

Academy of the Holy Cross
Kensington, MD

DESCRIPTION

The Academy of the Holy Cross is a Catholic college preparatory school in Kensington, MD that has been sponsored by the Sisters of the Holy Cross since 1868. The Academy is committed to developing women of courage, compassion, and scholarship who responsibly meet the social, spiritual, and intellectual challenges of the world. In November 2001, the school broke ground for an Arts & Sciences Building and Theatre. Completed and opened in Fall 2003, the addition is the first for the school since 1960. The proscenium style, single-floor, multi-use theater is used primarily for musicals, but it is also frequently used for dramatic presentations, panel discussions. Acoustical products supplied by RPG Diffusor Systems contributed to the overall success of the project. Monoradial Waveform Ceiling Clouds over the audience and FluttreFree on the side walls near the stage disperse the sound throughout the auditorium for uniform, quality listening.



ACOUSTICIAN

"We were glad to work with an Owner and Architect (Mr. John Gibson, DVA Architect, Gaithersburg, MD, <http://www.dva-arch.com>) that had their priorities straight. They understood that the multi-use nature of the space would require particular attention to room shapes and finishes. We used RPG sound diffusing products based on our past experience, not only for acoustic performance and quality, but also for RPG's commitment to the project schedule. RPG's involvement was able to have a single source provider for all acoustical materials and all of my doubts about quality and timely delivery ceased to exist."

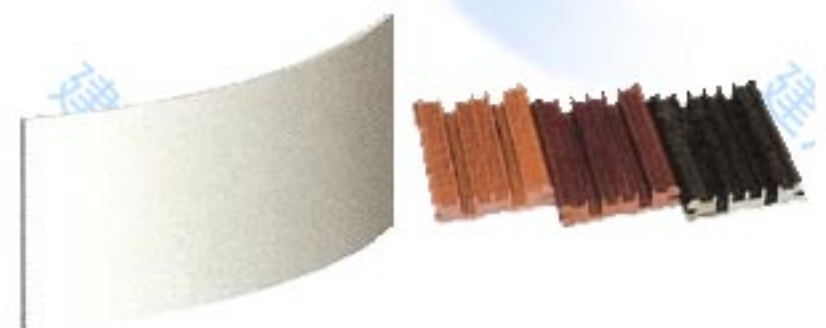
Luis-Eduardo Soares, Principal Consultant, Electro-Media Design, LTD.

CLIENT

"Since the new Theater opened, our musicals have been standing room only. We are also experiencing wonderful turnout for our introduction of classical drama. It is truly a theater for the arts and not just an auditorium. Amongst schools, it is one of the finest acoustical spaces I have experienced. It is extraordinary for musicals. We recently performed Fiddler on the Roof and had five scenes out in the house. Student performers could face 360 degrees and still be understood. I have sat in all four corners of the Theater and can always hear clearly. Others have responded in the same positive way."

Marylynne Boss, Associate Head of school, The Academy of the Holy Cross.

PRODUCTS



RPG

Project Profile

Edwina Palmer Hall
Hitchin, England

ACOUSTICIAN

"Research by Cox and D'Antonio has resulted in accurate prediction methods for scattering from diffusers, based on boundary element methods. This has enabled diffuser design to break out of the mould of Schroeder's number theoretic diffusers, to provide a much greater range of stepped and curved diffusers. Using numerical optimization techniques and prediction methods, an architect or designer can select a desired shape and this can be tailored to provide the required diffusion. This technique has been applied by Arup Acoustics to the design of a new rehearsal hall, the Edwina Palmer Hall, for the Benslow Music Trust, which provides residential music courses. For architectural reasons, a concave form was developed for the hall, which obviously gave rise to concerns about focusing. Curve-shape optimization was used to minimize focusing by the concave wall, using a geometrical motif, based on an amplitude modulated wave.



The conceptual amplitude modulated rendering of the Waveform™ is shown (inset above). The final installation satisfied the architect's design intentions, as well as meeting the acoustician's requirement to neutralize focusing and provide diffusion. It can be seen from the photo that the wall steps back at a high level. Also, thin vertical strips have been added to the curved surface. Both of these changes to the optimized curve were implemented by the architect to enhance the visual aspects of the wall in the context of the overall space. Subjective listening tests to piano and clarinet music in the hall indicated a very uniform sound field with no evidence of focusing. Furthermore, both instruments produced an expansive sound with a very good balance between clarity and reverberance. Musicians found the hall easy to play in. The success of the Benslow project has led Arup Acoustics to consider curve optimization for providing diffusion for other projects, including a rehearsal hall with curvature in two dimensions."

