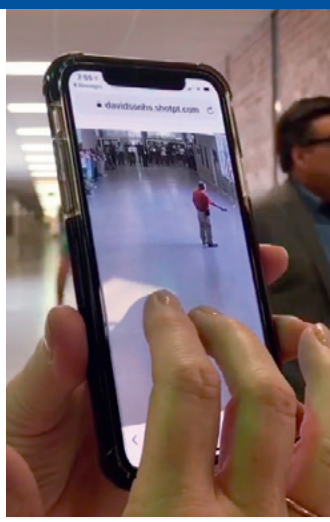


Extron Technology Unifies Security System Control at Mobile Alabama Schools to Make Campuses Safer

"This is cutting edge. I don't know of another system anywhere that is anything like this. Everything that needs to happen can happen with the push of a button for notifications and lockdowns."

Andy Gatewood
Director of Security
Mobile County Public School System

"Extron is the brains of the system, handling all the logic, enabling the seamless operation we needed."

Michael Williams
Technical Support Manager/Solutions Design Engineer
Information Transport Solutions, Inc., A Uniti Company

Mobile County Public School System – MCPSS – and the City of Mobile, Alabama secured a $400,000 federal grant to fund a major security technology initiative at the W.P. Davidson High School campus. The project is a pathfinder for improving campus security districtwide and provides a blueprint for other school districts nationwide.

Challenge

Like all school districts, MCPSS has robust security systems. But a campus incident revealed some issues. A student fired a gun into the air in a misguided attempt to cause classes to empty. The principal took all prescribed actions, such as activating locks, triggering alarms, and broadcasting a mass alert message. He had to do all these things on his own because he was the only one trained in the process. This took too much time. It also left him so breathless that the mass alert message he recorded and sent-out to parents had a stressed tone that alarmed some of those parents. Another issue brought to light was that only the principal knew all actions to be taken in such an emergency; what if he had not been on campus that day? The security systems already available had many of the elements needed to solve these problems, but they needed to be augmented, unified, and automated.

The appropriate campus security status can easily be selected using color-coded pushbuttons located on Extron TouchLink Pro touchpanels or on the mobile devices of first responders. Shown here are the Routine Operations screen (top) and the Campus Alert screen (bottom).

Teacher Assist button on MLC Plus 100 MediaLink controller summons immediate assistance to classrooms.

Classroom surveillance camera and Recording-in-Progress light share ceiling space with motion sensor and WiFi access node.

Extron partnered with six other companies, MCPSS, and lead integrator Information Transport Solutions, Inc., A Uniti Company, transforming a collection of siloed applications into a seamless, easy to operate physical security solution that can literally save lives.

Solution

The system has Cisco VoIP telephones and high-resolution IP security cameras; intercoms, paging and digital signage from Singlewire and IndustryWeapon; mass notification from School Messenger; IGOR color-changing IP LED lights and motion sensors; gunfire notification from Databuoy; plus existing classroom and outdoor speakers campus-wide and Extron MediaLink Plus classroom AV control panels with Teacher Assist button. Extron controllers mesh all these components into a coherent system. Commands are entered through color-coded pushbuttons on password protected touchscreens displayed on Extron TouchLink Pro touchpanels in campus offices or on the screens of first responder mobile devices.

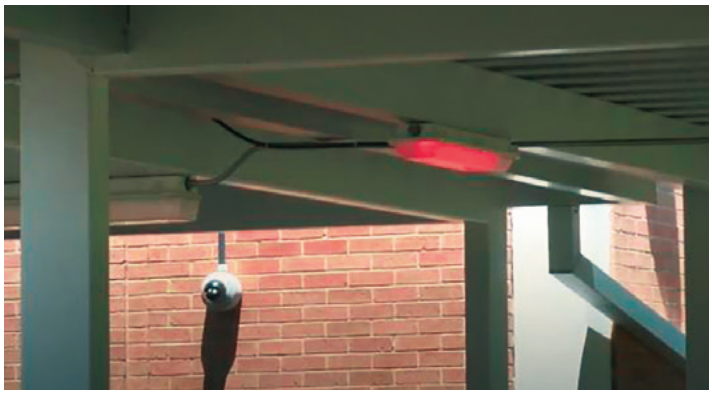
Color coding provides instant recognition of the threat level, spurring correct responses conditioned through training drills. This coding is consistent from end-to-end, starting with the buttons on the control GUIs and extending to the color-changing LED lights and digital signage throughout the campus.

