



Digi Connect[®] N2S-170 Getting Started Guide

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<http://www.digi.com/>

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Introduction

This document is intended as an installation guide for the Digi Connect N2S-170 when using the three most typical use cases: RealPort, TCP Sockets, and UDP Sockets.

For full information on the Digi Connect N2S-170, consult the Digi Connect Family Users Guide.

Configuring the IP address

There are two methods to configure the IP address, via the supplied CD, or by using the Digi Discovery Utility. Both work equally well.

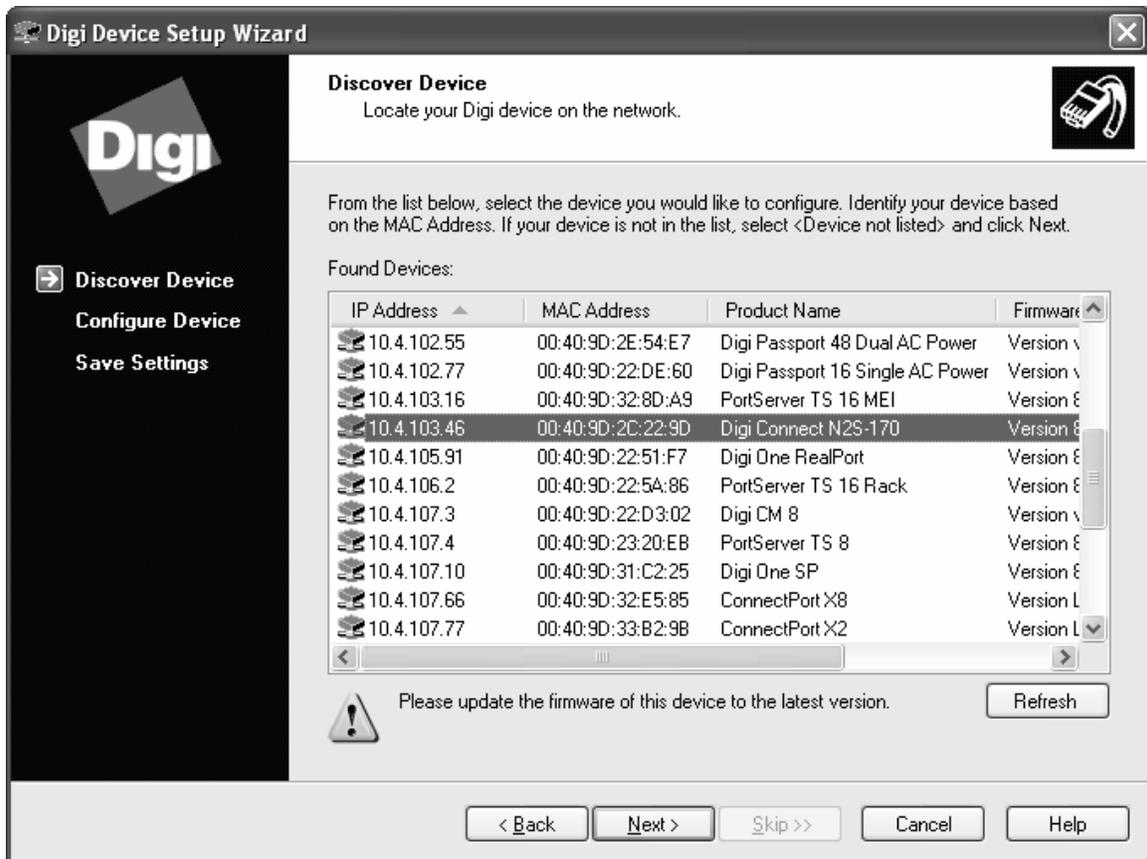
For the Discovery Utility refer to page 7.

Configuring the IP address using the CD:

1. Insert the Digi Configuration CD into your PC and it will auto run, bringing up the introduction page.
2. Click on the setup icon or wait a few seconds and the Digi Device Setup Wizard will start.
3. Be sure you have the Digi Connect N2S-170 physically installed and that the Ethernet port is connected to your local LAN network.