PRODUCTS

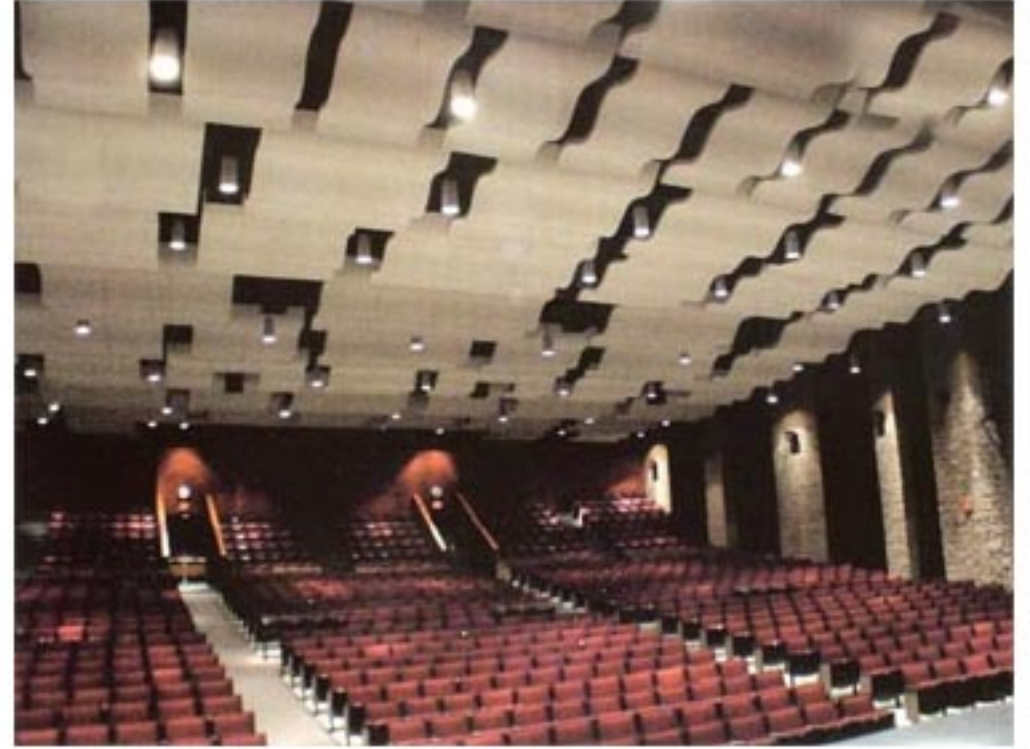
Excerpt from "New Sound Diffusers in Practice," R.J.Orlowski, Arup Acoustics, Cambridge, UK, Acoustics Bulletin, Volume 25, No.5, pp.21-22 (September-October 2000).



RPG

Project Profile

Starpoint High School
Lockport, NY



DESCRIPTION

Starpoint High School in Lockport, NY serves approximately 950 students in grades 9-12, with a faculty of 60 teachers. This state-of-the-art facility covers an area of more than 200,000 square feet, houses 65 classrooms, nine computer labs, eight science labs, and a high-tech auditorium with a seating capacity of 1,143. The auditorium's form is a wide, long, rectangular solid with all seating on a single, shallow-sloped main floor. To overcome some of the inherent limitations of this overall form, the Architect and school used RPG's Waveform Spline™ diffusers, suspended from the roof deck, to help uniformly distribute sound to the back of the room, and also back to the stage for performer support.

PRODUCTS



"The result is a room where any seat is as good as any other and a stage that gives actors and musicians a great sense of presence."

Starpoint High School

RPG

Project Profile

National Public Radio
Washington, DC

DESCRIPTION

National Public Radio (NPR) is an internationally acclaimed producer and distributor of noncommercial news, talk, and entertainment programming. A privately supported, not-for-profit membership organization, NPR serves more than 760 independently operated, noncommercial, public radio stations. Each NPR Member Station serves local listeners with a distinctive combination of national and local programming. It is well known for their many programs, such as All Things Considered, Morning Edition, etc., which originate from the studios in this profile.



ACOUSTICIAN

The acoustician specified DiffusorBlox[®] to provide cost-effective low frequency absorption, broad bandwidth sound diffusion, and sound isolation. "The T-bar mounted FRG Omnifusors Provide an 'open' feel and useful omnidirectional ensemble reflections for musical performance and radio drama."

