

WSDG
WALTERS-STORYK DESIGN GROUP



ARCHITECTURAL
ACOUSTIC
CONSULTING

MEDIA
SYSTEMS
ENGINEERING

Company Profile



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Company Background and Structure

Company Background

WSDG - Walters-Storyk Design Group is a global architecture, acoustic, electro-acoustics and advanced audio-visual systems integration consulting and design firm. Pioneering architect/acoustician, John Storyk (AIA), founded the company in 1969 with the creation of Jimi Hendrix's Electric Lady Studios in NY.

With USA headquarters in Highland, New York, as well as offices and representation in Latin America, Europe, Middle East and Asia, WSDG is the partnership of Founding Partners Beth Walters and John Storyk. The firm's global team includes over 65 partners, associates and design professionals.

WSDG's almost 50 years of innovative design achievement has produced over 3500 diverse global projects. These assignments include: NY's Jazz At Lincoln Center and studios for Alicia Keys, Jay-Z, Bob Marley, Bruce Springsteen, Celine Dion, Def-Jam Records, ESPN, MTV (Latin America), WNET, KKL (Switzerland) and Boston Symphony Orchestra.

WSDG is an eleven-time winner of the international NAMM TEC Award for studio design creativity. Recent WSDG TEC winners include: Jungle City Studios, NY (2011), the Berklee College of Music – 160 Mass. Ave. recording/teaching complex, Boston (2014), The Church Studios, London (2016), and Boston Symphony Orchestra Control Room, Boston, MA (2017). The firm's work has been published extensively, and discussed in numerous professional audio, broadcast and systems design publications.

Company Structure

WSDG maintains offices and representation around the world:

USA:

Highland, New York
New York, New York
Miami, Florida
San Francisco, California
Los Angeles, California

Europe:

Basel, Switzerland
Berlin, Germany (ADA-AMC GmbH)
Barcelona, Spain

Latin America:

Buenos Aires, Argentina
Belo Horizonte, Brazil
México DF, México
Punta del Este, Uruguay

Asia:

Guangzhou City, China
Mumbai, India
St. Petersburg, Russia
Doha, Qatar

Services | Architectural Acoustic Consulting

Acoustic Testing, Measurement and Assessment

WSDG employs sophisticated measurement equipment, the most up-to-date acoustical data-collection and analysis software and complex visualization tools to determine and optimize existing acoustical conditions in time and frequency domains, including RT60 Reverberation Times, Transmission Loss, STI Speech Intelligibility Assessments, SPL Sound Pressure Level distribution, Background Noise Levels and many other parameters. Our engineering team specializes in acquiring critical measurement data in-situ or laboratory-based for documentation. This work applies to both technical design and legal / forensic purposes and presents useful interpretations of measurement results and their consequences. All work complies to the latest international standards, industry benchmarks and professional compliance values.

Acoustic Simulation, Modeling, Auralization

WSDG uses complex prediction and analysis software to model and study the behavior of sound in a three-dimensional virtual prototyping environment by means of an iterative process and has also pioneered the use of acoustical modeling tools and auralization by using the industry's most advanced acoustic prediction and modeling software. These software tools facilitate "auralization" - a complex calculated algorithm that allows for input of an original, non-processed audio file (such as a speech announcement or an acoustical instrument recording) and then renders an audible reproduction of the future acoustical situation in the virtual building environment. This allows all stakeholders to listen to music, speech or any audio content in the virtual design reality, thus providing an invaluable tool during design and planning.

Room Acoustics Analysis and Surface Treatments Design

Room Acoustics is the science of controlling a room's internal acoustic characteristics by creating geometry in combination with creative surface materialization using reflection, absorption and/or diffusion. Excessive reverberation time can lead to poor speech intelligibility, high ambient noise levels, poor ability to concentrate and limited comfort, specifically in workplace and privacy / confidentiality applications. Interior acoustical floor, wall, and ceiling surfaces can be created using a wide variety of materials and finishes, including perforated, slotted, fabric covered, foam based, plastic, wood, glass, metal or gypsum materialization. WSDG carefully studies and specifies appropriate materials and applications, always with a keen eye and respect for a project's underlying architecture.

Sound Isolation, Structural Acoustics Analysis and Design

Structural Acoustics analyzes noise transmission from building exterior envelope to interior and vice versa, as well as noise transmission from one room to another within the building environment. Inadequate acoustical isolation may lead to elevated sound levels within the space which reduces privacy, comfort level and concentration ability; severely limits speech intelligibility and has implications for noise health effects. Primary noise paths often include roofs, ceilings, eaves, walls, windows, doors, room partitions, as well as flanking, ducting and other penetrations. Sufficient noise containment control ensures space functionality and is often required by local municipal codes. WSDG specifications include construction details for wall and slab assemblies and special acoustical isolation conditions (including "room-within-room" construction).

Peer Review, Expert Reports, Studies and Surveys

WSDG is a trusted partner for Peer Review, Expert Reports, Studies and Surveys within the context of Architectural Acoustics Consultation. Peer review is the evaluation of work and studies conducted by other parties. This work is often required to maintain standards of quality; assess solutions and designs; provide a second opinion or variations to a concept; create alternate solutions to improve performance and efficiency; provide credibility; and verify costing and time table analysis. WSDG's studies and surveys are often based on in-situ or laboratory measurements and assessments utilizing a wide range of international benchmarks and standards.

Media Facility Site, Facility, Master Planning, Feasibility Studies

WSDG provides a wide portfolio of design and consulting services that support media facility conceptual planning, master planning, site selection and feasibility studies as well as timely, detailed and cost-effective advice on highly sensitive and complex architectural construction and renovation projects. WSDG has extensive experience with sensitive architectural issues including historical renovations, additions and new construction projects in media production, corporate, government, education, broadcasting and cultural / entertainment sectors.

Broadcast and Recording Studio Design

WSDG brings nearly 50 years of experience in providing design and consulting services that support Broadcast and Recording Studio projects during all phases (master planning, schematic design, design development, construction documentation, bidding – pricing, construction administration and final commissioning / close out). WSDG provides timely, detailed and cost-effective advice on highly sensitive and complex architectural construction and renovation projects, from small but critical retrofits to challenging ground-up construction. WSDG brings extensive experience to sensitive architectural issues including historical renovations, additions and new construction projects in media production, corporate, government, education, broadcasting and cultural / entertainment sectors.

Technical Interior Design, Product Development and Prototype Testing

WSDG provides technical interior design and integration services for media production, cultural, entertainment and corporate environments in close collaboration with all stakeholders with the goal of enhancing room design, achieving a healthier, more inspiring, more ergonomical and more aesthetically pleasing environment. WSDG provides conceptual development, space planning, site inspection, programming, research and construction management for technical AV and lighting design, lighting control, acoustical surfaces and sightline considerations. Designs are illustrated by means of 3D visualizations, renderings and VR simulations. WSDG's engineering team and laboratories are available for acoustical studies, assessments, and measurements as well as for supporting further optimization of acoustical parameters of a given product under development. Feasibility studies and virtual prototyping can be conducted to ascertain the product's acoustical performance level and market position.

Services | Media Systems Engineering

Media Systems Design and Equipment Recommendations

WSDG gives guidance in an increasingly crowded world of technology devices, standards and practices all claiming to be the best and the most futureproof. Corporate, cultural, educational, residential and governmental sites alike are constantly striving to improve their media systems in an effort to stay on top of current presentation, communication, collaboration, conferencing and entertainment techniques. WSDG provides well integrated AV System Designs based on the highest industry standards, while working collaboratively with its clients in developing long term visions, outlooks and strategies.

Media Network, Distribution, System Control, IT and Communication Systems

Telecollaboration, teleconferencing and telecommuting significantly influence corporate culture and workflow. Substantial engineering and integration efforts are required to make these technological advances in fact be supportive to the workforce. WSDG designs individual office, boardroom, conference center, and site wide media networks, while providing AV infrastructure with solid privacy protection and high usability to satisfy even highest quality requirements in both sonic and visual aspects.

Audio / Electroacoustic Engineering, Simulation, Modeling and Auralization

The most visible part of the electroacoustical system is the loudspeaker. Loudspeakers are complex electromechanical devices so varied and rapidly shifting that the market is hard to oversee even for professionals. WSDG specifications are based on 3D acoustical software simulations and virtual prototyping of the venue or room where the architectural conditions are overlaid with the technical, aesthetical and budgetary criteria of the project at hand. WSDG often creates simulated audio playback demonstrations, called auralizations, to facilitate decisions based on auditory impact. Selecting the electroacoustic system most suitable for the space, after determining room acoustics and structural boundary conditions in what-if scenarios, enables WSDG to achieve and exceed target parameters such as loudness level, frequency range, coverage, directivity control and speech intelligibility STI. Electro acoustical systems may be used in voice alarm / emergency scenarios, where properties such as redundancy, certification and reliability are highly critical. WSDG has extensive experience for such systems and is fully familiar with all current national and international regulation including e.g. FIFA, IOC and UEFA.

Audio, Electroacoustic Systems Calibration, Tuning and Optimization

Audio System Calibration or Audio System Tuning is the science and art of bringing the entire sound system to operate at its peak performance. The commissioning process involves WSDG's highly experienced experts in audio measurement and sonic accuracy and is based on a sequence of tasks to obtain the maximum audio precision of the component ensemble installed in a space. Frequency and time-domain measurements as well as extensive listening tests are employed to carefully determine the correct placement, phase-alignments, crossover points, equalization and gain control of a loudspeaker-room system. Full documentation concerning component settings is issued by WSDG for client's reference. For professional audio systems, WSDG recommends recalibration every 12 to 24 months to increase system accuracy and to maximize ROI.

Video Systems Engineering, Content Capturing, Display, Visibility and Sightline Studies

No media experience is complete without a clear, bright, high resolution visual solution. WSDG provides comprehensive video system engineering services, including design of networks, hardware, software and other related infrastructure to support video applications within production, broadcasting, educational, corporate, information and entertainment contexts. Camera and display / projection system positioning often require integration and placement studies that are based on 3D visualization and studies. Typical auxiliary WSDG engineering fields include heat management and noise mitigation.

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Theatrical Systems

Theatrical Systems Engineering refers to conceptualizing, designing and implementing technical equipment and devices for the performance community, while integrating these designs into the architectural and acoustic fabric of projects. WSDG provides these services including networking infrastructure, theatrical audio-video systems, immersive 3D audio replay, theatrical lighting, wired and wireless communication devices and stage machinery with the goal to give venue owners, producers, and artists the means to express their talents to the full extent of their creative imagination.

Relevant Experience

WSDG (Walters-Storyk Design Group) and its principals have an extensive body of clients in the fields of architectural acoustic consulting, facility master planning and media systems engineering. A list of projects that supports our company profile and credentials follows. For a more extensive client list, please see www.wsdg.com. Our experience spans nearly 50 years in architectural design, internal room acoustics, advanced noise isolation, and systems design required for acoustically sensitive projects of all sizes. Moreover, WSDG has the ability to work seamlessly within a team design environment.

We have assembled a list of projects that underscore our experience with multiple project types:

Jazz at Lincoln Center
New York, USA

The Church Studios
London, United Kingdom

Electric Lady Studios
New York, USA

Katara Studios
Doha, Qatar

Berklee College of Music-160 Mass Ave
Boston, USA

Maracanã Stadium
Rio de Janeiro, Brazil

Swiss Parliament – General Assembly
Bern, Switzerland

Peloton Flagship Spinning Center
New York, USA

KKL Concert Hall
Luzern, Switzerland

Jungle City Studios
New York, USA

St. Ursen Cathedral
Solothurn, Switzerland

Boston Symphonic Orchestra
Boston, USA

Mineirão Stadium
Belo Horizonte, Brazil

Qatar Television
Doha, Qatar

Pepsi Content Studio
New York, USA

The Metroplex
Hong Kong, China

Flughafenkopf – Zurich Airport
Zurich, Switzerland

PostFinance Arena
Bern, Switzerland

ESPN Digital Center
Bristol, USA

Le Poisson Rouge (LPR)
New York, USA

VSL Synchron Stage
Vienna, Austria

Los Molinos – Faena Arts Center
Buenos Aires, Argentina

New York University – Steinhardt
New York, USA

Kulturpalast Dresden
Dresden, Germany

Igreja Batista Central – IBC
Belo Horizonte, Brazil

Aura Club Events Hall
Zurich, Switzerland

Pangu 7 Star Hotel
Beijing, China

Rio 2016 – Barra Olympic Park
Rio de Janeiro, Brazil

Young Israel Synagogue
Miami, USA

The Anthem
Washington D.C., USA

Casa Fontela
Buenos Aires, Argentina

55TEC Studios
Beijing, China

Sonastério Studios
Belo Horizonte, Brazil

Gimlet Media
Brooklyn, USA

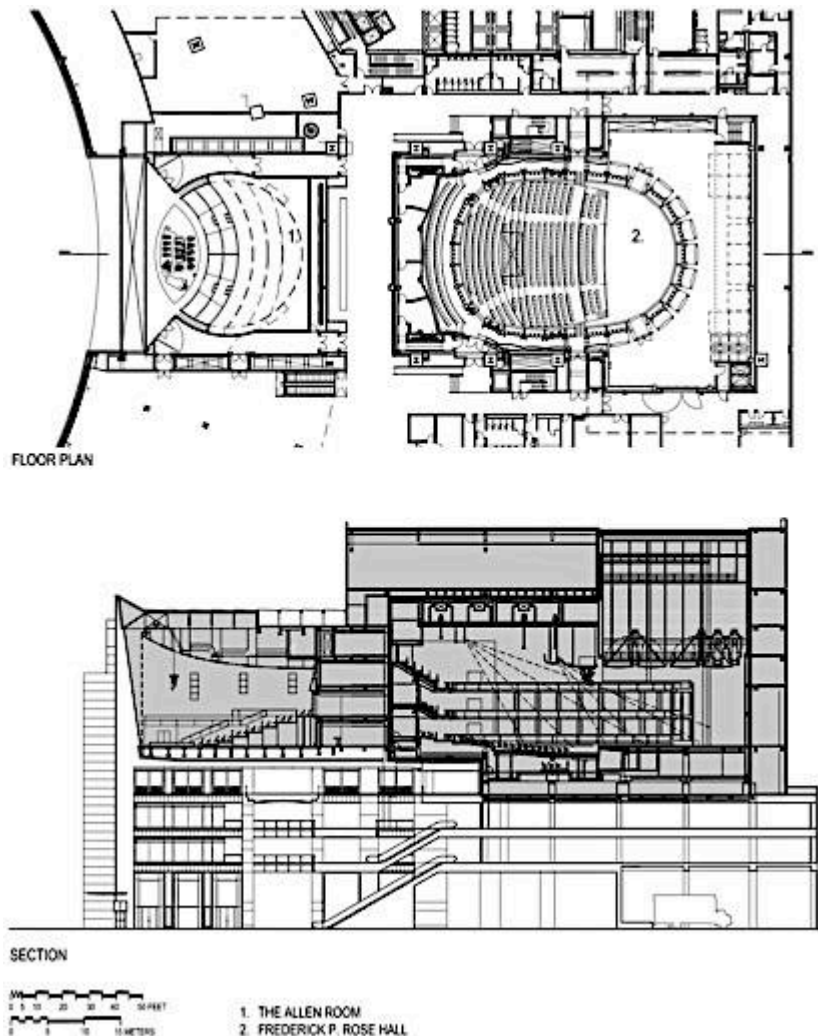
Audible Recording Studios
Newark, USA

Jazz at Lincoln Center - New York, USA

Jazz at Lincoln Center is one of New York City's premier attractions, housing over 100,000 sq. ft. of performance venues, educational suites and recording/post production facilities.

The Frederick P. Rose Hall project consists of a 1,200-seat concert hall with movable seating towers. The hall can be configured for dance, opera, theater as well as provide an intimate jazz setting by surrounding the musicians with the audience seated on three levels in a stage surround setting. The Allen Room is a 300 - 600 seat performance space with tiered platforms ascending from the stage level to a dance floor with movable tables and chairs. The Irene Diamond Education Center is 3,500 sq. ft. and contains two state-of-the-art education/rehearsal studios.

WSDG, as partners in the Sound of Jazz Consulting Group, worked closely with the architects and Wynton Marsalis to acoustically design the education, rehearsal and recording spaces. The systems integration design for all performance, educational and listening spaces within this facility are linked together for recording and playback. This facility is the world's first performing arts center designed specially for the performance and recording of jazz.



Jazz at Lincoln Center - New York, USA

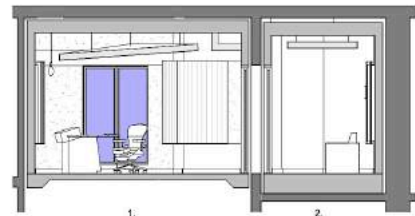
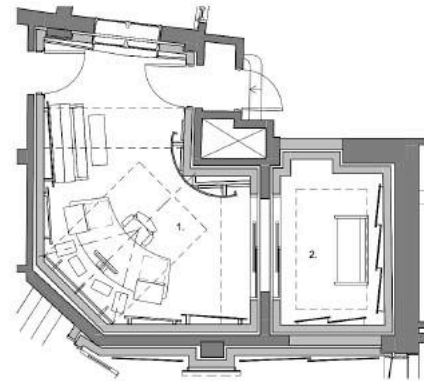
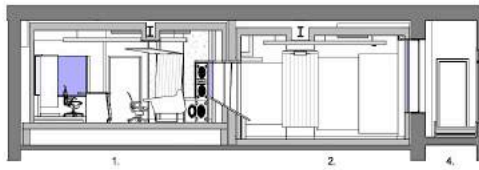
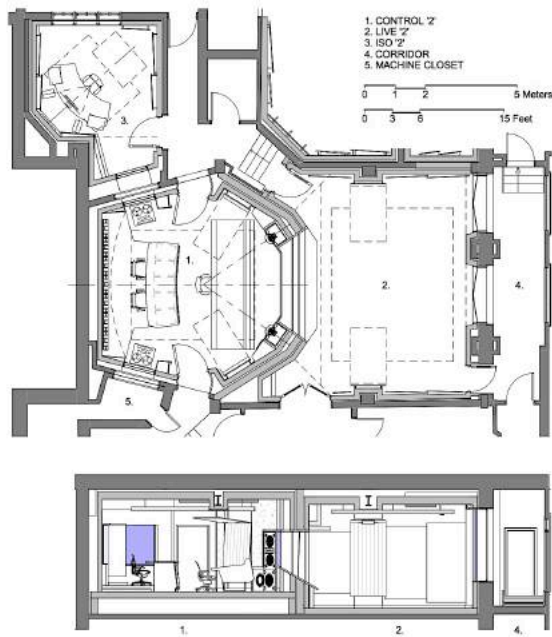


The Church Studios – London, United Kingdom

Grammy and Academy Award-winning producer Paul Epworth (Adele, Cee Lo Green) brought WSDG on board to reconfigure the famed Studio A Live, SSL Control Rooms and the addition of the Writers Room when he purchased London's iconic Church Studios. Interior aesthetics have been drawn from a palette of subtle whites which may then be 'colorized to desired mood' by a sophisticated computer program. The new, fully isolated 350 sq. ft. Control Room A will continue to rely on the studios' vintage, multi-platinum SSL console and new, custom-designed WSDG/Augsburger main monitors. The 450 sq. ft. / 11 ft. high ceiling Studio A Live Room features a customized designed wall and ceiling acoustic treatment package. The elegant, new ultra-modern 190 sq. ft. Writers Room includes a sleek, wall-mounted Data/Power Cable "box skirt" cabinet to support the uncluttered creative atmosphere. The studio was the recipient of a NAMM – TEC award for facility design.



The Church Studios – London, United Kingdom



Miloco
Walters-Storyk Design Group
www.wsdg.com

The Church Studios
Studio 2 - London, UK

Miloco
Walters-Storyk Design Group
www.wsdg.com

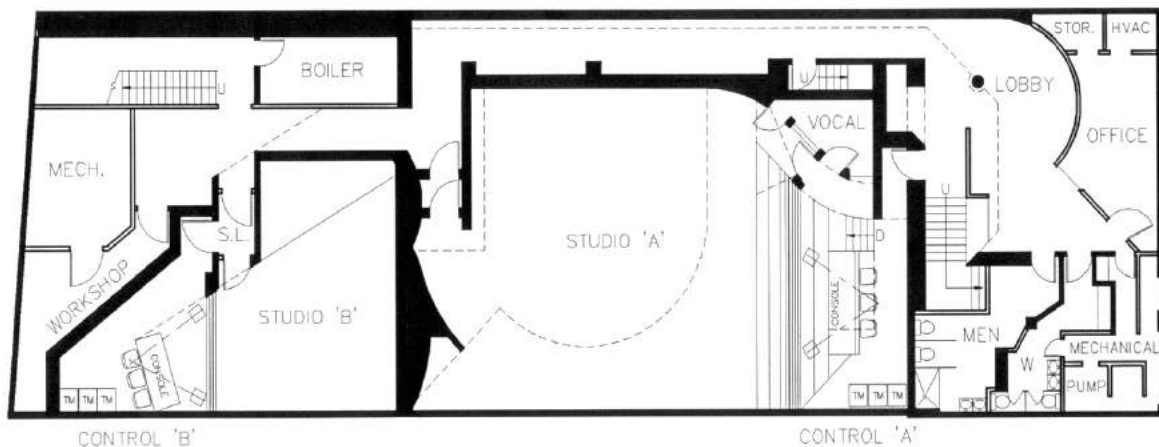
The Church Studios
Studio 3 - London, UK



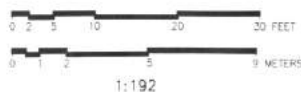
Electric Lady Studios - New York, USA

At nearly 50 years old, Electric Lady is one of the world's first artist owned recording studios and one of the oldest, most famous and most successful studios ever. WSDG co-founder John Storyk was a 22-year-old fledgling architect fresh out of Princeton University when he was hired to design a studio for Jimi Hendrix. One summer evening in 1968, Storyk was enjoying an ice cream cone and leafing through the Village Voice when a classified ad caught his eye: "Carpenters wanted to work for free on experimental nightclub." Dialing the number from a corner pay phone, he got the gig. That club, Cerebrum, made the cover of Life Magazine after 6 months. When Jimi Hendrix visited the club one night and decided to hire Storyk to design his club (which became ELS), well the rest is history.

Eddie Kramer (Jimi's engineer) was adamant about Electric Lady having a tall, bright room similar to NY's legendary A&R Studios where Phil Spector did some of his greatest work. Kramer was also familiar with European studios like London's Olympic and Abbey Road. He believed drums required a big room. Storyk accommodated Kramer's need for high ceilings by excavating the basement, digging down to raise the height of the underground rooms. For the studios' interior, Jimi specified theatrical lighting, and his desire to have as many curved surfaces as possible (design elements which Storyk had originally incorporated in Cerebrum). Electric Lady's walls were painted white, so they could easily be turned into whatever color Hendrix was in the mood for with simple adjustments. One day Jimi arrived at the construction site and decided that he didn't like the square look of the expensive acoustic doors, which had just been installed. He asked Storyk if he could round off the tops, and when that proved impractical, he had them replaced by custom units with rounded, porthole-style windows.



