

MAHAFFEY THEATER

ST. PETERSBURG, FLORIDA



PROJECT PROFILE



CUSTOM DIVA SHELL, TWO CUSTOM COUNTERWEIGHT ASSIST HOISTS, TWO CUSTOM TILTING HOISTS AND TWO CUSTOM TRIM LINE SHAFT HOISTS

MAHAFFEY THEATER: A DIVA IN SOUND QUALITY

Originally built in 1965, the 2,031-seat Mahaffey Theater in St. Petersburg, Florida, is a cultural jewel featuring elegant ballroom space, spectacular waterfront views, and European box-style seating. The top quality national and international artists it hosts include Broadway shows, classical, pop and rock musical performances, comedy acts, dance performances and the renowned Florida Orchestra.

The visually stunning theater had one problem: it was in desperate need of an acoustical upgrade.

“The Mahaffey was visually the music palace of the region but the sound wasn’t comparable,” says Michael Pastreich, President and CEO of The Florida Orchestra.

Pastreich assembled a team of experts, including acoustical consulting firm The Talaske Group, theatrical consulting firm Fisher Dachs Associates, and ARC3 Architecture to determine the best solution.

CHALLENGE

The primary problem was the 30-year-old existing shell was missing a critical piece that was allowing sound to escape into the stage house – sound that wouldn't make it into the audience. It also looked like it didn't belong there. It was unattractive and needed a major facelift, and a simple replacement would not suffice. The new solution needed to fit the budget, needed to fit into the existing space, and needed to fit the operational needs of the staff who would be responsible for its staging night after night.

SOLUTION

- A Custom Diva® Acoustical Shell was installed to meet the needs of the orchestra and other groups performing in the space with a sleek and seamless look that complimented the rest of the auditorium.
- Two 2,500 lb Motorized Counterweight Assist Hoists were installed to raise and lower the massive acoustical shell ceilings, which weigh a total of 20,000 lbs.
- Two Custom Tilting Hoists designed to raise and lower the end panels on both ceiling rows.
- Two Custom Trim Line Shaft Hoists designed to control the performance and storage positions of the acoustical ceiling rows.

BENEFITS

- Dramatically improved sound quality
- Beautiful shell and panels that match the rest of the auditorium
- Ease of use for operator with fully automated ceiling panels
- Custom rigging solutions for raising, lowering and tilting each ceiling assembly with the touch of a button
- All equipment fits into existing storage space

FORMING A TEAM, FINDING A SOLUTION

Pastreich brought in Rick Talaske, President and Principal Acoustics Consultant of TALASKE | Sound Thinking based near Chicago, Illinois, and Associate Principal Robert Campbell of Fisher Dachs Associates, Theatre Planning and Design out of New York City. The three had tackled other projects before and had tremendous respect and confidence in each others' skill sets.

"This was a very complicated project due to logistics and requirements of all parties involved," explains Campbell. "But we knew we could figure out a solution together."

Talaske reviewed the current equipment and determined which products would best fit the orchestra's needs.

After considering many options, he chose Wenger's customizable Diva® Acoustical Shell as the primary solution.

"We have worked with Wenger many times in the past," Talaske says. "They are one of very few companies capable of creating an orchestra shell of this quality."

Part of what he likes about the Diva is the customization.

"When we designed the Diva, we worked with architects who wanted it to be beautiful, acoustical consultants who sought a rich sound, and theatrical consultants who required additional custom parameters," explains Mark Ingalls, Wenger Performing Arts Segment Manager. "For Mahaffey Theater, we knew the answer should allow the design team to customize the Diva for their specific space."

For example, shelves set at specific angles were added at mid-height locations on the towers and the bases were turned inward to allow larger shelves with greater stability. The heavy weight is needed to reflect low-pitched sound.

"This adds warmth to the quality of sound, much like turning up the bass control on your home stereo," explains Talaske.

The customization also allows for the new shell to blend beautifully into the hall, which was a priority for the architect.

Custom tilts for superior sound

Additional customization made the sound even better.

The ends of the canopy elements were tilted downward to a specific angle to help facilitate cross-stage communication. Sound diffusing and sound absorbing finishes were also installed in strategic locations. That helped overcome issues like the proscenium opening being lower than desirable for optimizing sound projection to the audience.

"These changes significantly enhance the ability of musicians to hear sound created on the opposite side of the stage," Talaske says. "And that helps the entire ensemble perform better."