The Russ Berger Design Group of Dallas, Texas

ARCHITECT

The architect was interested in expressing the acoustical functionality of the surface materials, finishes, & forms. "We were attracted by the richly textured surface of the DiffusorBlox[®] and FRG Omnifusors and the interesting shadow effects created by the lighting."

Burt Hill Kosar Rittelmann Associates, Washington, DC

CLIENT

The client sought the best, most cost-effective architectural and acoustic design for NPR's new technical facilities. RPG[®]'S Diffusor Systems were essential toward achieving perfection in all critical recording and listening spaces."

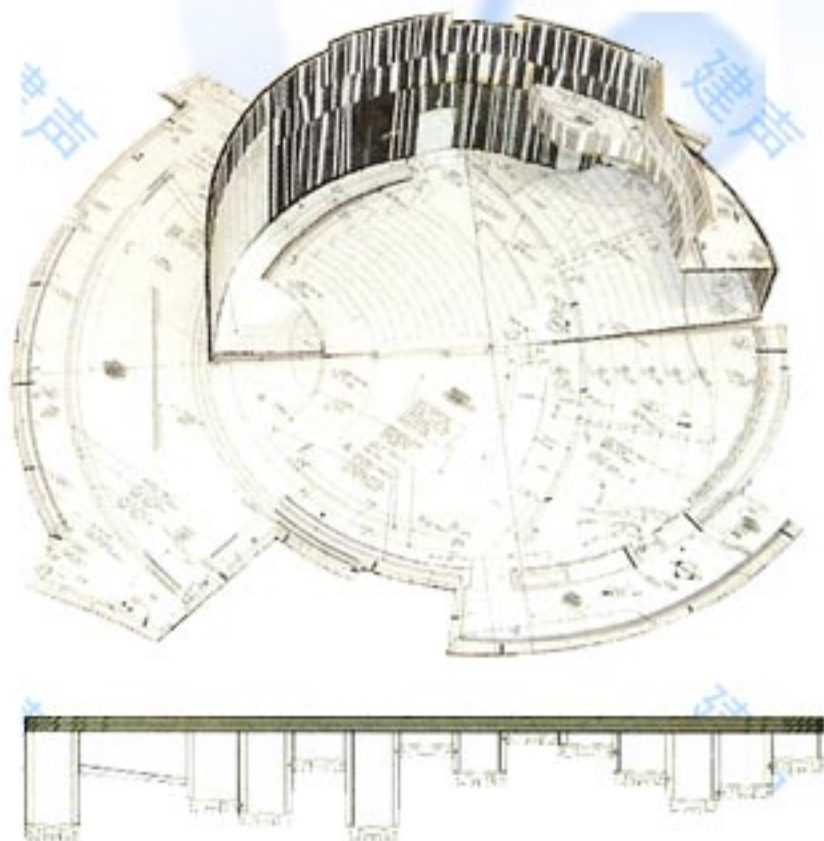
National Public Radio's Vice President of Audio Engineering, Don Lockett

PRODUCTS



RPG Project Profile

National Museum of the American Indian
Washington, DC

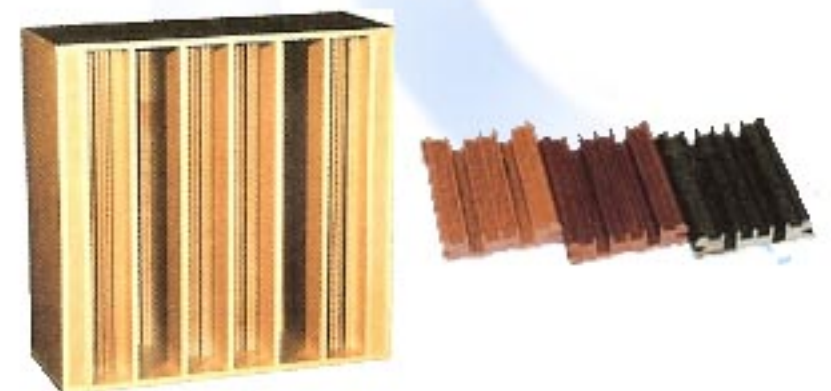


The National Museum of the American Indian is a living memorial to the native inhabitants of the Americas. The main theater consists of vertical wood paneling surrounding the 322 seat circular theater, evoking a dense hard wood forest, and above a dark blue ceiling twinkle with constellations. Top photo above is a front view and the lower photo is a rear view. Like many of the space, the auditorium engages all of the senses. The main theater is a storytelling vehicle; a clearing in the forest under the night sky. Indeed, this space in the round, with its vertical textured and detailed wood walls conjures up a pine forest, and the midnight blue acoustical ceiling, replete with twinkling "stars", completes the effect. A surrounding lateral aisle allows actors into the audience, a necessary component of many American Indian performances.

