

## “Home-Town Service” Shares the World Stage with Gehry at Bard College

by  
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*Designed by Frank Gehry, the Richard B. Fisher Center for the Performing Arts at Bard College “may be the best small concert hall in the United States.” (Photo: Peter Aaron/Esto)*

World-class knowledge and home-town service, two unlikely bedfellows, played no small role in the successful completion of one of the foremost performance spaces in the world. Designed by acclaimed architect Frank Gehry, the Richard B. Fisher Center for the Performing Arts at Bard College in upper New York State has garnered rave reviews since opening on April 25, 2003.

Writing in *The New Yorker*, Paul Goldberger hailed it as “the first great concert hall of our time” and “what may be the best small concert hall in the United States.” To achieve this superb feat, Gehry assembled a team of consultants, engineers and acousticians as unique and unrivalled in their own fields as his daring architectural vision, realized in the swooping forms of gleaming stainless steel that envelop and transform the buildings of the Fisher Center.

This stunning architecture offers a bold and dynamic environment for innovative artistic presentation in the rolling green hills of Annandale-on-Hudson, and is intended to inspire risk-taking performances and provocative programs in orchestral, chamber, and jazz music, as well as theater, dance, and opera by American and international artists.

The \$62 million, 110,000-square-foot Richard B. Fisher Center for the Performing Arts at Bard College houses two theaters, four rehearsal studios for dance, theater, and music, and appropriate professional support facilities.



*The 900-seat Sosnoff Theater “has an exceptionally crisp brilliance.”*

Sosnoff Theater, an intimate, 900-seat theater with an orchestra, parterre, and two balcony sections, features an orchestra pit for opera and an acoustic shell designed by acoustician Yasuhisa Toyota that turns the theater into a first-class concert hall for performances of chamber and symphonic music. The sound, according to *The New Yorker*, “has an exceptionally crisp brilliance.”

The infinitely flexible Theater Two, a 200-seat “black box” performance space, houses Bard’s Theater and Dance Programs during the academic year.

Toyota, who designed the acoustics of the Walt Disney Concert Hall in Los Angeles, was joined at Bard College by other veterans of that Gehry-designed West Coast architectural arabesque, including Theatre Projects Consultants, who developed the concept designs and advised on the physical designs for the two theaters and four studio spaces; and Engineering Harmonics of Toronto, who were responsible for the performance sound, video and communications systems (PSVC).

Writing in *The Los Angeles Times*, one critic noted—with an eye doubtless on the then imminent opening of the Walt Disney Concert Hall—that the “Sosnoff Theater, in its first outing as an opera house, proved an acoustic jewel with voices and orchestra alike sounding clear and immediate.” High praise indeed.

Acoustic performance, however—its crispness, brilliance, and immediacy notwithstanding—presents requirements that are somewhat at odds with those of amplified or sound-reinforced concerts. The sonic reflections, resonances and reverberation that enhance symphonic music, for example, tend to work against intelligibility and upset the spectral balance of music that is played at higher sound pressure levels, when sound is sustained for longer periods before dying away to inaudibility. Modern jazz needs a different treatment than chamber music or opera, and the mandate of the Fisher Centre is to provide for the needs of these widely divergent musical genres.

For this reason, among others, Engineering Harmonics were retained by Theatre Projects Consultants (TPC) for their expertise in the area of performance sound. “We have been using Engineering Harmonics for many years to do the sound on our projects,” says TPC chairman Richard Pilbrow. We have a great admiration for [Engineering Harmonics’ president] Phil Giddings. We think he is the best in the business and we use him all the time on our North American projects.” The admiration is mutual. Giddings notes, “John Tissot, TPC’s theater consultant on this project, is a remarkable detail guy. He championed the role of coordinating many of the architectural and mechanical systems to accommodate our SVC systems—and on this project these were really complex—and he did a great job.”

Beside the Walt Disney Concert Hall, Engineering Harmonics’ recent theater projects include the Kodak Theater in Los Angeles (home of the Academy Awards), the Dewan Filharmonik Petronus in Kuala Lumpur, Seattle’s Benaroya Concert Hall, and the American Airlines Theatre in New York.

