ACCESS CONTROL & SECURITY SYSTEMS.

USING TECHNOLOGY TO PROTECT PEOPLE, FACILITIES AND ASSETS

From intrusion alarms to CCTV, schools are using technology to enhance security. Here's what two systems in Florida are doing.

Terrorism

Protection

Awareness

TECHNOLOGY TUTORIAL

By MICHAEL FICKES

Security technology in public school systems around the country is growing, and not necessarily as a result of well-publicized tragedies.
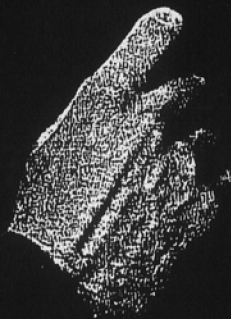
"Years ago, we used technology to protect the so-called high-value areas such as offices, computer classrooms and business classrooms," says Gerald Folks, administrator of security services for Florida's Orange County Public School System. "Today, however, virtually every room in a school has computers or some other kind of technology.

So we have begun to protect schools from the perimeter all the way through the interior."

Orange County is the 14th largest school district in the nation, but its use of security technology is increasingly common. In 1999, one supplier, Sonitrol Corp., Alexandria, Va., installed intrusion detection systems in more than 10,000 elementary and secondary schools and colleges across the country. Of the 500 largest public school districts in the country, about 80 employ Sonitrol's services.

In Orange County alone, 134 of 144 school buildings use technology installed by Sonitrol of Orlando, and Folks plans to bring the remaining 10 schools on line this year.

In Seminole County, right next to Orange County, Robert DeVecchio, coordinator of school security, has equipped 51 of 54 school buildings with Sonitrol security technology and plans to add the remaining three school buildings to the system this year.

All of the buildings in the two school systems are protected by door alarms and audio sensors, and a growing number are employing access control and CCTV technology.

Door alarms generally anchor a school security system, especially in older schools, which may have as many as 150 exterior doors, including doors leading outside from individual classrooms.

"In an older elementary school, you might have 50 to 60 doors," says Patrick Crane, a loss prevention supervisor for Sonitrol, Orlando, Fla. "And that doesn't count portable buildings, which have two doors each. If a campus has 20 portable buildings with

NOT JUST FOR CRIME CONTROL

In Florida's Seminole County school district, Robert DeVecchio, coordinator of school security, employs technology to prevent and thwart crime and also to keep an eye on students.

Last year, several former high school students attempted to steal equipment from a portable classroom on a high school campus, gaining entry by breaking a window. A monitor at the Sonitrol Security Station in Orlando heard the glass break over an audio sensor line and called the police. The monitor was able to estimate the number of people involved by counting voices transmitted over the audio link. When the police arrived, the thieves were caught trying to remove computer equipment.

Although Seminole County Schools — like most districts — occasionally fall victim to crime, the district's security technology helps defuse problematic situations with students. "We use CCTV cameras in high schools to monitor areas where students often congregate in large groups," DeVecchio says. "Any time large numbers of students come together, there is potential for problems. The visible cameras probably deter some of this. In other cases, we can see problems developing and direct staff to intervene before a fight breaks out."
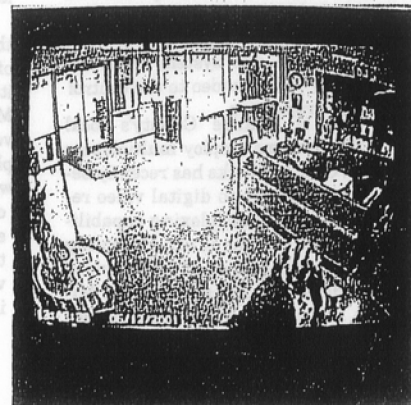
A seven-camera CCTV system supplements access control in the administrative buildings.

School security in Florida: A tale of two counties

two doors and a main school with 60 doors, that's 100 doors."

If door alarms represent the first layer of security, glass break technology forms the second. Classrooms, cafeterias, administrative offices, libraries, and most other rooms in schools have windows.

In both Orange and Seminole County schools, Sonitrol audio sensors complement the protection provided by door alarms. Mounted on walls facing windows, the sensors have a range of about 40 feet and will detect the sound of glass breaking, the impact noise made by someone trying to jimmy a lock, and voices of a team of intruders.

