 12" x 4"
 Weight: Approx. 5 lbs.



*Specifications subject to change without prior notice.

STI-3010 MOBILE MAP ACCESSORIES**STI – Graphic Interface Unit**

Connecting your Graphic Display Annunciator to other systems usually requires an interface between the output signals of the driving system and the graphic display lamps. STI developed the Graphic Interface Unit (GIU) to solve interface problems. The GIU is a microcontroller-based interface circuit board. It mounts on the reverse side of the graphic display and handles interface requirements in software. Features of the GIU include:

- up to 128 inputs, expandable to 256
- optional RS-232 interface
- closed contact switching or switching transistor alarm inputs
- individual inputs/outputs on board
- multiple lamp capability
- software-controlled lamp interaction
- off-the-shelf software available
- annunciator programming available

STI – Special Purpose MMP Receiver

The STI Special Purpose MMP Receiver provides a compact alarm receiver, decoder, and display compatible with the Mobile Map Plus system that can be easily mounted in remote tower locations. It features the following:

- Large 2-digit numeric digital display
- REC and INT diagnostic lamps
- One button acknowledge switch officer operation
- Built-in audible device
- Powered by wall-mounted plug in transformer
- Battery back up (optional)

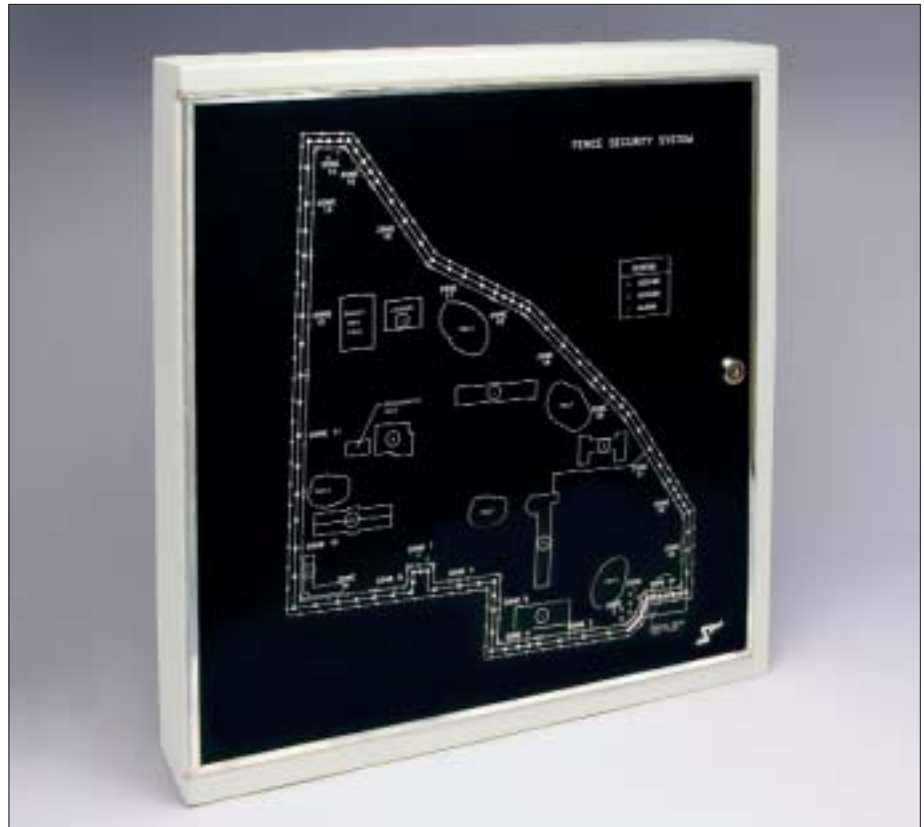
STI – Handheld MMP Receiver

STI customers have requested a handheld unit that can receive the same information as the standard Mobile Map displays. The unit can be used as a service aid and to deploy additional officers in critical situations. The Handheld MMP receiver provides a convenient rechargeable battery connection to your Mobile Map Plus radio-graphic display system. It features the following:

- 2-digit digital display
- 140 LED programmable graphic display (optional)
- REC and INT diagnostic lamps
- Rechargeable Ni-Cad battery pack (800mAh)
- Stick-on (replaceable) graphic display diagram
- One button acknowledge switch officer operation
- Built in audible device
- Lightweight
- Leather carrying case

STI-3050 Wall Mounted Alarm Annunciator Map

Safeguards Technology's STI-3050 Wall Mounted Alarm Annunciator Map provides a highly accurate graphic display that allows security personnel to effectively respond to an alarm condition. The poly-carbonate non-glare graphic surface provides for excellent visual recognition. LED's indicate the status or change in status of each individual alarm zone and sector.