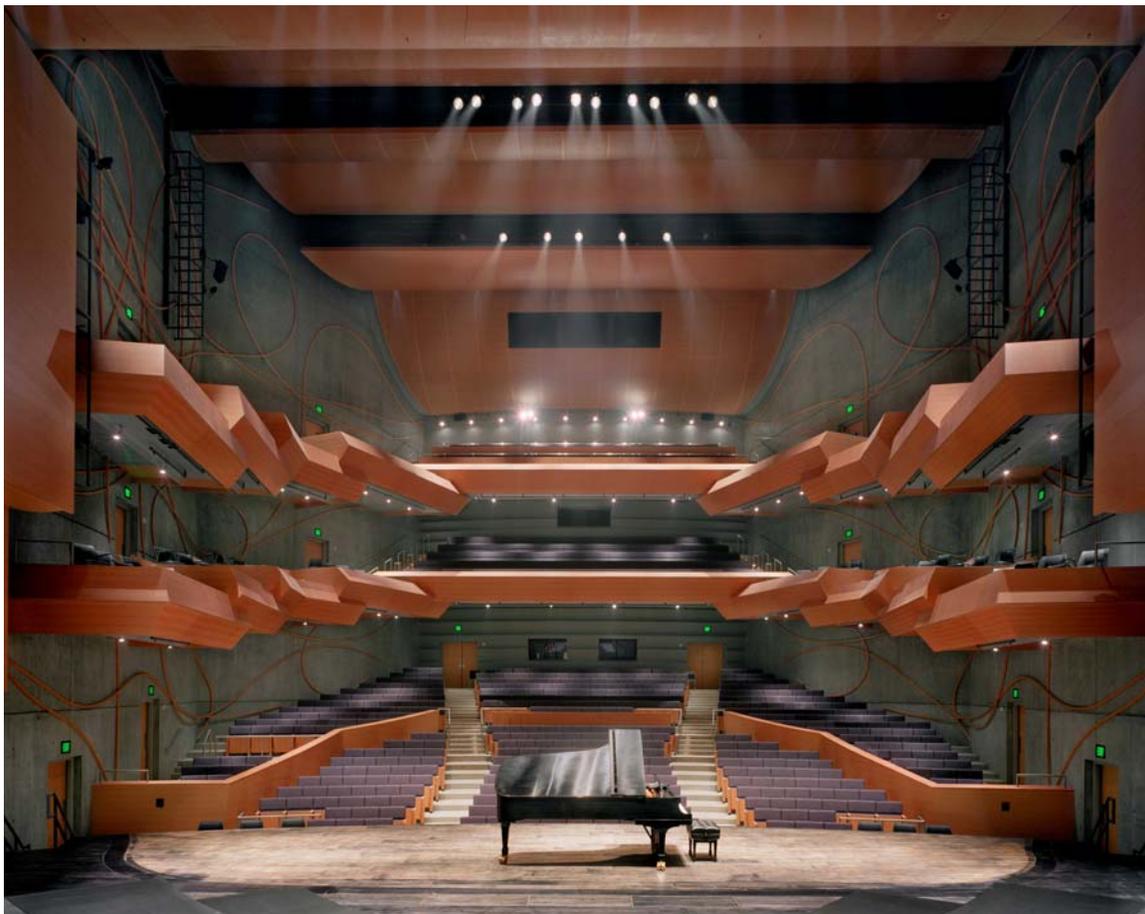
Engineering Harmonics’ designer Jeff Bamford was uniquely qualified as project leader for the performance sound system design: in his postgraduate work at the University of Waterloo, Jeff focused on the ways in which sound emanating from loudspeakers is perceived and how this compares with the perception of natural, acoustic sound. His Masters thesis was an exhaustive study of the accuracy of three-dimensional sound reproduction using various competing technologies. This provided an unparalleled grounding for the design of a performance sound system that would translate accurately in the context of Toyota’s magnificent acoustics.

Using a number of arrays of long-throw and short-throw ultra-high-fidelity powered loudspeakers above the proscenium and at the sides of the stage, coupled with smaller loudspeakers beneath the lip of the stage, in the orchestra pit lift and in the balcony railings, Engineering Harmonics was able to provide complete coverage to the orchestra and balconies, including the often overlooked first five rows in front of the stage. In addition, a second set of main loudspeakers is available for those occasions when a

forestage extension is used to increase the stage depth from 40 feet to 52 feet. Twelve loudspeakers located in the audience chamber fill out the sound field for sound effects reproduction and the creation of a three-dimensional surround experience.

The completed design was put to the test the week after opening night when the Charles Mingus Orchestra with special guest Elvis Costello brought their eclectic mix of jazz standards and original material to the Sosnoff stage.

“The sound that night was great, it was really wonderful,” says Paul LaBarbera, Audio-Video Supervisor at the Fisher Center. “Engineering Harmonics’ system design isn’t based on the typical centre cluster—the way they employed side-fills and other components helped to make the performance much more intelligible and audible.”



*The Sosnoff Theater's excellent acoustics are complemented by a performance sound system that is programmable for different types of performance.*

Designer Bamford says, “I think the special thing about the Sosnoff Theater is that the approach for the sound system had to be subtle. The room has excellent acoustics—you can stand on the stage and easily reach the entire room. The sound system has to support that level of performance. This is not a heavily amplified venue; this is a venue that has a multitude of performance types from opera, to ballet, to jazz, to orchestra. The room handles all of those performance types by being reconfigurable. The concert shell can be

brought in as required. The sound system is equally adept; separate programming is used for different room configurations. The sound system doesn't draw attention to itself—it's there to support the performance. And that's subtle." Indeed, when not in use the two front loudspeaker arrays can be completely hidden, raised up behind the ceiling cloud structure and covered by panels. A visitor to the Sosnoff Theater will be immediately impressed by the magnificent Douglas fir paneling, and not by the loudspeakers.

In addition to music, there is a substantial amount of amplified voice performance where intelligibility is paramount. Paul LaBarbera elaborates, "In Theater Two in particular there have been numerous occasions when there was a substantial amount of reinforced sound. For example, the Ethel String Quartet—without doubt New York's most daring string quartet—performed *Don Juan in Prague* in Theater Two during Summer Festival 2003. The piece features many different vocal and sonic effects specifically made to be amplified. Vocalist Iva Bittova created a lot of different effects along with her singing. There were clicks and bird sounds emanating from her mouth, enhanced with reverberation and saw-tooth effects that would linger throughout the hall. These were subject to heavy digital processing and filtering, and they sounded wonderful in this theater."

LaBarbera adds, "I am very happy with what Engineering Harmonics did, the systems are very versatile." His praise for the sound is quickly followed up by his endorsement of the Engineering Harmonics' overall approach to the work. "Jeff Bamford and design engineer Martin Van Dijk have been great. They are honest-to-goodness guys," he adds.

"Within an hour they knew where my knowledge stopped and where theirs had to start—and they were very, very gracious about it, even though they play on the world stage. They brought world-class knowledge and home-town service to the project."