Case Study

Expert Solutions for Law Enforcement Vehicles Surveillance Systems

"Our mission is to make products that will serve the needs of our customers, set new standards of excellence in their industries and help make the world a better and safer place to live in." – YT Yang, CEO, Axiomtek.

Background

Since 1991 when the Rodney King beating incident took place, the U.S. federal government has increased funding on projects involving outfitting police vehicles with video equipment. Based on NBC News.com, in 2001, 48% of law enforcement agencies were using in-vehicle cameras to record officer interactions with civilians. More than a decade later, digital cameras and small, yet advanced, in-vehicle computers have made the process easier and better. No more VHS tapes and fuzzy images, now that we have gone digital.

To ensure transparency in law enforcement activities, the police department in the heart of New England wanted to outfit their police vans and transport vehicles with onboard surveillance systems.

They approached their existing supplier, one of the world's largest engineering firms, to design a solution that will serve this purpose. This was a Quick Reaction Capability (QRC) process due to funding deadlines. After evaluating multiple industrial computing solutions, the firm chose one of Axiomtek's eBOX products as the computing platform for the network video recorder (NVR).

Application and Requirements

- The controller (NVR) will be housed in the detention area of each police van. A compact size controller is desirable.
- It will connect to multiple cameras with CAT 6 cable for connection to a networked switch.
- The cameras will be recording temporary video to offload to servers for forensic use.
- It will require wide operating temperature Solid State Drive (SSD) since it will be installed onboard a police van.
- It will require wireless communications, allowing specifically for 4G LTE when available for efficient streaming of the video images.
- It will require compatibility with selected security software.
- It must have digital I/O and possibly CANBUS interface.

Challenges

The police department wanted the application to be successfully deployed in a relatively short period of time. The selection process began very quickly. All of the required equipment and software needed to be tested for compatibility and achieve the expected capabilities and performance.

Solutions

Axiomtek's eBOX626-841-FL was selected for the pilot run of the project. This fanless, ultra-slim embedded system with low power consumption Intel® Atom™ Processor E3826 met all of the requirements set by the engineering firm for the project. It offered compact size; wide operating temperature range from -20°C to +60°C; full feature I/Os; and other useful key features including DIO, many USB ports, two RS-232/422/485 ports and a 204-pin DDR3L-1066/1333 SODIMM of up to 8GB. Wireless communication requirements were met by two PCI Express Mini Card slots and one SIM slot. It also offered one 2.5"SATA drive bay and MSATA support. The system's customizable capabilities included 128GB wide operating temperature iSLC SSD and 10V -34V DC wide power input range.

Additional useful features for such challenging transportation operations could also be delivered without an issue with products from our transportation product line. The

tBOX products offer high performance processors, additional transportation safety certifications and anti-vibration features such as M12 connectors, EN50155 or eMark certification/compliance and lockable I/O interface. Axiomtek's comprehensive transportation product line can meet and exceed the requirements put in place for this or any mission critical project.

The experienced sales and engineering team at Axiomtek, in conjunction with technology partners being considered for the project, helped determine what was required to achieve optimum results for the application and immediately offered solutions. The eBOX controller's compatibility with the selected security software was already proven from past collaborated projects. Axiomtek offered a low risk solution that resulted in a shortened deployment time. This, coupled with the reliable eBOX controller, helped the customer meet their time constraint and project challenges with successful results.

Other Axiomtek Transportation Embedded Solutions

tBOX810-838-FL

tBOX810-838-FL fanless transportation embedded system for vehicle, railway and marine applications.

Axiomtek's most recent model of the tBOX product line with low power consumption Intel® Atom™ processors is compact in size, powerful and feature-rich. The tBOX810 has eMark, ISO7637, EN50121 and IEC60945 certifications to meet the safety requirements of various vehicle and rail standards. It offers wide operating temperature range, rich I/O options, onboard memory and fanless operation. There are many options available for this versatile, high-quality transportation embedded controller including systems with high performance Intel® Core™ Family processors and additional certifications.

For industrial embedded system solutions, our award-winning **rBOX and eBOX** series are among the best of all embedded systems available in the industry. These exceptional embedded controllers offer great customizability, interoperability, easy integration and maintenance, lower implementation costs and improved time-to-market.

Contact Us

For more information on our extensive surveillance and transportation product lines, visit our website at http://us.axiomtek.com/ or email us at solutions@axiomtek.com.