

# Harnessing EAS technologies to stop theft and shrinkage

A store can enjoy healthy sales, run smoothly and still look good while safeguarding its inventory and shoppers' well-being. ADT Security Services, a global security and loss-prevention specialist, offers EAS technologies for optimum deterrence against errors and theft without getting in the way. **Jolene Klassen** has the details.

**A**s the retail industry evolves, retailers are increasingly finding more advanced and sophisticated technologies and solutions at their disposal to both protect the business and help optimise customers' shopping experience. Where loss prevention is a major issue, especially in a store environment, a popular measure is the deployment of EAS (electronic article surveillance) technologies in tags, sensors, deactivators and pedestals at check-out counters and store exits to avert theft.

But, before retailers get swept away by the growing slew available on the market, an understanding of these technologies is in order.

To avoid common misconceptions of EAS technologies stemming from the various terms used, it is important to understand that AM (acousto-magnetic), RF (radio frequency) and RFID (radio-frequency identification) are very different technologies which have different signal readings across the frequency spectrum.

This characteristic alone affects how deeply their signals can penetrate objects, which is a critical determinant of their effectiveness against shoplifting, as they have to go through layers of clothing or accessories to detect stolen items which pilferers tend to conceal on their persons.

One technology that has been harnessed for decades in solutions implemented across the retail industry is the AM technology, which is adopted by ADT Security Services in its Sensormatic AM-EAS systems.

Measuring 58kHz on the frequency spectrum, AM technology can penetrate liquids and metallic packaging, making it more efficient in deterring shop theft.

The University of Arkansas' study on the use of RFID in EAS systems for theft prevention in retail stores has revealed that EAS labels using AM technologies can be turned on or off many times, and are normally deactivated or removed from the

**WHERE LOSS PREVENTION IS A MAJOR ISSUE ... A POPULAR MEASURE IS THE DEPLOYMENT OF ELECTRONIC ARTICLE SURVEILLANCE (EAS) TECHNOLOGIES IN TAGS, SENSORS, DEACTIVATORS AND PEDESTALS AT CHECK-OUT COUNTERS AND STORE EXITS TO AVERT THEFT.**

## Sensor

Based on research collated on the merits of AM (acousto-magnetic) technology, EAS (electronic article surveillance) solutions provider Sensormatic has incorporated the UltraMax technology in its products to provide the highest detection rates for deterring theft without hindering customer flow or compromising store aesthetics. Sensormatic, which delivers security solutions through ADT Security Services, is a division of Tyco International, a diversified and global provider of vital products and services to customers in more than 60 countries.

Among the products with AM technology is the Sensormatic UltraExit detection platform with high-quality acrylic pedestals that blend with the surroundings at store exits.

Jennifer Lee, division manager of corporate affairs at Kinokuniya Book Stores in Singapore, stated: "The design of the panels is sleek, making the overall look of our store more inviting. As the system provides a wider exit coverage, we need only three pedestals at the main entrance instead of the previous five."

In keeping with the brand's well-established UltraMax technology platform, the UltraExit is equipped with advanced digital signal processing (DSP) connectivity, and can be remotely configured for up to four transceiver pedestals. The system comes with audio and visual components to alert staff when the alarm is triggered. The system can be integrated with people-counting sensors via the SmartEAS options that the technology incorporated.

Lee cited the lower detection capability



The newest addition to the family, the Sensormatic Sensor-Ink Mini is equipped with a visible ink vial that can withstand daily handling but will break if force is applied, permanently staining the garment.

# Sensormatic family renders Ultra-protection

of Kinokuniya's past installation as a reason for the book store's upgrade to Sensormatic systems, which she finds "more reliable and has higher detection rate, on top of prompt service response by the Sensormatic team".

Ideal for high-priced bottled products, the versatile Sensormatic UltraTag MT can also be used on sporting goods, and is designed to extend security beyond fashionwear and accessories, providing a more rounded protection against theft in the stores, while remaining visually appealing to the customer.

