

# Doing Voiceover Work In 'The Barn'

■ University Of Minnesota's Williams Arena Gets A Public Address System Makeover

by Mark Miller

National landmark Williams Arena at the University of Minnesota was built in 1928, strictly for basketball. Over time, the facility got the nickname, "the barn," for its arch-style roof and gaudy iron girders throughout. Despite its appearance however,

the arena earned the reputation as one of the toughest places to play in the country. Ironically, it had one of the worst-sounding PA system in the Big Ten conference, if not the nation. The only minor changes made to the sound system over the years were made in the 1950s, when dingy, used loudspeakers were brought from the arena's neighbor, the football "brick house," Memorial Stadium.

The Williams Arena system never got much attention, because the sport of basketball itself always overshadowed whatever sound quality was needed. Then one of the school's top administrators, men's athletic director Dr. Mark Dienhart, literally sat up last November and noticed just how bad things sounded, or not sounded, depending on what was trying to be heard.

"My family and I sit in the back of section 204, and we can't hear most of what's said," Dienhart grimaced. "Plus, I've been on the court for half-time ceremonies, and you can't hear. That's when I knew we had a problem. Let's just say I've never had any compliments."

The University then went through the process of accepting bids, and Minneapolis-based Impulse Group answered the call. Bob Oswood, install contractor and design engineer for Impulse Group, didn't realize what he'd walked into upon his first visit to the notorious locale.

"It was a difficult space because of some of the geometry of the room," Oswood began.

"The roof is a focusing surface, and you want to avoid putting as much energy on the roof as possible, because it's going to focus [the energy] back. There were some acoustical problems with the space, things like a lot of reflecting surfaces—the hardwood floor, the hard plastic seats, the cement walls—but I've seen worse."

Oswood soon met with Jeff Seifriz, the arena manager, who provided the opportuni-

ty to run acoustical tests. Oswood said different locations of the arena needed to be tested to figure out the design approach. In addition, two goals needed to be met: high intelligibility for the spoken word, and a more natural sound for music.

Starin Marketing, who quickly assembled two more pieces to the Williams arena puzzle. Jim Long of the EVI/Telex team, and Bob Coffeen, who designed the EARS program, to do an auralization of the space.

EARS was used to build the room, then a signal was inserted into the artificial space. When everything was ready, a spot in the room was selected, and the program duplicated what the Impulse/EVI/Telex equip-

*'It's still going to be a barn, but what you'll have is a barn where you'll be able to hear the announcements'*

Bob Oswood, Impulse Group

ment would sound like. The University liked what they heard, and the new sound of Williams Arena began.

Once all the technical machinations were complete, Oswood came up with an "exploded" concept design, an idea he says goes back to the 1930s, when movie theaters needed a way to produce "talking" films. The concept is simple: taking a central speaker cluster (normally mounted on top of most arena scoreboards), and exploding it, moving the speakers out to a position where they are much closer to the listener. In Williams Arena's case, a certain amount of speakers went near the scoreboard, but then the rest

Enter Scott Lysne, the local EVI rep from

(continued on page 78)



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## Voiceover Work

(continued from page 76)

of the speakers were installed under balcony decks, thereby throwing their sound to smaller, more efficient targets.

"The speakers will all be electronically synchronized so the sound would arrive as if it had come from a central point," Oswald said, "that's really important to maintain good intelligibility, when you can pick out the source of a sound in a room."

