



Sentinel Installation Manual

September 2010

Manual Part Number: WG-(TBD)

(Ver.)

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CRITICAL NOTE

As specified by FCC Regulations 15.21, any changes or modifications not expressly approved by the party responsible for compliance of this equipment, will void the user's permission and authority to operate this equipment.

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OVERVIEW

Sentinel Overview

Sentinel represents the most advanced Asset Protection System on the market today. Sentinel is the perfect fit for applications requiring protection of critical assets, be they items for retail, research, or other property. Additional applications include protection of individuals in assisted living establishments, infants in hospitals, incarcerated people, etc.

A Sentinel system is comprised of Field RAD, EAS RAD, POS RAD, Sentinel tags and other optional accessories. The quantities of each will vary depending on the number of items to be protected, size of the area to be protected, the number exits and the number of controlling stations (e.g. registers). This description assumes a retail establishment with a rectangular sized area, one egress point and a single register. Sentinel tags are available in a variety of physical styles, all designed to protect specific type items such as apparel, fishing equipment, firearms, tools, electronics, people, etc.



Field /EAS RAD



Handheld Remote



Lanyard Tag



POS RAD

SPECIFICATIONS

RAD Detection Performance (Field and EAS)		
	Europe	USA
RAD Field Distance	20 m	65 ft
RAD Cone Angle	120°	120°

Electromechanical Specifications		
	Europe	USA
Field/EAS RAD Dimensions	155x155x60mm	6"x6"x2.4"
POS RAD Dimensions	200x120x47mm	7.9"x4.7"x1.9"
Field RAD Weights	0.343 Kg	0.76 lb
EAS RAD Weight	0.388 Kg	0.86 lb
POS RAD Weight	0.678 Kg	1.5 lb
Power Supply Adaptor	85-275vac 50/60Hz, <1W	
RAD Power Input	24vac 50/60Hz	
<p>Keep in consistence with AC24v wiring order when powering all field RAD. Also suggest to use a dual backup 24vac Power supplies connection to power all the Field RAD. See appendix (Dual Backup Powers Connection Diagram)</p>		

Product Codes	
Field RAD	WG APS RAD
EAS RAD	WG APS RAD-EAS
POS RAD	WG APS RAD-POS
Sentinel Lanyard Tag	Tag APS Lyrd BS

RAD & TAG DESCRIPTIONS

Field RAD

Field RADs are the readers installed in the room over the area to be protected. It radiates the area outward with a fixed 120° cone with strength adjustment range of up to 20 meters (65 feet). And it can be mounted on ceilings to cover an area below its conical beam or on walls to point to a direction and cover a conical space as well. Area Field is dependent on the height of the ceiling and signal strength.

It periodically radiates the area with an RF coded signal and when the tags detect the signal they will keep their alarms silent. This type of RADs synchronise with 24vac power source for optimum operation. So all the field RADs must powered from one 24vac power source.

EAS RAD

RF protection signals are radiated in a conical fashion and therefore can easily extend past the exit. This means that someone removing an item from the protected zone could possibly be well out of the protected area before an alarm is emitted. This module is placed at the exit and radiates an RF signal of same frequency as Field RADs. Its function is to radiate its area, effectively jamming the protection zone at the exit and in turn causing tags present in that area to alarm. The EAS RAD includes an output relay port to set off an audible or visual alarm.

POS RAD

The POS RAD is located at the register counter alongside a magnetic detacher .The POS RAD communicates directly with the tag, arming or disarming it. The magnetic detacher is simply a device for physically unlocking the tag to remove it from the protected article.

POS RAD can also connect to PC software and database by USB port, and fulfill same functions as mentioned above as well as more sophisticate data mining functions.

Sentinel Tag

Sentinel tags can be made in a variety of shapes and sizes, be they shell, lanyard, golf, firearm, etc, depending on the application. Regardless, each tag includes microprocessor electronics to detect signals emitted by the various reader types and react accordingly. Optionally the tag can also include EAS technology for compatibility with standard EAS systems.

Protection zone signals are received by the tags to keep them silent. Should the tag be prevented from receiving the signal (such as from a foil bag or other blocking device), it will automatically self-alarm. If the tag is opened without first disarming, it will self-alarm. Likewise any tampering or cable cutting will cause the tag to self-alarm, even if within the protection zone.

As the tag enters the exit threshold it will lose the protection zone signal because of the jamming properties of the EAS RAD. At that moment the tag will self alarm. Alarming tags will also transmit a specially coded RF signal that will be picked up by the EAS RAD which will in turn cause an alert signal out of the RAD to an audible/visual alarm, alerting store personnel that a tag has been detected at the exit. If the person returns back into the protected zone the tag will stop alarming.

