

# NETWORK

News on the industry & Information  
for Contemporary Controls'  
Most Valued Customers

## INSIDE

- Tech Update .....2
- International News .....3
- The EXTENSION .....insert

## TRADE SHOWS

Learn the latest innovations in technology  
by attending these trade shows.

### Building Automation 2007 Conference September 25-27

Wyndham Phoenix Hotel  
Phoenix, AZ USA

### ISA Expo 2007 October 2-4

Reliant Center  
Booth #2253  
Houston, TX USA

### SPS/IPC/Drives 2007 November 27-29

Exhibition Centre Nuremberg  
Hall 9, Stand 101  
Nuremberg, Germany

### AHR Expo 2008 January 22-24

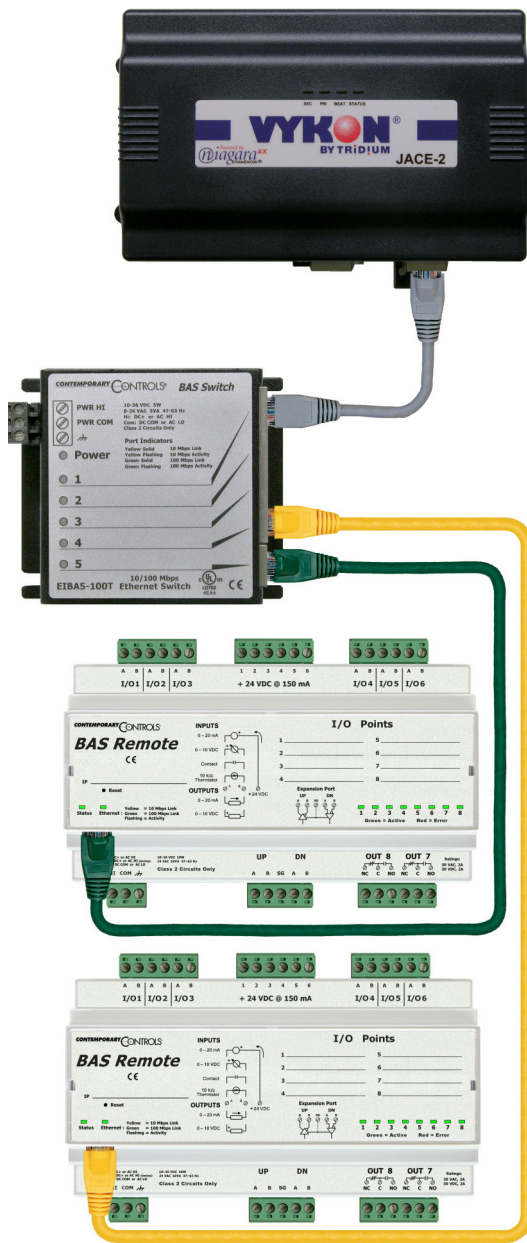
Javits Convention Center  
Booth #246  
New York City, NY USA

Over **30** Years  
In Networked Controls

**CONTEMPORARY CONTROLS**

Connecting Networks Worldwide

## BAS Remote Talks to VYKON Tridium Jace-2



Interoperability is a beautiful thing. It was very satisfying observing our BAS Remote I/O points being successfully discovered and read and written by the Jace-2. This allows Tridium users to have an additional choice in configuring I/O requirements by being able to select BACnet®/IP as a communications option.

The BAS Remote is connected to the 10/100 Mbps LAN1 Ethernet port of the Jace, making it ideal for applications where several points of I/O must be accessed in areas void of proprietary BAS networks. The BAS Remote can be connected anywhere in the building's structured wiring system and mounted at a location convenient to the mechanical equipment; this eliminates the need to pull a proprietary network cable to the source of the I/O, and eliminates connection to a router.

The six universal I/O are truly "universal". Each point can be a, thermistor, analog (current or voltage), digital input OR analog output (current or voltage). These universal inputs will handle a wide variety of field input and output devices. The unit also has 2 form C (NO/NC) relay outputs.

