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## One Systems Direct Weather Loudspeakers Take On Niagara Falls

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Hornblower Cruises recently received exclusive rights to operate Niagara Falls boat tours from the Canadian side of the natural wonder. Two new 700-passenger, catamaran boats – each equipped with [One Systems](#) direct weather loudspeakers – take passengers on a journey past the American Falls, Bridal Veil Falls and into the very heart of the famous Horseshoe Falls.



Design Electronics, located in Niagara Falls, Ontario has a long history of installing and maintaining audio systems used on the Niagara cruises. As a result, they were brought in to assist with the system design for the new Hornblower boats.

Working with a base design and specification created by the USA-based Hornblower AV department, the Design Electronics team put together a system that could survive the rigors of the elements.

“It’s an incredibly harsh environment – that will put any weatherproof speaker to the test,” explains Lorne Bjorgan, president of Design Electronics. “We’ve been doing this for a while and have hands on experience with the equipment that can survive the kind of extremes that the Falls will subject them to. A lot of manufacturers call their equipment outdoor and weatherproof, but you’d be amazed at how quickly some loudspeaker components can decay, especially when installed near 150K gallons of falling water per second.”

Given their experience, Design Electronics recommended One Systems direct weather loudspeakers for the job. The distributed 70-volt system consists of 38 One Systems 103IM loudspeakers powered by Lab.gruppen amplifiers. System control is provided via a Rane HAL2 system.

“One Systems loudspeakers not only have the required IP rating but also sound terrific and are built to last,” adds Bjorgan. “The distributed system is primarily used for the tour presentation and music playback, but had to be able to handle music for dinner tours, weddings and other special events. It was the perfect solution for this application.”

The majority of the 103IM loudspeakers—38 in total – are bracket mounted throughout the main level to cover passengers on the open deck and in the enclosed seating area. The low ceiling height and a desire to keep the views as un-obstructed as possible made the compact, 8 x 6 x 5-inch enclosures the right fit.

“The mist and water these loudspeakers experience is comparable to having micro droplet high pressure hoses spraying the loudspeakers,” says Bjorgan. “We have tried other compact enclosures and find time and again that One Systems holds up to the environment for a much longer time than anything else.”

The loudspeaker is loaded with a high-frequency driver coupled to an elliptical constant-directivity horn. Its 4-inch woofer delivers extended bandwidth response and superb

performance. The end result is superior system intelligibility, good vocal range and exceptional music reproduction.

“It is always surprising how loud the Falls themselves are,” Bjorgan continues. “The distributed system blankets the lower level with solid, intelligible coverage so folks can hear the presentation.”

He also notes that One Systems and Canadian distributor Contact Distribution were integral to getting the components delivered so they could be installed within a tight timeframe.

According to Bjorgan, the organization is very pleased with the end result. “The systems is designed accommodate the companies needs now and in the future,” Bjorgan concludes. “These components will still be going strong five years from now.”



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