
THORBURN ASSOCIATES INC.
Acoustical, Technology, and Lighting Design

eNewsletter

December 2010

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Welcome to the December 2010 eNewsletter!

Happy Holidays from all of us at Thorburn Associates and welcome to our December eNewsletter.

We hope the new year brings good health, happiness and joy for you, your family and friends. Our new year is already filling up with special events and conferences. If you're attending one of these, be sure to say hello!

- **Educause Mid Atlantic Regional Conference** - Baltimore, MD January 12 – 14
- **Educause West/Southwest Regional Conference** - Austin, TX February 22 – 24

As always, it is our goal to make sure that Thorburn Associates is your single point of contact for all your Acoustic, Technology and Lighting Design needs. If you have an idea, question or suggestions, please drop us a note at enews@ta-inc.com.

Focus on Acoustics
LEED for Healthcare - Acknowledging Acoustics in Healing

Anyone who has been to a hospital recovery room, whether as a patient or as a visitor, knows firsthand that the environment can be anything but calm and soothing. Echoes of staff and guests moving around and talking reverberate through the hallways while high-tech gadgets beep and whirr, all under the buzz of a stark fluorescent lamp. How can anyone get a restful night of sleep and recover in a place like that?

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As new hospitals are being built, or existing ones are being renovated, efforts are being made to make the time that patients spend in them less stressful and more conducive to healing. The U.S. Green Building Council (USGBC) has acknowledged these, and other, unique challenges facing healthcare facilities in its newest rating system – LEED for Healthcare, approved in final voting in mid-November.

LEED for Healthcare is designed to be used for new construction projects and major renovations of all types of buildings where patients are being treated. Developed in collaboration with the Green Guide for Healthcare (GGHC), an extensive pilot program was conducted prior to the approval of the final LEED rating system.

Because of the unique needs of these types of buildings, LEED for Healthcare is the only rating system to date (besides LEED for Schools) that provides credits relating to acoustics. The primary credit relating to acoustics, IEQ Credit 2 Acoustic Environment, can be worth up to two points. The intent of the credit is to “Provide building occupants with an indoor healing environment free of intrusive or disruptive levels of sound.” The points for the credit can be obtained by meeting a variety of criteria including appropriate sound isolation between rooms, background noise levels, reverberation time, and minimizing the impact of exterior site noise. And while patients rejoice at the thought of a decent night of sleep, there is another important result related to achieving this credit: increased patient privacy, a must for healthcare facilities of all types.

The other credit related to acoustics is SS Credit 9.1: Connection to the Natural World: Places of Respite. The design considerations component of this credit dovetails nicely with the portion of IEQ Credit 2 that relates to minimizing the impact of exterior site noise.

USGBC’s recently approved LEED for Healthcare rating system aims to guide healthcare facilities of all types to become high-performance buildings that are both healthy for their occupants and have a limited impact on the environment. In doing so, the rating system has raised awareness of the role that acoustics plays in caring for patients: from helping to ensure that conversations with doctors remain private to reducing noise levels so that patients just might be able to get a healthful night of sleep on their road to recovery.

Focus on Technology Video over IP

Remember when phone calls used to travel over phone lines? The advent of wireless systems, along with Voice over IP (VoIP) technology, is cutting into the traditional telephone market. In 2010, US cable companies are providing VoIP phone service to over 20 million customers. When that technology first became commercially viable around the middle of this decade, sound quality was an issue, calls were dropped and we advised clients to wait for improvements.

Now, the same technology is being applied to video systems, but is the warning to be cautious about jumping in now valid for Video over IP?

It is important to understand the basics of how the technology works in order to understand its limitations. Video and Voice over IP work essentially in the same manner: Data, either from a camera or a microphone is digitized, compressed and broken down into packets. The packets are then sent over network cables to a receiver which puts the packets back together to build the image or sound.