ELECTRIC LADY STUDIOS
NEW YORK CITY



Electric Lady Studios - New York, USA

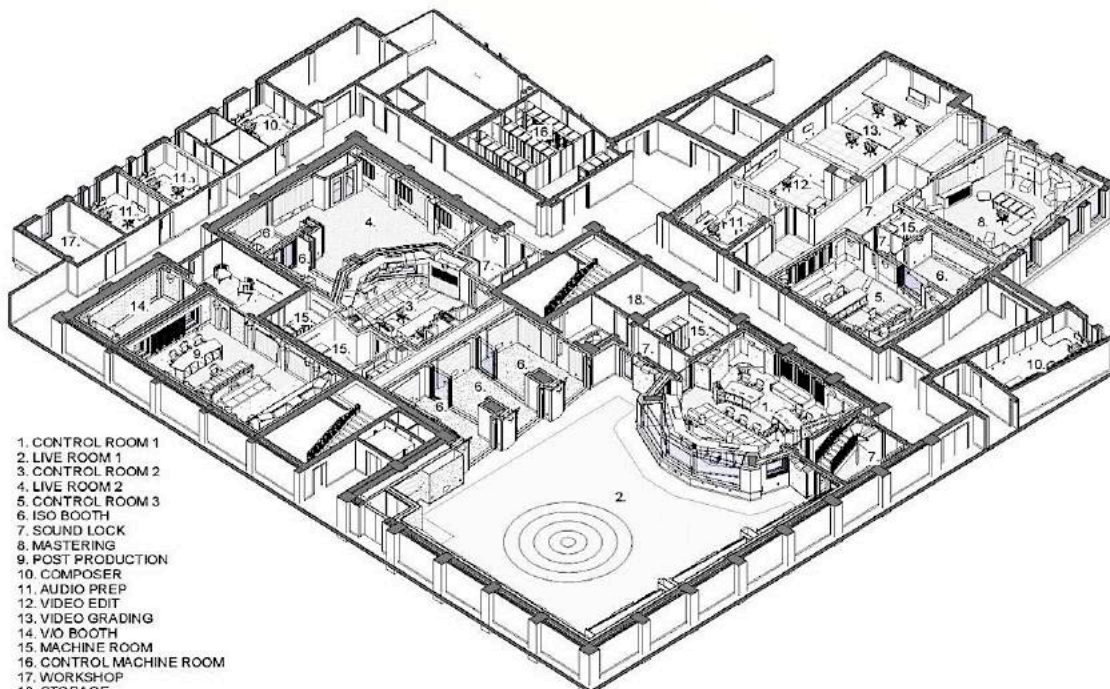


Katara Studios – Doha, Qatar

Doha, the capital and principal city of Qatar, has welcomed the completion of Katara Studios, now one of the Middle East's largest and most technically advanced recording/audio production complexes. Created by WSDG, the 65,000 sq. ft. / 6040 sq. m. compound now fulfills Katara Committee's mandate to establish Doha as one of the most vibrant media centers on The Persian Gulf.

The sprawling, 40+ room complex features three distinct recording studios, distinguished by the 3,000 sq. ft. / 278 sq. m. Studio 1 Live (orchestral) Room, capable of hosting 80+ musicians. Live 1 is crowned by a towering 30 ft. / 9 m. high ceiling and is equipped with a 582 sq. ft. / 54 sq. m. VIP Lounge, designed to perform triple duty as a lounge, Iso Booth or to provide additional room volume for the orchestral recording space.

Aesthetics were a critical concern of the creative program. Katara Studios management was committed to incorporating authentic Arabic design elements throughout the complex. WSDG Co-Principal/Interior Designer, Beth Walters, and Partner/Art Director, Silvia Molho performed extensive research on Islamic and Muslim architecture. Studying the traditional, vibrantly colored Arabic palette, they developed methods to incorporate components of intricately patterned Islamic calligraphy and mosaics. By creatively weaving them throughout the ultra modern complex in a completely organic fashion, they produced a successful design model. A series of custom designed "Magic Ceiling Cubes" provide mood lighting and also serve as membranous, low frequency absorbers. Thanks to a novel 'pocketing' scheme the Studio 1 Live Room's three oversized ISO Booths can independently be re-configured in a variety of permutations.

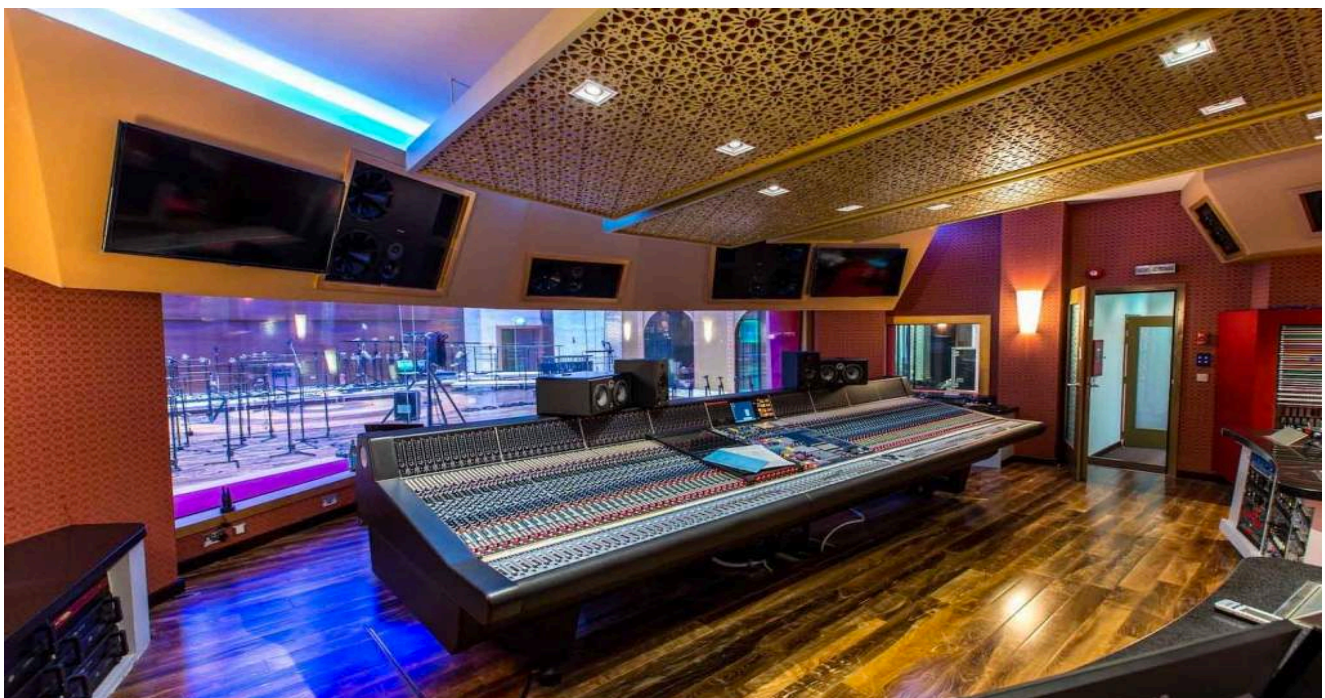
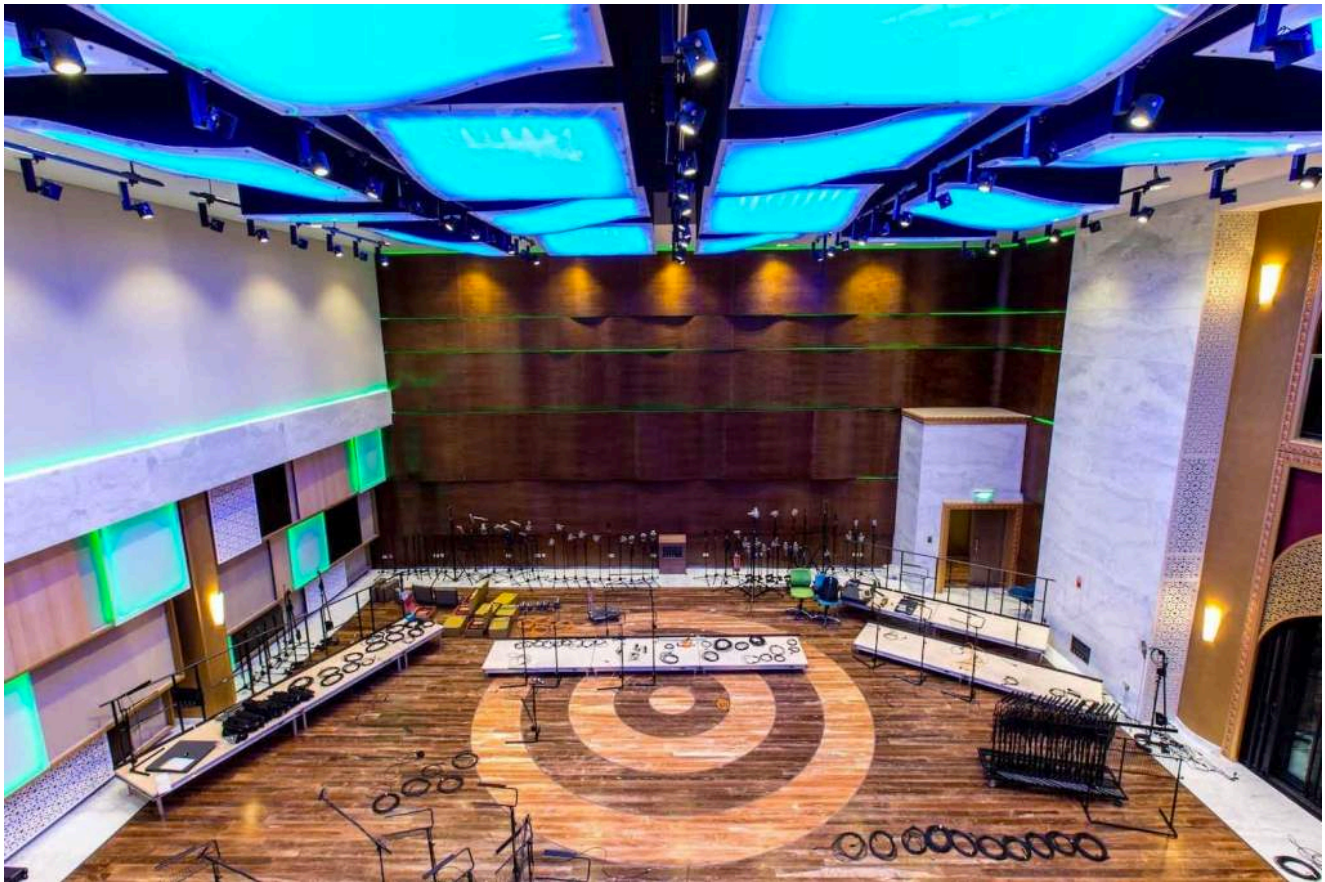


1. CONTROL ROOM 1
2. LIVE ROOM 1
3. CONTROL ROOM 2
4. LIVE ROOM 2
5. CONTROL ROOM 3
6. ISO BOOTH
7. SOUND LOCK
8. MASTERING
9. POST PRODUCTION
10. COMPOSER
11. AUDIO PREP
12. VIDEO EDIT
13. VIDEO GRADING
14. V/O BOOTH
15. MACHINE ROOM
16. CONTROL MACHINE ROOM
17. WORKSHOP
18. STORAGE

Walters-Storyk Design Group
www.wsdg.com

Sout al Khaleej
Doha, Qatar

Katara Studios - Doha, Qatar

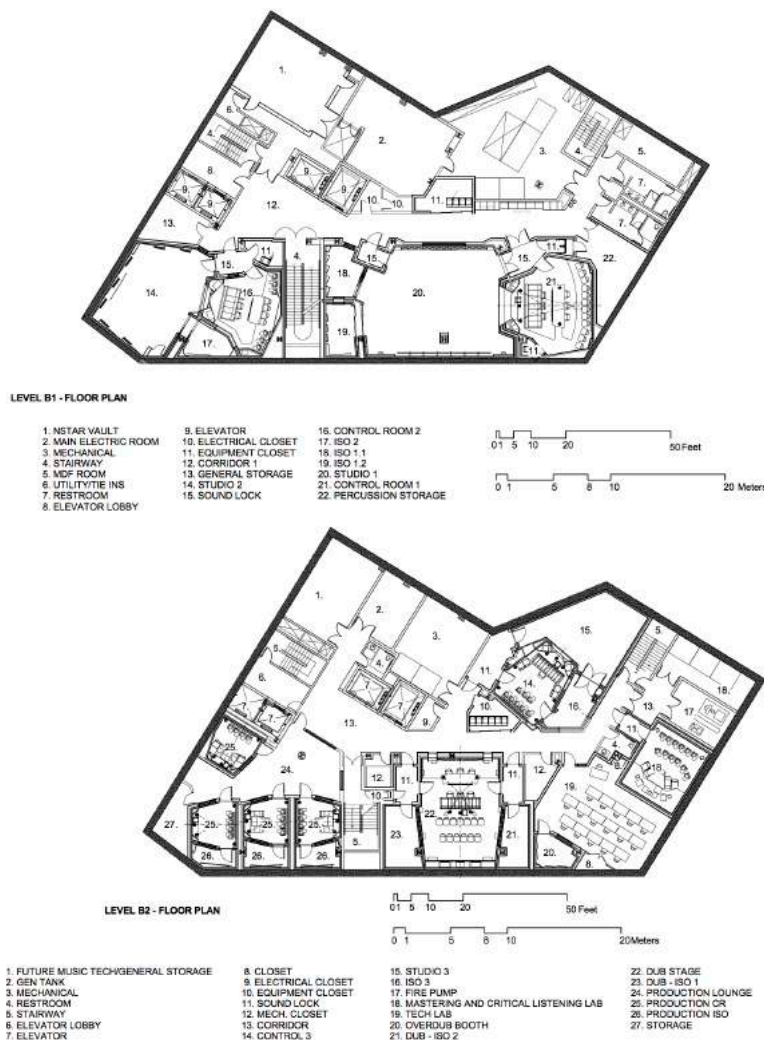


Berklee College of Music – 160 Mass Ave - Boston, USA

For one of its latest real estate acquisitions, Berklee College of Music created *160 Massachusetts Avenue*, a 16-story, 170,000-square-foot mixed-use building. It houses dorm rooms with 350 beds, increasing Berklee's on-campus housing capacity to approximately 1,200 students, as well as a two-story dining hall that have seating for 400 and a new venue for student performances. Most importantly it is the new home for 9 new audio production / teaching studios – housed in two levels below grade – all fully decoupled and capable of simultaneous 24/7 use.

The music technology complex includes two professional-quality recording studios, a Dubbing Stage, a Mastering and Critical Listening lab, four production suites and a flexible performance venue / film scoring studio. WSDG designed and supervised construction of this facility in collaboration with chairs, deans, and technology lab staff from Berklee College of Music during a period of three years. Students can enjoy performance spaces that emulate professional environments, with state-of-the-art equipment and a wide variety of musical instruments.

In addition, WSDG worked on the two-story dining hall to address internal room acoustics, specifically with regard to the general intelligibility of the dining hall. The facility opened in 2014 and was the recipient of a NAMM TEC award for facility design.



Berklee College of Music – 160 Mass Ave - Boston, USA



Maracanã Stadium - Rio de Janeiro, Brazil

The “temple” of soccer officially called Estádio Jornalista Mario Filho, known popularly as Maracanã, is the biggest soccer stadium in Brazil. Inaugurated in 1950 for FIFA’s World Cup, it has been a stage for great moments in Brazilian and international soccer including Pelé’s thousandth goal. The stadium hosted the opening and closing of the final match in FIFA’s World Cup in 2014 as well as the 2016 Olympics.

Maracanã is not only famous for soccer games; it also hosts concerts and events. In 1980, Frank Sinatra sang for 170,000 fans, 1983 saw KISS perform in front of a crowd of 250,000, and a Tina Turner concert in 1988 drew 188,000 people.

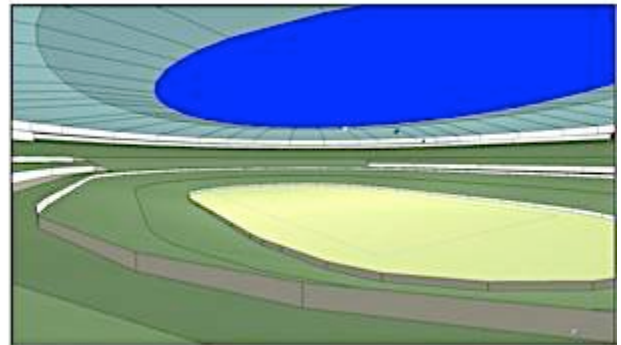
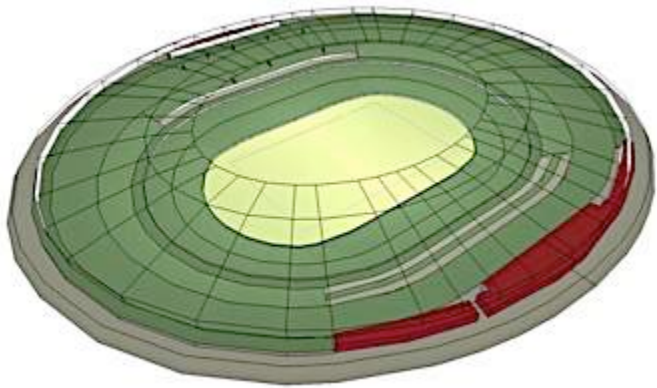
WSDG designed the audio and video systems for the entire stadium and the full renovation was completed for the Confederations Cup in 2013, one year prior to the 2014 World Cup.

The complex architecture was simulated in detail using the most advanced electro-acoustic tools. The biggest challenge encountered in the design phase was to define the final quantities and locations of the PA clusters, in order to achieve the required STI and SPL coverage as required by FIFA for such complex acoustical conditions. Speaker positioning was defined for the internal and external areas for innumerable zoning maps that can be controlled individually for more flexibility and to comply with security needs.

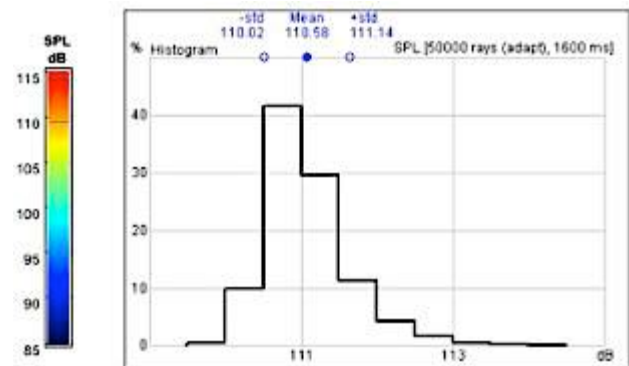
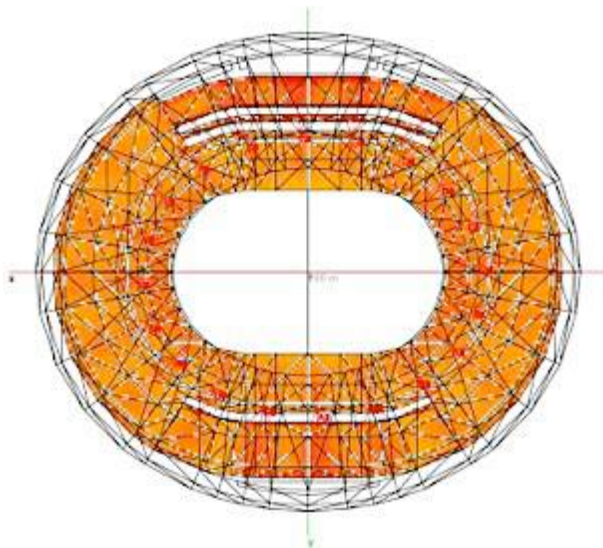
All specific audio and video needs were defined to meet FIFA’s requirements and WSDG has recommended the use of four x 100 sq. m. Video Walls for proper visual coverage.



Maracanã Stadium - Rio de Janeiro, Brazil

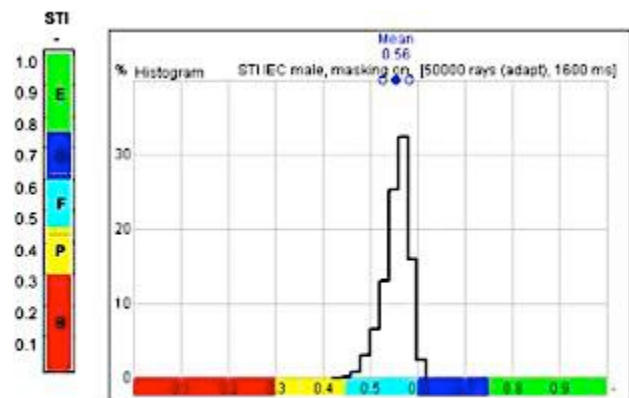
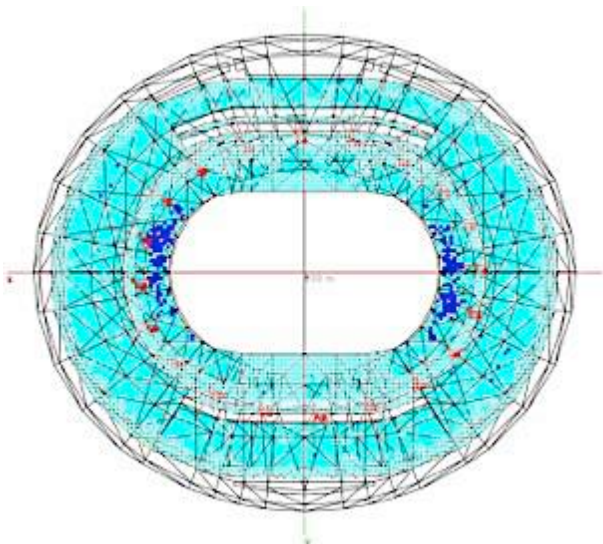


Acoustic Simulation Model



The SPL Distribution is very equal over the whole audience area with a mean value of 110dB(A).

Sound Pressure Level – Full Simulation



The mean value of speech intelligibility lies at 0.56 with the PA System at 110dB(A). Due to masking effects at these high sound pressure levels, the value can be greater with decreased level:

STI Speech Intelligibility – Partial Simulation

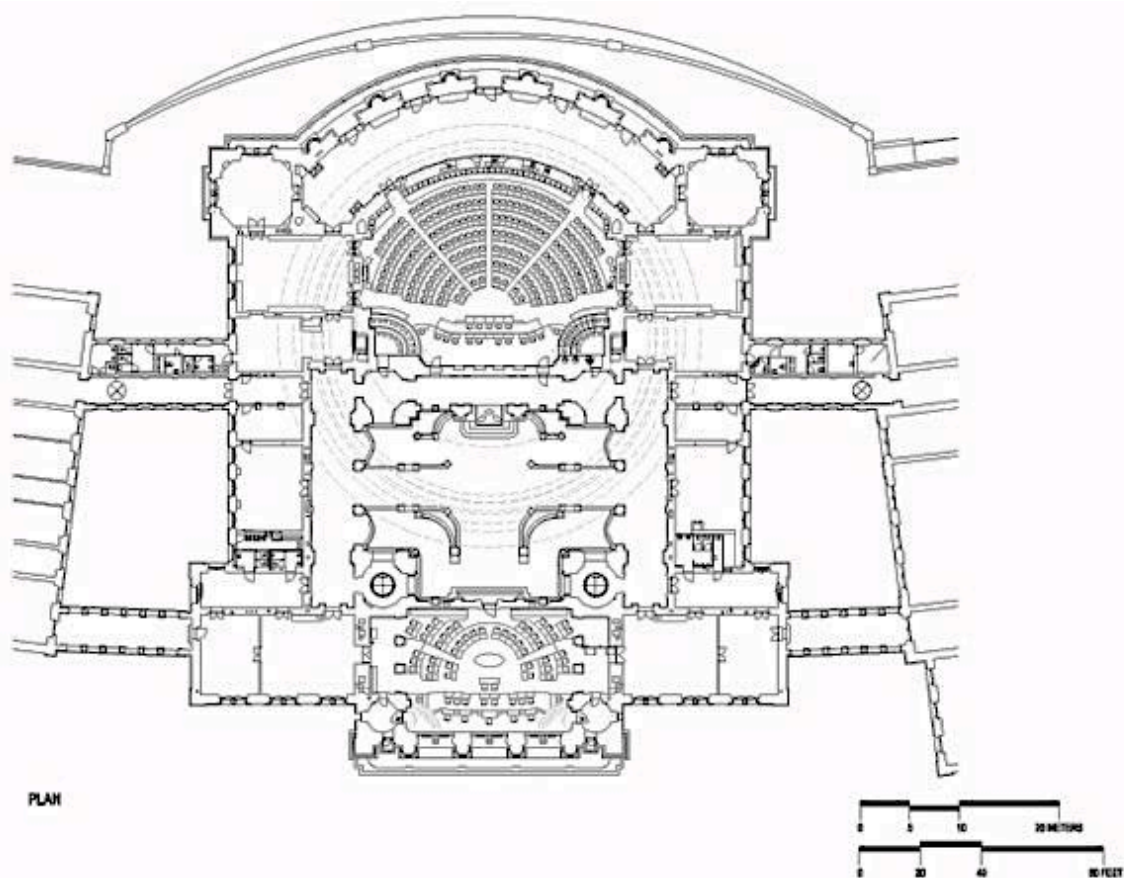
Swiss Parliament – General Assembly - Bern, Switzerland

The Federal Palace in Bern is the building in which the Federal Assembly of Switzerland (Federal Parliament) and the Swiss Federal Council (Executive) are housed. The Federal Palace was designed by the architect Hans Wilhelm Auer and constructed out of sandstone from 1894 to 1902. From 2006 to 2008, after over 100 years of service, the first major renovation took place with the goal to integrate modern technology within a faithful restoration of the original building structure.

