



WSDG
WALTERS-STORYK DESIGN GROUP



ARCHITECTURAL
ACOUSTIC
CONSULTING

MEDIA
SYSTEMS
ENGINEERING

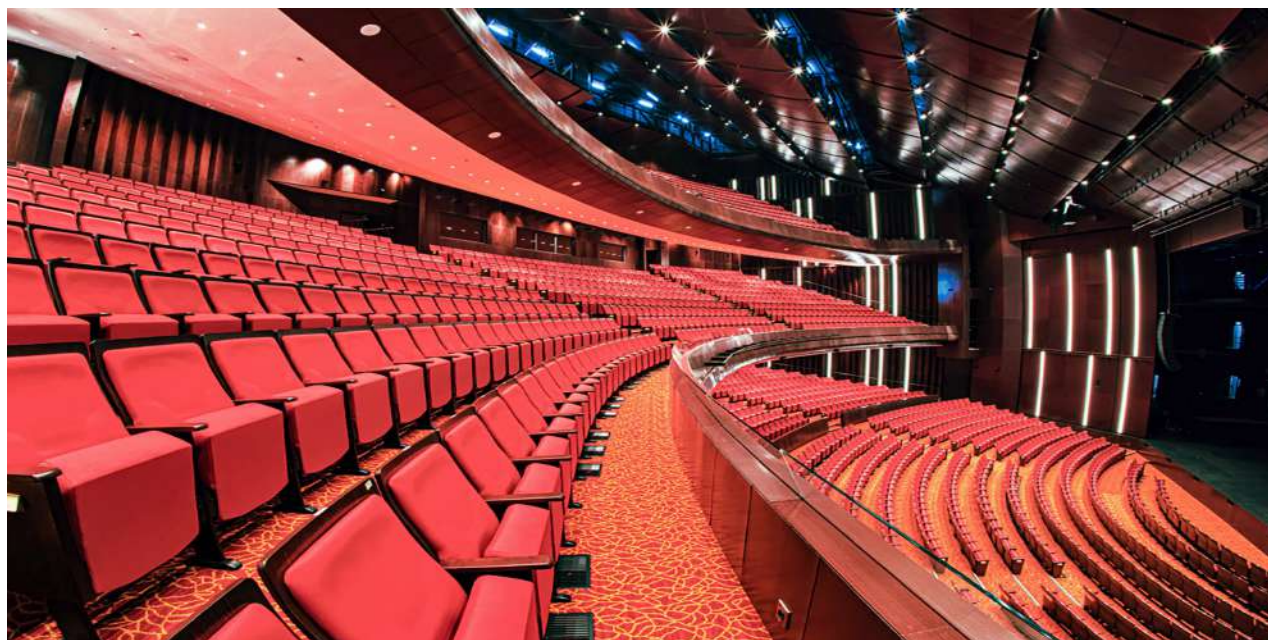
Company Profile Religious

wsdg.com



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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 New York.

WSDG was co-founded by Beth Walters and John Storyk. The firm's headquarters are located in Highland, New York, and it also has offices and representation in Latin America, Europe, Middle East and Asia as well as a global team that includes over 70 partners, associates and design professionals.

WSDG's history of innovative design achievement has produced over 4,000 diverse global projects, including acoustics and systems design for clients such as: Apple, Google, Spotify, Sony, Amazon, NY's Jazz At Lincoln Center, Alicia Keys, Jay-Z, Bob Marley, Bruce Springsteen, Celine Dion, Def-Jam Records, Epic Games, ESPN, KKL (Switzerland), MTV, TV Globo, WNET, UCLA, and Vienna Symphonic Library.

WSDG is a twelve-time winner of the international NAMM TEC Award for studio design creativity. Recent WSDG TEC winners include: Jungle City Studios, NY, the Berklee College of Music – 160 Mass. Ave. recording/teaching complex, Boston, The Church Studios, London, Boston Symphony Orchestra Control Room, Boston, MA, and Spotify at Mateo, Los Angeles. 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
Miami, Florida
San Francisco, California
Los Angeles, California

Latin America:

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

Europe:

Basel, Switzerland
Berlin, Germany (ADA-AMC GmbH)
Barcelona, Spain
Porto, Portugal
Vienna, Austria

Asia:

Beijing, China
Guangzhou City, China
Mumbai, India
St. Petersburg, Russia

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, including some proprietary software that we developed ourselves, 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 through roofs, ceilings, walls, windows, doors, flanking around room partitions, as well as ducting and other penetrations. Sufficient noise containment control ensures space functionality and is often required by local municipal codes or by a project's technical requirements. 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 over 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 ergonomically, 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 highly 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 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 challenging 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.

Peer Review, Experts Reports, Studies and Surveys

WSDG is a trusted partner for Peer Review, Expert Reports, Studies and Surveys within the context of Media Systems Engineering. Peer review is the evaluation of work and studies done 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 to 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.

Broadcast and Recording Studio Systems Design

WSDG brings over 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 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, and can suggest and recommend AV solutions that work within the project design.

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.

Key Personnel



Beth Walters

Founder Partner

beth.walters-storyk@wsdg.com

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.



John Storyk, R.A.

Founder Partner

john.storyk@wsdg.com

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 founding partner of WSDG, he has been responsible for over 3,500 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).



Sergio Molho

Partner / Director of Business Development

sergio.molho@wsdg.com

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 Operating Officer

joshua.morris@wsdg.com

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

dirk.noy@wsdg.com

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.



Silvia Campos Ulloa Molho

Partner / Art Director

silvia.molho@wsdg.com

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.

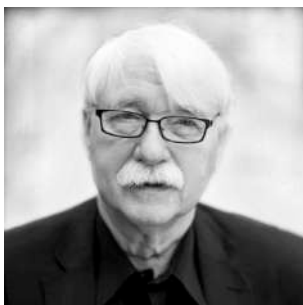


Gabriel Hauser

Partner / Director of Acoustics

gabriel.hauser@wsdg.com

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.



Prof. Dr. Wolfgang Ahnert

Partner / Director of ADA/AMC, a WSDG Company

wahnert@ada-amc.eu

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

matthew.ballos@wsdg.com

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.



Tobias Behrens

Electrical Engineer / Project Engineer

tobias.behrens@wsdg.com

Tobias Behrens graduated in electrical engineering at the Technical University of Berlin in 1994 with a focus on technical acoustics and communications technologies. He then performed post graduate acoustic research on psycho-acoustic topics at ITA/Technical University, Berlin and ISVR / Southampton University, UK. At ADA-AMC (A WSDG Company) Tobias Behrens is working as a Project Engineer on room acoustics, electro acoustics and architectural acoustics, as well as executing and analyzing room acoustical and electro acoustical measurements. He brings with him 20 years of experience in professional planning and consulting on national and international projects. Room acoustic simulation and analysis, laboratory and field measurements, sound absorber technologies and electronic enhancement systems are main components of his recent work. During the last 24 years he coauthored over 15 papers and contributions for DAGA, ASA and ICA.



Jonathan Bickoff

Partner / Project Engineer

jonathan.bickoff@wsdg.com

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.



Will Brown

Partner / Project Manager

will.brown@wsdg.com

Will earned his B.S. in Mechanical Engineering from Columbia University and his B.S. in Applied Physics from Providence College. Once out of school, he spent 6 years in the manufacturing and construction industry designing and building highly specialized shielded door systems for applications in the aerospace, defense, energy, and entertainment industries. Will brings this design knowledge and expertise as well as a love for analog music production to the WSDG Highland NY team in the areas of Project Management and Engineering.



Victor Cañellas (Weike)

Representative

wei.ke@wsdg.com

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.



Michael Chollet

Partner / Director of Systems

michael.chollet@wsdg.com

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.



Judy Elliott-Brown

Senior Systems Designer Engineer

judy.elliott-brown@wsdg.com

Judy Elliott-Brown has been a professional audio engineer since 1977, with a background in live touring, remote recording, music recording, sound for television, studio maintenance and systems design. She has been responsible for the systems infrastructure design and installation of over 100 projects worldwide. Projects she has worked on include world class audio recording studios, media/broadcast production studios, educational facilities and multi-use performance spaces. Judy is a full-time systems design engineer and project manager, and has been responsible for systems design and installation on many WSDG projects for over 25 years. Judy is a member of the Audio Engineering Society (AES) and National Academy of Recording Arts and Sciences (NARAS). Additionally, she has worked on several Grammy nominated albums and was a sound engineer for a Sci-Fi cartoon show.



Enno Finder

Project Engineer

enno.finder@wsdg.com

Enno Finder studied Electrical Engineering at the Technical University Berlin, Germany, with a focus on Acoustics by Michael Möser. Having started 1995 as an intern at ADA Acoustic Design Ahnert, he was asked to join the company as an AV project consultant, starting at designing electro acoustical systems for major train stations, airports, working on large Houses of Worship such as the Berlin Cathedral, Parliament Buildings, up to large venue design (e.g. Berlin O2 World, Olympic Stadium). Enno Finder brings with him a rich musical experience in classical vocal music, having taken up singing as a little boy, he currently is an active member of several Berlin based vocal choirs and ensembles.



Flavio Gallacchi

Project Engineer

flavio.gallacchi@wsdg.com

Flavio Gallacchi received his diploma as an audio engineer from the audio engineering course fpton in Zurich, Switzerland. His main focus lies on performing room-acoustical and electro-acoustical measurements, their analysis and the subsequent process of optimization, which involves room-acoustics software and programming audio DPS. He is also busy working on the technical design and integration of audio and video-systems in WSDG Projects. Before joining WSDG, Flavio has been working as a live mixing engineer and as a technician in a local Hi-Fi retail store where he trained his ears and specialized in calibrating turntables. He has been owner of a drum school where he also was an instructor after graduating from the Los Angeles Music Academy.



Pietro Gennenzi

Project Manager / Project Engineer

pietro.gennenzi@wsdg.com

After studying electrical engineering at the Ecole Centrale d'Electronique in Paris, Pietro moved to the US to pursue his passion for music and graduate from Berklee College of Music with a degree in Contemporary Writing and Production. Being part of several musical projects as a bass player, he spent countless hours in recording studios and concert venues around the world. Inspired by the variety and uniqueness of the spaces and places he experienced, his growing interest for architecture and design led him to WSDG in 2019. Since then he has been involved in acoustic prediction and analysis, measurement and modelling, as well as room tuning and calibration.



Leandro Kirjner

Project Manager

leandro.kirjner@wsdg.com

Leandro Kirjner is a young professional from Argentina, graduated from Buenos Aires University (UBA) with Master of Architecture degree. In 2012 he joined to the WSDG Latin team, since that moment he has been involved in several projects around the world, being the project manager and in charge of the production for the construction documentation and part of the Audio / Video team. As one of the Architectural Team member, he decided to do a Lighting Design grade to improve his knowledge and let him to be in charge of the most of the lighting projects that the Latin Office had. Also, he did a BIM Manager grade to continue performing his skills in order to give an efficiencies approach on each project.



Romina Larregina

Partner / Director of Production

romina.larregina@wsdg.com

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

alan.machado@wsdg.com

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

breno.magalhaes@wsdg.com

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 has worked as a Project Manager and Designer at WSDG Brazil office since 2008.



Robert Margouleff

Project Engineer

robert.margouleff@wsdg.com

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.



David Molho

Project Engineer

david.molho@wsdg.com

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 Groovyland Studios in the city of Miami. After being involved with WSDG for several years, in 2018 he switched his role to become a Project Engineer in the area of acoustics, and a project manager for several projects ranging from recording studios to luxury buildings, performance venues, and corporate. Due to his ability in audio engineering, David is in charge of performing room calibration and commissioning services for projects around the globe.



Adam Paiva

Project Manager, Acoustic Engineer

adam.paiva@wsdg.com

Adam earned his B.S. in Architectural Engineering with a Structural Concentration from Drexel University in 2007. A love of audiophilia combined with a passion for architecture, design, and engineering led him to the field of acoustics. He developed his knowledge in the acoustics and isolation fields over 15 years, working on a variety of projects ranging from large corporate office fit-outs to boutique fitness clubs to concert halls. He also spent several years working on the client side in the design team of an international high-end fitness brand. Adam brings his expertise in architectural acoustics, isolation, and mechanical systems design to all our projects. Adam is a member of both ASA and INCE.



Gustavo Perezlindo

Systems Engineer

gustavo.perezlindo@wsdg.com

Gustavo Perezlindo has ventured from a young age in the development of technical solutions for live shows, applying his capabilities of Electronic Engineering, Architecture and Production, allowing him to face the integral production of shows in a wide spectrum, ranging from theatrical and rigging systems design, production, and technical direction, from the initial concept to the final reality.



Esther Roger

Project Manager

esther.roger@wsdg.com

Esther Roger is a South Florida native which graduated from FIU (Florida International University) with a Master of Architecture degree, and from FAMU (Florida A&M University) with a Bachelor of Science in Architectural Studies. As a young professional her career began with her love for humanitarian work as she began familiarizing herself with construction as an AmeriCorps worker at Habitat of Humanity in the construction division.

Esther joined the WSDG team in May of 2017 and works as a Project Manager and a 3 Dimensional Visual Creator in the Technical Interior Department.



Bob Skye

Project Engineer

bob.skye@wsdg.com

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 representative and project engineer, Skye shoulders 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.



Laura Stillwell

Administration, Financial

laura.stillwell@wsdg.com

A skilled tactical and strategic planner, diplomatic problem solver and meticulous Bookkeeper, Laura Stillwell encapsulates all the prerequisites to meet the multitudinous requirements of WSDG's wide-ranging corporate family. After earning a Bachelor of Fine Arts, Photography Degree from Western Carolina University, Laura began a nine-year residence as Administrative/Executive Assistant for a privately owned regional utility company in Sylva, NC. Moving to Highland in 2017 she assumed Bookkeeper duties at Kimlin Energy Services in 2018. An intriguing Help Wanted ad from neighboring WSDG prompted her to interview and she was quickly hired. Laura easily adapted to WSDG's "Fast paced and frequently fascinating operation and celebrity client base."



Mariana E. Varon

Project Manager

mariana.varon@wsdg.com

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

marc.viadiu@wsdg.com

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.



Nahuel Zaccagnino

Senior Project Engineer

nahuel.zaccagnino@wsdg.com

Nahuel received his degree in Electronic Arts from UNTreF and has worked as a professional audio engineer and musician based out of Buenos Aires ever since. His keen sensibilities for the crossroads of music and technology have made him an in-demand audio integrator, consultant, and tech support professional for many recording studios, broadcast facilities, and live event venues. Nahuel is a systems engineer at WSDG and has utilized his broad experience in these areas to develop the AV System Design department across many challenging projects.

