



Pictured: St. Patrick's Catholic Church in Hamilton with its new, powerful but unobtrusive Community loudspeakers

## Community Loudspeakers replace a foggy old sound system

Constructed during the latter half of the 19th century, St. Patrick's Catholic Church is one of the oldest and most inspiring churches in Hamilton, Ontario. Used as a venue for many musical performances, the church was laden with an obsolete sound system that simply couldn't deliver for the church's audience or performers. Faced with this dissatisfying situation, the church leadership recently sought help from the audio design team at Ashen White Productions through ChurchWares Direct. ChurchWares Direct is a leading Canadian provider of church supplies and products and they refer their clients to Ashen White when there are problems with an audio/video system.

With guidance from Warren Potter, head of sales and installations at Ashen White Productions in Toronto, the St. Patrick's Catholic Church successfully installed a new sound system using Community Professional Loudspeakers and Crest Amplifiers. The new Community system has been a star performer for St. Patrick's! Now parishoners, church leaders, audiences and performers all look forward to experiencing the St. Patrick's sound.

### THE PROBLEM

Performances and events in the church weren't sounding good. The original sound system dated from the 1950s and 60s with some upgrades from the early 1980s. The design and layout of the old system was not conducive to even coverage, time alignment, clarity or intelligibility.

The system used very old speakers which were underpowered and poorly orientated, had no graphic equalizer, had a mixing console with fixed channel EQ and no high pass filters or phantom power and old VHF wireless. The old Shure VHF wireless unit was good for its time but



Pictured: South aisle of St. Patrick's with white Community VERIS 3564 mounted on east arch

now the frequencies in those units are mixed in with garage door openers, taxi cabs and all other sorts of radio transmissions, resulting in large amounts of static, pops and drop-outs.

## THE PLAN

Ashen White met with the leaders of St. Patrick's Catholic Church to help determine their needs and goals. The most important factors the Church wanted solved were sound quality and coverage. Design lead Warren Potter took these requirements and designed a system to deliver the high quality performance they needed. "We knew we wanted the system to work so that the room would sound the way it should - open and natural," said Potter.

## THE PRODUCT CHOICE

For the St. Patrick's project, Ashen White selected Community VERIS and I/O loudspeakers with Crest CC amplifiers. "We decided on Community for several reasons," explains Warren Potter. "The first reason was that Community had a box that perfectly fit every requirement in St. Patrick's: the VERIS 3564 for the mains, VERIS 8 for the delay, I/O5 for the altar fill and the I/O8 for the choir loft fill. Because of the traditional nature and layout of the church, having subwoofers was not really an option at this point, so having a box with a 15" low frequency driver was required to fill the room with warmth.

"Going from a 15" low frequency to a horn never really works well or sounds right when you're dealing with live audio, especially applications heavy on speech, so good thing the Community VERIS 3564 could save the day with its midrange driver allowing the low frequency driver to be a true low frequency!

"Having the mid-frequency driver on a lens for directionality rather than compression keeps everything smooth and warm as well as projecting a sound that seems close to your face even when the box is further away. The VERIS 3564 had no problems filling the room in the low frequency range, allowing us to crossover the VERIS 8 delay boxes up around 200Hz turning them into a more of mid/high box," Potter continues. "The I/O5 is nice and small and hides very well while still producing the volume needed to fill the required area. The I/O8 easily fills the choir loft. Thinking ahead, these boxes can easily be reconfigured to act as a true monitor mix for future concert use."

## THE INSTALLATION

The original site inspection showed concrete arches that the installation team could mount speakers to. A more detailed inspection showed that not all of the arches were solid, some were added only for decoration. The installers hoped they could drill through the heavy wood joists at the top of the arch and build a sort of clamp system to safely hold the loudspeaker enclosure.

That plan went off the rails when a virtually impenetrable void in the joist was discovered. The Ashen White team knew there would be a gap between the joists on either side of the arch, but there was something in the joist that no drill bit would even dent! The hammer drill bit was ineffective, it jumped all over the place and that told them the unseen barrier wasn't stone or concrete. Their steel drill bits came out clean, so the barrier wasn't a metal. The church is approaching 200 years of age, so the chances of advanced building materials being used was unlikely! Furthermore, church records showed no changes of the sort.

The installation team abandoned their attempts to drill the joist and instead put large lag bolts into the wood joist and lead sinks into the masonry - hardware strong enough to support the full dead weight of two adults! St. Patrick's original roof was covered by slate, weighing in at over 70 tonnes. Later, the roof was replaced using a slate look-a-like that reduced the weight of the roof to under 40 tones. The team was sure the weight of the VERIS boxes wouldn't bother the newly refinished roof.

The Ashen White team used OmniMount brackets and their own custom mounts for the Community VERIS 3564 loudspeakers. For the VERIS 8 speakers, they used the provided U-bracket which allowed them to not only hide the speaker enclosure in the ceiling (to the point where the church staff didn't notice them until Ashen White pointed them out) but they allowed the speaker to be perfectly aimed. The mount allowed the entire unit to pivot and rotate, maintaining even coverage and putting the sound right where they needed it to compensate for some acoustical shadows caused by the columns. Finally, the installers used a large lag bolt to secure the speaker enclosure once it was focused to make sure it never drifts, get knocked out or falls down.

## **THE SUCCESS**

A proud Warren Potter tells us that "the system sounds great! As the one who focused the boxes, tuned the system and mixed the first couple of services and events in the church after the installation, I can say the system works very well with the room."

"The room has a natural warmth to it and it also is able to hold and transmit low midrange frequencies very well. It's not a hang time like an arena. The 15" LF of the VERIS 3564 speakers produce a very warm sound in the room; and with the directionality of the MF and HF, the services have never sounded better," Potter notes. "No matter where in the room you are you feel like you are being spoken to in person, up close and personal – as opposed to being spoken to as a group thru a sound system."

"Because they're are using a Crest Audio CC4000 amplifier on the VERIS 3564s and a CC2800 on the VERIS 8 speakers, we have lots of headroom in the amplifiers allowing them to stay nice and juicy so we can really crank it up when we need to without drying up the rails and thinning out the sound. There's no such thing as too much headroom!"

Both the staff and the members of the church are thrilled with the new system. Some visitors have commented how much better St. Patrick's new Community system sounds compared to their new system. At this point, the Ashen White hadn't even tuned the St. Patrick's system, it was just operational. The parishoners are making comments about how nice it is to hear EVERY word that is said during a service, whether you're in the front row or the back row. What a great SUCCESS for St. Patrick's Church, Ashen White and Community and ChurchWares Direct!

## **SPEAK WITH THE EXPERTS**

Do you have a system that needs attention? Call 416-675-9090 and get in touch with the team at Ashen White Productions in Toronto or hit their web site at [www.ashenwhite.com](http://www.ashenwhite.com). For church supplies and sundries, try ChurchWares Direct at 800-668-7324 or [www.churchwaresdirect.com](http://www.churchwaresdirect.com).



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