THORBURN ASSOCIATES INC.
Acoustic and Technology Consultants
eNewsletter

March 2005

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Greetings

It is hard to believe that Thorburn Associates Inc. opened its door 13 years ago on April 1st 1992. Here we are 13 years later, putting the final touches on this edition of our newsletter. 13 years ago Lisa and Steve were printing out faxes to send out at midnight on March 31st announcing the new company. We have seen a lot of changes; in 1992 a 2800-baud modem was fast. The Internet…was not open to the public. Cell phones were not common, only the true road warrior had them. And videoconference systems were in very specialized rooms.

What will become the "norm" in the next 13 years? Our crystal ball is not that clear, but we do know that we will be speaking at the **AIA National Conference** in Las Vegas on Thursday, May 19th, from 10:30 to 11:30. Our session, The Acoustical Impact of Legislation on Architectural Design, will be presented in CES Theater 1 -- on the EXPO Floor. Be sure to get to the expo floor early to see this, the first in a new series of educational opportunities at the conference.

At **Infocomm**, also in Las Vegas, June 4-10, TA staff will be heading these sessions:

Steve Thorburn: Facilities Design for Universities; Super Tuesday: Project Management; How to Issue an RFQ and RFP for AV Designers and AV System Contractors; and Advanced Acoustics.

Eric Cronwall: Behind Digital Signage: Applying Audiovisual Products and Techniques to the Retail Environment.

Brandon Haberman: Acoustics for Presentation Facilities.

Jim Horn: Defining the Perfect Teaching Station for Colleges and Universities.

Derek Meares: Presentation Facility Design and Integration Considerations.

That is over 40 hours of time given back to the industry as our way of saying thank you. If we have not thanked you recently, THANK YOU. We truly appreciate the opportunity to work with you on your projects and to provide us a chance to enjoy the success we have been granted.

As always if you have an idea, question, 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.

DWF Composer by Autodesk

Our office has been on the lookout for "red-lining" software for years – looking for something that will work. DWF Composer, by Autodesk may be the solution, or at least a partial solution.

For our readers that are not part of the Design Industry, "redlining" or "mark-up" is the term commonly used within the design industry to communicate corrections needed on drawings and documentation. The process of redlining has traditionally been done via hard copies. A draftsperson would print out a set of documents and hand it to the engineer/designer for proofing. The engineer would then mark-up the printouts with a red pen and pass it back to the draftsperson to fix. But what happens when the engineer and draftsperson are not both in the same location? Whether it is engineers that are constantly on the road, or remote office locations, the project must move forward. Faxing or scanning and emailing red-lined documents is not cost effective or time efficient.

DWF Composer can assist in that process. It has a similar feel to Adobe Acrobat, but Autodesk's version of it. It also has other features such as tracking the history of changes throughout the design process. When the files are saved, the file size is reduced to a fraction of the original file, and the format is DWF (Design Web Format). These are just some of the many features of this product. As we explore all the capabilities of the software we will keep notes and pass the information on to you.

More information is available at: http://usa.autodesk.com/adsk/servlet/index?siteID=123112&id=4086277

Why STC Doesn't Tell You Everything

The sound isolating properties of wall and floor/ceiling assemblies are often presented using a single number rating system, the Sound Transmission Class (STC). The STC rating of a partition is determined by following an ASTM Standard which compares the sound transmission loss from 125 Hz to 4000 Hz at the 1/3-octave band center frequencies to a set of reference curves. The range from 125-4000 Hz constitutes the majority of the energy in speech sounds. Therefore, the single number STC rating system does a good job at estimating the reduction of a partition in regards to speech noise. An STC 50 wall will reduce speech sounds by approximately 50 dB.

However, audio systems, mechanical equipment, traffic noise, etc., generate sounds well below the 125 Hz limit of the STC rating system. For sounds below 125Hz, the STC rating system tells us nothing about how much sound the partition can block. For example, a standard acoustically-rated partition consisting of two layers of 5/8-inch gypsum board on both sides of studs, with batt insulation placed in the stud cavity, has a laboratory rating of STC 55-57. An 8-inch thick reinforced concrete wall has a laboratory rating of STC 58. In the speech range, the walls will attenuate approximately the same amount of sound. However, in the 125 Hz octave band, the stud wall will block approximately 32 dB, while the concrete wall will block 42 dB. That is a 10 dB difference, which subjectively is perceived as half as loud! In the 63 Hz octave band and below, where musical instruments such as bass drums have their fundamentals, and where mechanical equipment is often very loud, the stud wall will only block approximately 18 dB, while the concrete wall will block over 30 dB.

