
THORBURN ASSOCIATES INC.
Acoustic and Technology Consultants
eNewsletter

September 2005

In this issue:

- Greetings
- Technology Master Plans
- Wireless Projection
- Assessing Environmental Impacts - Air Quality
- Way to Go! Federated Department Stores Receives Retailer of the Year Award
- Avocent Announces Wireless Media Streamer

Greetings

Welcome to the September 2005 issue of our eNewsletter.

As participants in numerous engineering and professional organizations, TA understands the importance of interaction with colleagues in improving knowledge, expertise, and cooperation. We are pleased to provide support for professional affiliations like the American Institute of Architects, including participation in the following conferences:

- AIA National, Las Vegas, NV
- AIA South Carolina, Columbia, SC
- AIA North Carolina, Richmond, VA
- AIA California Council, Monterey, CA
- AIA Virginia, Richmond, VA

This opportunity to support the architectural community is a reflection of our commitment to provide the very best in Acoustical and Technology Engineering services.

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.

As always 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.

Technology Master Plan

We are seeing increasing interest among University campuses to develop master plans for their technology classrooms. For example, North Carolina State University established a Classroom Standards document some time ago but needed assistance formalizing a set of general guidelines into a standard set of drawings and specifications that could be provided to prospective architects or contractors building or renovating classroom facilities on campus. Thorburn Associates worked with Facilities Planning and Design and the audiovisual design group on campus to standardize the University's classroom types and select compatible equipment that allows the easiest transition from basic to high level technology with the same general user interface in each classroom. All while keeping maintenance and construction costs in check.

In assisting with master planning, we typically meet with the client on several occasions and develop an audiovisual program that represents their requirements for standards based AV classroom spaces that can be used throughout campus. We then specify equipment that meets their current needs while

maintaining acceptable standards for maintenance, reliability, and cost. Once these decisions are approved, we generate CAD drawings and an AV specification document listing all of their requirements for all of the room types used throughout campus.

Overall, this comprehensive planning package enhances technology instruction with a unified instructor interface and functional equipment level, while minimizing staff management of technology construction projects and using clear documented standards throughout the campus. This results in expanded technology classroom offerings to a larger segment of a campus than ever before.

Wireless Projection

Several clients are asking about wireless projection and if it should be included in the design of their facility. Wireless projection can be done in different ways. The first and most common method is where the laptop and projector communicate only wirelessly. The other method uses a combination wired and wireless Ethernet network where the laptop is operating wirelessly to upload the presentation to the projector or send keyboard/video/mouse (KVM) updates to the projector but the projector is connected to a wired Ethernet network.

Issues that should be considered include how the data is sent (compression method) and the data transfer rate, which affects the amount of time lag before the image on screen is updated.

Compression Method: Currently all wireless projection which use a wireless card within the laptop and the projector use some type of proprietary compression method to send the screen information to the projector. Because of the proprietary compression, the software that does the compression must be loaded on each computer before it can talk to the projector. Most manufacturers provide the software driver for free from their website. NEC, Sanyo, Epson and Infocus all have this type of solution. The alternative is to use a stand-a-lone box at each end that performs the compression. This avoids proprietary software, but these boxes must be connected to the monitor connector at the computer and projector and therefore don't provide the best portable solution.

Data Transfer Rate: The bad news is that most of the wireless projection systems currently suffer from slower image updates on the projected image than does a wired solution. For example, most wireless systems today take a second or two for a powerpoint slide to "appear". Some of the original systems just a few years ago took several seconds each time a slide changed, so things are getting better. But since these systems are all essentially "screen scrapers" that send the video information to the projector, they don't work well for rapidly changing video images such as moving graphics or video windows on a computer. The exception is the new Video Streamer from Avocent, which was designed with auto setup and self-adjusting hardware. The result is a smooth motion video with a stable image. The content is transmitted immediately and securely in the 5 GHz band. See bottom article for more information.

