SYSTEM SENSOR®

WINTER 2007

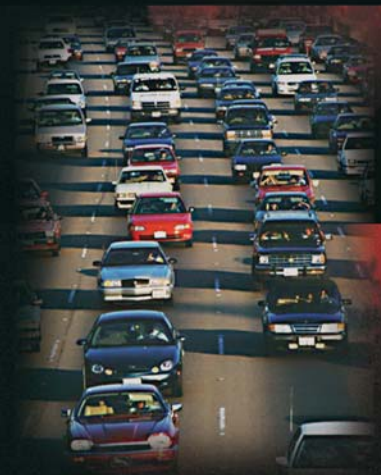
LifeSafety MAGAZINE

Information on life safety from the leader in fire detection

MASS NOTIFICATION: ARE YOU READY?

How to Balance:

- Protection
- Alerting
- Action Plans



ALSO INSIDE:

Renovating Older Homes

Mini-Horns Introduced

NEW! SW-ALERT and SWH-ALERT Amber Lens Strobes

- Amber lens strobes provide the distinctive visual signal used for mass notification during non-fire evacuations
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Plug-in design and 11 field-selectable candela settings
- Device can be mounted to wall or ceiling

MDL SpectrAlert® Sync•Circuit™ Module

- Synchronizes SpectrAlert® strobes at 1 Hz and horns at temporal 3 over a single pair of wires
- Silences horns over a two-wire loop
- Allows slave module operation

SpectrAlert® Advance Outdoor A/V Devices

- Offers high fidelity sound output
- 25.0 and 70.7 Vrms dual voltage speaker
- Four field-selectable power tap settings
- Rainproof per UL 50 (NEMA 3R)

SpectrAlert® Advance Chimes and Chime/Strobes

- Ideal for security guard and nurse workstations
- Alerts trained personnel to investigate possible emergency situations and to take appropriate action
- Simplifies installations with plug-in design, instant feedback ensures correct installation

NEW! SpectrAlert® Advance Mini-Horns

- Ideal for hotel, motel or residential fire system applications
- Offers high/low volume and non-temporal tone options
- Operates at 12 and 24 volts and mounts to single-gang back boxes
- Synchronizes on same circuit as standard notification appliances

Cut Installation Times

Guaranteed on SpectrAlert® Advance Notification Appliances

The SpectrAlert® Advance selectable-output horns/strobes' plug-in design simplifies installations by allowing installers to pre-wire mounting plates and easily check for continuity before installing any device.

The instant feedback message feature ensures correct wiring of individual devices.

Eleven field-selectable candela settings let you select the ideal light output for each installation.

Automatically selects 12- or 24-volt operation at 15 and 15/75 candela for programming ease.

The horn is rated at 88+ dbA at 16 volts with a rotary switch to select horn tone and three volume selections.

Can be synchronized on same circuit and is compatible with existing SpectrAlert® Advance products.

Meets all standard agency listings, including UL, FM, MEA, and ADA as well as CSFM.

To uncover more benefits of the System Sensor SpectrAlert® Advance Horn/Strobe products as well as other advanced solutions, visit our website at www.systemsensor.com/av or call **800/736-7672**.

SYSTEM SENSOR®

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www.systemsensor.com

The Voice of the Customer

The Voice of the Customer (VOC) is just one of many buzz phrases that suppliers use today. In its simplest form, VOC can help suppliers better understand their customers' needs and take the appropriate steps to address them. Suppliers should always be striving to improve all areas of product development, delivery and service. When suppliers hear that their customers want simplified product configuration or better product aesthetics, for example, suppliers know which specific changes will deliver greater value to all of their customers.

As a leader in fire and life safety detection and notification, System Sensor relies extensively upon VOC to discover solutions that address the needs of our customers, and oftentimes their customers. At System Sensor, we use a variety of means to gather VOC, from simple face-to-face discussions to formal interviews, depending on the scope of the program. In certain cases we will "walk the process" by having our representatives observe typical activities, such as installation and service procedures. In all cases, the intent is to gain first-hand knowledge regarding customer needs, as well as likes, dislikes, concerns and issues.

VOC has helped to deliver our most successful products by effectively processing those customer needs into real-world solutions. This issue of *LifeSafety* features many of those solutions. Each of these offerings has been made possible because people like you took the time to share "their voice" with us.

As you might imagine, collecting VOC is not simply a one-time event, but rather an ongoing effort for System Sensor. We welcome the opportunity to hear more from you as we continue to serve your needs. If you have something that you have been meaning to tell us, please don't hesitate. Let us know. We listen.

Tom Potosnak
Vice President, Product Marketing

CONTENTS

SYSTEM SENSOR
LifeSafety MAGAZINE

Your thoughts and comments are welcome at **info@systemsensor.com**.
For more information on System Sensor products, call 1-800-736-7672 or visit **www.systemsensor.com**.

Mass Notification: Are You Ready?

Enhancing Life Safety Through Mass Notification

Towering high-rises, sprawling college campuses, mass transit hubs...all can have hundreds or thousands of people occupying them at any given moment. When a crisis emerges, it's critical to protect lives, and that job becomes difficult when people are located throughout a facility or across a wide area.