STI-3050 Wall Mounted Alarm Map Systems consist of a custom-designed graphic faceplate and enclosure. The faceplate consists of a .1875-inch 6061-T1 aluminum substrate with a .02-inch polycarbonate graphic display bonded to the aluminum surface. All LED lamps and other equipment are mounted to the aluminum substrate. The graphic representation is photographically produced on the reverse (back) side of the polycarbonate sheet on a non-glare, velvet-textured surface. The graphic presentation can be provided

in one or more of 11 distinct colors. For example, a typical display will show the fence line and buildings in bright blue, alarm areas and zones in white, and alarm zones and wording in red. Accents and special features will be provided in yellow, orange, and green.

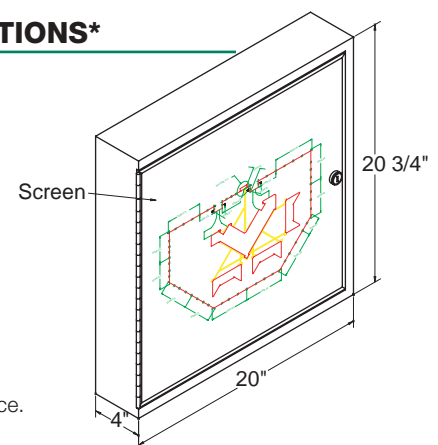
The synoptic map shows the protected perimeter in a schematic form. Typically, three indicator lights (red, yellow and green) are associated with each protected zone. Optionally, the map can be made active by being fitted with a micro-controller module.

STI-3050 WALL MAP SPECIFICATIONS*

Maps built to customer requirements.

ALARM ANNUNCIATOR MAP

Graphic Faceplate: Custom Made
Enclosure: Standard 19-inch EIA mounting rails or custom made
Graphic Presentation: Custom Made
Voltage: According to Client Specifications



* Specifications subject to change without prior notice.



75 Atlantic Street
 Hackensack, NJ 07601
 Tel: 201-488-1022
 Fax: 201-488-1244
 www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.

Multi Purpose Reporting Unit

Safeguards Technology's Multi Purpose Reporting Unit "MRU" is a state-of-the-art system interface capable of reporting multiple sensor alarms to the Perimeter Control Center (PCC) or other control unit.

The STI Multi Purpose Reporting Unit "MRU", provides for effective reporting of multiple sensor alarms. It provides 8 sensor inputs and 12 output relays and features unique input to output logic-related connections for local independent control. It also enables independent control of each output relay via communication line.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

© 2005 SAFEGUARDS TECHNOLOGY, INC.



FEATURES:

- Versatile security system transponder for indoor and outdoor applications
- 8 sensor inputs
- 12 control outputs
- RS-422 or dry contact data output

MRU TECHNICAL SPECIFICATIONS*

GENERAL PURPOSE REPORTING UNIT-GPRU SPECIFICATIONS

Input: 8 dry contacts output

Output: 12 relays + 1 relay for "Fail"

Input voltage: 9-30 V dc

Current requirements: 12 mA quiescent; 140 mA all relays at hold; 240 mA all relays at hold in optical transmission

Temperature: -40°F to 140°F

Size: Weatherproof enclosure per NEMA

Data Input: Transponder Interrogation RS-422

Data Output: Transponder response RS-422/dry contact (option)

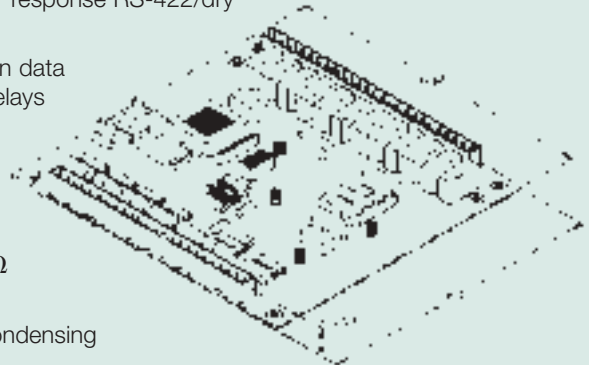
Transient Suppression: On data and power input and on relays output contacts

Control: Independent control of output relays via communication line.

