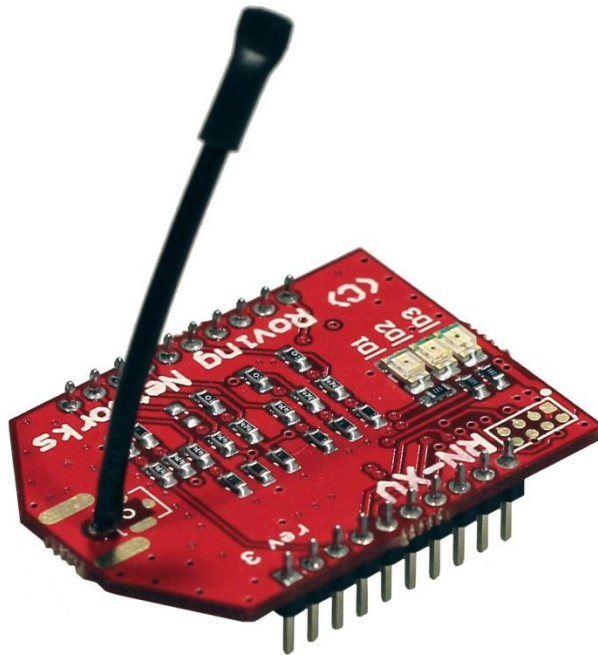# NATIONAL CONTROL DEVICES

Wi-Fi Quick Start Guide

Internet Access Module

Wi-Fi

Internet Access 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 AccessNCD (http://iorelay.ning.com/)

Table of Contents

Introduction

Features

➢ Embedded Wi-Fi over 802.11 b/g

➢ Supports direct TCP/ IP communications

➢ Supports direct connection to SingalSwitch.com

➢ Includes extensive Network Configurations Options

➢ Supports DHCP

➢ Supports fixed IP address

➢ Password Protection

Manual Objective

➢ Configure Wi-Fi Module to connect to your network

➢ Mount W-Fi Module to your board

➢ Test command the module for the first time on your network

Wi-Fi Setup

The Wi-Fi Module must be configured in order to connect to your network and so that it can be accessed through TCP Sockets.

1) Install the Wi-Fi Module into the Wi-Fi Module Configuration Board.

   ➢ The Configuration board will be a small black board with 3 LED lights: USB, RX, and TX. The Configuration Board should also be labeled Zigmo and should have a USB connection.

2) Connect USB cable to the configuration board and to your computer.

   ➢ When you connect the USB cable to the black configuration board the USB LED should light up solidly. It may take a couple of seconds for this to occur. *Note: If the lights do not engage, your computer may need to install drivers, see "Installing USB Drivers" portion of the guide (Page 6)*

3) Install NCD Base Station software for configuring the Wi-Fi Module.

   ➢ The <u>NCD Base Station</u> software will help you configure your Wi-Fi device. Download and install the software.

4) Select the appropriate Com Port for you Wi-Fi module.

   ➢ Run Base Station software
   ➢ Choose the appropriate Com Port from the 'Select Connection' window.
   ➢ Click 'WiFi Setup'.
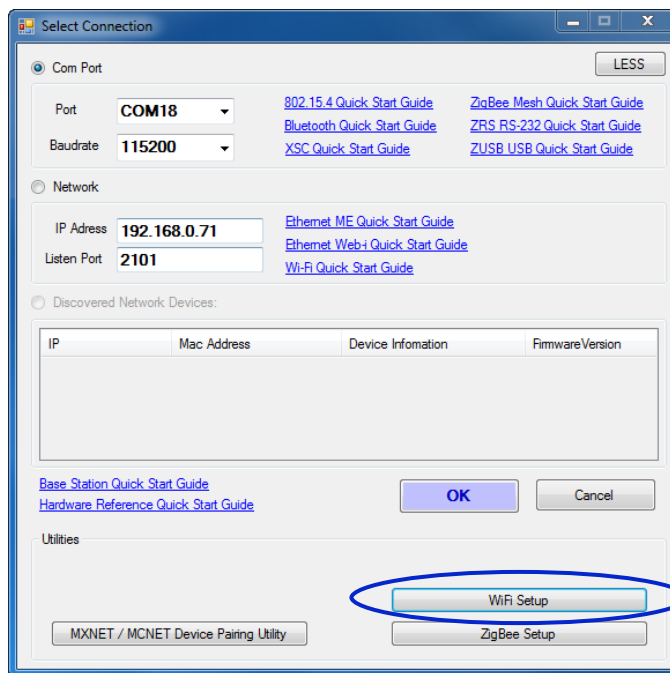
Click on 'WiFi Setup' button.