Mass notification systems are becoming an integral part of both emergency and non-emergency communications for organizations of all sizes and in all industries. To fully understand the entire scope of protecting life safety, let's look at what mass notification truly entails.

The concept of mass notification systems (MNS) was born out of the collective inability to maintain communications and to direct building occupants to safety during the events of 9/11. This crisis prompted the U.S. Department of Defense (DoD) to develop a set of Unified Facilities Criteria (UFC) that, among many other things, mandates the installation of MNS in all DoD facilities worldwide.

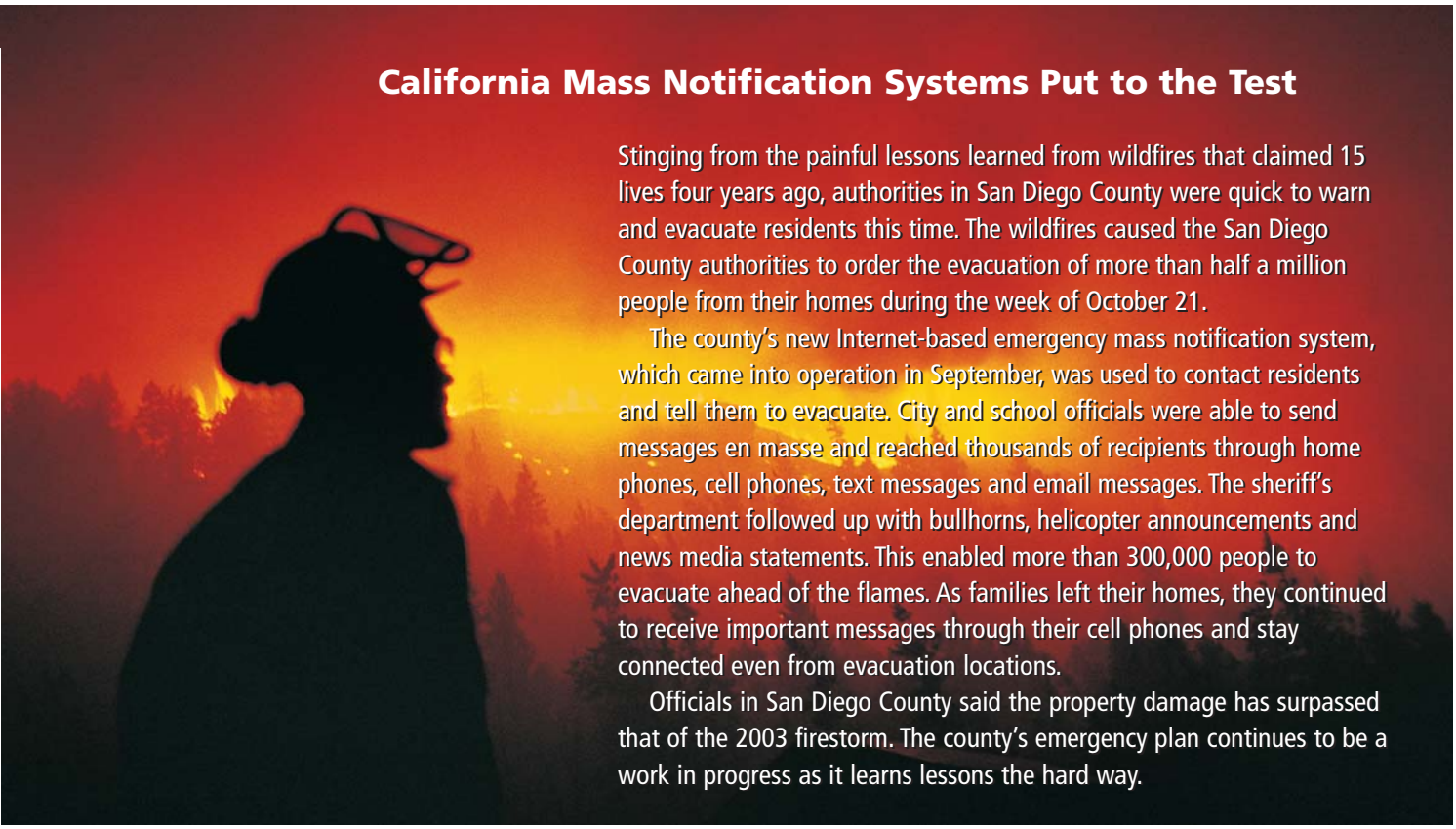
The objective of the UFC program is to streamline the military criteria system by eliminating duplication of information, increasing reliance on private-sector standards, and creating a more efficient criteria development and publishing process. In short, since 2004, mass notification has been required in all new DoD construction as well as in leased buildings, additions, expeditionary and temporary DoD structures.

Early in the implementation phase of MNS, the military's fire protection engineers realized the inherent value, intelligibility, reliability and survivability of Emergency Voice Alarm Communications Systems (EVACS), which would support the objectives of mass notification. Consequently, the latest edition of UFC 04-021-01 requires combination voice alarm and mass notification systems.

