



Case Study: **Pleasant Grove High School**

# Directional Sounder Technology Provides High Level of Protection in Alabama High School



Project:

**Pleasant Grove**  
High School  
Pleasant Grove, Ala.

**Two-Story** Facility  
Over **1,000** Students

**344**



Smoke & Heat Detectors

**48**



Speaker Strobes

**59**



Duct Smoke Detectors

**125**



Horn Strobes

**67**



ExitPoint Directional Sounders

Designed for an expected enrollment of over 1,000 students in grades 7-12, the plans for **Pleasant Grove High School** in Pleasant Grove, Alabama, were submitted in June 2007 by architecture firm, Latham Associates.

The building design, which called for the largest school in Alabama's Jefferson County, includes two stories, multiple stairwells, an elevator, a cafeteria and kitchen, and other features in a layout typical of schools in the area.

As a school hosting over a thousand children every day, fire and life safety was a primary concern for the building designers as well as the Pleasant Grove community. The electrical

components of the design, including the fire systems, were managed by Stewart Engineering & Construction. The bidding process for the fire systems began in January of 2008. Because the Jefferson County school board required the provider to be local and wanted to restrict non-proprietary technology, Stewart considered bids from three local dealer representatives of proprietary fire system manufacturers. The

chosen design was provided by Cole Equipment, Inc., a NOTIFIER®-affiliated integrated fire detection and life safety systems dealer located in Pelham, Alabama. Two main factors led to Cole Equipment being awarded the project: Cole's experience with school buildings in the county and their use of ExitPoint™, a unique device designed to provide directional audio signals for evacuation.

"Much of our design for the fire and life safety system was driven by code," said Jason Cole, President of Cole Equipment. "For example, all paths of egress are required to have fire detection. We used NOTIFIER intelligent photoelectric smoke detectors [manufactured

routes. Said Cole, "We installed ExitPoint at every exit and in every stairwell. This technology can guide occupants along the safest routes out of the building, even in low or no visibility."

The design also called for heat detection to be used in challenging areas like kitchens or janitor's closets where cooking smoke, steam, or chemicals had the potential to cause nuisance alarms in photoelectric smoke detectors.

Beyond doing the fire System design, Cole Equipment inspected and approved the fire system installation at several points during the construction process. In addition, they conducted a life safety inspection that tested every fire system device, including magnet tests on each

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— **Jason Cole**, President of Cole Equipment

by System Sensor] in all the hallways." Because these detectors are addressable, safety officials at the panel will be able to identify smoke-filled hallways to better route fire fighting traffic in an emergency. All paths of egress were also required to provide both audible and visual signals, so System Sensor P2R horn strobes were installed along evacuation routes.

In addition to fire and life safety systems mandated by code, Latham Associates included a requirement to provide even higher levels of protection for the school's students, staff and visitors. Architects from the firm had recently seen a demonstration of the System Sensor ExitPoint directional sound technology and felt it would be ideal for the school.

The ExitPoint system consists of a series of sounders placed throughout a building. The sounders are on the same circuit as the building's notification appliances and are automatically activated as soon as a sensor detects the presence of fire or smoke. Unlike standard fire alarm sounders, which simply alert people that there is a fire in the building, directional sound technology directs occupants along egress

duct smoke detector. In all, seven above-ceiling inspections were conducted from April to December 2009.

Overall, the fire and life safety systems include an NFS2-3030 NOTIFIER panel, one remote annunciator, one LCD, and nine power supplies. Devices include 50 addressable NBG-12LX pull stations, 294 2251B intelligent photoelectric smoke detectors, 50 5251B heat detectors, 59 intelligent duct smoke detectors, 48 SPSR speaker strobes, 125 P2R horn strobes, and 67 PF24 ExitPoint Directional Sounders.

A final life safety sign-off took place in June of 2010, allowing the school to open its doors in August for the 2010-2011 school year.



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