End of line resistor: 3.9kΩ (or as required)

Humidity: 20% to 95% condensing

Weight: 7.4 lbs. (with the enclosure)



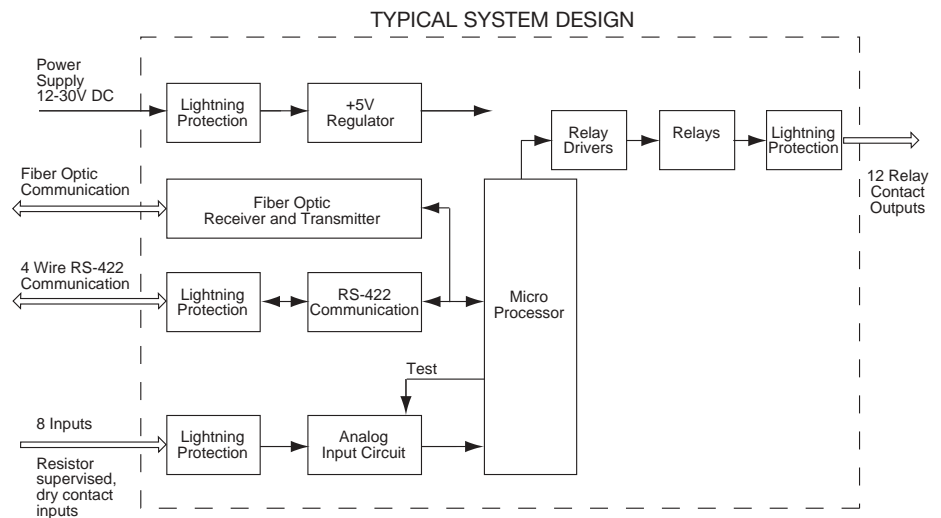
*Specifications subject to change without prior notice.

Multi-Purpose Fiber Optic Reporting Unit

Safeguards Technology's Multi Purpose Fiber Optic Reporting Unit "MFRU" is used for effective reporting of multiple sensor alarms. It provides 8 supervised sensor inputs and 12 relay outputs. The MFRU features unique input/output, logic-related contacts for local independent control. It also enables independent control of each output relay via communication line. The unit acts as an optical signal transponder to enable a daisy chain type of multi-unit connection.

FEATURES:

- Versatile security system transponder
- For indoor or outdoor applications
- 8 sensor inputs
- 12 control relay outputs
- Fiber optic communication



MFRU TECHNICAL SPECIFICATIONS*

MULTI PURPOSE FIBER OPTIC REPORTING UNIT SPECIFICATIONS

Input: 8 supervised sensor contacts

Output: 12 relays + 1 relay for "Fail" (dry contacts 500mA at 50V)/Fiber Optic

Data Input: Fiber Optic via ST connectors

Data Output: Transponder response; fiber optic

Control: Independent control of output relays via supervised communication line

End of Line Resistor: 3.9kΩ (or as required)

Input Voltage: 12-30V DC

Current Requirements: 100 mA quiescent; 240 mA all relays at hold; 120 mA all relays on hold in optical transmission

Transient Suppression: On data and power input and on relays output contacts

Operation Temperature: -40°F to 140°F

Humidity: 20% to 95% condensing (in weatherproof enclosure)

*Specifications subject to change without prior notice.



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

Safeguards Technology Inc. Client List

Safeguards Technology, Inc. has been serving various markets and industries located throughout the world since 1982.

MARKETS AND INDUSTRIES SERVED

- Airports
- Banking
- Chemical
- Communications Facilities
- Computer Sites
- Correctional Facilities
- Electrical Utilities
- Government Buildings
- Nuclear Facilities
- Nuclear Power Plants
- Manufacturing
- Military
- Natural Gas Storage Facilities
- Petroleum Storage Terminals
- Pharmaceuticals
- Ports
- Railway Facilities
- R&D Sites
- Refineries
- Sensitive Buildings and Land Areas
- United States Government