Both technologies are plagued by the same problem: traffic! Just as a clogged freeway will slow down cars entering and exiting, and delay overall travel time, a busy network prevents those little data packets from flowing steadily and quickly, resulting in poor quality for the video or voice. Since video requires much more data than audio, Video over IP is even more sensitive to network traffic, and requires more engineering upfront.

Because of these potential delays and problems, Video over IP is not easy to manage for live time-sensitive transmission.

There are other applications that can benefit from Video over IP, such as surveillance systems (see Forsyth Center article in this issue). With a Closed Circuit Television (CCTV) System, the network backbone can be engineered to handle the high speeds required to transmit the data packets.

One key advantage of IP-based CCTV is the ability to use network infrastructure already in place, rather than apply coaxial cabling. However, running bandwidth-intensive surveillance video over corporate data networks is a point of organizational contention, depending on the potential impact on network performance.

Ultimately, each specific application will dictate whether the advantages of VoIP (video or voice) will work with today's technology's limitations. As more manufacturers start producing equipment that meets VoIP standards and the technological hurdles are overcome, it will become more feasible for a wider range of markets.

Project Profile Forsyth Detention Center Surveillance System

Since 1996 the Forsyth County Detention Center in North Carolina relied on eight cameras to help monitor the 800 detainees contained within eleven housing units. The system, while functional, only covered the most critical of areas.

For example, the intake processing system. When the center opened, staff relied on written documentation to track what possessions an individual had when entering the facility. Days, weeks or months later when that individual was released, it was sometimes a case of "he said, she said" with regards to that individual's possessions. A Timex watch upon entry might have been claimed by an individual as a Rolex upon departure. It was clear the Center needed updating.

In 2007, Thorburn Associates was brought in to evaluate the security camera system, in addition to the door locking control systems and guard tour systems. The evaluation and subsequent report revealed significant opportunities for safer and more reliable operation of the facility. In addition, the Center could take advantage of advances in technology.

Specifically, the project originally called for coaxial video cameras, but when it came time to move forward on the install, Video over IP had become cost-effective, and provided for less intrusive installation and significant storage advantages. Video over IP creates video files that can easily be stored and played back from any standard network computer. The files are stored on a hard drive array that is easy and relatively cheap to expand (no more DVDs or VHS tapes!).

The Center now has over a few hundred cameras monitoring detainee movement, visitor movement, day rooms and exercise yards. Videos are time stamped and encoded to allow for use in trials. The data from the cameras flows over Category 6 cable and fiber optic backbones.

The switch to Video over IP allowed for cheaper labor installation and a lowered electricity cost. The cost savings were so significant, the project, which had been slated for four phases, was rolled into one singular project.

The system has been online for a few months, helping save the staff time and resolving inmate disputes. Thorburn Associates is proud to have been a part of the technology upgrade and systems solution.

Product Review Printable Acoustic Cloth

Sometimes it seems like acoustics and aesthetics are at odds with one another. But some companies, such as Whisper Walls® are trying to bridge the gap. The company's WhisperArt product offers varying sizes of sound-dampening panels with the ability to print virtually any design on one side.

The panels are available in a range of standard sizes, and Whisper Walls® works with you to find the right size and format for your image. The panels are made of 100% polyester over a semi-rigid fiberglass core. A spray adhesive can be used to mount the panels to the wall.

The combination of style and function satisfies the interior designer without offending the acoustic technician. For more information, visit <http://www.whisperwalls.com/products/productsDetail.php?WhisperArt-4>.

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Acoustical, Technology, and Lighting Design
www.ta-inc.com

| | | |
|-------------------|-----------------------------|--------------|
| Corporate Office: | Castro Valley, California | 510.886.7826 |
| Regional Office: | Burbank, California | 818.569.0234 |
| Regional Office: | Morrisville, North Carolina | 919.463.9995 |
| Regional Office: | Orlando, Florida | 818.535.1180 |

TA@TA-Inc.com General Information Email
Address

www.TA-Inc.com Web site

eNews@TA-Inc.com Newsletter Issue

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