NATIONAL CONTROL DEVICES

XSC Quick Start Guide
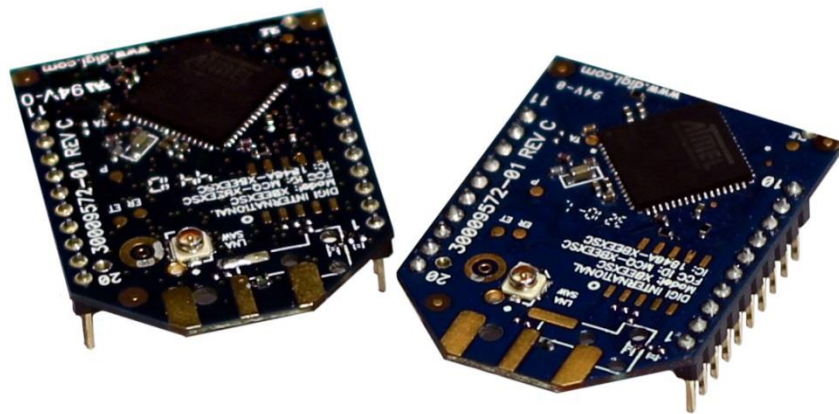
Wireless Communications Module

XSC

Wireless Communications Module

NOTICE:

All customers are STRONGLY ADVISED to purchase at least ONE USB Communication Module. This communication module may be used to recover a controller or to reconfigure a controller should there be an accidental loss of communications. NCD Tech support may be unable to assist customers who do not have a USB Communications Module available for troubleshooting purposes.

Purchase USB Communications Module from our website at this link:

http://www.controlanything.com/Relay/Device/ZUSB

Technical Support Limitations:

National Control Devices is unable to provide complete technical support for this device. This device incorporates substantial technology and firmware manufactured by a 3rd party company, and has been tested for compatibility with the NCD product line. NCD Technical Support will share any knowledge we have obtained with regard to the integration of this 3rd party technology into our product line in an effort to assist customers whenever possible. However, advanced communication problems may require customers to directly contact the technical support department of the 3rd party company. NCD Technical Support will not contact the 3rd party company on behalf of our customers unless NCD Technical Support is able to recreate the problem experienced by our customers.

National Control Devices has integrated the following 3rd party technologies into our product line:

WiFi Communications	Roving Networks	http://www.rovingnetworks.com/
Bluetooth Communications	SENA	http://www.sena.com/
802.15.4 Wireless Communications	DIGI	http://www.digi.com/
ZigBee Wireless Communications	DIGI	http://www.digi.com/
XSC Wireless Communications	DIGI	http://www.digi.com/
Ethernet Connect ME	DIGI	http://www.digi.com/
USB Virtual COM Port	FTDI	http://www.ftdichip.com/

All other communication technologies are manufactured by National Control Devices and are fully supported by NCD Technical Support staff. Please contact NCD Technical Support Staff and review our forum posts at NCD Support (http://forum.controlanything.com).

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Getting Started

Things you will need

➢ Computer running Windows XP, Windows Vista, Windows 7 or any version of Linux. Note that we develop the software for Windows operating systems so we advise having a Windows PC for initial testing.

➢ XSC Modem with XSC module installed

➢ A device with an XSC module installed

➢ Power Supply (Computer Grade 12v DC Regulated Power Supply is strongly recommended

➢ USB Cable

XSC Setup

1. Connect the power supply to your device with an XSC module installed. Connect the USB cable to the XSC modem and to your computer.

   ➢ Make sure the jumper is in run mode. If you have an external antenna, give some distance between the device and the modem. If they are too close the signal can be too strong causing communication issues.

2. Virtual COM Port Drivers are required before the XSC communications module can be used. Windows 7 typically recognizes the devices without drivers; however, the latest drivers may be downloaded and installed from the following location for all operating systems: http://ftdichip.com/Drivers/VCP.htm
   The link also contains installation instructions appropriate to your operating system.