Acoustician Steve Haas, working with Jaffe Holden Acoustics, Norwalk, CT was concerned that the circular room, shown in the RPG half plan model, the top right illustration, would provide focusing problem and Damyanti Radheshwar from Polshek Partnership and the design team devised an undulating and tilting facade on the circular walls, which was very rough and diffusive in the rear and gradually became reflective next to the projection screen. The design team of Haas and Radheshwar asked RPG to acoustically model the topology of the wood paneling to provide uniform sound diffusion and minimize focusing. RPG utilized its proprietary Shape Optimizer software to optimize the undulating pattern and provide uniform scattering.

The installation used RPG's Flutter Free[®] planks interspersed with flat wooden planks, the depth and positioning of each being optimally determined by the Shape Optimizer. The proposed arrangement by Polshek Partnership was evaluated and optimized. The final design of a repeating Diffractal[®] section is shown in the lower right illustration.

PRODUCTS



RPG

Project Profile

Ball State University
Muncie, IN



DESCRIPTION

The cornerstone of Ball State University's new Music Instruction Building is the 600-seat Sursa Performance Hall, named in honor of benefactors David and Mary Jane Sursa. Sursa Hall is a musical jewel for the entire community, blending first-rate acoustical design with musical intimacy. It is designed to foster a close connection between performers and audiences, and its acoustical tuning capabilities allow performers to adjust the hall's sound qualities to suit their individual preferences. By moving large baffles along the sides of the hall, performers can modify the acoustics in less than a minute to reflect sound or absorb sound, making the listening experience more appropriate for the kind of music and the size of ensemble performing. The visually unique and acoustically superb stage walls are constructed of Diffractals® provided by RPG Diffusor Systems. The Diffractal® mesh well with the hall's overall aesthetics, while providing the broadband acoustic diffusion required by musicians to hear each other and perform in unison. Each acoustic unit is also internally damped for minimal low frequency absorption. Sursa Hall will be used as a rehearsal hall, performance hall, and recording hall. The facility is linked directly to the recording booth in back of the audience area and to the recording facilities on the building's second-floor area. Musicians will be able to record concerts digitally, broadcast live to Indiana Public Radio, record for delayed broadcast to television, and broadcast live to the internet.

ARCHITECT

"I am delighted with the completed building. The Sursa Hall is superlative, combining the excellence of the RPG Diffractals® in an intimate setting with quality craftsmanship. RPG participated enthusiastically throughout the design process giving the design team careful attention and follow through in a demanding construction environment."

Sam Miller, Architect, CSO, Inc.

PRODUCTS



RPG Project Profile

Orpheum Theater
Phoenix, AZ

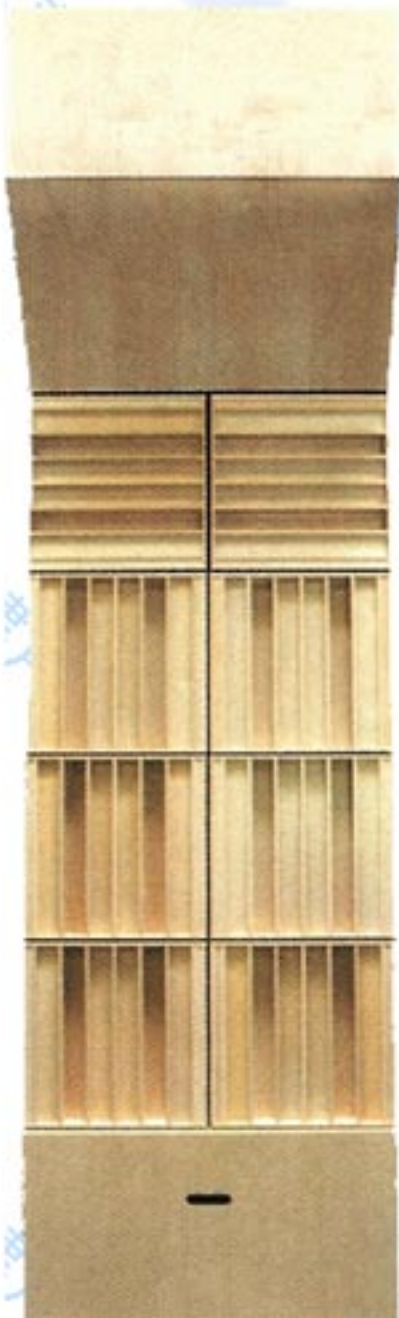
ACOUSTICIAN

"The PRG VAMPS offer unusually rich and warm sound on the performing stage for the phoenix Symphony Orchestra. The sound is highly uniform across the stage even when musicians are centered on the spaces between the VAMPS. This speaks to the diffusivity of the units. The Symphony is very happy with the VAMPS and there is little I would change about how the sound behaves on stage."