The National Council Hall has three distinctive zones that require sound reinforcement: the main hall, the stage area (with a distinctive presenter position and seats for the Chairpersons and Clerks such as vote counters and recorders) and the balcony (for visitors and press). WSDG was commissioned to perform three tasks:

- Study and analyze the installed electro-acoustical systems.
- Make multiple recommendations and specifications regarding upgrading or replacing the installed electro-acoustical systems.
- Upon the installation of the chosen system, we were commissioned to perform a system calibration and final measurements of the upgraded or replaced electro-acoustical systems.

WSDG studied various upgrade options by using advanced acoustical computer simulation techniques.



Swiss Parliament – General Assembly - Bern, Switzerland



Peloton Flagship Spinning Center - New York, USA

In developing a NYC flagship site for their live and on-demand, indoor spinning classes, the Peloton brain trust recognized the need for a cutting edge video broadcast studio for their streaming program. The company founders engaged WSDG to create a broadcast quality acoustic and isolation design and an audio/video production studio with professional lighting and systems integration. The resulting Production Control Room and 60-bike Spinning/Streaming Studio are key components of the 8,000 square foot complex. Located in NYC's trendy Chelsea District, the Peloton Spinning Studio also features spa-quality ambience, a refreshment lounge and a sports fashion retail shop.

The Peloton studio introduces a new level of broadcast quality video through the internet. The space is tailored to enhance the image quality of the webcast while maintaining the proper ambience for in-house spinning enthusiasts. The 300 sq. ft. Production Control Room sports a state-of-the-art Newtek Tricaster production switcher, a Telemetrics robotic camera controller connected to 3 Sony PTZ cameras, and a Telemetrics track and PTZ camera which provides high end and ultra steady camera moves and shots. PCR video display is provided by two 55" LCD monitors. The facility audio system is run by a fully-automatable Biamp Nexia console coupled with a Martin Engineering DSP, Genelec monitors and Sennheiser wireless microphones. Production lighting is controlled by LightJockey™ via a Windows-based USB to DMX interface. iPod docks and a Nexo line array complete the equation in the 1500 sq. ft. Spinning Studio for unrivaled audio quality from the beginning to the end of the audio production chain.



Peloton Flagship Spinning Center - New York, USA

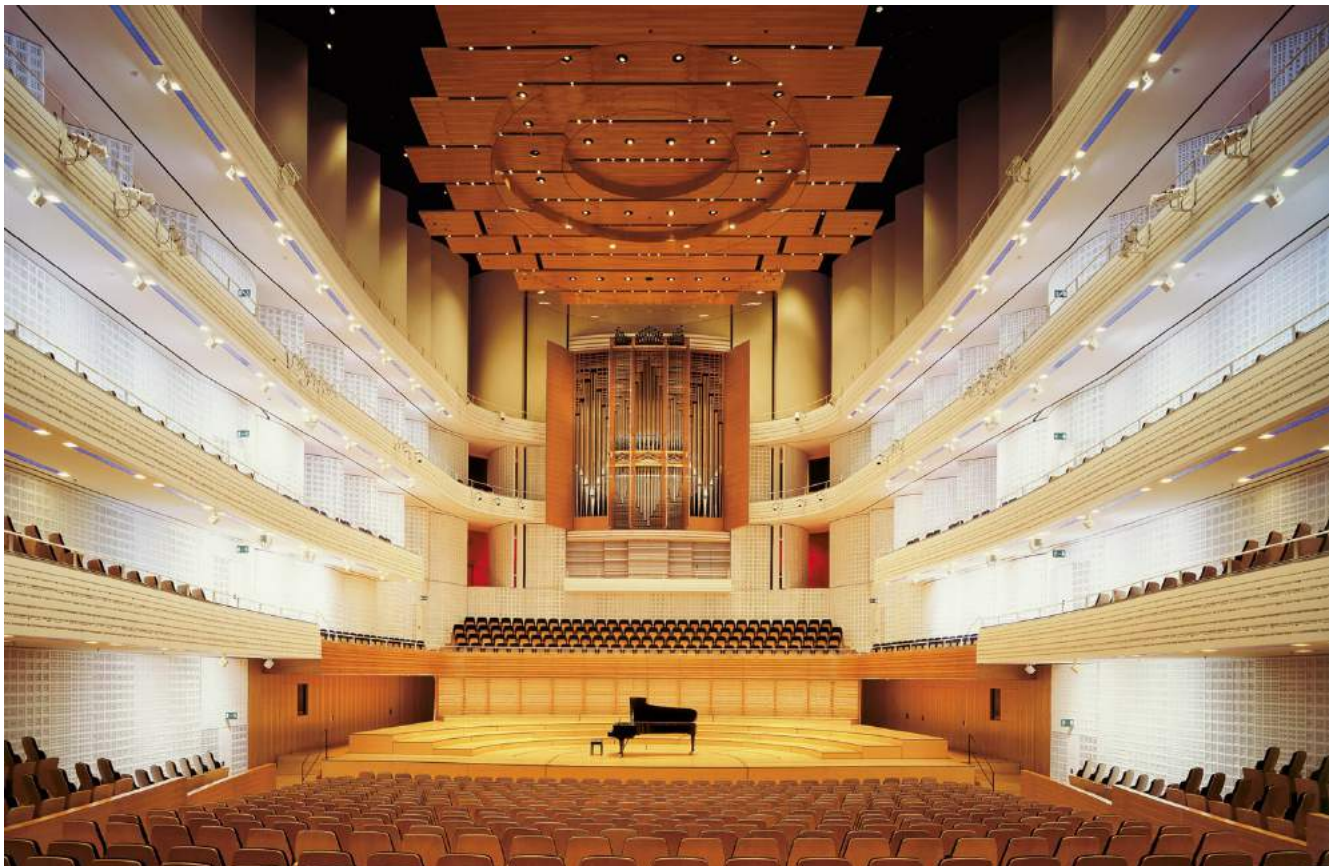


KKL Concert Hall - Luzern, Switzerland

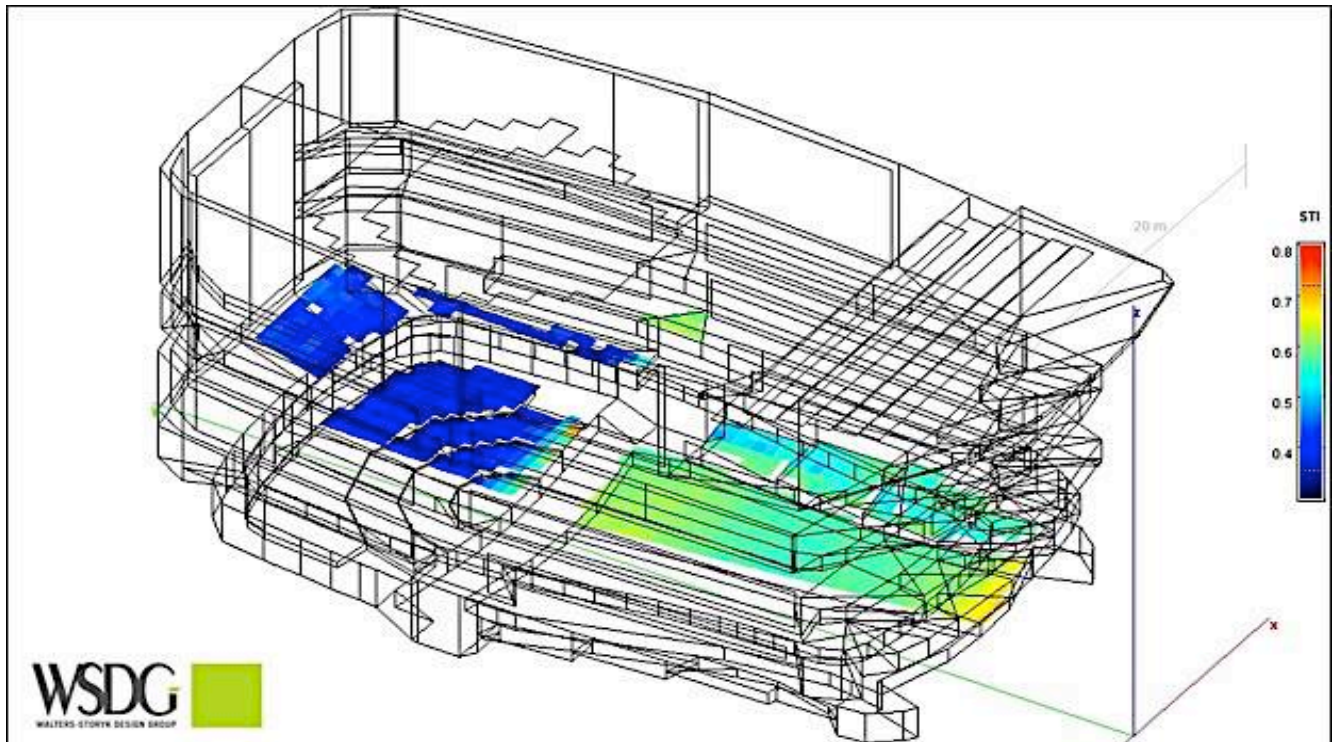
From its opening performance by the Berlin Philharmonic in August 1998, the KKL Luzern Concert Hall was recognized as one of the world's great performance centers. An international landmark, both architecturally and culturally, the complex attracts music fans from around the world to its picturesque lakeside setting. More than a dozen years of constant use – with an impressive yearly booking rate of more than 90% – coupled with significant technological advances prompted the KKL Luzern management group to upgrade its retractable electro acoustical system. WSDG was brought in to accomplish this essential project.

A major issue of this hall is the wide distribution of seats on five vertical levels surrounding three of the four walls, and consequently, the coverage requirements of the electro acoustical sound system. The core of the solution was the realization that the Hall is mainly designed for acoustical sources placed directly on stage. Consequently, the new main loudspeaker system was installed significantly lower and closer to the stage than the original system. The main system is supplemented by elements, which are permanently installed but retractable by motors. The project was divided into three phases: 1) Identification of the requirements, system planning and preparation of specifications; 2) On-site evaluation of a three loudspeaker system candidates; 3) The execution phase of installation planning, supervision and commissioning.

The new sound reinforcement system consists of the Left Right main system with two line arrays of eight d&b V12 units each, suspended above the stage front edge; two additional line arrays for covering each of the balconies with five d&b V12 units; a stage edge in-fill system consisting of two d&b V-Sub and two d&b V12 units each on the right and left and a stage mounted front-fill provided by six d&b E6 units. For events requiring a 360-degree speech reproduction, a retractable center cluster was provided with a front section (consisting of eleven d&b T10 units) and a rear section (consisting of three RCF VSA 2050 digitally controlled column loudspeakers).



KKL Concert Hall - Luzern, Switzerland



STI Speech Transmission Index



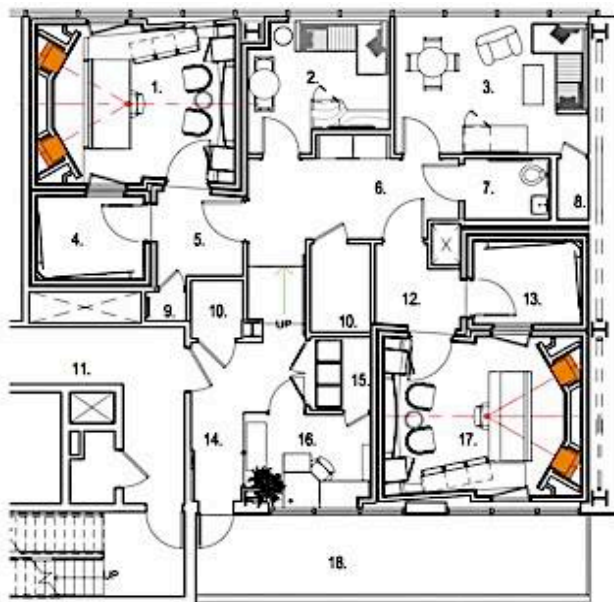
Jungle City Studios - New York, USA

Studio founder/Engineer Ann Mincieli has invested nearly two decades of experience as Alicia Keys' engineer/album coordinator/studio director, and has worked with artists ranging from Coldplay to Usher and Jay-Z. Ms. Mincieli has created Manhattan's first true destination studio.

The challenge of creating the signature 11th floor live studio/control room directly above the two 10th floor production suites in a newly constructed lightweight, concrete building presented complex isolation challenges.

To maximize the impact of the studios' expansive North and South picture windows, WSDG decoupled the custom speakers in an outsized glass speaker baffle. This created a virtual "wall of sound" between the live and control rooms, which provides artists and engineers with the creative advantage of full visual connectivity. Additional isolation details allowed WSDG to install the expansive window wall to expose an impressive view of the Manhattan skyline and the new Highline Park, while maintaining strict isolation requirements for studio use. Test results show an NC rating of 15, which is nearly unparalleled for a studio glass wall application.

"Jungle City is one of the first major projects in our office to take advantage of the Revit 3D modeling program," reports Joshua Morris. "Revit enabled us to maximize the design by analyzing the relationships between the 10th and 11th floors. The program helped us to capitalize on adjacencies, particularly in terms of critical isolation. It also facilitated the elimination of an existing interior staircase which enabled us to capture a critical 120 square foot space which we transformed into a second 10th floor lounge to permit both suites to operate autonomously."

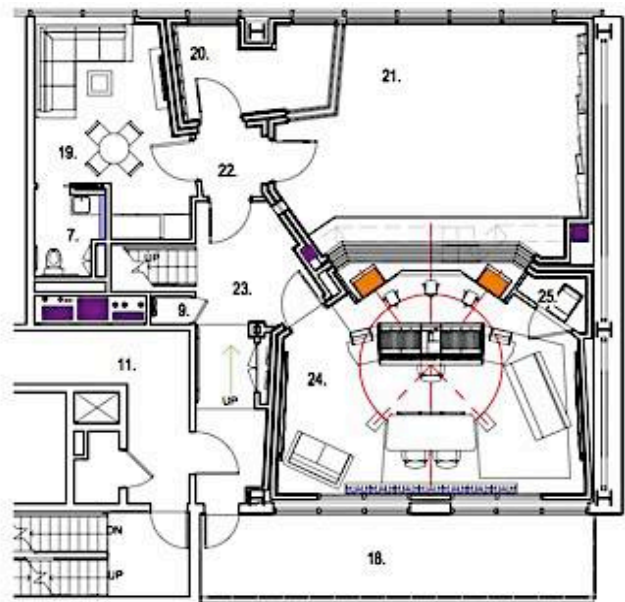


10th FLOOR PLAN

- 1. PRODUCTION NORTH
- 2. LOUNGE B
- 3. LOUNGE A
- 4. ISO NORTH
- 5. SOUND LOCK NORTH
- 6. CORRIDOR/PANTRY
- 7. WC
- 8. STORAGE
- 9. CLOSET
- 10. MECHANICAL



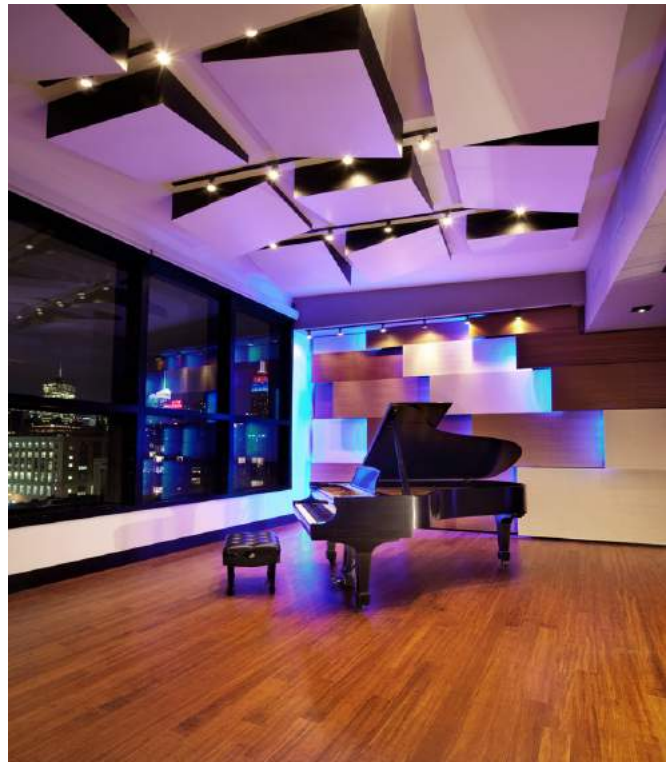
- 11. ELEVATOR LOBBY
- 12. SOUND LOCK SOUTH
- 13. ISO SOUTH
- 14. LOBBY/ENTRY
- 15. CMR
- 16. OFFICE
- 17. PRODUCTION SOUTH
- 18. BALCONY
- 19. LOUNGE C
- 20. ISO BOOTH



11th FLOOR PLAN

- 21. LIVE ROOM
- 22. SOUND LOCK
- 23. CORRIDOR
- 24. CONTROL ROOM
- 25. AMP CLOSET

Jungle City Studios - New York, USA



St. Ursen Cathedral - Solothurn, Switzerland

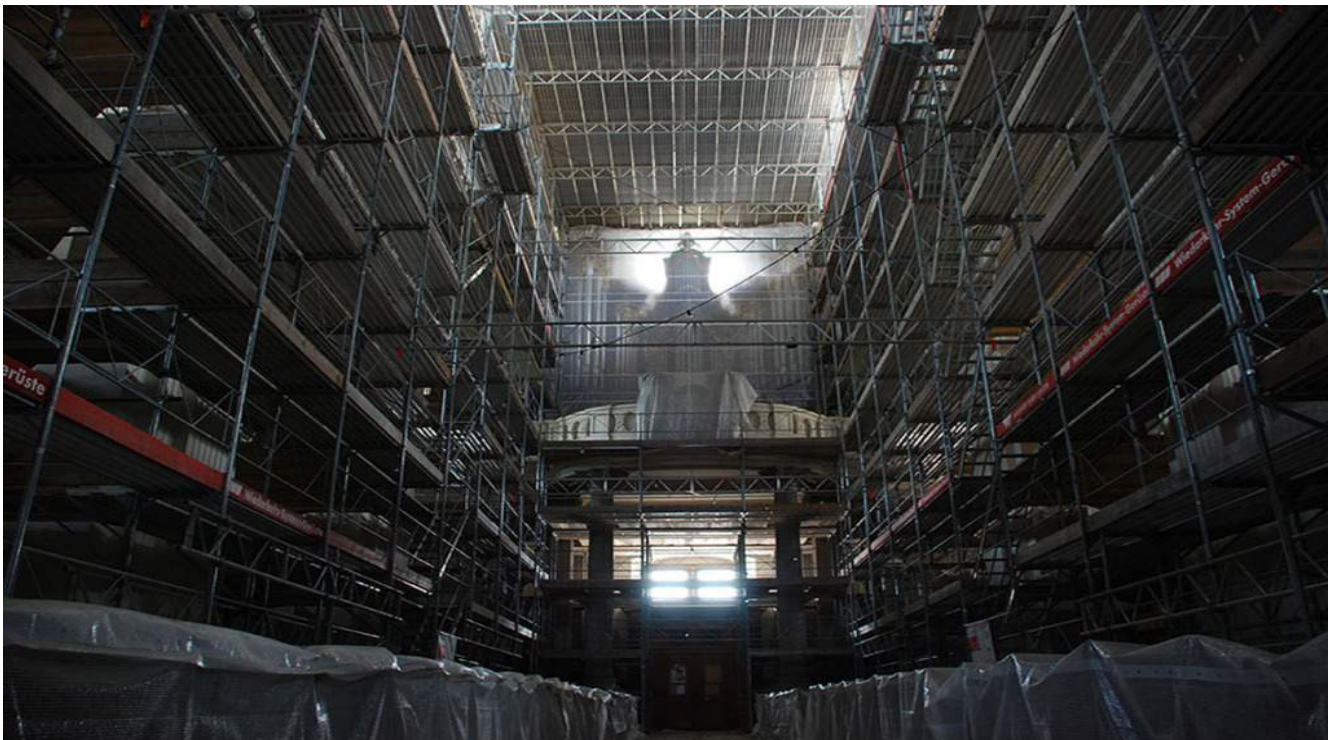
Solothurn is recognized as Switzerland's most significant baroque town. Its major hallmark and tourist attraction is the St. Ursen-Cathedral. In January 2011, a fire set by a mentally disturbed person massively damaged the Cathedral's 60m x 30m/200 x 100 sq. ft. center congregation area and side aisles. A careful assessment determined that a full cleaning and repair of all surfaces could restore the damaged room to its former glory. The restoration was coordinated by Pius Flury and Iwan Affolter of Flury und Rudolf Architekten AG and included all aspects of the building: surfaces, art, lighting, heating, electrical, and electro-acoustics infrastructure. WSDG was engaged to design and supervise installation of the electro-acoustics system.

Early on in the planning process, extensive acoustical measurements were conducted, to both obtain a "status quo" documentation and to serve as a base for the predictive simulation software employed. Although RT60 Reverberation Times exceed 6 seconds at 500Hz (and a reduction would have been helpful to achieve improved speech intelligibility), changing the materialization of the building was not an option. Moreover, new measurements completed following the restoration revealed that the RT60 Reverberation Times were even higher after the accumulated dirt and gray burn residue were removed.

To resolve these issues, a number of CVS Clearvoice Systems Evolutone 3000, Evolutone 2000 and Evolutone 1000 steerable array loudspeakers were specified based on their inherent long-range throw, highly sophisticated steering algorithms and high speech intelligibility characteristics. The loudspeakers are driven by a networked BSS Soundweb DSP backbone, controlled by a Crestron touch panel. Gateways to other building management components (lights, heating, church bells, etc.) were also incorporated to facilitate total building control from a centralized panel. WSDG engineered a number of custom solutions including auxiliary in and outputs for broadcast trucks, exterior courtyard locations and a time-critical audio and video monitoring and communication system for two organ players positioned 1/5 seconds (60 m. / 200 ft.) apart during their duet performances.



St. Ursen Cathedral - Solothurn, Switzerland



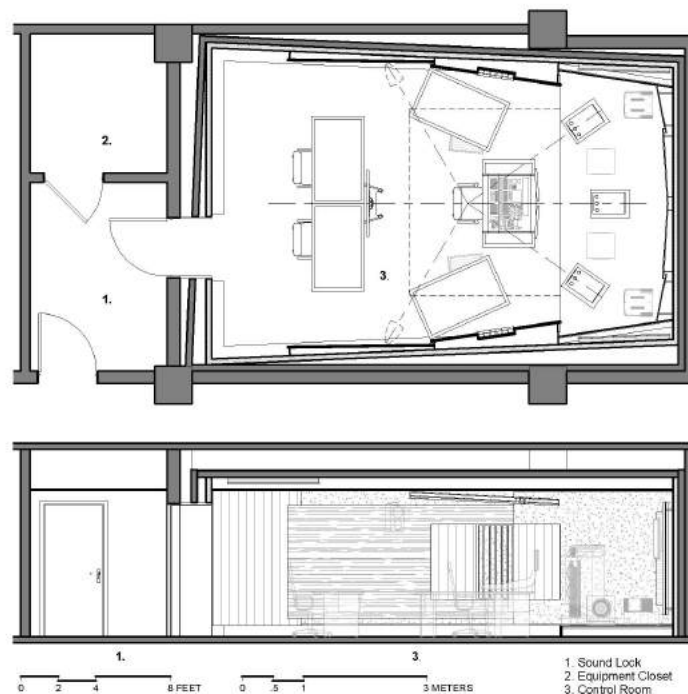
Boston Symphonic Orchestra Control Room - Boston, USA

A cultural icon for 134 years, the Boston Symphony Orchestra is world-renowned for the excellence and diversity of its performances. Broadcast from Symphony Hall, via radio, TV and the Internet, these symphonic and 'Boston Pops' concerts encompass the entire spectrum of classical and contemporary music, from Rachmaninoff to Manilow. After over forty-five years of service in the broadcast and recording of thousands of concerts, the Symphony Hall's Deutsche Grammophon Gesellschaft Control Room had earned a major upgrade. In 2014, BSO Director of Concert Operations Christopher W. Ruigomez, Recording Engineer Nick Squire and Grammy Award-winning, Sr. Engineer/Technical Director for BSO's Tanglewood Festival, Tim Martyn, convened to discuss the CR's overhaul. WSDG Project Manager Matthew Ballos, reports that. "BSO's 400 sq. ft. Control Room had been in constant service since 1970. During our initial site visit, we performed extensive measurements and acoustic tests. We then devised a program to enhance the CR's functionality, and future-proof it to meet 21st Century technology requirements. The BSO team was pleased to learn that their existing Yamaha DM2000 console and 5.2 surround system, with its Bowers and Wilkins 802s mains and 805D surrounds, still offered years of active service. And, they concurred with our recommendation that the CR's acoustic and aesthetic conditions required a substantial update.

