



Wave-Guard

RADIO FREQUENCY INTRUSION DETECTION SYSTEMS



FSP-100, FSP-200 & FSP-400 Intrusion Detection Systems

Designed for:

- *Correctional Institutions*
- *Police and Protection Services*
- *Communications Towers*
- *Utility Installations*
- *Governmental Buildings*
- *VIP Residences*
- *Military Bases and Camps*
- *Hazardous-Materials Sites*
- *Storage Compounds*
- *Airports*

Wave-Guard

YOUR FIRST CHOICE IN PERIMETER PROTECTION

Introduction

Combining ease of installation with unequalled versatility, Wave-Guard perimeter protection by AuraTek Security LLC offers you the security and peace of mind you deserve.

- Versatile
- Reliable
- Discreet
- Simple to Install
- Easy to Maintain

AuraTek Security LLC is affiliated with DeTekion Security Systems, Inc., a manufacturer of perimeter security systems.

Its strength is in its simplicity

The Wave-Guard coaxial cable is simply installed around the perimeter of the building, property or assets being protected – it can be installed on a wall, along a surface, on a rooftop, underground, on a non-metallic support or even on top of a fence. This cable emits, or “leaks” multiple radio-frequency signals.

A strategically placed receiver – a single antenna, a series of small antenna or even another cable placed in parallel – monitors the signal. If there are any disturbances within

a one-meter (3.3 ft.) range of the transmitting cable, receiving cable or receiving antenna, an alarm is triggered.

Disturbances along the perimeter are analyzed by a sophisticated, digital signal-processing algorithm, a system that is able to compensate for most environmental instabilities

such as wind movement and small animals. Nuisance alarms are virtually eliminated.

The Ideal Solution

FSP-100 – Each processor can protect up to 100 meters (330 ft.) with two, 50-meter (165 ft.) zones.

FSP-200 – Each processor can protect up to 200 meters (660 ft.) with four, 50-meter (165 ft.) zones.

FSP-400 – Each processor can protect up to 400 meters (1,320 ft.) with 8, 50-meter (165 ft.) zones.

For lengthy perimeters, Wave-Guard is the ideal blend of versatility, discretion, system performance and cost.

Versatile

Wave-Guard can be buried in concrete, asphalt, gravel or soil. It can be installed on a wall, along a surface, on a rooftop, underground, on a nonmetallic support or even on top of a fence.



Rooftop Installation



Wall-mount Installation

Discreet

Wave-Guard's design offers maximum protection with a minimum change to the outward appearance of property.

Covert

This assures an increased chance of detection and a decreased chance of the system being defeated.



Underground Installation

Reliable

The system is calibrated to resist alarm activation by small animals or weather.



Surface Installation

Adaptable

Over hills, through dense bush, around corners – it can follow the contour of any terrain without leaving blind spots.



Cable to Antenna Installation



Cable to Cable Installation

Frequently asked questions

Who uses the Wave-Guard system?

The Wave-Guard system is widely used by the utilities sector (hydro, nuclear sites, water treatment plants and reservoirs), correctional facilities and law enforcement agencies.

The Wave-Guard system is also very popular in the VIP sector. The systems are also used in military applications.

How does the Wave-Guard system work?

The technology uses a leaky coaxial cable, also called ported coax, to create an electromagnetic volumetric detection field of 1 m (3.3 ft.) in radius around the coaxial sensor cable.

Are false alarms affected by weather conditions?

No. The Wave-Guard system is not affected by rain, snow, wind, falling debris, or temperature fluctuations.

Can wildlife (small animals or birds) trigger nuisance alarms?

No. The Wave-Guard system is designed to detect intruders weighing more than 30 kg. (70 lbs.) and the system can be calibrated according to your needs.

How is the system installed on metal fences?

The system can be mounted to the inside of the fence using non-metallic PVC stand-offs. It is recommended that the sensor cable be installed on the surface inside the fenced area.

Is routine maintenance required?

No. The Wave-Guard system does not require ongoing maintenance. One preventive site visit per year is recommended.

