

Interfacing with the ADAM Module

Introduction

Fiber SenSys, Inc. (FSI) has goal to provide our customers with the best security solution available to fulfill their project requirements. Our design and engineering teams strive to build products that integrate well with other devices in the safety and security landscape. With product versatility and flexibility in mind, FSI provides a customizable and dynamic integrated perimeter security technology solution to address installation challenges located around the globe.

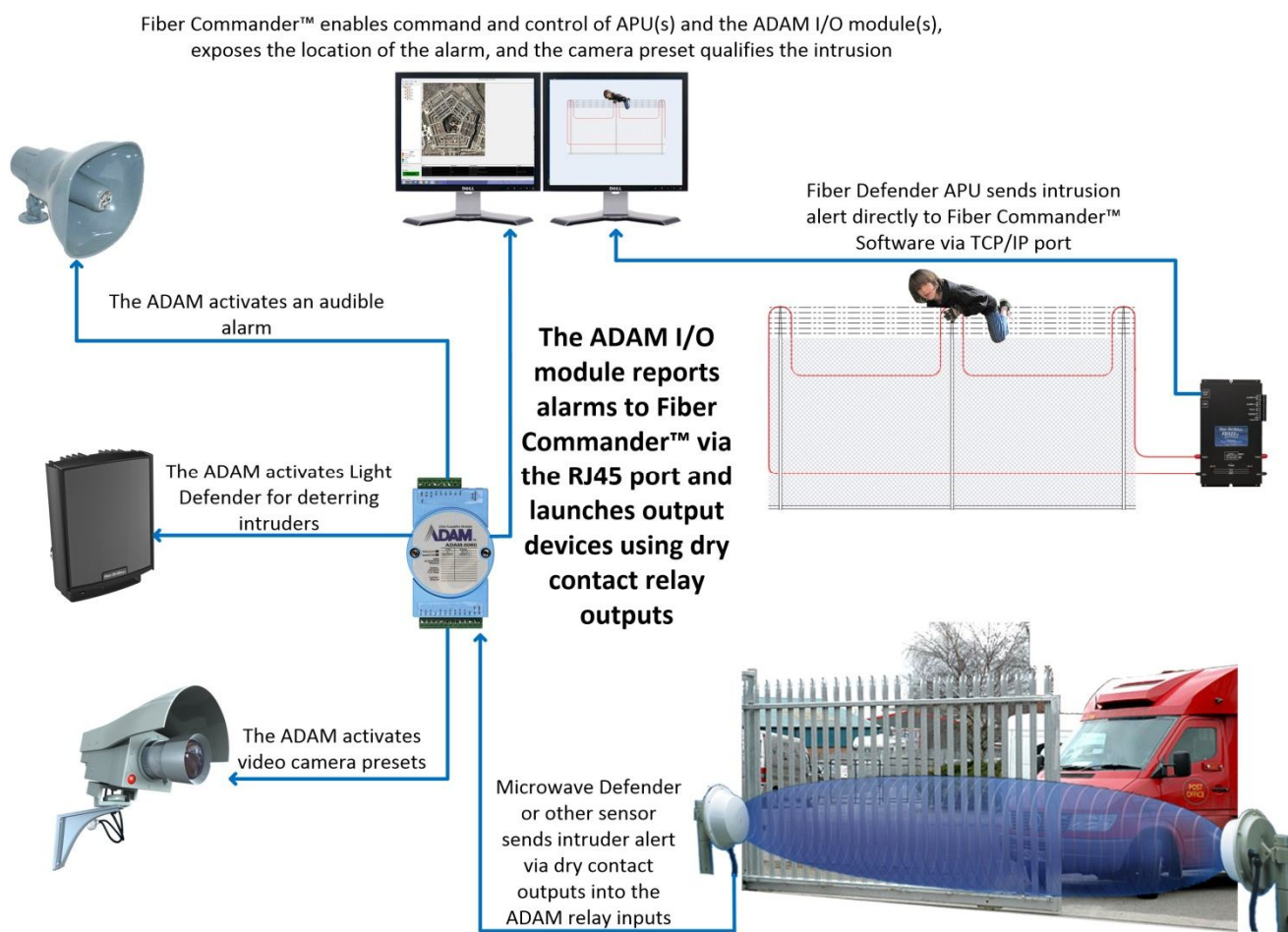
We fulfill our customer's security and safety requirements both by offering a diverse group of products and by developing synergistic relationships with partner organizations. Fiber SenSys has identified the **ADAM-6060** input/output (I/O) module (**Picture 1**) as an extremely reliable and useful tool for the integration of our products - both with each other and with the security solutions provided by our industry partners. The purpose of this document is to outline the process of using the **ADAM** I/O module to create a comprehensive, integrated security solution.