WSDG's ground up acoustic treatment solution included splayed perforated wood and slotted wood panels, wood diffusion planks and low frequency absorption units. A handsome new custom ceiling cloud was installed to round out the package. Once the room's acoustics and aesthetics were resolved, WSDG designed four new producer workstations and two up-facing equipment racks, which can be rolled out of the way when not in use. "The space was stripped to the bare walls, and the entire room experience was refreshed and modernized, all while respecting the BSO and Deutsche Grammophon legacy. This room will now offer many more years of service." Ballos says. WSDG received the TEC Award for Best Studio Design.



Boston Symphonic Orchestra Control Room - Boston, USA



Mineirão Stadium - Belo Horizonte, Brazil

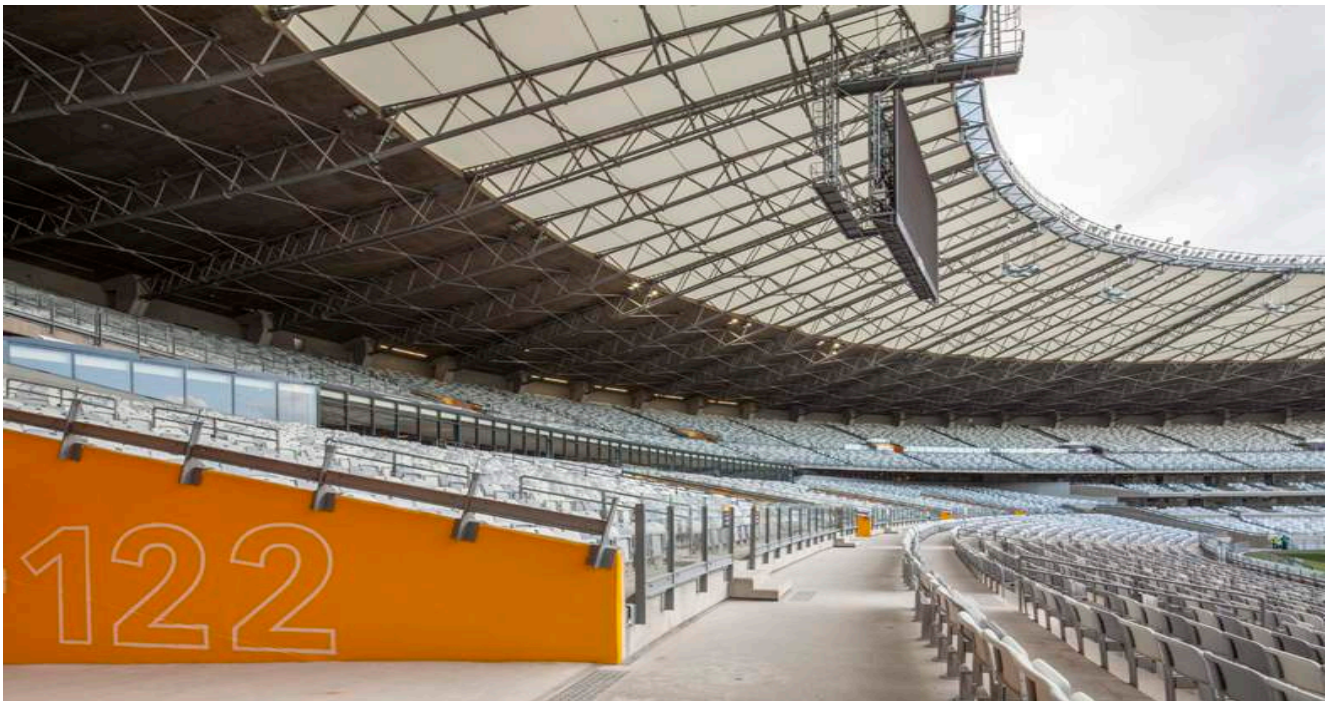
The second largest sports arena in Brazil, the 62,160-seat Mineirão Stadium was originally built in 1965. When Belo Horizonte was named one of 12 cities to host the 2014 World Cup, officials immediately recognized the need for a significant Audio/Video and acoustics upgrade to enable the 45-year-old complex to comply with FIFA technical requirements and 21st Century fan expectations.

WSDG was retained to design the Acoustic Renovations and complete Audio and Video Systems for the entire stadium including all public areas, a total of 300,000 sq m (3,000,000 sq. ft). Mission specifications encompass: inclusive acoustical treatments, a comprehensive sound system, serving the soccer field, audience and, internal spaces such as VIP rooms, access areas, and offices; video systems, including two large LED video walls (85 sq. m. / 915 sq. ft.) each; video displays throughout the stadium; and fully integrated Audio and Video Control Rooms.

Primary facility management concerns focused on the level of sound comfort and intelligibility in relation to the RT60 reverberation time required to meet stipulated FIFA STI mandates. Renato Cipriano, Partner/GM, WSDG/Brazil, explains that, "Our sophisticated simulation programs enabled us to assess and 'auralize' the entire complex. We identified extensive sound reflections throughout the arena and concluded that acoustical absorption needed to be installed at the inner ring of the audience sector to achieve the required STI values. Speaker positioning was defined for the internal and external areas, and for numerous zoning maps, which can now be individually controlled for increased flexibility and security purposes. All specific audio and video systems and control room speaker selections, were designed to meet FIFA requirements. Additionally, we recommended incorporating a Video Wall instead of a traditional scoreboard."



Mineirão Stadium - Belo Horizonte, Brazil



Qatar Television - Doha, Qatar

Qatar Television is a world-class TV production complex created to bring relevant content from Qatar to a global online and TV audience. Broadcast channels include: Tourism, Business, Technology, Lifestyle, and Education. The QTV complex has been designed to produce original content, press conferences, special events and a wide range of broadcast and online programming.

A QTV, Technical Executive described their need for precise acoustical measurements and recommendations for reducing reverberation time on their three primary studio sets. Company Partner/Director of Business Development, Sergio Molho and Project Engineer Marc Viadiu performed several site visits, resulting in acoustic measurement tests and simulation analysis profiles.

QTV has three permanent program sets. The 14,788 sq. ft. / 39.4 ft. high *News Show* and 10,764 sq. ft. / 39.4 ft. high *Evening Show* sets live within the TV Production Complex. The 3230 sq. ft. / 26.2 ft. high *Morning Show* set is situated within "The Pearl," a large commercial mall. WSDG fine-tuned the interior room acoustics, and resolved disparate isolation issues for all three studios. The installation required: 1250 sq m of Melamine foam, (61 cubic meters) and 700 sq. m. of polyurethane foam (21 cubic meters). At the client's request, it is completely undetectable to viewers. The highly effective custom acoustic absorption panels were fabricated to international broadcast industry standards and installed within a hard 60-day deadline to meet the station's rigid scheduling requirements. WSDG also supervised the design, construction and certification of two 9' high, 3.5' wide custom acoustic doors for the Evening Show Studio. Those doors, each weighing a full ton, were installed during the second phase of the project.



Qatar Television - Doha, Qatar

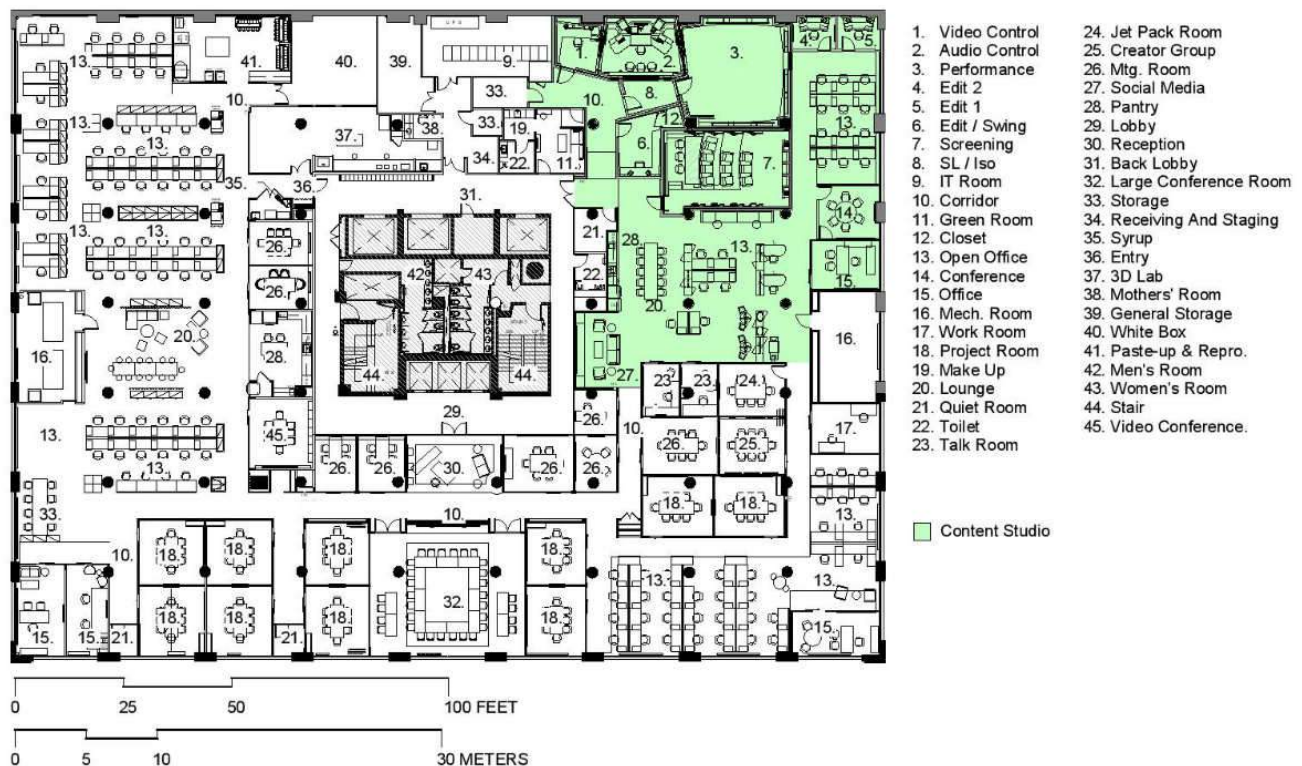


PepsiCo Content Studio - New York, USA

With the goal of initiating and nurturing synergistic relationships with new and established video, music, TV, digital and Internet content creators, PepsiCo commissioned a cutting edge 4,000 sq. ft. production/post-production complex at the hub of NYC's pacesetting SoHo artistic community. WSDG's architectural/ acoustical expertise was engaged to collaborate with Granoff Architects to create a technically flawless, aesthetically invigorating environment for the ambitious venture.

Designed to house a team of 6 – 10 technicians and engineers, PepsiCo's Content Studio features an 1,150 sq. ft. multiuse recording studio, five editing and production bays, a 575 sq. ft. soundstage, a 515 sq. ft. multi-format screening room, an 1,800 sq. ft. 'loft-like' creative bull pen and a spacious, informal reception/dining area. The concept was to establish a high tech production facility to provide a community of creative thinkers, artists and producers with the technological resources to foster their vision.

A striking, flexible, highly functional environment, the PepsiCo Content Audio Recording Studio is centered on an SSL AWS 948 console, complimented by a pair of soffit-mounted ATC SCM150ASL stereo monitors. Genelec 8250A monitors provide 5.1 – surround playback. A variety of outboard gear and mic preamps offer a wide range of options. Video is captured on the 26' x 25' Soundstage/Performance Area in resolutions up to 4K, and can be routed live throughout the facility in 1080p through SDI tie lines. A broadcast grade production switcher (Newtek Tricaster 460) expedites video feeds for live editing and processing for webcast, or to be stored in the Promax storage array. The switcher offers a full selection of video post-production tools, including live Chroma keying, virtual sets and color correction. Post also boasts a full nonlinear editing station and a digital audio workstation for ADR. Green Screen and LED production lights are managed from the VCR.



PepsiCo Content Studio – New York, USA



The Metroplex at KITEC – Hong Kong, China

Early in 2014 the Metroplex, a luxurious 9 screen multiplex cinema, opened in Hong Kong's iconic Kowloon Bay International Trade & Exhibition Centre. Adjacent to the widely popular Star Hall, scene of many major international concerts, The Metroplex is an investment property of Hopewell Holdings Limited. The complex reflects the Group's vast experience in operating large-scale venues, and it establishes a new level of lavish comfort for filmgoers. Their unique concept was to bridge the gap between film and music by creating cross-over events and festivals that would benefit from the venue's diverse dining, socializing, large and small theaters and intimate screening rooms.

House 1, the Metroplex's largest theater, can accommodate an audience of 430. The five other "public" theaters can seat groups ranging from 151 to 97 guests. Three plush VIP Screening Suites (#'s 7,8, 9) are each designed to host twenty guests. Theaters 1 and 3 as well as all three VIP Suites offer opulent reclining lounge chairs, state of the art lighting, exquisite interior designs and Dolby® Atmos™ + Dolby Surround 7.1 sound. The four other theaters are outfitted with Dolby Surround 7.1. The futuristic lobby and dining areas provide an unsurpassed ambience for elegant gatherings. WSDG provided a comprehensive review of the architectural master plan layouts and a detailed analysis of the acoustic package recommendations provided by a local consultant. Particular attention was addressed to issues of sound isolation and (RT60) internal room acoustics. The client's primary concern was to assure absolute sound isolation between the movie theaters and the large event hall located on the upper floor specifically with regard to NC and STC parameters.



The Metroplex at KITEC – Hong Kong, China

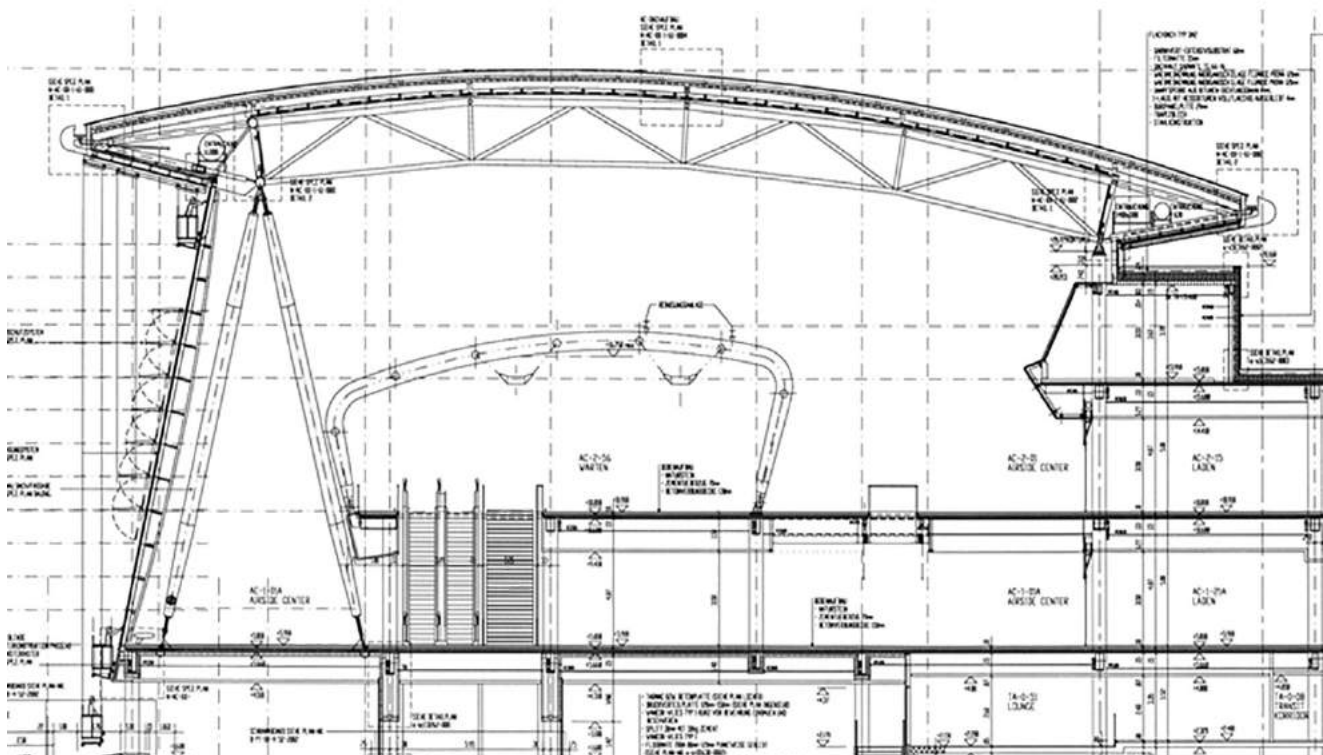


Flughafenkopf – Zurich Airport - Zurich, Switzerland

The Airside Center (A500), located between the existing finger docks A and B, acts as a focal point for travellers at the airport. The project is comprised of the new Airside Center (housing new shops and restaurants), the Underground Skymetro Station which connects the Airside Center to the Dock Midfield, the Arrival Hall just above the Skymetro Station, and various renovations within the A and B terminals. The previously existing buildings are all connected and the Airside Center, with its prominent shape, reflects the new identity of the airport.

WSDG was awarded the full electro-acoustic design of both of these new facilities by the responsible electrical engineering firm, Ernst Basler + Partner AG. WSDG's project scope included creating the electro-acoustic project requirements (e.g. Speech Intelligibility, Sound Pressure Levels, Frequency Responses, Coverage, etc.) in line with the appropriate national and international standards - IEC 60849; electro-acoustic design and optimization with assistance of computer simulations and other means of calculation; specifications and supervision of all driver components to the electro-acoustic system.

The specified system for the large open spaces with high ceilings is based on Duran Audio's Intellivox loudspeakers (a total of 16 units). These line array loudspeakers offer full digital beam steering control and, due to their narrow form factor, can be installed in a nearly invisible manner, meeting the project's architectural requirements. Ancillary specified loudspeakers for support spaces and adjacent areas are highly directional units from Frazier and HK.



Flughafenkpf – Zurich Airport - Zurich, Switzerland



PostFinance Arena - Bern, Switzerland

Originally built in 1967, the PostFinance Arena (formerly known as Esstadion Allmend and Bern Arena), is the home stadium for the local SC Bern hockey team. With seating for 17,131 fans, PostFinance also boasts the world's largest standing room grandstand, a capacity of 10,422 benches. In 2009, the Arena's management group invested \$100 million in an extensive renovation program, to ready it for the HHF World Championships. This substantial upgrade included the installation of a new hockey arena, and the total redesign of the VIP seating area. The venue has subsequently hosted a number of prestigious events, including the Inaugural Victoria Cup.

WSDG was engaged to perform a series of acoustic tests and measurements to facilitate the upgrade of the electro-acoustic system that had been implemented during the last major remodeling in 2009. The system was re-hung (under a new and larger HD video cluster) in the summer of 2013. WSDG was once again retained to engage improved software programs and consult on additional fine tuning of the electro-acoustic system. Extensive predictive acoustic testing produced data which suggested that steeper shooting angles for the loudspeaker system would enable the stadium to optimize the system. The resulting modifications in speaker placement and overall system 'fine tuning' have appreciably improved speech intelligibility throughout the PostFinance Arena. This provides arena patrons with enhanced appreciation of the live game coverage, and also further insures their safety thanks to the upgraded public address system.



PostFinance Arena - Bern, Switzerland



ESPN Digital Center 2 - Bristol, USA

ESPN, the global leader in comprehensive sports coverage, has completed a five-year development and construction project for its new Digital Center 2 studio/media production center. An ambitious addition to ESPN's existing Digital Center 1 campus in Bristol, Connecticut, the 194,000 sq. ft. complex was envisioned as a "format-agnostic/future-proof" creative production facility with unlimited potential for trail-blazing content creation. A comprehensive green and employee comfort-focused environment were primary goals for the new facility.

With six new production control rooms, four audio control rooms and 16 edit suites, ESPN's Digital Center 2 technical capabilities are exemplified by a multi-dimensional monitor wall featuring 56 variably sized individual monitors designed to provide 3D-like graphic images. An arsenal of 40 state-of-the-art cameras is highlighted by a JITA cam capable of swooping up to a height of 22 ft. and following a circular track to deliver a sweeping 360° studio overview. The Center 2 routing system can accommodate as many as 60,000 simultaneous signals over 1,100 miles of fiber optic and 247 miles of copper cable deployed throughout the facility.

All these rooms are dedicated to producing flawless audio and video for programs, interviews, voiceover recording and the full spectrum of broadcast audio for video support. Overall quietness throughout the entire creative plant was an absolute priority. High performance broadcast acoustic specifications and recommendations were developed for all critical services including HVAC, fire protection and electrical systems. ESPN Digital Center 2 represents the apex of broadcast, cable, and Internet streaming production. The complex stands as a major accomplishment in next-generation audio/video production and delivery.



ESPN Digital Center 2 - Bristol, USA

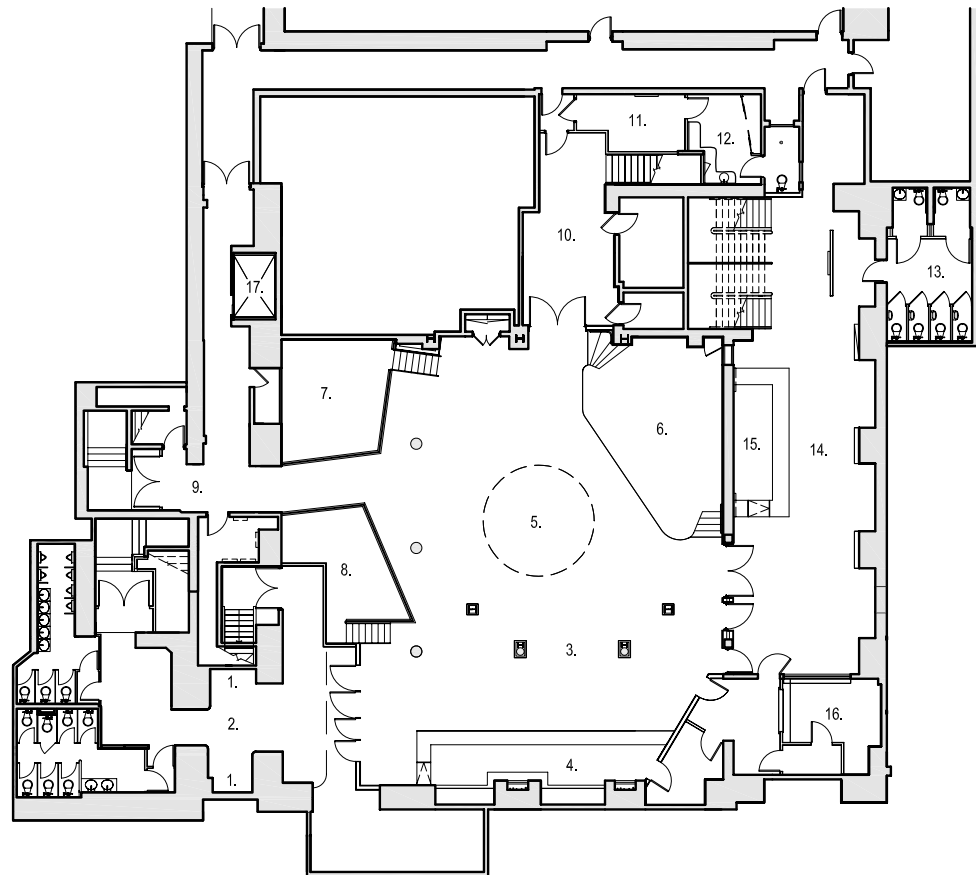


Le Poisson Rouge (LPR) - New York, USA

Le Poisson Rouge (LPR) now occupies the site of the historic Village Gate venue in Greenwich Village in NYC. The club features a flexible and intimate performance space with a capacity of 800 people (250 seated) as well as a 23 ft. diameter hardwood sprung dance floor. The stage itself is located in the corner of the performance space and measures 28 ft. x 21 ft. with options for increasing or decreasing the overall footprint. The 16 ft. diameter trundled round stage can be used in the center of the space as needed, for example to hold LPR's 9 ft. concert grand piano.