As we move ahead, my goal is to continue to evaluate and qualify building automation controllers that utilize Ethernet technologies. Perhaps you can help me in this

effort. I have a few additional units to "seed" into the real world at no charge for evaluation and feedback. If you have a current project and would like to use a BAS Remote, please contact me to discuss your application. You can reach me (Joe Stasiek) by phone 630-963-7070 X116, or e-mail me at [jstasiek@ccontrols.com](mailto:jstasiek@ccontrols.com).

I would also like to thank the Tridium folks and Cochrane Supply our BAS Ethernet switch distributor for all there help in guiding me through the Jace setup. But most of all thank you Nicole from Cochrane for the excellent support you provided in this successful effort.

## Contemporary Controls Takes the First Step Toward Lean Manufacturing

The concept of Lean Manufacturing is as old as Benjamin Franklin. In his book, *The Way to Wealth*, Franklin cited the evils of carrying unnecessary inventory which is a challenge faced by many manufacturers today. However, companies such as Contemporary Controls are learning to apply the principles of Lean Manufacturing which has a strong focus on continuous improvement, waste, and customers.



In Lean Simulation 101, sponsored by the Chicago Manufacturing Center, the Contemporary Controls manufacturing staff learned about the elimination of waste in every area of production. "Its goal was to lessen human effort and reduce space to become more responsive to customer demand while producing high quality products more efficiently," explained George Karones, Operations Manager.

Karones said the staff worked in a mock company, "Buzz Electronics," and assembled a "real product" on a simulated factory floor, incorporating the various Building Blocks of Lean along the way. They learned how to use less manufacturing space and much reduced time and inventory to produce parts with fewer defects.

Lean Simulation 101 encompassed four 20-minute shifts to produce two different electronic products: the Blue Avenger and the Red Devil. Karones said these shifts went from a pure "push" to "build-to-forecast" system to a "pull" system or "build-to-demand."

The first session was a traditional factory set up where the staff was positioned at work stations and all the material moved was accomplished by a material handler. Within the second session, the workers were allowed to make changes to the factory set up and some of the processes, but they couldn't move the work stations so the individuals were rearranged so it was a low-cost change. Karones said after they implemented that change, there was another 20-minute shift and benefits were realized including: 1) stations arranged to remove the need of a material handler and 2) cut batch size in half.

The last shift showed significant improvement with the average manufacturing cycle time for each product being only two minutes, resulting in 106 being built compared to 14 products in the first shift. Also, quality (1st pass yield) was nearly 100% compared to the 68.9% in the first shift. These results occurred because the "pull" system was put into place, strong team work by the staff, and the awareness of takt time (the rate of customer demand) to have a feel for whether customer orders are filled effectively. "Takt time is the heartbeat of a lean system," said Karones.

Karones said, "Lean Simulation 101 made individuals think about their particular tasks on the manufacturing floor in order to make some changes to build a better product. Our staff will continue their training in this area with additional classes. It's the company's goal of strengthening tomorrow's manufacturing world today."



## TECH UPDATE

### Can My Switch Work with EtherNet/IP™?

This simple (and rather common) question presents several issues to consider.

EtherNet/IP™ (EIP) is an open networking standard that supports implicit (UDP) messaging for I/O and explicit (TCP) messaging for data viewing, configuration and management. In June 2001, ODVA published the standard to answer a growing need for Industrial Ethernet in control applications. It brought object-based CIP into the world of Industrial Ethernet.

In satisfying the needs of EIP, it is crucial to use a switching hub which provides directed messaging and eliminates collisions when full-duplex links are used. But must the switch be managed?

There are instances in which an inexpensive unmanaged switch will work, but for optimal EIP performance a managed switch must be used. EIP applications often use such managed switch features as IGMP snooping, port mirroring, VLANs, switch diagnostics, port forcing and web browser support.