Picture 1: The ADAM-6060 Module

The **ADAM-6060** is an Ethernet-based data acquisition and control module that provides I/O, data acquisition and networking in one module to build a cost-effective, distributed monitoring and control solution for a wide variety of industries and applications. Through de-factor standard Ethernet networking, **ADAM-6060** retrieves I/O values from sensors and publishes real-time I/O values to networking nodes at local area network or Intranet / Internet devices and software. With Ethernet-enabled technology, the **ADAM-6060** module is a significant security systems integration tool.

Communications in traditional security systems are typically facilitated through Form C dry contacts, where the alarm condition of an Alarm Processor Unit (APU) is communicated via twisted pair to industry-standard head end or annunciator panels. Fiber SenSys has developed **Fiber Commander™** as a head end system to enable command and control of multiple devices in an integrated security solution. With the use of the **ADAM-6060**, the use of wire is converted to IP and as a result, many security system devices are integrated and communicate with each other (**Picture 2**). Please note that **Fiber Commander** is used in this example, but it is important to note that any industry-standard head end that accepts the same type of connectivity will provide the same security systems design and architecture functionality.



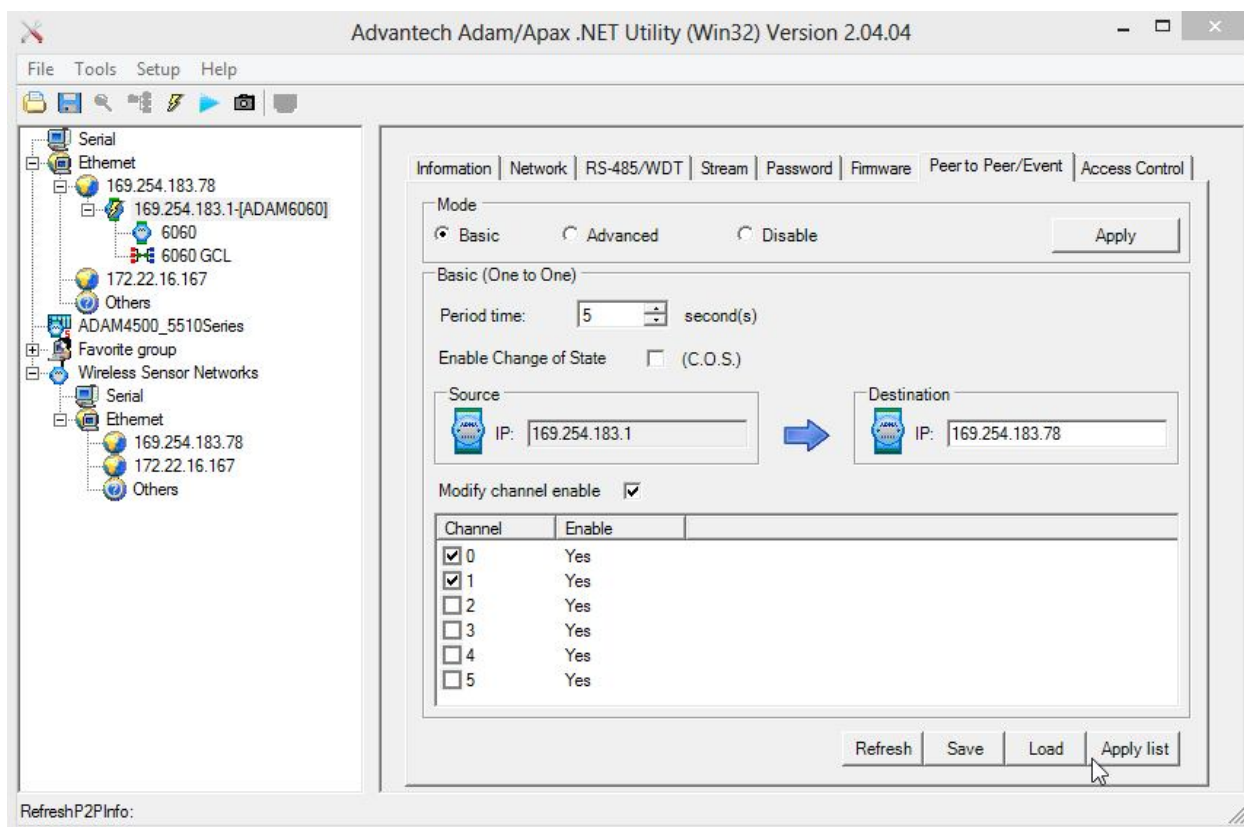
Picture 2: The ADAM Module and Fiber Commander Head End Software, connected to multiple devices

