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# Loud and clear

## Utilizing public address systems to enhance mass notification capabilities

By Michael Zuidema

A reasonable argument could be made that the first public address systems were created by the Ancient Greeks, who constructed massive amphitheatres with acoustics that ensured the back rows could hear the action just as easily as the front.

The technology of public address systems may have advanced considerably over the centuries, but the need for clear and effective communication with a large audience remains the same — especially during emergency situations.

Public address systems continue to be a hot topic when it comes to safety and security. According to a 2013 study by IMS Research, the mass notification market is expected to expand by 30 per cent and pass the US$2 billion mark by 2017 in North America. Mass notification hardware includes giant voice systems, notification devices connected to fire and life safety systems, blue light emergency phones and, of course, public address systems.

That research is buoyed by the growing number of public address speakers that can be found in places like college campuses, healthcare facilities, corporations, municipalities, parks, beaches, stadiums, airports, subways and bus terminals. McMaster University in Hamilton, Ont., for example, recently added more than a dozen blue light emergency phones with integrated public address speakers to its existing infrastructure. The move will strengthen the university's ability to communicate with the campus community, both indoors and out, and they're certainly not alone in making that kind of investment.

When an emergency occurs, it's vital to have a method in place that provides clear and effective contact with your intended audience. Not that long ago, it might have been common to find a single, massive amplifier located in the centre of a campus setting that distributed messages over a large area and occasionally would be jokingly referred to as the "voice of God." While there remain rare instances where that approach can work, it's far from the best way to reach large groups of people. Common problems include volume that is loud but hard for people to understand and limited sound zones that arise due to differences in the landscape.

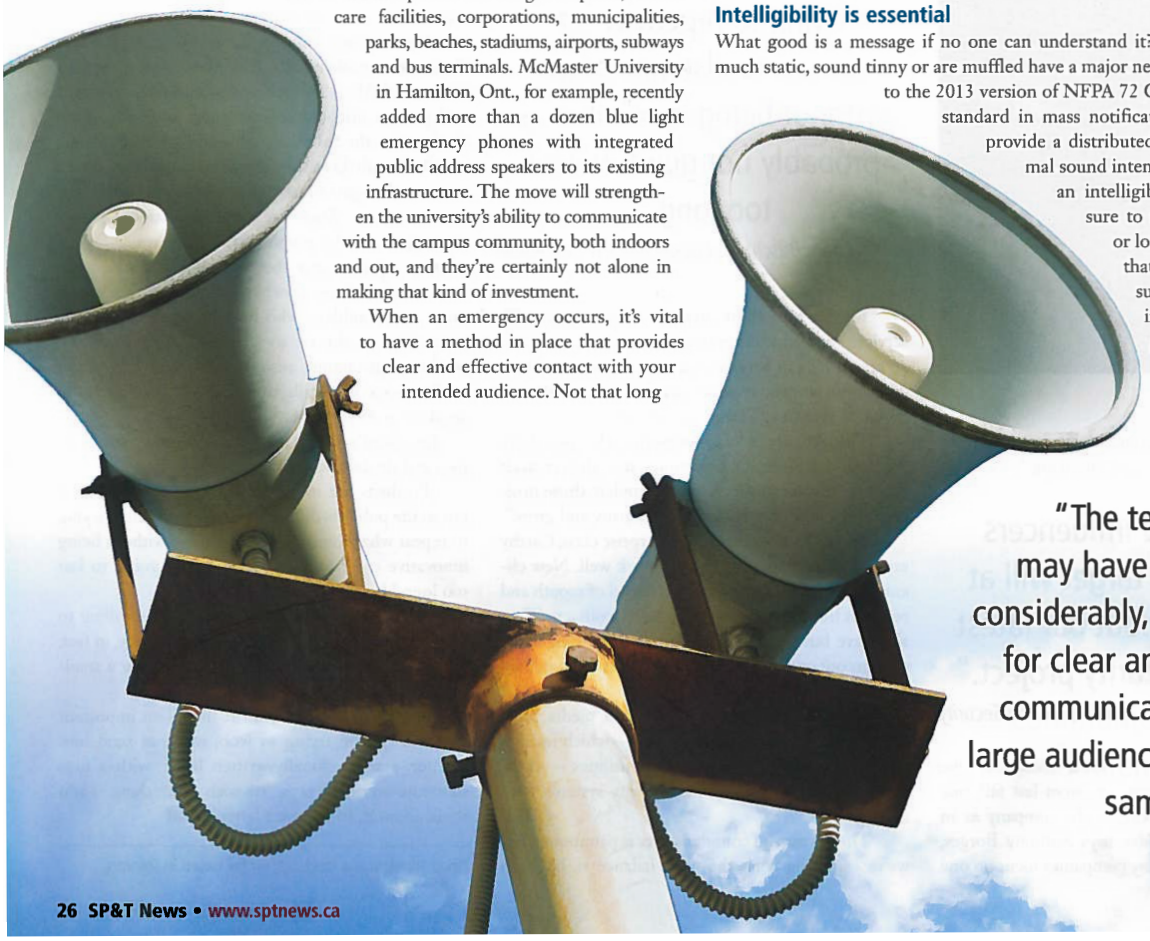
Instead, there are a number of important factors that must be understood to guarantee that not only is your message understood, but it's being disseminated in the most productive method possible. By putting in the requisite amount of time and research on these topics, you can be assured that you've implemented the right means of communication during an emergency.