David Conant, McKay Conant Brook, Inc.



PRODUCTS



CLIENT

"The Phoenix Symphony's temporary home for the 2004-2005 season is the Orpheum Theatre, thanks to ongoing renovation at Symphony Hall. And as a few thousand people heard TPS play its opening concerts at the Orpheum Thursday through Saturday, it should be a very good year. The Orpheum, outfitted with a new shell, is a dry acoustic space that affords much greater clarity than Symphony Hall. Saturday night, when artistic adviser James DePreist led the orchestra in an all-Beethoven gala event, winds had richer color, brass more focus, and strings more depth than ever heard before. DePreist was able to bring off his conception of the andante to Beethoven's Fifth Symphony – in which the various voices have greater independence – in part because of the Orpheum's acoustics."

Kenneth LaFave, Music Critic, The Arizona Republic

"The Shell for the Orpheum has been a great improvement and will provide both musicians and our patrons with a much deserved higher-level musical product. The string sound, in my opinion, is better than in Symphony Hall, the woodwinds now pop out, and the brass and percussion are balanced as well. We had two over-flow season preview concerts this past weekend, and received many, many positive comment on not only the sound of the hall, but the attractiveness of the towers as well."

Joel Levin, Phoenix Symphony General Manager

"The circle is complete! THANK YOU ALL for your hard work and efforts toward solving a difficult problem. The Symphony is pleased, as is the Department Director. Congratulations for this significant accomplishment. My hat is off to you!"

Robert R.Allen, Deputy Director, Phoenix Stages Division, Civic Plaza Department

RPG Project Profile

Zionsville Fellowship
Zionsville, IN

ARCHITECT

"The sanctuary acoustical design was painstakingly analyzed to ensure that it worked with Zionsville Fellowship's worship style. The finished room worked even better than expected, allowing everyone to hear as people throughout the large sanctuary offer spontaneous prayers and comments – without the aid of electronic amplification. "It just works!" says Patty Blakley, building committee member. Like the rest of the church, she is "...so thankful... to have a facility designed for the way we do ministry..."



FBI Buildings, Inc.



ACOUSTICIAN

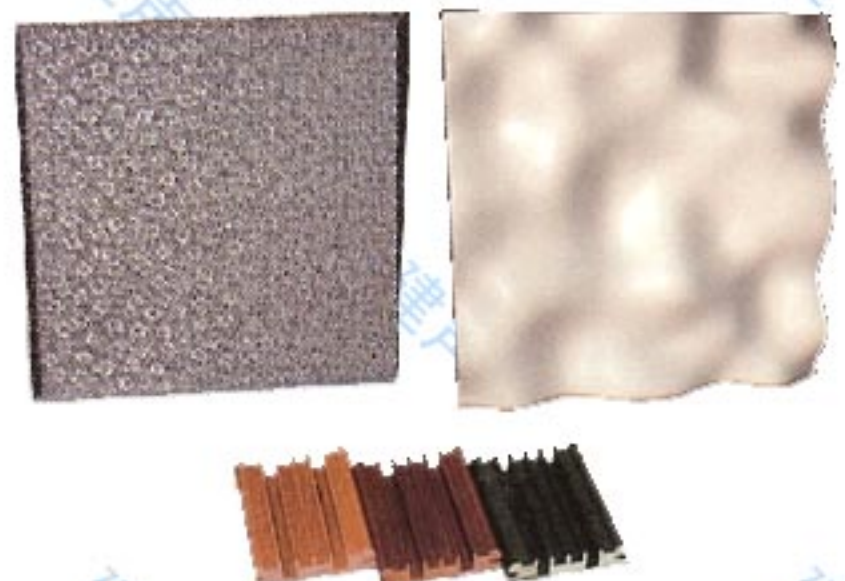
"Zionsville Fellowship Church is a unique congregation in many ways. Their facility required approximately 900 seats in a mildly sloped stadium-type seating, with deep rows to allow for their unique style of communion distribution. But the most unique aspect, acoustically speaking, is in their usage of their sanctuary space. They not only incorporate a contemporary band, praise team, choir, and organ into their service, but they also have a very special 'sharing time'. At the time, any member of the congregation can verbally offer thoughts or other inspirational messages to the rest of the members (unamplified from where they are seated or standing) and the congregation must be able to hear them! After intense computer modeling of many possible variations of the space, the acceptable room geometry was determined. We then contacted Peter D'Antonio at RPG Diffusor Systems, Inc., in order to provide some form of much needed diffusive elements for the ceiling. The resulting custom Waveform™ ceiling modules along with Binary Amplitude Diffusor™ units behind a stretched fabric wall system, provided the required diffusion and absorption for this space. We have never received as many compliments in attaining a client's difficult requirements as with this project. RPG was an invaluable team member of this successful project."

