

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

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Greetings

Fall whispers in its crisp, wind-roughened voice to warn us of the impending winter. Even in coastal California, you can find an extra sweatshirt in the back of the car--just in case. Take advantage of these cooler nights to take that walk, sit back on the porch and count how many constellations you remember or just have a conversation with a friend you don't see often. Life is in the details; don't gloss over them! Its our attention to detail that inspires our new tagline, "Designing Quality Environments."

Let us know if you'll be at any of the following conferences, we'd love to share a few minutes of your time:

- American Institute of Architects (AIA) South Atlantic Regional Oct. 4-8 Chattanooga, TN
- Design-Build Institute Association (DBIA) Oct 18-20 Nashville, TN
- AIA Richmond, VA Nov. 1-3
- AIA California Council in Indian Wells, CA Nov. 3-5
- International Association of Amusement Parks and Attractions (IAAPA) Atlanta, GA Nov. 13-18

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

Get Your Wobulator Upgraded

Wobulation is to HDTV what glaze is to doughnuts. Of course, you can eat a plain doughnut--a few people would say they even prefer them--but really, doesn't that gooey sugary coating make the doughnut better? Wobulation makes a digital image better by allowing it to be projected at double its resolution--without changing the light or increasing pixels--and maintain a distinct, crisp image.

Will Allen, from Hewlett-Packard, invented wobulation. "As I learned how digital projectors worked, I realized they had a striking number of similarities with inkjet printers," explains Allen. "Both devices create a color picture from a matrix of points composed of primary colors."

By applying the same thinking to projection, wobulation overlaps points of light. It actually projects two independent, overlapping images, so that one pixel is replaced by two--but it all happens so precisely and quickly that all the human eye notices is a smoother image.

Wobulation technology is applied in High-Definition (HD) displays utilizing Texas Instruments' Digital Light Processing (DLP). The DLP chip is covered in thousands of tiny mirrors and, up until recently, the number of mirrors on the chip was not sufficient to create a true HD image. By having the chip project first half the pixels in an image and then the other half, you get an HD resolution image and—successful wobulation.

The newest version of the DLP chip has mirrors to draw all of the pixels at once and refreshes the picture at a rate of 60 times per second for a true 1,920 by 1,080, High-Definition picture. Ah, progress.

Travel Advisory for Sound

Sound travels on vibrating air molecules. To reduce the sound that is transmitted from room to room, Acoustical Consultants often specify resilient assemblies. These assemblies are placed inside the wall or ceiling--attached to the building frame--to reduce sound vibrations.

There are three different assembly systems: the rubber bushing, the channel and the acoustically resilient metal clip.

Historically, the Dietrich Metal Framing channel has been utilized. The channel is a foot long piece of galvanized steel.

A new product, the RSIC-1, from Pac International is a metal clip with a rubber bushing. The idea is to stop the sound with rubber, a poor conductor.

Another example is acoustic wall framing which replaces the conventional wood studs with laminated veneer lumber connected by acoustically resilient metal clips. The built-in clips help minimize the amount of noise transmitted.

Using one of the three quite different assemblies, sound vibrations are no longer on a straight path through the wall; rather, the sound waves take a roundabout road.

All three assemblies work on the same principle, differing only in ease of use and needs of the project. If properly installed, resilient wall assemblies dissipate much of the acoustical energy and substantially reduce the sound levels heard on the other side of the wall. Quieter living and working spaces start with construction.

<http://pac-intl.com/>

<http://www.dietrichindustries.com/>

<http://owenscorning.com/quietzone/products/products3.asp?id=smenu6>

Students to Have Access to New Technology for Film, Music and Dance

The Performing Arts Facility on the De Anza community college campus in San Jose, CA is under construction. The building is designed as a multi-use facility serving as classroom space, an auditorium, exhibition area and lobby.

Established in 1967, De Anza Community College currently serves approximately 22,000 students. The 112-acre campus includes an Olympic aquatics complex and 5,500 seat outdoor arena.

Thorburn Associates is designing the audiovisual systems and acoustical treatments for the Performing Arts Facility focusing on maximum flexibility and requiring minimal support staff. The auditorium, used for a variety of college and public events, includes the following:

- The main sound mixing console position for live performances; also to be used for film and video post-production work.
- A film projection screen with loudspeakers and masking all permanently mounted to the truss that can be winched out of the way for music and dance performances.
- 16mm and 35mm projectors installed in the projection booth with controls for all the projectors available at the mix position, control booth as well as backstage.

The auditorium also serves as a teaching space, utilizing a portable lectern with tilt-up interface for laptop network and power connections as well as an overhead document camera. Presenters will have the option of using a lectern-mounted gooseneck or wireless microphone.

The facility's design allows for quick transitions of the space's variable acoustic system to accommodate the needs of different events.

Flat panel displays in the lobby and box office will be used for venue announcements and digital signage promotions of upcoming events.

The Euphrat Art exhibition space features smart classroom equipment to support lectures and special events. An adjoining Art History classroom will also be similarly equipped and capable of showing computer video and film on a full wall projection surface.

<http://www.deanza.fhda.edu/>

Eye in the Sky

WolfVision's Ceiling Visualizer is an overhead document camera that allows you to show detailed drawings, products or anything else the light field can encompass. Whether you're using a document camera in a classroom to show the difference between hybrid rose and sunflower stems or in the conference room to show new designs, you have the audience's attention. A document camera lets you show all of those items that don't fit into an electronic presentation.

Ceiling mounted document cameras have the added benefit of stealth—being hidden from view and thus eliminating that barrier between presenter and audience.

WolfVision Ceiling Visualizers come with many useful features:

- Zoom: Focus in on all sorts of text, graphics and objects. You can take a dime and enlarge it so the tiniest features are projected and visible to an audience.
- Easy Positioning: Just place an object in the light field!
- Image Capture: Document cameras allow you to capture images just as you would with a scanner or digital camera and retrieve them later. The user has the opportunity to store nine images and recall them by pressing a button. The images can be split, displaying all or some of the nine at the same time. A battery backup allows the pictures to remain in memory for 1-4 weeks even when the power is disconnected.
- No shadows: As the camera and the light projector are situated side by side within the Visualizer and follow the same path, shadows are almost completely eliminated.

The ceiling mounted document camera has come along way from the overhead projectors we once knew.

<http://www.wolfvision.com/wolf/ceiling.html>

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