More recently, President Bush signed an executive order to create a National Public Alert and Warning System to enhance the nation's ability to respond during a crisis by interfacing public- and private-sector MNS. If there is a silver lining, it is that quantum leaps in communication technology offer a wide array of means for the delivery of timely, detailed information to facility personnel, occupants and emergency responders — whether across town or across the globe. From a suburban apartment complex to a sprawling college campus to the far-flung offices of an international corporation, developing and maintaining an effective MNS is not just a hopeful ideal, but a realizable goal.

Balanced System

There's a great deal of misinformation about what constitutes a mass notification system. Thinking of MNS as a gigantic public address system that provides prerecorded or live voice



California Mass Notification Systems Put to the Test

Stinging from the painful lessons learned from wildfires that claimed 15 lives four years ago, authorities in San Diego County were quick to warn and evacuate residents this time. The wildfires caused the San Diego County authorities to order the evacuation of more than half a million people from their homes during the week of October 21.

The county's new Internet-based emergency mass notification system, which came into operation in September, was used to contact residents and tell them to evacuate. City and school officials were able to send messages en masse and reached thousands of recipients through home phones, cell phones, text messages and email messages. The sheriff's department followed up with bullhorns, helicopter announcements and news media statements. This enabled more than 300,000 people to evacuate ahead of the flames. As families left their homes, they continued to receive important messages through their cell phones and stay connected even from evacuation locations.

Officials in San Diego County said the property damage has surpassed that of the 2003 firestorm. The county's emergency plan continues to be a work in progress as it learns lessons the hard way.

communication to personnel over a wide area by use of a highly secure encrypted wireless network is misleading, and it's only one aspect of mass notification. MNS is not simply a loudspeaker system; communication is only part of the solution. True mass notification systems involve a lot more than text messaging and intercoms. They involve integrated response to emergencies at every level of the organization — a communications and emergency management tool.

The UFC that is used by the DoD defines MNS as such: "A broad description of a Mass Notification System is that it is both a communications and emergency management tool that provides real-time instructions and information to building occupants or nearby personnel during an emergency event or situation. But a Mass Notification System also has an antiterrorism purpose. It is sometimes in conflict with the basic purpose of a building's fire alarm system. As an example, an emergency situation may call occupants to 'duck and cover' or 'shelter in place' not evacuate the building."

The reality is that every MNS is unique. There is not a one-size-fits-all solution for each situation. But there are similar aspects that are the common denominator that can formulate a complete system. The balanced MNS needs to include protection systems, alerting systems and action plans.

Protection systems must be able to detect dangerous situations and assist first responders to quickly take control. Systems such as fire detection, fire suppression, security surveillance, building automation and weather alerting are a few that can be used in the overall MNS.

Alerting systems need to communicate to occupants by giving real-time information and even instructions during an emergency. Ed Graves, president, Antronnix, Silver Spring, MD, emphasizes, "Mass notification needs to provide a means for the security staff to be able to notify the occupants — via strobes, voice messaging, alarms — and give instruction. Many times the message is not to evacuate because the threat could be outside, such as a nuclear or biological threat."

This is where the newer computer technology can deliver recorded messages to large numbers of people in a very short time. Voice evacuation and wide-area networks play a large role in communicating. Often, messages are sent through multiple communications channels: telephone, email, pager, fax, personal digital assistants (PDAs), computer pop-ups and other channels. They are faster, more accurate, more effective and less expensive than manual systems.

Efficiently integrating fire, security and communications provides emergency notification to occupants of a building, throughout multiple buildings, in much larger outdoor areas or in virtually any other venue.

(Continued on page 6)

Mass Notification

(Continued from page 5)

It's also possible to network indoor and outdoor components into a fully integrated, campus-type emergency notification system.

In order to prevent the emergency from affecting a large number of occupants, an action plan needs to be in place that will assist on-site emergency management staff with the response and handling of the situation until authorities arrive on the scene. Creating a master plan verifies that all fire and life safety, security, and notification systems are integrated and ready should an emergency arise. Emergency preparedness is a vital component to the overall MNS. Vulnerabilities and threats can be evaluated on an ongoing basis by considering: What could possibly happen? Where do you want people to go? Where are safe areas?

To prevent accidental or misuse of an MNS, appropriate security measures, such as multi-level passwords and encryption, should be used. Any emergency condition should first be validated as a real emergency before the communications system is deployed. These systems should also include self-monitoring capabilities for failures or disruptions of service. Additionally, new systems must be able to automatically report any failures or disruptions to a central station and/or remote stations.