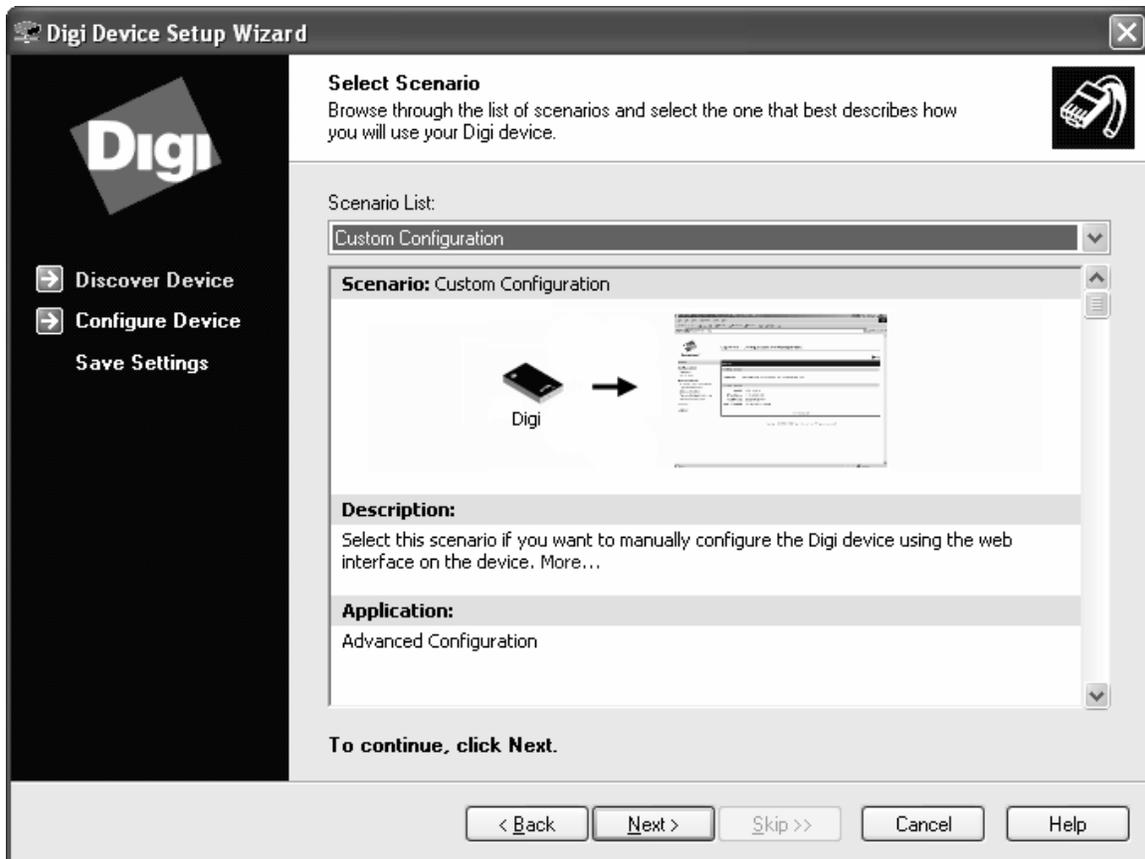
4. Click “Next” when you are ready to proceed.



The unit will be located by its MAC address and it may not have a valid IP address if no DHCP server is running.

5. Select the Digi Connect N2S-170 you wish to configure.
6. Press “**Next.**”

Note: If you wish to use a static IP address enter the information before pressing “**Next.**”



7. Review the displayed Network Settings.

8. If settings are correct, click “**Next.**” Wait while the Settings are being saved.

Congratulations, the Setup Wizard is completed.

9. You can select to configure another device, or click “**Finish.**”

Your browser will be started so that you can log into the device using the default user “**root**” and the default password “**dbps.**”

Configuring the IP address using the Digi Discovery Utility

If using the Digi Discovery Utility from our web site:

http://ftp1.digi.com/support/utilities/40002256_F.exe

run it to locate the Digi Connect N2S-170.

If the IP address is **not** valid, double-click on the unit to be configured. This will bring up a screen where the IP address can be edited. Use DHCP or assign a static IP address.

If the IP address **is** valid, double-click on the IP address to start your browser and log into the device using the default user “**root**” and the default password “**dbps.**”

Configuring the Digi Connect N2S-170 Communications Method

The three methods of communicating with devices through the Digi Connect N2S-170, are RealPort Installation, TCP Socket Communication, and UDP Socket Communication. Refer to pages below for each installation method.

