

# Sights and sounds

## Investing in A/V systems to enhance event production

In an era where technology is transforming venue design and operations, the need to broaden the appeal of the sports experience is placing increasing emphasis on the integration of audio and video systems. Raising the entertainment stakes requires a collaborative approach

Keith Clark for Acoustic Dimensions, USA



**T**he trend for stadia and arenas in the future is for facilities incorporating specially tailored, integrated audio, video and broadcast systems that add another dimension to the total entertainment experience. Gone are the days of the

collegiate teams are placing a greater emphasis on the experience at the stadium to draw those fans out of the comfort of their living rooms.

Architectural firms and facility managers are wisely investing in integrated audio and video technology as a vital

arenas are the many production elements that go into creating the complete game-day experience. The fan in the stands might (and should) be unaware of the intense co-ordination and planning needed to create an event that meets all the requirements of the players, coaches, press, networks and, ultimately, the fan.

This properly integrated approach to audio and video design needs to successfully support many different activities that make up the game event. For example, the concession managers need audio and video monitors to keep the fans 'tuned in' while waiting in line and the local television stations demand easy access to camera positions and satellite links. Furthermore, the press need simple access to outside phones and data lines to keep their deadlines and even the coaching staff must have sophisticated audio and video systems to ensure they keep in touch with the action.

What is critical to the designers is to

**"It is critical to understand what the end users want - the technology they need to accomplish their jobs in a world where time and performance are at a premium"**

echoing PA system and the cold, hard seats. In a marketplace where fans can watch the big game in an overstuffed chair on a 60in HDTV screen with surround-sound and multiple camera angles, professional and

ingredient, realizing that it boosts the entertainment value, which helps satisfy the expectations of fans.

The biggest challenge in meeting the needs of this new generation of stadia and

understand what the end users want – the technology they need to accomplish their jobs in a world where time and performance are at a premium.

As new stadiums are designed and older stadiums are renovated to meet these growing audio and video production needs, part of the A/V consultant's responsibility is to oversee and co-ordinate the design of the technical systems to find a balance between sometimes conflicting requirements and to keep in mind the entertainment experience – the 'wow' factor for the fans.

It is not enough to just have the technical knowledge to design audio, video, broadcast and acoustics. There has to be

The recent Dodgers Stadium sound systems project highlights this approach. Following the 2000 season, the company's design team carefully evaluated fan surveys regarding the Dodgers Stadium experience. This was followed up with thorough interviews of both audio and video production members and team management to understand the limitations of the present system and develop ideas for the new one.

The homework paid off, with a fast-tracked design solution delivered in time for opening day of the 2001 season. This was highlighted by a unique centerfield sound cluster tailored to emphasize the talents of long-time PA announcer Mike Carlucci and organist Nancy Bea Hefley.

"If you can't fully use the technology, what's the point?" asks Craig Janssen, the audio design team leader for the Dodgers project. "There's simply no point in creating a system that is complex to the point of ineffectiveness."

"With every project, we ask ourselves 'what's it going to be like to run these systems as a sound operator and video operator?' This has a major influence on the final result."

### Delivering tailored systems

The last and most important piece of this particular puzzle is a commitment to training. "We can't just fire up a new system, make sure it works and then walk away," Janssen explains. "There has to be a commitment to successful educational time, and this develops into relationships with our clients that last for years after a project is completed."

Collaborative relationships with leading audio and video manufacturers enhance the creative process and the ability to deliver tailored solutions.

For example, the ongoing Philadelphia Eagles Stadium project will include speakers and large screen video displays that perform beyond current performance standards, while melding discreetly with the desired architectural aesthetic of the new stadium.

The 'clean sheet of paper' approach is applied not just to new facilities but also to system designs intended for existing facilities.

Ralph Wilson Stadium, home of the NFL Buffalo Bills franchise, now has a dramatically upgraded sound system; a solution arrived at by considering the unusual.

## "There's simply no point in creating a system that is complex to the point of ineffectiveness"

people on the team who have experienced what it is like to be there on the other side – the people who make the event come to life every game.

### Designing for the Dodgers

Fresh off the development of a successful sound system upgrade at Dodgers Stadium in Los Angeles, the Dallas-based company Acoustic Dimensions can reflect on offering integrated production solutions to stadiums.

"It's the total experience that we need to support," says Steve Shull, one of the firm's design team leaders. "We need to understand what is most important to the success of each project, and then design with the users group to develop solutions that meet the needs and expectations for a program that will grow and change in a new or renovated facility."