Initial Setup

Step-by-step guidelines for connecting and interfacing the ADAM-6060 module with our lightweight head end software are outlined in the **Fiber Commander User Guide**, which can be downloaded from <http://www.fibersensys.com/>. The **ADAM** configuration software for free at its support portal located here: http://support.advantech.com.tw/support/DownloadSRDetail_New.aspx?SR_ID=1-2AKUDB&Doc_Source=Download. The **ADAM** software package is entitled "ADAM/APAX .NET Utility." Please refer to the "Configuring ADAM 6060 Devices for use with **Fiber Commander**" in the **Fiber Commander** manual for a detailed process of setting the device IP address, setting the port number, changing the device name, and updating the communications settings.

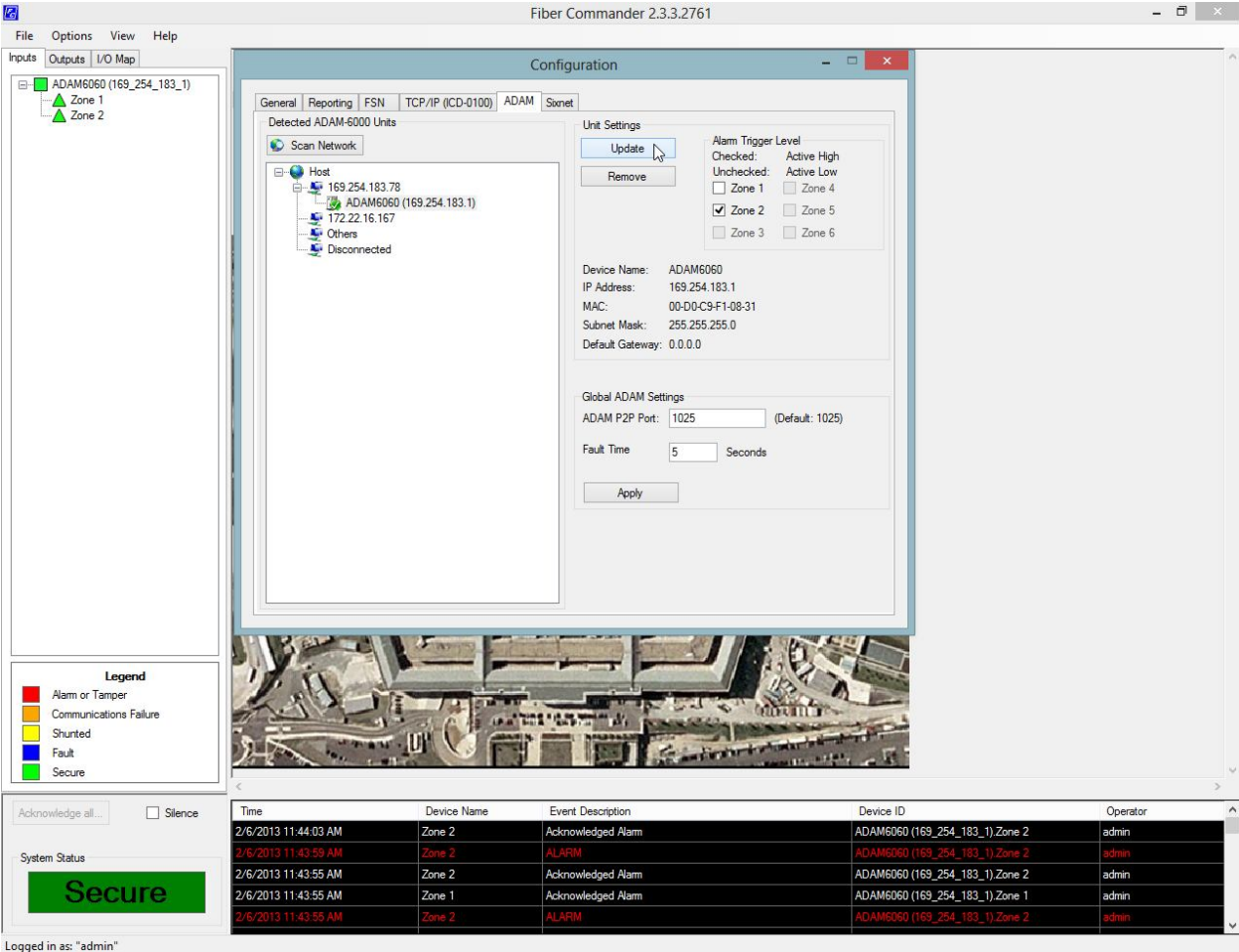
Setting Up Third Party Sensors or Inputs