5) WiFi Configuration

➢ A new window will open named "Wi-Fi Configuration". Wait for the progress bar to finish loading. There will be several options to set up the configuration for your module.
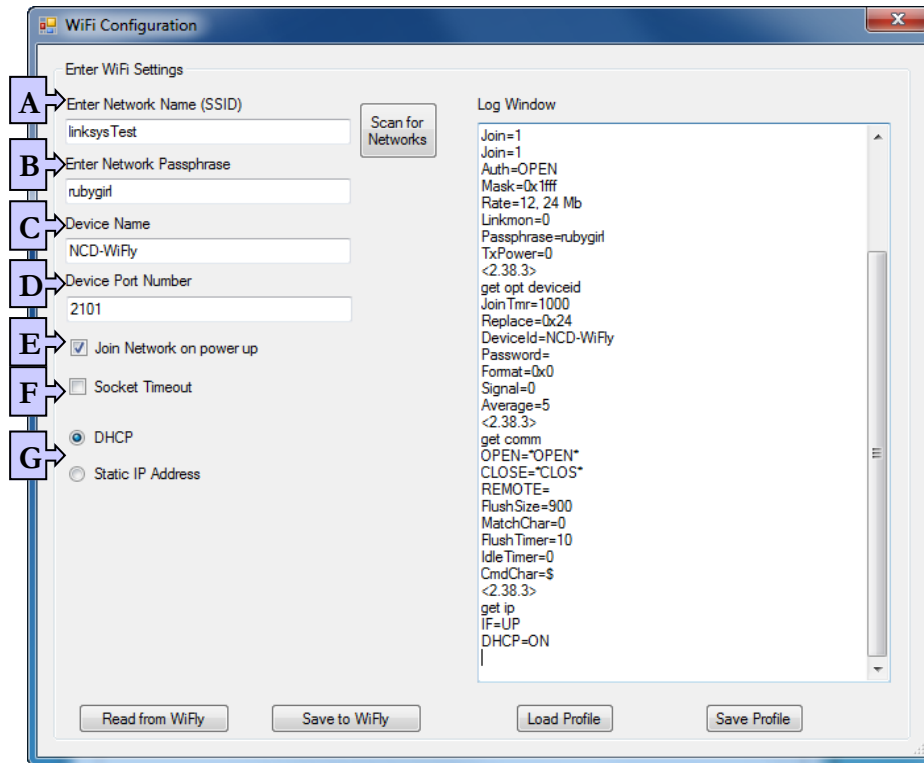

A. **Enter Network Name (SSID):** Your Wi-Fi module will already have a network name stored. This is the router to which it was connected for testing. This is where you will enter the information for your network. NETWORK SSID MUCH BE ENTERED WITH NO SPACES. If you do not know this information, you can select "Scan for Networks" to the right for the "Enter Network Name" text box. This will show all Wi-Fi networks that are in range of your module. Choose the appropriate network and click "Select". This process will fill in the Network Name for you.

B. **Enter the Network Passphrase:** This will be the password that allows access to your wireless router.

C. **Device Name:** Makes the device easier to find on your network. This name can be whatever you choose.

D. **Device Port Number.** By default this is set to 2101. This is the number that is most commonly used and is recommended, however, it can be set to any value.

E. **Join Network on power up:** It is recommended that you leave this option checked. "Join Network on power up" means that as soon as the module powers up it attaches to the network. This pick chip on the relay board your module will later be installed into has no way to command the Wi-Fi module to connect so checking this option will allow automatic connection.

F. **Socket timeout:** By default this box is unchecked. When using a mobile device, it is recommended to check this box.

G. **DHCP or Static IP Address:** By default the module is set for DHCP which in most cases is the recommended setting. This means that your module will obtain an IP address from the router.

➢ If you are using the Wi-Fi module on a network switch or you do not have a DHCP Server, choose Static IP Address option instead.

➢ You can then enter the IP address and other information into the boxes that appear: 1) Static IP Address, 2) Default Gateway, 3) Subnet Mask. This device will then always try to use the IP Address
***Make sure that the IP Address is reserved on the network so no other devices may obtain that address.

Configuration Options Continued:

6) When all setting changes are complete, click "Save WiFly" button. This will write all settings into the module. A progress bar will indicate the completion of the configuration.

