



The Basilica Cathedral of St. John the Baptist, Newfoundland

The Basilica-Cathedral was the largest building project to its date in Newfoundland history. Construction lasted from the excavation of the ground in May 1839, through the laying of the cornerstone in May 1841, until the completion and consecration on September 9, 1855. At this time, it was the largest church building in North America and remains the second largest in Canada after Saint Joseph's Oratory in Montreal.

Products Used

- SR-D8: Steerable Active Line Array Speakers
- SR-S: Line Array Speaker
- F-2000: Wide Dispersion Box Speaker
- DP-SP3: Digital Speaker Processor



Purpose

The Basilica Cathedral wanted to provide the parish with clear and intelligible sound so that mass could be enjoyed.

Challenge

Being an old church constructed of limestone, with high arching ceilings, many altars and windows, the environment was highly reverberant. The church needed to overcome the reverberation time to provide a service that could be enjoyed by all. The appearance of the speakers and placement was also important to the church. They wanted a visually pleasing look. The church turned to Audio Systems Ltd. to assist them with the sound system design and installation.

Solution

The solution was to install Line Array Speakers into the church. Line Array Speakers are a group of Omni-directional speakers that are arrayed in a straight line. They are closely spaced, in phase with equal amplitude. Their main purpose is to project sound over long distances offering very directional vertical coverage. Line Arrays offer a more concentrated wave front than a conventional speaker. The longer the array, the more depth and low frequency control. A Line Array speaker is ideal in a reverberant environment such as houses of worship because they place sound where needed, not on the building structure.

Audio Systems Ltd. chose TOA's SR-D8 Steerable Active Line Array Speaker System to have more control over the speaker placement and target the sound. TOA brought together its proprietary line array technology and digital signal processing (DSP) technology in developing the SR-D8 active line array speaker. As well as processing both analog and digital audio input, this innovative speaker harnesses 8 built-in digital amplifiers to project sound waves to targeted areas with greater precision than is possible with conventional speakers. By digitally shaping the width and angle of acoustic beams, it can steer sound precisely to desired areas without requiring a change of installation location. This feature makes it well suited for use in venues where structural or design considerations make it hard to move speakers about or where unwanted reverberation must be kept to a minimum. Using the Steerable Line Array Speakers, Audio Systems Ltd. was able to provide intelligible sound within the church. TOA's SR-S Line array speakers are also placed throughout the church. A Wide-dispersion box Speaker (F-2000 series) was also used.

The head end includes TOA's Digital Speaker Processor (DP-SP3). The DP-SP3 enhances the sound system easily and inexpensively. Designed specifically to work with speakers, the processor taps into characteristics of individual speakers and draws out their best possible performance, to realize richer, more expressive sound space in a variety of venues. The DP-SP3 has a built-in library of parameters for TOA speakers, which enables the congregation to enjoy well-balanced sound immediately, without going to the trouble of inputting complex parameter settings. In addition, a preset memory of up to 16 setting patterns allowing the user to instantly recall the setting need for a particular venue. The processor is also packed with such essential audio processing, functions as Equalizer, Crossover, Matrix, Compressor and Delay. This compact Digital Speaker Processor is compact, offering a solution for people who wish to add more speaker performance to their sound system.

Feedback

Considering the difficulty of the project the sound created by TOA products was well received by the church and they, along with their parish were amazed at the clarity they now heard.



About TOA Canada Corporation

TOA Corporation was founded in Kobe, Japan over 80 years ago. TOA operates in over 100 countries worldwide, with manufacturing facilities found in nearly every major market area. These facilities have a reputation for precision design and fabrication, resulting in a proven track record of TOA product reliability.

TOA Canada Corporation was formed in 1990 as a complete sound solutions provider, specializing in commercial audio, including, public address, voice communications, voice evacuation and emergency paging requirements. TOA Canada offers complete solutions for all corporate and commercial audio communications and intercom security requirements.