Can moving branches cause false alarms?

Wave-Guard can be used in wooded areas. In general, it is recommended that the system be set back from bushes, often a few meters are sufficient.

Will humidity cause problems for the components of the system?

No. The Wave-Guard system's printed circuit boards (PCB) are coated with a protective silicon layer that resists humidity. The cable is outdoor rated, direct burial type.

Is test equipment required?

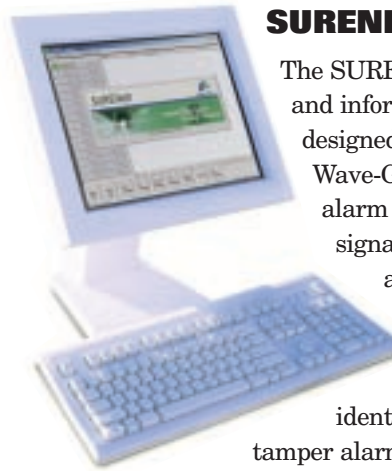
No. A PC or laptop computer is only required for the first-time calibration of the Wave-Guard system.

Will the Wave-Guard system be affected by lightning strikes?

No, the Wave-Guard system can withstand a 5 kilovolt surcharge, without damaging the system or giving out false alarms.

Options

SURENET-V

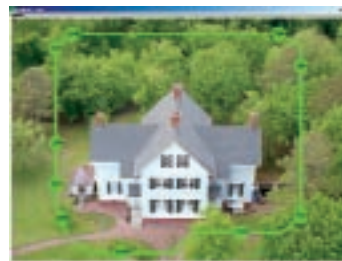


The SURENET-V is an economical and informative software package designed to integrate multiple Wave-Guard processors to provide alarm monitoring and control, signal plotting, diagnostic tools and report generation.

SURENET-V can monitor up to 32 individual processors identifying zone alarm points, tamper alarms and failure alarms.

SURENET-V offers high quality at a low cost with easy and efficient installation. The software also offers the capability to monitor other sensors using dry contact inputs or even an RS-232 event string. Optional modules for event logging, report generation, graphic displays, industry standard mobile annunciators and CCTV capabilities can be added to create an integrated system that defies intruders and maintains a detailed event history for positive accountability. The SURENET-V continuously monitors multiple Wave-Guard units and triggers an alarm instantly upon receiving signals from any of the processors.

Graphic User Interface



The GUI is an effective and affordable PC based graphic display of the site. The GUI provides a top view image of the protected area which allows users to define and

monitor zones with just a click of a button. In addition, the overlay photograph can be changed to an Autocad drawing or any bitmap file. The GUI can be used with a touch screen display to simplify the process of interfacing with the SURENET-V.

Fast-Guard

AuraTek's Fast-Guard Portable Detection System is a rapidly deployable intrusion detection system designed to protect your personnel and property at a moments notice. The overall increase in the need for security has fostered a demand for effective electronic detection that is both rapidly deployable and portable. Fast-Guard is an application that provides protection for people and assets that are not in conventional stationary locations. The Fast-Guard Portable Detection System is lightweight, simple to set up and easy to carry and store while maintaining the reliability, versatility and covertsness of the Wave-Guard "RF" Intrusion Detection System.



Specifications

Systems (FSP-100, FSP-200 and FSP-400)

Zone Lengths*

Zone lengths are per processor, each up to:

- 2 x 30 m (100 ft) typical, FSP-100
- 2 x 50 m (165 ft) maximum, FSP-100
- 4 x 30 m (100 ft) typical, FSP-200
- 4 x 50 m (165 ft) maximum, FSP-200
- 8 x 30 m (100 ft) typical, FSP-400
- 8 x 50 m (165 ft) maximum, FSP-400

Zone Sizes

- Buried and surface 2 m (6.5 ft) wide x 1 m (3.5 ft) high
- Roof-top and wall 1.5 m (5 ft) wide x .75 m (2.5 ft) high

