



# Perimeter paradox

Too often business and residential applications make do with internal detection systems that are restricted to internal volumetric sensing during those times buildings are empty. But an electronic security system without a perimeter layer is fundamentally flawed.

**A**CCORDING to Central Security Distribution's Etwell Pausigere, the electronic security market is becoming more security conscious and demanding more protection – not just inside properties but at the perimeter.

Pausigere says a survey done by a Canadian Alarm manufacturing company, PARADOX Security Systems, showed that high violent crime countries like South Africa, Brazil and Mexico require perimeter

protection in every installation as well as a system that has perimeter protection 24/7 without being turned off.

“The main methods of perimeter protection that come into mind involve use of CCTV, burglar alarms and/or physical barriers,” explains Pausigere.

“The whole concept of perimeter intrusion is to detect, delay and alert to an intrusion event,” he says. “The idea of perimeter protection is to build a virtual fence around the protected property.

Pausigere points out that airports and other high security facilities have been using such layered methods of intrusion detection for many years.

“The use of physical barriers like fences and walls with electronic sensors has been applied in military projects and correction facilities,” he says.

“Typically, several sensor systems are integrated to design a good perimeter system. Big facilities like schools, prisons, hospitals and airports will have a physical fence or the system will be wall-mounted or built into the wall.”

Along with fence-mounted sensors, there are also buried perimeter sensors that can be put on top of a wall or buried underground to create a hidden defense line and Pausigere says each type of sensor will have its pros and cons.

“Another possibility is the use of CCTV for perimeter protection, especially when used with analytical software,” he explains. “Suppliers

including Dedicated Micros and Inner Range have managed to create third-party integration with Hybrid DVRs to offer workable solutions but it's important to remember CCTV can sometimes be affected by harsh weather conditions like snow, fog and heavy rain."

Pausigere says a building itself should act as the last line of perimeter protection.

"Most commercial buildings and domestic houses use shock sensors, infrared sensors, microwave sensors, smart locks and magnetic door sensors to secure the perimeter."

According to Pausigere, the most common cost-effective sensors used for perimeter protection are:

■ **PHOTO-ELECTRIC BEAMS** - IR beams sensors are usually applied on fences, building wall both internal and external. High quality beams cannot be bypassed by generating a beam to the receiver end. An alarm is triggered if an intruder or an object is placed in the path.

■ **GLASS BREAK DETECTORS** - These are used for internal perimeter protection when large windows are involved. When glass breaks it produces specific shock frequencies which travel through the glass and often through the window frame and the surrounding walls and ceiling.

■ **OUTDOOR PASSIVE INFRARED DETECTORS** - These are Passive Infrared (PIR) Detectors specially designed for harsh outdoor environments. They are now coming with Pet immunity and curtain lenses to make them very applicable for perimeter protection.

■ **VIBRATION (SHOCK SENSORS)** - Shock sensors are designed to protect the structure itself. They are very cost effective and are becoming very popular for domestic houses. More sophisticated sensors use piezo-electric components rather than mechanical circuits, which can be tuned to be extremely sensitive to vibration.

## CONTROLLERS

Pausigere says each and every sensor will need to be connected to a control panel with the connection through hardwiring or wireless.

"Depending on distance and construction materials, one or more wireless repeaters may be required to get the signal reliably back to the alarm panel," Pausigere says.

"Hybrid systems utilize both wired and wireless sensors to achieve the benefits of both. Most entry level systems use star network topology and the high end use bus network or a combination of both.

"Regardless of the topology used to connect the sensor, the effectiveness of perimeter protection will depend on the software configuration of the system," he says.

"Most systems have perimeter protection arming methods which are commonly known as stay arming, perimeter or exterior zones or 24hr zones, etc."

"Paradox's StayD optioned alarm panels provide a high security alternative to the traditional HOME/AWAY arming modes and have revolutionized perimeter protection in the South African and South American markets"

## WEAKNESS OF CONVENTIONAL PERIMETER PROTECTION

All the above methods depend on a user physically arming the area or the area auto arming, Pausigere explains.

"That means the area can accidentally be left disarmed due to human error. There's no doubt that 24-hour zones are difficult to manage and usually lead to false alarms," he says.

"The Paradox survey mentioned earlier and our observations and experiences strongly highlight that the market is in need of a perimeter protection that will be activated 24/7 without getting disarmed in error making the system far easier to manage."

## SOLUTIONS AVAILABLE TODAY

Locally, PARADOX Security Systems is marketing through Central Security Distribution, a patented StayD perimeter protection function with some of its alarm panels. The StayD system is always armed; it only partly disarms for an entry/exit path and then automatically rearms.

"For example, when entering your house, you simply notify the system with a remote and enter your house, and zones will automatically re-arm after you pass," Pausigere says.

"All other zones will remain armed and exit paths can be chosen by simply entering a code or remote and choose your path of exit, the system will automatically determine your exit path and allow exit through that path only, keeping the perimeter intact.

"The result is a system that is always protecting your site," says Pausigere. "StayD in the high crime markets of South Africa and South America - has revolutionized perimeter protection provided by alarms systems and there's no doubt at all it can revolutionize the way alarms are used in Australia, too." ▀▀▀

## FEATURES OF STAYD

- Never disarm your system; automatically switches between different arming levels
- Always armed in either Full, Stay or Sleep without any disarmed periods
- Each keypad has its own designated entry/exit path (up to 4 zones)
- Only path zones trigger a delay on exit or entry; other zones remain protected during the delay
- Never forget to arm or re-arm your system
- Exit your home safely while keeping everyone inside secured at all times
- Monitor the kids so they do not leave the house without supervision
- Flex-Instant Delay (Follow and Instant zones become delay when Stay or Sleep armed)
- Re-arm Delay
- Door/WindowMode