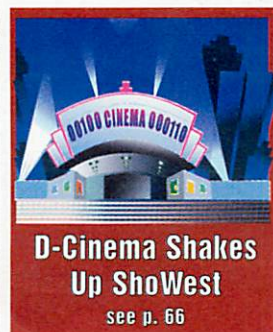


# SYSTEMS Contractor News

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A ribbon-cutting ceremony was attended to by the NSCA Expo Committee on opening day of Expo-2000 in Las Vegas. Participating (from left) were Tom Frericks, Chuck Wilson, Lloyd Ivey, Burt Ziskind, R. Bob Adams, Matt Robinson and Andy Musci.

## NSCA Expo Delivers On Anniversary Promises

by David Keene

LAS VEGAS, NV—The NSCA Expo returned to Las Vegas April 29-May 1, and those attendees expecting more than the usual meat-and-potatoes fare that the NSCA is noted and appreciated for were not disappointed. The NSCA is celebrating its 20th anniversary this year, and the show reflected both an improved structure and some introspection as to the future of the Expo in a world where the terms “small” and “democratic” may be losing some of their appeal.

This year in Las Vegas, a new expanded-height booth area was added, on a raised concourse of Hall S in the Las Vegas Convention Center. The NSCA added this area to assist manufacturers who have historically been limited by NSCA's on-floor

height restriction (read: video projector manufacturers). The video side exhibitors responded well to this new approach, although a few did express the desire to not be separated from the main show floor. (At next year's show they should be happier, as there will be even more area set aside for larger booths.)

Overall, even video-side exhibitors who are used to setting up massive booths at shows are generally very happy with NSCA. “For the amount of money and manpower we spend on this show, it is great,” commented Kevin Barlow, of Barco, after the show opened to record pre-registration and overall attendance.

On the audio side, anticipation was high for this show, particularly with the

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## Internet Complicates Videoconferencing Market

by Carolyn Heinze

While the introduction of PC-based videoconferencing systems has provided systems integrators with an increased consumer base, the availability of bandwidth still poses a challenge to those who choose to implement a system that relies heavily on the limited capabilities of the Internet. For now, systems integrators and consumers are finding themselves in an interim period where they either must make the best of PC-based setups, or spring for full-fledged, high-end videoconferencing systems.

“The limitation for traditional business conferencing is that the Internet cannot support business quality conferencing at this point, or even in the foreseeable future, whereas the ISDN network is global,” said James Butt, president of Dynamic Systems Integration in Virginia Beach, VA. “You can

call anywhere if you have an ISDN-based system. But for those entities that have their own local connections, like a chain of banks, or an organization that has multiple buildings in close proximity to one another, where they can afford a wide area network on their own, then IP-based conferencing starts to make sense.”

Not all wide area networks are equipped for IP-based videoconferencing yet, Butt continued. “Right now, a lot of the Legacy networks that are out there are not capable of supporting IP-based videoconferencing because they don't employ some of the new standards, like 802.1P and 802.1Q, for prioritization and quality of service,” he pointed out. “A lot of things have to happen before this transition takes place. For some clients it will never make sense to utilize IP-based

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## NAB Foreshadows INFOCOMM

by Michael Karagosian

NAB (National Association of Broadcasters) historically has not been the kind of show where you would shop for video projectors, but the show's clientele has changed over the years. These days, many professionals want one-stop shopping, expecting to see projectors as well as cameras and consoles. And the current buzz in this and other industries, broadband, was underlying NAB this year, with a variety of contracting implications. It's hard to imagine today that broadband production deserves the level of investment being promoted, particularly when the target audience still largely uses a 56K modem and a 15-inch monitor. But there are those who look ahead, and the systems integration

industry should be looking ahead more than others are, because broadband will affect us as we enter a world of networked video.

Here's my brief rundown of what was new at NAB and what you can expect to see at INFOCOMM (June 15-17, Anaheim Convention Center).