Speed Crossing Range

- Minimum 60 seconds/meter
- Maximum 15 meters/second

Power Requirements

- DC Voltage range 12-48 Vdc, typical 24 Vdc
- AC Voltage range 12-36 Vac, typical 16 Vac

Internal DC Current Consumptions

	FSP-100	FSP-200	FSP-400
For all power out = 20dBm	600mA	1100mA	2200mA
For all power out = 10dBm	400mA	600mA	1200mA

Operating Temperatures

- 40 degrees C to 70 degrees C
- (-40 degrees F to + 160 degrees F)

Storage Temperatures

- 50 degrees C to 85 degrees C
- (-58 degrees F to 185 degrees F)

Dimensions (NEMA-4 PVC box)

35 cm x 15 cm x 40 cm (14" x 6" x 16")

Weight (with NEMA box)

FSP-100	10 kg (20 lbs)
FSP-200	10 kg (20 lbs)
FSP-400	10 kg (20 lbs)

Cable

- Sensor Cable** RG-11 60% copper braid shield coverage with flooding compound, or Flexrad
- Lead-in Cable** RG-11 triple shield (foil, braid and foil) with flooding compound
- Life Time** 10 years typical (function of handling practice)
- Connector** TNC male (thread-type)
- Rating** Direct burial outdoor rated

Receiver (Processor)

- Input Impedance** 75 Ohm nominal
- Sensitivity Level** -100dBm
- Input Connectors** TNC female (thread-type)
- Dimensions** (nema) 38 cm x 28 cm x 10 cm (15" x 11" x 4")

Transmitter

- Input Impedance** 75 Ohm nominal
- Frequency Range** (must be specified in advance)
 - FM Band 88 to 108 MHz
 - TV band 66 to 88 MHz
 - TV band (Europe) 47 to 68 MHz

Output Powers

- Low power transmitter 10 dBm (100 mA at 24 Vdc)
- High power transmitter 20 dBm (250 mA at 24 Vdc)

Radiated Field Strength (with low power transmitter)

- Transmit in dipole Antenna 60 mv/m@3m
- Transmit in sensor Cable 200 uv/m@3m

Output Connectors

TNC female (thread-type)

Dimensions

42 cm x 5.5 cm dia. (16" x 2" dia.)

Rating

Direct burial outdoor rated

User Interface

Inputs

- Sensitivity adjustments per zone
- Number of frequencies to alarm per zone

Outputs

- (via form C relay 2A@30Vdc)
- Zone alarm; 2 for FSP-100, 4 for FSP-200, and 8 for FSP-400
- Box Tamper Alarm
- System Failure

RS-232 (9 pins female D-sub)

- All of the above inputs/outputs features, plus
- Selection of 2 transmitter frequencies for FSP-100
- Selection of 4 transmitter frequencies for FSP-200
- Selection of 8 transmitter frequencies for FSP-400
- Crossing speed adjustments per zone
- Time response trace for each frequency used
- Monitoring of system operations and diagnostics
- Remote access via modem

Options

Host Software

- (SURENET) Software to monitor up to 32 FSP

GUI Software

- (GUI-KIT) Graphic User Interface Software

Backup Batteries

- (BAT-12/7) 2x12Vdc@7Amp/Hour

Coaxial Stand-Off

- (CSO-CLIP-90) PVC Stand-Off for roof

Coaxial Tamper

- (CTM-2) Dual Coaxial Tamper Module

Surge Protection

- (LTN-COAX) Single Coaxial Suppressor
- (LTN-RS-232) Single RS-232 Suppressor

Approvals

- Function of configuration (see Application Notes)
- FCC Certification (USA FCC No: NQD300)
- Part 15 subpart 239 Class B & C
- IC Certification (Canada) IC No: 2948102847A
- Specification RSS 210 Issue 2

Regulations

Regulations limit the maximum radiated power. Please consult your local regulatory agency for more information. Transmission via sensor cable is license-free and not restricted in application. (FCC-15.239 in USA and RSS 210 in Canada) Transmission via antenna is license-free under RSS 123 in Canada and may be restricted in application.

* Zone length can be limited by configuration

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