The Challenge of *America's Ballroom Challenge*

By: Chas Norton

What are the issues involved in lighting a televised dance competition?

Dancers Radek Wiatrowski and Denise Sobiewski.

The challenge was formidable: Light a 74,000-sq.-ft. hall for a two-day ballroom dancing competition. Light the dance floor to highlight up to 12 couples at a time, but be ready to change to more dramatic lighting for 50 solo performances, each with its own costume colors, entrances, exits, and floor coverage. Vary the audience lighting to fit the mood, from semi-darkness for the performances to reasonably bright levels for reaction and applause shots. Pull all this off with almost no rehearsals and no opportunity for retakes. And make it all look ready for national prime-time television.

This is my assignment as lighting designer for *America's Ballroom Challenge,* a popular PBS series shot at one of the world's largest ballroom dancing competitions, the Ohio Star Ball, held every November in Columbus, Ohio. The competition extends over a whole week, with couples ranging from pre-teens to seniors, but the PBS program focuses on the professional competition on Friday and Saturday nights.

Hundreds of professional couples arrive in Columbus to compete in four distinct styles of ballroom dancing: American Smooth, American Rhythm, International Standard, and International Latin. In round after round, the couples compete in group dancing, with up to a dozen couples

Peter and Alexandra Perzhu.

This wide-angle view gives a sense of the space that the author was required to light.

on the floor at the same time, performing the required dances in their styles as judges grade the dancers and narrow the field.

In the finals, six couples in each style compete first as a group and then, for the first time in the competition, perform a showdance—alone on the floor, with all eyes on them. After a winning couple is chosen in each style, the four champions perform two more solos to determine a single winner—America's best ballroom couple.

Competitive ballroom dancing first came to PBS in 1980, when producer Aida Moreno, then at WGBH/Boston, taped the national ballroom championships. It was supposed to be a single 90-minute special, but *Championship Ballroom Dancing*, as it soon came to be called, proved so popular that it kept coming back, year after year, for 20 years—always one of the highest rated specials in the PBS line-up. I was the lighting designer for all those shows.

PBS was the first American television network to feature competitive ballroom dancing. *Championship Ballroom Dancing* introduced TV viewers to the excitement and sensuality of competitive dance, raised awareness of ballroom as a spectator sport, inspired a surge of interest in dancing in schools and colleges—and spawned imitators on other television networks.

In 2006, Moreno—by then owner of her own production company—brought ballroom back to PBS with a new format and title: *America's Ballroom Challenge.* I signed on again to do the lighting. The program started as a two-hour special but grew into a five-hour series the next year. It went right back to the top of the PBS charts—and stayed there for four years, until the economic downturn dried up funding sources and the show went dark. But, in mid-2014, I got a call from Aida: She'd managed

to raise enough money to bring ballroom back to PBS again. Was I interested? Absolutely. “Great,” she said. “Your job is to make it work in a newly renovated space—and stay within your budget.”

By then, I had already started to think about the many what-ifs and had done quite a bit of pre-planning. I had realized that my choice of a lighting vendor was key and quickly realized that, because of past proven performance and because I needed to move quickly and efficiently, I would call on John Cini, of Boston-based High Output, to help me marry the competing demands of a limited budget and the right equipment to do the job successfully. Almost as quickly, I realized I wanted to try to get the same electric crew that had helped me before in Columbus—the men and women of Local 12 IATSE—and our crew chief, Rusty Sneeden.

The space

The first PBS ballroom shows were shot at a competition in New York City, but in 1985 Aida moved the show to Ohio, drawn by the lower costs of producing there. (The presence of her TV cameras helped turn the Ohio competition into one of the world’s largest.) Since 1994, we’ve been shooting in Battelle Hall, at the Greater Columbus Convention Center. But Battelle had undergone some major changes since we last shot there in 2008.

The biggest change was evident the moment I walked into the hall on a site survey. I looked up and saw a forest of “fins”—thin rectangles about 18" deep and 10' long—suspended from the ceiling. The fins gave the ceiling an undeniably dramatic and sculptured texture. They also presented new challenges—and new opportunities—for our production team. The rigging points were now fixed and located above the fins. This limited our choice of truss positions and forced us to design a different configuration—larger than we had used in the past which made us change the placement of our lighting fixtures in relation to the dance floor.

The new opportunities became clear as soon as the fins were turned on. Along the bottom edge of each fin was a row of LEDs that could splash a

The LED fins built into the ceiling represented both a challenge and opportunity.

Norton controlled the fins' color and intensity from the console, matching them to the lighting on the show floor.

range of colors upward onto the surface of the fin and the surrounding spaces. I could see immediately that this might give us intriguing new options for generating bold overhead colors. But there was a problem: The fins were set to generate a pre-programmed set of rolling color changes from one end of the hall to the other. No one on the Battelle staff knew how to control the LEDs; what you saw was what you got. Since the rolling color changes were unsuitable for our show, I faced an urgent choice: Either leave the LEDs out of the show—or learn how to control them.

