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The Tower of Music

By: David Barbour

Berklee College of Music gets a new facility, complete with combination café/performance space

Founded in 1945, by the pianist, composer, and arranger Lawrence Berk, Berklee College of Music is the first educational institution in the US to teach jazz. (Its first honorary doctorate went to Duke Ellington.) Since then, it has expanded to include other forms of popular music, as well as such subjects as film scoring, electronic production and design, and the world's first college-level songwriting major. (More recent majors include video game scoring.)

Last year, Berklee opened what the *Boston Globe* noted was its first facility built from the ground up. Located at 160 Massachusetts Avenue, it includes, the newspaper said, "369 student beds across 173 dormitory rooms, a 400-seat dining hall that doubles as a performance space, 23 practice rooms, six 2-story common areas, a fitness center, and a 14,000-sq.-ft., ten-studio music production complex." In a statement, Roger Brown, the school's president, said, "Goethe called architecture 'frozen music' and this building is alive with musical resonance. The oscillating windows on the lower floors are like a percussion bed over which the serpentine red walls in the cafeteria float like a melody. The polyrhythms of the five- and four-pane windows create a visual syncopation worthy of the music being made inside."

The building, designed by William Rawn Associates, is distinguished by the floor-to-ceiling glass wall overlooking Massachusetts Avenue, offering a view of the 21,400-sq.-ft. 400-seat Berklee Café, which serves both as a student dining hall and live performance venue. (The room is also distinguished by 38'-high ceiling and curved balcony.) Walters-Stork Design Group (WSDG) consulted on the acoustics of this commanding space and on all ten of the studios located within the two lower levels.

"WSDG has not only designed many of the world's best studios, they closely monitor the smallest construction details to insure that they are built to impeccable standards," says Brown. "We are delighted with the outcome, both in the studios they designed for our campus in Valencia, Spain and with this new suite of studios in our 160 Massachusetts Avenue building. Berklee students deserve the best, and now they have the best."

The building, designed by William Rawn Associates, is distinguished by floor-to-ceiling windows.

All photos: Cheryl Fleming-James, Lene



The cafeteria becomes a performance space at night. The perforated metal walls at the top contain a variety of acoustical treatments.

John Storyk, of WSDG, says that the building presented several challenges: "The primary issue was the dense and complicated programming. A great deal of technology needed to be packed into a finite amount of space. All of the studios are in the two-story basement. The first four floors feature the entrance lobby; a beautiful staircase leads to the three-story cafeteria/performance hall, which, thanks to fine-tuning and the application of appropriate acoustical treatments, sounds amazingly accurate. Directly above the cafe are 25 practice rooms. The 12-story tower serves as the residential dormitory. The original plan called for three sub-basement floors, going down almost 60', to provide the needed studios. We started programming along those lines but discovered early on that we could

only go 45' before running into tremendous water issues." (Berklee is in Back Bay, which is built on landfill.)

"Also," says Storyk, "for us, the change from cafeteria to performance hall happened in midstream. Roger Brown's vision all along was that it would be a cafeteria that could become a jazz performance area. I think that, as the space developed initially, not enough attention was paid to its acoustics. Another group was working on it; we were brought in to design the studios, and then the cafeteria was added to our scope."

Storyk explains that the brief with the room was that "it shouldn't sound like a cafeteria. During the day, the space is filled with tables, and it gets very crowded. At night, for shows, they clear the tables out and a theatrical lighting grid and stage boxes come

in. But even when you walk into that space, say just to have a sandwich, you can feel that it sounds different. The reverb time goes down and there are no harsh, anomalous reflections, even though there is so much glass and metal. This is because behind the perforated metal walls [seen at the top of the room in the photo above] we installed a variety of acoustical treatments. We also modeled the space with acoustic-prediction software, just as we do in complex recording studio design. Our partner/GM Europe, Dirk Noy, and project engineer, Gabriel Hauser, both based in WSDG's Basel office, ran extensive auditory simulation and modeling tests to establish optimal acoustics for the performance café, studios, and critical listening environments," Storyk says.

The space is equipped with a com-

Yamaha, plus BSS London Blu-160 signal processing, and, in the isolation booth, a mix of microphones similar to those mentioned above.