The arena system is pushed by several Crown CT Series amps, hurling 21,000 watts toward model FRX-640 and FRX-940 speakers

### PROJECT TEAM

**SYSTEMS CONTRACTOR:** Impulse Group, Minneapolis, MN

**PROJECT MANAGER/DESIGN ENGINEER:** Bob Oswald

**MANUFACTURER'S REP:** Scott Lysne, Starin Marketing

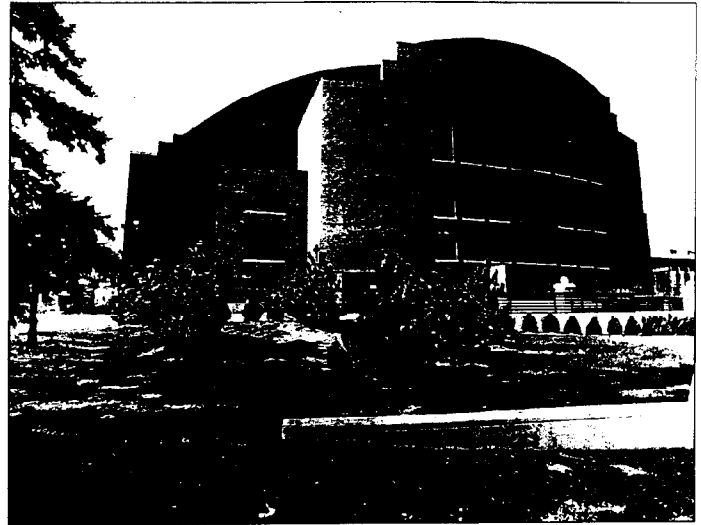
**WILLIAMS ARENA MANAGER:** Jeff Seifriz

provided by EVI/Telex. The newly-designed speakers came as a recommendation after Oswald contacted EVI looking for solutions to his challenging installation. The FRXs at Williams Arena will be put through their paces for the first time in this type of application. Impulse Group will also provide 240 under-balcony speakers to compliment the FRX contingent.

Not only did Oswald and Impulse Group solve Williams Arena's sound problem, they did it within the constraints of a budget. "One other approach would have been to do some acoustical treatment to the space," Oswald explains, "but that would have added a lot of expense, and the installation would get complex and be a problem. Because if you have a solution that's twice the budget, it's not a solution."

Dave Hosbach, an EVI market development manager for fixed installation systems, echoes Oswald's thoughts as far as coming up with a profound idea in audio. Hosbach says the FRX series began with a design used in the old bass horns from the 1950s and '60s.

"The idea was and still is to control as much of the vocal range as you possibly can," Hosbach said, "so if you want to have sound that's clear and intelligible in a big space,



The arena system is pushed by several Crown CT Series amps, hurling 21,000 watts toward model FRX-640 and FRX-940 speakers provided by EVI/Telex.

you've got to be able to control where that sound is going, and get it directly to the listener's ears, and keep as much sound as you

"What we're doing is a couple of things," Hosbach explained. "We're taking and giving the large format horn control down to 500

**Bob Oswald, install contractor and design engineer for Impulse Group, didn't realize what he'd walked into upon his first visit to the notorious locale**

can off the walls, ceiling, and floors. Otherwise people are hearing echoes and they wonder what they just heard."

The FRX series, Hosbach explained, is basically a combination of upgrades from other speaker designs. "Years ago, (sister company) Altec/Lansing had a big bass horn. It handled a 15-inch woofer, and gave you rated control down to 500 hertz, perfect for bigger spaces."

What EVI did was to take that foundation and build off it. "In the early 1990s, under the Altec banner, we introduced a speaker that had a high frequency horn and the bass horn in one physical spot. "It did fairly well, so we updated that product, put it under the EVI flag, and called it the FRX-640 for a 60 by 40 foot coverage pattern, and the 940 for a 90 by 40 pattern.

Hertz out of the system, at the same time we're placing the high/low frequency source in the same spot, so what you've got is a high frequency compression driver that's strapped on to the back end of the woofer magnet. The high frequency sound projects through the center piece of the woofer magnet, through a coaxial horn at the front of the bass horn."

What does this mean for Williams Arena? Oswald says "the barn" won't lose any of its intimidation factor for opponents. "It's still going to be a barn, but what you'll have is a barn where you'll be able to hear the announcements." **SCN**

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