How I dealt with the changes

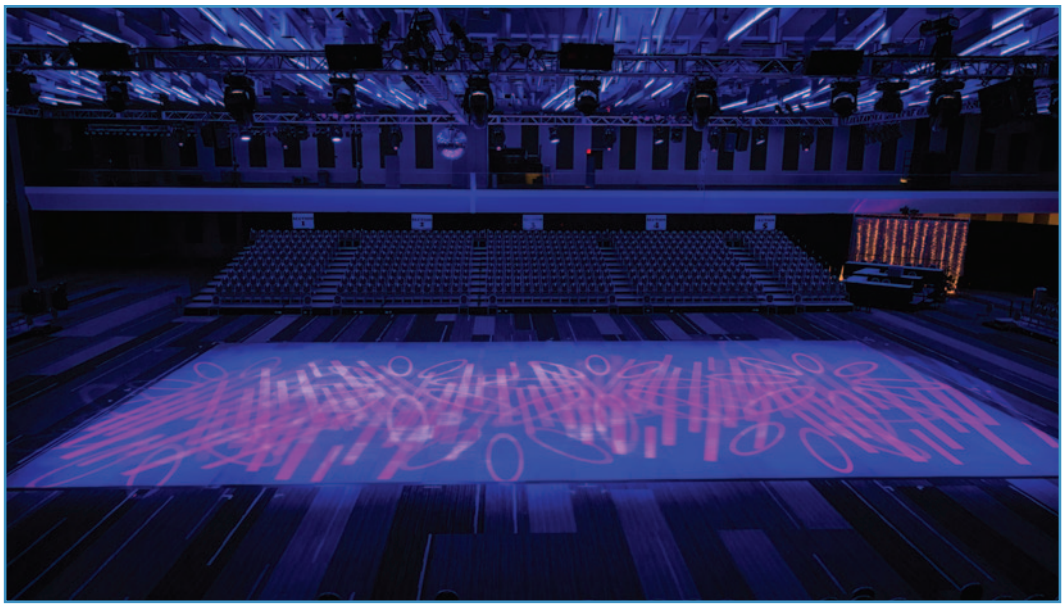
After researching the network interfaces for the LED fins, I was able to help High Output's team of Andrew Boucher, our project manager/master electrician, and Sean Harding, our programmer, unlock the secrets of their control system. We were able to control the fins' color and intensity from our console, allowing us to color the

ceiling on cue to augment our lighting on the dance floor. In many halls, as in Battelle prior to the renovation, the ceiling can be a major challenge. It can be difficult to make it into an attractive part of the overall lighting environment without its own complement of lights—often not an affordable option. But this year, I was able to use the LED fins to create ceiling colors to integrate with the projected patterns and color washes on the floor. This was a major breakthrough and a cornerstone of our new lighting design.

Balancing competing demands

One of the challenges in lighting an event like this is balancing the competing demands of the television audience, live audience, and production team. I strive for a lighting design that gives television viewers at home a "ringside seat" at the competition, allowing them to see the physical beauty and tremendous artistry of the

Left to right: Andrew Boucher, Rusty Sneeden, Chas Norton, Sean Harding



Norton used pattern work on the floor to create a distinct environment for each act.

dancers with an intimacy they couldn't get in any other way. At the same time, I have to be mindful of the thousands of spectators watching the competition in Columbus—the lighting has to be optimal for them too. And finally, the lighting design needs to reflect the production team's need to move quickly through the live competition—without any hitches that would slow down the taping and drive up costs.

Lighting the group dances

My first task was to light the dance floor for the group dances, with multiple couples on the floor at the same time. With only two minutes to impress the judges who stand around the perimeter, the dancers use every square inch of the dance floor, including the edges—anything to help them stand out from the other couples. For this reason, it's critical to light the entire floor evenly, without any dark or hot spots that would detract from the performances or compromise our camera shots.

To achieve this even look, my choice has always been to create a hard light wash, using incandescent ETC Source Four PAR units from a frontal angle from two sides of the floor. This gives a crisp, hard-edged look with a hint of the definition of cross-lighting. The PARs were really the only affordable option that I could think of. They require very careful attention to focus, but my light meter ensured I would have an even enough field of illumination.

In television terms, the PAR wash was our giant key light, maintaining a constant exposure over the whole floor—ideal for our television cameras. Since the light came from a low angle—the Source Fours were mounted in the balconies—it also washed over the audience, also creating a brightly lit crowd that seemed a good match for the dance floor filled with moving dancers.