> ➤ *Caution:* **Be careful when storing this information. If this information is stored incorrectly, you will need to install the module back into your modem and reconfigure the module.**

7) When storing is complete

> ➤ You will see the words "READY" and "Associated!"
> ➤ Further down, you will also see the device's IP Address. If using DHCP, you might want to write this down. When you place the module into the Relay board from the Configuration board, you will need to know the module's IP Address.
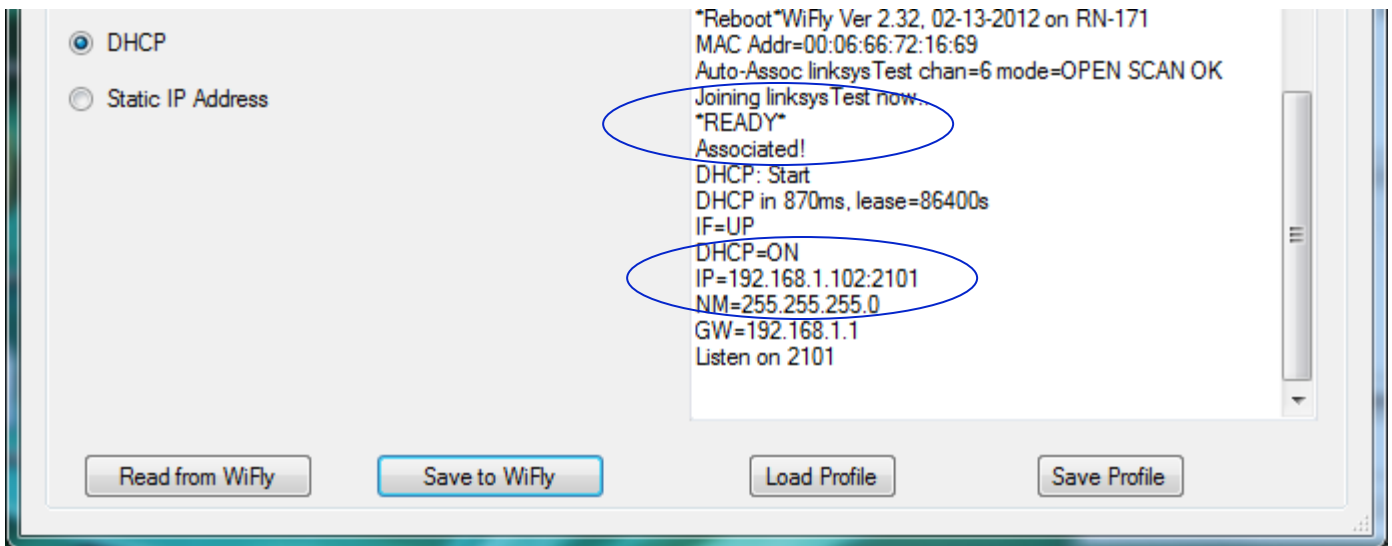

8) Close Software

9) Install Module into a Relay Board

> ➤ Disconnect the USB cable from the Configuration Board. Disconnect Wi-Fi module from the Configuration Board.
> ➤ Install the Wi-Fi module into a Relay Board.

10) Connect Power Supply to the Wi-Fi Module.

> ➤ The LED should light on the Wi-Fi Module as soon as power is supplied.
> ➤ Eventually the green LED light on the Wi-Fi Module should be flashing slowly. This indicated a good connection to the router.

Testing Wi-Fi Module

Testing the Wi-Fi Module on Your Network

1. Run Base Station software.
2. On the 'Select Connection' window, click 'Network'
3. Enter IP Address
4. Port Number- 2101
5. Click "Okay"
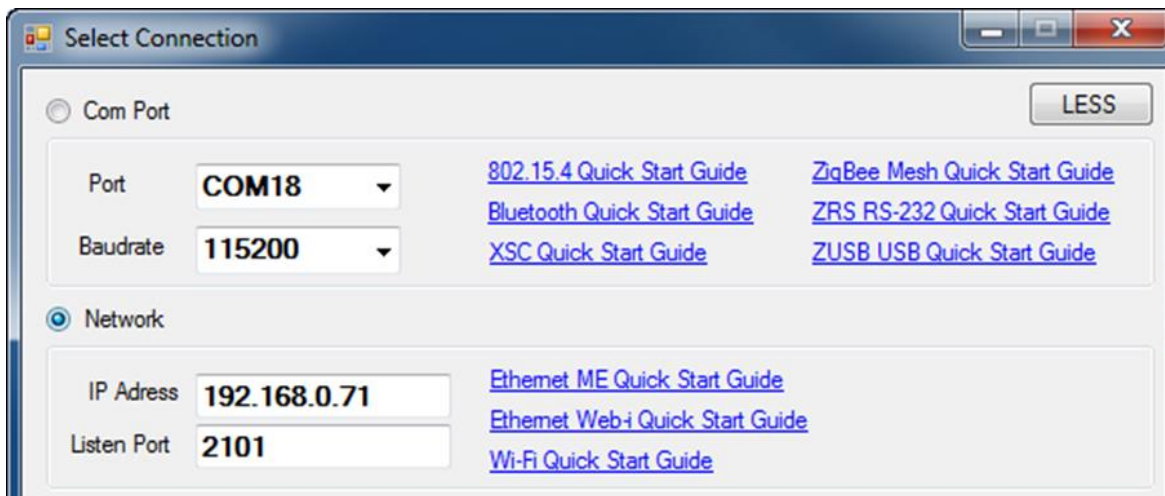
➢ A Window will open allowing you to test your new controller.

