
THORBURN ASSOCIATES INC.
Technology and Acoustical Consultants
Designing Quality Environments
eNewsletter

February 2010

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Welcome to the February 2010 eNewsletter!

Breaking News: We're delighted to announce that Gallegos Lighting and Thorburn Associates are joining forces to offer an expanded range of specialty architectural lighting design services. "We welcome Pat Gallegos and the Gallegos Lighting team to Thorburn Associates," says Steve Thorburn, founder and principal of TA. "Having an accomplished, reputable and versatile lighting designer on our team complements our existing line of services and the needs of our clients. Pat's firm is an ideal fit, bringing some 30 years of experience, ability, industry connections, and a strong work ethic." More information is available at: www.ta-inc.com/pressrelease.htm

Upcoming Events:

- Themed Entertainment Association Summit – Universal City, CA, March 4-5
- Themed Entertainment Association THEA Awards – Universal City, CA, March 6
- SCUP Mid Atlantic Regional Conference – Baltimore, MD March 14–16
- North Carolina State Construction Conference – Raleigh, NC March 23
- SCUP Pacific Regional Conference – San Diego, CA, April 5-7
- Light + Building Conference – Frankfurt, Germany, April 11-16
- AIA Triangle Design Awards – Durham, NC, April 17

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



Focus on Acoustics Too Much Lot Line Noise

As winter turns to spring people start talking to their architect or landscape designer about a new hot tub or pool, or perhaps it's a new air conditioner or even an emergency generator. Soon we will start to get phone calls from homeowners at their wits end because they've lost many hours of sleep due to a neighbor's noisy air conditioner, condenser, pool pump or even the freezer chiller at the new grocery store that was recently built around the corner. Noise can not only be a nuisance, it can also be unhealthy by disrupting sleep and causing stress.

These types of noise problems are becoming more frequent as people live more closely together. To combat this, many cities and towns across the nation have adopted noise ordinances. Sometimes, however, noise can make enemies out of neighbors and in order to be a good neighbor it is necessary to do more than just meet the local noise ordinance. It may be necessary to take additional measures to restore the peace and friendly neighborhood relations. Thankfully, there are many possible ways to fix the various causes of noisy mechanical equipment.

The first thing to consider is the equipment itself: when was the last time routine maintenance was performed on that noisy air conditioner? Or perhaps it is so old that there is no one around who knows how to fix it anymore and it is just time for a new, quieter, more efficient model with a higher SEER rating. Another thing to consider is that the equipment might not be sized correctly for the job causing it to operate at a less efficient and louder rate. Maybe the real problem is that your pool pump runs all night long and simply reprogramming it to run during the day would make everyone happy.

Another important consideration is the location of the offending equipment relative to the property line. If your noisy air conditioner is located just inches away from your neighbor's property line, and their bedroom window, the best option may be to find a better place to locate it. That may mean moving the equipment to the back of the house where the closest neighbors are 30-feet away instead of 30-inches away.

When all else fails, it is usually time to consider some form of acoustical barrier. Noise barriers take many forms: from a natural berm or fence; to a custom mechanical enclosure; to a wall made of a material that matches the surrounding buildings that has both mass to function as a barrier and absorption to reduce the sound that bounces around inside the new enclosure. Landscaping can also be added around any kind of barrier to get rid of the "eye sore" and make it look more pleasant, but this will not reduce the noise. While barriers can be a very effective solution, depending on the noise levels, topography and distances involved, they might not be appropriate for all sites - relocation may be the only viable option.

As indicated here, there are many possible solutions for noisy mechanical equipment that is making neighbors unhappy or violating local noise ordinances. The feasibility, effectiveness and cost of each option must be weighed in order to find the best solution for all involved.

Focus on Technology FCC Orders Frequency Changes for Wireless Microphones to Make Room for new 4G Wireless

Guess what? The AV industry is the small kid on the block... If you are in the US you have likely seen the commercials for Verizon and AT&T cellular data coverage plans. The new 4G



wireless systems are available, in part, due to a Federal Communications Commission (FCC) order that changes the frequency for some wireless microphones.