Automated Protective Measures During Lockdowns

If a lockdown is initiated, protective responses happen automatically, minimizing adrenaline-induced lapses. A pre-recorded announcement in a firm but calm voice is broadcast throughout campus over IP speakers and telephones. Locks engage at entrances. Colored lights in hallways and outside walkways shine red. Digital signage screens, classroom projector screens, and all network connected computers switch to a red LOCKDOWN message. Pre-recorded phone and text push alerts are sent to parents when authorized by officials. If the sound of a gunshot is detected, the system pinpoints the location and routes video and audio from surveillance cameras at that location to first responders via a mobile app. First responders see the situation in real time before entry, saving precious minutes and possibly lives.

Teacher Assist – Technology Has Teachers' Backs

The Extron MLC Plus 100 MediaLink controller, part of the AV system in every classroom, has a Teacher Assist button. If the instructor needs to summon help for any reason – whether it's a disruptive student, a medical emergency, or a chemical spill, he or she just presses the red Teacher Assist button to open a conference call between the classroom phone and the front office and activate video and audio recording through the classroom surveillance camera. An LED light in the classroom shines red to indicate recording is in progress. Davidson High School reports that it is averaging one Teacher Assist activation per week. Instructors take comfort knowing that backup is just one button push away.



Color-changing IP LED lights in hallways, stairwells, and outdoor walkways indicate color-coded alert status.

A locked control room houses security system monitoring, recording, switching, and control equipment.

System Also Makes Routine Operations Run Smoothly

The security system makes day-to-day campus operations easier too. A touchpanel Graphical User Interface specifically designed for routine security functions can lock exterior entries for daily closed campus conditions, over-ride bell schedules when skipping normal class periods during testing, etc. The GUI can also display campus maps showing real-time conditions, such as motion detection in areas where no one should be present.

Extron Controllers Tie All Functions Together

Extron IPL Pro CR 88 Control Processors run the control software and drivers that interface with APIs – Application Programming Interfaces – of other software elements of the system from the different companies involved. These controllers also provide relay closures to trigger hardware functions. Extron developed a custom Ethernet driver to interface with the IGOR motion sensor and color-changing LED light server. The interface to the SingleWire system is a combination of an Ethernet driver developed by Extron and VoIP/SIP communication protocol implemented via DMP 128 Plus C V Digital Matrix Processors. Pressing an Alert trigger button on the TouchLink touchpanel instructs the DMP 128 Plus to dial a protected telephone extension corresponding to the selected alert. Each extension triggers the SingleWire system to execute display and announcement presets programmed to the specific Alert trigger button. Because the SingleWire system operates on a cloud server, the phone extension scheme offers the most robust interface with the server because it works even if internet connectivity is down. Michael Williams of Information Transport Solutions oversaw design and installation. In his words, “Extron is the brains of the system, handling all the logic, enabling the seamless operation we needed.”

Result

“This is cutting edge. I don’t know of another system anywhere that is anything like this,” says MCPSS Director of Security Andy Gatewood. “There are so many capabilities with this system. Everything that needs to happen can happen with the push of a button for notifications and lockdowns.” David Akridge, MCPSS executive director of information technology, adds that the system is under thorough evaluation with an eye to doing roll-outs at more campuses. “We see how users interact with the system, how the kids react, and if anything needs tweaking. We want to prove the concept and how it works in the real world. I think there are a lot of eyes on what we are doing.”