



CTH Systems quarterly newsletter is now going to an eNews format for distribution.

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Quick Information Lookup

- [CTH Customer Care Website](#)
- [NEW Motorola Product - Canopy® Point-to-Multipoint Solutions](#)
- [Optimizing your Exter Project in Information Designer](#)

the Link Newsletter Going Green

Heading into the 2009 year, CTH Systems has decided to go to an eNews format for its corporate newsletter. Our newsletter will continue to bring you information about CTH Software products as well as product information for hardware and software solutions for SCADA. If you no longer wish to subscribe to our newsletter, please do so by clicking [UNSUBSCRIBE](#).

Upcoming Courses

CTH Systems has scheduled all upcoming courses for FactoryLink 8.0 and Motorola ACE3600. For a list of these courses, please visit our website.

[Standardized Training](#)

CTH is a fully authorized training centre for Siemens FactoryLink Software as well as Motorola ACE3600. These courses have a set format and are open to all interested students. They provide a solid background for application development and give students a general understanding of its functions and options. They are the perfect courses for individuals looking to acquire a working knowledge of specific hardware or software.

FactoryLink 8.0

- February 9-13, 2009 @ CTH
Registration Deadline January 16, 2009
- June 22-26, 2009 @ CTH
Registration Deadline May 29, 2009
- October 5-9, 2009 @ CTH
Registration Deadline September 11, 2009

ACE3600

- March 9-12, 2009 @ Executive Inn, Burnaby BC
Registration Deadline February 20, 2009
- September 21-24, 2009 @ CTH
Registration Deadline August 28, 2009
- November 2-5, 2009 @ TBA*
Registration Deadline October 9, 2009

CTH Support

CTH Systems continues to provide leading support to our clients for Motorola, Beijer, FactoryLink, and CTH Software products. If you have any questions or require technical help, please feel free to call our support desk at 403.259.7431 or send us an email describing the problem. A case will be logged and an engineer will be assigned to your case.

Please remember to have your Serial Number ready for all FactoryLink calls.

[Log a Support Call](mailto:support@cthsystems.com) - support@cthsystems.com

Support calls can also be logged directly from our website via email to ensure accuracy of technical question.



The image shows a banner for CTH Systems Inc. with a logo on the left and a navigation menu on the right. The logo consists of a stylized circuit board with the letters 'CTH' and 'Systems Inc' below it. The navigation menu includes links for 'home', 'contact us', 'about us', 'newsletters', 'events', and 'site map'. Below the banner is a sidebar with links for 'manufacturers', 'cth software', 'engineering services', 'training', and 'technical support'. The main content area is titled 'Technical Support' and contains text about opening support cases and finding serial numbers.

Technical Support

Please open a support case if you have technical issues. You may call 403-259-7431 or email [support](mailto:support@cthsystems.com).

For all FactoryLink Support Calls, please have ready your serial number, as a call cannot be logged without one.

To find your Serial Number, follow these steps:

For FactoryLink 75 & 80
Start > All Programs > FactoryLink > License Wizard
View Purchased Options, click Next

For FactoryLink 66
In Command Prompt, enter "ukey -l"

CTH Software

CTH Systems develops custom application software and drivers for fully distributed, real-time data acquisition and control. Our customers require special products and functionality and their demands change rapidly as new real-time technologies emerge. Our demand-based approach to product development means we exceed customer expectations by quickly responding to these changes in market demands.

Our Software Products are located on our website with links to download brochures, manuals and install files. We have a variety of different products including FactoryLink and Motorola RTU extension drivers.

[CTH Software](#)

Globally proven wireless solutions for deploying and extending broadband networks.

Canopy® Technology is as Simple as it is Powerful

The wi4 Fixed Point-to-Multipoint Canopy solution is streamlined, powerful and simple, with built-in installation and deployment assistance, making Canopy solutions faster and easier to implement. Components include:

Access Point (AP) Module. The Canopy AP seamlessly interfaces with an existing Local Area Network (LAN) via standard Ethernet connection. Compact and flexible, AP modules are built to be mounted outdoors, eliminating the need for overhead and in-ground wire or microwave.

AP Cluster. The foundation of the Canopy system is the AP cluster, a powerful system that includes six APs plus a Cluster Management Module (CMM). The CMM provides power for the Canopy modules and includes an Ethernet switch and a GPS receiver.