"The most exciting element of our design effort is that more and more great audio, live video displays and careful acoustics are increasing in importance, contributing something unique to the fan experience."

*Intense co-ordination and planning is needed to operate the audio and video technology from the control room, not only to improve the fan experience but also to meet the demands of players, coaches, the press and television networks*

The team research had shown that these two elements were most identified with a great Dodger Stadium experience.

Two other key elements also came into play. Firstly, the centerfield cluster solution needed to fit within the existing stadium design without compromising the only truck access to the field for the staging of concerts. Secondly, the production team desired greater capability to offer sound effects that seem to 'move' between speakers, so supplemental sound clusters were designed to be incorporated into the existing left and right-field scoreboards.





*Venues are increasingly investing in powerful audio systems, providing acoustical treatments that often embrace the use of game music to help generate the right atmosphere*

The stadium had a traditional end zone audio cluster that fired sound the length of the bowl. Even although the existing system was underpowered, there were significant acoustical reflections from the glass faces of the suites and clubs in the far end zone. As a result, the audio program was completely unintelligible in many areas of the seating bowl. Consequently, the

This time, the existing structure and a special site condition dictated a traditional end zone-based sound system configuration that could generate powerful sound energy. Tight zoning restrictions in the adjacent neighborhood demanded that energy levels be controlled to prevent nearby residences from being impacted by the system.

The solution to this crucial issue

## **“Collaborative relationships with leading audio and video manufacturers enhance the creative process and the ability to deliver tailored solutions”**

design team knew that just replacing the existing cluster with a system that would provide the punch desired by the team would make a bad situation worse.

The successful solution was the use of a side-firing speaker cluster approach. The clusters are actually located atop elevator towers on one side of the field, but through careful design and set up they provide dynamic and consistent full-range coverage to both sides of the stadium.

“With an unlimited budget, of course you can do almost anything with a system, but this project points out what can be done in a very realistic budgetary and architectural scenario,” Shull says. “Watching the fans react to a new sound system for the first game is a lot of fun. The big thrill in seeing that the solution to an existing problem is recognized and enjoyed by the fans is fantastic.”

Any technical audio solution must be combined with thorough study of the acoustical environment of a venue. Sometimes this extends even further, as at Cougar Stadium, a major college football stadium on the campus of Brigham Young University in Utah.

resulted in the design and installation of audio loudspeakers that have very tightly controlled coverage patterns. When arranged together, they provide high energy sound to the seating bowl but minimal noise to the surrounding neighbors.

### **Integrating solutions**

Sound is only one part of the complete systems picture. Acoustic Dimensions has focused on offering total solutions, with team members collaborating on broadcast accommodations, large screen video displays, sound and acoustics before integrating them all together. This one-source approach for systems solutions has been developed to benefit not just the integration process but also venues’ architectural and management teams.

The Paul Brown Stadium in Cincinnati, home of the NFL Bengals, which opened prior to the 2000 season, features what, at that time, were the largest video display boards ever implemented in a NFL stadium. They were designed to work in tandem with a distributed audio system delivering extraordinary low-frequency reinforcement. The result is a unique

sports entertainment experience conceived and enacted by architect, management and systems team, backed by a host of ancillary systems for the clubs, MATV, team administrative areas and other spaces.

Meanwhile, Continental Arena in New Jersey, shared home of the NBA Nets and NHL Devils, features a new video display system designed by Acoustic Dimensions to energize fans. The systems are not mere ‘game follow’ boards but offer exciting and specially created programming tailored to the unique interests of basketball and hockey fans. The project clearly exhibits how an inclusive systems design process can meet raised expectations.

Close collaboration on design projects over the years with themed entertainment clients like Disney and Universal have also proven valuable for the company, with stadiums and arenas evolving to match some of these entertainment values. This successful model points to capitalizing on technology elements to create a program capturing the mood.

“There’s the connection you must make from the architectural, creative, management and budgeting side, a familiarity with concerns and needs to everyone in the process,” explains Shull. “As a direct benefit of completing a number of projects, we’ve learned when information needs to be supplied and to whom, and where there needs to be repetition and double-checks in this regard. We want our team members to be challenged, and to take these challenges and innovate with the ultimate goal of improving the event experience for fans.” ■



*The video display works in tandem with a distributed audio system at the NFL Cincinnati Bengals stadium*