
THORBURN ASSOCIATES INC.
Acoustic and Technology Consultants
eNewsletter

December 2005

In this issue:

- Greetings
- Conference Highlights: AIA Virginia, Design-Build, IAAPA
- Tracking Cameras – Push to Talk AND be Seen
- Texlon, an Alternative Cladding System
- The San Francisco GSA Federal Building – Green Acoustic Design Considerations
- Deep Freeze – One Way to End Computer Downtime

Greetings

Welcome to the December 2005 issue of our eNewsletter.

We hope everyone here in the United States had a delightful, enjoyable, and uneventful Thanksgiving! Listening to one of the local radio talk show hosts, he commented that Thanksgiving is his favorite holiday, as it brings families together and is not yet overly commercialized. We agree! Everyone here at TA reported they had a great time, ate too much food, and had too many leftovers. As we move closer to the New Year, we want to thank each and every one of you – for taking the time to read our newsletter, for the comments you send our way, for including us on your projects, for being a part of our lives – Happy Thanksgiving! And Happy Holidays!

As always, it is our goal to make sure that Thorburn Associates is your single point of contact for all of your acoustical and technology engineering services. If you have an idea, question, or suggestion please drop us a note at TA@TA-Inc.com for general information or eNews@TA-Inc.com for specific comments about our eNewsletter.

Conference Highlights: AIA Virginia, Design-Build, IAAPA

AIA Virginia: As part of our continuing commitment to support the architectural industry, Thorburn Associates presented a 2-hour session "Understanding Acoustics: What to Look for During a Design and Construction Site Visit" at the 17th annual Architecture Exchange East, held in Richmond, VA, November 2-4. With standing room only, this session helped attendees understand the critical role acoustics can have on the overall success of a project, while de-mystifying acoustical theory and terms.

Design-Build Conference: Hailed as the largest Design-Build event in the world, the Design-Build Conference and Exposition in Las Vegas, NV, November 8-10 included 5 learning tracks covering everything from acquisitions and contracts to teamwork and quality assurance. As a sponsor and exhibitor, we were pleased to see the record attendance levels. Next year the conference will be in Nashville, October 18-20.

IAAPA: This year's International Association of Amusement Parks and Attractions conference and Exposition was held in Atlanta Georgia. For those of you who aren't familiar with this conference, it is the one place you can talk to everyone involved with leisure projects – from initial funding all the way through operations, including design, uniforms, food, and entertainment. With the rebound in the economy it looks like the leisure industry is starting to recover. Let's just hope the recovery continues. Next year IAAPA is back in Atlanta, November 13-18.



Corporate Office:
Regional Office:
Regional Office:

Castro Valley, CA	510-886-7826
Burbank, CA	818-569-0234
Morrisville, NC	919-463-9995

Tracking Cameras – Push to Talk AND be Seen

We see lots of innovative uses of technology but one big area is in Distance Learning applications. Thorburn Associates recently completed a project for the University of North Carolina at Chapel Hill School of Pharmacy that pushes the envelope for instructor-student interactions in distance learning environments. Traditionally distance learning rooms have required dedicated staff to operate the cameras, CODECs, audio, etc that allow the local and remote site to connect and operate as a single large classroom. With today's audiovisual control systems and programmable audio DSPs (Digital Signal Processors) it is a lot easier to automate these functions and eliminate the need for dedicated staff.

Control systems allow the instructor to connect the two sites by bringing up a speed dial address book and selecting the remote sites name from the list. Once the speed dialed audio and video connection is established, the instructor who moves around the front of the room is followed automatically by a tracking camera. This system uses a small harness worn around the instructor's neck with a belt-pack receiver. The "tracking collar" also doubles as the wireless microphone. It has sensors on the front and back so that no matter which direction the instructor turns while in the front of the room, the camera follows them.

To improve student interactions, wired table microphones are mounted between every two students on the tiered student desks. The microphones are normally muted but when its "push to talk" button is pressed, the microphone audio is fed to the both the local audio system in the room for everyone to here and to the far end through the CODEC. At the same time the control system determines which microphone was activated and commands one of the two pan/tilt/zoom student cameras to zoom in on that microphone location. The control system then puts that image on the screen locally and sends it to the far end. Immediately the students are recognized for their question and both the local and far end feel more a part of the same classroom even though the other side may be hundreds of miles away.

This use of technology has slightly higher up front costs in equipment and control system programming but the long-term costs in reduced staff and reliable operation are significant. The most interesting aspect of these systems is how students tend to interact with each other once they are on camera. Initial designs had the far end classroom always visible on one of the two front screens as long as the sites were connected. But students complained that they were being watched too closely by everyone in class, particularly for far end sites that held only 15-20 students. For these rooms, even on a wide camera shot it was easy to see what everyone was doing. Eventually students began to shy away from the cameras and try to sit in locations as far from their view as possible. However, simple control system program changes allow the system to be reconfigured so that students are only shown on screen when they have a question and press the push to talk microphone. To keep the instructor feeling connected to the remote site the far end view of the room is still shown on the projection screen seen by the instructor which is located at the rear of the room. The advantage of these designs is once the systems are in place it becomes simply a control system programming issue to change the way they work, not a hardware or installation issue that drives up cost and reduces room availability while upgrades are in progress.

This is just one of the many ways we see new and exciting uses with smart control systems allowing greater collaboration with less staff and lower long term costs of ownership. Stay tuned there is always more to come.