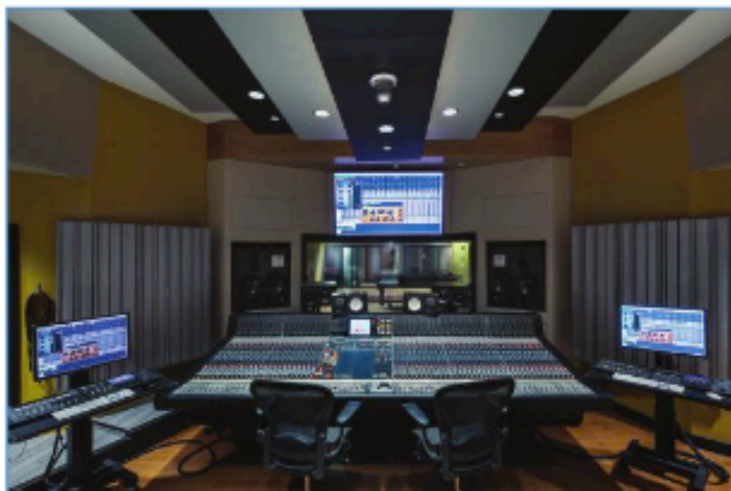
Perhaps surprising is the presence of so many analog consoles in these rooms. "Interestingly enough," says Storyk, "the majority of today's commercial recording studios are 100% digital. Some don't even have controllers anymore. Basically, Pro Tools changed the game with its digital audio work stations. Since that's where most of the students are going to end up, we supplied DAWs with controller surfaces in the smaller rooms. But, to teach the basic fundamentals of audio recording, there's still nothing like an analog chain. If you look at the top schools in the US, you'd be surprised how many of them turn to analog consoles or hybrids."

WSDG partner/project manager Romina Larregina refers to the 400-sq.-ft. mastering/critical listening lab as a "self-contained sweet spot. The precise acoustic tuning of this studio provides classes of up to 12 students with an impeccable listening experience, one which will be difficult to match in the real world."

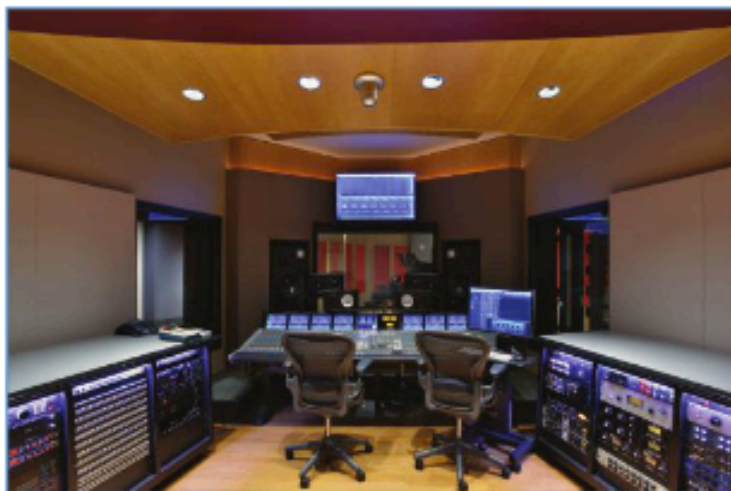
Also on Level B is the 700-sq.-ft. Dolby Atmos-ready dubbing stage, which features twin 150-sq.-ft. isolation booths and a 120-sq.-ft. overdub booth. This features an Avid System 5 console, with loudspeakers from JBL, ATC, and Yamaha; BSS London Blu 160 processing; Lab.Gruppen amps; and mics from AKG, Brauner, DPA, Electro-Voice, Neumann, Royer, Sanken, Schoeps, Sennheiser, Shure, Avalon, and Countryman.

The 1,400-sq.-ft. production control suite features four 170-sq.-ft. control rooms, three of which are equipped with 100-sq.-ft. isolation booths, all adjacent to a communal 400-sq.-ft. lounge.

The 7,454-sq.-ft. fourth floor is dedicated to practice and rehearsal. Three conjoined, 250-sq.-ft. ensemble practice rooms were constructed with pro studio isolation and acoustic treat-



Control Room 1.



Control Room 3.

combination of Meyer Sound UPQ and UPJ loudspeakers, fed through a Galileo loudspeaker management system. Control is via a Yamaha CL5, with microphones supplied by a variety of manufacturers.