Subscriber Module (SM). Canopy SMs are compact and unobtrusive access receivers that are easy to install at a user's or customer's site. Subscriber Modules can be mounted outside, and need no additional software installation. Each AP module can serve up to 200 SMs.

MOTOwi4™ WIRELESS BROADBAND SOLUTIONS

The wi4 Fixed Point-to-Multipoint Canopy solutions are part of the MOTOwi4 portfolio—a comprehensive portfolio of wireless broadband solutions and services that provides high-speed connectivity, enabling a broad range of applications in a host of environments. The MOTOwi4 portfolio also includes wi4 WiMAX, wi4 Mesh and wi4 Indoor solutions for public and private networks.



Delivering Reliable, Cost-Effective High-Speed Connectivity to Multiple Locations

Wireless broadband is quickly becoming the world's preferred technology for enterprises, municipalities and service providers delivering advanced and in-demand IP-based voice, video and data applications. Motorola's Canopy Point-to-Multipoint solutions are leading the way with successful deployments all around the globe.

Canopy solutions deliver scalable, interference-resistant, high-speed connectivity to multiple residential, business, institutional and municipal locations. The platform combines exceptional reliability with robust performance, scalability, multiple layers of security, ease-of-use, accelerated deployment and remarkable affordability.

It also integrates seamlessly with existing network systems and management tools, making it easier and cost efficient to extend existing networks.

Maximizing the productivity of unlicensed wireless frequencies, Canopy solutions streamline the development, deployment, enhancement and extension of advanced IP-based wireless broadband networks. They excel at delivering ubiquitous high-speed connectivity and state-of-the-art services, and are currently helping drive successful business models as well as helping bridge the digital divide in more than 120 countries worldwide.

Enhancing the Business Case for Wireless Broadband Networks Around the World

Canopy Point-to-Multipoint solutions help provide the all-important user satisfaction, competitive differentiation and added revenue streams that are crucial to ensuring business growth, sustainability and ongoing success.

In addition to robust performance and proven reliability, Canopy solutions position network operators to offer today's, and tomorrow's, most innovative and sought-after applications such as high-speed Internet access, VoIP, video surveillance, interactive gaming and more. The system's high performance and extremely low latency of 5 to 7 milliseconds makes these high-demand technologies both efficient and cost-effective.

For networks of all kinds, Canopy solutions help deliver the crucial components of high satisfaction: service, security, productivity, affordability and enhanced user experience.

Interference Resistance. The solution's unique and powerful modulation scheme significantly improves the quality of data delivery and effectively mitigates interference from other systems of virtually every shape and spectrum. The system avoids self-interference by synchronizing all transmit and receive signals in the network via the Global Positioning System or GPS.

Extended Coverage. The Canopy platform's wireless signals are highly effective in line of sight (LOS) service in environments ranging from small communities to suburban areas to rural locations. Canopy equipment based on OFDM technology provides near-line of sight (nLOS) and non-line of sight (NLOS) coverage into urban and other environments that present significant obstruction challenges.

Data Rates. Canopy wireless broadband networks offer upload and download speeds as fast as or faster than virtually every other service available today. The Canopy system offers up to 21 Mbps (aggregate data rates). Of course, speeds on any network are affected by several factors so actual upload/download speeds may vary, but the potential to offer an incredible broadband experience is inherent in the system.

Operating Ranges. The platform offers superior broadband access for networks of various sizes and coverage areas. Because operating ranges are highly dependent on power levels, many of the system's components support adjustable power to meet specific network and regulatory requirements.

Scalability. The Canopy solution's advanced scalability allows you to quickly accommodate changing needs, wider geographical areas, larger populations and higher traffic volumes. In addition, its high tolerance for interference and directional antennas ensure that adding additional transmitters increases capacity without degradation of performance.

Security. The system provides multiple layers of security, including the over-the-air DES (Data Encryption Standard). For the highest-grade security, the platform is also available in some areas with AES (Advanced Encryption Standard) that provides 128-bit encryption to ensure secure data delivery and exceptional reliability. AES makes it virtually impossible to crack a code (it's estimated that it would take about 149 trillion years, a time period older than the Earth itself).



Beijer Operator Terminals

Driver Performance

Different signal types

Driver communication is divided in two types of devices, Static and Dynamic and these are updated in different ways.