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INFOCOMM Preview

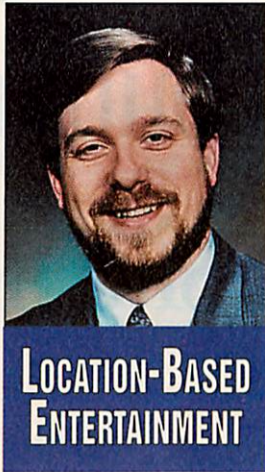
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## Datastream

# Learning About Video From The Planetarium

■ *These Unique Systems Will Further Drive The A-V Industry Into Immersive Experiences*

We have talked about what we can learn from the strangest of venues by looking at the audio systems for planetariums. But audio is not the only thing we can take from these venues. The development of video systems for planetariums and the elements of these unique installations are worth looking at as well. Looking at how the special requirements of these theaters can be applied to other design approaches will help provide superior outcome and flexibility for your clients.



**LOCATION-BASED  
ENTERTAINMENT**

by **Steven J. Thorburn**  
THORBURN ASSOC. INC

For a long time, supplementary A-V technology in a planetarium was limited to a static projector such as a slide or special effects projector. These "carousel" slide projectors combined with the planetarium star machine to create an audio-visual presentation with sound and lighting effects. In many cases this setup has not changed much, for better or worse. However, since

the presentation but was limited to a small segment of the dome and further limited by the resolution of the NTSC video image. A technical problem also arose concerning the density of black and the quality of the projected image. Further refinements were required in projection technology and control techniques so the images appeared really opaque in the star field. Many of these requirements were at odds with the traditional design of projection systems that were, at the time, trying to be bigger and brighter and had no need for absolute black. RGB images were introduced versus NTSC video images to improve their appearance. Control system modifications were employed to the projectors to allow them to be used in this very dark environment.

***As the projectors have achieved the necessary brightness, it is important that we control the overall brightness in relation to the environment to protect the apparent resolution of the image. We are finally reaching the time when brighter is not always better***

the late 1970s/early 1980s there have been some changes in the A-V configuration as video was introduced to the planetarium environment.

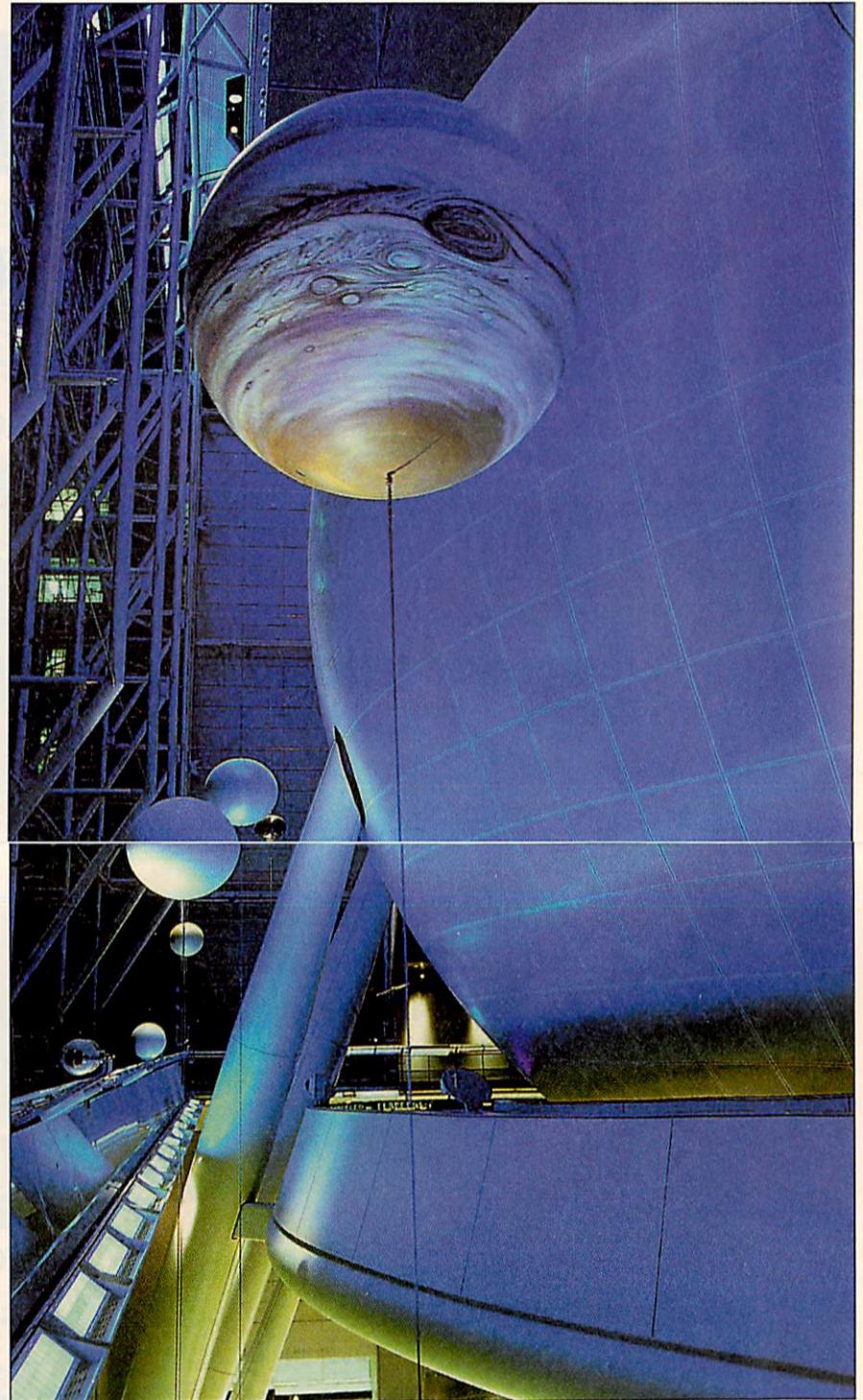
Video was first introduced to provide some additional motion into the presentation format. Images of almost anything that would move were added into shows, regardless of whether or not they were relevant. You probably remember early clips of space missions and phenomena. A great deal of this type of NASA and historical footage on video, as well as NASA simulations were used in this new video format. Though the intention of livening up the presentation up was a good one, using video in this way created images that were big squares on a round dome and were, in general, unappealing experience.

