

Mic Mac Mall Upgrades To Intelligible Sound

VENUE:

The Mic Mac Mall in Dartmouth, NS, is the largest mall in the Maritimes and east of Quebec City. The mall is home to 160 top brand name retailers and services.

SCOPE:

The Mic Mac Mall needed to upgrade the public address (PA) system, to ensure that it provided intelligible paging, especially emergency paging, while providing great sounding background music, which maintains a consistent volume level. The consumer area of the mall was slotted to receive the upgrades.

CHALLENGE:

The previous installation in the mall frequently received complaints that voice paging was not intelligible and was often difficult to hear. (The approximate age of the system was 15 years.) The original speakers were flat 8" speakers tapped at 2 watts each. The amplifier rack contained three of TOA's 900 Series Modular Mixer/Amplifiers (A-903MK2), each having 60 watts of power consumption by 5 amps for the entire mall. The original amplifiers were over-burdened.

SOLUTION:

Duocom's Halifax Office was selected to design, install and support the PA system for the Mic Mac Mall. The facility manager required that the upgrade be complete in a timely manner, setting a tight deadline for Duocom. Duocom selected TOA's PA products for the Mic Mac Mall based on the many features that TOA's products offer and how these features meet the requirements of the mall. TOA's PA products allowed for consistent sound levels throughout the mall; have good sound quality; and excellent zone paging features. Both Duocom and the facility manager at the mall liked the idea that the system can be monitored with an Ambient Noise Module (AN-001T). TOA was the best choice for Duocom because the products are easy to design and install, are versatile and offer a good price for the consumer.

Duocom upgraded the consumer areas of the mall by installing 151 of TOA's F-2352C - Co-axial 5" Ceiling Speakers. The old speakers were removed and TOA's speakers were retro-fitted into the original location using trim rings to compensate for the existing larger speaker hole, ensuring a snug fit for the new speakers. The speaker spacing was fairly wide and worked well for the new speakers. These speakers are now tapped at 5 watts each versus the 2 watts of the original speakers. TOA's F-Series Ceiling Speakers are wide-dispersion providing enhanced sound throughout the mall, and better intelligibility for paging, emergency paging and back ground music.

The amplifier rack consists of TOA mixers and amplifiers. The Mixer, TOA's M-9000 Matrix Mixer, has two main inputs. The telephone paging input (ZP-001T – Telephone DTMF Zone Paging Module), which has the signal on a twisted pair wire for paging and emergency paging, provided by the local phone company, plus satellite radio for background music. The second input consists of two AN-001T





– Ambient Noise Control Modules. There are three microphones to monitor the noise levels in three areas of the mall. These areas include; the food court; central court; and end court (an area for special events, kiosks, Santa, etc.) where high traffic and excessive noise exist. The Ambient Noise Control Module allows the PA system to be monitored for noise levels and allows for appropriate adjustments to be made to the PA system.

Four DA-250 – 4-Channel Digital Power Amplifiers drive the speakers. TOA's DA Series Amplifiers are lightweight, compact and provide high power output, and high efficiency. Each amplifier provides 250 watts of power per channel. The system allows for 6 channels of redundancy providing back up if required. The entire system is approximately 2500 watts providing sufficient head room and allows for the PA system to be easily expanded in the future (the ability to add more speakers) as required.

A monitor panel designed to provide aural and visual monitoring for multi-channel PA systems was included in the amplifier rack. TOA's MP-032B - 10-Channel Passive Monitor Panel was selected to monitor the speaker lines. There are ten input channels for monitoring the high impedance speaker lines in the PA system. This Panel features an internal speaker with a selector switch for individual channel monitoring, a volume unit (VU) meter to show the volume levels going into the selected zone. The MP-032B is an output of the amplifiers.

During the installation process, the amplifier rack was moved down two floors within the mall, positioning it behind the Customer Service desk. This allows for easy access for the Customer Service personnel who are managing the system.

CONCLUSIONS:

The comments from the Customer Service Team at the Mic Mac Mall are very positive. "Pages can be heard and understood. We no longer have to re-page." The entire Mic Mac Mall management and staff are all very satisfied with the upgrade to the PA system and are certain that their jobs will be made easier. The addition of the Ambient Noise Control allows for easy volume adjustments using the microphone sensors. Just adding the upgraded amplifiers improved the quality of the system. Adding the mixer, amplifiers, and speakers has immensely enhanced the system, providing a PA system, with clear background music and paging.