3. After the driver has installed, open your "Device Manager" to determine the Com port your computer has assigned to the XSC module. If you do not see "USB Serial Port" Located under "Ports (COM & LPT)," you may have to reinstall the driver:

   ➢ You will see "USB Serial Port" listed under "Other Devices," right-click "USB Serial Port"

   ➢ Select "Properties"

   ➢ Select "Reinstall Driver"

   ➢ Select "Browse My Computer for Driver Software"

   ➢ Select "Browse" and choose the files that you have extracted earlier

   ➢ Close windows when installation is complete

4. Find the COM port for your XSC module by opening your "Device Manager" again. You should see "USB Serial Port" located under "Port (COM & LPT)." Take note of the COM port assigned to the XSC module. This COM port will be used to access the device using our software. In the screen shot, COM 13 is shown. Your computer will likely assign a different COM port.

5. You will now need to download and install the NCD Base Station Software. NCD Base Station Software. This software will allow you to communicate with and test your device. Open and run software.. A window will open labeled select connection. Choose your COM Port and change baud rate 57600. Click "OK".
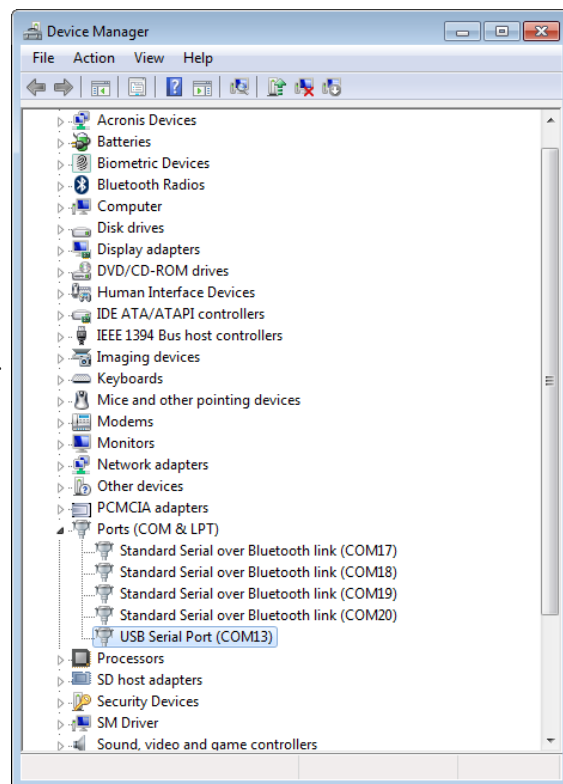
Base Station

Base Station Software

When Base Station Software runs on your Windows computer, the software will identify the type of controller and will build a list of command sets that are compatible with your controller. These are the basic parts to the main Base software application:

1. Device Identification and Documentation: This button displays Read-Only information stored in the controller. It can help you identify the type of device that is connected and what its capabilities are. This portion of the software also builds a library of documents that will be helpful in using the controller it has identified. This library of documents will change depending on the type of device which has been identified.

2. COMM Operator: COMM Operator is a tool for testing and learning how to communicate with all Network and COM based devices. This manual may include command codes you can send to the device using COMM Operator. COMM Operator should be thought of as a terminal to send and receive bytes of data. COMM Operator was used extensively in the development of this device and should be referenced throughout the learning process. COMM Operator is a commercial product and is NOT free. The 30-Day Evaluation version is provided and users may purchase a license for this software if they would like to continue use beyond 30 days.