Requirements

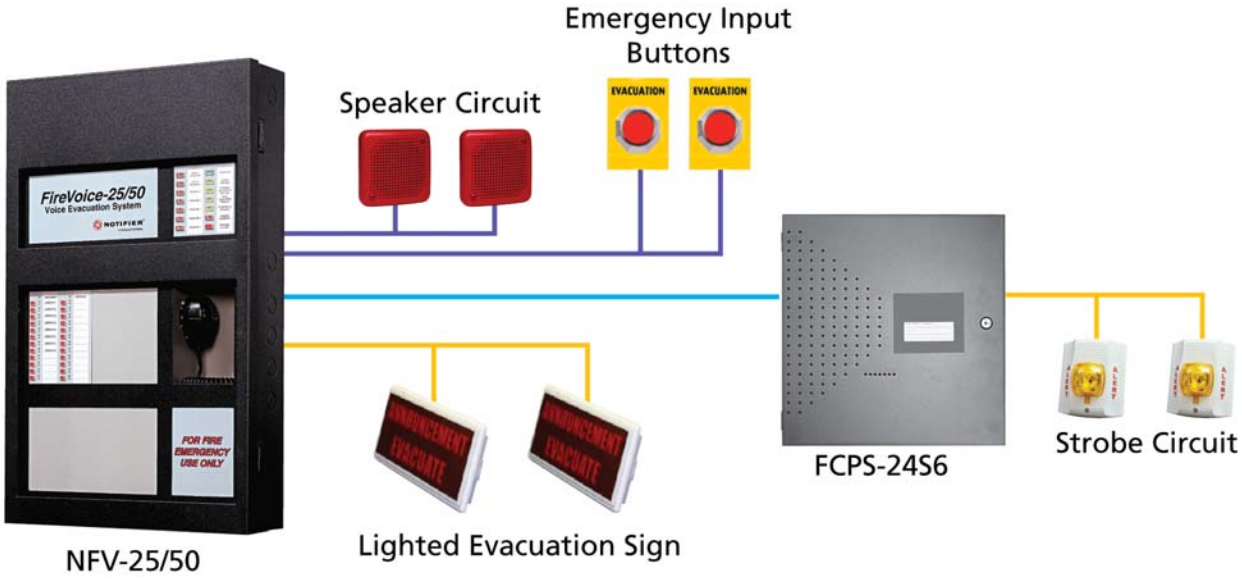
The applications for MNS are numerous and influenced by many agencies. For example, the Occupational Safety and Health Administration (OSHA), the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) are heavily involved in the petrochemical and power industries. The Federal Emergency Management Agency (FEMA) is involved in natural disaster type applications. The *NFPA 2007* edition includes guidelines in Section 6.8.4.7.

Mass notification will also become an essential part of *NFPA 72 2010 edition* (Appendix G). The change in the UFC 04-021-01 instigated the integration of mass notification concepts with existing requirements in *NFPA 72*. It addresses how to maintain code compliance and testing of existing fire alarm systems, while allowing mass notification to have a higher prioritized operation. The final decision maker on MNS code requirements is the Authority Having Jurisdiction.

In actuality, fire alarm systems incorporating voice communications capabilities have been used for decades to provide mass notification to warn building occupants of fire conditions as well as other emergency situations, such as severe weather alerts and chemical spills. The underlying premise behind this practice is that it enables the code-driven reliability and survivability of fire alarm systems to be used in delivering multiple types of communications. This results in high level system performance and avoids the additional costs of installing and maintaining multiple systems.

Solutions

Voice-enabled fire detection systems' inherent nature already provides mass notification to warn building occupants of emergency situations.



Notifier FireVoice 25/50 Voice Evacuation Panel with System Sensor SP201R SpectrAlert Advance Speakers and SW-ALERT Amber Lens Strobes

The regulated and code-driven reliability of a fire detection system makes it a highly effective platform for a mass notification solution. The rules, testing procedures and installation practices are already established. Also, the first responders are already familiar with the fire detection equipment, many with years of hands-on experience.

Some fire and life safety systems have expanded their voice messaging to incorporate mass notification features. The system has the ability, via LAN (local area network), WAN (wide area network) or the Internet, to send real-time emergency messages to multiple remote locations, simultaneously. In essence, workstations that are connected to the fire and life safety system can send emergency messages to one or many.

A wide variety of technologies and devices can be integrated into a MNS, including amplifiers, speakers, electronic digital message displays (all monitored for integrity), computer interfaces (e-blast and pop-up messaging), reverse 911, commercial radio broadcast, cable TV, PDAs, cell phones and pagers. The most advanced solutions use a wireless network or a fiber-optic network capable of simultaneously transmitting audio and digital communications over a single fiber-optic strand.

The benefits of mass notification are already being applied by organizations to increase revenues, cut or avoid costs, and minimize the loss of human life. Mass notification systems prove their worth during catastrophic events. Whether responding to a Homeland Security alert or warning people about a water main break that can affect building operations in numerous ways, these systems can save valuable time and allow crisis managers to focus on high-priority tasks. LS

Amber Lens Strobe Visually Notifies Occupants of Non-fire Evacuations

Facility managers are grappling with emergency preparation procedures for incidents ranging from campus shootings to local natural disasters. They are looking for appropriate notification products to quickly alert and evacuate people. While voice notification systems can be programmed to alter audible messages for non-fire evacuations, a visible signal for this type of emergency is still required for hearing-impaired occupants. The new System Sensor SpectrAlert® Advance SW-ALERT and SWH-ALERT amber lens strobes send a visual signal that is distinctively different from white fire alarm strobes.