Professional References

Jonathan Rose, President
Rose Companies
New York, NY 10176
(914) 643-5044
jonathanfprose@gmail.com

Rob Jaczko, Chair, Music Production & Engineering Dept.
Berklee College of Music
Boston, MA 02215
(774) 991-0104
rjaczko@berklee.edu

Seth Hurwitz, Chairman of I.M.P. and Co-owner, Producer
9:30 Club, Merriweather Post Pavilion, Lincoln
Theater, The Anthem
Washington, DC 20001
(301) 229-4675
leseth@aol.com

Ally Polly, Head of Content Development
PepsiCo Creators League Studio
New York, NY 10014
(917) 470-2591
allison.polly@pepsico.com

Kelly Combs, Project Manager
Gensler Architects
New York, NY 10020
(212) 492-1400
kelly_combs@gensler.com

Graham Parks, Construction Manager, North America
Epic Games
(919) 830-6023
graham.parks@epicgames.com

Ken Rockwood, Owner
Rockwood Music Hall
New York, NY 10002
(646) 229-4172
krockwood@earthlink.net

Justin Kantor, Owner
Le Poisson Rouge
New York, NY 10012
(917) 509-1004
justin@lprnyc.com

Eddie Kramer, Engineer and Producer
Jimi Hendrix
(818) 456-7261
eddie@eddie-kramer.com

Steve Luczo, CEO
Seagate
Cupertino, LA 95014
steve@hobojoie.com

Austin Thompson, Technical Director
Gimlet Media (Spotify)
Brooklyn, NY 11217
(815) 592-1229
austin@gimletmedia.com

Ann Mincieli, Founder, Chief Engineer
Jungle City Studios, Alicia Keys
New York, NY 10001
(347) 585-7093
anntastic@mac.com

Herb Alpert, Jazz musician, Recording Artist
UCLA and Harlem School of the Arts
Los Angeles, CA and Harlem, NY
(310) 273-7080 via executive secretary Cheryl Lawrence
trumpet2000@earthlink.net

Mary Simoni, Educator, Dean
School of Humanities, Arts and Social Sciences
Rensselaer Polytechnic Institute
Troy, NY 12180
(518) 276-6575
msimoni@rpi.edu

David Greenspan, Audio Resources Coordinator
University of Michigan, Interlochen Public Radio
Ann Arbor, MI
(734) 936-7659
dspan@umich.edu

Paul Epworth, Producer (Adele), Owner
Church Studios
London, United Kingdom
+44 7711 367706
pre5sure@me.com

David Gibson, Director of Production
Jazz at Lincoln Center / Appel Room
(917) 689-2585
dgibson@entertainmentsvcs.com

Maxime Le Guil, Founder
Rue Boyer (Mix With The Masters)
Paris, France
+33 6 20 71 63 55
maxime.leguil@gmail.com

Christopher D'Angelo, Director of Studio Operation
Spotify
Los Angeles, CA 90071
(310) 310-0147
cdangelo@spotify.com

Diana Ivette Urquiza, Director of Digital Music Production
TEC de Monterrey
Mexico City, Mexico
dianauf@tec.mx

Chuck Mongelli, Director Performance Capture Production
Rockstar Games / Take Two Interactive
(347) 721-4257
Chuck.Mongelli@rockstargames.com

Jack Antonoff, Grammy Award Winning Producer
Taylor Swift, Lana Del Rey
(Contact information on request)

Professional References

Jamie Alls, Director of Engineering
KEXP RADIO - 90.3FM
Seattle, WA 98109
(206) 520-5804
jalls@kexp.org

Steve Shultis, Chief Technology Officer
New York Public Radio – WNYC
New York, NY 10013
(646) 829-4089
sshultis@nypublicradio.org

Chris Kroner, Principal
MASS Design Group (2022 AIA Architecture Award)
Boston, MA 02116
(540) 270-4866
ckroner@mass-group.org

Michael Charzuk, VP Studios
Audible (Amazon)
Newark, NJ 07102
(917) 673-6429
mcharzuk@audible.com

Doug Hosney, VP, Venue Operations
Jazz at Lincoln Center
New York, NY 10023
(212) 258-9540
dhosney@jazz.org

Jaime Schapiro, President, AIA, RIBA
Schapiro Associates
Miami Beach, FL 33154
(919) 830-6023
jaime@schapiroassociates.com

Michael Lamphier, Senior Project Manager
Fenway MGM Theater, JLL
Boston, MA 02109
(617) 676-7779
Michael.Lamphier@am.jll.com

Chris Cooney, CEO
EUE/Screen Gems Ltd.
New York, NY 10014
(212) 450-1605
ccooney@euescreengems.com

Bob Margouleff, Grammy Award Winner (Stevie Wonder)
Margouleff and Associates
Los Angeles, CA
(323) 864-3235
robert.margouleff@gmail.com

Nevin Steinberg, Founder, Tony Award Winning Broadway
Sound Designer
The Modern Projects (Hamilton, Sweeney Todd, Hadestown)
(646) 251-4860
nevstein@gmail.com

Fidel Zabik, Vice President, AIA
Arquitectonica
Miami, FL 33133
(305) 372-1812; ext. 1015
fzabik@arquitectonica.com

Heidi Wigand, Sr. Director of Development and New Construction
AMICON
Miami, FL 33138
(305) 699-8334
hwigand@amicon.us

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 over 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:

Central Synagogue
New York, USA

Vassar Chapel
Poughkeepsie, USA

Young Israel Synagogue
Miami, USA

Igreja Batista Central - IBCI
Belo Horizonte, Brazil

Iglesia Los Olivos
Buenos Aires, Argentina

Church Le Noirmont
Noirmont, Switzerland

Crossroads Tabernacle – Boden Center
Bronx, USA

Diante Do Trono
Belo Horizonte, Brazil

St. Ursen Cathedral
Solothurn, Switzerland

Jazz at Lincoln Center
New York, USA

KKL Concert Hall
Luzern, Switzerland

Flughafenkopf – Zurich Airport
Zurich, Switzerland

VSL Synchron Stage
Vienna, Austria

Rio 2016 – Barra Olympic Park
Rio de Janeiro, Brazil

Aura Club Events Hall
Zurich, Switzerland

ESPN Digital Center 2
Bristol, USA

Morro de Chapéu Residence
Belo Horizonte, Brazil

The Metroplex at KITEC
Hong Kong, China

Electric Lady Studios
New York, USA

IBP Church São José
São Paulo, Brazil

Berklee – 160 Mass Ave
Boston, USA

PepsiCo Content Studio
New York, USA

UCLA Herb Alpert – Lani Hall
Los Angeles, USA

Concordia University
California, USA

Jungle City Studios (Mincieli, Keys)
New York, USA

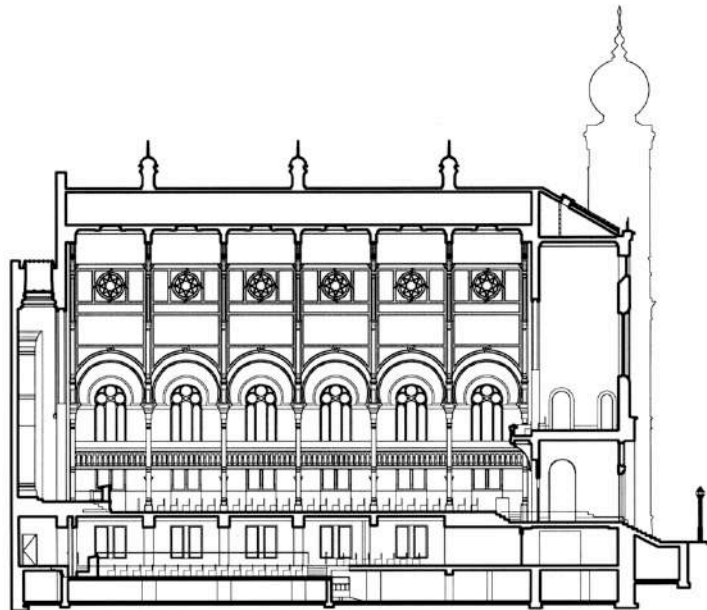
Salvation Ministries
Port Hartcourt, Nigeria

First Lutheran Church
Fargo, USA

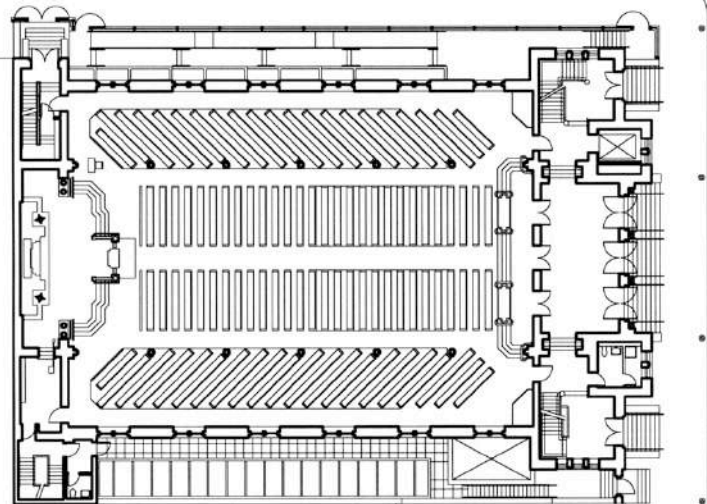
Temple Beth Torah
Aventura, USA

Central Synagogue - New York, USA

Devastated by a catastrophic fire in August 1998, the Central Synagogue (Lexington Avenue and 55th Street) was reduced to a burnt out shell. Following this disaster, architect Hugh Hardy, recognized for his restorative work on New York City landmarks, was called in to rebuild the treasured synagogue. WSDG played a key role in the facility's rebirth as the acoustical / audio-visual consultant.



SECTION



PLAN

0 5 10 15 20 METERS
0 10 20 30 40 FEET

Central Synagogue - New York, USA



Vassar Chapel - Poughkeepsie, USA

Founded in 1861, Vassar College is recognized as one of America's leading Liberal Arts colleges. Located in the scenic Hudson Valley, 70 miles north of New York City, this lovely campus is particularly proud of its magnificent Norman Revival Chapel.

Storyk and Noy conducted a series of tests to measure, analyze, and eventually calibrate the chapel's acoustics. The results revealed that RT60 reverb time was measured at 2.5 seconds in mid frequencies, far afield from the room's optimal 1.5-second requirements. It was fixable, yes, but complicated by Vassar's aesthetic "hear all speakers; see no speakers; make no changes to the chapel architecture" mandate.

Extensive research and planning led the WSDG team to recommend a sophisticated, digitally controlled, electro-acoustical solution capable of covering the entire seating area and balcony. A combination of modern line array and conventional passive speakers were selected. To ensure the integrity of the manual mix mode, a password must be entered into a programmable remote before integrating multiple microphones, an additional analog mixer, and other sources into the system.



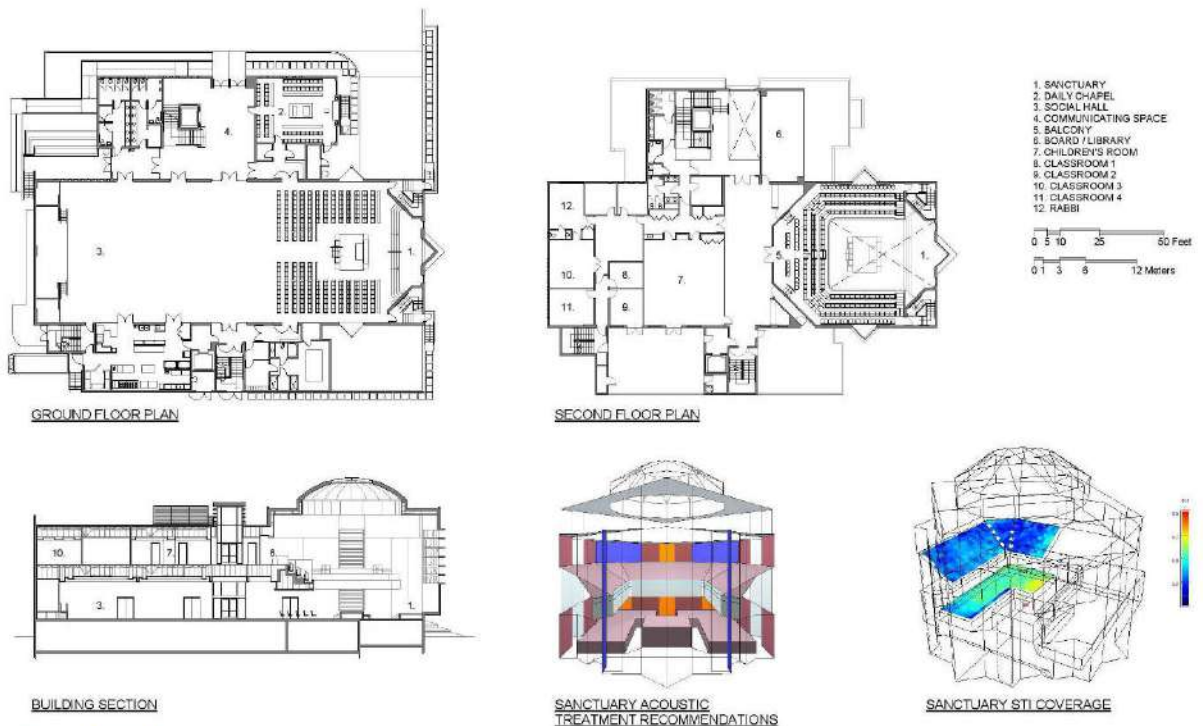
Vassar Chapel - Poughkeepsie, USA



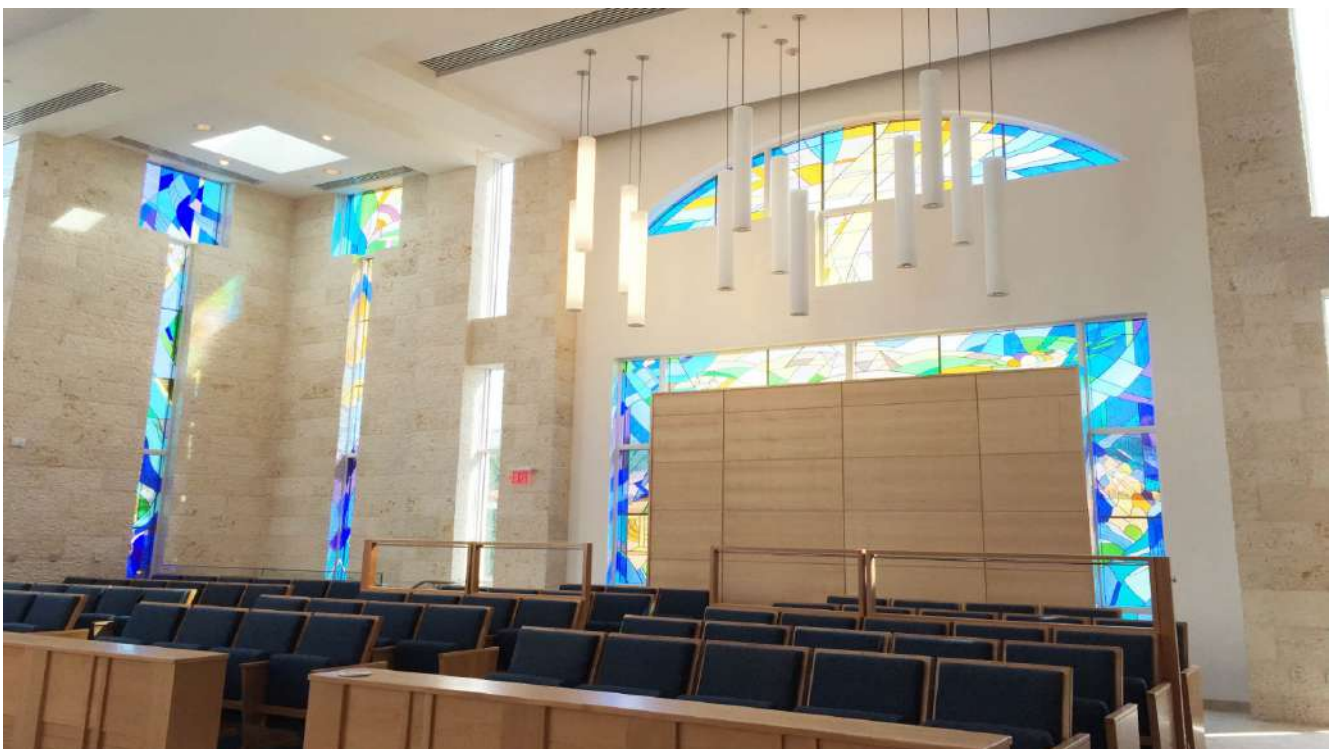
Young Israel Synagogue - Miami, USA

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.



