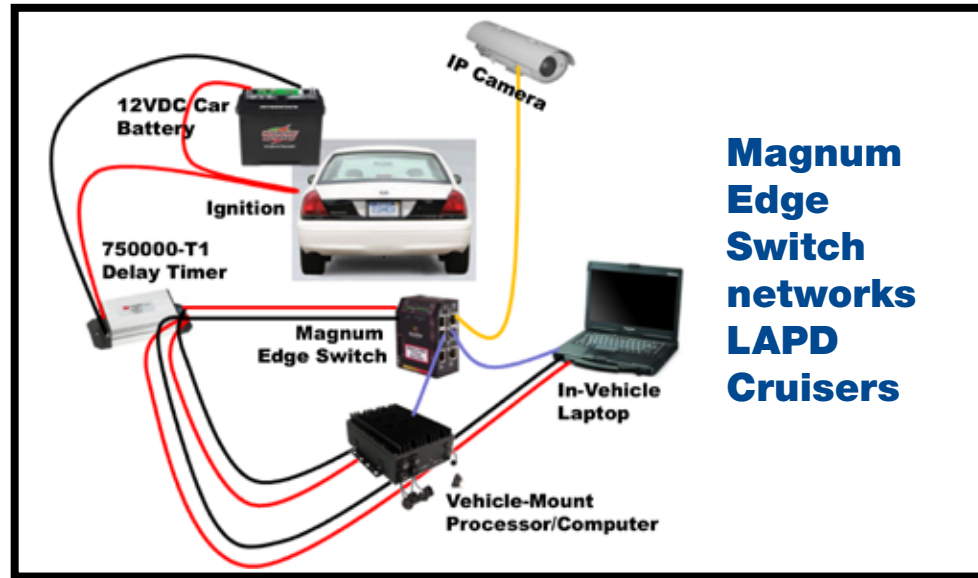


AN00007

**Magnum Edge Switches Connect Los Angeles Police Department (LAPD) Cruisers' Mobile Communications**

A mobile networking application about Los Angeles Police Department (LAPD)



**Magnum Edge Switch networks LAPD Cruisers**

**The Los Angeles Police Department (LAPD) is the third largest police department in the United States with over 10,000 officers responsible for a 500 mile, four million person area.**

With such a large area and limited officers, increasingly the LAPD is turning toward mobile communication systems. Police need to be able to retrieve data such as personal and vehicle information via police headquarters and other government databases. Additionally, the interchange of data among various police officers in field cruisers is very efficient.

**The Hardened Networking Challenge**

LAPD wanted hardened Ethernet switches that would be mounted in the trunks of their police cruisers to provide both a data and video communication system in each vehicle. Key to the selection of the networking equipment was the switches' ability to withstand the extreme temperatures that sometimes occurred in the trunks of the vehicles. In particular, LAPD wanted to insure that the switches were capable of withstanding up to 70°C in an enclosed vehicle in the California sun with no performance deterioration. Another key consideration for LAPD was whether or not the switches had a history of reliability.

**The Solution**

Industrial Ethernet Edge Switches from GarrettCom were selected for LAPD's hardened mobile communication system. The

six-port Magnum ES42 Edge Switches easily met LAPD's temperature requirements, and the switches had a long record of field-proven reliability. Each Magnum Edge Switch was mounted in the rear of a LAPD cruiser where it enabled a communication system among the different cruisers as well as to police headquarters. Each switch connected to a hardened trunk-mounted computer as well as to an in-vehicle laptop. Each 100Mb/s ES42 also networked an on-board video camera.

LAPD has also considered the PES42 Edge Switch that offers up to four PoE ports for possible connection to PoE-powered video cameras. Currently the ES42 Edge Switches are powered via the cruisers' 12VDC car batteries. Adding a DC-to-DC power converter (12VDC to 48VDC) supply would not only enable networking of the PoE cameras but could also help filter out the electrical noise from the charging and discharging of the vehicle batteries. Magnum Edge Switch models are available with 12VDC, 24VDC, -48VDC, and AC power options. LAPD has found the compact, ruggedized Edge Switches to be a good fit for their officers in-vehicle networking needs and plans to continue to deploy the Magnum Edge Switches.

## Belden Solution

### About Edge Switches and GarrettCom

The hardened Magnum ES42 Edge Switches are available in both PoE and non-PoE models. Each Edge Switch contains six ports. The models chosen by LAPD contain six copper ports. Other models are available with four base copper ports and either a.) two 100Mb fiber ports, or b.) one fiber and one copper port. The Magnum Edge Switches are frequently installed in space-constrained areas, where the small footprint of the Edge Switches is critical in enabling a network.

GarrettCom is a leading designer and manufacturer of networking products for industrial and outdoor markets such as surveillance & security, power utilities, transportation, and factory automation. GarrettCom's focus has been on developing innovative, heavy-duty products that are designed with customer flexibility, security, and reliability needs in mind.

For the Power Over Ethernet (PoE) line, GarrettCom has developed a range of industrial Power-Source PoE products based on the IEEE 802.3af standard specification supporting security products such as IP-cameras & badge readers. To learn more about GarrettCom's range of hardened and innovative products, visit [www.belden.com](http://www.belden.com).



Magnum Edge Switch mounted in the trunk of LAPD cruiser

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