Pastreich couldn't agree more.

"I sat in the audience during the orchestra's first rehearsal and noticed two things: The quiet passages were much easier to hear, and the clarity of individual instruments was amazing. I could really identify the clarinet or oboe or bassoon far better than I could before."

He also sat on stage during the second performance, near the percussion section in the back where he heard the basses and cellos much more clearly.

He describes how the new system benefits both the musicians and the audience.

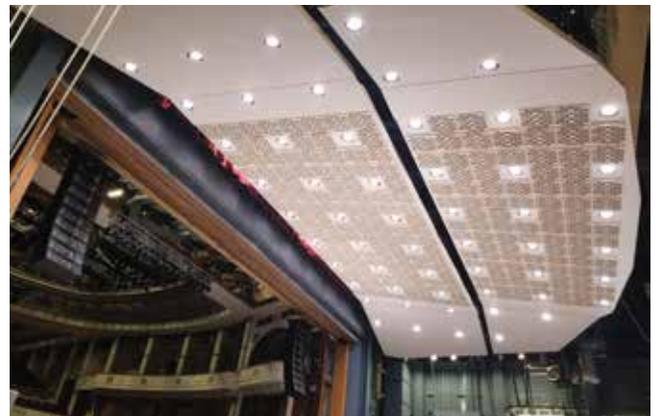
"If you're playing in a void you don't really know how you sound to the other musicians," Pastreich says. "You've got a conductor and instincts, but when you're going into the note and you can really hear the violins, it clicks. You play more confidently and the result is a fantastic sound for the audience."

Custom panels and hoists

As with any major renovation, there were a number of challenges encountered along the way.

The new ceiling, for example, was much heavier than the old one. Initially, the team had considered three ceiling pieces, but the theater operator asked the team to reduce the number from three to two to not compromise existing fly tower capacity and allow more area for the theater house rig.

"The two ceiling rows combined weigh close to 10 tons," says Campbell. "Additional structural steel reinforcement was added to existing building steel to support the increased ceiling weight. It also made necessary a fully automated custom rig."



Campbell and Talaske recruited the help of J.R. Clancy, a subsidiary of Wenger Corporation, to develop a way to raise, lower, and angle the ceiling panels for performances and then move them into storage.

"We created six custom hoists: two custom counterweight assist hoists, two custom tilting hoists, and two custom trim line shaft hoists," explains Ryan Cole, J.R. Clancy Project Manager. "The custom counterweight assist hoists are used to lower the ceiling rows into performance position and raise the panels into the fly loft for storage."

Due to the weight, J.R. Clancy engineers designed the custom hoists with increased capacities. The two custom tilting hoists position the ceiling end panels, and the custom trim line shaft hoists control the angle and position of the main ceiling rows in performance position. Campbell says, "The fully automated rig also has the added benefit to allow the ceiling to be fully deployed with minimal labor."

This helps the staff operating the panels set them up and put them away faster as they don't have to clear the stage to move the ceiling panels and towers. "Our team creates custom rigging solutions for projects around the world. Our ability to customize almost any product to meet the needs of a space is what sets us apart," adds Cole.

The team also worked around the venue schedule, to ensure no performances were changed.

One last, unforeseen challenge happened just weeks before the orchestra's opening night. At the time of installation, all of Florida was preparing for Hurricane Irma. The equipment couldn't be tuned until the hurricane had passed. The final tuning of the equipment happened during rehearsal just days before the first performance.

"Despite those things, on so many levels, this was an exciting experience for the orchestra. Our sound is now comparable with the Mahaffey's visual beauty," Pastreich says.

HIGHLIGHTS

- Custom Diva Acoustical Shell; Custom Rigging solutions
- The combined weight of the two ceiling rows is 20,000 lbs and the rigging is customized to be able to raise, lower and tilt each ceiling assembly.

PRODUCT LIST

Custom Diva Shell; Two Custom Counterweight Assist Hoists with 2,500 lbs capacity to raise and lower the acoustical shell ceilings; Two Custom Tilting Hoists designed to raise and lower the end panels on both ceiling rows; Two Custom Trim Line Shaft Hoists designed to control the performance and storage positions of the acoustical ceiling rows.

About Wenger | J.R. Clancy

Wenger and J.R. Clancy provide the widest array of innovative, high-quality products and services for the performing arts industry. Their advanced products provide the highest levels of safety, reliability and aesthetics, helping transform performance venues and engineer unforgettable experiences.



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