Young Israel Synagogue - Miami, USA



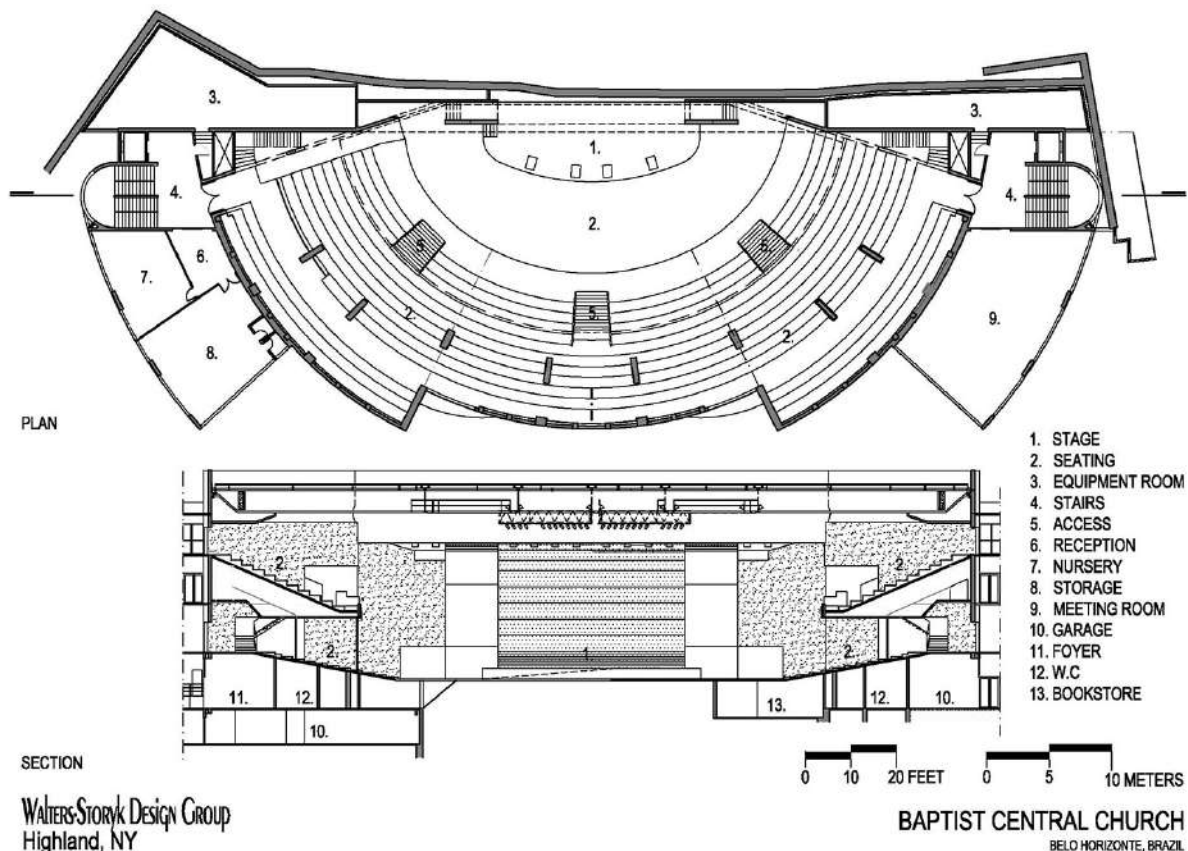
Igreja Batista Central - IBC - Belo Horizonte, Brazil

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

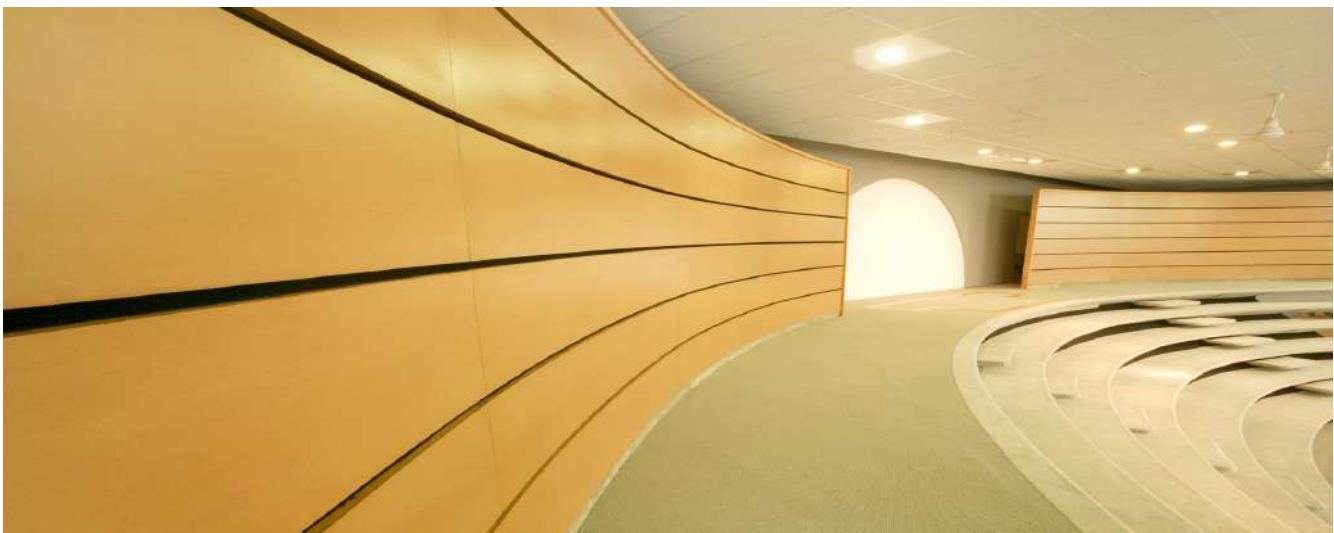


Iglesia Los Olivos - Buenos Aires, Argentina

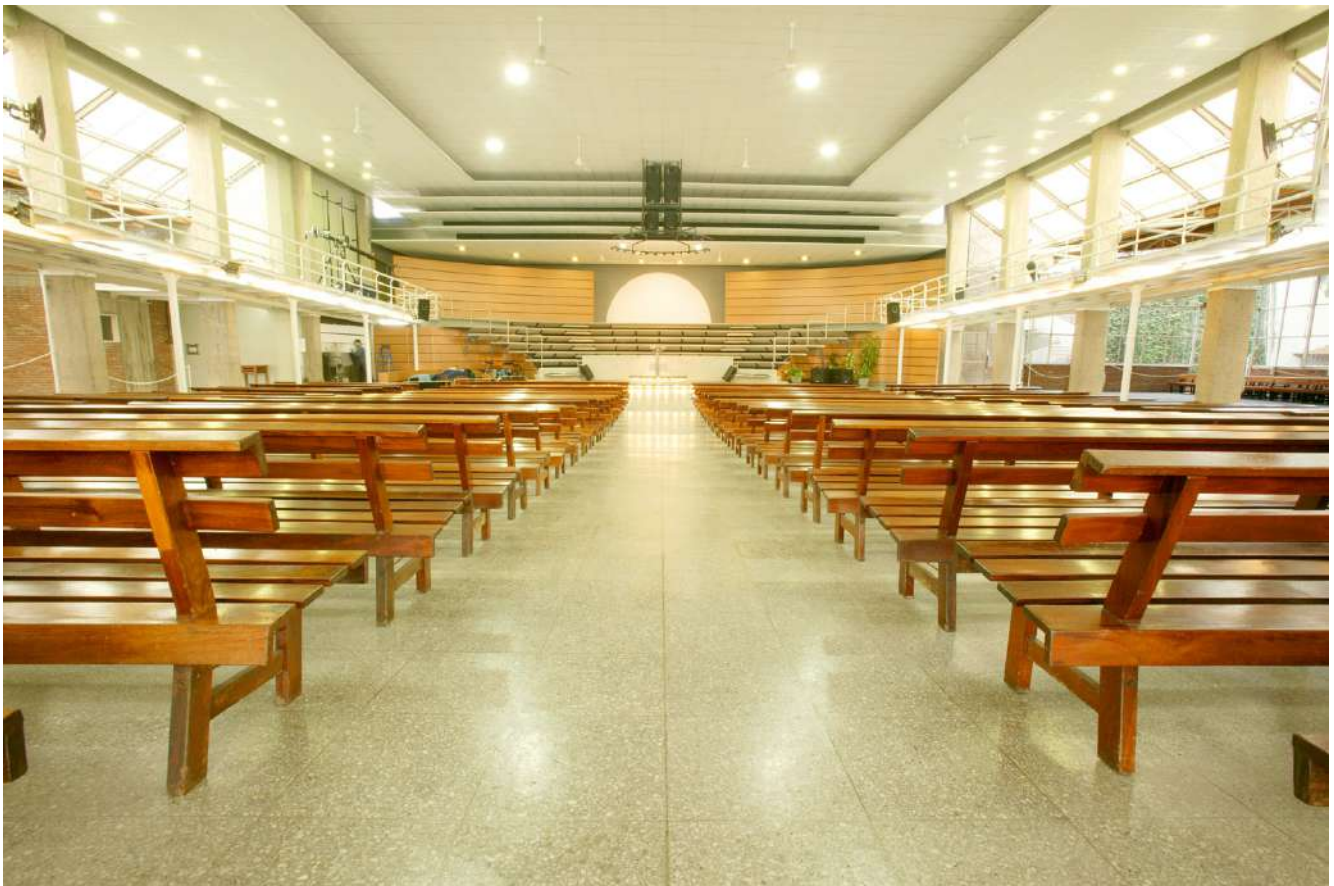
"Los Olivos" church called us to improve the acoustic and electro-acoustic performance of an existing space.

After having done acoustic measurements, we had to manage with modifications on the sound system, adjustments on the general equalization, and a modification in the altar and the performing area of the orchestra.

Together with the Minister and his collaborators, we had to relocate the altar, the orchestra, the stands for the choir and we placed a semi-circular panel, acoustically absorbent on the back area, and acoustically reflecting on the front area, to allow the sound coming from the altar go directly to the audience.



Iglesia Los Olivos - Buenos Aires, Argentina

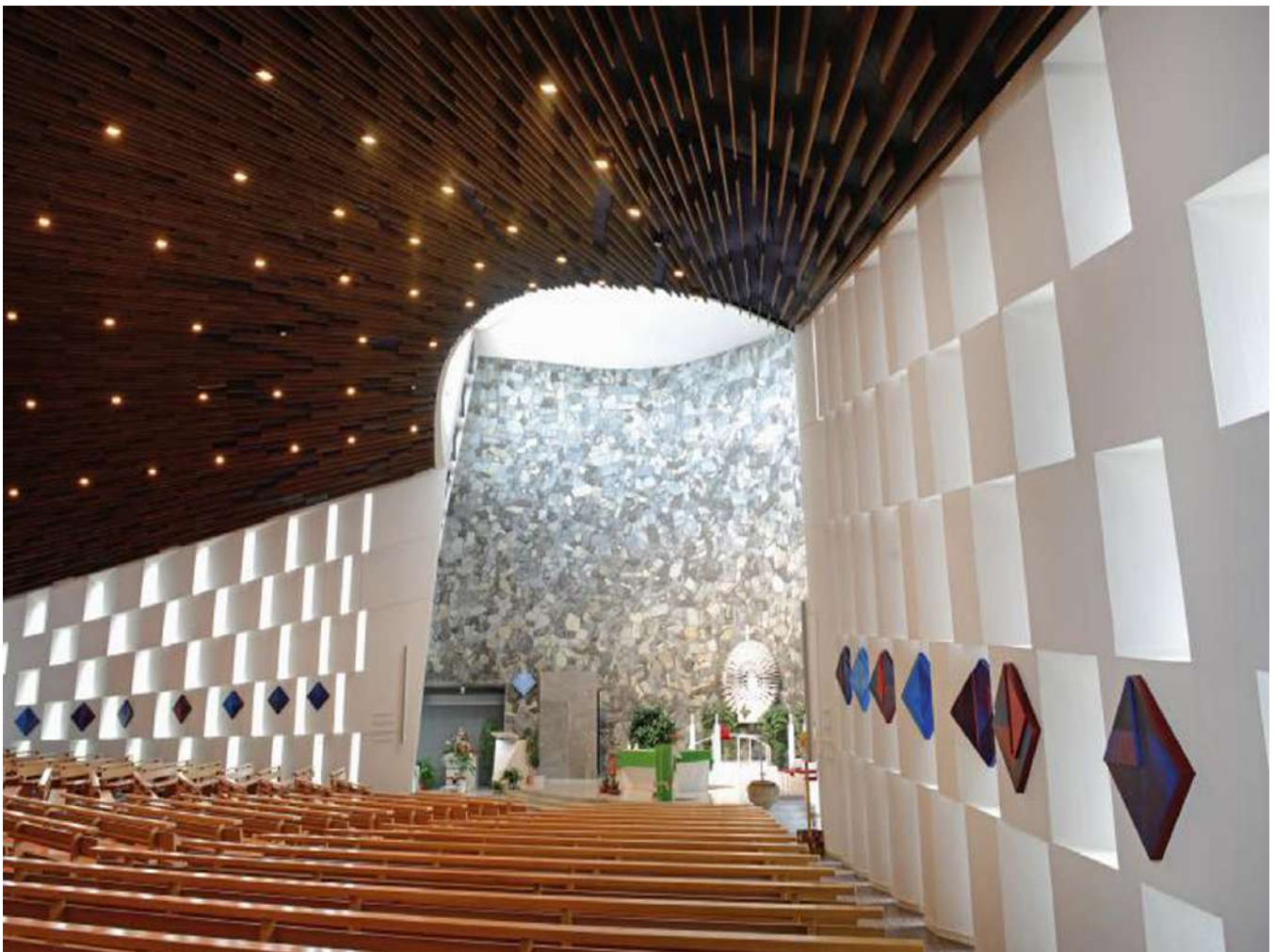


Church Le Noirmont - Noirmont, Switzerland

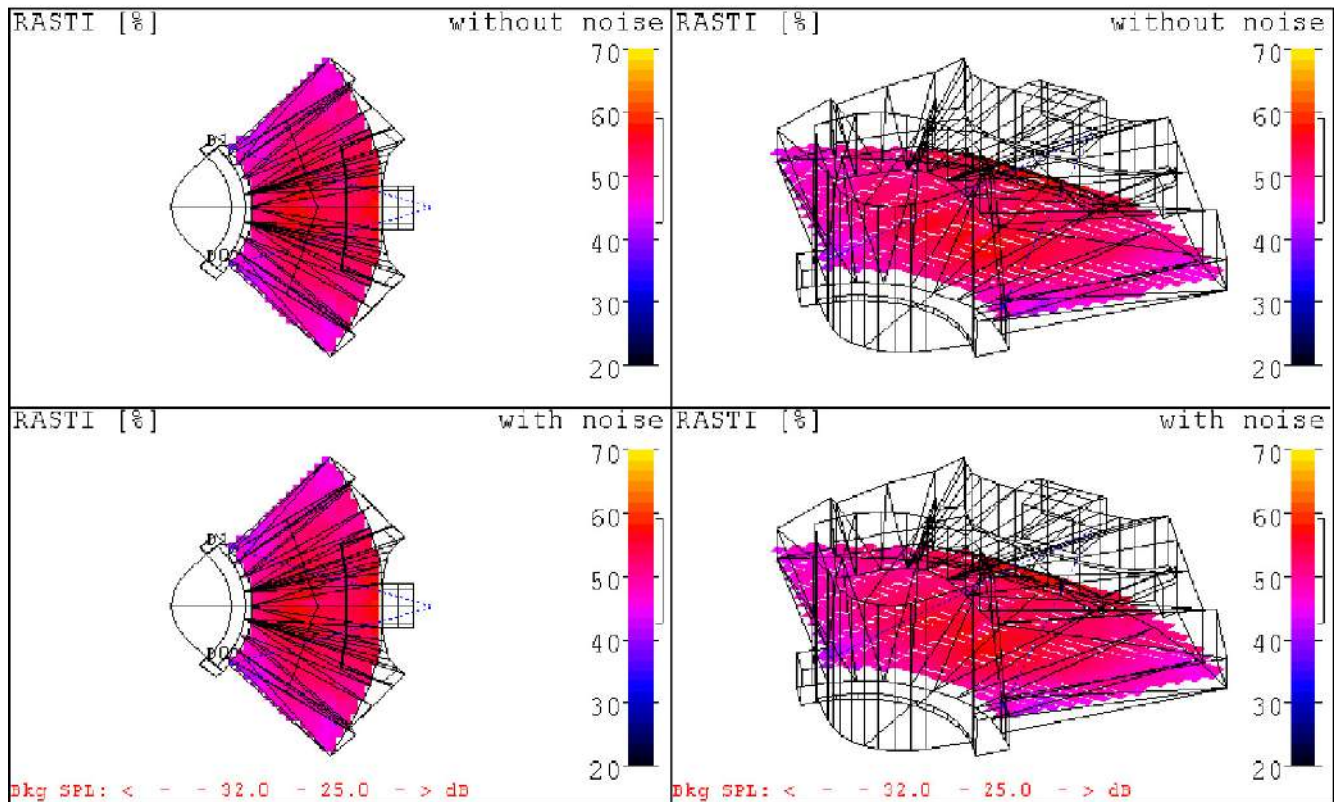
The Catholic Church in Le Noirmont – a beautiful, large fan-shaped concrete building – has suffered from low speech intelligibility since its initial construction in 1969. The problems caused by highly excessive reverberation have finally been addressed by a fully integrated architectural and electro-acoustic solution that is almost invisible to the eye, which results in a dramatic optimization of the room's acoustical characteristics.