The SW-ALERT and SWH-ALERT appliances incorporate amber colored lenses over strobes that can be adjusted to 11 different candela settings. The strobe is mounted in a white "alert" housing to differentiate it from the white strobe light mounted in a red "fire" housing used for fire notifications.

Designed to be used in 12- or 24-volt, DC or FWR (full wave rectified) systems, the new strobes are listed under *UL 1638 Standard for Safety Visual Signaling Appliances — Private Mode Emergency and General Utility Signaling*. They feature a plug-in design, tamper-resistant construction and compatibility with the System Sensor synchronization protocol.

Easy Installation

The System Sensor amber lens strobes are indoor products that can be mounted to the wall or ceiling easily. The units attach to universal mounting plates connected to 4-in. square or 4-in. octagon, single-gang or double-gang junction boxes. The circuit is wired to the SEMS terminals on the mounting plate, then the device is rotated into position, locking the unit's pins into the mounting plate's terminals. The device is held in place with a catch temporarily until it is secured with a captured mounting screw. A shorting spring on the mounting plate allows for a continuity check before installation. The spring automatically disengages once the strobe is installed to enable supervision of the final system.

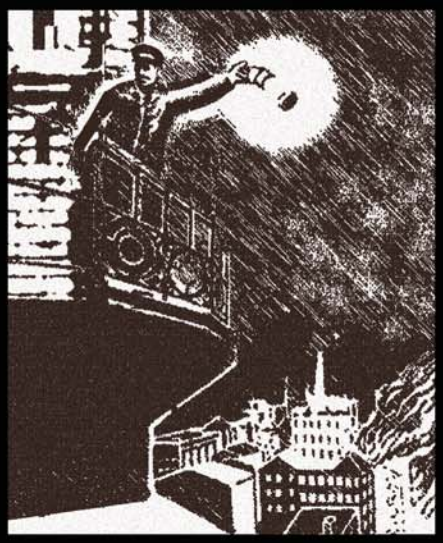
The new SW-ALERT and SWH-ALERT units blend into the SpectrAlert® Advance portfolio with the same design, configuration and installation features consistent with System Sensor wall-mount horns, strobes, horn/strobes, chimes and chime strobes, as well as ceiling-mount strobes and horn/strobes.

SpectrAlert® Advance Amber Lens Strobes

SW-ALERT (with standard cd) SWH-ALERT (with high cd)	
Operating Temperature Range:	32° F to 120°F (0°C to 49°C)
Humidity Range:	10 to 93% non-condensing
Strobe Flash Rate:	1 flash per second
Nominal Voltage:	Regulated 12 VDC/FWR or regulated 24 DC/FWR
Operation Voltage Range (includes fire alarm panels with built-in sync):	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage with MDL Sync Module:	9 to 17.5 V (12 V nominal) or 17 to 33 V (24 V nominal)
Input terminal wire gauge:	12 to 18 AWG

INNOVATION

Early Detection & Notification



New York circa 1855. Tall towers were built for the purpose of spotting fires and summoning firefighters. Men employed as bell ringers would spend long shifts on the lookout, with minimum protection from the elements. When a fire was sighted, they would ring a bell. Firemen would run to the tower, receive the location of the fire and rush by a horse drawn fire wagon to the scene.

HAS A NAME.

Advanced Detection & Notification

Spot Smoke Detection

Audible/ Visible Notification

Duct Smoke Detection

Fire Sprinkler Monitoring

Beam Smoke Detection

Carbon Monoxide Detection

Directional Sounders

Innovation has been more than an ideal at System Sensor – innovation is our way of life. We exist to make our world safer by producing the very best detection and notification appliances. Because of our commitment to research and product development, our world-class products meet real-world applications.

Our mission at System Sensor is to develop advanced ideas that deliver advanced solutions for our customers. We bring the highest level of protection possible for fire- and life-safety emergencies.

To learn how System Sensor can assist you, please contact us at **800/736-7672** or visit our website, **www.systemsensor.com**.

SYSTEM SENSOR®

advanced ideas. advanced solutions.℠

What to Consider When Renovating Older Homes

Understanding home renovation basics – codes, permits, the approval process, plan changes, product selection, wiring, and installation

Selecting the correct fire alarm system for a home renovation project hinges on understanding your state and local codes and then installing the right products to meet those codes, according to Fire Alarm Specialist Greg Smizer, owner of Sprint Security Inc. in Waltham, Mass. He should know. For more than 30 years, Smizer has been installing fire alarm and security systems in renovated homes across New England.

Smizer has appeared on the Emmy Award-winning TV show "This Old House®," and offers his expertise on security, fire, and carbon monoxide (CO) detection and notification systems, which he provided for the show's most recent project in Newton, Mass.

"This Old House®" helps TV viewers demystify the home improvement process, and "ASK This Old House®" interactively answers homeowner questions.

Greg Smizer, Fire Alarm Specialist and Owner of Sprint Security Inc., has appeared on the program "This Old House.®"

"This Old House" tackles an 1897 Shingle-style home in Newton, Mass., for its fall 2007 project. The "This Old House" Newton project premiered nationally on PBS in October 2007 (check www.thisoldhouse.com/tvschedule or your local listings).

