



THE CENTER OF LEBANON

McKendree University Opens the Hettenhausen Center for the Arts

By: Judith Rubin

In Lebanon, Illinois, (population: 3,000), a town so small it doesn't even have a stoplight, there's a new performing arts center on campus. McKendree University, founded in 1828, is celebrating its new \$10-million, 34,000-sq.-ft Russel E. and Fern M. Hettenhausen Center for the Arts. "The Hett" brings a new stream of cultural offerings to Lebanon and marks a new phase of growth for this Methodist-affiliated institution.

The creation of McKendree's new performing arts center was a remarkably smooth process, largely due, says the director, Peter Palermo, to the vision and leadership of the university's president, James M. Dennis. On November 4, 2006, almost two years to the day after the project first broke ground, the grand opening of The Hett took place. The event featured an unamplified performance by the Grammy Award-winning soprano, and McKendree alumna, Christine Brewer.

The 488-seat hall was much to the liking of Brewer, who praised it highly.

That spells high marks for acoustician Stan Roller of Stan Roller Associates, who cites the hall's size as ideal. "With 500-600 seats, it's easier to get good sound," he comments. "The reason today's bigger halls don't get rave reviews, like the old European halls that seat 1,800, is you can't use 18" seat spacing with today's standards. You need twice the size to seat the same number of people. They want thousands of square feet on the stage, too. When the room gets bigger, the walls are far away, the time delays increase, and the sound travels slowly." He adds that halls with fewer than 1,400 seats tend to be the most beloved.

The issue of scale was also important from the architect's viewpoint. At 72' high, The Hett is far and away the tallest building in Lebanon. Recognizing the permanent visual impact it would have on the campus and town, the architecture firm, Mackey Mitchell Associates, approached the project with care. "Theatres always have a scale

problem," observes Clay Phillips, project manager for Mackey Mitchell, "because the flyloft is so tall relative to the size of a human being. You don't want to be brutal about the architecture you put into a place. You want to be sensitive to how people approach it, to design the space leading up to the building as much as the building itself, to make it a lasting piece."

Scale, scale, scale

"Lebanon is a beautiful community with a rural, agrarian feel; brick-lined streets; and a slower pace of life," says Phillips. "The college has been there forever, nestled into the community. The building grew from that." In addition, he says, "We looked at a local municipal outdoor theatre. It has no flyloft, but it has a wonderful scale that we imitated. It has a portico as you approach. We echoed that nice, comfortable scale, going to a higher scale for the house, then the flyloft." The result is a stepped building, with strong horizontals. The facade is dominated by the glass-fronted entrance/lobby area, which exaggerates the width of the building. With a ticket office at one end and coat check at the other, it flanks the auditorium box in the manner of a wraparound porch. Above it, a large, semicircular window forms the primary



ALL PHOTOS (EXCEPT WHERE NOTED): JERRY NAUNHEIM

exterior feature of the house. “We minimized the scale for the entrance and lobby areas and other functions of the building to ring the fly and bring that scale down,” says Phillips. “The entire function of the building wraps around the house and flyloft.” Inside the house, the proscenium opening is 46’ wide by 23’ high. Mackey Mitchell’s project designer was John Burse. Gene Mackey, the owner of the firm, was the principal on the project and defined the general direction.

Outside, “the rounded arch window is about 36’ across, and is an identifier to the community at large,” notes Todd Hensley, principal in charge for theatre consultant Schuler Shook. “We put colored LEDs up there and, on performance night, the LEDs cycle through colors. You know something’s going on in the theatre—it’s visible from many locations on campus. The control system for these lights allow us to either design custom colors and shows, or to use pre-programmed looks for our events.” Others from Schuler Shook who contributed to the project were project manager Jeffrey Childs, theatre specialist Maya Pacana-Bredencamp, and theatre specialist/CAD leader Lisa Bernacchi.