The fan-shaped floor-plan, with an impressive natural-stone tower and the ingenious window pattern at the side walls, offers wonderful viewing angles towards the front and back of the church that become even more fascinating when direct sunlight hits the building. A balcony level carries the organ and additional seating / choir space. Vertically mounted wood paneling at the ceiling and the total church layout direct the attention towards the up-and-forward direction to represent the religious character of the space.

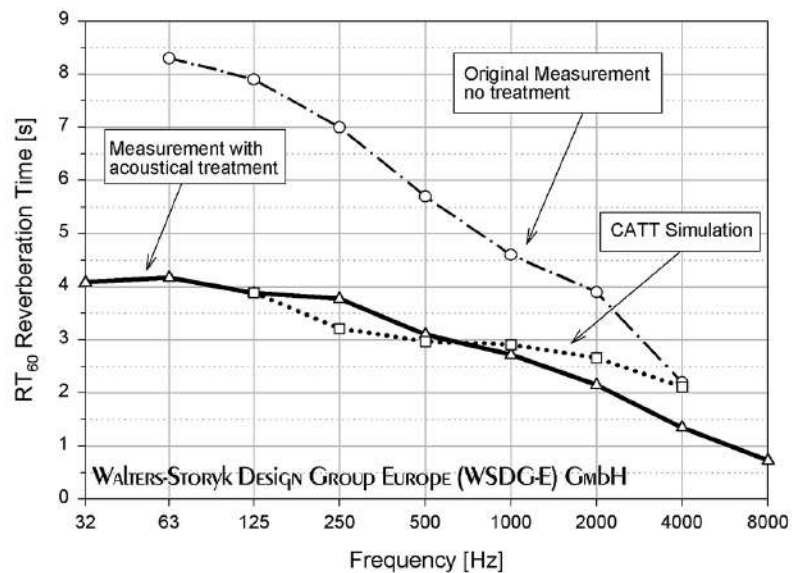
The main goal of the church remodeling was to improve the room acoustics (i.e. speech intelligibility). Acoustical measurements were performed to obtain an understanding of the acoustic and intelligibility characteristics of the existing worship space. Results were shocking. Reverberation Times of over 8 seconds were present at low frequencies! Slightly lower (but still excessive) values were measured at mid and high frequencies



Church Le Noirmont - Noirmont, Switzerland



Church Le Noirmont
 RT_{60} Reverberation Times
 Final Measurement with Treatment



Crossroads Tabernacle – Boden Center - Bronx, USA

WSDG completed a major renovation project for Crossroads Tabernacle and Boden Center for The Performing Arts, a prominent inner-city church located in The Bronx, NY. The facility includes a state-of-the-art audio and video production studio (Studio On The Hill), and a completely refurbished 800 seat theater for worship, concerts, dramas, and outreach events. The restoration, which also includes new administrative facilities and a children's educational wing, was completed in 2002.

The control room and studio area of the facility can operate completely independent of the theater, or tie into performances as needed to capture live recordings. The seating area within the theater area is completely flexible and seating can be modularly removed for different events as needed by the church. Since the facility lies in the middle of the Bronx, special consideration was given to isolation for the facility to eliminate noise from the outside, but also to isolate the auditorium environment from the control room/studio environment that is adjacent to it.

The 1,000+ square-foot studio houses three isolation booths, and a control room equipped with a Sony R100 digital console. "We installed variable acoustic panels (solid wood on the outside and 2-inch-thick, fabric-covered insulation on the inside) on the back wall of the studio to facilitate changes in the room's reverberation time with minimal effort," explains WSDG principal architect John Storyk.



Crossroads Tabernacle – Boden Center - Bronx, USA



Diante Do Trono - Belo Horizonte, Brazil

Diante do Trono is the most successful Brazilian gospel band of the church Batista da Lagoinha. The group's career started in 1997 and has performed not only around Brazil but also in various other countries around the world. The monastery is formed by 50 musicians and has already released over 25 albums, and sold over 3 million copies.

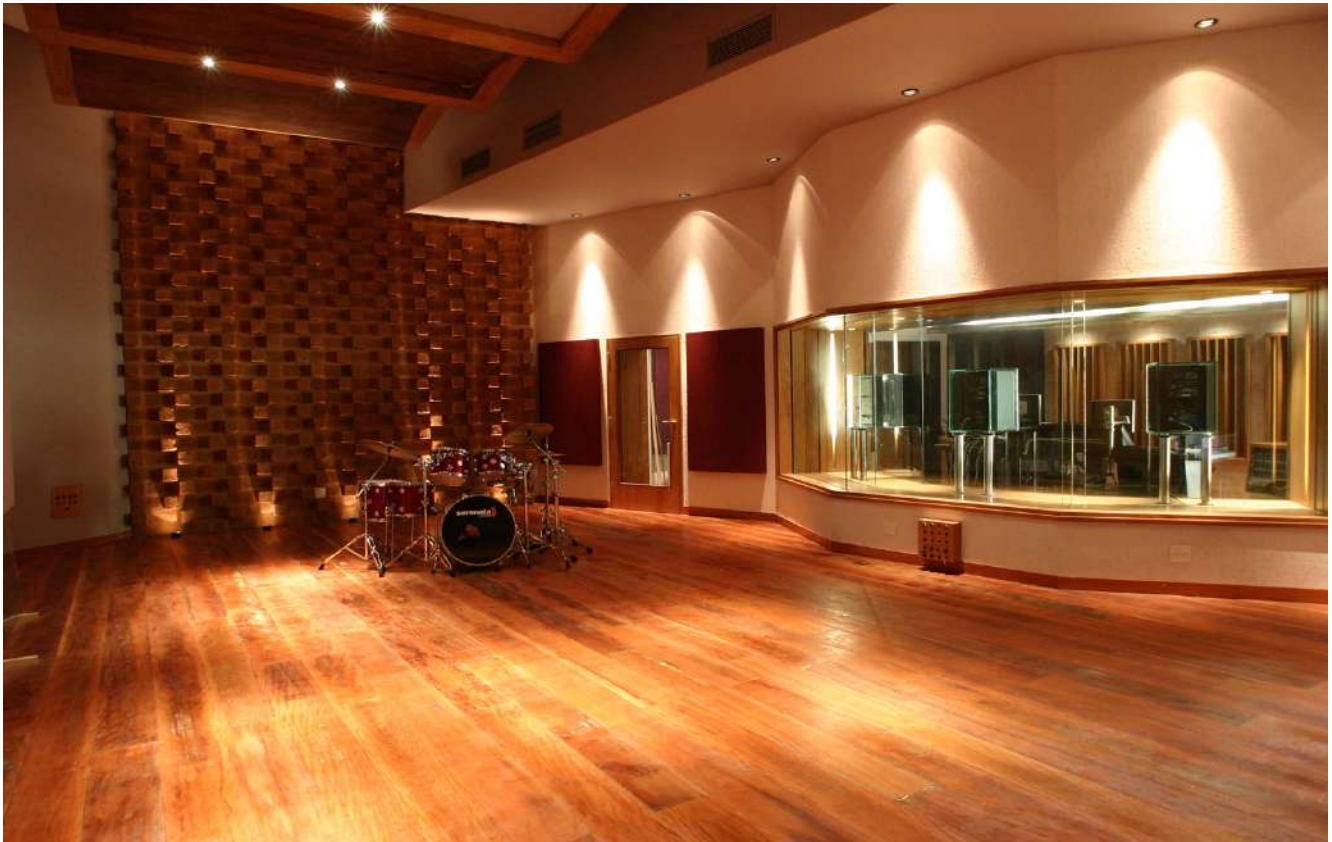
The facility is divided in three distinct areas: the main studio is 600 square feet with a 350 square foot 5.1-capable control room with two isolation booths and an equipment room. On the first floor is another recording room attached to a control room and an edit room, all-adding up to 600 square feet. Outside the studio areas there is a lounge with a barbecue space, along with an office space and a lounge.

In order to provide a flexible space for different recording applications, the studio was equipped with numerous types of variable acoustic panels, including motorized units installed at the ceiling that can be remotely controlled inside the control room. This way, after setting up the microphones for a recording session, the engineer can adjust the room acoustics to the desired time response according the musical needs. The room also received a large diffusion surface created with special bricks from recycled materials.

Another unique feature is the installation of all three front speakers inside the glass of the control room. This innovative idea presented a great acoustical challenge, but resulted in a perfect sight of the entire studio live room, while still maintaining the ideal positioning of the front speakers, at ear level, in accordance with the most current professional audio standards.



Diante Do Trono - Belo Horizonte, Brazil



St. Ursen Cathedral - Solothurn, Switzerland

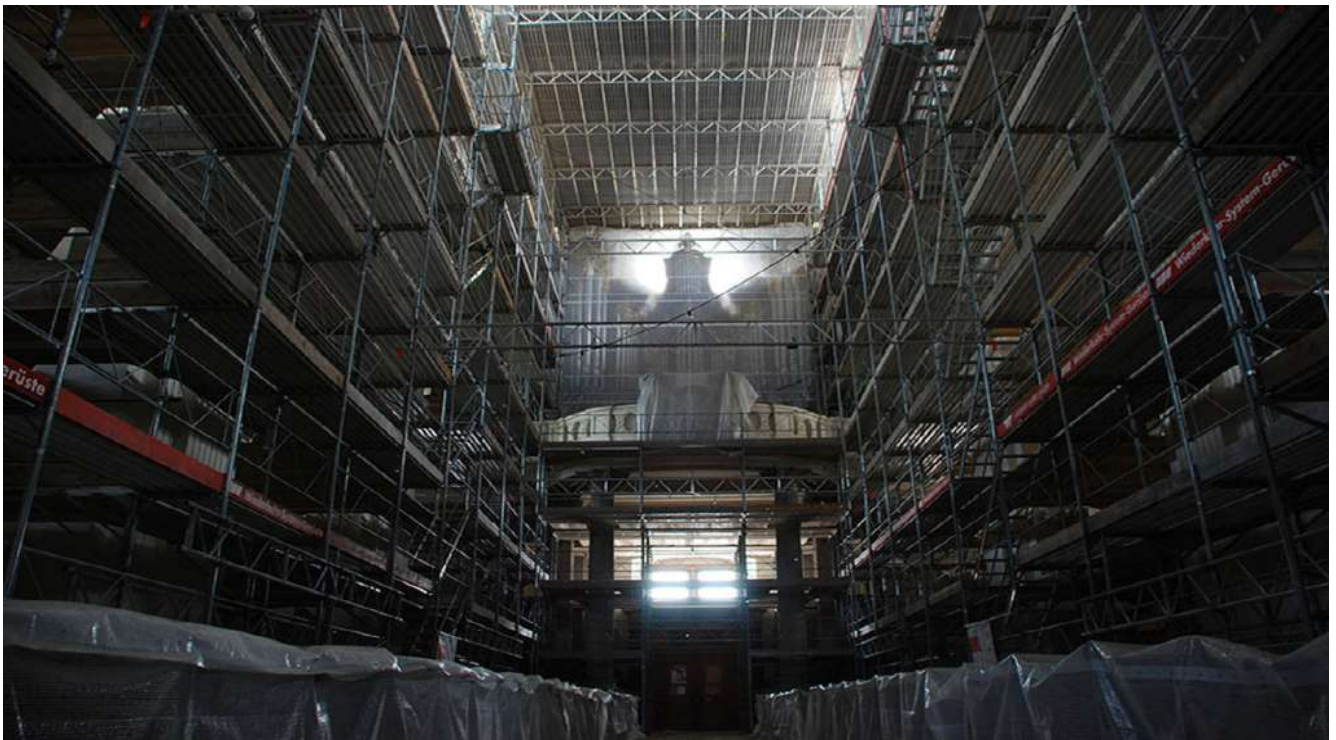
Solothurn is recognized as Switzerland's most significant baroque town. Its major hallmark and tourist attraction is the St. Ursen-Cathedral. In January 2011, a fire set by a mentally disturbed person massively damaged the Cathedral's 60m x 30m/200 x 100 sq. ft. center congregation area and side aisles. 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