3. Command Sets: Each Device contains a set of commands that are identified by the Base Station software. Choose the command set you would like to explore in the box. Click one time on the command set you would like to explore.
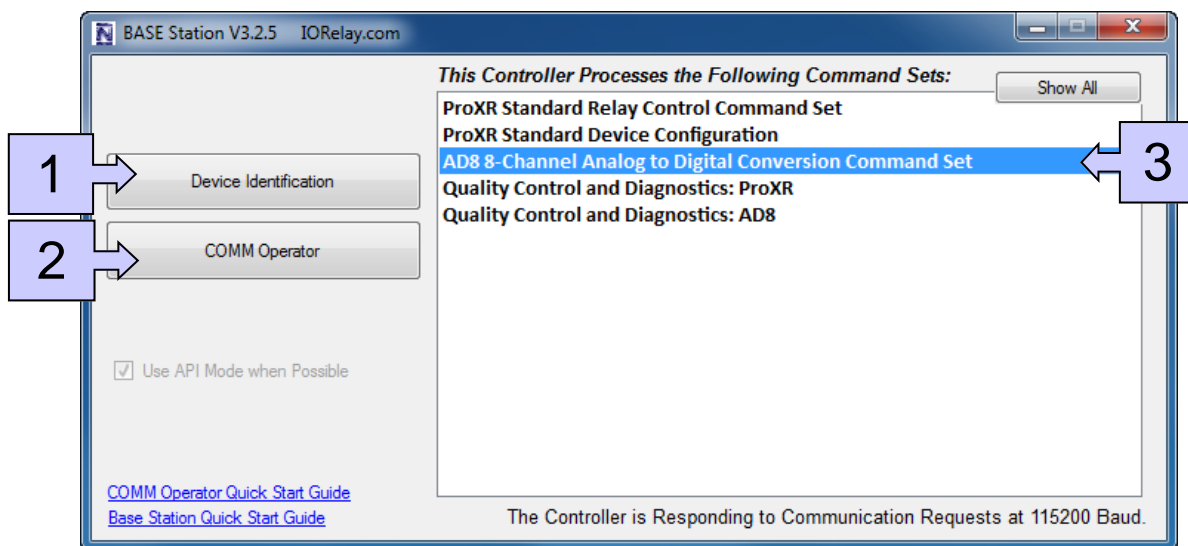
*Note: there may be more basic features depending on your device. Other features you may notice:*

- ➢ **Device Configuration:** This button allows you to modify important device settings to help improve communication speed, functionality, and timing parameters of the device. Device Configuration is rarely used by the user.

- ➢ **Display Command Set:** When working with Base software, many windows will display the actual command codes used to trigger a particular function. This option allows you to choose Decimal and Hex formats. This manual is shown in both Hex and Decimal format. Decimal is typically used in COMM Operator and is our preferred format, but Hex works great too.

- ➢ **Run Mode:** Run mode is used for daily operations and is the default mode of operation. To prevent accidental writes to non-volatile memory, the device must be placed in Configuration Mode to change EEPROM memory. Click this button anytime you need to change modes. Note that a jumper on the controller will force this device into Configuration mode. If a device is powered up in Configuration Mode and you are using a Web-i interface, the Web-i will boot in DHCP mode as a safeguard in case the device becomes inaccessible with a static IP address.

XSC Troubleshooting

1. Disconnect the USB cable from the XSC modem. Uninstall XSC module from the XSC modem and install the XSC module into you XSC ZigMo modem. Be sure when installing the module you have the module facing away from the USB connection. Connect USB cable to XSC ZigMo modem and to your computer.

2. You will need to download and install software that allows you to change the configuration of your XSC module. Download the "Configuration Utility" by clicking on the link below. This will redirect you to www.digi.com: http://www.digi.com/support/productdetail?pid=3352&osvid=57&type=utilities

   ➢ Select the latest "XCTU Installer"

3. Navigate to the "Start: menu
   ➢ Select "All Programs
   ➢ Select "Digi"
   ➢ Select "XCTU"

4. A window will open labeled "X-CTU". Select the COM Port that your XSC ZigMo modem is attached to (It should be the same COM port you established during setup. If that does not work, use the "Device Manager" to discern which COM port it is attached to).

   ➢ Change Baud Rate 57600
   ➢ Select "Test/Query"
   ➢ If you receive a message that you cannot communicate with your device, try changing the Baud Rate again. i. e. Lover the Baud Rate to 9600 again and select "Test/Query'. If you are still unable to communicate, try selecting each of the Baud Rates and "Test/Query" following each until you receive a message stating you have established communication.
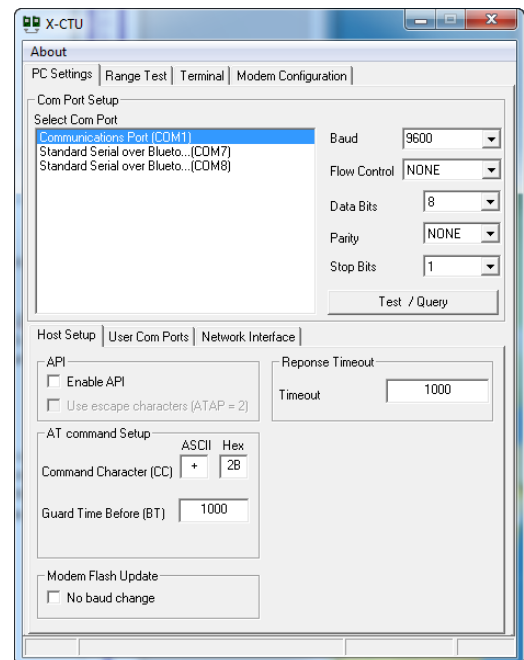
5. Select "Modem Configuration" tab
   ➢ Select "Read:
   ➢ Two things to look at here are Pan ID and Baud Rate
      1) Pan ID sets "Mesh" network apart from one another, like an encryption. If your modem and controller have different PAN IDs, they WILL NOT be able to communicate.
      2) Baud Rate should be set 57600 for all modems
   ➢ Make necessary changes
   ➢ Change "Version" field so that it reads the latest version
   ➢ Select "Write" to save changes

