The Facility

The Holland Performing Arts Center is designed to be the city of Omaha’s performing arts and cultural center. Patrons visiting the facility ascend a central grand staircase to a 2,000-seat concert hall. The main concert hall has been designed to reflect the feel and acoustic excellence of the “shoebox” style concert halls of Europe. Located in the center of downtown Omaha near the Gene Leahy Mall the street-level lobby is designed with floor to ceiling glass panels offering a transparent transition from the facility’s surroundings.

In addition to the main concert hall the facility contains a 450-seat chamber music hall, meeting and lounge spaces and concession areas. A semi-enclosed outdoor performance area is available supporting events for up to 1,000 people.

Acoustical Design

Acoustical performance was considered throughout all facets of design for the facility. The main concert hall provides for 900,000 cubic feet of acoustical volume. In order to achieve the desired acoustical performance of the space, materials including hand-crafted plaster panels and fine-grained wood work were utilized. Such techniques as vibration isolation, building separation and low-velocity heating and air conditioning distribution have been implemented to meet the design requirements.

Building Management Control System

In order to ensure the high standard of environmental and acoustical conditions required by this world-class facility, an Andover Controls Building Management Control System (BMCS) was provided by Control Services, Inc. of Omaha, Nebraska. The 1,500 point BMCS monitors and controls central air handling and hydronic equipment throughout the facility, all accessible from a central operator workstation.

Most of the air distributed throughout the facility is done at low velocity in order to prevent the unwanted noise associated with moving air. The Andover BMCS monitors airflows throughout the ductwork system and then interfaces through software to nineteen variable frequency drives in order to maintain desired environmental conditions at the lowest possible delivery velocities. In the concert hall itself air is delivered through openings below the patron’s seats from a pressurized plenum below the hall.

The Andover System not only provides for optimal temperature and acoustic conditions, but also monitors and maintains relative humidity and carbon dioxide levels throughout the facility. The Andover system even utilizes fume detectors in the loading dock areas which will automatically start exhaust fans making sure that undesirable fumes do not reach the patrons.

Security Monitoring and Control

The Andover System doesn’t stop at making visitors comfortable. It also provides security for the facility. The Andover System includes access control on various doors throughout the facility. The access control system is a proximity card access system used to give access to certain areas of the Performing Arts Center to employees while maintaining security by restricting access to the public. The access control system also monitors the door open/close status, all access events, and gives the end user complete control of when and where someone may access areas of the facility. The Andover security system is administered and monitored through the same workstation as the HVAC system although with different user and access levels.