An art gallery encompasses the lobby entrance and is home to a new art-and-music wing, with vocal and musical classrooms and staff offices, in addition to the theatre’s green rooms and other supporting spaces, including choral and band rooms, four practice spaces, costume storage, a scene shop, mechanical, and catering. The walls of the house are pre-cast concrete. The walls of the flyloft are steel frame with EIFS (exterior insulation and finish systems), a multilayered synthetic stucco. The rest of the building is brick. “The site is a little tight,” says Phillips, “so we rotated the building. It is not orthogonal to the rest of the campus; rather, it faces the main influx of people who are approaching it. The drive around back to the dock is a little tight, so we angled it. The loading dock goes right into the scene shop, which goes right into the corridor to the stage. The large stage door, the door to the scene shop, and loading dock door are all aligned so you can take things right in.”

A glassed-in student lounge, on the side of the building near the end zone of the football field, provides a great view of the game and is sometimes

used for VIP events and receptions. This multi-purpose area also furnishes an entrance to six practice rooms used by the music department. The front lobby can be set up to seat about 100 and also for receptions and dinners.

“Mackey Mitchell really kept an eye on what the school needed,” observes Hensley. “It is unusual to have a building so contemporary in such an old setting. They sited it in a way that it doesn’t feel gargantuan.” He adds, “It might be the first performing arts center we’ve done that has a separate washroom entry for football patrons.” Sports and music definitely mix here. The 80-piece Bear Cat Marching Band concert was the music department’s first public use of The Hett— “our trial by fire,” says Palermo. With the advent of The Hett, McKendree now offers a theatre major, and that department was next to put on a production: Arthur Miller’s *The Crucible*, which was well-received in March.

There is also a large military presence in the area. Scott Air Force Base is less than 10 miles away, and the U.S. Air Force Band of Mid-America quickly adopted The Hett for rehearsals, performances, and

recording sessions.

The construction-manager approach

“On a small project like this one,” comments David Walters, who, as part of Stan Roller Associates, was the audio consultant on The Hett, “people sometimes have a tendency to get complacent: ‘It’s a little one, it will go easy, we can figure it out when the time comes’—as a result, important details can go overlooked. Those details can really bite you later, and what appeared to be straightforward can become your worst nightmare.” The Hett team didn’t fall into that trap. Thanks to good planning, good management, and good team interaction, details were attended to and costs were contained from start to finish. The college opted for a design/build approach, with the St. Louis office of S. M. Wilson & Co. in the role of construction manager (CM) and John Hunter as senior project manager.

“Construction management is a method of delivery where the general contractor is brought in early to help with the pricing,” explains Phillips. “It is meant to prevent any big surprises on final bid day, as the contractor is working with you the whole time. Whether it is a good route to take depends on the project and the sophistication of the owner, and whether that institution has done much construction. In this case, the owner and contractor had a good relationship. And we had a relationship with the contractor, who brought us onto the project.”

“It used to be that the architect wore the cape and did the drawings,” comments Hensley. “Now, construction management delivers value to the client by starting earlier. The CM was hired by the college and gave them a GMP—guaranteed max price—and the fine tuning started from there. The three legs of the stool are scope, cost, and quality. If you have to cut, you try to cut them all, so they’re real close. The only potential negative is this approach absolutely

mandates that the CM has familiarity with the building type and can envision the final product. Architects can’t draw a full theatre every time there’s a pricing round, and pauses will introduce uncertainty. Predicting cost these days is kind of a bucking bronco.”

Getting the 1.5-second reverb

“Because we had a good theatre consultant and a good architect, we were able to get the correct shaping and mechanical detail,” says Roller. “Room acoustics, background noise—they took it seriously. You have to believe that these things make a difference. The difference between a great room and a mediocre one is in the details—seemingly insignificant things. Pay attention to them and it will come

out well.”

