# THORBURN ASSOCIATES INC.
## Acoustical, Technology, and Lighting Design

**eNewsletter**

**October 2011**

In this issue:



### Welcome to the October 2011 eNewsletter!

In the upcoming months, we will be attending several industry events. Please look us up and stop by to say hello.

- **AIA California Council Monterey Design Conference –** Monterey, CA – October 7-9
- **EDUCAUSE** – Philadelphia, PA – October 18-22
- **AIA South Carolina –** Columbia, SC – October 20-22
- **California Society for Healthcare Engineering, Northern California Seminar** – Concord, CA – October 20
- **Society of American Military Engineers (SAME) Mid Atlantic Regional Conference** – Virginia Beach, VA – November 1-3
- **Architectural Exchange East (AIA VA)** – Richmond, VA – November 4-6
- **IAAPA** – Orlando, FL – November 14-18

Thorburn Associates is also having our popular session on "Planning for Technology" in Philadelphia, prior to EDUCAUSE, on October 17. It's not too late to sign up for the session, go to www.TA-Inc.com/planning.htm

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
### Mixed Use Buildings

Many cities are changing their zoning laws to allow for the development of mixed-use buildings or re-development sites. This means that many planning committees that once favored the suburban planning model of residences in one part of town and business in

another are now moving towards a new model more like urban centers. While this is great for reducing traffic, it comes with many acoustical considerations that are often overlooked by project planners and developers.

This also means that mixed-use buildings have additional acoustical considerations on top of those necessary for a typical multi-family building. It is necessary to acoustically isolate *all* neighbors from one another in mixed-use buildings. This includes making certain that the bar on the first floor doesn't keep the people living on the upper floors awake and also doesn't disturb the evening students at the yoga studio next door. The impact of disruptive noise from vibration also need to be considered, for example members of a fitness center dropping free weights onto the floor/ceiling of the conference room below; or an exhaust chute from a restaurant rigidly attached to the common wall of the apartments above.

A variety of options are available to help address these various acoustical impacts: from sensible commercial tenant location (unlike the yoga studio next to a bar described here) and managing the noise expectations of all of the tenants, to using more substantial floor-ceiling, exterior wall and window constructions.

A successful mixed-used building doesn't simply require proper planning for acoustical isolation between all tenants. It also requires that all of the tenants be prepared to be good neighbors. Remember, just because you live upstairs from your favorite restaurant doesn't mean that you want to hear the kitchen all night long!

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## Focus on Technology
## The Greening Power of AV

Green power or green technology is a concept that has become a general buzzword in the construction industry. In its most general terms, it means using renewable power. It first started showing the most presence with building owners trying to get LEED certification for buildings. For example, for projects attempting to obtain the LEED green power credit, there are specific requirements for a new building to obtain a percentage of its power consumption from certified renewable sources for the first two years of the life of a new building.

While there is little in the LEED certification that ties directly to AV, being "green" has become a hot issue within the AV industry itself, yet differences in definition exist:

Green technology in the AV industry usually means the move to more energy efficient products. Last year was the first time the EPA's (Environmental Protection Agency) Energy Star program had a requirement dedicated to professional AV equipment. The standards released in 2010 included most commercial AV equipment, and while projectors still do not have an Energy Star classification most other electronic AV equipment is now included. In 2011 InfoComm, the leading professional AV trade organization, launched the STEP (Sustainable Technology Environments Program) rating system specifically for technology equipment within a building. This program was implemented because InfoComm failed to get the US Green Building Council to consider AV equipment in their LEED certification program. While STEP stands on its own the hope is that at some future point, if the program becomes widely used, it will be adopted in the LEED program with even wider applicability to the built environment.

Green Power in the AV industry typically means that there is data that needs to be displayed somewhere prominently in the building. Many owners want to have a lobby or other web based display accessible to all that can let building occupants know, in real time, what the power consumption of the building is at that moment. Traditionally this type of information has been the domain of the building information systems managed by the facility's group within the respective organization. Now, after successfully completely the sustainable design of their new building, owners want to show off, in real time, how well their facility operates. They want some type of digital signage displays or the information available on a web portal for anyone in the building to view.

