



BOSE

PROFESSIONAL

CASE STUDY - PLACES OF WORSHIP
CATHEDRAL BASILICA OF CHRIST THE KING



A CATHEDRAL AT THE CENTER OF COMMUNITY

The Cathedral Basilica of Christ the King is a Roman Catholic Church in Hamilton, Ontario, which was consecrated on December 19, 1933. The Cathedral is a stunning place of worship, resplendent with gothic architectural influence, traditional colorful stained glass, vaulted ceilings, and ornate details. The Cathedral accommodates up to 1,000 parishioners for worship and serves as the seat of the Bishop of the Diocese of Hamilton. As a center for major celebrations of the Diocese, like ordaining priests or hosting a wedding anniversary mass, it is a true pillar within the Hamilton community, providing a center for people to gather and worship.

MAINTAINING THE INTEGRITY OF A SACRED SPACE

As a structure nearly a century old, the pew-back sound system was installed in 1983 and had been partially replaced and updated over the years. The resulting audio quality was inconsistent, music to vocal intelligibility was low, and members sitting in certain areas had difficulty hearing during services — the system had reached the end of its life span.

Working with their integrator of 20 years, Mountain Audio, the Cathedral Basilica decided it was time to renovate some structural and lighting features along with the audio and video system. Mountain Audio was tasked to research and identify the best solution to provide pristine speech intelligibility and musical experience that would not detract from the peaceful, historic beauty of its atmosphere.

To gain a real-life example of a superior audio system, President of Mountain Audio, Scott Reid, showed Reverend David Wynen, a Bose Professional sound solution that was installed at a parish in Toronto with a structure similar in size and design. Once the Reverend experienced the freedom of movement, clarity of the spoken word, and sonorous music, using Bose Professional for the Cathedral Basilica was the obvious choice.

“We call the Basilica the Mother Church of the Diocese, so it serves a very important role as the Bishop’s Church,” Rev. Wynen stated. “The church must perform well and act as a role model, and the Bose Professional audio solution ensures that happens.”



SUPERIOR SOUND UPLIFTS THE SACRED WITH BOSE PROFESSIONAL

To maintain the Cathedral Basilica's aesthetics while increasing speech and sound clarity, Mountain Audio designed and installed three separate sound systems using Bose Professional products. Key considerations of the design included flush mounted equipment that was installed high enough to remain out of the line of sight, while leveraging the design of the Panaray MSA12X and its ability to "disappear" while directing audio exactly where it is needed. For the main system, the Panaray MSA12X steerable array loudspeakers were employed to help ensure the Basilica's sound needs, while still providing 160° horizontal coverage aimed at the seating/listening plane. The Panaray MSA12X enables steerable audio that can be aimed where users need it most. Mountain Audio also selected DesignMax loudspeakers for the balcony area, which is furthest from the priest. DesignMax loudspeakers deliver both foreground and background audio features combined in an in-ceiling design making them disappear into the ceiling of the balcony area.

In the Cathedral, the choir sits at the back of the balcony, and the implemented system needed to ensure the choir's sound would successfully project all the way to the front of the church. To accomplish this, two triple stack MSA12Xs were installed on the back wall, framing the choir and ensuring worship can be heard by all.

Rounding out the solution, the Parish Hall — where meetings, events, and smaller services are held — received

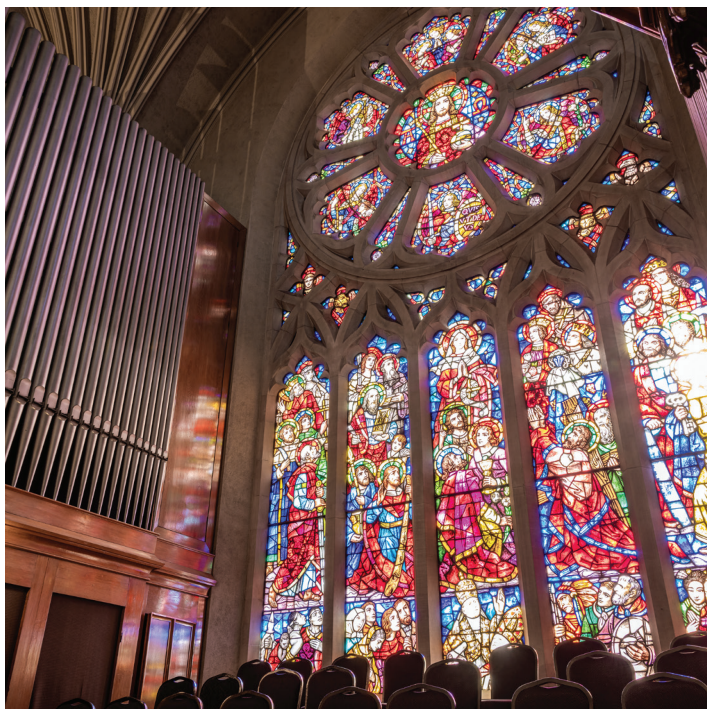
two double stacks and two single stacks of MSA12X arrays, guaranteeing an exceptional sound experience no matter which space was used.

