



Installation: **Montclair Art Museum, Montclair, New Jersey**

Circon Integrator: **Enertech Inc, Hawthorne, New Jersey**

Building Type: **Public Art Museum, Cultural and Education Center**

Physical Description: **single story building, 44 000 sq ft (addition)**

Duration of Project: **April 2000 – October 2001**

## THE CLIENT

Montclair Art Museum (M.A.M) is located in Montclair, New Jersey. This historic center is comprised of three sections, the first of which opened to the community on January 5, 1914. The initial addition was opened in 1930 and the latest one designed by Beyer Blinder Belle Architects & Planners LLP, was opened in 2001. The new addition consists of art vaults, three new galleries, art classrooms and a great room with complete renovation of the existing sections. This historic site has become not only a modern museum but also an educational and cultural center.

## THE CHALLENGE

- *Integrated control of HVAC systems – which previously operated on another control system*
- *Multiple systems to be managed through single central management system*
- *Implement Open Systems LonWorks® building automation system for future multi-vendor expansion*
- *Control of both space temperature and humidification within a specific and rigid limits*

The Montclair Art Museum's primary concern was to maintain constant temperature and constant humidity in the art vault and in all galleries. The new Circon system not only had to provide a high level of control, it also had to be seamlessly integrated into the existing HVAC systems sensors and actuators. These included individual fan coil units, classroom unit heaters, three chillers, two hot water boilers and two steam boilers.

M.A.M sought to implement an integrated system that would not only effectively monitor and manage their energy consumption, but would also allow for future system expansion and remote alarm monitoring and management.

## THE SOLUTION

- *Implementations of Circon's Integrated Building Automation system provides integrated control of HVAC systems.*
- *Circon's Visual Integrator™ graphical user Interface software allows individual scheduling of individual HVAC systems for each area of the complex resulting in increased comfort, a stable environment for the artefacts and an immediate and drastic improvement in energy efficiency*
- *Operator's workstation using Circon's Visual Integrator provides centralized management to monitor, control and override any area of the complex as needed.*
- *LonWorks based technology provides a solid platform for future expansion of the existing system or the inclusion of other sub-systems such as card access, lighting, security system and energy management*
- *Custom alarm set-up and monitoring, both, remotely and locally*

Circon's HVAC controllers are installed in six multi-zone air handling units each with its own hot deck and cold deck, six individual unit heaters, nine individual fan coil units, a complete hot water baseboard system, a carefully controlled steam humidification system, three multi-stage chillers, associated cooling towers and multiple exhaust fans. All use the new distributed LonWorks network for operation. The system is configured with individual and

unique zone schedules, each tailored to meet the needs of demanding departments within the facility. Circon's BASIC language is used to program the sequence of operations for many of the controllers, allowing the HVAC systems to operate at peak efficiency and to optimize the load every hour of every day. Alarms are set up to be delivered to a chosen mechanical contractor who has 24-hour stand-by service and the capability to remote access through Visual Integrator for instantaneous problem solving.

## THE DETAILS

### HVAC CONTROLS

- *Extremely efficient energy consumption guaranteed by intelligent monitoring and controls*
- *Unsurpassed levels of tenant comfort*
- *Air quality monitored and controlled to highest standards*

Circon programmable HVAC controllers, unitary HVAC controllers and site management controllers operate effectively and monitor all HVAC systems. Circon BASIC language is installed to program the sequence of operations to allow greatest efficiency and load handling capability. LonWorks based thermostats are also employed to provide local control of some of the smaller equipment.

### SYSTEM MANAGEMENT

- *Total, real time monitoring and management via desktop PC running Circon's Visual Integrator software*
- *Custom designed user friendly GUI (graphical user interface) with point and click*
- *Remotely deployed laptop computer also running Circon's Visual Integrator allows on-site equipment diagnostics*
- *Site management controller intelligently handles all alarms*
- *Diagnostics, troubleshooting and repairs occur before building occupants are aware of a temperature change*
- *Echelon's LonWorks routers are employed to direct and contain network traffic*
- *LonWorks® based technology allows unlimited expansion options*

**For more information about this case study, please call us at 1-800-338-1866.**

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