75 Atlantic Street
Hackensack, NJ 07601
Tel: 201-488-1022
Fax: 201-488-1244
www.safeguards.com

CORRECTIONAL FACILITIES

| | |
|---|-----------------------|
| 1000 Cell Close Security Facility..... | Anson County, NC |
| 1000 Cell Close Security Facility..... | Alexander County, NC |
| 1000 Cell Close Security Facility..... | Bertie, NC |
| 1000 Cell Close Security Facility..... | Maury, NC |
| 1000 Cell Close Security Facility..... | Scotland County, NC |
| Albemarle Correctional Facility..... | New London, NC |
| Anamosa State Penitentiary | Anamosa, IA |
| Avery Mitchell Correctional Facility..... | Spruce Pine, NC |
| Bedford Hills Corp. Facility | 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 | Holdbrook, MA |
| Central Booking & Intake..... | Baltimore, MD |
| Charles Moore Unit | Bonham, TX |
| Charleston Detention Center | Charleston, SC |
| Chester Correctional Facility | Chester, PA |
| Chuckawalla Valley Correctional Facility..... | Blythe, CA |
| Clallam Bay Correctional Facility..... | Clallam Bay, WA |
| Clemens Unit..... | Brazaria, TX |
| Clinton Correctional Facility | Danamora, NY |
| Cotulla Unit..... | Cotulla, TX |
| Coxsackie Correctional Facility | Coxsackie, NY |
| Craven Correctional Facility | Vanceboro, NC |
| Delaware Correctional Facility..... | Smyrna, DE |
| Diboll Unit..... | Diboll, TX |
| Downstate Correctional Facility | Fishkill, NY |
| El Dorado Correctional Facility..... | El Dorado, KS |
| Ellis I Unit..... | Huntsville, TX |
| Ellsworth Correctional Facility | Ellsworth, KS |
| Elmira Correctional Facility..... | Elmira, NY |
| Estelle Unit | Huntsville, TX |
| Fairfax County Jail | Fairfax, VA |
| Five Points Correctional Facility | Seneca, NY |
| Foot Hills Correctional Facility..... | Morganton, NC |
| Fort Dodge Correctional Facility | Fort Dodge, IA |
| Fort Stockton Unit..... | Fort Stockton, TX |
| Fulton Diagnostic Center | Fulton, MO |
| Golden Grove Correctional Facility | St. Croix, U.S.V.I. |
| Goodman Unit..... | Jasper, TX |
| Hocking Correctional Facility | Nelsonville, OH |
| Hyde Correctional Facility | Hyde, NC |
| Ionia Level 4 Correctional Facility..... | Ionia, MI |
| Iowa Medical Correctional Center..... | Oakdale, IA |
| Iowa State Penitentiary..... | Ft. Madison, IA |
| Jackson Correctional Facility | Black River Falls, WI |
| Jamesburg Training Center | Jamesburg, NJ |
| Kershaw Correctional Facility..... | Kershaw, SC |
| Lakeview Shock Unit..... | Rockland, NY |
| Larned Mental Health Facility | Larned, KS |
| Leblanc Unit | Beaumont, TX |
| Luther Unit | Navasota, TX |
| Maine State Prison | Warren, ME |



CORRECTIONAL FACILITIES (CONTINUED)

| | |
|--|-----------------------|
| Marion Correctional Facility..... | Marion, NC |
| Maryland Correctional Training Center..... | Hagerstown, MD |
| Maximum Prison Facility..... | Cranston, RI |
| McDougal Correctional Facility..... | Suffield, CT |
| Minnesota Correctional Facility..... | Stillwater, MN |
| Minnesota Correctional Facility..... | Rush City, MN |
| Morre Unit..... | Bonham, TX |
| Mt. Pleasant Correctional Facility..... | Mt. Pleasant, IA |
| Newton Correctional Facility..... | Newton, IA |
| Northern Corp. Facility..... | Somers, CT |
| NY Central Psychiatric Center..... | Marcy, NY |
| Old Colony Correctional Facility..... | Bridgewater, MA |
| Pamlico Correctional Facility..... | Bayboro, NC |
| Pasquotank Correctional Facility..... | Pasquotank, NC |
| Pickaway Correctional Inst..... | Orient, OH |
| Pitches Honor Jail (North Facility)..... | Saugus, CA |
| Pltches Honor Jail (South Facility)..... | 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 Facility..... | Walkill, NY |
| Somerset State Hospital..... | Somerset, PA |
| Southern Ohio Correctional Facility..... | Lucasville, OH |
| Southport Correctional Facility (Chemung)..... | Pine City, NY |
| Stafford Creek Correctional Facility..... | Stafford Creek, WA |
| State Correctional Institution..... | Pittsburgh, PA |
| Suffolk County Jail..... | Boston, MA |
| Sullivan Correctional Facility..... | Woodburn, NY |
| Taycheedah Correctional Facility..... | Fond du Lack, WI |
| Toledo Correctional Facility..... | Toledo, OH |
| Tulia Unit..... | Tulia, TX |
| United States Penitentiary (FBOP)..... | Atwater, CA |
| Walls Unit..... | Huntsville, TX |
| Warren Correctional Facility..... | Menson, NC |
| Wende Correctional Facility..... | Alden, NY |
| Willard Drug Treatment Center..... | Willard, NY |
| WRDC, Missouri Dept. of Correction..... | St. Joseph, MO |