Nelson Hung, general manager of Hong Kong-based retailer Soho Wines and Spirits Limited, stated: "Sensormatic



The Sensormatic UltraExit detection system, which incorporates the AM (acousto-magnetic) technology and features high-quality acrylic pedestals that blend in aesthetically with the surroundings at store exits, is lauded by Kinokuniya Book Stores in Singapore for making its outlet look more inviting while providing a higher detection rate and wider entrance coverage than the retailer's previous installation.



garments are tagged to discourage any attempts to steal the merchandise, and, should the item be illegally taken out of the store and its tag forcefully removed, the vial will break, spilling red ink onto the apparel, ultimately denying the shoplifter the benefit of the product.

Finally, the lightweight, reliable and aesthetically-pleasing Sensormatic SuperTag III has been billed "the ultimate choice" for retailers due to its ability to protect apparel in a wide range of materials. The Sensormatic-patented rotary clamp-and-spring-gate feature makes it a retailer's strong ally against store theft. **ra**

UltraTag has given us the freedom to display products openly for customers, standardise product displays, and reduce losses while increasing sales."

In addition, the reusable tag allows Soho's employees "to recognise the benefits of easy application and removal", while enhancing staff productivity and in-store security, Kung added.

Although the hard tags appears smaller and sleeker than other solutions, a visible nylon strap, integrated with a multi-strand steel cable attached to the tough ABS plastic encasement, makes it difficult to cut and defeat.

The newest addition to the family is the Sensormatic Sensor-Ink Mini, which is equipped with a visible ink vial that can withstand daily handling but will break and permanently stain the garment when force is applied to remove it. The tag is attached to the label of the garment by stainless-steel tacks that will not tear the apparel or rust.

This tag serves a dual function. It informs the potential thief that the



The Sensormatic SuperTag III is billed "the ultimate choice" for retailers, for its light weight and sleek design.



With the Sensormatic UltraTag, Hong Kong-based Soho Wines and Spirits Limited can display its products openly and standardise displays to enjoy growing sales with less inventory loss.

Ideal for high-priced bottled products and sporting goods, the versatile Sensormatic UltraTag MT promises rounded protection against theft in stores while remaining visually appealing to the customer.



**THE BEST-POSSIBLE DETERRENT TECHNOLOGIES AGAINST THEFT ON THE SHOP FLOOR IS ONLY A STEP TOWARDS SHRINKING RETAIL LOSSES. FOR THE FULLY-EQUIPPED STORE TO OPERATE TO THE OPTIMUM CAPACITY OF ITS SYSTEMS, ITS EMPLOYEES ALSO NEED TO BE ADEQUATELY TRAINED AND EDUCATED ON HOW TO REACT, APPROACH AND APPREHEND SHOPLIFTERS WHEN ALARMS ARE TRIGGERED.**

merchandise at the point of sale.

In contrast, labels incorporating the RF-EAS technology, which falls within the 8.2MHz-9.5MHz band, are not reusable upon deactivation or removal, rendering the labels less cost-efficient for retailers, the study noted.

RFID, which commands the high-end frequency range of 800MHz-1GHz, can carry multiple bits of information. However, even as RFID finds its place among retailers' efforts to simplify inventory management and operations, studies have raised questions about its sensor-detection efficiency when required to penetrate liquids or metallic packaging as it operates on a high-frequency band.

Comparative evidence from the various shoplifting scenarios throughout the study showed that EAS systems, which include RF and AM technologies, had triggered alarms at the portals more prominently than did the RFID technology.

In the findings, although RFID systems had provided optimal detection rates in a controlled scenario, the best-performance results revealed that EAS solutions maintained a 100% detection rate throughout the test sequence, making them more efficient in addressing

**AM TECHNOLOGY  
WAS ALSO FOUND TO OFFER  
DETECTION RATES 1.5 TIMES  
HIGHER THAN RF TECHNOLOGY  
IS CAPABLE OF.**

inventory loss and theft — issues which research has established rank high on retailers' list of concerns.

AM technology was also found to offer detection rates 1.5 times higher than RF technology is capable of.

