A perspective of the Vilar Performing Arts Center, with Trace Adkins in concert.

CONSISTENT COMMITMENT

A steady path to higher production values at a performing arts venue.

by Erik Brown

THE VILAR PERFORMING Arts Center, where I serve as technical director, is a 535-seat theatre that presents a variety of concerts, theatrical productions and more, serving as a great addition to the Beaver Creek Resort (Avon, CO) since its inaugural season in 1997. Acquired by the Vail Valley Foundation in 2001, there's been a consistent commitment to overall show production values, artist experience, and above all, audio fidelity.

Over the past seven years, the production team has worked within its own resources as well as with outside consultants such as THD Productions (Leadville, CO), DL Adams Associates (Denver), and others to further the quality and consistency of sound throughout the venue. Another goal has been improving the user experience for both visiting and house engineers.

The initial upgrade saw the existing Midas Legend 3000 console at front of house replaced with a new Heritage 3000 48-channel touring edition, with stage monitoring upgraded with a DiGiCo SD9 digital console and Meyer Sound UM-1P/USM-1P (narrow coverage) and UM-100P (wide coverage) wedges. A custom distribution panel integrated into the DiGiCo racks facilitates very fast stage distribution of power and signal, with hybrid Star Quad cables used throughout.

The next upgrade phase dealt with both power and signal distribution. A complete survey of all grounding points in the audio system was conducted and any errors corrected. Next, a 56-channel Radial Engineering V12 modular snake system was brought in as a retrofit snake option, with W1 connectors chosen both for guest tour compatibility and ease of use. There are eight return lines in addition to the primary channels and a Jensen transformer-isolated A/B dual split at stage left.

For guest purposes there's a secondary 25-foot whip to break out analog signals on the house snake to visiting consoles. And for an alternative mix position at 25 feet off center, there's a 50-foot guest whip available as well. All of it provides a wide array of options, including driving three consoles at the same time, on the same snake split combination, while providing exceptional fidelity and noise rejection.

THE FINAL PIECE

A year went by as multiple discussions were ongoing regarding the last piece of the puzzle, focusing on a dramatic upgrade to the collective experiences of house and guest engineers. The dilemma:

The Midas Heritage 3000 house console on a hydraulic platform so it can be quickly lowered and retracted under the walls.

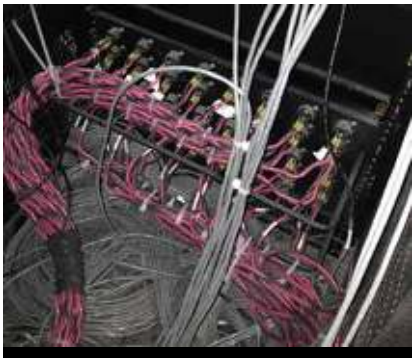
any time a guest console was brought into the venue, it had to be located at a less-than-ideal mix position – under a

balcony, in a corner, next to a bass trap.

The permanent front of house position wasn't much better, housed in a formerly glassed booth that, while thankfully no longer sealed in by windows, was still very limited from an acoustical perspective. It was located next to the lighting position, only a foot or so above the last row of seats. The resultant lack of free air around the console, additional height, and poor spacing resulted in a 6.5 dB drop in ambient house sound by the time it reached the engineer. This was further compounded by a boost of approximately 2.5 dB in the 1 kHz to 2 kHz range.

Multiple ideas were kicked around until a combination of several concepts was adopted. The bottom line was that the front of house position would be moved into the audience, with a new sound booth built at audience level in the center/rear of the main floor.

Further, an unusual (and intriguing) idea was suggested by the resident gearhead: what if the house console and its cables were ensconced on a hydraulic lift? The goal was finding an easy, seamless method to get it out of the way to allow guest consoles to be placed at the mix position.



A look at some of the cabling infrastructure implemented in the upgrade project.

PRESTO CHANGO

Following additional discussion, a plan was formulated and pursued. A 2,000-pound capacity, electric driven hydraulic platform was acquired, outfitted with a custom-built lift table and counterweight system to handle the weight of the Heritage 3000 console, a doghouse and two 6-space racks. These components can then be easily lowered via the lift, retracting completely underneath the structural walls built around it. An angled iron lip installed along the interior edges of the walls allows for an engineered deck to be set into place to accommodate a guest console weighing up to 1,000 pounds.

A significant issue was what to do with the outboard gear. Several options for custom looms were sought out, but in the end, a low-tech solution proved to be the most flexible – albeit time consum-

ing to design and build. Ten 20-channel double-shielded snakes were disassembled at their breakout heads and then painstakingly labeled, tested, and sleeved to handle the interconnect duties between the racks and the console. Each wire has a corresponding individual ID number that ties to its representative jack on the stage box end, allowing for database tracking of all of the wiring as well as identification independent of device or usage.

The finished front of house position, now in the house.

These "homemade" looms are color-coded in both Techflex sleeving and connector shell color to facilitate the fastest possible patch at the rear of the console. The looms then terminate in stage boxes that are stacked and bolted in the back of two 40-space racks located directly behind the front of house engineer in a recording style.

With the benefits of a moving console also came some serious challenges on basic things, such as a remote VOG ("voice of God") microphone, how to plug in an iPod in a way that didn't have cables crossing the floor, how to patch additional compressors and effects without running looms and destroying the pristinely clean environment that's created – just to name a few.

Most of these issues have been dealt with. There's a minimum of one set of spare lines for each device type in each rack, and in some cases, multiples. This architecture allows users to simply patch into the equipment racks directly and avoid cross connection of cables across the floor. ■

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