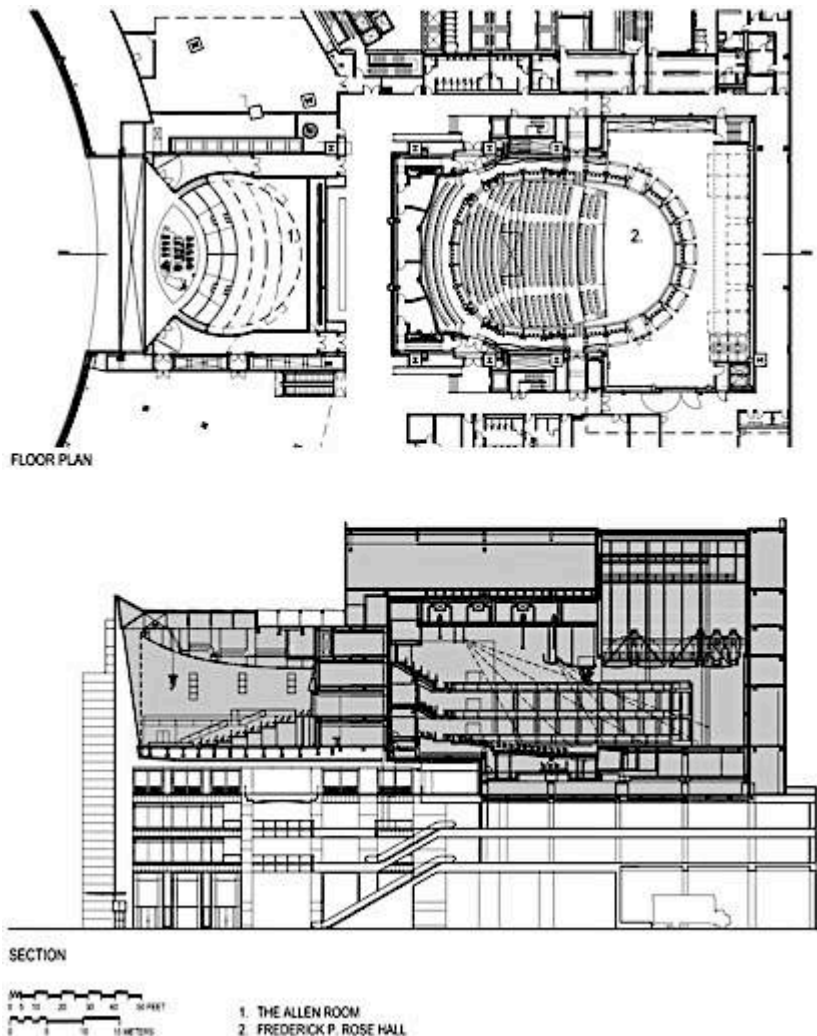


Jazz at Lincoln Center - New York, USA

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

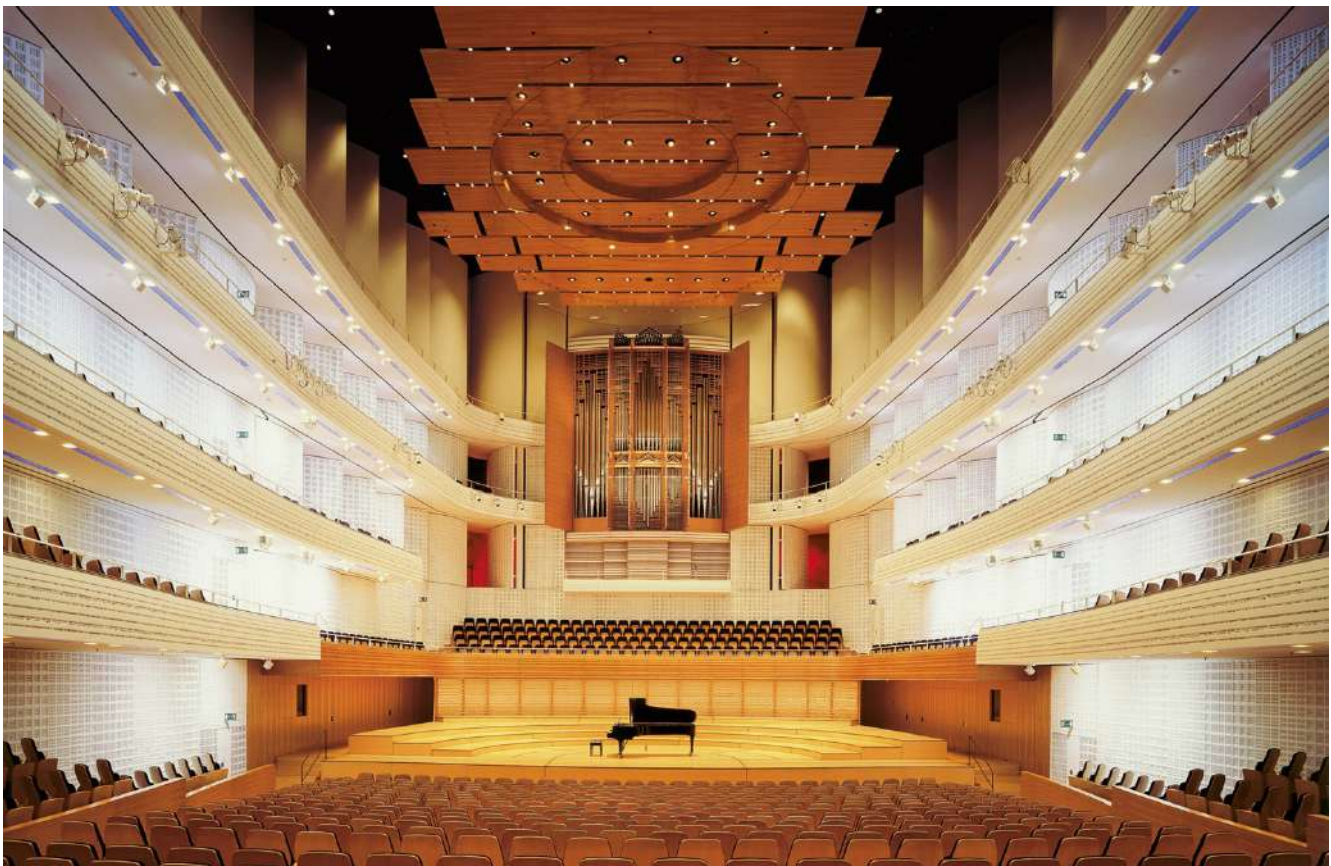


KKL Concert Hall - Luzern, Switzerland

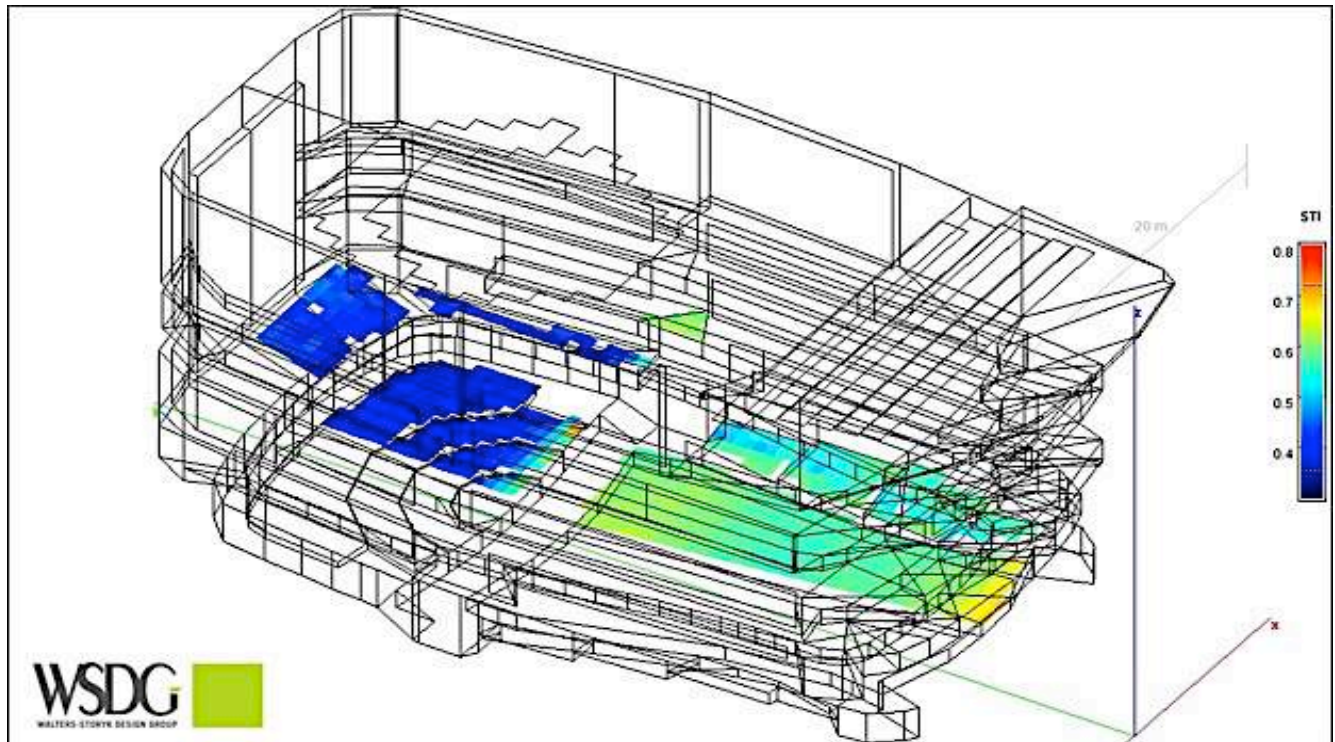
From its opening performance by the Berlin Philharmonic in August 1998, the KKL Luzern Concert Hall was recognized as one of the world's great performance centers. An international landmark, both architecturally and culturally, the complex attracts music fans from around the world to its picturesque 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.

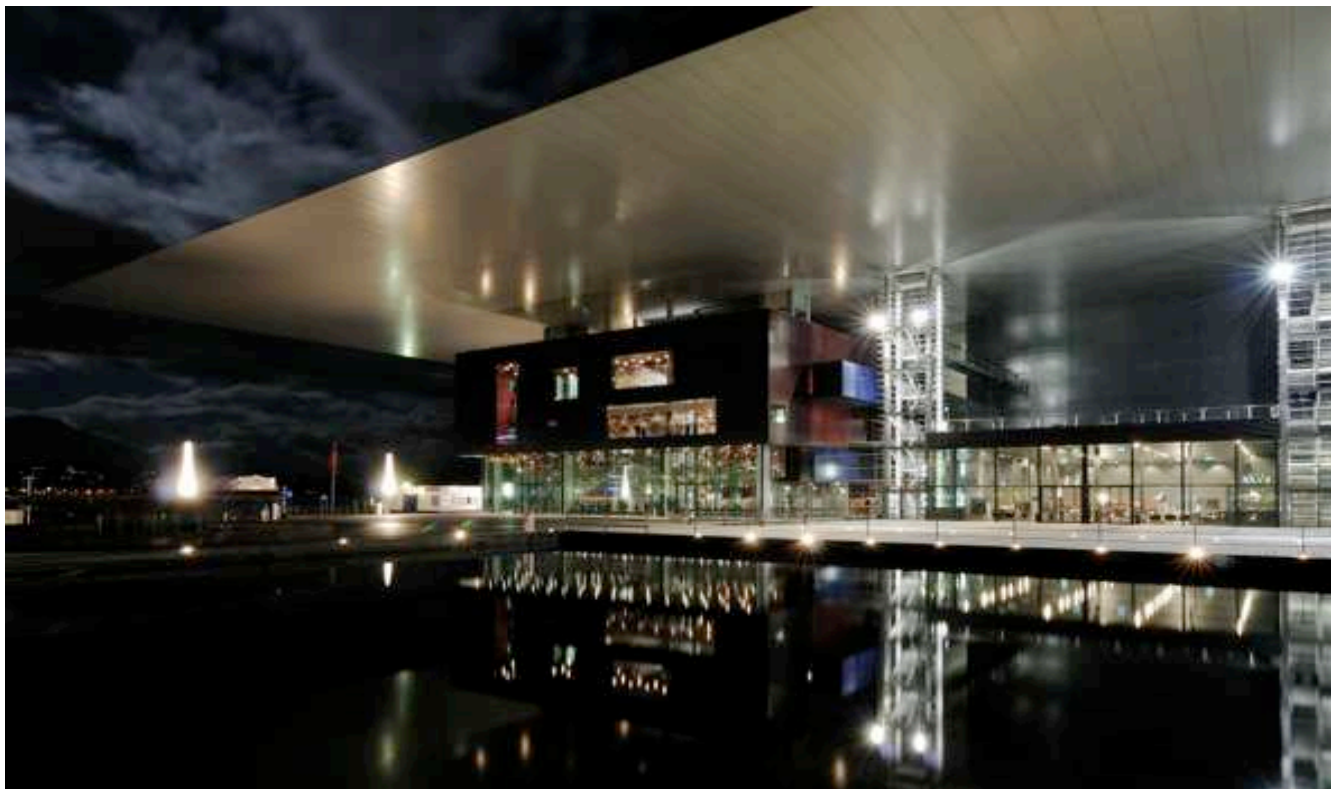
The new sound reinforcement system consists of the Left Right main system with two line arrays of eight d&b V12 units each, suspended above the stage front edge; two additional line arrays for covering each of the balconies with five d&b V12 units; a stage edge in-fill system consisting of two d&b V-Sub 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

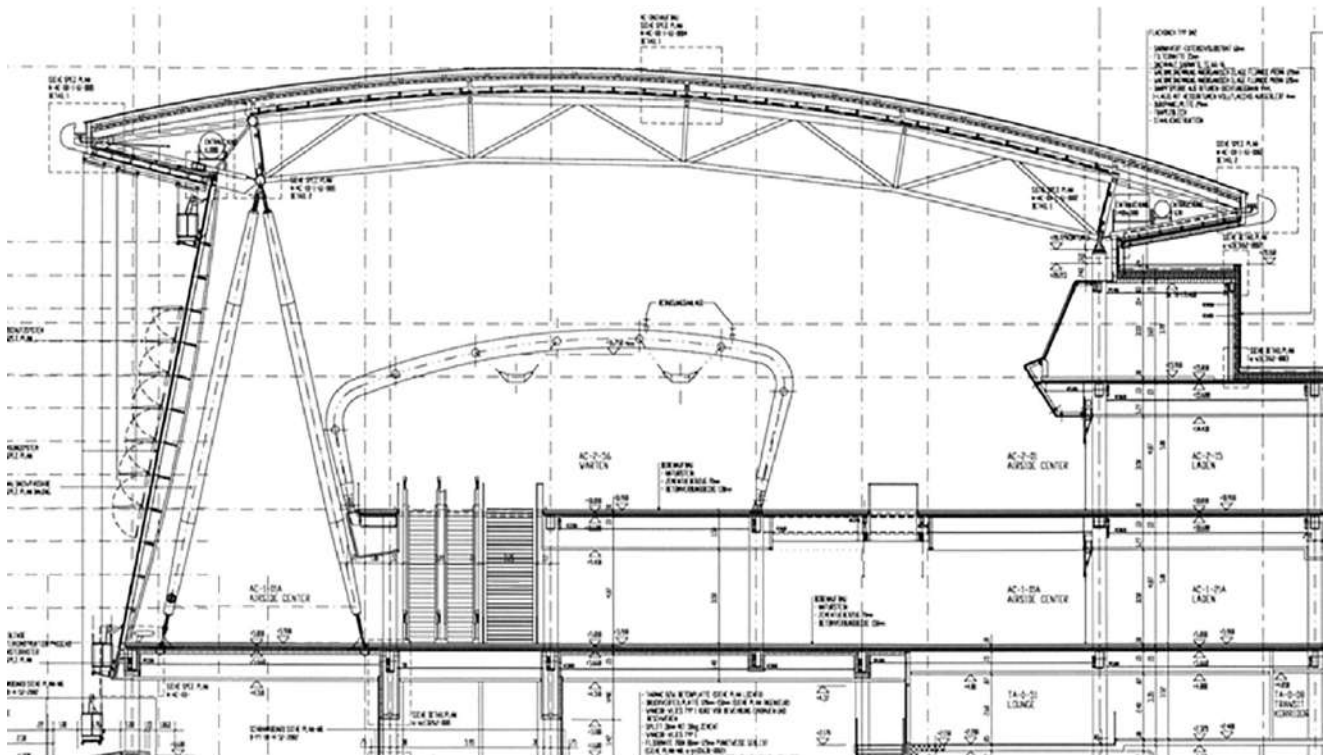


Flughafenkopf – Zurich Airport - Zurich, Switzerland

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.



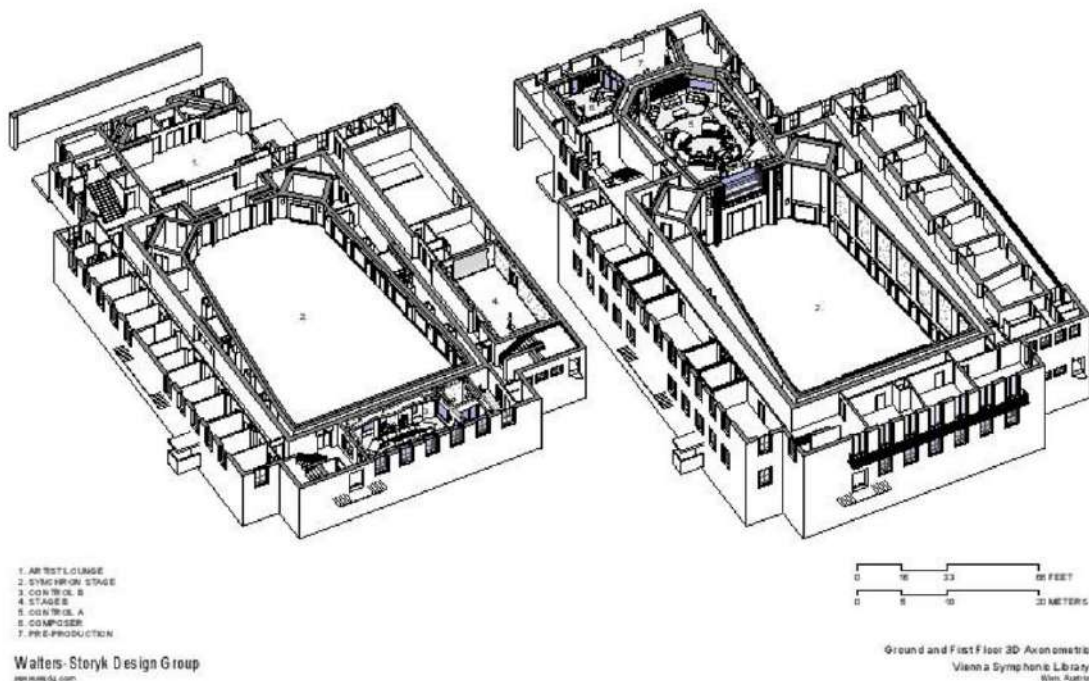
Flughafenkopf – Zurich Airport - Zurich, Switzerland



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 World's 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



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

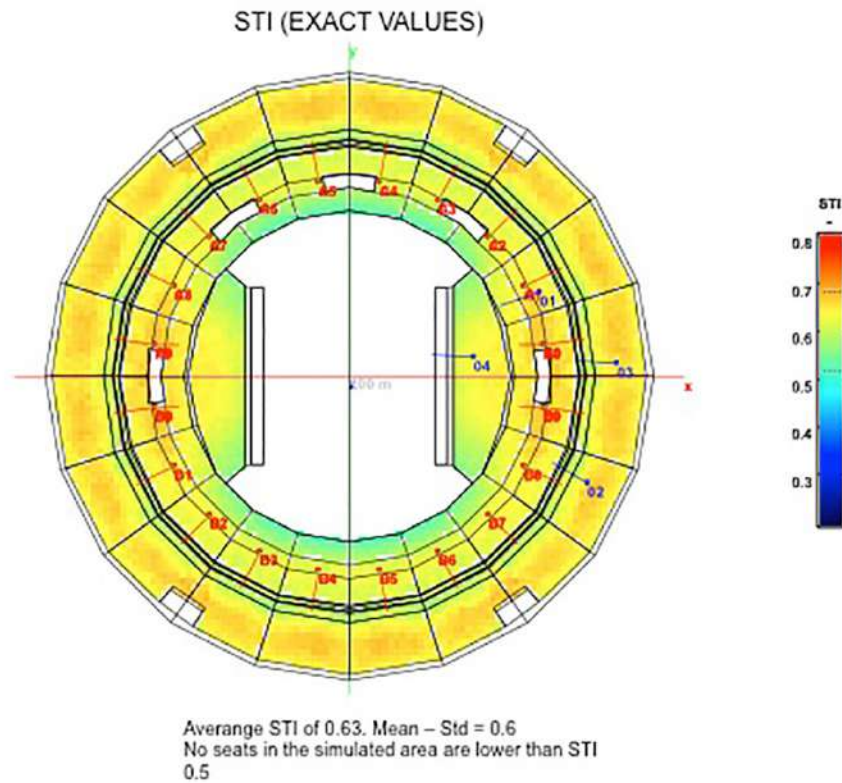
Barra Olympic Park was developed as Rio's primary 2016 Olympic and Paralympic Games competition center. Now it also serves as the city's largest sporting legacy. With an area of 1.18 million sq. m., Olympic Park includes nine sports venues. The Olympic Arena and Maria Lenk Aquatic Centre were built for 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



Aura Club Events Hall - Zurich, Switzerland

Built within the historic 21,000 sq. ft. (2,000 sq. meter) 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. meter) 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 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



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



Morro do Chapéu Residence - Belo Horizonte, Brazil

The architectural and acoustical design devised by WSDG for the villa's home theater and other living spaces leaned on solution suggested by the firms' professional recording studio expertise. Inhibiting sound from leaking into or out of sensitive listening areas such as recording studio live and control rooms is a WSDG specialty. The enclosed pool and spa area, however presented more troubling waters. Particularly challenging was the need for the acoustical treatments to unobtrusively compliment the custom finishes.

