CASE STUDY EDUCATION

CIRCON
SYSTEMS CORPORATION

Installation: **Deer Valley Unified School District No 97, Phoenix, Arizona**

Circon Integrator: **Mechanical Products BAS, Phoenix, Arizona**

Building Type: **Elementary schools**

Physical Description: **Additions to 4 existing schools, 1 new school**

Duration of Project: **August – October 2003 for the four existing schools. Summer of 2002 for the newly constructed school.**

THE CLIENT

The Deer Valley School District has four schools that have recently been upgraded to replace portable classrooms with additional permanent structures. Additionally, one new school is included on the network and is meeting the ventilation requirements.

THE CHALLENGE

- *Replace portable classrooms with permanent structures*
- *Bring ventilation requirements up to standard*
- *Offer a single point for maintenance*

THE SOLUTION

- *LonWorks® network for expansion and integration of best–of–breed vendor products*
- *Demand control ventilation using VentPak*
- *Direct Digital Control of HVAC unit functions using Circon controllers*

Deer Valley utilizes Circon's Visual Integrator 3 Operator Workstation for Facility Management software for the school district's system monitoring and control, employing Echelon's remote interface devices, the i.LON® 100 and i.LON 10, over Deer Valley's existing LAN to bring the multiple buildings together on a single IP network These multiple sites are then accessed through Visual Integrator 3 which gives the users access and configuration rights for occupied/unoccupied time scheduling, holiday scheduling, set–point limiting and overriding, trend logging, alarm notification (both visually and through email), and optimum start time on the HVAC units for maximum system efficiency. This solution provides for a central location for monitoring and control of the multiple sites, with real time information and notification available for the facility management staff.

The VentPak is a ventilation module that adapts to any 2–10 ton packaged rooftop HVAC unit and converts it to a temperature and ventilation control system. Designed for applications where occupancy fluctuates regularly, such as schools, the VentPak uses a CO_2 sensor to estimate the number of occupants in the space, determines when they come and go, and regulates the appropriate levels of fresh air accordingly.

The VentPak provides a daily baseline for the CO_2 levels by flushing the building of accumulated indoor air pollutants with fresh air. This CO_2 reading is the outdoor ambient reading and is the setpoint for equipment. The school district controls the indoor air CO_2 levels at 800 parts per million above the ambient level. The dampers are scheduled to be open to various extents based on scheduled occupancy. Should the occupancy exceed planned levels and exceed the setpoint level, in this case 800 parts per million, the dampers will automatically open at 100% to clean the air. If the damper is fully opened for extended periods an alarm will be generated to notify building operators.

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

Corporate Head Office *Bldg 110 ~ 6660 McMillan Way, Richmond, BC, Canada V6W 1J7*
telephone ***604.232.4700*** *facsimile* ***604.232.4747*** *toll–free* ***800.338.1866*** *website* ***www.circon.com***