Static devices

Static devices are always updated even if they are not shown on the HMI screen. This type of devices is connected to Trends, Data logging, Alarms, Data Exchange and system devices.

Dynamic devices

Dynamic devices are only updated when they are shown on the screen and a good example of this type of signal is an Analog numeric; it is only updated when it is shown on the screen.

Keep the devices in consecutive order

When the devices are transferred to the controller, all devices are not transferred simultaneously. Instead they are divided into packages with a number of devices in each package. To decrease the number of packages that have to be transferred and make the communication faster this number has to be considered. The number of devices in each package depends on the used driver and information about this can be found in the driver help for the used driver.

To make the communication as fast as possible the number of packages has to be minimized. Consecutive devices require a minimum of used packages but it is not always possible to have consecutive devices. In such cases the so-called waste between two devices has to be considered.

Waste

| | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|----|
| Signal | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Used | X | X | | | | | X | X | X | |

Waste

| | Analog signals | Digital signals |
|------------------------|----------------|-----------------|
| No. of signals package | 29 | 124 |
| Waste | 20 | 0 |

Waste is the maximum distance between two devices that still keeps them in the same package. The waste depends on the used driver and information about this can be found in the driver help for the used driver.

Bit-addressed words compared to "normal" bit-devices

In most drivers it is better to use bit addressed words instead of normal bit devices. The reason for this is that when using bit address words you can fit more digital devices in one telegram compared to using bit devices.

| | Analog signals | Digital signals |
|------------------------|----------------|-----------------|
| No. of signals package | 29 | 124 |
| Waste | 20 | 0 |

Example:

This specific driver can have 29 Analog devices in one telegram or 124 Digital devices. If you were to use bit addressed word devices in the selected driver you could fit 464 (29*16) digital devices in one package. This is almost four times as many devices.

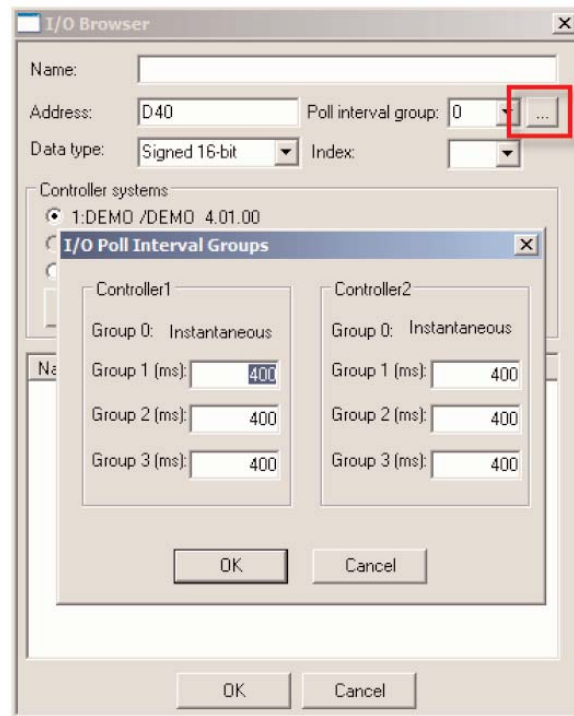
Beijer Operator Terminals

ASCII Strings

ASCII strings are transmitted in separate telegrams and having a large number of strings will affect the communication performance in a bad way. If an ASCII string only has a small number of different string values then it may be a good idea to use "Message library" with predetermined content to maximize driver performance.

Poll groups

The standard setting in Information designer is that all devices update every 50ms. If there are certain devices that don't need to be updated this fast it is possible to assign them to a poll group and slow down the update time. Poll groups are configured in the I/O Browser.



Screen update time

Optimizing screen update time has to do with minimizing CPU loads and Flash operations. This can make a big difference in a graphics intense project that approaches the limits of the panel's capabilities.

Resize symbols

The resize function in Information designer is a good function to use if a small number of symbols are used. If you are planning on incorporating a large number a symbols it is recommended to change the size before using the symbol in the application. This can have a huge difference on the performance of the panel.

Gradients

Using objects with gradients creates a slightly higher load on CPU and if a large number of them are used it will make the screen update time noticeably slower.

Trends and Datalogger

Using a lot of trends and dataloggers will cause the panel to do a lot of flash operations and will thereby slowing down the screen update time. One way to remedy this is to only store changed samples instead of all samples and thereby reduce the number of flash operations.