"This Old House" airs Thursdays on PBS (check your local listings).

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Codes

"Get to know your local authority having jurisdiction, your AHJ. Often, it is your state fire marshal. Get to know the local and state fire alarm codes. Become familiar with the various licenses and permits that apply to your job: *NFPA 72*, local building codes, state building codes, *Article 760 of the National Electrical Code (NEC)*, to name a few," advises Smizer. "For example, in Massachusetts, Nicole's Law stipulates that CO detectors must be installed in housing that uses fossil fuels or has enclosed parking. Ironically, no matter when a home was built, you can't sell it without meeting the current fire code."

Smizer also recommends reviewing the renovation floor plans, as drastic changes can alter the existing structure. For example, the recent "This Old House" renovation of the 4,200 square foot, 1897 Shingle-style home in Newton, Mass., changed considerably as existing spaces were used for new purposes. A porch became part of the master bedroom and an original dining room became a family room.

Smizer chose nearly 30 System Sensor products to protect this home. He selected i³ Series photoelectric smoke detectors, RRS-MOD reversing relay/synchronization modules, 2W-MOD2 series loop test and maintenance modules, and A77-AB2 retrofit adapter brackets. He also installed CO1224 carbon monoxide detectors for this uniquely American, Shingle-style renovation.

Permits

"In many cases," Smizer says, "building, electrical, and fire alarm permits are already in place. Normally, the fire marshal or an inspector reviews and approves the floor plans and locations of the fire detectors, alarms, and sensors." Permit regulations vary state by state. Once approved, the installation can begin.

"It's a good idea to mark any changes on the drawing and review the changes with the local fire official upon inspection," Smizer says.

Installation

Since the fire and CO detection and alarm devices were part of a complete security package for this renovation, Smizer used the standard FPL (power-limited fire alarm circuit cable) red fire cable throughout. Installation in the basement and the upper floors was easy because the beams were exposed. Smizer fished the wire behind the drywall in the main floors, being careful not to damage the original classic woodwork. Keypads were installed in convenient, yet discreet locations throughout the home and then linked to a processing center. LS

Selected Products

2WTA-B

The advantages of the System Sensor i³ Series model 2WTA-B photoelectric/thermal smoke detector with sounder influenced Smizer's decision. He knew that its pre-wired design cuts installation time and that its unique design allows the head to lock quickly onto the base. Its sounder generates an 85 dBA temporal tone that is perfect for residential applications since it can be heard in all the bedrooms. The isolated thermal feature initiates a local alarm when smoke is detected, and then a general alarm when the thermal sensor is activated, giving occupants fair warning. Green and red LEDs indicate normal standby, out-of-sensitivity, alarm, and freeze-trouble modes to facilitate inspections.

The 2W-MOD2 loop test and maintenance module automatically alerts a central station when service is needed. Smizer has tried products from other manufacturers, but found their detectors issued numerous false maintenance alerts.

2W-MOD2

RRS-MOD

The RRS-MOD reversing relay/synchronization module option enhances the operation of the i³ Series detectors equipped with sounders. For example, it activates all i³ sounders on the loop when one unit goes into alarm and synchronizes them for a clear alarm signal.

The A77-AB2 retrofit adapter bracket allowed Smizer to install the i³ Series detectors where larger diameter detectors had been mounted previously, while providing a finished appearance.

A77-AB2

CO1224

Smizer selected the CO1224 detector because it is the industry's first CO detector specifically designed for system connection, which worked well for this installation. The code-required trouble relay sends a sensor failure or end-of-life signal to the control panel. Its low current draw allows more detectors to be connected to the panel without having to purchase a more expensive panel or an extra power supply. Massachusetts law requires a CO detector in each bedroom.

According to Smizer, these discreet low profile detectors from System Sensor complemented the décor of the "This Old House" Newton project, blending form and function. The adapter bracket added the finishing touch. The 1897 home is in the final stages of renovation, and the owners are looking forward to moving in…and enjoying a long and safe stay.

Mini-Horns Expand SpectrAlert® Advance Audible/Visible Line

Small notification devices ideal for hotel, motel, residential applications

System Sensor unveiled its new mini-horn sounders, the latest additions to the successful SpectrAlert® Advance Series of audible/visible notification appliances, in Boston at the NFPA World Safety Conference & Exposition in June 2007.

The mini-horns are ideal for hotel, motel, or residential fire system applications where a smaller notification device is preferred. The MHR and MHW mini-horns operate at 12- or 24-volts and measure 4.6 inches long by 2.9 inches wide by .45 inches deep. This small footprint allows them to be mounted to single-gang back boxes in aesthetically sensitive applications. They are available in red or white housings.

The SpectrAlert Advance MHR and MHW mini-horns are the only devices of their kind in the industry to provide both high and low volume settings. In addition, the mini-horns offer temporal and non-temporal tones. They can operate between 32°F and 120°F from a regulated DC or full-wave rectified, unfiltered power supply.