### Adopt a multilayered approach

In order to establish the safest environment possible, a quality public address system should only be one piece of the security puzzle. It's important to incorporate additional security measures for a complete mass notification plan, including blue light emergency phones, email and text message capabilities, social media (Facebook, Twitter) updates, RSS feeds, paging systems and intercoms. It's the surest way to guarantee that all of the bases are covered and you're providing a comprehensive emergency communication solution.

### Intelligibility is essential

What good is a message if no one can understand it? Alerts that contain too much static, sound tinny or are muffled have a major negative impact. According to the 2013 version of NFPA 72 Chapter 24, an important standard in mass notification, "it is important to provide a distributed sound level with minimal sound intensity variations to achieve an intelligible voice message." Be sure to understand any national or local codes and regulations that may affect key factors such as intelligibility and installation. In an emergency, the message must be clearly understood by everyone. Time



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wasted trying to decipher directions can be confusing and frustrating, not to mention dangerous.

### Embrace integration

Countless benefits will be reaped by integrating public address capabilities with security solutions like video surveillance, fire alarms, digital signs and more. It's also extremely important to account for the hearing and vision impaired with extra alerting measures, like strobe lights or loop telecoil systems. These inclusions also provide additional versatility for first responders regardless of whether it's an emergency situation or not.

### Find the best location

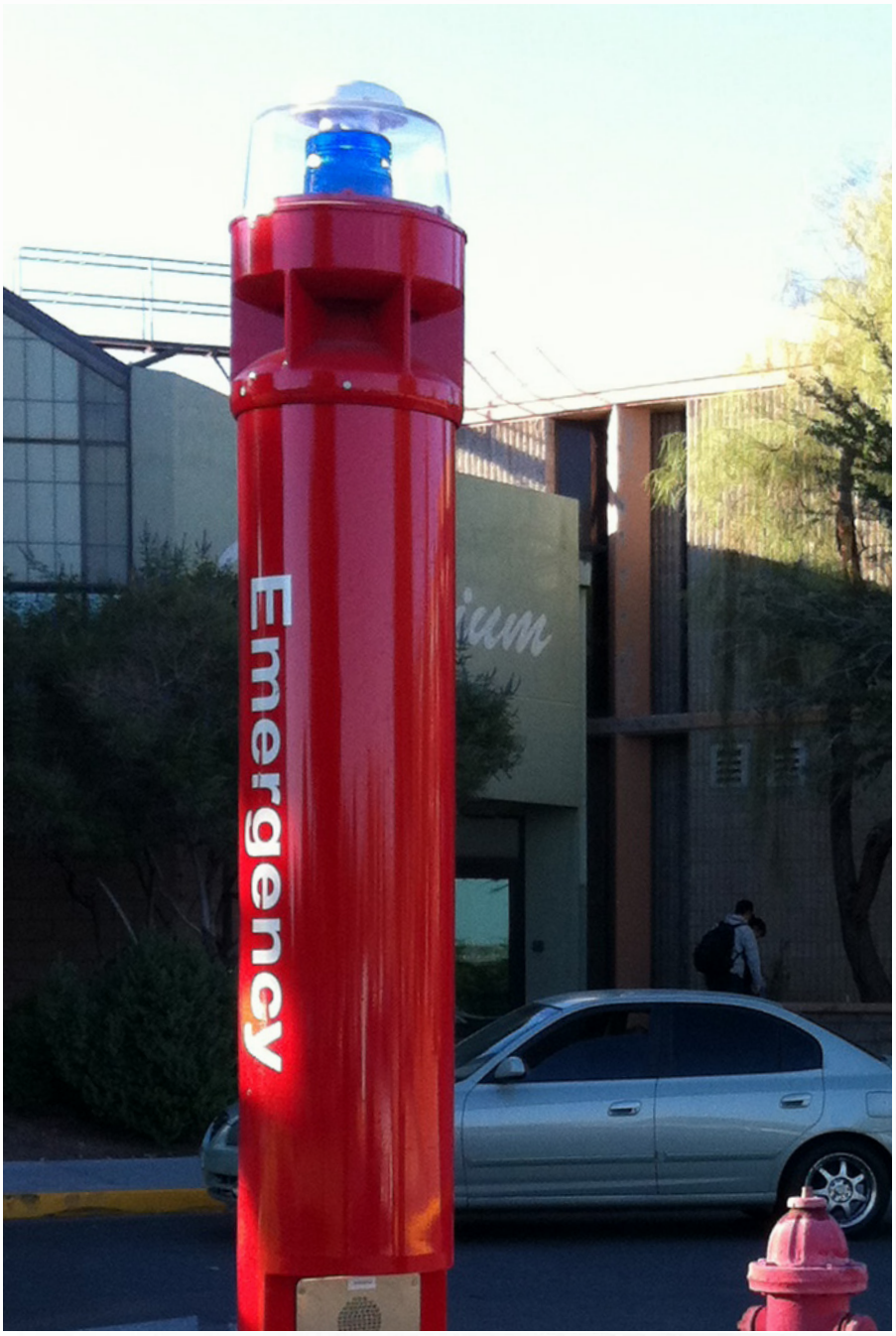
Be aware that certain formations (buildings, trees, hills, etc.) can impact the sound path. Work with architects and engineers to determine the difference in your indoor needs versus outdoor needs and how that will determine proper placement. What is required for a parking lot could differ wildly from a dormitory or door entry.