The reverb time in the auditorium is 1.5 seconds. “In a room of that size, it is excellent, ideal for concert or vocal performance,” says Roller. “There are curtains to adjust the reverb time. The room has good surround sound, and a lot of sound diffusion created by the architecture. The interiors have shaped sound reflectors in the ceiling. It is an open ceiling plan, in that the outside surface—actually, the roof deck—has concrete over steel, so there is a hard sound-reflecting deck above everything. It is a big shell, with no attic. You need a lot of footage for reverb time, and this helped us recoup the needed cubic volume. Besides, in modern lighting, they want numerous lighting positions without having a ceiling in the way. A



This page and opposite: Two views of the auditorium. Stan Roller notes that the room’s smallish size was extremely helpful in terms of its acoustics.

solid ceiling necessitates huge slots, and that causes bad acoustics. Instead, we have one big space, with reflectors, so that half the sound goes into the space and the rest goes up and returns back down. In a rough sense, you want to reflect about half for early sound—traveling the shortest path between the source and the listener—and the other half to bounce around and come back as environmental sound.” The curved reflectors are made out of “chips and board,” in Roller’s words, over steel frames, and cover about half the ceiling area. Additional, wood-covered curved panels on the walls also reflect a share of the sound.

To keep the HVAC quiet, the duct work is all round double wall K27. “The outside is metal, with 1” fiberglass duct lining inside and then perforated metal interior,” says Roller. The ducts also act as diffusers for room acoustics. “When sound in reverb hits these large round elements, damped with the liner, they help spread it out uniformly,” he says. “The dual purpose makes it that much more important that the ducts be installed in the right location.”

For sound isolation, the primary elements are the roof structure, with concrete over the metal deck, and the

outside walls of masonry. The auditorium is surrounded by corridors with gasketed doors that form sound locks.

The rep lighting plot

The Hett’s technical director, Doug Magnussen, came on staff at McKendree in July 2006. “I had been working there part-time for six years with the theatre department, and was in on the fringes of the design process,” he says. “By then, most lighting and sound decisions had already been made.” Equipment suppliers included Strand (lighting), Grand Stage Lighting (dimming), Irwin Seating, and SECOA (rigging). The latter company, which supplied 26 linesets of a single-purchase counterweight system, “did a really good job,” he says, adding, “Schuler Shook was very thorough. They went over every detail, equipment-wise, and checked everything. As a former theatrical contractor, I’ve been on jobs where nobody ever checks up on you. These guys really held these contractors accountable for everything that they did. I was happy with that.”

Magnussen was accustomed to dealing with a different brand of lighting console than the Strand 300 settled on for The Hett. “It was a

learning curve to figure it out,” he says, “but I have been very happy with it. I’ve had students who never used a lighting console in their lives pick it up very quickly.”

The standard light plot that students learn and use at The Hett is basically designed for dance. “We use a dance focus, with both warm and cool fixtures next to each other, and try to come up at a 45° angle with backlighting and side lighting. It enables a quick refocus for when we have touring groups come in. It works for probably 95% of things that come in. Where it doesn’t work well, for touring theatre or theatre productions, we rip the plot apart and focus things.”

The lighting inventory is a mix of 60 Strand SL units (in various sizes), 30 Altman Star PARs, 12 Altman 65Q Fresnels, six Altman Sky Cycs, 18 Altman Q-Lites, five ETC Source Four Jrs., 15 ETC Source Four PARs, and one Lycian Super Arc followspot. In addition to the Strand console, Strand C21 dimmers are used.

What with the growing use of The Hett—including lectures by such notables as Robert Kennedy Jr. and Mary Cheney, as well as touring shows, dance, theatre, marching bands, string quartets, and an upcoming performance by the Golden Dragon Chinese acrobats, Magnussen is already assembling his wish list for more gear. Not that the Hett can’t handle what comes its way, as was seen with the recent booking of Chicago’s Giordano Dance Company. “They sent me their plot, and I called them to say ‘Good grief, I don’t have that many lights—can we do it a little differently?’ They were supposed to come a day early to do a master class, but a snowstorm stopped them in Springfield. By the time the weather allowed them through, it was noon on the day of the performance and we

This page: The theatre’s lobby. Opposite: The building’s exterior. An LED lighting system cycles through a range of colors on performance nights.



had already hung as much lighting as we could. It was just a matter of tweaking and focusing and tightening things up from there.”