Lighting the solos

But the heart of *America's Ballroom Challenge*—especially in its new, three-hour format—is the solo performances: 50 couples, each performing alone on the floor. For this portion of the show, I wanted a more dramatic look, with the audience in relative darkness and the dancers lit primarily

by our six Lycian StarkLite II followspots. But with so many solos to shoot, there was a danger they would all look the same. I realized the only way to create a varied and exciting show was to have a dedicated look for each couple's solo. With no opportunity to rehearse with each couple, my team relied on the production staff to contact as many of the dancers as possible before the competition and find out the style and colors of the costumes they would be wearing, what dance they would be performing, their music selection, and where they would enter and exit the floor.

With this information in hand, Andrew, Sean, and I designed a look for each couple, adjusting the patterns and washes on the floor and using the fin LEDs to create complementary, static color looks above. Unfortunately, we didn't know much about the specifics of dancers' choreography—what they would be doing and where they would be going on the dance floor. But, with well-educated guesswork, we mapped out a look for each couple and trusted that our spot operators would be able to follow the couples and keep them visible to the cameras and to the audience. We were lucky to have operators who had done the show before.

Dealing with uncertainty

Despite all the advance work done by the production staff, we couldn't be sure which couples would survive the early rounds and make it to the finals. Some of the dancers for whom we'd prepared "looks" were eliminated before they ever got a chance to solo, and other couples we never anticipated took their places. Luckily, we had to make only four blind substitutions. Because I had developed an understanding of the competition over the years, I was able to make many educated guesses, based on past practice, about what looks would work for these "surprise couples."

Failures and successes

During the solos, we kept the audience at a very low level, and brought it up only for the applause at the end of each dance. This made the solos easier for the audience to see—and more dramatic for the TV cameras and the audience at home. We tried to isolate the distractions around the dance floor, but we could not go quite as far in that direction as I had hoped. For safety reasons, we needed to maintain well-lighted passages for pedestrians to enter and exit the hall. This required the use of house lights that intruded into some of our shots. In past years, we had been able to largely eliminate these house lights by masking and contouring overhead lights. But one of the other new features of Battelle Hall—a glass balcony rail—made it impossible to hang the masking fabric to block the wall washers in the way we had done in previous years.

On the other hand, the 2014 show marked the debut of a new technique for segueing from one dance to the next. The idea came to me as I watched some old shows and saw that the transitions between dances were sometimes jarring because of sudden changes in lighting, especially with the hard-edge pattern units. I realized I could achieve a better visual flow by switching to the same "interim cue" between all dances.

For this, we dedicated four Martin Professional MAC 700 profiles, each displaying a pattern of the show title that could create a single well-branded look; these units were used only for this cue and the open and close. This way, we avoided having the workhorse Philips Vari*Lite VL3000 profiles change position and template—on the air—in a potentially jarring series of movements. Each new solo would begin with the audience lights going down, followed by a transition from the interim cue to the specific cue we'd designed for that couple. The dancers would be picked up by the followspots, and off they'd

go. This refinement gave the finished show a smoother and more polished look than in years past.

Wrap-up

Like all the other ballroom shows I've worked on, this one was exhausting. The time pressure of a live competition is relentless, leaving me and my team without a moment to catch our breath. In hindsight, I look at the finished show and see flaws like the wall washers under the balcony. Given more time, I might have thought of the solution that now seems obvious: mask the washers with a lighter weight substitute: Mylar, black slit drape hung from the balcony rail.

But on balance, I'm pleased with the show. The addition of Martin Professional MAC Quantum LED wash units worked well because of their ability to add textures of their own to our floor washes. By designing 50 different looks for the solos, by controlling the ceiling fins from our console, by making use of the interim cue, and by paying special attention to the exposure quality of our audience reaction shots—many shot out of sequence—we came away with three well-crafted hours of prime-time television that will uphold the standards of past PBS ballroom programs.

But I must give a shout out to all the veterans—all the tech and lighting crew members—who rejoined us after a long hiatus and without whom I would not have been able to succeed.

The 2015 edition of *America's Ballroom Challenge* airs over three Fridays starting April 24 at 9 pm.

The Gear

Approx. 400' 12" Box Truss
4 12" Corner Blocks
2 12" CP Hinges
8 One-ton CM hoists
9 Half-ton CM hoists

24 ETC Source Fours (varying lenses)
156 ETC Source Four PARs (varying lenses)
24 Two-cell Far Cycs
40 PAR 20s

14 VL3000 Spot
12 Mac Quantum Wash
4 Mac 700 Profile
6 Lycian LT Starklite II
1 36" Mirror Ball
1 grandMA2 lite
1 grandma2 ultra-lite
1 ETC Express 48/96
1 ETC 96 Rack
1 ETC 48 Rack
2 ETC 24 Racks
1 30W ML Distro
1 ETCnet 2 Port Gateway
Variety of Arri 650, 1K, and 2K Fresnels
Three 4' Four-bank Kino Flo Fixtures with DMX Ballasts)

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