### Know your audience

It's vital that people know that a public address system exists, but it shouldn't be overused to the point that important messages are ignored. Consider educating your audience on how the system is used and what to expect in an emergency. It may even be beneficial to obtain feedback to get a better of understanding of how it's working and whether or not it is serving your purposes.

### Plan the message

To avoid confusion and delays during an emergency, have guidelines in place that spell out who is authorized to write, deliver and send alerts. While events like active shooters and severe weather alerts will be impossible to predict, many others can be penned in advance. Be sure that a standard operating procedure is in place.

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### Retrofit possibilities

If existing hardware and software can be updated with current technology, you may be able to reap some cost savings. However, it's important to know that decades-old equipment potentially could have a significant impact on a system's reliability and consistency. If there is old equipment, it has to work when you need it, every time.

### Test frequently

This will seem obvious, but at least once a semester the system should be checked to ensure that everything is in order and works when you need it. Obviously it's a problem if something turns up faulty or damaged during an emergency. It's also a good idea not to have volume knobs available for non-security personnel to eliminate the possibility of an alert going unheard.

### Explore your options

A quality public address systems is more than just an intercom. It should provide multiple choices for speaker arrays, wattage, power sources, redundancy, ambient noise control and more. Take the time to discover what is available and what will be the right fit for your location.

The times and technology may change, but the basic need to communicate effectively with others remains the same. By doing the requisite homework and studying up on all the options, you can ensure that you have obtained the right public address system. SPT

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