Bulletproof audio and the future

The audio system uses a 24-channel Allen & Heath mixer, and an Ashley ProTea digital signal processor for all the speaker clusters. Playback is handled by a Mackie 1210 VLZ. QSC amps drive the system. The loudspeaker rig includes two JBL AM4212/64 loudspeakers, two JBL AM 61215/95s, and one JBL ASB6128 subwoofer, along with three Renkus-Heinz TRC 81/9 units for rear fill. The loudspeakers are placed high up between the curved reflectors and are augmented, for front fill, by five JBL Control 25 ABs mounted in the front of the stage. “It is never really the best approach to try to do down fills from an overhead cluster,” remarks Walters. “We really prefer not to point something straight down, and directional realism in sound system design is really paramount in theatrical situations.” Four Yamaha SM12V wedges are used as onstage monitors.

Walters adds, “From a sound system standpoint, the infrastructure is good, with extra conduit, oversized pipe, and other things to allow for future expansion. There are Shure wireless mics—not many, but they have the antennae and the distribution systems, and the rack systems in place to add as many as they want. I’m sure it’s Peter Palermo’s desire to eventually have 21 wireless mics.” In addition to the Shure mics, which includes SM58s, Beta 58s, Beta 87s, SM57s, EZO/Gs and ULX lav mics, there are also Crown PCC 160s, AKG C1000Ss, and AKG C3000Bs. The intercom system is by Telex, including six BP-1001 single-channel portable belt packs; for assistive listening, there’s a Listen Technologies system, including LT-800-72 transmitter and six LR-400-72 receivers.

The space,” comments Palermo,



“works terrifically. It’s a wonderful house. I’ve been in a lot of theatres and this one is a real jewel.” He named a few items on his own wish list. “One thing we need is a projector for multimedia and film series. There’s a lot of talk about a big orchestra shell, which I’m not totally sold on yet, but I’ve been thinking maybe the place to start is to box in the stage itself, so the orchestra members can hear each other.” He’d also like more dimmers and instruments to add lighting flexibility. “For budget reasons, one of the catwalks was cut, and I can certainly understand why they did it, but it hurts a little bit now. There were going to be four catwalks but there are three: Over the apron, at the mid-lower house near the orchestra, and back of house over the booth. The position of that first catwalk is very close to the stage and it is difficult to light upstage from that position. It makes for a really great apron downlighting position, but, as a result, it is a challenge to get front light onto the apron.”

“The Hett is set up to do live recordings “but we don’t yet have software for editing and mixing,” Magnussen says. “Recording, editing, working with Pro Tools—these will eventually become part of the new theatre curriculum.” Technically,

Magnussen is staff, not faculty, but, he says, “I teach every day, all about rigging and lighting and how to run this and that. Last semester, I had eight work/study students, none of whom had ever worked in a theatre before, putting in an average of nine hours apiece—also, some volunteers who wanted to work down here because it’s the coolest place on campus. The drawback is, every four years I lose those students I’ve spent all that time training. It’s fun to see them go and have them come back and tell me what they’ve gone on to do.”

A former one-ring circus performer, and former operations director/project manager with San Francisco’s Stern Grove Festival, where he oversaw construction of a new amphitheatre,, Palermo brings his jack-of-all-theatrical-trades savvy, arts connections, and booking experience to the job at McKendree. “We’ve been ramping up incrementally,” he notes. “We started small last year, building a season. And of 12 events, 11 have been sellouts. We weren’t sure how all the academic users would fit in, so we took one at a time and learned as we went. Everyone is committed. What they had here before was literally a converted stable. Everyone in the community is over the moon.” 📶