

# Andover Continuum™ Hits a Home Run at Arizona Ballparks



## PROJECT AT A GLANCE

**Project Type:**

Integrated (HVAC, Security, Lighting, Dome Control)

**Location:**

Phoenix, Arizona, USA

**Number of Buildings:**

1

**Total Area:**

1.26 million sq. ft. (117,054 m<sup>2</sup>)

**Applications:**

Temperature and Humidity Control

Access Control

Lighting Control

Retractable Dome Control

CCTV

Fire Alarm

Smoke Control

Video Badging

Security

Intercom

**Number of Controlled Doors:**

70

**Number of Cardholders:**

500

**Total System Points:**

7,500



Arizona's Bank One Ballpark is the home to major league baseball team, the Arizona Diamondbacks. The 25-story state-of-the-art stadium is situated on a 22-acre site in downtown Phoenix. Bank One Ballpark has been in operation for seven years and hosted the 2001 World Series, in which the Arizona Diamondbacks defeated the New York Yankees.

In 1997, TACs Partner, Netsian Technologies Group of Tempe was selected by Maricopa County Stadium District to install a fully integrated Infinity automation system. In 2004, the Andover Infinity™ system was upgraded to Andover Continuum, which included new computers, software, and the creation of 1,200 new graphics to show HVAC, fire alarm, card access, CCTV, and retractable roof control points. This integrated platform provides seamless integration of differing technologies through its ability to support a diversity of communications protocol, including Ethernet, TCP/IP, and BACnet, plus software interfaces to third-party equipment such as the Pelco 9700 CCTV switcher, and the Simplex brand fire alarm system.

**Andover Continuum Equipment Installed:**

- 6 – Network Controllers
- 5 – Cyberstation Workstations
- 3 – Touch Screen Displays
- Numerous Infinet controllers, including Intrusion Detection Controllers

**Third Party Equipment and/or Drivers:**

- Simplex fire alarm system
- York chillers
- Systecon package pumping system
- Pelco CCTV
- EPISUITE badging package

**Network:**

Fiber Optic LAN

**TAC Partner:**

Netsian Technologies Group

The entire stadium and common area lighting systems are also under Andover Continuum control. Using the Andover Continuum DCX 250 Touch Screen display located behind home plate, umpires can adjust the light levels over the playing field before the game.

**The Ultimate Closer – Andover Continuum Controls Stadium’s Retractable Roof!**

One very impressive area under Andover Continuum control is the stadium’s dome-shaped retractable roof, composed of six telescoping panels. Driven by two 200-hp electric motors, it takes five minutes to open the roof, exposing approximately five acres of open sky. Using advanced control algorithms, Andover Continuum is programmed to position each section of the roof, providing sunlight to the grass field while avoiding heating the adjacent concrete seating areas that surround it. In addition, stadium officials can close the roof during the summer months to cool the bowl area to an acceptable temperature before games. It takes approximately four hours to cool the stadium from 110° to 80°F in mid-summer.

**Andover Continuum’s HVAC Control Covers All the Bases**

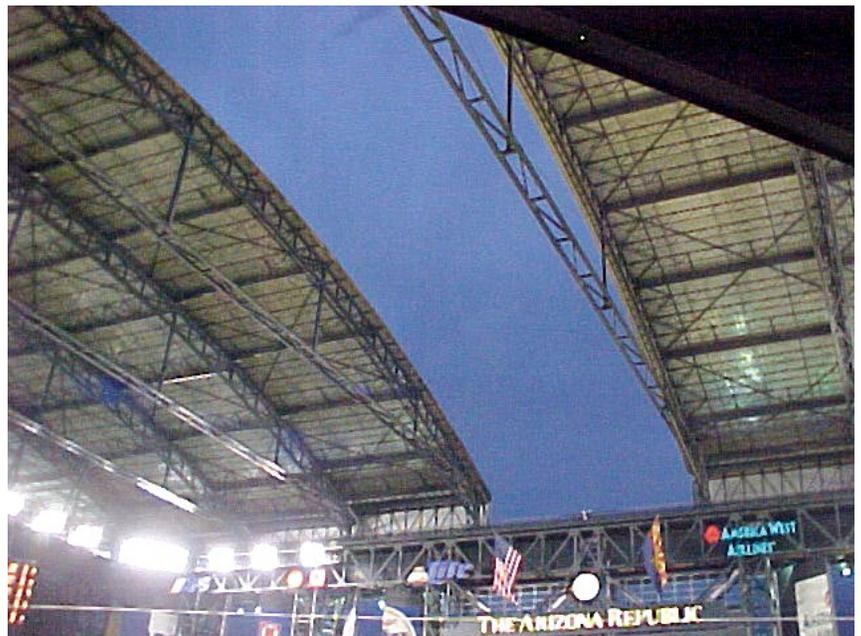
The Ballpark’s communications backbone supports both local and wide area networking capabilities. Five CyberStation™ operator workstations and a file server process the vast amounts of information and alarms the stadium generates daily. Fiber optics media was selected to facilitate the extreme high speed data transfer necessary to meet the throughput criteria specified.

Precise roof control using the Andover Continuum system is critical; for although sunlight is necessary to keep the grass from dying, a heated thermal mass of concrete will delay the cooling of the bowl area. The Andover Continuum system also controls the giant advertising panels that surround the stadium, rotating them vertically during game time for better air circulation and a more “open stadium” feel.

Andover Continuum monitors the Ballpark’s chilled water system, one of the largest in Arizona. The cooling load is in excess of 7000 tons, served by the Central Phoenix Northwind Project. Andover Continuum also controls the HVAC air distribution system. Andover Plain English™ program sequences perform flow sensing on the larger AHUs to achieve maximum airflow totaling 1.5 million cfm throughout the stadium.

**Andover Continuum Security Teams Up with Pelco CCTV**

The ballpark is protected by the Andover Continuum Security Management System, fully integrated with a high-speed Pelco CCTV System. An invalid door access will trigger one of 90 cameras located throughout the stadium to access a preset viewing point in less than one second. The EpiSuite™ video badging system is also integrated into the Andover Continuum Software.



Stadium’s Retractable Roof

“Andover Continuum provides a window into all of our electronic systems installed in the facility, allowing us to monitor and control each of these systems through a single software platform.”

Alan Sokolsky  
Facilities Engineer  
Bank One Ballpark

According to Alan Sokolsky, “An integrated approach has saved the owner approximately 15% on installation costs. These cost savings were obtained by the elimination of redundant communication infrastructures, microprocessor-based systems, and operator workstations that would normally be furnished with separate specialized systems. The added benefit of a single integrated system is that it requires less owner training in programming and system management. A single system means that stadium officials can use one programming language, Andover Plain English™, and a common user interface, the Andover Continuum CyberStation™ front-end software, to control the entire stadium.”



The Andover Continuum Family

Netsian Technologies Group and TAC® are continuing to provide Bank One Ballpark with “wins” through continued service and support for a cost-effective, comfortable, and safe environment for the Arizona Diamondbacks and their fans.