Adding Security and Communication to a Highway Toll Agency

THE SCENARIO

In a large city, traffic authorities operated a highway toll agency that included an administration building and four toll booths located at a major interchange. To communicate between the locations, agents used an intercom. The administration building housed a video surveillance system to keep a record of all vehicles that were driven through the toll booths. The toll booths had an exterior paging system to publicly address drivers when needed.

Paging from the administration building was not possible. Instead, someone from that building would make a call to an agent at a toll booth, who would then page drivers through their old intercom. This method was slow and inefficient for emergencies. Additionally, when agents called each other using the said intercom, they had trouble hearing details due to the high-traffic noise.

Authorities needed an improved system for agents to clearly communicate between the separate administration building and the toll booths located at the interchange. They also wanted the same system to provide the ability to monitor their surveillance systems and relay messages to drivers from both locations.

Traffic authorities swapped their old intercom for IP technology, allowing them to leverage the existing PA and surveillance systems.

THE SOLUTION

To leverage their paging and surveillance equipment, authorities at the agency swapped outdated intercoms with IP technology that easily integrated with existing systems.
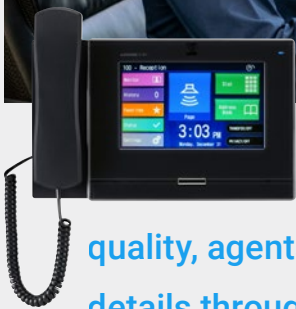
PoE master stations located at the administration building and the toll booths allowed all agents to transmit messages directly through the PA system. This eliminated the added step of agents needing to relay messages to someone at a booth first in order to page drivers.

Since the master stations offered superior sound quality with built-in handsets, communication between agents was no longer compromised by ambient traffic noise. Details were clearly heard on both sides of the intercom. Agents could also use the master stations to view the third-party camera feed for monitoring purposes.

Administration Building

Toll Booths

With superior sound quality, agents could clearly hear all details through the loud traffic noise.

Live video from any networked camera could be monitored through the intercoms.

THE BENEFITS

• IP intercom system improved communication for traffic agents who needed to speak between their administration building and toll booth locations

• With the simple touch of a button, authorized agents could broadcast general messages or emergencies through the integrated PA system, making their paging process more efficient

• Superior sound quality and built-in handsets ensured all details were clearly heard through the intercom, even with the surrounding traffic noise

• Agents could display the third-party camera feed on the intercom screens for additional security and monitoring purposes

System Configuration Example

Aiphone Components

IP Video Master Station x 5

IP Audio Door Station x 1

120W Paging Amplifier x 1

Application was for a highway toll agency with one admin building and four toll booths. One toll booth housed the PoE and paging equipment for all four booths, which is connected to the admin building by a VLAN.
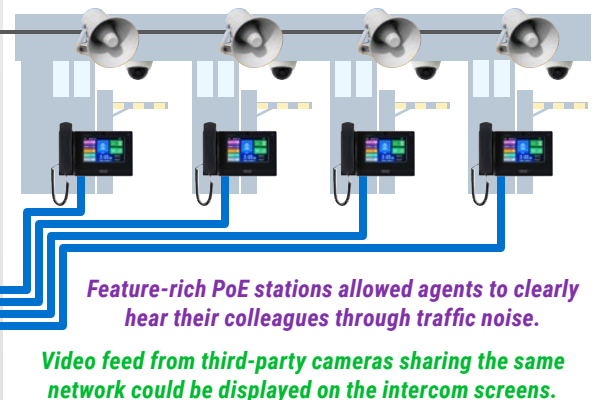
Administration Building

PoE Switch

Traffic agents could quickly broadcast messages through the PA system using programmed speed-dial buttons.

Equipment Closet

IP audio door station provided output for PA system.

PoE Switch

Toll Booths

Feature-rich PoE stations allowed agents to clearly hear their colleagues through traffic noise.

Video feed from third-party cameras sharing the same network could be displayed on the intercom screens.

Explore *more* unique possibilities on our Solution Showcase page.