Once the ADAM's IP address has been altered to exist within the same subnet as the host computer, the next step is to configure the device to receive alarm signals into its input relays and/or to output a signal when the desired conditions are met. The **ADAM 6060** device can support up to six inputs and the enabled ports can be chosen from the Advantech ADAM/APAX .NET Utility by selecting the device, choosing the "Peer to Peer/Event" tab, and checking the "Modify channel enable" checkbox (**Picture 3**). Bear in mind, a numeric mismatch exists between the ADAM utility and **Fiber Commander** –the Advantech enumerates its ports beginning with '0' while **Fiber Commander** begins with '1'.



Picture 3: Observe there are two inputs enabled; use the [Apply list] button to activate these changes.

Next, open the **Fiber Commander** software, select the "Configuration" window from the "Options" menu and select the ADAM tab. Use the [Scan Network] button to locate the **ADAM** device in the network and select the [Add] button to attach it to the secured network. Observe in the screenshot below that there are only two editable zones in the "Alarm Trigger Level" frame. Determine if they should be active high or active low by checking or unchecking the "Zone" checkboxes. Active low will trigger when the relay is grounded. GND port and active high will trigger when the grounded relay is disconnected from the Iso GND port. In the screenshot below, the Zone 1 alarm will activate when the 'DI0' port connects to the Iso. GND terminal and the Zone 2 alarm will activate when the 'DI1' port disconnects from the Iso. GND terminal. The Zone 1 case is configured for a Normally Open (NO) third party sensor and the Zone 2 case is configured for a Normally Closed (NC) third party sensor.



Picture 4: Observe adding Normally Open and Normally Closed inputs to the ADAM I/O module

Configuring the ADAM-6060 Output Relays

The purpose of the output relays is to activate alarm handling equipment when a zone enters into an alarm state. Examples of alarm handling equipment include audible alarms, Light Defender visual deterrents, camera presets, and third party alarm panels.

To activate an output relay, open the **Fiber Commander** software, right click the alarm that will act as a trigger and select "output mapping." A window will open that displays the 6 output ports; select the desired port, give it a name in the "IO Mapping Name" field, select the desired trigger, and select the [Update] button. The most common trigger is the "ALARMED" dropdown option, but users may also choose to alarm during communications failures, faults, tamper alarms, or when the input becomes secure. The user may also choose a "Hold Time," which holds the output in the changed state for a user defined amount of time. The versatile **ADAM-6060** supports six dual output relays that can be either NO or NC based on user preference using the "Closed when Active" checkbox.

Conclusion

Meeting the diverse needs of a worldwide customer base is Fiber SenSys' first priority. With the addition of 3rd party proven and tested components, such as the **ADAM-6060**, we are poised to offer outstanding hardware and software to interface reliably and easily with FSI's other security products.

Fiber Commander Software by Fiber SenSys offers an easy to configure, inexpensive, and highly secure method for interfacing with **ADAM-6060** modules and many other third party devices. The **ADAM** product line is well known in the safety and security industry and adds value to our sensors resulting in a more comprehensive safety and security solution.



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