

Infinova[®]
The Integrator's Manufacturer



White Paper

Making Highways Safer with Integrated PTZ Surveillance Cameras

Using rapid maneuverability video surveillance cameras helps operators capture the early stages of highway incidents and provide life-saving information to emergency teams.

In the United States, highway congestion cost travelers over 4 billion hours and \$75 billion, wasting approximately 3 billion gallons of fuel per year. According to the National Highway Traffic Safety Administration (NHTSA), some 43,000 deaths and millions of injuries occur on the nation's roads every year. Motor vehicle crashes remain the leading cause of death for those between the ages of five and 34 and highway crashes are estimated to cost the nation \$230 billion annually.

This white paper is a guide for Integrators and Installers and traffic management teams on using rapid maneuverability video surveillance cameras to capture the early stages of highway incidents and provide life-saving information to emergency teams.

Related White Papers from Infinova

Infinova has a series of white papers aimed at helping Integrators, CSOs and senior security management to make the technical and business decisions needed to manage security and surveillance installations. The previous five cover:

- Coexistence strategy at the heart of a cost-effective move from analog to digital security video.
- Selecting cameras – analog to IP-based as well as megapixel and high definition.
- Fiber optics enhances the operation and business bottom line of surveillance solutions.
- Storage options and ways to determine which are the best for the needs of the enterprise.
- How to conduct a security site survey leading to a risk and vulnerability matrix.

These previous white papers are available for download at www.infinova.com

Highway video surveillance as part of the safety solution

Such statistics emphasize the need for better highway system operation and safety measures to optimize capacity and improve travel time reliability. Improved video surveillance is likely to be part of the solution that authorities use to maintain safety on highways.

Effective highway video surveillance can alert authorities as congestion starts to develop and help them deploy highway patrols to manage traffic flow and reduce delays. When accidents occur, video surveillance enables authorities to assess the situation quickly. Using rapid maneuverability cameras, operators can capture the early stages of a highway incident and provide life-saving information to emergency teams.

Intelligent, safe and efficient highways

China is leading the way – Looking at the surveillance system of the special expressway for Xi'an Xianyang International Airport as an example. Through the end of 2009, the total length of expressway in Shaanxi province in China's north reached over 1,500 miles. Since 2005, basically all the expressways in service within the Shaanxi province have been leveraging video security surveillance, using over 2,000 cameras, fiber optic modems and point-to-point digital fiber optic modems, and approximately 100 video matrix switching systems, all from Infinova.

The special expressway for Xi'an Xianyang International Airport is one of the significant construction projects in Shaanxi Province, counted as one of the 18 communication routes in the planned Shaanxi province expressway network. It has become the technology demonstration road for the Ministry of Communications and complimented as the "No.1 Road in Shaanxi Province."

This 8-lane airport expressway, equipped with all-inclusive facilities, represents the highest construction standard and offers intelligent service, starting from Zhuhong Road, Xi'an and ending at the Xi'an Xianyang International Airport. The total length is approximately 12.5 miles with a top speed of 75 mph.

This project includes 22 high-speed integrated PTZ cameras, fixed and PTZ dome cameras, and one matrix switching system. For the transmission, four sets of fiber optic modems are deployed to make sure that the operation of the expressway goes smoothly.

Type of PTZ Camera Used

Designed specifically for outdoor video surveillance on highways and intelligent transport systems (ITS), the Chinese expressways employ Infinova's V1492/V1493 Medium-Load Integrated PTZ system, which can operate in winds up to 130 mph. It features a 15-inch housing for its ½-inch high-resolution camera plus ½-inch motorized zoom lens, giving operators a better, long range view.

The system is equipped with a compass display so that operators can see in which direction the camera is looking, as well as a privacy masking with 16 programmable zones. The V1493 has 360° unlimited continuous PAN with a PAN speed up to 50°/second and a tilt range of +40° to -90° with a tilt speed is up to 30°/second so that operators can look straight down and tilt the camera up to look up hills in the highway. The fast PAN and tilt speeds enable operators to move the camera quickly, an important advantage when operators need to view incidents in multiple locations.

The housing is IP66 rated which means it is dust tight and is equally protected against water ingress, even if a powerful water jet is directed against the enclosure from any direction. The housing is also equipped with a wiper, heater and de-froster for extreme conditions.

In an emergency situation, the V1492/V1493 system's flexibility and rapid maneuverability allow operators to move the camera quickly and point it in any direction. Using these cameras, operators can brief emergency teams as they are traveling to a highway incident, helping them save lives and function with maximum effectiveness when they arrive.

Not Too Far Off, These Will Be the "Good Old Days"

These congestion and safety problems will intensify with the growth predicted in the next two decades. The U.S. population is expected to grow by 24 percent by 2030 and the number of vehicle miles traveled is projected to increase by 60 percent by 2030, with truck miles traveled increasing by 75 percent. Video surveillance is surely one of the measures needed to keep traffic flowing and drivers and passengers safer.



By helping channel partners provide their customers with complete, affordable, best-in-class, large and small video surveillance solutions, Infinova helps integrators generate more business more profitably. Leveraging a manufacturing process certified to ISO 9001:2000 standards and over 250 engineers with a list of video industry firsts, Infinova channel partners provide their end-users with industry-acknowledged product reliability and technical leadership.

So that Infinova channel partners can create complete solutions, Infinova provides IP surveillance cameras and components, CCTV analog cameras, DVRs and components, camera accessories, monitors, power supplies and fiber optics communications devices. Infinova also has the technical ability and manufacturing flexibility to let integrators propose customized solutions. In addition, Infinova will partner with other manufacturers making other surveillance equipment and software to help its channel partners create turnkey solutions. Contrary to most other companies, Infinova will back-up their partners' products as well as its own to assure both the integrator and its customers that one call – to Infinova only – takes care of everything.

Infinova works diligently to assure its channel partners can provide cost-conscious solutions. With Infinova's hybrid systems, channel partners can propose systems that protect a customer's investment in its already-installed analog surveillance system but that also put them on a dynamic migration pathway to IP systems.

Infinova is lauded for its exceptional maintenance programs. A major highlight is the company's 24-hour advanced replacement policy in which a substitute product is shipped immediately upon notice of a problem.

With such customer focus, Infinova is often referred to as "the integrators' manufacturer."

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