Another area of growing interest is integrating the AV systems into the building automation system (BAS). Two options then become available: the BAS is used to shut off AV equipment when it is not in use; or the AV control system is used to provide an easily accessible user interface (that building users are already used to using) to view and in some cases control building power usage for lighting, HVAC, and other building systems. This topic will be explored in more detail in future articles, so stay tuned.

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## Focus on Lighting
## Taking Control of Architectural Lighting

Architectural lighting should be designed to complement your needs and as your needs change throughout the day, your lighting should adapt accordingly. Lighting controls are the answer. Several options are available to help make your environment and your life more comfortable and "green".

Lighting controls can be as simple as the familiar toggle or rocker switch at the entry into a room or a sophisticated building-wide system that monitors occupancy, time of day usage, special events, and even events based on the sun's cycle throughout the year. In the past, lighting control systems were often seen as a luxury, used to help set a mood; now they are a critical part of the overall lighting system (both simple and complex) still helping to set the mood and environment and also a necessary part of a complete energy-saving system.

In designing the lighting control system, first considerations should be the space and task function (how will the space be used) followed by budget, any special considerations related to local codes, day-lighting requirements, control flexibility, and systems integration. The cost of a lighting control system is frequently offset by savings in energy usage through effective monitoring of need relative to daylight, usage and time of day operations.

Historically, wall switches are line voltage devices, which open and close the phase wire (hot wire) that supplies power to the light fixture. Located at entry to a space or at locations convenient to the user, these offer an easy and the most cost effective way for fixtures to be turned on and off.

Wall box dimmers are slightly more expensive but provide flexible control of light output down to the minimum level provided by the dimming hardware while reducing the overall load consumption. Standard wall box dimming allows most filament lamps to be dimmed smoothly from full brightness down to zero light output. Other light sources require additional hardware for effective dimming: fluorescent sources require the use of fluorescent dimming ballasts which receive a signal from a control device and control the lamps accordingly; solid state (LED) sources demand the use of drivers with dimming capabilities.

For spaces where different moods are required, the end user may consider the incorporation of a controller that permits different combinations of lighting zone switch and dimmer settings to be recalled. For instance, in a corporate conference room you may want all of the lights at full brightness during a staff meeting and the lights near the projection screen or flat panel dimmed during a presentation. A scene controller allows this transition to be made with the push of a button.

When looking at an entire building, whole building controls can fully integrate lighting, shading, and sensors for maximum energy savings. These solutions can be easily designed, installed and reconfigured to meet the changing needs of a building. Control systems can incorporate an integral time clock feature to enable scheduling of lights and shades by time-of-day (e.g., 8:00 pm weeknights) and astronomic time clocks (e.g., dusk or dawn). Various manufacturers have developed systems that allow facility managers to conveniently manage both electric light and daylight right from their desktop. They can control, configure, monitor, and report on the lighting for any space in the building for maximum energy efficiency, comfort, and productivity.

The benefit of implementing any lighting control system is reduced heating and cooling costs as well as increased comfort and safety of the users.

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## Product Review
## guidePORT Visitor Information System

Visitor guidance is taken to the next level with guidePORT, a digital wireless visitor information system specifically developed for optimum presentation of exhibitions. Ever go to an exhibit and want more detailed information on one item while the person you are with wants more detailed information on another item? With guidePORT, visitors can get detailed information – without any interruptions – at their own pace and route through the exhibit.

This highly flexible system can be used for individual tours, group tours, or conferences. In addition, guidePORT systems are highly flexible and allow for changes to text recordings at anytime to incorporate complex, lip-synced multimedia presentations without difficulty and, similar to public address systems, incorporate additional live information. guidePORT can even collect statistical data about how visitors interact with exhibitions and determine the level of acceptance of the exhibits, which can then be evaluated in a statistically meaningful manner using software that can be purchased at a later date. For additional information about guidePORT systems go to www.guideport.de.

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## THANK YOU FOR READING OUR eNEWSLETTER

If you have any problems: eNews@TA-Inc.com.

We publish our 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.

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