Being a layer-two device, an unmanaged switch can create problems in an EIP network. It cannot assist in troubleshooting. It cannot force a port to a certain speed or duplex setting. It cannot disable Auto-MDIX if needed. It cannot participate in a redundant ring nor any other redundancy scheme. It cannot recognize multicast frames and, therefore, may experience high traffic through its switching fabric which could result in a cascading (backbone) port with a backlogged queue.

In summary, if you want to use unmanaged switches in an EIP network, only use them where their operation will not materially affect the network performance. Unless you are running a very unusual EIP application, you are going to need managed switches at least in the major traffic switching portions of the network. And unless you have a router to segregate your EIP network from your enterprise network, you will also need a managed switch at this vital point to keep the EIP communication where it belongs.



**By Bill Greer, Senior Product Specialist. For other interesting topics, please visit "Bill's Blog on Industrial Ethernet" at [www.ccontrols.com/blog.htm](http://www.ccontrols.com/blog.htm).**

# Contemporary Controls (Suzhou) Co. Ltd Celebrates its 5th Anniversary

Contemporary Controls (Suzhou) Co. Ltd (CCC), a subsidiary of US-based Contemporary Control Systems Inc., celebrated its grand opening on June 10th, 2002. That was the first day of the company's future in China. This facility is located in the Science and Technology Industrial Park of Suzhou New District (SND), China. CCC manufactures CTRLink<sup>®</sup> and ARCNET<sup>®</sup> products for the entire Contemporary Controls group. Contemporary Controls became interested in the opportunities China presented when Thomas participated in a China trade Mission sponsored by the World Trade Center Chicago during 1997. In 2000, plans to establish a presence in China were revisited following a trip to Shanghai and Suzhou. After reviewing both locations, the parent company decided to establish a representative office in Shanghai, which was opened in September 2000. A year later the decision was made to set up a factory in nearby Suzhou.

After completing a survey of different investment parks, a site at the Science and Technology Industrial Park in Suzhou New District, which caters to the needs of Hi-Tech companies, was chosen. CCC successfully obtained its business certificate in September, 2001. When other preparation work was completed, CCC was formally opened on June 10, 2002.

The president Mr. George Thomas, the vice mayor of Suzhou Mr. Li, SND director Ms. Eileen Wang and Mr. James Mayfield from the US Commercial Consul in Shanghai attended the opening ceremony.

By the end of 2003 all the functions of the Shanghai rep office had eventually switched to the new factory.

CCC has always been concerned about being environmentally-friendly. To become a "Green Company" and meet customers' needs, CCC decided to comply with environmental initiatives, such as the EU's RoHS, China RoHS and WEEE directives. As lead solder was used in CCC's products, all parts, materials, and processes had to be converted and all designs reviewed. In July of 2006, the company became a RoHS compliant manufacturer and the first in the group to achieve this.

Recently, CCC purchased new Panasonic surface mount equipment, increasing the number of boards it can manufacture in one day to over 1500. CCC has also set up a mechanical assembly line to increase throughput and efficiency.

From the beginning of 2007, the company has 23 employees; some of them have been working for CCC from the very beginning.



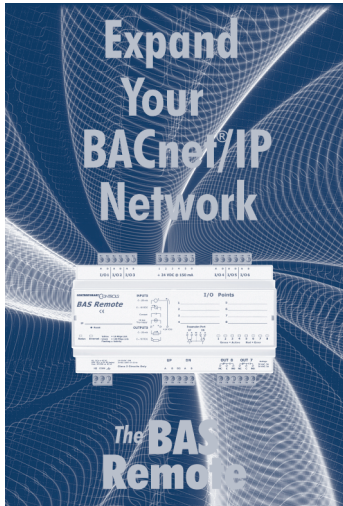
Happy Anniversary



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- Look what's new! The BAS Remote talks to VYKON Tridium Jace-2.
- Learn why specifying a Direct Digital Control system can become a complex chore.
- This month's Tech Update asks the question: Can my switch work with EtherNet/IP™?
- As part of International News, we celebrate the 5th anniversary of Contemporary Controls (Suzhou) Co. Ltd.