Troubleshooting

These instructions are for those who had problems on Step 2 of page 2.

Installing USB Drivers

If you connect the USB cable to the Wi-Fi Module Configuration Board and the USB light does not engage, you will need to install drivers in order to mound the board to your computer as a virtual COM Port. There are different ways to download these drivers, cut we have simplified the process for you.

1. Visit our website www.controlanything.com. Click on the 'Resources' tab located at the top of the page.

2. Go to the 'Driver' section on the 'Resources'. Click on "USB Drivers" link.

   ➢ This will forward you to FTDI's website. FTDI is the manufacturer of the USB chip on you board.

   ➢ Or eliminate Step 1 & 2 by going directly to:
   http://www.ftdichip.com/Drivers/VCP.htm

3. Scroll down. There will be a table labeled "Operating Systems". You could chose an available download for your operating system, but this will require extra steps in order to install. We recommend going over to the "Comments" portion of the table and selecting "Setup Executable" link.

4. This gives you a "setup exe". That program will run. Go through the installation steps. Very simple process.

5. When the USB light does engage, meaning the driver successfully installed, you may have to disconnect and reconnect the USB cable to the Wi-Fi Module Configuration Board.

6. You are now ready to continue on to Step 3 of "Configuring Your Wi-Fi Module".

Technical Support

Technical support is available through our website, controlanything.com. **AccessNCD** is the way we connect NCD engineers to our customers.
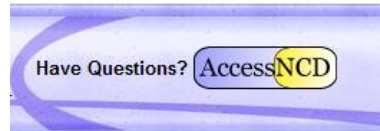
*Click on the **AccessNCD** button located on the top right of the header of each page of our website.*

For technical support and application information, contact Travis Elliott, our technical engineer. If you feel that you have discovered a bug in the firmware of our controllers, contact Ryan Sheldon, our hardware developer. If you have programming-related questions or have discovered a bug in our software, please contact Shirui Xu, our software engineer.
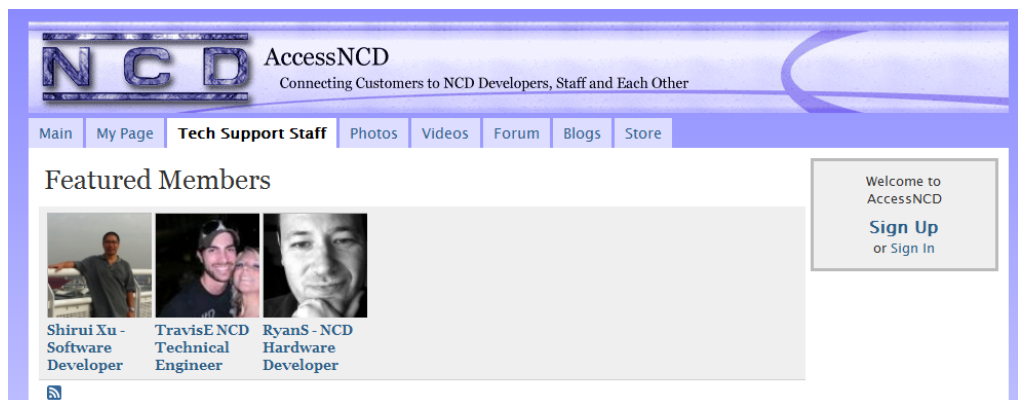
Click the 'Tech Support Staff' tab and click on the appropriate engineer link for assistance. Click on our 'Forum' tab if you would like to post publicly or review problems that other customers have had and our recommended solutions.

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 **AccessNCD** 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

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
- www.amazon.com

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