The mini-horns can be installed in series using the System Sensor MDL SpectrAlert Sync•Circuit™ module. The module provides synchronization for SpectrAlert strobes at 1 Hz and horns at temporal 3 over a single pair of wires. The MDL module also silences horns over a two-wire loop and allows slave module operation.

System Sensor developed the SpectrAlert Advance Series based on extensive nationwide research conducted with commercial fire system dealers, installers, engineers, and designers. The voice of the customer (VOC) research identified customer priorities relating to A/V notification appliances, including requests for products that are easier to specify, configure, and install.

The result, according to Christa Poss, notification appliances product manager for System Sensor, is the industry's most refined series of A/V devices on the market. "We have answered virtually every requirement that has been expressed by installers and specifiers," says Poss. "This product platform has provided us with an opportunity to continue innovating new products well into the future."

The System Sensor SpectrAlert Advance Series contains wall mount horns, strobes, horn/strobes, chimes and chime strobes, as well as ceiling mount strobes and horn strobes. System Sensor also offers a complete line of outdoor SpectrAlert Advance products, including ceiling mount strobes and horn strobes.

The product line features a plug-in design that allows installers to pre-wire mounting plates and check wiring continuity before installing any devices. Other features include 11 field-selectable candela settings on wall and ceiling products, a higher volume sound output on horns and horn strobes, and a rotary switch for horn tone selection. LS

SpectrAlert® Advance Mini-Horns

SpectrAlert Advance Series of mini-horns are designed to simplify installations and to provide primary and secondary signaling for fire and security applications.

MHR – MINI-HORN RED
MHW – MINI-HORN WHITE

Dimensions:	4.6 in L x 2.9 in W x .45 in D
Weight:	2.67 oz.
Operating Temperature Range:	32°F to 120°F (0°C to 49°C)
Mounting:	Surface – single-gang back box Flush – 4 in x 4 in BBD deep back box (2¾ in deep)
Input Terminals:	12 to 18 AWG
Nominal Voltage:	Regulated 12VDC/FWR or regulated 24VDC/FWR
Operating Voltage:	8-33
Operating Voltage with MDL:	9-33

Major Trade Shows in 2008

Association of Heating & Refrigeration Expo (AHR)
New York, NY
January 22-24
http://www.ahrexpo.com

ISC West Expo
Las Vegas, NV
April 2-4
http://www.iscwest.com

National Fire Sprinkler Association (NFSA)
Paradise Island, Bahamas
May 15-17
http://www.nfsa.org

National Fire Protection Association (NFPA) World Safety Congress & Expo
Las Vegas, NV
June 2-5
http://www.nfpa.org

Commercial Construction Show
Orlando, FL
June 3-5
http://www.cc-show.net

Electronic Security Expo (ESX)
Nashville, TN
June 25-27
http://www.esxweb.com

Americas Security Expo
Miami, FL
July 29-31
http://www.americasfireandsecurity.com

America Fire Sprinkler Association (AFSA)
Washington, DC
October 15-19
http://www.firesprinkler.org

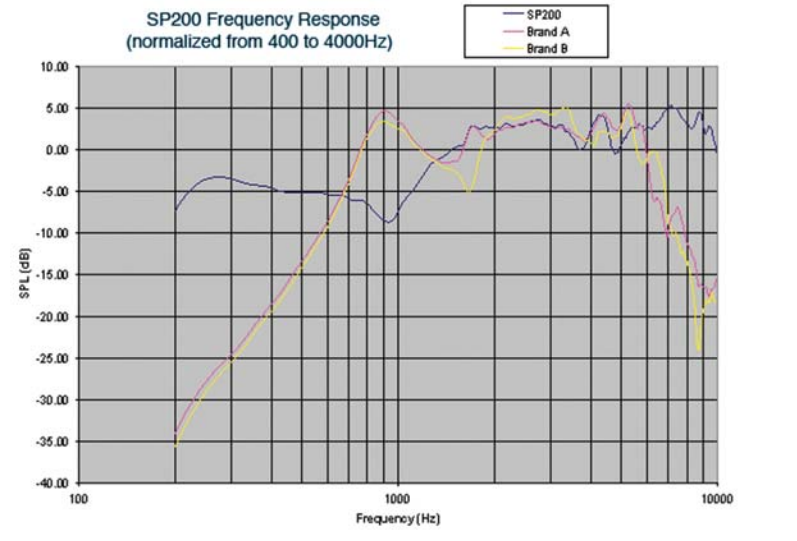
ISC East Expo
New York, NY
October 29-30
http://www.isceast.com

System Sensor Online

Visit **www.systemsensor.com** to learn more about System Sensor products and review previous issues of *LifeSafety* magazine. The System Sensor website provides one central location for installation and specification materials, plus quick access to product support. To view these helpful resources, simply click on the **Product Support & Install/Specify** icon located in the left-hand column of the System Sensor home page (www.systemsensor.com).