Summary

Sentinel is a very powerful system that blends into the retail décor and does not obstruct the entrances. Protection zone shaping means that items can be placed quite near the entrance without setting off false alarms. Sentinel tags will self-alarm when tampered with, and also when removed from the protection zone. Bringing the article back into the protection zone quiets the tag without having to take it back to the register for quieting. Sentinel will tie into external alarms, be they audible and/or visual, to alert store personnel that a tag has been detected at the exit. Sentinel is perfect for a wide variety of applications where assets need protection. Wherever smart protection is needed, Sentinel is the answer.

GENERAL RECOMMENDED RAD ARRANGEMENT

Recognizing that each installation may easily differ in size and shape, RAD placement will vary to accommodate the differences.

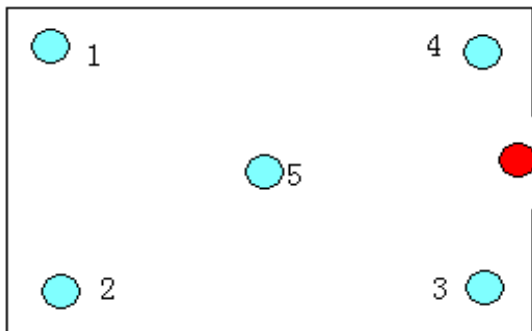
General Tips

1. Optimum RAD height mounting should be kept to 3-5 meters (10-16 feet).
2. In central ceiling of area, a field RAD should be installed in a central location.
3. Then some field RADs should be installed in corner or side-wall locations and tilted at 45° towards the center of the protected area.
4. Minimum of three fields RADs is recommended to mount at room corners for optimum Field.
5. For optimum synchronization adjacent RADs should be separated by approximately 3-6 meters (10-20 feet) too far of spacing will decrease the sync ability..
6. EAS RAD should be mounted on the outside of the exit and tilted 45° towards the outside to avoid radiating into the protected area.
7. Each field RAD will be assigned a synchronization ID (1 to 6). Multiple RADs may share the same ID but they must not be physically installed at adjacent locations.

Notice: how to assign a synchronization ID to field RADs, please find reference in the RAD's DIP Switch Configuration Session in last page.

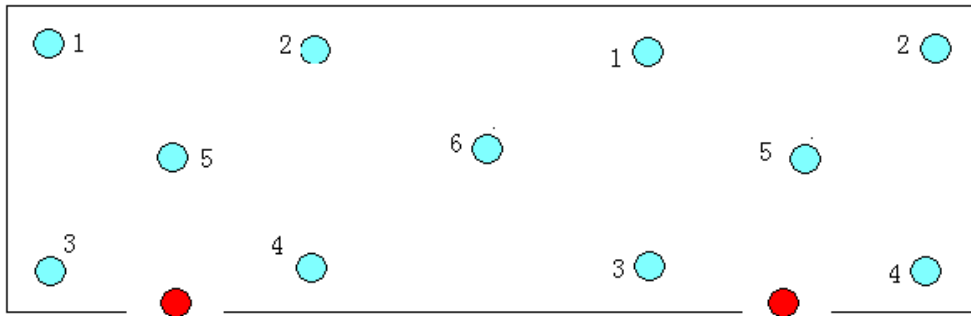
8. The POS RAD may be installed anywhere within the protected area but not near the EAS RAD.

 Field Reader  EAS Reader

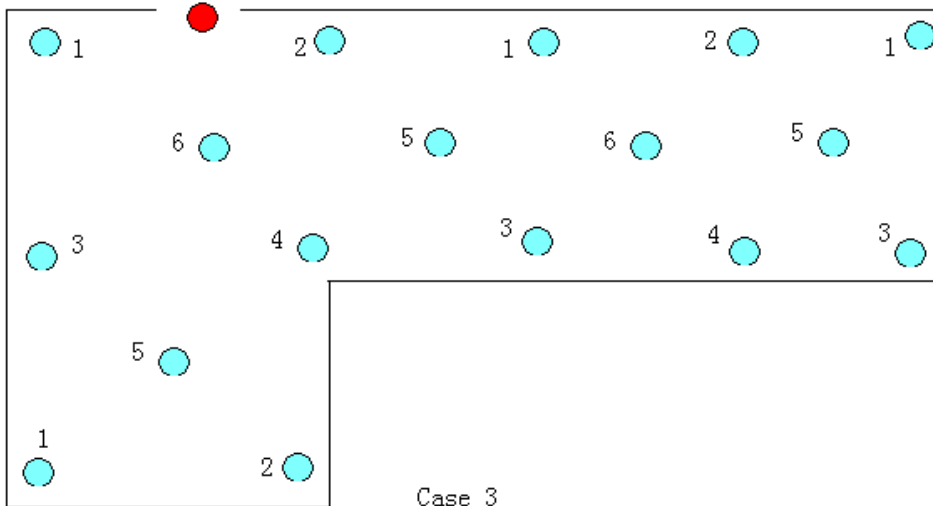


Case 1

Sentinel Installation Manual



Case 2



Case 3

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

---Reorient or relocate the receiving antenna.

---Increase the separation between the equipment and receiver.

---Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

---Consult the dealer or an experienced radio/TV technician for help.