In addition to having a fully featured, flexible performance space, LPR also sports two cinema-sized screens, both of which feature surround sound. The lounge directly adjacent to the performance space can hold approximately 130 customers for concurrent events.

LPR was designed with two elevated VIP Opera Boxes as well as two private entrances for high profile guests or performers. The kitchen boasts a full catering capability, a concert bar menu and a daytime lounge menu. The club has featured a wide range of performers including Norah Jones, Mos Def, Paul Simon, Lou Reed, Moby and many others. WSDG provided all architectural, acoustic and A/V design for this project.



BASEMENT LEVEL FLOOR PLAN



- | | | |
|------------------------------|----------------------|------------------------|
| 1. MERCHANDISE AREAS 1 AND 2 | 7. OPERA BOX | 13. BATHROOM VESTIBULE |
| 2. CORRIDOR - 1 | 8. OWNER'S BOX | 14. EXHIBIT SPACE |
| 3. MAIN SPACE | 9. REAR CORRIDOR - 2 | 15. EXHIBIT SPACE BAR |
| 4. MAIN SPACE BAR | 10. VESTIBULE | 16. COAT CHECK |
| 5. PORTABLE STAGE | 11. GREEN ROOM | 17. ELEVATOR |
| 6. FIXED STAGE | 12. DRESSING ROOM | |

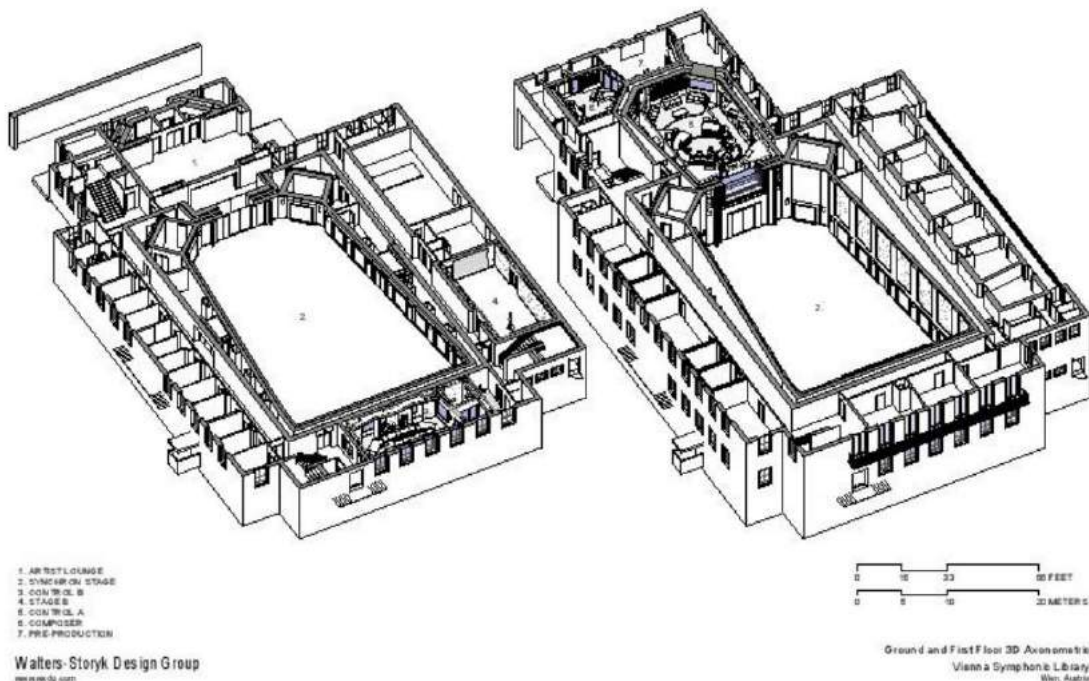
Le Poisson Rouge (LPR) - New York, USA



VSL Synchron Stage - Vienna, Austria

A leading developer of orchestral sample libraries and music production software, the VSL Synchron Stage enlisted WSDG to upgrade its historical (circa 1940) scoring stage into a cutting-edge recording facility. The reconfigured complex now provides enhanced acoustics and cutting edge technology for recording film music and, the full spectrum of orchestral and choral works. The 2,000 sq. m. / 21,000 sq. ft., VSL complex represents the worlds only scoring stage capable of merging proprietary software innovations with traditional technologies and procedures

The scope of the multi-year assignment required WSDG's wide-ranging facility planning services. Beginning with documentation of the overall state of the property, WSDG performed room and structural acoustical measurements and schematic conceptual planning. The Design Development Planning stage included interior design by company co-founder, Beth Walters. Construction Documentation was completed in collaboration with local architect, Schneider-Schumacher. The scope of work comprised: The VSL Synchron Stage A Control Room and large Recording Hall; VSL Synchron Stage B CR and Live Room; and the Studio C Edit Room, and Preproduction Suite. WSDG also performed the electro-acoustical system calibration for the audio monitoring system. The VSL Synchron State is distinguished by uniquely future-proof technology, making it a superb recording facility for film music and other orchestral and choral works. A large scale Dante Audio Network with input and output interface connection points at all relevant locations, serves as the facility's network backbone.



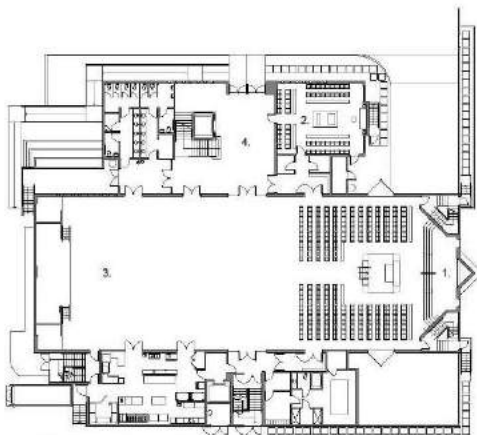
VSL Synchron Stage - Vienna, Austria



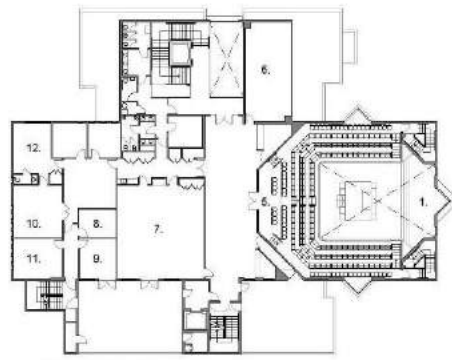
Young Israel Synagogue - Miami, USA

Orthodox Jewish congregations are not permitted to employ electronic sound reinforcement or amplification technology in their temples. Acoustic design therefore, plays a critical role in assuring acceptable levels of speech intelligibility for their services. This issue was a paramount concern when Miami's Young Israel Temple began planning their new Shul. To compensate for the lack of amplifiers, microphones, speakers, and other electro-acoustical support, Miami-based architect Shapiro Associates retained WSDG to develop a 'traditional' program based on physical design and site appropriate acoustic treatments to establish an environment that would clearly project prayers, song and announcements from the bema.

Engaged at the project's pre-construction stage, WSDG addressed the acoustic challenges at the design stage with proprietary 3D modeling programs. These sophisticated tools produced a series of precisely detailed interior space simulations. Guided by these "auditory maps", WSDG acousticians developed a comprehensive construction plan to eliminate potential sound reflection issues and enhance speech intelligibility by implementing effective interior design elements. Precise geometrical calculations determined the optimal configuration of walls, ceiling height and related 'fixed' construction elements. Potential reflective sound issues were resolved with the aid of recently developed "invisible" construction elements such as striking, micro-perforated wooden diffusers, and highly effective absorptive plaster. But, traditional treatments were engaged as well. Used in temple construction for centuries, porous Jerusalem Stone continues to serve as a beautiful and effective acoustically sound resource.

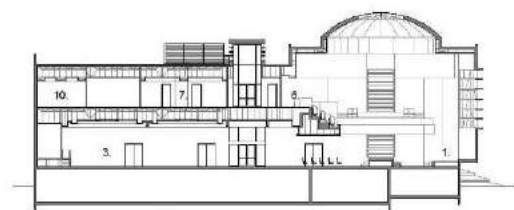


GROUND FLOOR PLAN

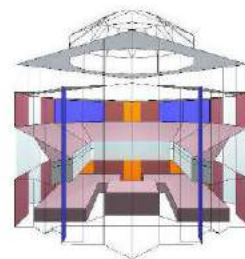


SECOND FLOOR PLAN

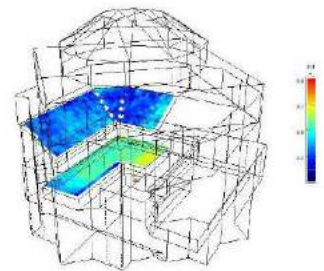
- 1. SANCTUARY
 - 2. DAILY CHAPEL
 - 3. SOCIAL HALL
 - 4. COMMUNICATING SPACE
 - 5. BALCONY
 - 6. BOARD / LIBRARY
 - 7. CHILDREN'S ROOM
 - 8. CLASSROOM 1
 - 9. CLASSROOM 2
 - 10. CLASSROOM 3
 - 11. CLASSROOM 4
 - 12. RABBI
- 0 5 10 25 50 Feet
0 1 3 6 12 Meters



BUILDING SECTION

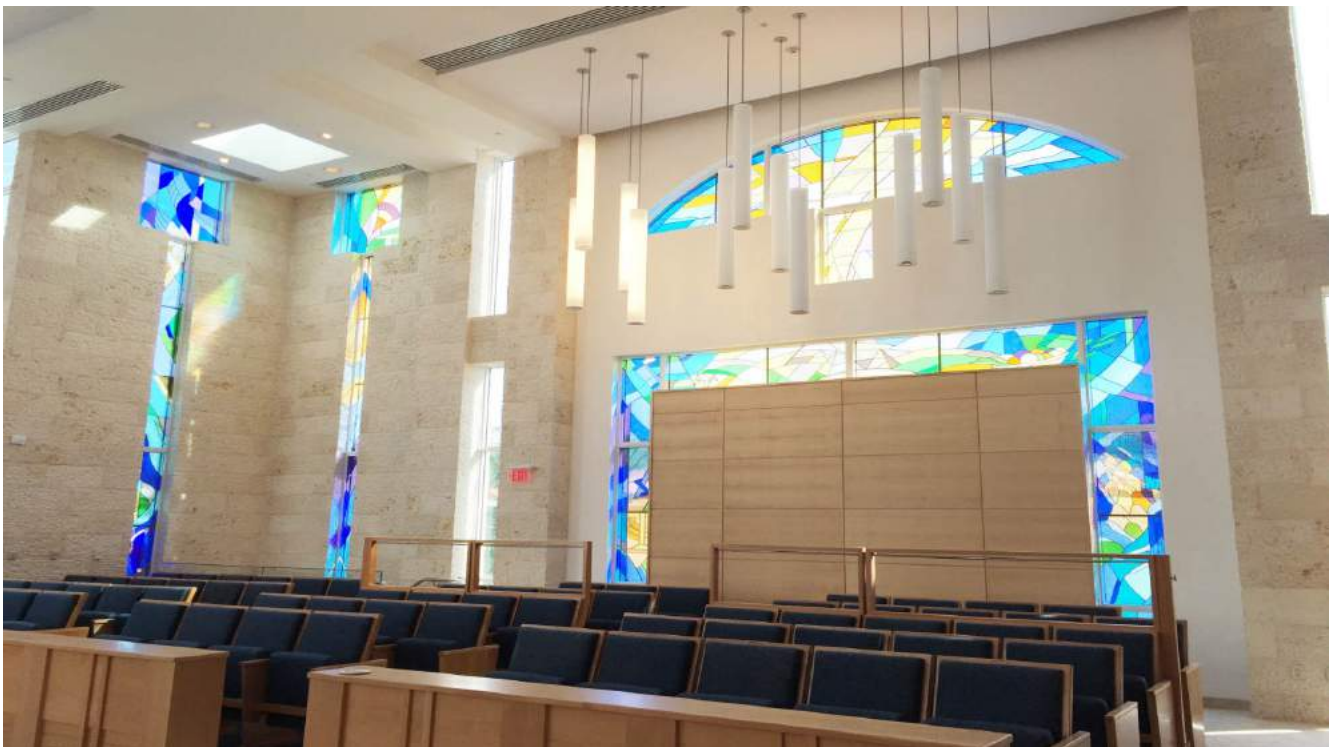


SANCTUARY ACOUSTIC
TREATMENT RECOMMENDATIONS



SANCTUARY STI COVERAGE

Young Israel Synagogue - Miami, USA



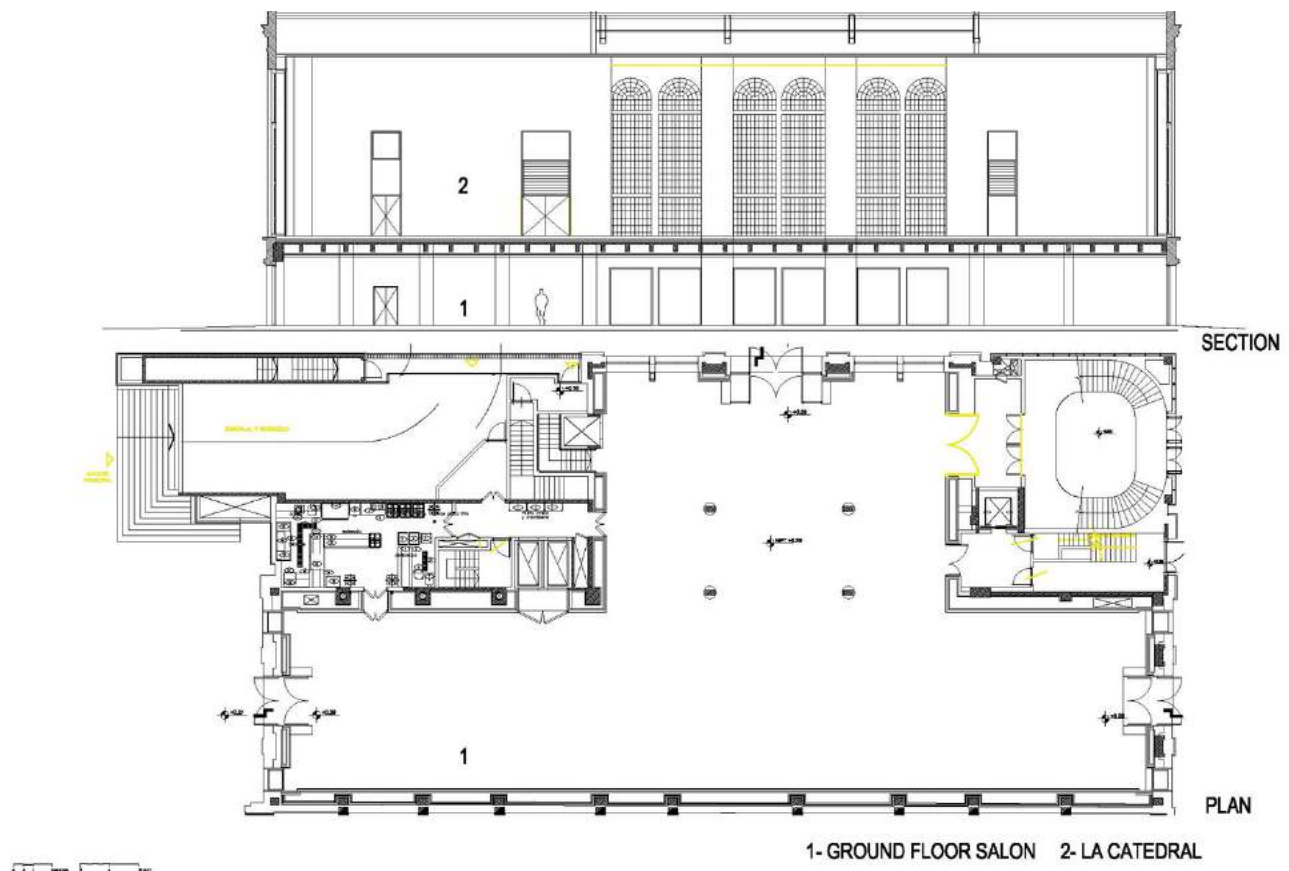
Los Molinos - Faena Arts Center - Buenos Aires, Argentina

The Puerto Madero (old port) in Buenos Aires has for years been an area of rebirth and architectural revitalization. It is home to numerous new restaurants, media businesses, clubs and hotels. As a part of Alan Faena's real estate undertakings in Puerto Madero, the new Faena Arts Center includes the renewal of the historic building of Los Molinos Food Company.

The most serious acoustic challenge was the creation of 100% isolation between the two event halls, each requiring high SPL levels and simultaneous 24/7 operations for trade shows, concerts, weddings, etc. Additionally, there exists the even more difficult issue of the adjacent luxury apartments located directly on top of these two halls. Alan Faena's directive was simple "no matter what's going on at the Halls, we need ZERO impact on the apartments".

With that directive in place, WSDG proposed and designed a fully decoupled and isolated "box in box" solution, similar to recording studio technology, except with the added challenge of scale and architectural complexity.

As the space is to be used primarily as Art Exhibition and Performance Venue, the curator requested an internal acoustic treatment solution that would allow a high degree of clean smooth wall surfacing. The final solution called for the majority of the room's acoustic absorption to be obtained from a stretched fabric ceiling with over 20 inches of concealed acoustic baffling. This was inserted above the room's technical catwalk, continuing the present the appearance of a room with smooth surfaces, while greatly reducing the reverb time – allowing for increased speech intelligibility.



Los Molinos - Faena Arts Center - Buenos Aires, Argentina



New York University - Steinhardt - New York, USA

NYU's Steinhardt School of Culture, Education and Human Development's James L. Dolan Recording/Teaching complex at the Department of Music and Performing Arts Professions is one of the most technically advanced audio teaching facilities in the United States. It was created to provide students with an exemplary learning environment. The \$6.8 million, 7500 sq. ft. compound is devoted to contemporary Music Technology: Theory, Cognition, Informatics, Computer Music, Recording, Production, and Immersive Audio.

Describing their architectural program, Gensler principal and design director Keith Rosen comments, "The view into the Control Room through the Reception Area rear wall immediately establishes Steinhardt as an advanced teaching facility. The challenge was to fit an extremely dense program into a relatively tight space. To maximize the flexibility of the larger multi-functional spaces, such as the conference/performance room and study/pantry areas, we developed various private and shared spaces along a single circulation loop. Glass interior walls and doors provide Students and Faculty with natural light, a great asset in a facility with interior studios. Raised floor construction will ease changes in program and technology. The existing steel trusses slicing through the space were embraced as organizing elements for the Control Room and other critical sound isolation areas. The punched windows provide visitors with views into the recording studios. The design constraints we encountered have been turned into powerful aesthetic and way-finding elements", Rosen concludes.

The complex is distinguished by a 25-seat control/class room which features a fully automated 48-channel SSL console and the first Dangerous Music 10.2 surround installation in NYC. In addition to a live room large enough to accommodate a small orchestra; the floor includes several research laboratories, offices, a conference/seminar room and a large iso / drum booth. Multiple windows and a full line of sight provide natural light throughout.



New York University - Steinhardt - New York, USA



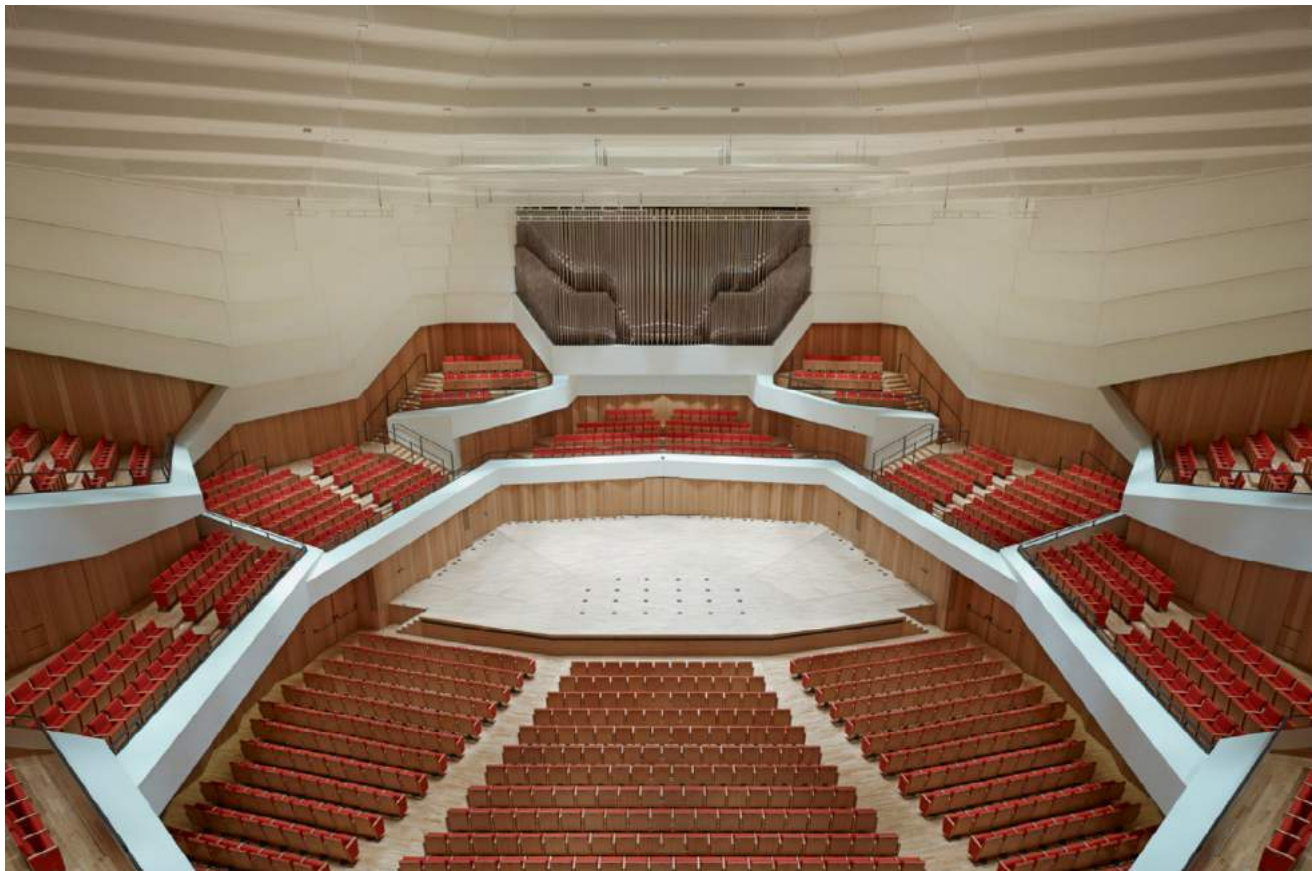
Kulturpalast Dresden - Dresden, Germany

A modernist box is located right in the middle of Dresden's old town: the Kulturpalast with its glass facades and striking roof structure. Centrally located between Altmarkt and Neumarkt, between Frauenkirche and Zwinger, the former GDR building is now once again one of the most important cultural places in the city – after renovation and conversion by gmp architects von Gerkan, Marg and Partners of Berlin. The heart of the building is the new concert hall for the Dresden Philharmonic. In addition, the municipal libraries, the cabaret “Herculeskeule” and a bistro have moved in here, which enliven the house throughout the day and into the evening.