6. Disconnect USB cable from XSC ZigMo modem. Uninstall XSC ZigMo Modem and install back into XSC modem. Connect USB cable to XSC modem and to your computer.

7. Test the communication of your device.
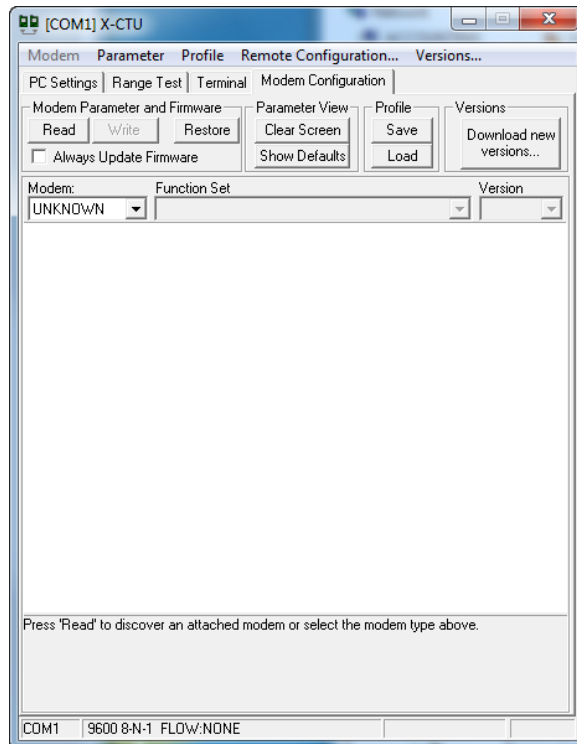
If you are still having problems with the communication of your device, you will need to repeat the troubleshooting probes with the XSC module installed in the device itself. If this is required, be sure to set the Pan ID and Baud Rates to the same values on both modules.

Technical Support

Technical support is available through our website, controlanything.com. **Support** is the way we connect NCD engineers to our customers.
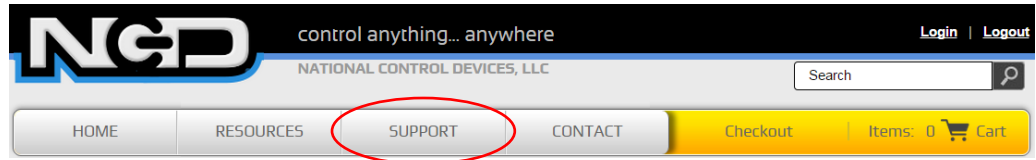
*Click on the **Support** tab at the top of any page on our website to be taken to the **Forum** page. Here you can publicly post or review problems that customers have had, and learn about our recommended solutions.*

Our engineers monitor questions and respond continually throughout the day. Before requesting telephone technical support, we ask that customers please try to resolve their problems through **Support** first. However, for persistent problems, NCD technical support engineers will schedule a phone consultation.

Contact Information

National Control Devices, LLC
PO Box 455
Osceola, MO 64776
417-646-5644 phone
866-562-0406 fax
Open 9 a.m. - 4 p.m. CST

Like "National Control Devices" on Facebook, and follow us on Twitter @ControlAnything.

All orders *must* be placed online at our website, www.controlanything.com

Notice:

The only authorized resellers of NCD products are

- www.controlanything.com
- www.relaycontrollers.com
- www.relaypros.com

All other websites are not authorized dealers; we have noticed some retailers offering our products fraudulently.