



## GUNSHOT DETECTION

### IN CONJUNCTION WITH HAWKEYE

Increasingly municipalities, universities and corporations are installing and utilizing Pan-Tilt-Zoom (PTZ) Cameras for the purposes of crime prevention, public safety and theft deterrence. Some of these same organizations are also installing Event Detection equipment such as Gunshot and Explosion Detection Systems. For the most part, Event Detection Systems work independently from the Video Management Systems that control the PTZ Camera Networks and the Network Digital Video Recorder (DVR) Systems that store the collected video imagery.

Pelican Technologies developed the HAWKEYE system to automatically command PTZ Cameras to respond to geospatial specific events detected by Event Detection Systems such as Gunshot Location and Explosion Detection Systems.

HAWKEYE responds to events as they occur and actions the connected cameras instantly.

Simultaneously, HAWKEYE informs connected Video Management Systems of the camera action (to alert operators) and connected DVR systems to provide a bookmark that can be used to audit and review the event at a later date.

HAWKEYE is a hardware and software combination that ties into existing network infrastructure to process and act on externally detected events. Included in the system is a graphical user interface and mapping application to assist in setting up HAWKEYE, a set of data interfaces that allow HAWKEYE to communicate with common Event Detection systems and common Video Management Systems and comprehensive user documentation that details the setup and tuning options available to configure HAWKEYE to each unique environment.

HAWKEYE plugs into your existing facility hardware; there is no need to replace your existing Cameras, Video Management System, DVR or Event Detection Systems.

In studies performed by law enforcement groups and private security firms, the average time required for a human operator to focus a camera onto the scene of a detected event is measured in minutes. HAWKEYE performs the same function in less than a second. The difference is:

- the difference between a quick apprehension and a lengthy investigation;
- the difference between a digital video record and eyewitness memory;
- the difference between certainty and "reasonable doubt."

HAWKEYE enables municipalities to reduce the time required to collect valuable evidence and increases convictions. HAWKEYE allows corporations and private organizations to provide to law enforcement officials information that is critical to investigations and limits risk and liability exposure when the unforeseen occurs.

Those cities, companies and universities that invest in the HAWKEYE system will see an immediate ROI in the form of decreased crime, lowered liability risk, increased order and overall safer public environments.

Event detection alone is an incomplete assessment of activities. Once an event has been detected, video monitoring and recording is essential for an accurate assessment of risk and impact. Pelican Technologies has introduced HAWKEYE to tie together event detection and video management systems into a coherent and automated system.



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## HAWKEYE WITH GUNSHOT AND EXPLOSION DETECTION

Gunshot Detection Systems are systems that detect and convey the location of a gunshot, explosion or other weapons-fire using a combination of acoustic or optical sensors. These systems are used by municipal law enforcement, homeland security, military and commercial customers to identify the source, the location and, in some cases, the type of weapon or explosion.

In order for the gunshot location systems to be accurate, detected gunshots must be distinguished reliably from noises that can sound similar, such as firework explosions and cars backfiring.

A co-located array of microphones or a distributed array of acoustic sensors that hear a muzzle blast at different times can contribute to calculating the location of the origin of the discharge. Using this information and the knowledge that most urban crimes are committed with handguns, it is possible to discriminate between gunfire and normal community noises by placing acoustic sensors at wide distances so that only extremely loud sounds (i.e., gunfire, explosions) can reach multiple sensors; ShotSpotter, Inc. - the leader in the industry for Gunshot Location Systems - uses this patented 'spatial filter' method.

**Do your cameras automatically respond to gun fire?**

Distributed sensor arrays are the accepted norm for urban public safety as they allow law enforcement agencies to hear gunfire discharges across a broad urban landscape of many square miles. In addition to urban cityscapes, the distributed array approach is intended for area protection applications, such as critical infrastructure, transportation hubs and large campuses. These systems have been used domestically in urban areas since the mid 1990's by a growing list of cities

and municipalities that are embracing gunshot location systems as mission-essential tools in their arsenal for fighting violent crime.



In 2009, the ShotSpotter GLS system was successfully integrated with Pelican Technologies software in the city of South Gate California to automatically task the motion of PTZ cameras when gunshot and explosion events were detected. In 2010, Pelican Technologies released the fully commercial application HAWKEYE for general distribution. This hardware / software platform combined with Pelican Technologies' 24/7 customer service and support is an essential piece to any semi or fully autonomous surveillance system - especially in urban areas overlapped with Gunshot Location Systems.

For a demonstration of HAWKEYE or to inquire about our tiered pricing, reseller, distributor and installer discounts, or to simply learn more about Pelican Technologies, please contact us at (866)-274-9483 or visit us online at [www.technopelican.com](http://www.technopelican.com) or follow us on twitter (@technopelican).

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