The main venue of the Dresden Philharmonic follows the “vineyard” concept: the podium has moved into the center, the audience approach the orchestra in ascending ranks. Folded ceiling and wall surfaces provide a good sound, wood paneling and red seat covers for a formal atmosphere. The first reviews confirm that the new hall has very good acoustic qualities.

ADA (a WSDG company) was the responsible acoustician for the owner and oversaw the works of design acousticians and theater technology planners Peutz (Dr. Vercammen and Margriet Lautenbach MA) and Daberto & Kollegen Munich.

gmp – Architects von Gerkan, Marg and Partner have transformed the Kulturpalast with its mixture of uses into a place of informal, civic encounter. The external appearance of the now energetically renovated building and the basic spatial organization with the large south foyer were retained. The design of the publicly accessible interiors also remained largely in the original style, but were completely renovated. The appreciation for modernity should be particularly beneficial to the historical complexity of the city.



Kulturpalast Dresden - Dresden, Germany



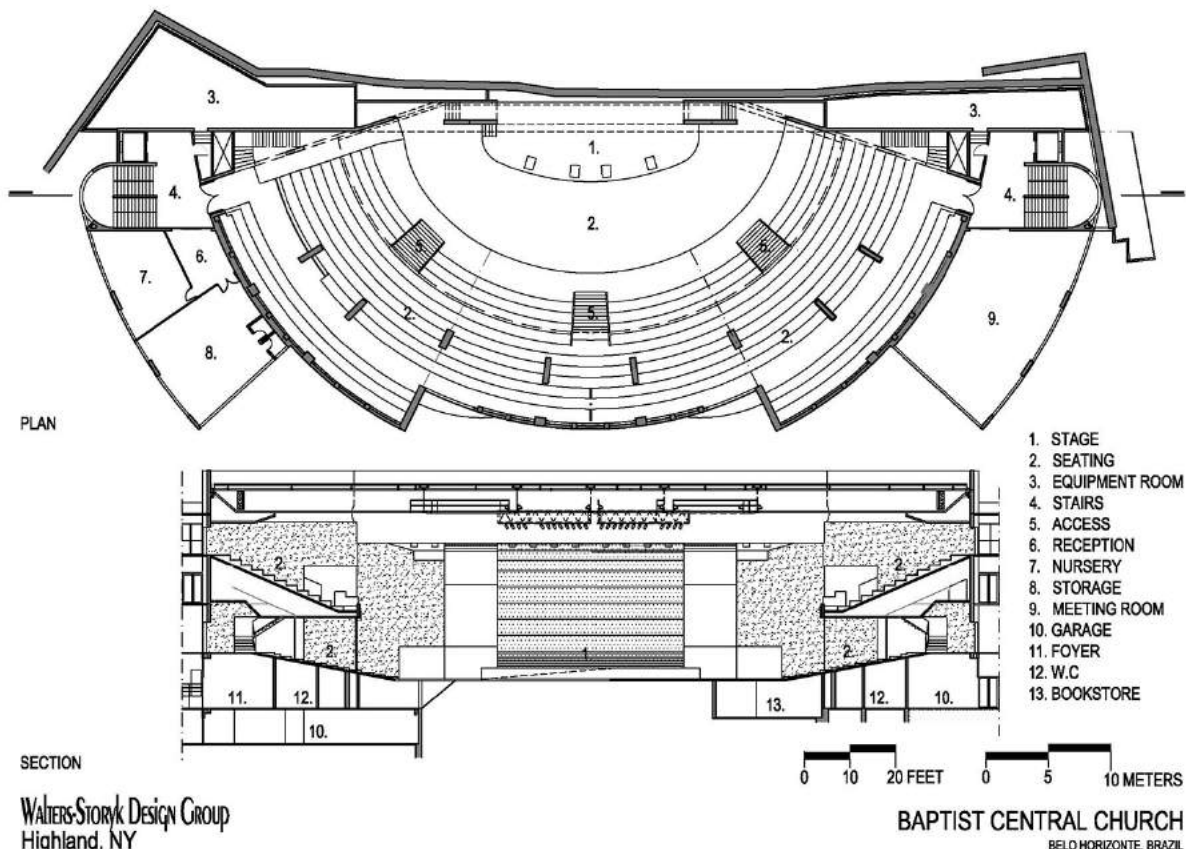
Igreja Batista Central - IBC - Belo Horizonte, Brazil

Igreja Batista Central (IBC) is one of the largest churches in Brazil. The project for the headquarters of IBC in Belo Horizonte was designed to seat 2,500 people in the main room, occupying a total space of 22,900 sq. ft.

Probably the most important issue for this room was to provide near perfect acoustics while at the same time accommodating a wide variety of performances, including worship, concerts, dramas, and outreach events. WSDG was chosen to develop all of the acoustical design and construction of the new facility.

Acoustical measurements were performed to obtain an understanding of the acoustic and intelligibility characteristics of the existing worship space. Reverberation Times of over 5 seconds were present at mid and high frequencies – very unacceptable! The acoustic goal curves for the given room volume call for average reverberation times of around 1.5 to 2.0 seconds for better intelligibility in the room.

In a way to provide a space with accurate acoustic qualities, while at the same time maintaining the interior design concept, WSDG used multiple acoustics treatment solutions. The room received numerous sound baffles suspended above the ceiling structure at the balcony to control the low frequencies. Around the front wall of the balcony was created a white diffuser sloped up to avoid the first reflections on the stage. The entire rear concave wall behind the audience was covered with mid-high frequencies absorption panels and membrane resonators to control low frequencies. The entire stage wall received a broad-band acoustic treatment for low, mid and high frequencies. This treatment was covered with an acoustically transparent fabric for aesthetical reasons and was also used to hide all the lighting and air conditioning elements above the stage. The positions of the suspended speakers were adjusted for best sound coverage and proper frequency response throughout the audience.



Igreja Batista Central - IBC - Belo Horizonte, Brazil



Aura Club Events Hall - Zurich, Switzerland

Built within the historic 21,000 sq. ft. / 2,000 sq. m. former “Alte Boerse” Zurich Stock Exchange Building, AURA encompasses four distinct settings, a 100 seat gourmet restaurant, an intimate bar, a chic, stylish smokers’ lounge and, a 4,800 sq. ft. / 450 sq. m. Events Hall capable of accommodating up to 500 guests. Featuring groundbreaking 360° panoramic video projection and 3D audio systems, the Events Hall is designed to host galas ranging from awards and fashion shows to banquets, weddings and corporate gatherings.

AURA’s uniquely flexible, multi-purpose strategy required the amalgamation of state of the art technology, within a highly sophisticated acoustic environment. The video presentation system engages eight, ceiling-mounted, high-performance projectors. Audio distribution employs a total of 80 loudspeakers, (70 of which are skillfully concealed by acoustically transparent, architectural construction). Deploying such a massive arsenal of cutting edge technology within this urbane, 21st Century atmosphere necessitated an extremely flexible and creative systems integration.

Aura’s vision for 3D audio presentation required full integration with the venue’s video imagery and innovative lighting, to establish a combined central focus for the Events Hall. All three elements were tasked with functioning interactively, to achieve a fully immersive environment capable of completely engaging guests within messaging and/or entertainment programs. WSDG’s Basel, Switzerland office was retained to design and coordinate the massive sound isolation planning and construction project to fully adhere to Zurich’s stringent city center legislations and limits. Various preset programs were developed to enable a myriad of speaker combinations (all together, or in an infinite range of individual or cluster groupings), depending on need, e.g. live performance, 3D surround sound, etc. Additionally, the ‘sweet spot’ can be expanded to encompass the entire room, providing a spatial sound experience for all guests.



Aura Club Events Hall - Zurich, Switzerland



Pangu 7 Star Hotel - Beijing, China

Beijing's Pangu 7 Star Hotel is one of the latest masterpieces by world-renowned architect C.Y. Lee, creator of the iconic Taipei 101 story World Financial Center. The five tower complex features lavish hotel suites and private residences, a world-class office building, deluxe restaurants, conference rooms, and breathtaking views of the 2008 Olympic Park and 680 ha / 1680 acre National Forest Preserve.

The Pangu 7 Star Hotel is distinguished by its 140 elegant suites, including a Palatial, a one of a kind Presidential Suite, and 84 Grand Deluxe, Premium Deluxe and Premium Luxury rooms. Other highlights are its two column-less ballrooms: Pangu (400 guests) and Grand (500 guests), and five meeting rooms. The luxurious hotel also features a host of personal services, including Techno Gym fitness, spa and indoor pool. The 45-story office tower is furnished with a full complement of sophisticated meeting rooms equipped with state-of-the-art audio/video communication technology.

Mindful of the critical need to control sound pollution in this hyper-luxurious environment, the architects engaged WSDG at the earliest design stage to consult on acoustics. Plans and drawings were scrupulously diagnosed, by WSDG's international organization to provide expert counsel on avoiding sound leakage, reverberation, HVAC, elevator, generator, and related noise issues.



Pangu 7 Star Hotel - Beijing, China



Rio 2016 – Barra Olympic Park - Rio de Janeiro, Brazil

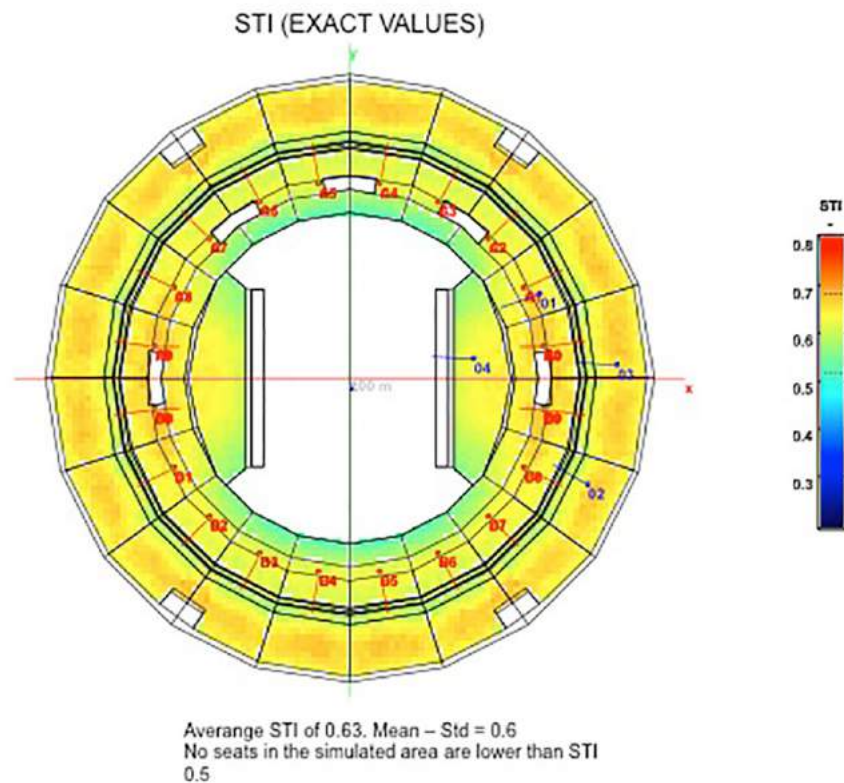
Barra Olympic Park was developed as Rio's primary 2016 Olympic and Paralympic Games competition center. Now it also serves as the city's largest sporting legacy. With an area of 1.18 million sq. m., Olympic Park includes nine sports venues. The Olympic Arena and Maria Lenk Aquatic Centre were built for the Rio 2007 Pan American Games. The seven new stadiums/sports venues are: The Olympic Tennis Centre, Aquatics Stadium and Rio Olympic Velodrome; plus: Olympic Hall 1 (basketball, wheelchair basketball and wheelchair rugby), Olympic Hall 2 (Olympic and Paralympic judo, plus wrestling and bocce), Olympic Hall 3 (taekwondo, fencing, sitting volleyball) and, Olympic Hall 4 (handball and goalball). Work on Olympic Halls 1, 2 and 3, plus the Tennis Centre began earlier.

The developers of this enormous Olympics complex retained WSDG to design the acoustics, sound and video systems for the 3 Tennis Arenas + practice fields (10,000, 5,000 and 3,000 seats); the 18,000 seat Aquatic Arena + Warm Up Pool; and, Audio and Video Systems for the COT Arenas (16,000 seat Basketball, 10,000 seat Judo and 10,000 Wrestling arenas).

All the systems were designed to meet international security standards and, Olympics Committee requirements. WSDG began the process by performing sophisticated electro-acoustic and modeling studies. The findings of these tests and procedures determined multiple solutions for each specific sound system. The primary goal was to insure the highest quality Speech Intelligibility and Sound Pressure levels. WSDG also designed large-scale Video Walls and Score Board screens, as well as Time Clock and Media Displays. Each unit was scaled to provide optimal visibility from every seat in the stands. Every Olympic Park stadium was created with 'future-proofing', for long post-competition service as Brazil's first Olympic Training Centre (OTC) and, South America's premium high performance athletic campus. The campus includes a research lab for nutrition, physiotherapy, sports and clinical medicine.



Rio 2016 – Barra Olympic Park - Rio de Janeiro, Brazil

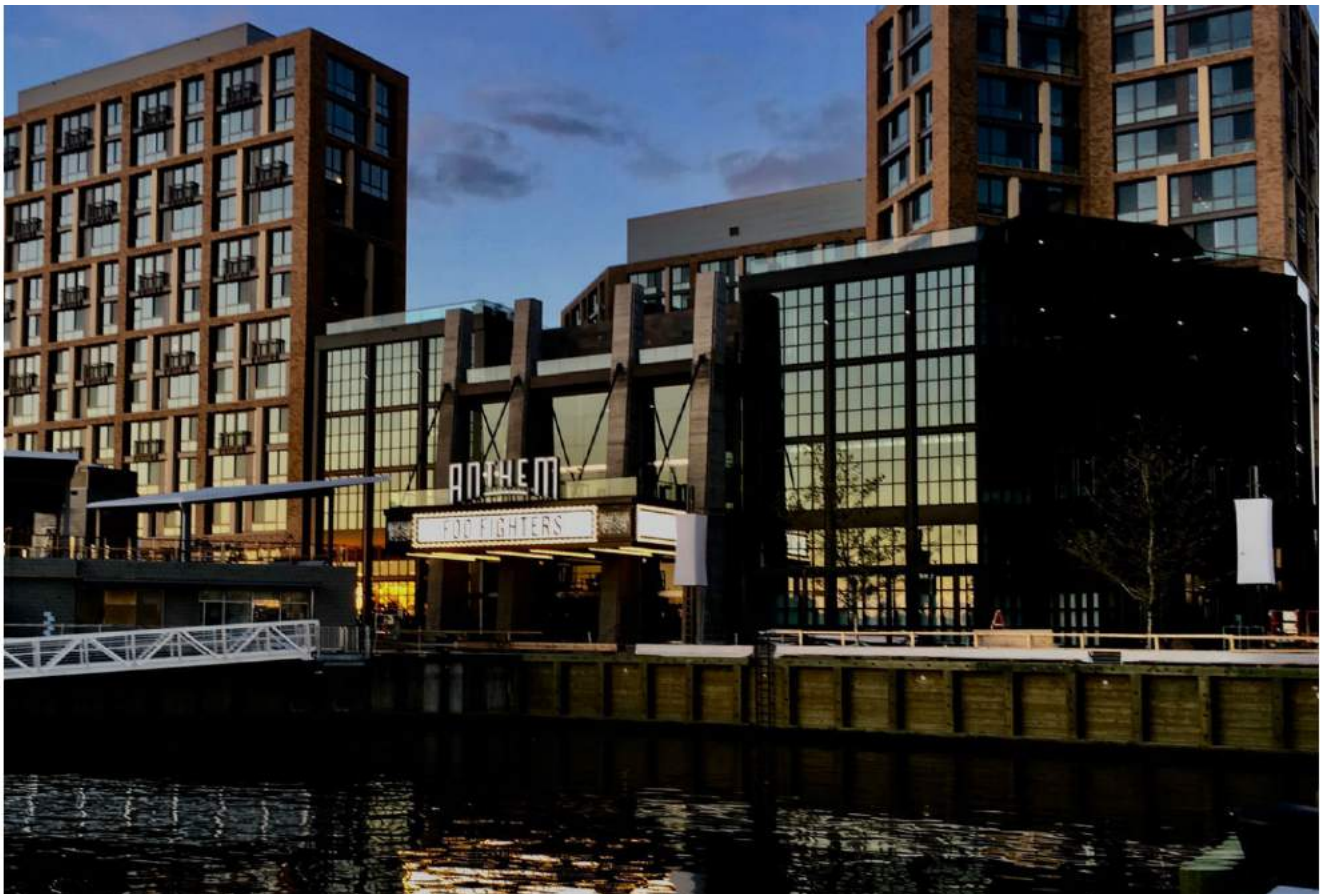


The Anthem - Washington D.C., USA

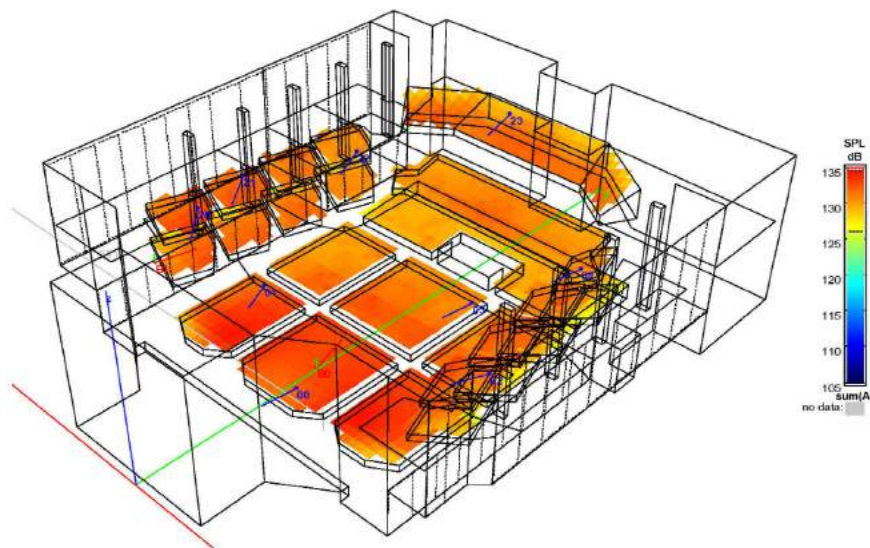
An extraordinary new venue set on the shores of the Potomac, The Anthem, is a game-changing, multi-tiered concert hall created by impresario, Seth Hurwitz. While his iconic D.C. 9:30 Club featured intimate performances by legendary acts like Iggy Pop, Nirvana, and Dolly Parton, The Anthem is scaled to host up to 6,000 fans on its expansive dance floor and two tiers of balcony-seating. A key component of The Wharf, a \$2.5 billion waterfront development, The Anthem will provide an epic setting for extraordinary concert experiences featuring artists ranging from Foo Fighters and The Killers to LCD Soundsystem and Lorde.

To support Hurwitz's commitment to providing fans with flawless acoustics, WSDG's U.S. and Swiss Architectural/Acoustical Design & Media Systems Engineering team employed extensive room modeling programs, and a variety of Acoustical measurements and instrumentation tests beginning in 2014 at the project's earliest design stage. Hurwitz has relied on WSDG acoustic expertise throughout his 35-year career, for both the 9:30 Club and his Frank Gehry-designed, Merriweather Post Pavilion. Experience taught Horowitz that creating an optimal listening environment required designing the acoustics prior to construction. Exhaustive WSDG research was also devoted to insuring Sound isolation to maintain quietude throughout the complex's residential sector.

WSDG recommended the installation of strategically positioned Helmholtz absorbers, and a selection of medium density rear wall broadband absorbers calibrated to enhance a wide range of performance styles. The electroacoustic arsenal employed arrays of flown Left and Right arrays, with the option to use Center and Front Fill speakers and a directional subwoofer array for even low frequency distribution. The Anthem will join a select group of the world's most versatile, and best sounding performance venues.



The Anthem - Washington D.C., USA



Electro Acoustics - L/R Array SPL Distribution

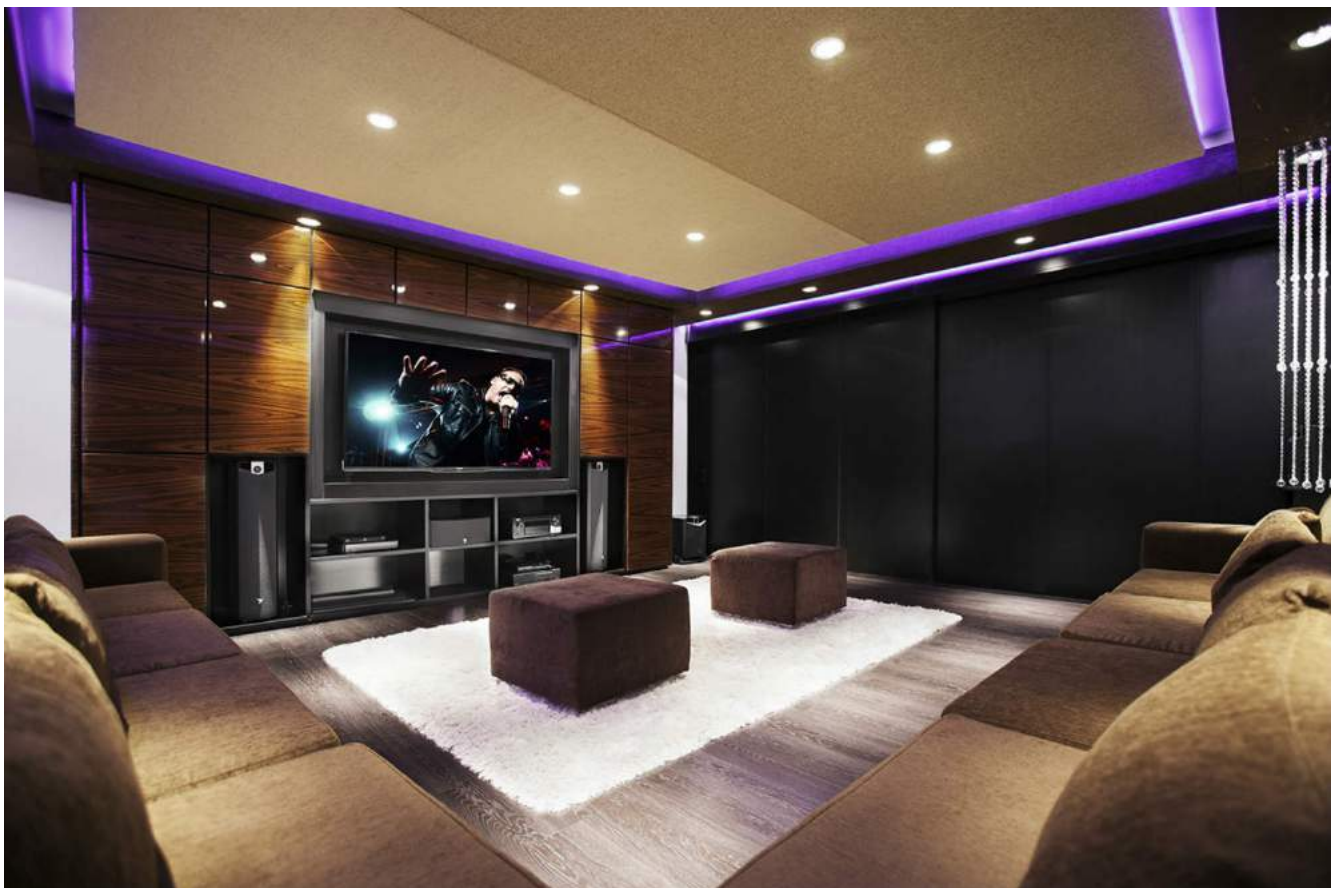
The Anthem
Washington, D.C.