"This action helps complete an important component of the Digital Television Transition by clearing the 700 MHz band to enable the rollout of communications services for public safety and the deployment of next generation 4G wireless devices for consumers. The order will primarily impact the use of wireless microphone systems that currently operate in the 700 MHz band. These unlicensed devices cannot continue to operate in this band because they may cause harmful interference to public safety entities and next generation consumers devices that will be utilizing the 700 MHz frequency" stated the FCC.

In other words, in order for the cell and data phone companies to grow many of us will need to finally give up our older wireless microphones. Depending on the system that is used, you have until have until June 12 to find alternative radio frequencies — a task that could cost hundreds of thousands of dollars for each organization.

The FCC's ruling is part of a national shift on the reallocation of bandwidth, which is in short supply due to the increasing use of mobile telephones and wireless computers. The Commission said the wireless microphone transition is necessary to make spectrum in the 700 MHz band available for use by next-generation wireless services for consumers and public safety agencies.

Public Knowledge, a consumer advocacy group, said the commission's order was important because the spectrum vacated will be used by entrepreneurs seeking to come up with new wireless services.

Shure, a major manufacturer of wireless microphones, said it was ready to help users of wireless microphones with the new rules that go into effect after June 12. "We're pleased that the FCC has issued a firm transition date for 700 MHz wireless equipment," said Mark Brunner, Shure senior director of global brand management. "In anticipation of the post-DTV transition UHF landscape, Shure has been moving its product lines away from the 700 MHz band for the better part of a decade, and have not sold a 700 MHz product since 2007 when change was formalized in the planning stages."

We have found the following web paged to be very helpful if you have questions about your systems: <http://www.shure.com/ProAudio/PressRoom/700mhupdate/index.htm>

As always, if that does not give you all of the information you need, just give us a call and one of our engineers will be glad to help you out.

Project Profile **Research Triangle Institute**

Thorburn Associates was pleased to work with Research Triangle Institute (RTI) on their Building 8 Auditorium. Approximately 200 seats, the project was built by Duke Construction. TA provided both audiovisual and acoustical consulting for this user-friendly meeting and briefing space.

Like many large companies, RTI has knowledgeable staff to design and maintain audiovisual equipment throughout their campus. Therefore, the main challenge in the design of the Auditorium was to develop a consensus regarding the selection and location of equipment in this high-profile space. RTI wanted outside expertise to help them weigh all of the available options. To maximize the impact of the projected images in the Auditorium, TA was able to provide valuable, objective advice regarding the optimum locations for projectors and

screens in order to keep the space flexible for different uses while still being easy to use. We did this by creating three-dimensional conceptual sketches/models to demonstrate how the various potential screen locations would impact the rest of the room. This useful tool easily brings two-dimensional plans to life so that the entire team can 'experience' the space before it is built, enabling more informed decisions. Through this process the client chose to implement dual rear-projection systems with screens mounted on either side of the stage. Coordinating the lighting systems and controls with the rest of the design team put the final touches on the visual impact of the Auditorium.

Both the audiovisual and acoustical engineers at TA came together to optimize the sound in the Auditorium. Two separate loudspeaker systems were implemented: program loudspeakers and ceiling mounted speech reinforcement loudspeakers to support the clip-on and handheld wireless microphones. After evaluating the conceptual architectural design of the space, the team also accepted our recommendations to reshape the side walls and to add acoustical finishes to enhance the listener experience.

The last aspect was to ensure that events taking place in the Auditorium would not be interrupted by noise from the outside. This was accomplished through detailed recommendations regarding the wall constructions surrounding the Auditorium and the mechanical system serving it. The beefed up wall constructions also allowed the recommended reshaping of the side walls to be integrated into the wider walls rather than appear surface mounted or require the expense of an additional layer of wall construction.

This is a great example of the design team, owner, and contractor teaming up to develop an elegant meeting space that truly serves the needs of the users. We know that RTI will enjoy the new Auditorium for years to come.

Product Review **LED 2 by 2 Ceiling Grid Lighting Fixture**

LED products finally getting practical! Known for their flashy color changing abilities, manufacturers are bringing LED products to the everyday world. Lunera Lighting (lunera.com) has introduced a 2 x 2 lay-in grid fixture that is only 1.25 inches thick (avoids those fights with HVAC systems), is dimmable, and has a five year warranty ... and saves watts also.

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