Storyk notes that, throughout the building, isolation was a big challenge: "The cafeteria is one floor above the street entrance, but we still have to deal with isolation. And we had to isolate the various studios from each other. Isolated concrete floors with sand-filled masonry walls and decou-

pled metal stud sheetrock partitions provided a very effective solution. Some rooms are spring-loaded and others have advanced room-within-room construction."

On Level A, the 2,200-sq.-ft. Studio 1 features a 1,300-sq.-ft., 13'-high live room for orchestras of up to 50 musicians. It's a recording/mixing suite with a 600-sq.-ft. control room and two 110-sq.-ft. isolation rooms. To allay fears that students would be distracted by the panoramic view of the live room, the window was fitted with clear

glass Quadratic Residue Diffusers, which are custom-built treatments calibrated to diffuse the studio's frequency range. They enhance the live room's acoustics while keeping the expansive view for visitors. The control room features an AMS Neve 88RS console; speakers from ATC, JL Audio, Yamaha, and Genelec; a BSS London Blu-160 DSP, along with a variety of outboard gear; and Avid Pro Tools recording hardware. The live room features mics and DI from AEA, AKG, Audio-Technica, Beyer, Brauner, Coles, DPA, Electro-Voice, Neumann, Royer, Sanken, Schoeps, Shure, Yamaha, Radial, and Avalon.

At 1,500-sq.-ft., Studio 2 is designed for smaller ensemble recording projects; it features a 120-sq.-ft. isolation booth and 380-sq.-ft. control room. It has the same AMS Neve console with a mix of loudspeakers from Griffin, Yamaha, ATC; dbx 4280 main monitor processing; ProTools recording; and a similar mix of mics in the live room.

Level A also features one of two 120-sq.-ft. central machine rooms. "The machine rooms on each floor are positioned, one on top of the other," Storyk says. "The racks in those rooms are mostly associated with the studios on their specific floor, but not entirely. Think of it as one room vertically divided into two. We also included some satellite machine room locations, small rack closets, which are part of the central machine room diagram." All of these were the purview of Judy Elliott-Brown, WSDG systems design and integration specialist, who supervised the system installation crew led by Redco Audio, of Stratford, Connecticut.

Level B is comprised of five independent suites of varying size and purpose. Created for small ensemble recording, the 1,100-sq.-ft. Studio 3 features a 320-sq.-ft. control room, 140-sq.-ft. isolation booth, and 600-sq.-ft. live room. Its control room has a SSL Duality SE console, with loudspeakers from ATC, JL Audio, and



Rehearsal Studio 1.

ments to enable musicians to practice at peak volume without concern for sound leakage into neighboring rooms. Twenty individual practice rooms of varying size were designed to accommodate a diverse range of rehearsal configurations. The fourth floor also houses a student fitness room.

WSDG co-principal/interior designer Beth Walters, and WSDG interior design supervisor Silvia Campos Molho collaborated with Berklee College of Music assistant VP Carl Beatty on the overall 160 Mass. interior design. "VP Beatty suggested introducing subtle inflections of color to 'warm and refine' the atmosphere. To facilitate this goal, we developed a custom palette to compliment the college's distinctive red-and-black motif," Walters says.

Walters describes the three-year design/construction mission as "an

exceptional opportunity for WSDG to collaborate with brilliant clients and an outstanding architectural firm. Our challenge was compounded by the fact that we were simultaneously engaged in integrating our design for Berklee's five-studio Valencia Campus, in Spain. The major differences between these two projects were scale and location. Berklee Valencia is set within the ultra-modern Palau de les Arts Reina Sofia arts/performance complex, a world-renowned building. Boston's four-floor, 52,654-sq.-ft. audio education complex is the hub of a 16-story, ground-up building. Virtually every member of our international team made a meaningful contribution to both of these formidable endeavors. It is extremely gratifying to walk through 160 Massachusetts Avenue today, and know that WSDG helped to bring it to life."

Storyk concludes, "Projects on this scale are extremely rare," adding that members of the administrative staff at Berklee "are among the most astute and forward-thinking educators we have ever worked with. Their insights and recommendations were invaluable, particularly in proposing the café as a performance/live recording space. A brilliant decision, albeit one which presented considerable acoustic design challenges at that stage of the project. However, their prescience reflects a unique grasp of student needs. And the café was immediately recognized as the jewel in the 160 Mass. crown. Berklee College of Music has introduced a new standard of professionalism and commitment to a rapidly evolving career path. WSDG was privileged to contribute to this significant addition to America's educational infrastructure." ❧