Casa Fontela – Buenos Aires, Argentina

Early on in the process of planning their 3,000 sq. ft. dream home in Buenos Aires' upscale suburb of Cañuelas, the owners commissioned WSDG partners Silvia and Sergio Molho to create the entire high end, acoustically fine-tuned, home theater and lighting design. The project provided interior designer Silvia Molho with a rare opportunity to apply her skills to the creation of a fully cohesive internal program, from fabrics through accessories and finishes.

WSDG computer lighting design systems played critical roles in the creative process. Pristine white walls throughout the residence provide an ideal blank canvas for the system's infinite color mixing options.

A full audio, video and security automation system was integrated into the invisible acoustics and stealth acoustic speaker's system. The space was acoustically designed with the same technology used for professional studios, including a speaker wall based on the THX specifications for Movie Theaters. The acoustical treatments were carefully studied to provide the most adequate frequency and time response for the incredible sound produced by the 7.1 speakers.



Casa Fontela – Buenos Aires, Argentina

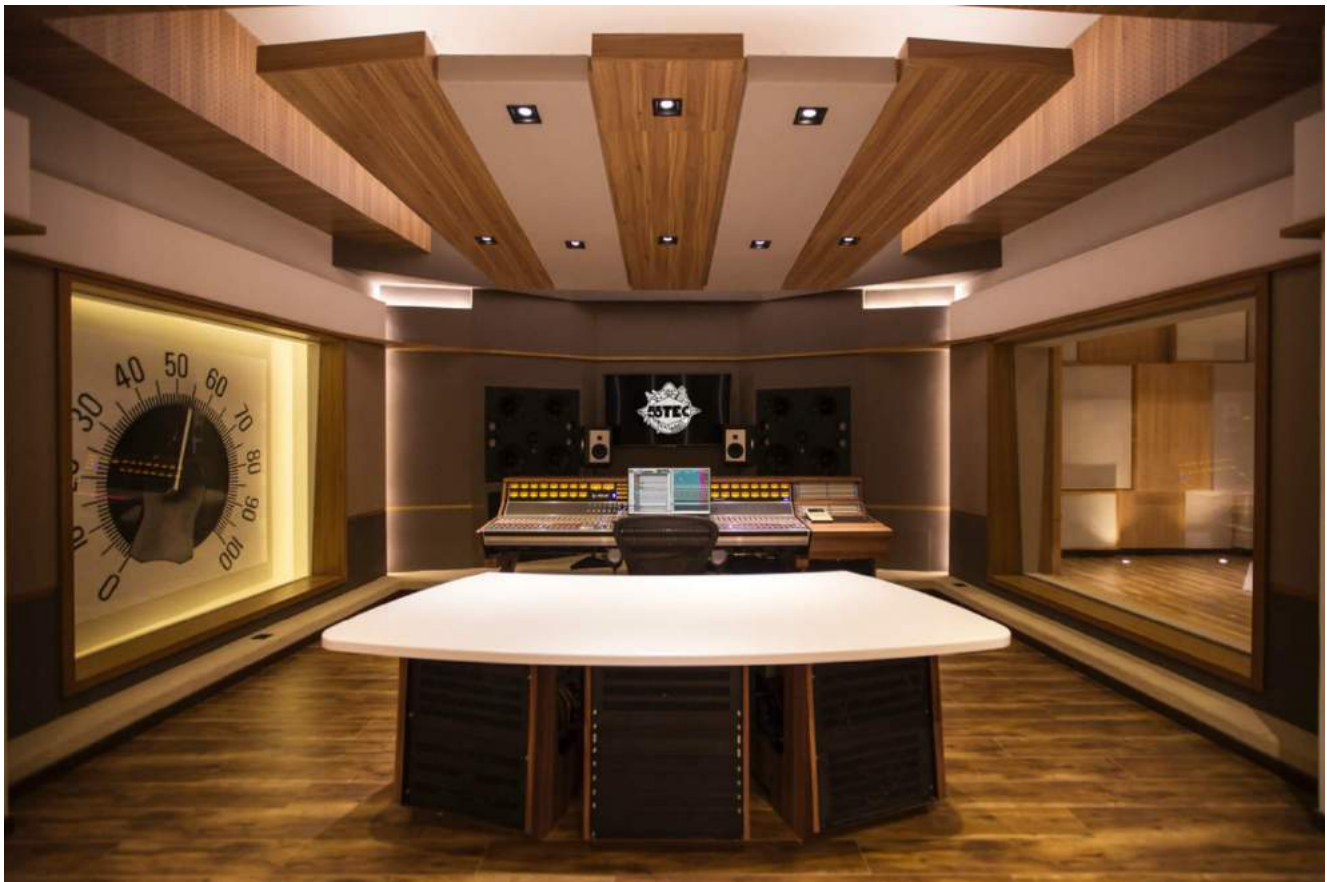


55TEC Studios - Beijing, China

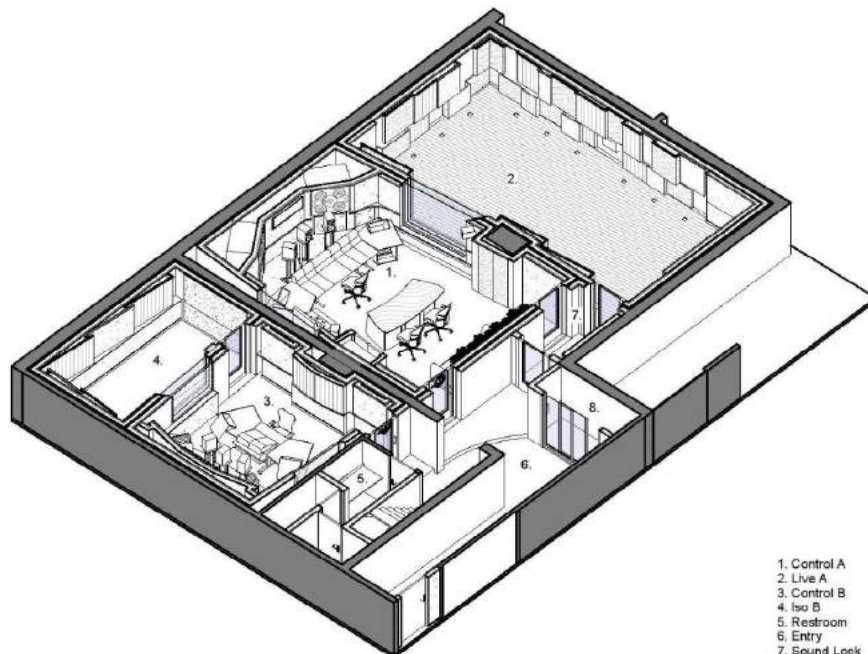
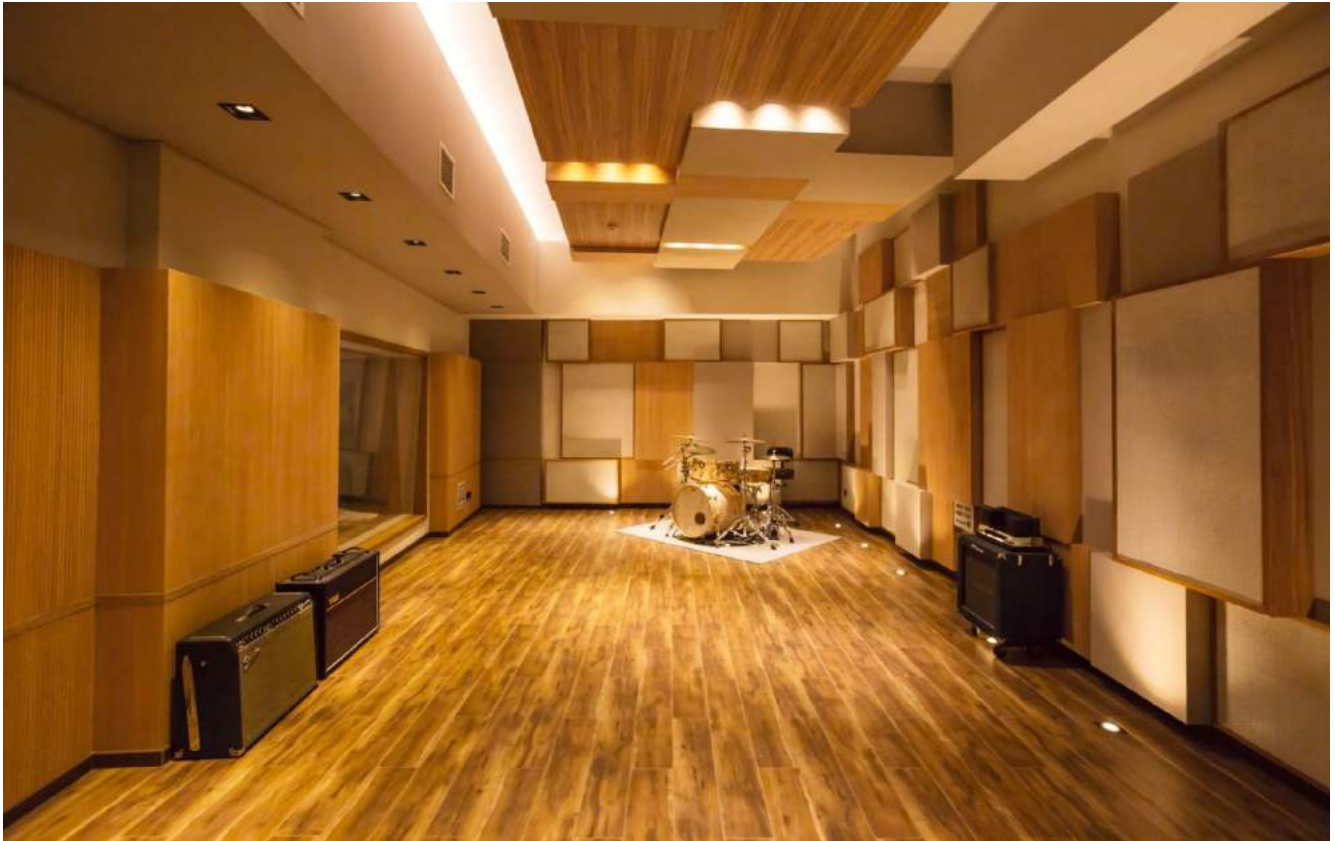
In announcing the completion of 55TEC Recording Studios owner Li You, a Golden Melody Award-winning recording engineer said, "With China now acknowledged as the world's second largest economy, we have seen a tremendous increase in the market for popular music. Over the past ten years a number of major artists have developed huge loyal followings here. China's appreciation of recorded music is enjoying phenomenal growth. This time in our history appears ideal to establish a recording studio and record label to meet this demand." To insure their ability to create the highest quality recordings, 55TEC owners reached out to WSDG.

The 5000 sq. ft. complex features the 930 sq. ft. Studio A's 500 sq. ft. Live Room and spacious 430 sq. ft. control room. Mastering/Post Studio B offers a 230 sq. ft. CR and 150 sq. ft. ISO room.

Handsomely detailed in perforated wood (and slotted metal) wall and ceiling trim, 55TEC personifies the WSDG commitment to 'invisible' acoustics. In contrast to more traditional wall mounted 'variable acoustic treatments' with reflective and absorptive finishes, recently introduced perforated' wood surfaces provide exceptional room tuning options in addition to outstanding aesthetic design options. Vertical LED lighting units accentuate the clean, dramatic lines of CR A's rear wall custom designed Diffuser. The custom-built producers desk at the rear of the CR serves double duty as as a fully loaded, three compartment, outboard gear rack. A 7' w x 6' h soundproof window provides full visual access (and 0 sound leakage) between the Live and the Control Room. Featuring an interior design coordinated by WSDG Partner Silvia Molho, the studio also enjoys a spacious lounge, machine room and related support facilities. 55TEC is an impeccable audio recording facility and a visual showplace.



55TEC Studios - Beijing, China



- 1. Control A
- 2. Live A
- 3. Control B
- 4. Iso B
- 5. Restroom
- 6. Entry
- 7. Sound Lock
- 8. Machine Closet



55 TEC Records
Beijing, China

Sonastério Studios – Belo Horizonte, Brazil

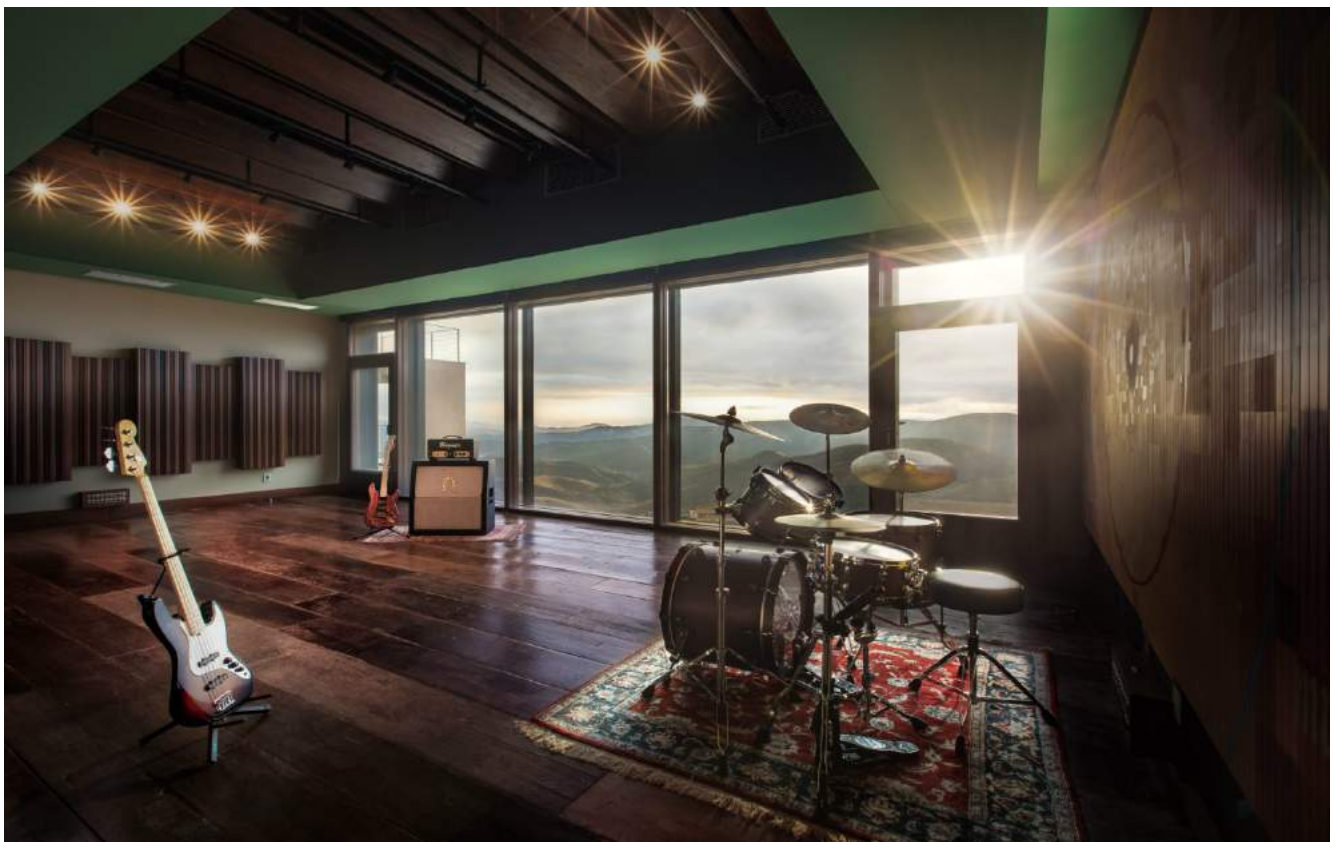
Early in 2015 Bruno Barros a young musician/engineer completing his education at the Musicians Institute in Hollywood, CA. decided to create a destination studio in Belo, Horizonte. His family retained famed Brazilian architect João Diniz to design a luxury home overlooking the Minas Gerais mountain range. Barros knew it was critical for the architect and the acoustician/studio designer to begin their collaboration at the earliest planning phase to insure the studios optimal acoustic environment. Henrique Portugal, keyboard player for top Brazilian band Skank, recommended WSDG partner/director of design (and Latin Grammy Award-winning producer/engineer) Renato Cipriano to Barros, and the wheels were put in motion.

João Diniz developed an elegant concrete and glass 8,000 sq. ft. showcase home with three guest bedrooms, five star amenities, and a 1500 sq. ft. space with a 20' ceiling height dedicated for the studio. Working with WSDG at the initial design stage enabled Diniz to eliminate costly reconstruction by predetermining all acoustic priorities. Technology selections were aided by consultations with SSLRep Max Noach, who proposed the AWS 924 console to combine classic SSL analogue technology with full DAW control, as most appropriate for this facility.

"Sonastério is Brazil's first destination studio" Renato Cipriano states. "Superb acoustics begin with geometry, we worked hand in glove with the architect to ensure that every square foot was precisely calibrated. Studio owner Bruno Barros adds, "Sonastério Studios is a work of art in itself. More than just a studio, it is a house of creation designed to enhance the natural expressiveness of each artist.



Sonastério Studios – Belo Horizonte, Brazil



Gimlet Media - Brooklyn, USA

More than a quarter of the population now listen to podcasts regularly, and that number is only increasing as the now 20-year old format takes hold of a new generation of media consumers. Brooklyn, NY-based Gimlet Media, the award-winning podcast production company behind hit podcasts like Reply All, Homecoming, and Science Vs, is setting a new standard in podcast creation with its new 28,000 square foot production facility based in downtown Brooklyn.

Designed by WSDG, the new facility catapults Gimlet's podcasting operations from a modest studio operation to a commercial-grade, custom-built space which promises to take its content to the next level — from both a quality and efficiency perspective.

The new Brooklyn facility features no less than 12 podcast studios, custom designed for different production needs, with each aligning to a consistent sonic signature. The studios fit together in a honeycomb fashion, maximizing the use of the available space while providing supreme comfort and an abundance of natural light. "Gimlet's needs grew very quickly," says WSDG Project Manager Romina Larregina, who spearheaded the design. "When they started they had 30 people, and now they have over 100. Therefore, they required a space that not only allowed them to keep growing but remain on the cutting edge of what they wanted to accomplish." Each studio is outfitted with top of the line microphones and recording equipment, and all of the sound is routed digitally through a customized Q-SYS Platform, designed specifically for Gimlet's unique needs by Thompson and Matt Gajowniczek of Chicago-based integrator SPL. This provides podcast producers with the ability to work in rooms specifically designed for their needs, taking advantage of state-of-the-art technological advances in soundproofing, digital recording, mixing, and monitoring.



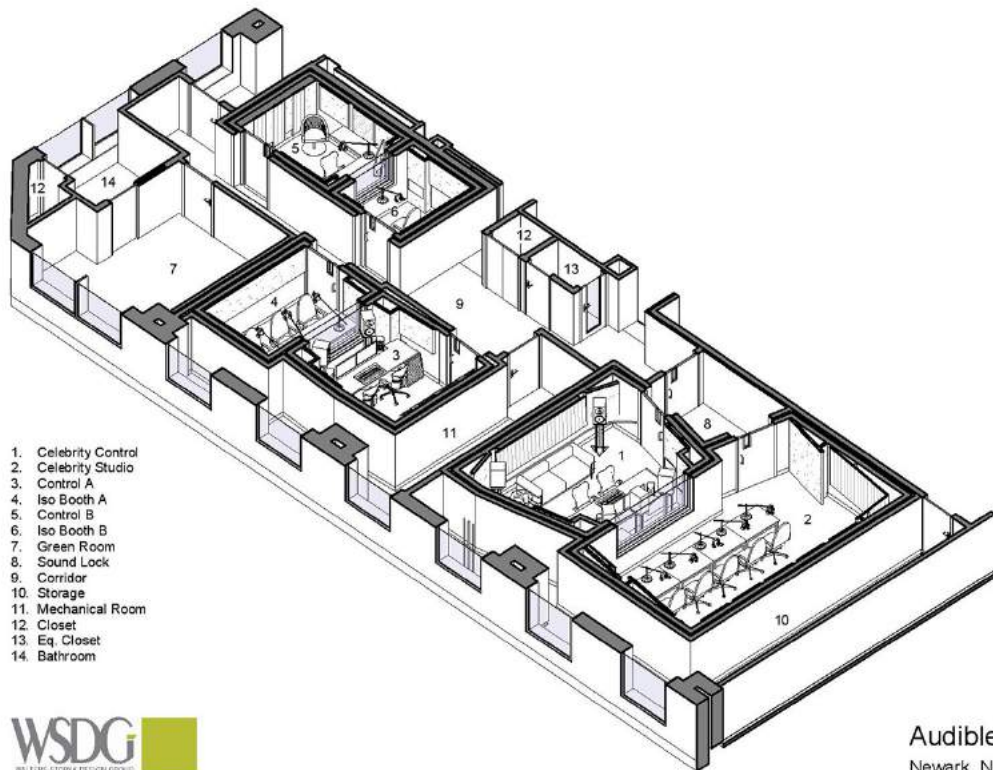
Gimlet Media - Brooklyn, USA



Audible Recording Studios - Newark, USA

With a 21-year track record as the world's largest producer/distributor of downloadable audiobooks and other spoken-word entertainment, Audible has enlarged and totally reconfigured its in-house studio facility. Their expanded commitment to original audio content including multicast productions with sound design, conversational audio series, comedy, motivational speeches, and investigative reporting required them to consider what features and components would provide them with the optimal expanded production capabilities. In addition to an increasing production slate, Audible also casts high profile celebrity readers and performers, and it was important that their new studios' technical and acoustic assets reflect an equally high level of aesthetic integrity. To assure a state-of-the-art complex capable of serving a multiplicity of purposes, and to provide the highest profile readers/performing artists with an exemplary creative environment, WSDG Walters-Storyk Design Group was commissioned to design the complex.

"We first worked with Audible in 2007 when we were retained to design their original studios for reader recording sessions," reports WSDG partner/project manager, Romina Larregina. "We were very pleased to have been awarded this new project in late 2015 when their growing workload required a substantial facility expansion. The Audible team captured a 2,400 sq. ft corner section of the 13th floor of their One Washington Park Headquarters Building in Newark. WSDG was tasked with designing a Multicast Studio and Control Room, two dedicated Iso Booth/CRs, a comfortable 'Green Room', a Mechanical Room and related support space. Collaborating with the Spector Group architectural firm, we designed a program to optimize the space." Larregina said.