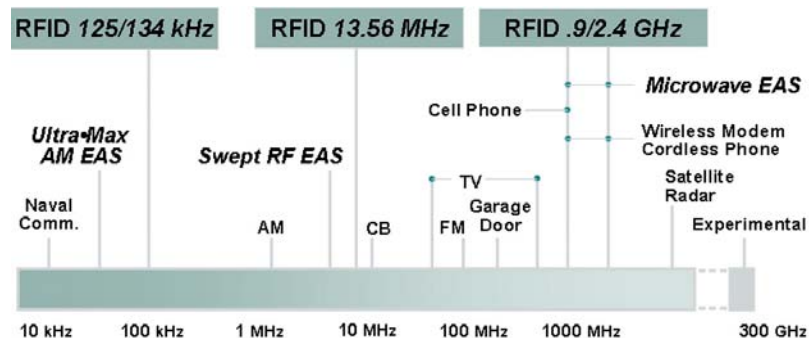
Dr Read Hayes, lead investigator of the recent *Retail EAS System Management Study*, conducted by the Florida-based Loss Prevention Research Council, declared: "To be a credible deterrent to shoplifting, EAS systems must alarm. In addition, offenders must know the systems exist."

It follows that retailers ought to "inform" potential shoplifters that their stores are geared up and armed to deter

theft in their outlets, yet few operators are comfortable doing so.

The message is clear: Shoplifters must be the ones feeling "threatened" rather than retailers feeling vulnerable about exposing the security systems they have implemented.

Dr Hayes also cited a separate UK study, conducted at the turn of the decade, which indicated that among the tagged products activated in a test of 189 installations, 70% of EAS alarms featured AM technology while RF-EAS tags accounted for only 13% of the activated alarms. And this, despite there being 101 installations of the RF-EAS



**Acousto-magnetic, radio-frequency and radio-frequency identification technologies have different signal readings across the frequency spectrum, which affect how deeply their signals can penetrate objects. This factor is a critical determinant of their effectiveness against shoplifting.**

technology and only 87 of AM technology. Clearly, all evidence points to detection rates continuing to make all the difference in any anti-theft EAS device.

While EAS' anti-theft capabilities safeguard the store, RFID applications provide better visibility in inventory management and the tracking of goods. Separately, each concept already bears the qualities that work well for retailers. Used to complement each other in a retail environment, the duo become formidable, completely transforming a retail operation into a highly competent and reliable set-up with reduced inventory and bottom-line shrinkage.

Noting this trend, ADT has also incorporated item-level RFID deployments, dubbed the iREAD platform, into its Sensormatic range. Apart from reducing capital costs for retailers as a result of less hardware required, the system is easily integrated into existing environments, tracking and protecting

retail store merchandise all at the same time to minimise shrinkage.

Stanley Kong, vice-president of ADT retail sales and services for Asia, stressed: "The research conducted by The University of Arkansas was important because we believe EAS and RFID are complementary technologies that can provide retailers with several approaches to preventing theft while improving operational efficiency, [according to] their needs.

"Many retailers can benefit from the dual EAS-RFID functionality while others may require a sequential, layered approach.

"Ultimately, research will help retailers develop strategies to guide their decisions [on] the most cost-effective way to deploy these technologies."

Kong averred: "With data from top research sources confirming the

Sensormatic AM technology's outstanding performance for retail theft prevention, our EAS solutions continue to prove valuable [as a] tool to combat theft."

The best-possible deterrent technologies against theft on the shop floor is only a step towards shrinking retail losses. For the fully-equipped store to operate to the optimum capacity of its systems, its employees also need to be adequately trained and educated on how to react, approach and apprehend shoplifters when alarms are triggered.

As an extension of its post-sales support to clients, the company also trains retail staff to identify and handle situations with ease and confidence. The idea is to ensure that customers will not be mishandled in the event of a security breach, while sending a warning message to would-be shoplifters that retailers are on the top of their game. And, needless to say, attention to details helps. **ra**