While the STC rating system provides a good estimate for the amount of speech sound reduction, it should not be used in situations where the goal is to reduce low frequency sounds. This is why we suggest architects not put STC ratings on details whenever possible. When low frequency sounds are the issue, the partition must be selected based on 1/3-octave band transmission loss data.

Designing Lecterns to Accommodate Today's Technology

The layout of "technology lecterns" is always an issue. The challenge is most every user has a different opinion! Grouping requirements to create a lectern that satisfies the most users is no easy task, but there are fundamental questions that should always be considered including:

Size: How large should the lectern be to accommodate the equipment? Or rather, how small can it be? Once you address the functionality concerns, it can be difficult to find space for everything and maintain a small form factor. However, as audiovisual switchers with built in audio amplifiers have become more

common and control system processors have decreased in size, and through the judicious management of space, making everything fit is becoming more realistic.

Functionality: User accessible equipment such as: connections for a laptop's power, network, video and audio (or a dedicated desktop computer); a combination DVD/VCR player; a document camera; a control system touch panel; lectern microphone; storage space for a wireless microphone or other items should reside in the lectern. Ancillary equipment that supports the source equipment can be located either in the lectern or in a remote rack. Finally, space should be provided for the presenter's notes, papers, books, etc.

Security: This is not just the physical theft of technology equipment but also keeping well-intentioned users from "adjusting" controls or cabling, which can ultimately disable the equipment. We need to maintain good security yet make the AV technology readily available. This further supports the idea of providing two equipment racks in the lectern: one rack for technical equipment behind a locked cabinet door; the second in an opening with rack mounted user accessible equipment. This allows the source equipment to be readily accessible without compromising equipment security.

Aesthetics: What will the lectern look like? What finish will it have? Historically, technology lecterns were often added after the fact and the finish was given little consideration. Today's lecterns are typically coordinated to match other furniture in the room and in some cases except for a few items protruding over the top, look little different than a non-technology lectern.

ADA Requirements: All technology equipment that is accessible to standard presenters should reasonably be accessible to disabled presenters. This can be accommodated in a variety of ways since the ADA only requires that each user have the same experience not necessarily use the equipment in the same fashion. For instance instead of using the fixed touch panel mounted on the lectern surface, a wireless touch panel could be provided.

While we have not addressed every issue here (such as lectern mobility) the above provides a good starting point when developing a solution that works for the majority of your users.

Digital Signage at Federated Department Stores

The recent deluge of trade magazine articles on digital signage makes it seem like every business, school, airport and government facility should immediately jump on the Digital Signage bandwagon, or be left behind. But digital signage is just another way to use otherwise traditional video displays to present dynamically changing content like video, still graphics and text.

The issue is that the digital signage solution is complex. It involves the intricate marriage of several disciplines: display hardware, high-speed network connectivity, and content creation and management. Most digital signage customers do not have an internal technical expert to drive a successful digital signage initiative. To meet this growing need, Thorburn Associates can act as the owner's "technology expert."

We recently worked with Federated Department Stores (parent of Macy's, Bloomingdale's) to help develop their prototype digital signage system. Acting as the technology expert for FDS, we worked with AdSpace to implement their Coolsign digital signage product (recently acquired by Clarity Visual Systems). TA helped bring AdSpace up to speed on FDS' construction and facilities standards for their multimedia systems and made sure that FDS got a system that performed as intended. MEM Systems provided integration and project coordination.

The net result of this team effort is a repeatable high-quality installation that we have been told will help add to FDS' bottom line. The system includes 42-inch, 50-inch and 60-inch plasma displays and Tablet PC's installed in custom fixtures and connected to centrally located players over Cat5e cable. Each display is individually monitored for status and can be remotely operated from AdSpace's headquarters in Burlingame, CA. AdSpace also handles the challenge of content creation. As we have stated in the past, Content is King – without good content the system is just a bunch of expensive gear. A well-installed digital signage system with great content will work year after year.

National Systems Contractor Association (NSCA) Trade Show Wrap-up

It seems that if you want a new product, just say it does not exist, and it will appear! It happened just last month when Panasonic brought one of their new projectors that self focuses the image, great for the technology challenged. Just the week before a client asked about it. We had to say no it did not exist, because manufacturers have not put in a second set of optics to focus the image.

Also, for the first time at a trade show, there were a number of examples of widescreen projection systems. It looks like this summer we will have a good stable of choices to display HDTV/wide screen aspect images. Not only is digital broadcast driving us that way, so are many laptops. If you are putting systems in make sure that the projection screens and display devices are widescreen ready, or at least make sure that they can be upgraded.

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.

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