Clearly video needed to be developed in a way that would enhance the experience of being in a domed environment. This need was met by the introduction of video sequences produced by companies like Sky-Skan Inc. They produced and distributed video effects especially for the planetarium that used high-contrast images that occurred and stayed within a black field. These would appear to float in the dome, giving the illusion of being part of the star-field background.

This was a dramatic improvement in

These applications have been of direct benefit in the development of projection systems that have similar applications. Using video in moderate-to-high ambient light situations requires that the image is bright and of sufficient contrast to be visible. In other applications, however, such as low-light environments, mixed-media presentations such as theaters and special stage venues, require a sharp image whose light output and overall brightness are controllable. As the projectors have achieved the necessary brightness, it is important that we control the overall brightness in relation to the environment. This protects the apparent resolution of the image. We are finally reaching the time when brighter is not always better.

The second generation of video projection systems moved the entire video industry forward another step. A computer-driven device, developed by Evans & Sutherland, replaced the planetarium projector with an all-dome, monochromatic star field with some revolutionary effects capability. This challenged the video projection systems further, as well as the computer software development and optical lens development. The spin-off of this technology has been domed simulations for industries such as molecular modeling for researchers and engineers and designers.



Savvy integrators should study the A-V technology behind planetarium systems, like New York City's Hayden facility.

This technology has moved from monochromatic to full color and is being used as a new teaching tool.

The next generation of planetarium video projection systems is currently under development by several companies including Sky-Skan, Evans & Sutherland, Goto Optical Company, Spitz Space Systems, Silicon Graphics Inc., and all dome laser imaging systems by Carl Zeiss and Audio Visual Imagineering. These employ from one to many video projectors that will image the entire dome with seamless graphics, scanned film images and interactive presentation and research materials.

Software development for these systems will be at the forefront of the devel-

opment of new video projector uses. These systems will further drive the video projection industry and will improve the projectors that we buy and use in the A-V industry. We will find ourselves getting requests for immersive and interactive experiences from our clients before you know it. **SCN**

*Steven J. Thorburn, PE, is a principal with Thorburn Associates Inc., an acoustical consulting and audiovisual system engineering firm with offices in Northern and Southern California and North Carolina. He is active in the design and development of projects around the world and can be reached at SJT@TA-Inc.com, or at 510.886.7826.*