WSDG also designed a spacious (but cozy) home theater, which integrates the highest levels of audio and video technology. Recording studio-level, acoustical wall and ceiling treatments were engaged to provide superb frequency and time response. Bedrooms and a home office also benefitted from acoustical ceiling clouds, designed to control the reverberation time over a broad sound spectrum enabling each room's individual 5.1 surround sound and HD video system to deliver maximum performance quality.

The swimming pool and spa area, however, presented the project's primary acoustic challenge. The large area includes a gym, Jacuzzi and wet bar, surrounded by three walls of double height windows and a movable glass sealing system to maintain interior warmth in the cool, mountain region evenings. Again, professional recording studio design techniques provided solutions. Each window, including an expansive skylight grid of 20 individual panels was fitted with Acoustical Clearsorber Foil. Imported from Germany, the innovative translucent plastic sheets absorb medium and high frequency reverberation to resolve sonic reflection issues. Clearsorber also serves as a full room UV ray filtering system! Full transparency insures unimpeded views and, conversations free of traditional pool house reverberation.



Morro do Chapéu Residence - Belo Horizonte, Brazil



The Metroplex at KITEC – Hong Kong, China

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.



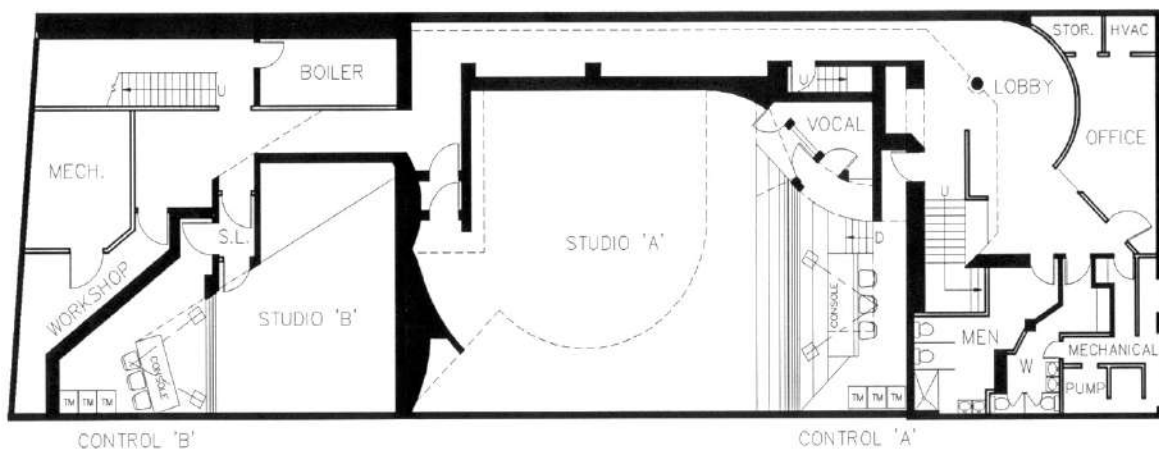
The Metroplex at KITEC – Hong Kong, China



Electric Lady Studios - New York, USA

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



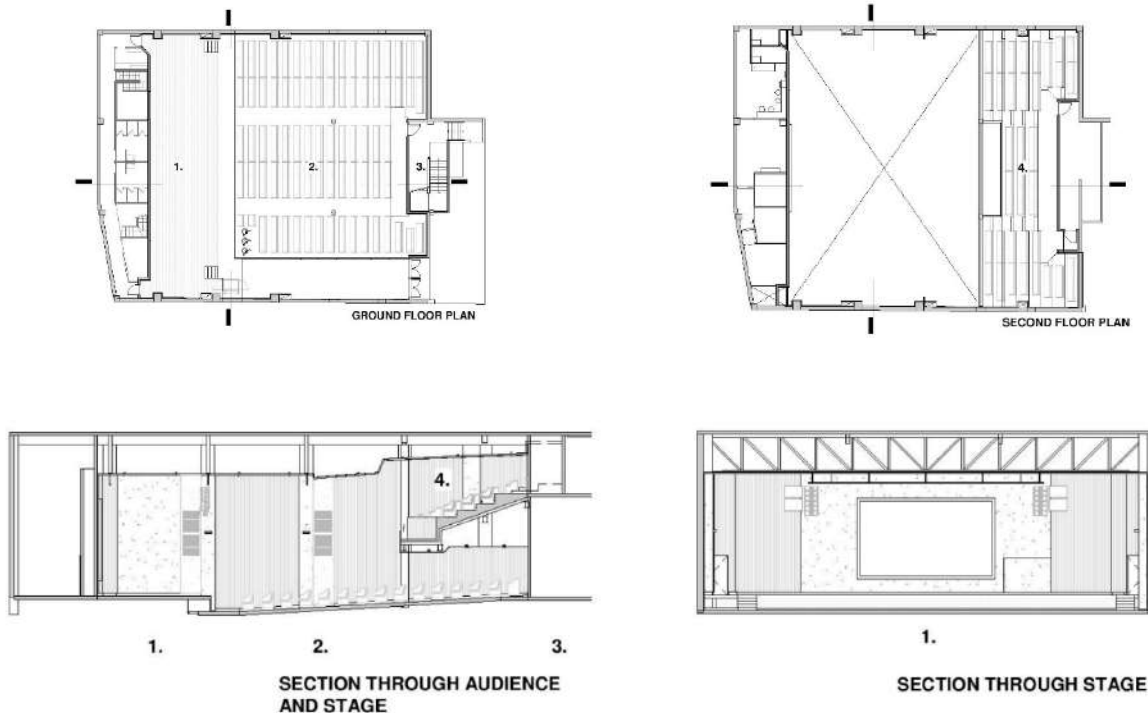
Electric Lady Studios - New York, USA



IBP Church São José - São Paulo, Brazil

Since it was founded in 2009, The Baptist Church of the People has grown into one of Brazil's largest Church ministries, with eleven churches serving communities across the country. Most recently, **IBP** has created a contemporary house of worship in São José, suburb of São Paulo, Brazil largest city. Having worked successfully with IBP previously on a project at Vila Mariana, also in São Paulo, WSDG was commissioned for the acoustic design for this new House of Worship. By engaging WSDG at the design stage, the Church planners were assured of providing their parishioners with superb acoustics for their worship services.

Situated on the 2nd through 5th floors of a ground up building in a commercial section of São José, the new IBP Church is distinguished by a two-story high worship basilica with seating for 460 parishioners in the nave, and an additional 190 seats in the mezzanine. The 3rd, 4th and 5th floors are dedicated to classrooms and administrative offices. WSDG Brazil Office reports the Church was as concerned with the quality of sound as they were with the aesthetics. "Our design team included architect/project manager Breno Magalhães, and NY-based project manager Andy Swerdlow, who did excellent work on pre-visualizations and analysis of room acoustics.



IBP Church São José - São Paulo, Brazil

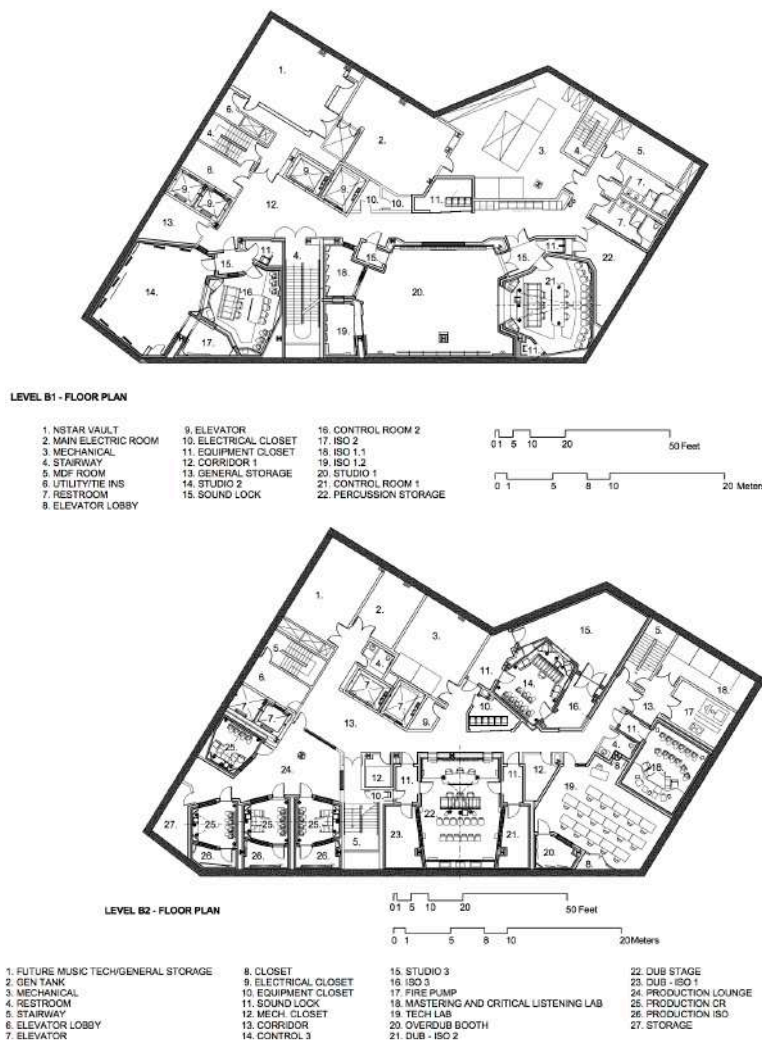


Berklee College of Music – 160 Mass Ave - Boston, USA

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 seats 400 and also includes a venue for student performances. Most importantly it is the new home for nine new audio production / teaching studios – housed in two levels below grade – all fully decoupled and capable of simultaneous 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 received a NAMM TEC award for Best Studio Design Project.



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

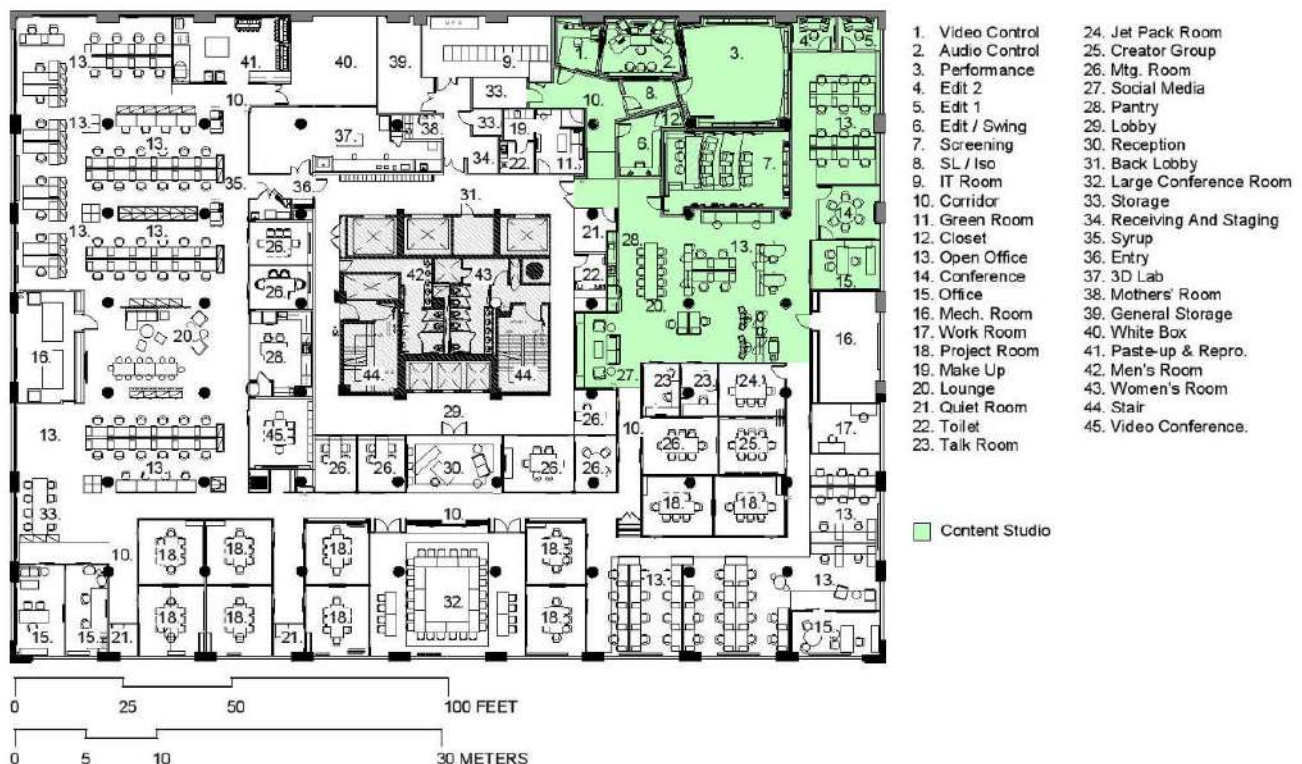


PepsiCo Content Studio - New York, USA

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 six to ten technicians and engineers, PepsiCo's Content Studio features an 1,150 sq. ft. multi use 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 bullpen 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

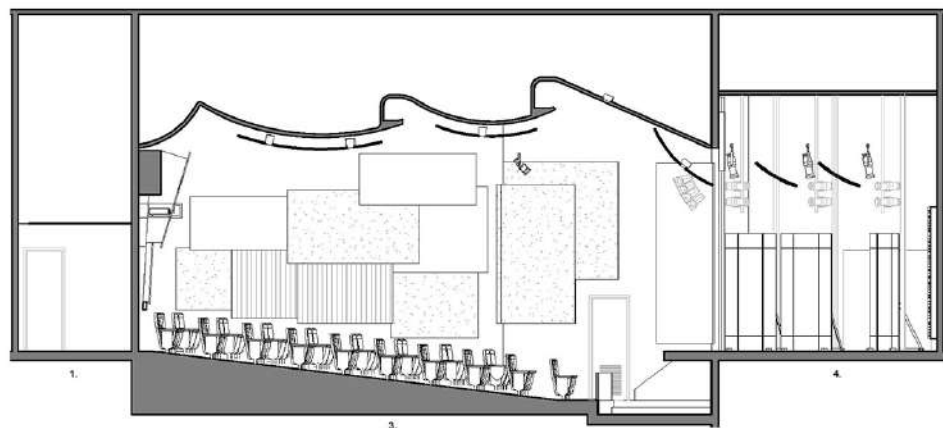


UCLA Herb Alpert School of Music – Lani Hall - Los Angeles, USA

Established by a grant from the Herb Alpert Foundation, The Herb Alpert School of Music on the UCLA campus is dedicated to providing students with academic opportunities that balance cutting-edge scholarship with sophisticated performance and composition mastery. Students are immersed in a multitude of learning and performing opportunities and have access to world-class archives and related study options. The missing link to this extraordinary musical education experience was a live performance venue with acoustic properties devised to provide artists with exceptional sound alternatives.