"I like to say that the work that was done is like going from AM radio to XM," Rev. Wynen shared smiling. "The sound is truly remarkable. It's powerful, clear, very easy to use."

— Reverend David A. Wynen, VF
Rector & Dean of Hamilton
Cathedral Basilica of Christ the King

In addition to the 26 MSA12X loudspeakers, the ControlSpace EX-1280C conferencing sound processor was selected for ultimate scalability and its microphone-audio integration. Mountain Audio also chose the MIMO 7-inch touch panel controller and corresponding flush-mounted junction box for its ease of use with Bose Professional products.

Pleased with the solution and service quality, Reid praised the partnership with Bose Professional, "I can't say enough about the support Bose Professional gives us as a design and integration company. We would not be doing this if we didn't have the field engineers, sales rep, and tech support. This is one of the main reasons we always chose Bose Professional."



USING SOUND TO TURN A VISION INTO REALITY

Now the updated audio and fully integrated solution leads the audio standard for worship in the diocese. Parishioners can clearly hear the readings and fully enjoy the word of God regardless of where they are seated. Rev. Wynen is pleased with the audio upgrade, and ensures any visiting church leader experiences the new system for themselves.

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Cathedral Basilica became a role model for other churches in the diocese after illustrating that audio could be successfully used to enhance worship while providing the flexibility needed to the variety of services held.

With Bose Professional, the Cathedral Basilica’s vision of creating an impactful place of worship through music and powerful spoken word is a success and continues to highlight the beautiful sacred sounds and readings during services with its superior audio quality. ■



SYSTEM COMPONENTS

- ControlSpace EX-1280C** conferencing sound processor
- ControlSpace ESP-1240AD** engineered sound processor
- ControlSpace EX-4ML** endpoint
- DesignMax** loudspeaker
- MB210-WR** outdoor subwoofer
- Panaray MSA12X** steerable array loudspeaker
- PowerShare PS404D** adaptable power amplifier
- PowerShare** adaptable power amplifier

PARTNER: **MOUNTAIN AUDIO INC.**

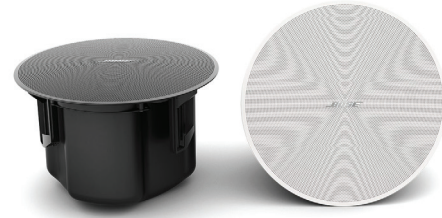


Established in 2004, Mountain Audio provides a variety of product solutions and services ranging from AV system design and integration, acoustical analysis, and audio calibration services for institutions and commercial agencies. With a specialized focus in the houses of worship market and education, Mountain Audio services clients throughout the Greater Hamilton area as well as the Southwestern and Eastern Ontario regions.



PANARAY MSA12X

Panaray MSA12X is a self-powered digital beam-steering loudspeaker that enables improved room aesthetics, with outstanding vocal intelligibility and tonal consistency. The proprietary Articulated Array transducer configuration allows wide, 160° horizontal coverage throughout the room, and MSA12X's modular design allows building of vertical arrays using 1-3 units. Dante digital audio network interface comes standard for connection with other Dante-enabled products over Ethernet-based networks.



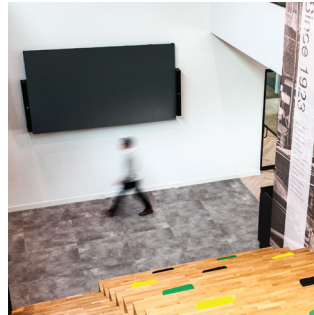
DESIGNMAX

A complete loudspeaker assortment to enhance any space, DesignMax loudspeakers offer rich lows and clear, intelligible highs — along with premium aesthetics that complement any commercial sound installation. Choose from 15 models — including coaxial two-way loudspeakers, subwoofers, and compact models for tight spaces — great for both background and foreground audio applications indoors and outside with several models IP55 rated.



CONTROLSPACE EX-1280C

A flexible DSP platform for scalable systems, ControlSpace EX conferencing processors have the features to support rooms of various sizes and the flexibility to meet future needs. An open-architecture, all-in-one design offers signal processing for integrated-microphone audio conferencing applications. Includes 12 mic/line analog inputs, 8 analog outputs, 8 AmpLink digital outputs, 12 acoustic echo cancellers (AEC), and 64 x 64 Dante connectivity. ControlSpace Designer software simplifies the setup process with drag-and-drop programming, making configuration quick and easy.



Bose Professional serves many different markets, delivering great sound in venues all around the world — performing arts centers, theaters, places of worship, stadiums, restaurants, schools, retail stores, hotels, and corporate buildings.

We know that our pro audio customers depend on us in a unique way. This is your business, your reputation, your livelihood — not just an amp, not just a loudspeaker. So, when you buy a Bose Professional product, you get the full weight of the global Bose Professional team behind you — our time, support, and attention. We see every purchase as the beginning of a partnership.



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