



Sentinel™ Functional Description

October 24, 2010

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 valuable property. Additional applications include protection of individuals in assisted living establishments, infants in hospitals, incarcerated people, etc.

A Sentinel system is comprised of a Field RAD, EAS RAD, Sales RAD (also called a POS RAD), Sentinel tags and other optional accessories. The quantities of each will vary depending on the size of the area to be protected, the number of 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 RAD

RADs are installed in the ceiling generally distributed over the area to be protected. Area coverage is dependent on the height of the ceiling and signal strength. Each RAD radiates the area outward with a fixed 120° cone with strength adjustment range of up to 20 meters (65 feet). It periodically radiates the area with an RF coded signal and when the tags detect the signal they will keep their alarms silent. Typical number of RADs per protected area is five so as to overlap coverage and completely protect the area.

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 a different frequency than the RADs. Its function is to radiate its area, effectively creating another protection zone at the exit and in turn causing tags present in that area to alarm. The EAS RAD includes an output port to set off an auxiliary audible or visual alarm.

Sales RAD

The Sales RAD is located at the register counter alongside a magnetic detacher. The Sales 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.

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.

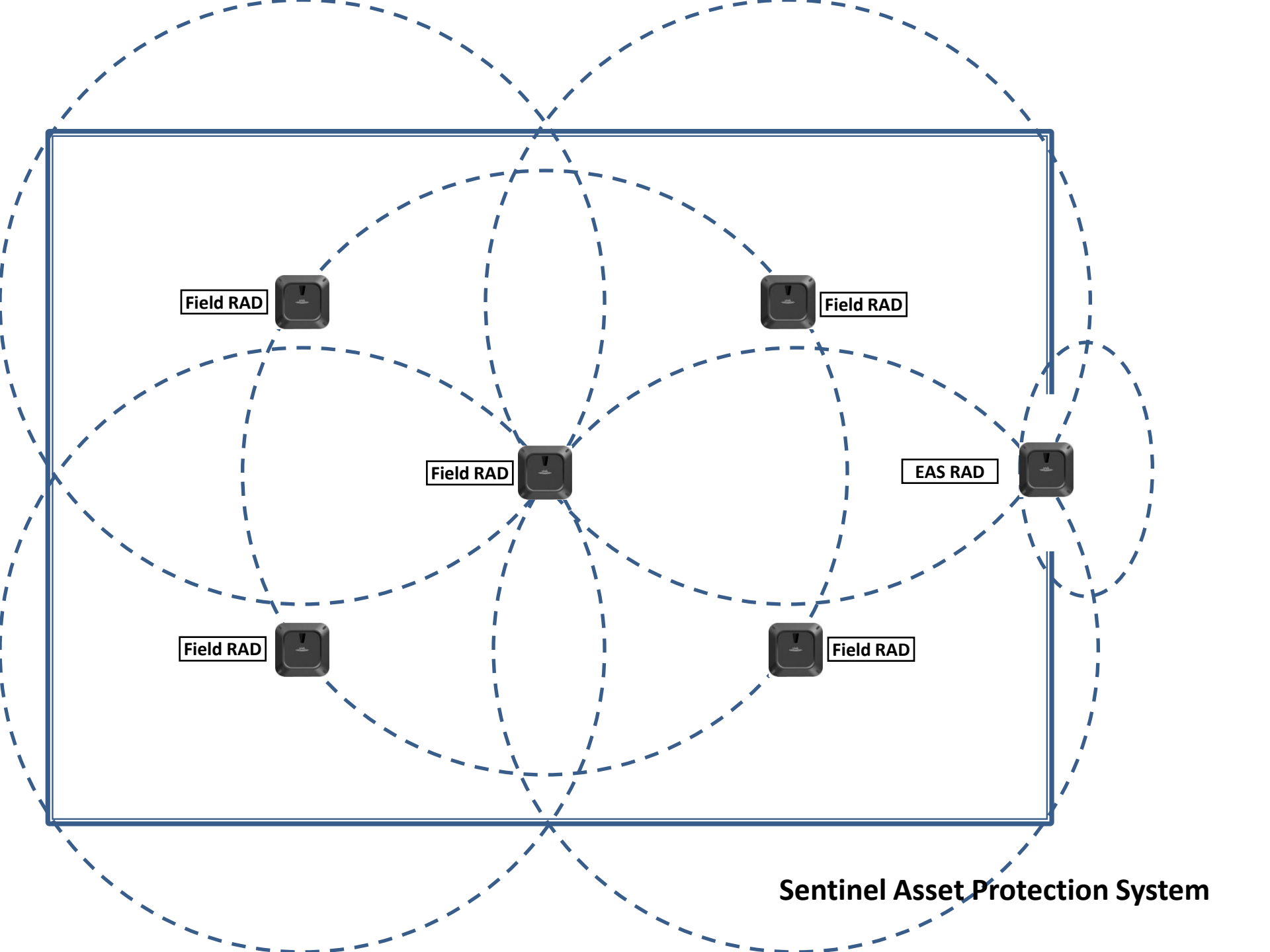
As the tag enters the exit threshold it will come under control of the EAS RAD and at that moment the tag will self alarm. Alarming tags will also transmit a specially coded RF signal that will be picked up by the EAS RAD which will in turn cause an alert signal to an audible/visual alarm, alerting store 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