INDUSTRIAL CLIENTS

| | |
|---------------------------------|--------------------|
| Baker Roberts Construction..... | Pasco, WA |
| Boeing North America..... | Classified |
| Chevron..... | Salt Lake City, UT |
| Commonwealth Electric Co..... | Lincoln, ME |
| E.I.Dupont..... | Wilmington, DE |
| E-Systems, Inc..... | Greenville, TX |
| Reynolds Elec. & Eng. Comp..... | Classified |
| Stone & Webster Engineers..... | Boston, MA |

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 |

NUCLEAR / ENERGY FACILITIES

| | |
|--|---------------------------------|
| Alabama Power Company..... | 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 |
| Kansas Gas & Electric Co..... | Wolf Creek Nuclear Plant, KS |
| LaSalle Generating Station..... | Marseilles, IL |
| Limerick Generating Station..... | Pottstown, PA |
| Lowell Gas Company..... | Wilmington Storage Terminal, MA |
| Lowell Gas Company..... | Westford Satellite |
| Macon Storage Room..... | Atlanta, GA |
| Niagra Mohawk Power Co..... | 9 Mile Nuclear Gen. Station, NY |
| Oyster Creek Nuclear Generating Station..... | Forked River, NJ |
| 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 Creek Nuclear Plant..... | Hancock's Bridge, NJ |
| Quad Cities Nuclear Power Station..... | Cordova, IL |
| Sohio Pipeline Company..... | Zawalla Station |
| Three Mile Island..... | Middletown, PA |
| Vogtel Nuclear Plant..... | Waynesboro, GA |

INTERNATIONAL CLIENTS

Brazilian Aeronautical Society
 Canada-Ontario Hydro (Darlington, Pickering, & Bruce B. Nuclear Power Plants)

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. Dupont..... | 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 |
| St. James Terminal SPR..... | St. James, LA |
| Strategic Pet. Reserve..... | New Orleans, LA |
| Sulpher Mines SPR..... | Sulpher, 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 Hanford, Co..... | Richland, WA - 400 area |
| Westinghouse Nuclear Corp..... | Hanford, WA |
| Westinghouse Sav. River Co..... | Aiken, SC |
| Y-12..... | Oakridge, TN |





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..... | Dyass, TX |
| U.S. Air Force..... | Edwards A.F.B., CA |
| U.S. Air Force..... | Eglin A.F.B., FL |
| U.S. Air Force..... | Grandforks, 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 |
| 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 |
| Pearl Harbor Naval 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..... | Paxtuxent River, MD |
| U.S. Navy..... | Roosevelt Roads, PR |
| U.S. Navy..... | Rota, Spain |
| U.S. Navy..... | Signella, Cubi Point |
| U.S. Navy..... | Subbase, New London, CT |

AIRPORTS

O'Hare International Airport.....Chicago, IL

OTHER

| | |
|--|-------------------|
| American Hebrew Academy..... | Greensboro, NC |
| Amtrak | Los Angeles, CA |
| Bergen County Prosecutor's Lot..... | Hackensack, NJ |
| Bushwick Family Shelter | Brooklyn, NY |
| Center for Disease Control..... | Atlanta, GA |
| Federal Reserve Bank..... | Richmond, VA |
| Los Angeles County Transportation Commission | |
| - Metro Green Line | Los Angeles, CA |
| Museum of Modern Art..... | New York, NY |
| National Institute of Health | Bethesda, MD |
| NYC Teleport, Port Authority | Staten Island, NY |
| Six Flags Great Adventure Amusement Park | Jackson, NJ |