Assessing Environmental Impacts – Air Quality

The last two issues have looked at Environmental Noise and assessing noise quality. Oftentimes, when the noise quality is affected, so too is the air quality. For example, when a sound wall is built to reduce traffic noise, that same sound wall can "trap" vehicle emissions, and have a derogatory impact on the air quality. It can be useful to have a single firm assess both noise and air impacts.

As you may know, government agencies have enacted laws, ordinances and regulations to achieve air quality. An air quality analysis must indicate, in quantitative terms, whether a proposed project will cause pollutant levels to exceed the air quality standards. Although emissions from the proposed project may not exceed the standards, the total emissions from the proposed project and other sources in the project environment may produce degradation in air quality sufficient to exceed the standards. Air impacts at air sensitive receptors can be computed using air quality models. These models require the input of accurate emission factors, meteorological data, such as wind speeds and directions, mixing heights, stability classes, and air chemistry information.

The first step in developing an air impact assessment is understand the existing air quality environment. Monitoring ambient air quality at the project site, reviewing current air quality regulations, and determining existing and future air sensitive receptors achieve this.

The second step is to understand the air impacts during the construction stage. The most likely air impacts from construction activities are dust nuisance and gaseous emissions from construction vehicles. If the total air impacts exceed the statutory requirements, then appropriate mitigation measures are recommended. These can include water sprays to control dust emissions from the construction site, buffer distances between construction activities and air sensitive receptors, avoidance of simultaneous dust emission activities, reduction in the numbers of equipment operating in critical areas, etc.

The third step is to understand air impacts after the project is completed. Air quality models can predict air impacts at existing and future air sensitive receptors. Most air quality models can calculate the 1-hour, 24-hour and annual air quality levels. If the total air quality impacts exceed the statutory requirements, different mitigation measures should be recommended, such as effective buffer distances between the project site and the air sensitive receptors, suitable stack heights for industrial plants, appropriate land use planning, etc.

The fourth step is to evaluate the economic benefits of all the recommended mitigation measures, and choose the most cost-effective mitigation measures. The final report is then submitted for agency approval.

TA is pleased to offer this additional service to our clients. In our next issue we will finalize this series on Assessing Environmental Impacts by discussing water quality.

Way to Go! Federated Department Stores Receives Retailer of the Year Award

Congratulations go to Federated Department Stores (Macy's, Bloomingdale's) for receiving the "VM+SD/Peter Glen Retailer of the Year" award at the International Design Conference in Chicago, September 21-23.

Honored as a "master of department store reinvention", Federated embraces change and is determined to prove the vitality of the department store concept. They are currently striving to establish the country's first national department store brand. This includes converting all of its regional name plates (Bon Marche, Burdines and Lazarus, Goldsmith's, Rich's) to the Macy's brand, which is now over 400 stores strong. The recently approved \$17 billion acquisition of the May Co. brands (Foley's, Filene's, Famous-Barr, Kaufmann's, Marshall Fields, Lord & Taylor) adds approximately 500 locations.

Throughout it all, Federated continues to evolve, always staying focused on the customer, while looking for ways to improve. It is this innovative, forward thinking, that helped Federated earn this award.

At TA, we're proud to be a part of the Federated team, providing technology design for over 60 projects.

Congratulations Federated, on winning "Retailer of the Year" – Way to Go!

Avocent Announces Wireless Media Streamer

Avocent Corporation, a leading supplier of connectivity solutions for enterprise data centers, service providers and financial institutions worldwide, announced their new wireless media streamer at InfoCOMM. The Avocent Emerge WMS1000 wireless media streamer broadcasts high quality, full motion streaming video from virtually any source to multiple display devices up to 1,000 feet without wires. Because of its wireless video graphics and audio design, Emerge WMS1000 makes installations simpler and more cost-effective.

The Emerge WMS1000 is a pure and simple hardware solution that can be deployed in either a point-to-point (extension) or point-to-multipoint (broadcast) configuration. It supports multiple input/output formats including Component, S-Video, Composite Video, VGA computer video, RS-232 control, and stereo audio. More details are available at the Avocent website.

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