Texlon, an Alternative Cladding System

One of the most underestimated criteria in people's perception of their environment is the acoustic ambience. This is true whether the building is a large atrium, a foyer, a hospital, or a restaurant. The internal acoustics of the space has a significant effect on the comfort levels of the occupants. The problem often arises when the design calls for all hard surfaces in the cladding material, such as glass skylights and glass walls. This results in minimal locations for sound absorptive materials.

An innovative solution we are researching for a current project is Texlon, by Vector Foiltec. This product consists of air "cushions" seamed by aluminum extrusions which are supported by a lightweight structure. The manufacturer uses two to five layers of a modified cloth like material to create the cushions, which are then inflated with low-pressure air. This provides thermal insulation and helps the cushions resist wind loads. The cloth like material is a modified copolymer originally developed for the



Corporate Office:
Regional Office:
Regional Office:

Castro Valley, CA 510-886-7826
Burbank, CA 818-569-0234
Morrisville, NC 919-463-9995

space industry, and is unique in that it does not degrade under ultra-violet light or atmospheric pollution. Because it is extremely long lasting, it can be used as part of the permanent building envelope.

The neat part, in our opinion, is that because the Texlon cladding is very light, with a mass of less than 1 kg/sqm (approximately 3 oz/sf). It is acoustically "soft", thus it does not reflect internally generated noise back to the occupants. This means that the internal environment is considerably more comfortable with lower reverberation times than if the cladding were constructed from an acoustically hard material such as glass. This is particularly evident on spherical domes or other structures where the focus effect of hard materials can make speech almost unintelligible. In addition, the cost of intensive counter measures, such as the integration of acoustic absorbers into the space, is usually unnecessary.

The San Francisco GSA Federal Building – Green Acoustic Design Considerations

Incorporating a modern glass facade, the new GSA Federal Building in San Francisco will be a 600,000 square foot building 240 feet high, 120 feet long, but just 60 feet wide. Among the many green features, this narrow, 18-story glass tower will showcase a natural ventilation system designed to replace the mechanical heating and cooling system. The building management system will monitor interior temperatures then automatically open and close large floor air vents during warm months. Radiant floor heating will help keep the occupants warm during the colder months.

One challenge created by this natural (and quiet) heating and cooling system is that the overall background noise levels within the open plan office areas will be extremely low. The natural system will also require passive airflow, so the open plan offices will incorporate low-height cubical walls. In addition, the concrete floor/ceiling slabs will serve to absorb and release heat back into the building. Therefore, the slabs are required to be exposed, which means there can be no traditional acoustical tile ceiling. These three elements create a situation where speech privacy between cubicles is almost non-existent, requiring the addition of a sound masking system.

To help increase the amount of absorption within the space, supplemental sound absorptive material will be located on top of the ceiling of private offices and conference rooms in the core of each floor.

Another challenge is the amount of exterior noise audible within the facility. With extremely low background noise levels, exterior noises are more easily heard and understood. This increases the distraction level of employees. With the proper attention to window and wall details, and the addition of the sound masking system, this challenge was resolved.

While these alternative systems added 5 percent to the overall cost of the building, energy savings will more than pay for the added expense during the construction phase.

Thom Mayne of Santa Monica-based Morphosis designed the building in conjunction with executive architect SmithGroup, San Francisco. Thorburn Associates provided acoustical design, sound masking system design, and audiovisual system bridging documents.

Deep Freeze – One Way to End Computer Downtime

If you are as tired as we are of computer downtime and related technical support costs caused by software conflicts, registry corruption, virus attack, or any other problem, we have a suggestion that may help. In researching products to solve our own IT challenges, we came across "Deep Freeze" by Faronics Corporation. This product "prevents unwanted changes to a standard system configuration while providing a non-restrictive environment for users."

The concept involves setting up a workstation the way you want it, installing Deep Freeze, then restarting the workstation, which will restore the original settings. Users have access to "thawed" areas, which are not protected, in order to save files and data permanently. Added utilities, professional, and enterprise versions all add various capabilities.

For professional design firms, with limited IT support and resources, this solution may be just what the doctor ordered.

Copyright 2005

THANK YOU FOR READING OUR eNEWSLETTER

TA now publishes an eNewsletter once every two months. We are always looking for new topics and ideas. Please drop us a note at eNews@TA-Inc.com with any comments or suggestions.

STAY SUBSCRIBED

If you change your e-mail address, remember to re-subscribe – just follow this link:

<http://www.ta-inc.com/eNewsletter.htm>.

Feel free to pass this eNewsletter on to your friends and colleagues. If you are getting this second hand and want your own copy – just follow the link above.

Feel free to quote any part of this newsletter; just give us credit and let us know how and where the quote will be used.

TO UNSUBSCRIBE

Follow this link <http://www.ta-inc.com/eNewsletter.htm> and click on the unsubscribe link. If you have any problems drop us a note at eNews@TA-Inc.com.

THORBURN ASSOCIATES INC. Acoustic and Technology Consultants

Corporate Office:	Castro Valley, California	Tel: 510-886-7826
Regional Office:	Burbank, California	Tel: 818-569-0234
Regional Office:	Morrisville, North Carolina	Tel: 919-463-9995

TA@TA-Inc.com	General Information
www.TA-Inc.com	Web Site
eNews@TA-Inc.com	Newsletter Issue