One of the many features in this easy-to-use section is the System Sensor Voice Evacuation Design Information link. Voice evacuation systems are becoming increasingly common as more and more jurisdictions' fire codes require them. However, designing a system that has good intelligibility is much more intricate than simply installing ordinary sounders. By clicking on the **Voice Evacuation Design Information** link, viewers can access basic voice evacuation system design information, including:

- **Important Topics** – Relationship between Power and Sound Output; Tips for Voice Evacuation System Intelligibility; SP200 Frequency Response (includes chart); and Total Harmonic Distortion (includes chart).
- **Listing Agencies Input** – A Word about Speaker Output ratings; and UL Speaker Output at Various Tap Settings (includes chart).
- **Sound Pressure Calculators** – Sound Pressure Loss with Distance; and Sound Pressure Level from Two Speakers.
- **Polar Plot Data for System Sensor Speakers**



Sound is Best Method for Waking People with Partial Hearing Loss

The Fire Protection Research Foundation has released a study indicating that low frequency sound notification is the most effective way to wake a person who has a partial hearing loss during an emergency situation. The System Sensor ExitPoint™ directional sounder with voice messaging emits broadband sound with varying tones and frequencies and meets this criterion.

The research study, *Waking effectiveness of alarms (auditory, visual and tactile) for adults who are hard of hearing*, was included in the Optimizing Fire Alarm Notification for High Risk Groups research project published in June 2007. The researchers tested numerous auditory signals and alternative alarms to determine which were most successful at waking and alerting individuals with partial hearing loss.

Various non-audible devices, ranging from bed or pillow shakers to strobe lights, have been promoted as life safety products for hard-of-hearing individuals. The study found that sound emitting systems were significantly better at waking these individuals.

The lower pitched tone was found to be much more effective than the higher pitched tone, typically 3150 Hz, commonly used in smoke alarms.

Audible emergency evacuation signals set at a 520 Hz square wave tone awakened 92% of the hard-of-hearing test participants when used at or below the code-minimum sound level of 75 decibels for 30 seconds. The success rate was 100% at 95 decibels. One study found that only 57% of hard-of-hearing individuals awoke to a 3100 Hz signal at less than 75 decibels.

The Fire Protection Research Foundation is an independent nonprofit whose mission is to provide practical, usable data on fire and building safety. The Foundation brings premier fire research resources to experts in code, corporate, and government arenas through objective research documentation on today's crucial fire problems and new solutions.

New NFPA Evacuation Guide for Disabled Covers Effectiveness of Directional Sound

The National Fire Protection Association (NFPA) has published the *Emergency Evacuation Planning Guide for People with Disabilities* for developing plans to protect disabled individuals during emergencies. This free guide can be downloaded as a Microsoft Word® or Adobe Acrobat® PDF document at www.nfpa.org.

The guide brings various planning components for the disabled community into one comprehensive evacuation planning strategy. It is written for those in building management who are involved in life safety decisions. Sections explore the egress requirements of individuals with one or more mobility, visual, hearing, speech or cognitive impairment.

Chapter 3, "Building an Evacuation Plan for a Person with a Visual Impairment" highlights the capability of a device that uses directional sound to lead people to a safe exit.

> Directional sound is an audible signal that leads people to safety in a way that conventional alarms cannot, by communicating the location of exits using broadband noise. The varying tones and intensities coming from directional sound devices offer easy-to-discern cues for finding the way out. As soon as people hear the devices, they intuitively follow them to get out quickly.

The ExitPoint™ directional sounder from System Sensor is an advanced egress device that can accelerate evacuation times by as much as 75%. The ExitPoint device acts as an audible exit sign, directing people to the nearest safe exit using broadband sound. It can also use a recorded voice message to provide verbal instructions in 15 field-selectable language choices. It is listed to UL 464, FM, MEA and CSFM. The technology of exit-marking audible notification is referenced in *NFPA 72, National Fire Alarm Code, 2007 Edition.*

The guide's "Personal Emergency Evacuation Planning Checklist" prompts emergency planners to consider a full range of appropriate devices and notification actions. References and links are provided for applicable life safety codes and studies.

This NFPA guide is based on input from the disability community. The NFPA is a nonprofit organization that serves the fire, electrical and life-safety field with code and standard writing, research, training and education. The guide will be updated annually, or when new ideas, concepts, and technologies become available.

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Quotation from Brainy Quote, Benjamin Franklin Ibid 1743. http://www.brainyquote.com/quotes/quotes/b/benjaminfr104457.html.

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Failure is Not An Option.

Did you know that a carbon monoxide detector without supervised wiring can fail *without notifying the panel*? Did you know that, unless your CO detector has a trouble relay, the CO sensor can be removed, become inoperable or reach the end of its life, *and nobody will know*? When lives are at stake, you can't afford that kind of uncertainty.

The CO1224 from System Sensor provides all the protection you and your students, staff and guests demand.

- **NFPA-required wiring supervision** will sense power outages and the trouble relay will signal the panel.
- The **UL-required trouble relay** will signal the panel if the CO sensor is removed, inoperable or expired.
- All detectors remain completely operational on a multiple detector circuit even if one detector fails.

Other CO detectors may be able to sense the presence of carbon monoxide. But only the CO1224 offers reliable CO detection *plus* the benefits of wiring supervision and a trouble relay.

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