Tom Lorenzen, President, dBA Acoustics
CLIENT

"it has been a very good and gratifying experience for Zionsville Fellowship to have had dBA Acoustics, Ft. Wayne, IN involved in the planning of our new church facilities in Zionsville. We extend many thanks for your help. Our first Sunday in the building went off without a hitch and the acoustics were what we had hoped for. As we come to the end of the construction phase, we now enter into a time of celebration."

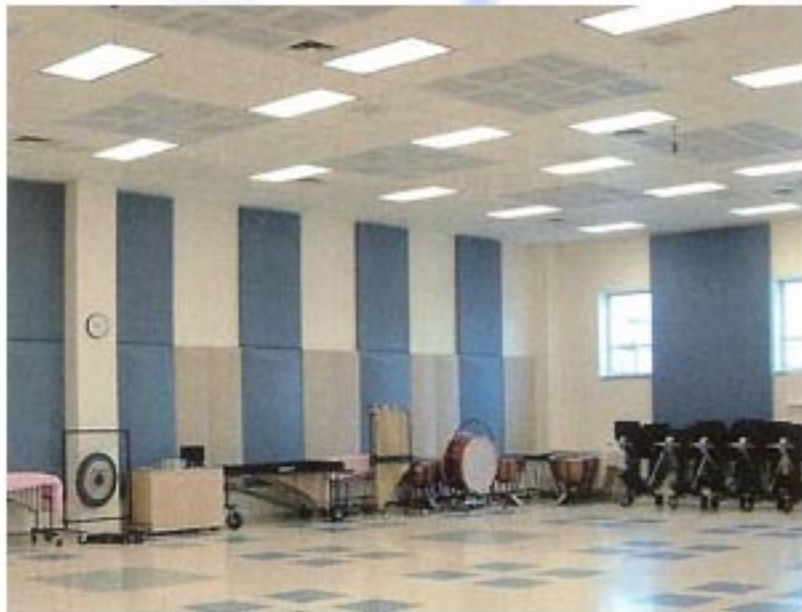
Pastor Tom Streeter, Zionsville Fellowship

PRODUCTS



RPG Project Profile

Whiteland High School
Clark Pleasant, IN



ARCHITECT

"The design of the \$19 Million, 343,725 square foot addition/renovation to Whiteland High School included a renovation of the auditorium. Schenkel Shultz Architects incorporated acoustical and aesthetic improvements in the auditorium design. The RPG panels used as the ceiling plane not only met the acoustical performance criteria for a multi-purpose performance space, they also provided a unique undulating surface profile that adds to the dynamic nature of the programs produced."

C.Andrew McNeilly, Schenkel Shultz Architects

ACOUSTICIAN

"The existing auditorium suffered from many acoustical anomalies, including flutter echoes, a fairly low, flat reflective ceiling, and focusing of rear wall reflections. To correct these deficiencies as well as keeping with the aesthetic requirements of the space, several diffusive and absorptive materials were utilized to improve the space. RPG Flutterfree® was installed on the sidewalls to eliminate the sustained echoes and Topakustik® was utilized on the rear wall areas to provide a similar wood look, while providing sound absorption. In replacing the solid ceiling with RPG's Waveform Bicubic™ and Waveform Spline™ diffuser panels, the optimized diffusion and increased volume aided greatly to the overall acoustical benefits of the renovated space."

Tom Lorenzen, President, dBA Acoustics

CLIENT

"I can't believe the difference the acoustical changes made!"

Administrator, Whiteland H.S.

PRODUCTS