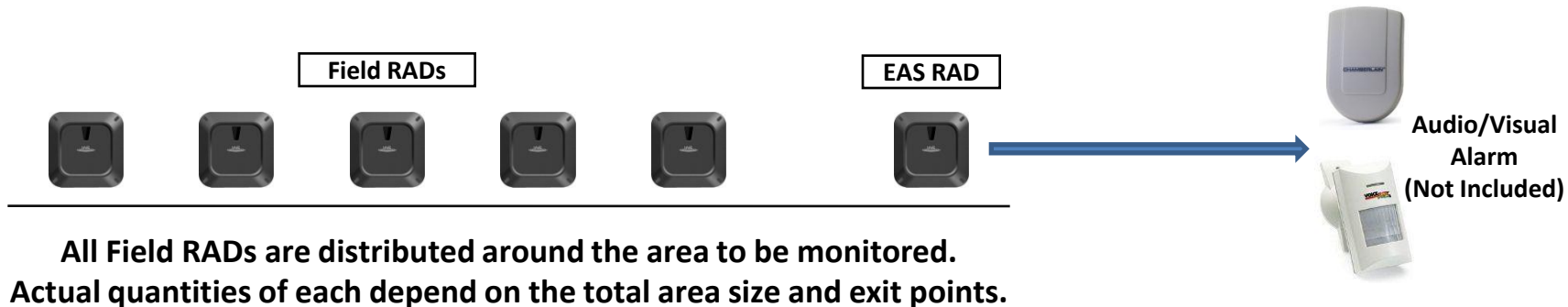
Sentinel is a very powerful system that blends into the retail décor and does not obstruct the entrances. Protection zone shaping means that items can be placed quite near the entrance without setting off false alarms. Sentinel tags will self-alarm when tampered with, and also when removed from the protection 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.

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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



Sentinel Asset Protection System



Field RAD

- Tag monitoring

EAS RAD

- Searches for tags at exits.
- Generates alerts when tags enter its zone.

Sales RAD

- Arms/Disarms tags (clerk function)

Detacher (optional)

- Opens tags (clerk function)

Alarms (optional)

- Controlled by EAS RAD when tags are detected in its zone.

Tags

- Variety of tag styles attached to articles.



Sales RAD



Detacher (Optional)



Tags



Audio/Visual Alarm (Not Included)

Product Features

- Tag monitoring
- Wireless arming/disarming
- External alarm
- Tags self-alarm on tampering
- Tags self-alarm out of protection zone
- Tags self-alarm at exits

Applications

- Retail
- R&D
- Infant Nursery
- Assisted Living
- Correctional Institutes

Sentinel Asset Protection System