To meet this critical requirement, The Herb Alpert Foundation engaged WSDG to fully re-design the interior and acoustics for the small on-campus theater. The recently completed venue has been christened Lani Hall in honor of Grammy-winning vocalist (and co-founder with husband Herb Alpert of the foundation which bears his name) accommodates both musical and theatrical presentations. The 135 seat auditorium features a raised stage, innovative perforated wood rear and sidewall acoustic treatments and three innovative, full-width cylindrical ceiling treatments deployed above the stage. Outfitted with six multi-positional perforated gobos to provide the variable acoustics required by diverse performing artists and instrumentalists, the stage offers classic performance options.

Matthew Ballos, WSDG partner and co-designer of Lani Hall with founding partner John Storyk, reports that the tubular overhead wooden stage treatments, are complimented by twin 'rounded' wooden ceiling cloud/lighting fixtures, positioned over the audience seats, to further enhance listener audio quality. An elegant, cantilevered wooden rear wall diffuser fine-tunes the theater into an auditorium-size 'sweet spot.'



UCLA Herb Alpert School of Music – Lani Hall - Los Angeles, USA

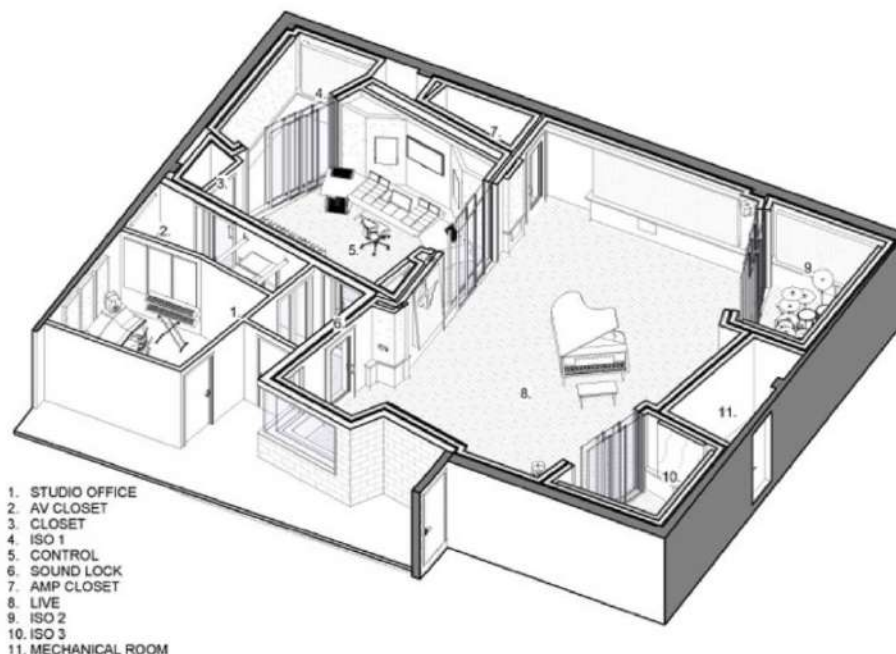


Concordia University - California, USA

Concordia University, a private Christian university located on a 70-acre campus in Irvine, California, USA, was established in 1976 to provide a Lutheran Church-Missouri Synod college to serve the Pacific Southwest. Concordia's expansive Music Education Program is designed around a rigorous core of music classes dedicated to developing performance musicianship, leadership and collaboration, critical listening and, an intellectual understanding of the various contexts of music. Bauer Architects of Newport Beach created an outstanding building design to bring a distinctive architectural statement to the campus.

Envisioned as a critical element for inspiring and preparing next generation teachers, artists, theologians and production pros, the recording complex is situated in the basement of the University's new 34,000 sq. ft., Worship & Theology and Christ College Buildings. WSDG was commissioned to design the facility and its systems integration, and to provide overall acoustic consulting. WSDG's sophisticated modeling, measurement and instrumentation tests and programs were engaged to predict and pre-tune individual room acoustics and auralization throughout the complex prior to construction.

The Concordia University Music, Worship & Theology Building main floor houses a 2,250 sq. ft. Orchestra Hall and a 1,900 sq. ft. Choral Rehearsal Hall. The lower floor will feature a studio, new to the University's offerings, with an 800 sq. ft. Live Recording Room with three ISO booths, a 300 sq. ft. Control Room. Classrooms, an open office suite, faculty offices, an event space, conference and breakout rooms are located throughout. The building accommodates twenty practice rooms ranging in size from 70 to 240 sq. ft., and twelve Faculty Studios between 140 and 180 sq. ft. for special practice and instructional tutorials.



AXONOMETRIC



Music, Worship, & Theology Building
Concordia University, Irvine, CA

Concordia University - California, USA



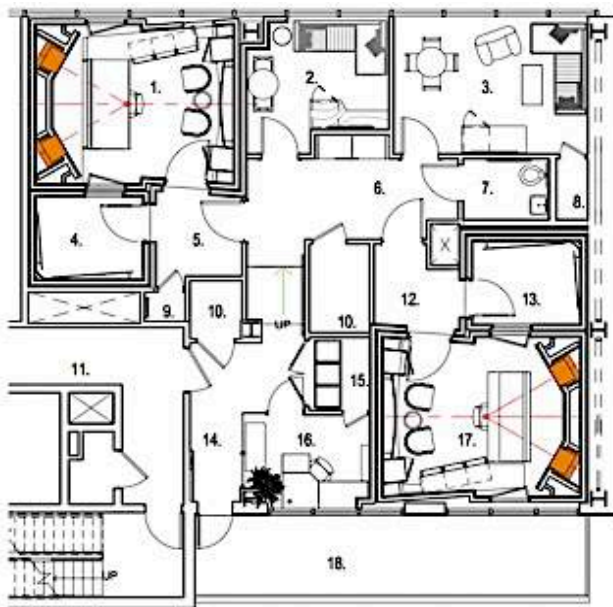
Jungle City Studios (Ann Mincieli, Alicia Keys) - New York, USA

Studio founder/Engineer Ann Mincieli has created Manhattan's first true destination studio, playing host to a wide range of artists such as Alicia Keys, Usher, Coldplay, Jay-Z, and more.

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."

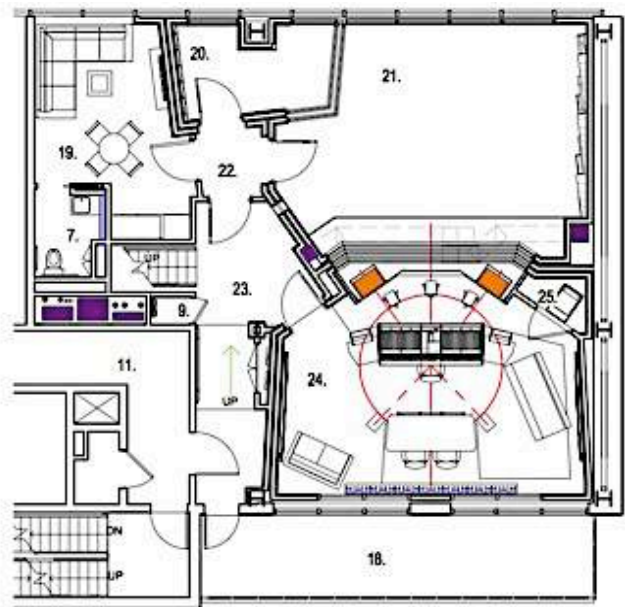


10th FLOOR PLAN

- 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

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



11th FLOOR PLAN

Jungle City Studios (Ann Mincieli, Alicia Keys) - New York, USA



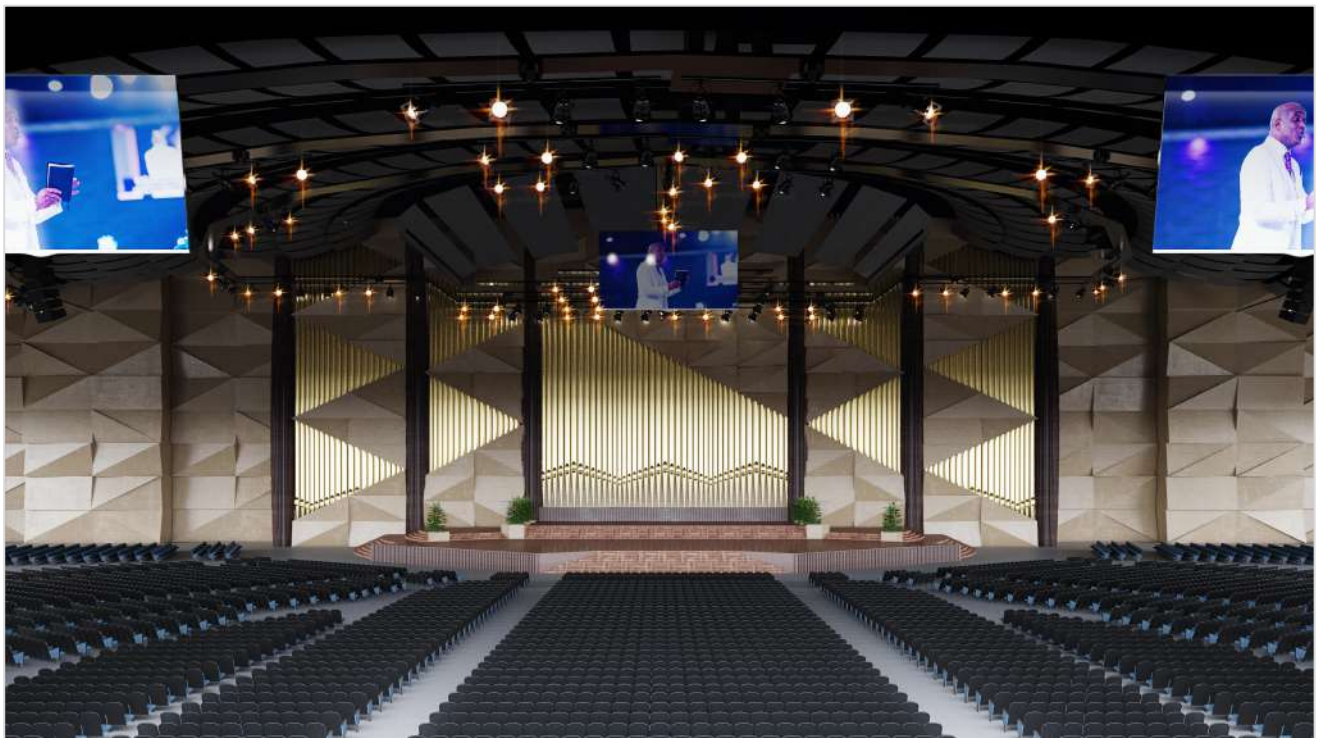
Salvation Ministries - Port Hartcourt, Nigeria

Pastor David Ibiyeomie's World of Faith Bible Institute was founded in April 1997 with barely twenty members. A year later The Pastor reported that he had been instructed by God to build a new base to accommodate the increasing number of his Evangelical Christian movement worshippers. To reach that goal the church commenced a fund raising mission, which enabled it to acquire 530 acres of land, which has now grown to a 17,000 acre housing estate christened Canaan City. And, a modern campus, known as Canaanland. Today this complex is distinguished by the 50,000-seat 'Faith Tabernacle', which is listed in The Guinness Book of Records as the world's largest church auditorium. In keeping with his Word of Faith guidance, Pastor Ibiyeomie commissioned the construction of a 426,820 sq. ft. worship center conceived in the shape of 'The Hand of God,' with five "finger" halls projecting from the 'Palm' of the main Tabernacle.

The compound encompasses the Youth Hall, the Children's Church, the Kingdom Heritage Model School, the Faith Academy Secondary School and the Covenant University facility, which accommodates over 7,000 resident students.

Each of the five "fingers" in the 'Hand Of God' Worship Center serves a distinct role in the multi-faceted operation of the complex. To develop a formal design program and scope of work, WSDG partners from around the globe began an intensive collaborative mission. Their collaborative effort was tasked with creating consummate functionality, ease of operation and extraordinary speech clarity for religious services and educational lectures throughout the complex.

Sergio Molho was designated Project Liaison for the primary system design program, and WSDG Brazil coordinated acoustics elements for classrooms, lecture halls and the huge (418,000 sq. ft.) Main Sanctuary/Tabernacle. In addition to the religious and educational elements of the complex, WSDG designed an 8,820 sq. ft. audio/video production complex with a multitude of sophisticated audio and video Control Rooms, recording studios, editing and mixing suites to support the Salvation Ministries critical DVD/Audio Book and Broadcast/Streaming Program. Partner/Art Director Silvia Molho contributed her aesthetic design expertise to developing a variety of multi-purpose lighting systems for the religious service areas and the facilities' video/audio production/ post-production components. WSDG's entire 60+ member global architectural & acoustical design and systems integration team devoted countless hours to the insuring the success of this complex multi element project.