Monitoring hundreds of door and audio alarms in a single school and thousands of such devices across entire school districts requires people and technology working 24 hours a day. Alarm monitoring companies must handle the task, and Sonitrol monitors the systems for both Orange and Seminole Counties.

Individual door and audio alarms are home-run devices that connect to intelligent panels usually located in school equipment rooms. For campuses with several buildings, datalinks form daisy chains from building to building, with a main communication panel data-linked to the remote monitoring station.

CCTV, ACCESS CONTROL IN ORANGE COUNTY SCHOOLS

"Most of our schools have basic 16-camera CCTV systems," Folks says. "The cameras monitor the exteriors of the buildings and interior areas where kids tend to congregate."

According to Crane, they include two different types of systems: a conventional VCR and multiplexer configuration monitored locally in the administrative office of each school, and Sonavision, a system integrated into the intrusion alarm system and monitored by Sonitrol. If an intruder trips an alarm in an area covered by a camera, the system sends an alarm as well as video to the control center, Crane says.

Most of Orange County's local CCTV systems employ multiplexers and VCRs, but Folks has recently begun an upgrade to digital video recorders with multiplexing capabilities. Folks says he is experimenting with several brands of digital video recorders, including Dedicated Micros, Chantilly, Va. "These newer systems allow us to log in through a laptop or home computer and pull up cameras. If I get a call at home about an alarm at one school or another, I can pull up a camera and see what's going on. We have this capability in about a half-dozen schools."

While many school districts employ access control to protect administrative buildings, the technology traditionally has a limited utility in school buildings.

Recently, however, Orange County and Sonitrol have undertaken a beta test of an advanced access control system in a new, five-building Orange County campus called a "smart" school under a Fla.-based educational technology program.

Designed with fewer exterior doors, the system makes use of 27 Sonitrol proximity readers set on two exterior doors and at interior entrances that lead into building sections. For instance, a set of doors that lead into an area of classrooms are equipped with readers. Similar configurations control access to other large areas of the school, such as the gymnasium.

What makes the system particularly interesting is the use of Sonitrol proximity card technology capable of doubling as a smart card. "Sonitrol has designed a platform that combines debit technology with access control," Crane says. "So students can use the card to pay for lunches and to access features in the media center. As we go down this road, Orange County intends to incorporate more and more smart features with the cards."

ACCESS CONTROL, CCTV IN SEMINOLE COUNTY SCHOOLS

In the Seminole County School District, DeVecchio has equipped 27 schools with CCTV systems. Depending on the school and DeVecchio's judgment, these systems employ four or more fixed cameras supplied by Panasonic, JVC, and other nationally known manufacturers. Most of the systems use multiplexers supplied by Advanced Technology Video, Redmond, Wash., and video-cassette recorders made by Gyyr Inc., Anaheim, Calif. (recently acquired by Silent Witness).

In late 2001, DeVecchio replaced the VCRs and multiplexers in five of these CCTV systems with a digital video recorder from Dedicated Micros. "Digital video systems are very user-friendly, especially for people who have been using a system with a VCR and multiplexer," DeVecchio says. "The Dedicated Micros system is intuitive and requires little training, and non-linear digital video recording makes it much easier to review video."
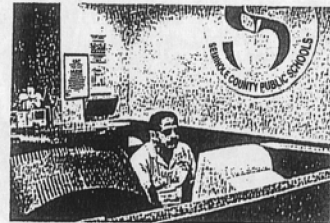
to view cameras from remote computers via an Internet connection.

DeVecchio has also installed an access control system in Seminole County's Educational Support Center (the main administrative building). Manufactured by IDenticard, Lancaster, Pa., the system includes seven proximity card readers that deal with approximately 400 authorized cards. "We control each of these systems locally with a computer in each building," DeVecchio says. "Each computer has its own database capable of setting clearances for individual card-holders."

A seven-camera CCTV system supplements access control in the administrative buildings. Most of the cameras monitor exterior entrances. One camera covers the lobby of the Human Resources department and another keeps an eye on the loading dock.

According to research conducted by Sonitrol in approximately 7,000 schools, the company's systems aided in the apprehension of 994 criminals in 2000. Of these, 478 were caught coming through doors and 245 through windows. More than 100 failed to gain entry and were captured outside the building.

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The CCTV system allows cameras to be viewed from remote computers via an Internet connection.