Audible Recording Studios - Newark, USA



Professional References

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Representative Client List

26 Sushi & Tapas (Morris J. Kaplan) Surfside, FL
3:3:2 Buenos Aires, Argentina
54 Below New York, NY
55TEC Studios Beijing, China
Adverse Residence Belo Horizonte, Brazil
Alan May Listening Room Home Theater Dallas, TX
Albano Residence Monte Claros, Brazil
Alejandro Lerner Buenos Aires, Argentina
Alicia Keys (Oven Studios) Long Island, NY
Allaire Studios, Woodstock, NY
American University Washington, DC
Anel Paz – Supercharango Buenos Aires, Argentina
Appalachian State University Boone, NC
Art Institutes United States
AR Studios Rio de Janeiro, Brazil
Atlantic Recording New York, NY
Atomica Santiago, Chile
audioEngine New York, NY
Aura Club Events Hall Zurich, Switzerland
Bamyasi Studio Miami, FL
BBC Mundo, Coral Gables, FL
Bearsville Recording Bearsville, NY
Berklee College of Music – 160 Mass Ave Boston, MA
Berklee College of Music - Valencia Valencia, Spain
Big Mo Mobile Recording Kensington, MD
Blue Table Post Brooklyn, NY
Bob Margouleff (Mi Casa Studios) Hollywood, CA
Bob Marley Kingston, Jamaica
Boston Symphony Orchestra Control Room Boston, MA
Bruce Springsteen (Thrill Hill Studios) United States
Camden Yard / Baltimore Orioles Baltimore, MD
Carter Burwell New York, NY
Casa Cor Belo Horizonte, Brazil
Casa Ezeiza Buenos Aires, Argentina
Celine Dion United States
Central Synagogue New York, NY
Church Le Noirmont Le Noirmont, Jura, Switzerland
Citicorp Credit Services Huntington, NY
Clap Studios Medellin, Colombia
Club NEO Zurich, Switzerland

Comunidad de Fe Quito, Ecuador
Credit Suisse Zurich, Switzerland
Crossroads Tabernacle - Studio on the Hill Bronx, NY
Cuyahoga Community College - Center for Innovation in the Arts Cleveland, OH
Daniel Studio São Paulo, Brazil
Damian Marley Miami, FL
Diante do Trono Belo Horizonte, Brazil
Diego Torres Private Studio Buenos Aires, Argentina
Di Tella University Buenos Aires, Argentina
Different Fur Music San Francisco, CA
Dream Asylum – Danja & Marcella Araica Miami, FL
Duke Ellington High School Washington, DC
Eddie Kramer Rhinebeck, NY
EFE-X Bogota, Columbia
El Aleph Building – Norman Foster Buenos Aires, Arg
El Porteño Buenos Aires, Argentina
Electric Lady Studios New York, NY
Electronic Arts Vancouver, Canada
Elektra Entertainment New York, NY
Ellis Marsalis Center for Music (EMCM) – NOLA, LA
EMI – Escola de Marketing Industrial São Paulo, Brazil
Equiscosa Mexico City, Mexico
EUE Screen Gems (Rachel Ray) New York, NY
ESPN Bristol, CT
ESPM Broadcast Teaching Center São Paulo, Brazil
Estudio 13 Mexico City, NY
Ex'Pression College for Digital Arts San Jose, CA
Fito Paez (Circo Beat Studios) Buenos Aires, Argentina
Flughafenkopf – Zurich Airport Zurich, Switzerland
Fenix Club San Rafael, CA
Fontela Residence Buenos Aires, Argentina
Food Network New York, NY
Full Sail Center for the Recording Arts Orlando, FL
Goesgen Nuclear Plant Däniken, Switzerland
Goo Goo Dolls (GCR Audio) Buffalo, USA
Graeme Judd Voiceover Studio Calgary, Canada
Green Day – Jingtletown Recording Oakland, CA
Hard Rock Cafe New York, NY
Harman Flagship Store Listening Room New York, NY

Hilton Garden Inn Montevideo, Uruguay
 Hirslanden Group Zurich, Switzerland
 Hoffman LaRoche Basel, Switzerland
 Howard Schwartz Recording New York, NY
 Huber Music Room Carlsbad, CA
 Hunter College New York, NY
 IMAX Buenos Aires, Argentina
 IDZI Lab Mexico City, Mexico
 Independencia Stadium Belo Horizonte, Brazil
 Interlochen Public Radio Interlochen, MI
 Interim Services Ft. Lauderdale, FL
 Isaac Hayes Westchester, NY
 J Records (Clive Davis) New York, NY
 J.A. Castle Recording Utica, NY
 James Earl Jones Theater - PDS Poughkeepsie, NY
 Jay-Z (Roc the Mic Studios) New York, NY
 Jazz at Lincoln Center New York, NY
 Jim Cramer's Real Money New York, NY
 Jungle City Studios New York, NY
 Kimmel Center Philadelphia, PA
 KKL Concert Hall Luzern, Switzerland
 La Rioja Theater La Rioja, Argentina
 Le Poisson Rouge New York, NY
 Mad Oak Studios Boston, MA
 Maracana Stadium Rio de Janeiro
 Manhattan School of Music New York, NY
 Martin Scorsese Media Center Bronx, NY
 Merriweather Pavilion Columbia, MD
 Mineirao Stadium – FIFA Belo Horizonte, Brazil
 Minnesota Public Radio Minneapolis, MN
 MJ1 Broadcasting / Clear Channel New York, NY
 MonkMusic Studios East Hampton, NY
 Murray Arts Center Marietta, GA
 MTV Latin America Buenos Aires, Argentina
 National Council of Switzerland Bern, Switzerland
 National Museum of the American Indian Washington, DC
 New York University New York, NY
 Northern Lights New York, NY
 Novartis Basel, Switzerland
 NYISO (NY Independent System Operator) Albany, NY
 Peavey Electronics Meridian, MS
 PepsiCo Content Studio New York, NY
 Peloton Flagship Spinning Center New York, NY
 PostFinance Arena Bern, Switzerland

Philippe Moritz Zurich, Switzerland
 Planet Hollywood Screening Room New York, NY
 Proctor and Gamble Buenos Aires, Argentina
 Qatar Television Doha, Qatar
 Record Plant Los Angeles, CA
 Restaurant T Buenos Aires, Argentina
 Richard Gere New York, NY
 Rio 2016 – Barra Olympic Park Rio de Janeiro, Brazil
 Robert Clivilles (Paradise Garage) Westchester, NY
 Salvation Ministries Port Harcourt, Nigeria
 SBK / EMI Records New York, NY
 Skank Belo Horizonte, Brazil
 SONY Corporation Teaneck, NJ
 Spank! Music and Sound Design Chicago, IL
 Stanwich Congregational Church Greenwich, CT
 St. Gallen Train Station St. Gallen, Switzerland
 Stevie Wonder (Wonderland) Los Angeles, CA
 Sumitomo Boardroom New York, NY
 Sunshine Mastering Vienna, Austria
 Swiss Parliament Basel, Switzerland
 Telefé Buenos Aires, Argentina
 Teleproductions, Inc. Washington, DC
 TSR – Télévision Suisse Romande Geneva, Switzerland
 The Carpenters Church Port Harcourt, Nigeria
 The Church Studios – Paul Epworth London, UK
 The Cosmopolitan Las Vegas, Nevada
 The Standard Hotel New York, NY
 Thirteen / WNET New York, NY
 TV Globo Sao Paulo, Brazil
 Union College Schenectady, NY
 University of Colorado – ATLAS Boulder, CO
 University of Michigan Ann Arbor, MI
 Univison Miami, USA
 Universidad ICESI Cali, Colombia
 Vassar Chapel Poughkeepsie, NY
 Video Arts Studios Fargo, ND
 Village Studios Guangzhou, China
 Vocomotion Skokie, IL
 VSL Synchron Stage Vienna, Austria
 Vivace Studios Montevideo, Uruguay
 Whitney Houston United States
 WNYC Radio New York, NY
 Woodrow Wilson Center– Smithsonian Washington, DC
 Young Israel Synagogue Miami, FL

Key Personnel



John Storyk, R.A.

Founder Partner / Director of Design

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John Storyk, registered architect and acoustician, is a founding partner of WSDG. He has provided facility planning, acoustical and systems design services for the professional audio-video production and performance community since the 1969 completion of Jimi Hendrix's Electric Lady Studios in New York City. John received his architectural studies from Princeton and Columbia Universities. As an independent designer, engineer and principal of WSDG, he has been responsible for over 3,000 world-class audio-video production facilities, including studios, radio stations, video suites, entertainment clubs and theaters. He is a member of the American Institute of Architects (AIA), Audio Engineering Society (AES) and Acoustical Society of America (ASA) and is a frequent contributor to AES convention papers and professional industry periodicals. John is a frequent lecturer at schools throughout the nation and has established courses in acoustics at Full Sail (Orlando), Ex'Pression Center for the Media Arts (San Francisco), while maintaining adjunct professor status in Acoustics and Studio Design at Berklee College of Music (Boston) and Stevens Institute (New Jersey).



Beth Walters

Founder Partner / Interiors

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Beth Walters-Storyk is a graduate of the Fashion Institute of Technology (New York) with two degrees, A.A.S. in Textile Design and a B.F.A. in Product Design. Her construction experience comes with having been a senior installation designer for the Gallery's exhibition and installation staff at the Fashion Institute for over 10 years. From 1982-1988, Beth also was the display and merchandising director for such noted home furnishing fabric firms as Boris Kroll Fabrics, Greff Fabrics and Design Tex Fabrics. Beth is a founding partner and principal of Walters-Storyk Design Group and leads the interior design services division.



Prof. Dr. Wolfgang Ahnert

Partner / Director of ADA/AMC, a WSDG Company

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After studying Technical Acoustics at the Technical University of Dresden and passing one year at the Moscow State University (Lomonossov) for a complementary course, Dr. Ahnert wrote his doctoral thesis and attained a Ph.D. In 1990 he founded the Engineering Office ADA – Acoustic Design Ahnert with at first two colleagues at the site of the former governmental Institute. In January 1993 the Office moved to a new location at the Berliner 'Innovations- und Gründerzentrum' (Berlin Innovation and Founders' Center) – BIG – which was established in an abandoned industrial area, formerly used by AEG, in Berlin's Municipal District of Wedding. Dr. Ahnert is a sought-after author, contributor, educator and lecturer at professional conferences and tradeshow and has authored countless white papers on subject matters such as acoustical simulation processes, measurement technology, electro-acoustical theory and applications.



Matthew Ballos

Partner / Director of Architectural Technology

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Mid-Hudson Valley, New York native Matt Ballos earned dual degrees in Architecture and Construction Management. A background in civil engineering and a lifelong love of construction and design has enabled Matt to quickly become a valuable member of WSDG's design and production team, currently as a project designer and manager. Matt's love of design extends from his drawing skills to his personal workshop where he spends his free time building furniture and fabricating functional pieces of art. He believes his experiences at WSDG coupled with having grown up on construction sites provides him with a functional knowledge of what can and can't be built, and enables him to apply his design talents in creating uniquely useful, beautiful and acoustically accurate spaces. WSDG is proud of Matt's continued affiliation with the US Air Force Reserve as an engineering specialist.



Jonathan Bickoff

Project Engineer

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Jonathan earned his B.S. in Music Technology and Business from Mercy College in 2009. He then went on to develop his skills in applied acoustics mixing front of house for live shows, AV for corporate functions, and mixing for commercials, TV, and film. Jonathan brings this real world experience and enthusiasm to the Highland, NY acoustics team. When not arguing about music and headphones, Jonathan is busy playing cello, road cycling, hiking, stand-up paddle boarding and practicing yoga.



Silvia Campos Ulloa Molho

Partner / Art Director

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An audio/video industry professional since 1987, Silvia Molho has developed striking interior designs for an international client base ranging from luxury homes to high-end recording studios and state-of-the-art educational complexes. A graduate of the Bellas Artes University in Lima, Peru and Visual Anthropology in UBA, Buenos Aires. Silvia has served as a producer on several video and film productions and documentaries in Peru, Paraguay and Argentina. Her areas of expertise include graphic design and art direction. As a long-time partner in WSDG, she is a leader (with founding partner Beth Walters) of the firm's global graphic design team. Since joining the firm in 1994 she has represented WSDG in Latin America and served as interior designer and supervisor for countless high-end design projects including world class facilities.



Victor Cañellas (Weike)

Representative

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Acousmatic Sinologist Víctor Cañellas (Weike) has been a successful acoustician/sound researcher in China since 2003. His expertise in developing acoustic interfaces for visual arts in performance venues has contributed to such demanding assignments as the Park19 and LOFT345 clubs in Guangzhou and for the popular 2007 La Fura dels Baus 'Imperium' premiere in Beijing. His expertise in acoustic treatments was enriched by serving as a representative for Jocavi Acoustic Panels and Soundbox Acoustic Tech fixed architectural acoustic systems. Victor studied Social Science at Universitat de Barcelona, Asian Studies at Universitat Autònoma de Barcelona Center of International and Intercultural Studies, and attended Chinese Language Studies in Sun Yat Sen University in Guangzhou. His wide-knowledge of 'Eastern thought and logics' provide a solid foundation for him in his new role as a WSDG representative.



Renato Cipriano

Partner / Director of Design

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Renato Cipriano graduated as a Civil Engineer from the University of FUMEC in Belo Horizonte, Brazil in 1994 and is also a graduate from both The Recording Workshop, Ohio (1992) and Full Sail Center for the Recording Arts, Orlando, USA (1999—also one of John's students). In early 2000, Renato opened the WSDG Brazil office in Belo Horizonte, Brazil and is responsible for the acoustical and architectural supervision on all projects in Brazil. Additionally, Renato has led the design efforts of many of our international projects contributing to creative acoustic interiors and integrated lighting design as well as setup and calibration of audio systems. As an audio engineer, he has worked on various projects including the most recent album of the most popular rock band in Brazil – Skank. Renato also teaches acoustics in the top audio school in the country, IAV in São Paulo. In 2004 Renato received two Grammy nominations and won the Latin Grammy for "Best Brazilian Rock Album".



Michael Chollet

Partner / Director of Systems

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Michael Chollet's first activities in the professional audio field were the development of loudspeaker systems and electronics. After graduation from High School with a focus on engineering he started self education in the fields of acoustical measurements, DSP programming, computer and network technology. He augmented this know-how foundation with advanced training courses in acoustics and environmental noise protection. At WSDG Michael has been in charge of different studio construction projects and large scale Installations, as the Swiss national broadcaster TSR in Geneva. Additional specialties include system integration, DSP programming and research on advanced problem solving. His language skills include German, French and English.



Nancy Flannery

Partner / Chief Financial Officer

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Nancy Flannery has spent nearly thirty years as the consummate client liaison and financial leader of WSDG. A tireless multi-tasker, and summa cum laude graduate from SUNY New Paltz with a business degree, Nancy assists clients in virtually every phase of their projects. From negotiating favorable contracts with suppliers to procuring special materials, or swiftly resolving complex scheduling, production, or billing issues as well as operating as WSDG's Human Resource department head, Nancy Flannery is the definitive advocate/problem solver. With a focus on developing internal procedures and policies to improve productivity and performance, she gets it right the first time and keeps it on track for the entire trip.



Gabriel Hauser

Partner / Director of Acoustics

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Gabriel Hauser graduated with a degree in electrical engineering from the Swiss Federal Institute of Technology, Zurich, in 2000. Analog and digital signal processing and acoustics were his primary focus. His Thesis was titled "Reduction of Nonlinear Distortion of Loudspeakers employing Volterra Filters" (at Studer Professional AG, Switzerland). After joining the WSDG New York office, Gabriel returned to Switzerland to become a founding partner at WSDG Europe. His specialties include Acoustical Simulation and Measurement, complex Acoustical Analysis and Methodology as well as Architectural Acoustics. During his studies Gabriel was a founding member of Abbaxx Soundsystems Ltd., whose principal field of work is sound reinforcement and loudspeaker technology. While with Abbaxx, he designed and developed sound systems for concert use, churches and installations. He writes articles for audio magazines and continues to be a performing musician.



Romina Larregina

Partner / Director of Production

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Romina Larregina graduated from the University of Palermo, Buenos Aires, with a degree in Architecture. Upon graduating, Romina took her skills to an engineering office, while teaching English and helping with the set up of trade shows. She apprenticed at WSDG – Latin for several years before moving to the United States in 1999, to become an integral member and now partner at WSDG (New York). Her multi-lingual skills in English, Spanish and Portuguese have been instrumental in leading numerous international projects. Romina is the Latin liaison, as well as project management and production coordinator for the New York office. She loves to travel and enjoys the day-to-day client interaction.



Alan Machado

Project Manager

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Alan graduated as an Architect and Urban Planner from FUMEC University, Belo Horizonte in 2013. Since then he has worked in many different areas of architecture, going from house and building modeling and executive project to markets and shopping malls. Alan has a deep connection with music, he is a passionate listener and has been playing the electric guitar as a hobby since the early 2000s. Working at WSDG since 2016, he discovered a new way to combine his passion for music and architecture and work with them for a common objective.



Breno Magalhães

Architect / Project Manager

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Breno graduated as an Architect and Urban Planner from Federal University of Minas Gerais (UFMG) in 2010 and as a Product Designer from State University of Minas Gerais (UEMG) in 2006, both in Belo Horizonte. His interest in music and acoustics grew during his university period. Breno enjoys playing the guitar and he turned this hobby into his Product Design final graduation project, by developing an electric guitar with an innovative pickup swapping system for studio applications. The same thing happened in his Architect and Urban Planner graduation project when he designed a new music Arena for Belo Horizonte. At this point he was already a WSDG member. Also as a Product Design student, Breno took part in several research groups related to furniture design focused on manufacture optimization, ergonomics and sustainability. He was a partner in a design office with the same approach. Breno works as a Project Manager and Designer at WSDG Brazil office since 2008.



Robert Margouleff

Project Engineer

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Grammy-winning engineer/producer/studio-owner Robert Margouleff brings 40+ years of hands on experience in his role with WSDG. Beyond his long-time collaboration with Stevie Wonder, capped by a Best Engineered Album Grammy for *Innervisions* (shared with Malcolm Cecil,) Margouleff's producer/ engineer credits include work with Devo, Billy Preston, Depeche Mode, Jeff Beck, The Doobie Brothers, Quincy Jones, and many other stellar artists. After building his Hollywood-based Mi Casa Multimedia Studios, Margouleff became a leader in surround audio for home theater, and provided 5.1 and 7.1 mixing and mastering for DVD and Blu-ray releases and restorations for such films as: *The Sound Of Music*, six *James Bond* features, *Rush Hour* and the complete *Lord Of The Rings* cycle. Margouleff will be involved in all aspects of WSDG's west coast projects. He will consult with new clients on details ranging from site selection to design, construction, technology, acoustic treatments and systems integration.



Aditya Modi

Representative

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Born in a recording studio in a quaint studio apartment in Chennai, Aditya has flair and passion for anything audio. After school, he used to sit in on recordings conducted by his father, Vijay Modi, for artists such as AR Rahman. Graduating Full Sail University with a Recording Arts Degree, Aditya moved to LA as a practicing DJ. India calling, Aditya moved to Mumbai where he assisted Sound Engineering legend Daman Sood as well as Avinash Oak, Jagjit Singh, Abida Parveen and almost every great in the Indian music industry. Aditya formed Modi Digital to offer premium recording studio design and undertake complete audio install projects, pro audio equipment distribution, technical designing, acoustic designing and after sales support to the audio industry.



David Molho

Project Engineer / Webmaster

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David graduated Magna Cum Laude as a Music Production & Engineering major from Berklee College of Music in 2011. Since then he has been working as an engineer, producer and composer for world renowned record labels in his personal studio Groovyland Studios in the city of Miami, as well as doing acoustic measurements and assisting in room tuning sessions all over the world. He has been involved with recording studios all his life, having among many experiences, worked at Electric Lady Studios and being in sessions at Abbey Road Studios. David is part of the acoustic and project engineering team.



Sergio Molho

Partner / Director of Business Development

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Named Partner/Director of Business Development in 2016 for the global WSDG architecture/acoustic design firm, Sergio Molho was a founding partner of WSDG Latin America in 1994. He has provided technical, acoustical and architectural supervision as well as project management for all WSDG Latin projects. He now provides daily and long-term technical, marketing, social media and business management direction for the firm's multiple offices. Sergio Molho has been an audio/video and recording industry professional since 1982. An accomplished keyboard artist and vocalist, in the 1980's he led popular Argentine funk band CASH. His technical credits range from AV and Systems Integration/design to project management. Sergio is a frequent contributor to technical workshops and is committed to expanding the knowledge and education of acoustics and electro-acoustics in their relationship to architecture. Sergio also serves as Director of WSDG International Relations, and contributes to the promotion and acquisition of new business worldwide.



Joshua Morris

Partner / Chief Operational Officer

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Joshua Morris graduated from the University of North Carolina in Charlotte with two Degrees, a Bachelor of Arts in Architecture and a Bachelor of Architecture. A love of music has led him to seek a combination of architecture and acoustics, beginning with his thesis on acoustics. Additionally, Josh has been educated in the Suzuki method for violin since age three, making acoustic design a natural choice for a career path. Joshua joined the WSDG team in January of 2005, moving from North Carolina to New York, and quickly settled into a key role as a project manager, designer, to his current status as a partner and COO. He has managed dozens of projects from China to the United States to Germany, and continues to add more skills to his design vocabulary each day, while refining his already well developed practice as a luthier.



Dirk Noy

Partner / Director of Applied Science and Engineering

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Dirk Noy, M.Sc. Physics, has a Diploma in Experimental Solid State Physics from the University of Basel, Switzerland and graduated from Full Sail Center for the Recording Arts, Orlando, USA, where he was one of John Storyk's students. After joining WSDG in early 1997 Dirk now heads the WSDG Europe office in Basel, Switzerland. Dirk has extensive experience in applied mathematics, acoustical measurement and calculation techniques, audio engineering, systems design and all facets of Information Technologies. His language abilities include German, Dutch, French and English. As a publishing member of the Audio Engineering Society (AES) and the Swiss Acoustical Society (SGA) he is a frequent lecturer at trade conventions, recording colleges, as well as architectural education institutions.



Federico Petrone

Senior Systems Designer

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Federico obtained a Contemporary Music Degree and an Audiovisual Communications Degree in Argentina. He started his career as the music director for Indie Musical Theater groups and the FOH sound engineer for a major theater in Buenos Aires. Federico then went on to get a lead audio position at Disney Cruise Lines, in charge of all audio systems and responsible for the FOH operation in the main theater of one of their cruise ships. In 2007 he joined WSDG in Latin America in his current position as Audiovisual Systems Designer and Chief Installer. He has worked on numerous projects worldwide integrating sound, video, lighting and automation for different applications, from small project studios to large live venues. He also leads the systems install team for all types of audiovisual installations. Federico is an accomplished video game music composer having worked in more than 100 titles for different game platforms.



Bob Skye

Project Engineer

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Bob is a leader in electro/acoustic design, recording studio construction and, a Grammy-winning engineer with Gold and Platinum credits, has joined the Walters-Storyk Design Group. As WSDG's west coast rep and project engineer, Skye will shoulder a host of responsibilities ranging from new client development and overall business management to hands-on project design and construction supervision. He is a member of Audio Engineering Society, American College of Forensic Examiners and American Board of Recorded Evidence.



Andrew Swerdlow

Acoustic Engineer

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Andy earned his B.S. in Physics and developed computer modeling and laboratory measurement/data capture skills from UMBC (Baltimore). His first job was in analytical chemistry for a Maryland based pharmaceutical company. Once he'd had enough "Big Pharma", he switched career paths and moved to NYC to become a double threat musician/audio engineer (drummer and mastering). In addition to enhancing his listening and audio production skills, Andy acquired hands-on construction credentials while helping build a new location for Studio G in Brooklyn. That project rebooted his interest in electro-acoustics, architectural acoustics, and acoustic prediction, measurement and modeling. In 2015, he joined WSDG as an intern, building his way to his current position as an acoustic engineer, applying his modeling and measurement skills, making recommendations for a variety of acoustic projects, and tuning audio systems.



Mariana E. Varon

Project Manager

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Mariana studied architecture at the UBA (Universidad Nacional de Buenos Aires / University of Buenos Aires) and graduated in 1995. Along with her MBA in Architectural Design at FADU (UBA) she continued her architecture studies at Universidad Torcuato Di Tella. From 2004 to 2011 she worked for WSDG Latin, being the project manager of many projects and in charge of the production of the construction documentation. In 2011, she created her own Architectural Firm: Mvaron Arch. & Assoc., working on Steel Framing projects and dry-wall construction. Mariana has been involved as a project manager with several architectural firms, including Clorindo Testa, Roberto Frangella and Justo Solsona Arquitectos. Her work led her to win several awards and mentions during her career.



Marc Viadiu

Project Engineer

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Marc studied Technical Engineering in Sound and Image and Higher Engineering in Electronics at the University Ramon Llull in Barcelona, Spain. After graduation, Marc worked in an industrial acoustics company in Barcelona. Later he started his own company of acoustic engineering and distribution of acoustic and audio products. At the beginning of 2009, Marc undertook a six month internship at the WSDG New York office preparing drawings, taking acoustical measurements and performing room acoustical calculations. Upon returning to Spain in 2010, he started a new company of designing acoustical products and opening the new WSDG office in Spain.



Thomas Wegner

Senior Project Engineer

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Thomas Wenger studied IT and electronics at the Institute for Software Engineering, Bern with additional studies in Audio Recording and Room Acoustics in East Croyden, England. After several years in the IT world with major project management development he worked with J+C Intersonic AG for 5 years and became a Senior Project Manager. Mastering the synthesis of the technical aspects of acoustics, broadcast and audio video systems has made him an invaluable member in all the released projects like GTRK Kultura Moscow, HKB Music University Switzerland, and several government related projects for Swiss Television and Radio. In his responsibility for the technical planning and integration of state-of-the-art recording studios and media locations, his supervision capability insures the coordination of the building process and equipment specifications.



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