Salvation Ministries - Port Hartcourt, Nigeria

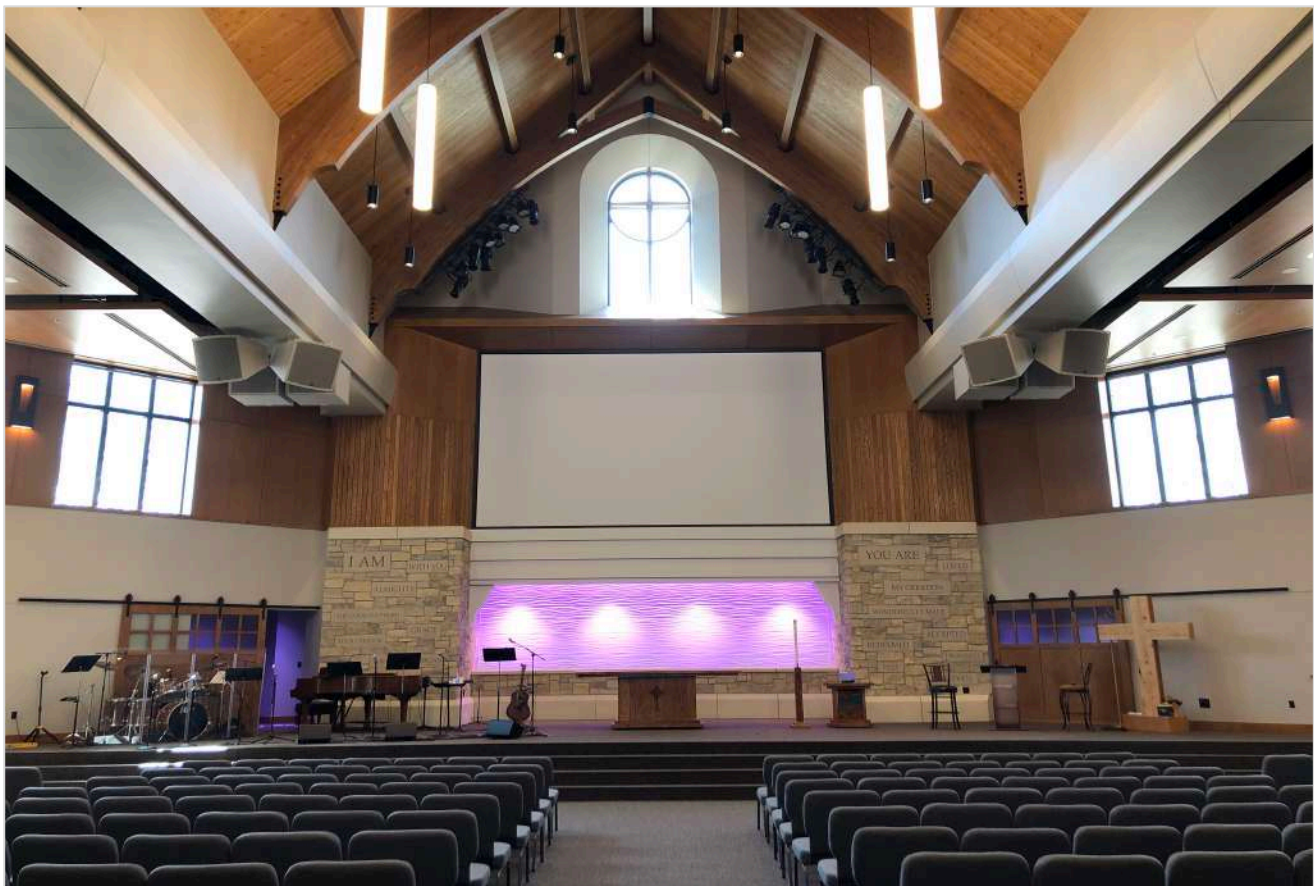


First Lutheran Church - Fargo, USA

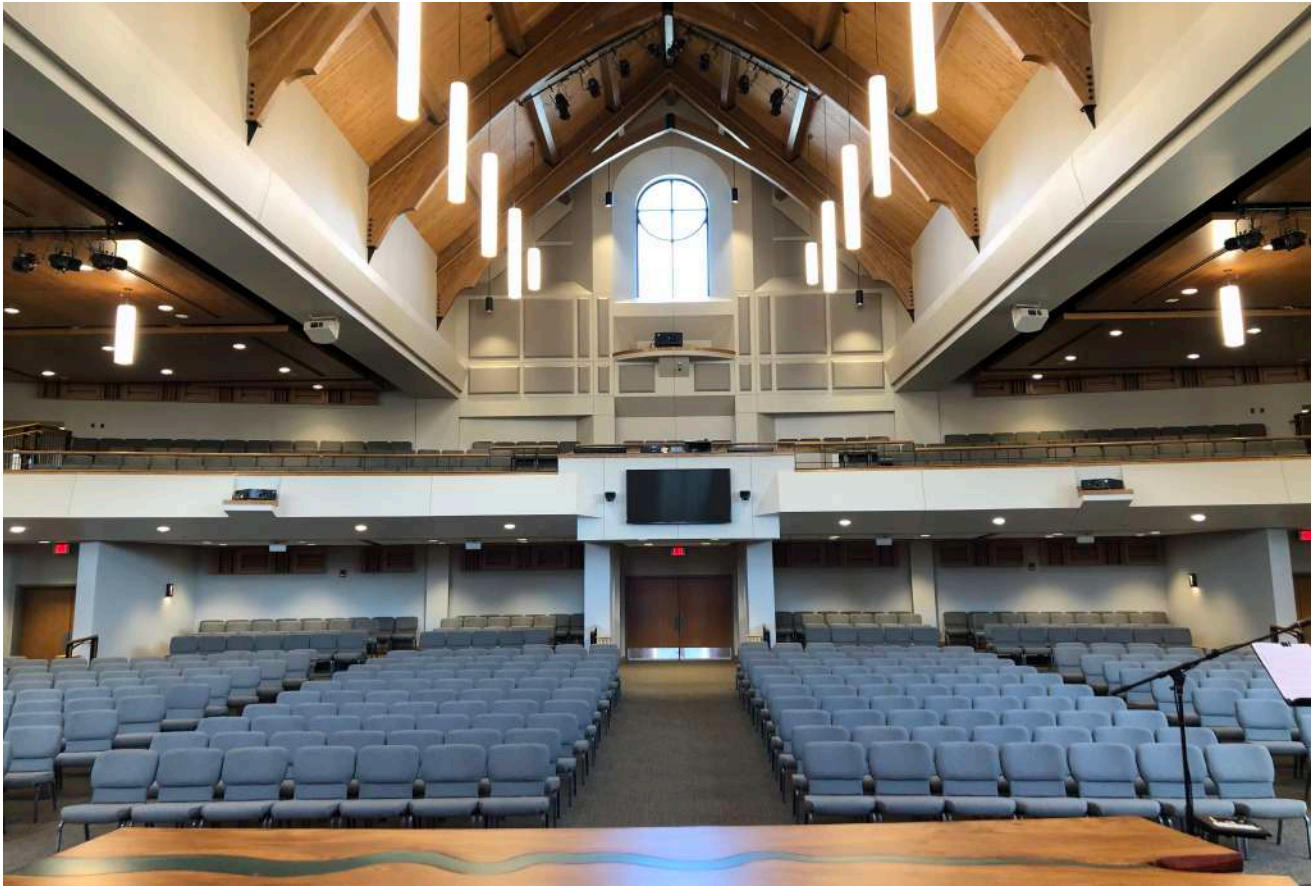
Founded in September 1917, the First Lutheran Church of Fargo, ND remains an enduring island of community support, and an archetypal spiritual training center. In 2017 a successful fundraising drive empowered Senior Pastor Corey Bjertness and his fellow pastors to undertake a substantial facility renovation and expansion. Fargo-based architectural firm wild | crg was engaged to design, develop and oversee the ambitious renovation/new construction project. Later that year, architectural/acoustical design firm WSDG was engaged to develop a comprehensive acoustic development and sound isolation program for the newly constructed Celebration Center, and to consult on comprehensive acoustic elements throughout the sprawling 96,000 sq. ft. addition. Following a June 2018 groundbreaking ceremony, the project was built and delivered in time to celebrate Christmas ceremonies at the end of 2019.

Two thirds of the original First Lutheran Church campus was earmarked for substantial remodeling and upgrades. Ground up construction was allocated for The Sanctuary, Chapel, Gathering/Education building, Offices, Choir, Nursery/ Gym and an ambitious Celebration/Performance Center. While tasked with consulting on acoustic elements throughout the complex, WSDG was primarily focused on the new Celebration Center.

A double-height performance hall with 706 seats (534 on ground floor level, 172 balcony), and a sloping, acoustically-treated ceiling, the Celebration Center and its stage were designed to provide a superlative setting for prayer, sermons, religious services, choir and other musical performances. A comprehensive sound reinforcement system was installed by Fargo-based Tricorne Audio, Inc. Key technology includes a speaker array positioned in the ceiling above stage left & right, an audio/video production central control desk stationed at the rear of the balcony with two mid-ceiling mounted speakers and two video projectors mounted in front of the balcony. A 48-channel digital mixing board and lecture sound control system facilitate both basic and more complex presentations. A production intercom system and video switcher provide control for multiple inputs to the projection system.



First Lutheran Church - Fargo, USA

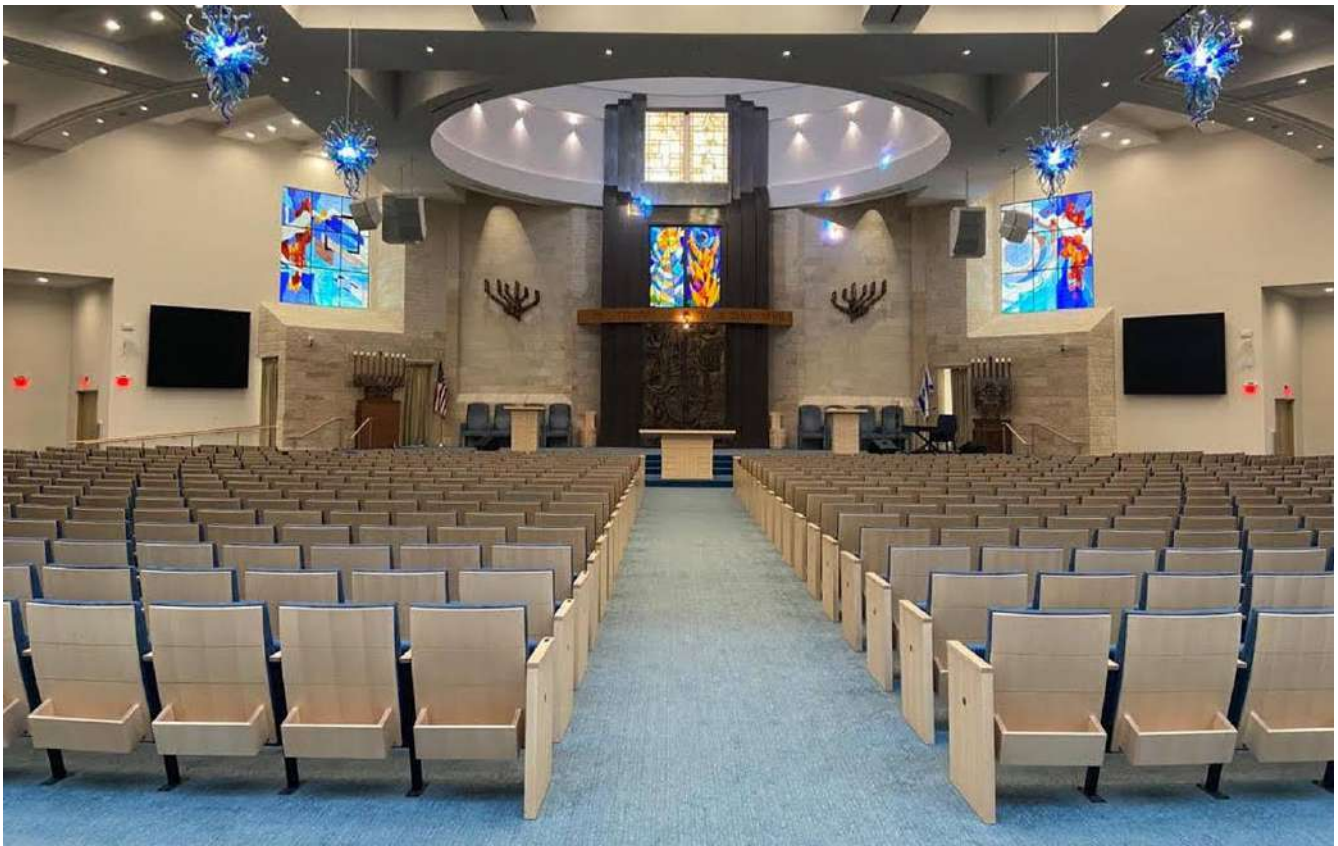


Temple Beth Torah - Aventura, USA

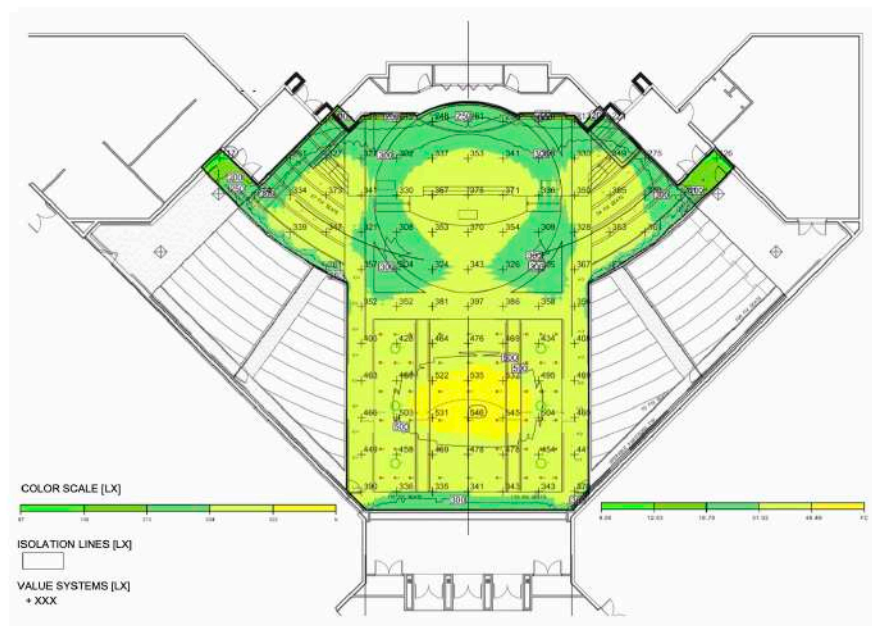
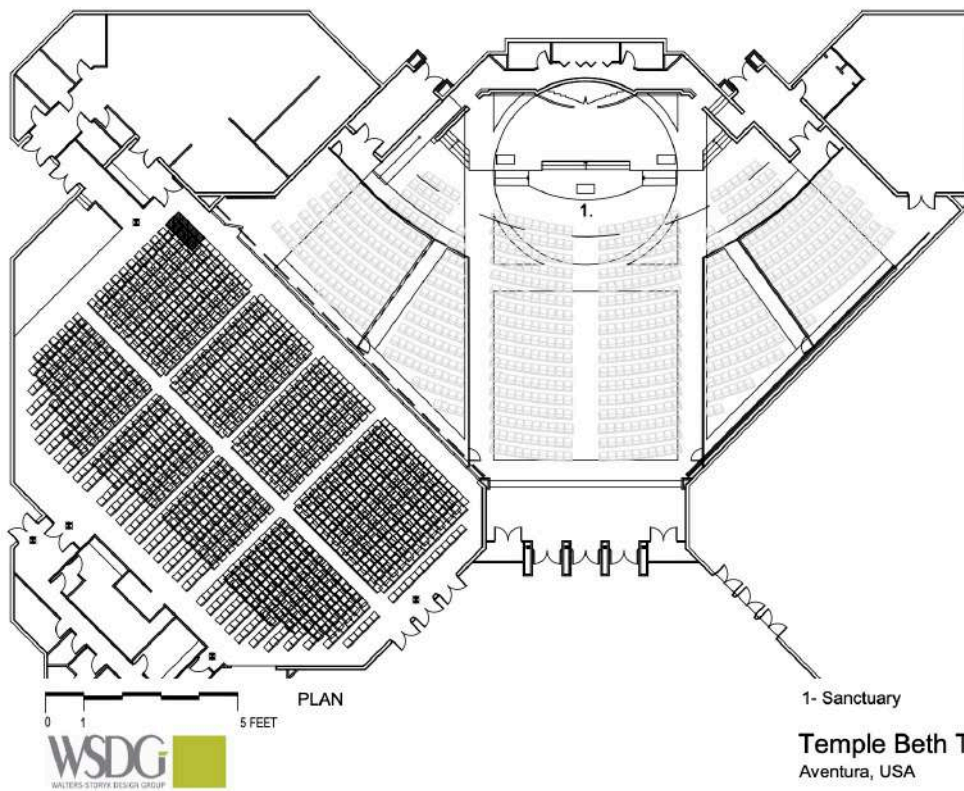
Temple Beth Torah is one of the premiere conservative synagogues in South Florida, with over 80 years of history serving the Jewish community. In 2020, the temple's leadership embarked on an ambitious renovation of its worship space to better serve the needs of its growing congregation. Architectural design for the space was by celebrated architectural firm Schapiro Associates, led by renowned and award-winning architect Jaime Shapiro with technical interior design, A/V integration, and acoustic consulting by WSDG.

The WSDG Design Team was tasked with creating a comprehensive acoustics, A/V, and lighting design package that would encompass a wide range of services and events. This package included acoustic consulting for the internal room acoustics of the space and isolation, lighting specifications for both the main hall and the inner lectern, and a robust A/V integration package that included updated sound reinforcement and professional live web and broadcasting capabilities.

The WSDG Design Team modeled the space of the synagogue using the latest techniques and equipment and made recommendations that would improve the reverberation times and speech intelligibility of the room without compromising its aesthetic appearance. The team specified the ideal acoustic materials for Temple Beth Torah's signature dome and ceiling as well as movable partitions that could be utilized in multiple room configurations. To meet the temple's extensive lightning needs, the WSDG Design Team created a recommendation package that included solutions for both main lighting schemes and indirect lighting for the lectern, allowing for a variety of moods and lighting setups, all controlled by automation. The stained-glass windows in the dome also are lit by exterior lights. The temple is now equipped with a state-of-the-art A/V package that includes a completely redesigned loudspeaker system and sound reinforcement equipment for excellent audibility and support for musical performances, and both visual and audio broadcasting equipment for live streaming of services.



Temple Beth Torah - Aventura, USA



Photometric Plan - Mode 1

1- Sanctuary

Temple Beth Torah
Aventura, USA

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



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MEDIA
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wsdg.com

262 Martin Avenue
Highland, NY 12528, USA
+1 845 691 9300
info@wsdg.com