- I. RealPort Installation: see page 9.***
- II. TCP Socket Communication: see page 10.***
- III. UDP Socket Communication: see page 14.***

I. Installing RealPort

For customers using the RealPort com redirector for a RealPort type installation:

1. Stop after setting the IP address.
2. Close the browser.
3. Install RealPort on your PC.

The Digi Connect N2S-170 has default settings which work when using RealPort without any further configuration of the device.

You can install the version of RealPort from the included CD.

To be sure you have the most recent version, please visit the Digi web site at this link:
<http://www.digi.com/support/productdetl.jsp?pid=3358&osvid=57&s=321&tp=1>

When you unzip the driver package, run the “Setup” program.

Instructions for installing RealPort are not covered in this document. Consult the Digi web site for the RealPort installation manual for your specific operating system.

II. TCP Socket Communication

1. Log into the Digi Connect N2S-170 by typing its IP address into your browser.
Log in as:
Username: **root**
Password: **dbps**
2. Under Configuration, select Network, and then Advanced Network Settings.
You will see the following page.

Home

Configuration

- Network
- Serial Ports
- GPIO
- Alarms
- System
- Users

Management

- Serial Ports
- Connections

Administration

- File Management
- Backup/Restore
- Update Firmware
- Factory Default Settings
- System Information
- Reboot

Logout

Network Configuration

- ▶ Ethernet IP Settings
- ▶ Network Services Settings
- ▶ Socket Tunnel Settings
- ▼ **Advanced Network Settings**

The following settings are advanced settings used to fine tune the network configuration. The default settings will typically work in most situations.

IP Settings

Host Name:

Static Primary DNS:

Static Secondary DNS:

DNS Priority:

Ethernet Interface

Speed: Mode:

TCP Keep-Alive Settings

Idle Timeout: hrs mins secs

Probe Interval: secs Probe Count:

3. Change the default settings under the TCP Keep-Alive Settings as shown.
4. If you are instructed to use different values, cross out the values below and write in the values you used.

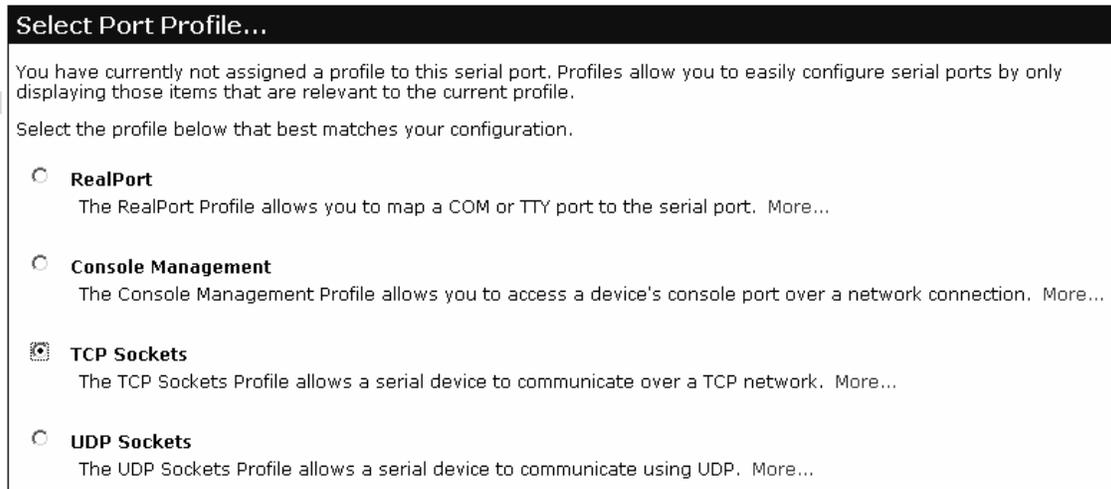
Idle Timeout: 0 hrs 0 mins 30 secs _____

Probe Interval: 10 secs _____

Probe Count: 5 _____

5. When finished, make sure to click “**Apply.**”

6. Next, under Configuration, select Serial Ports and then select Port 1.
7. The Select Port Profile page will open as shown below.
8. Select TCP Sockets.



9. Scroll Down and Click **“Apply.”**

The Serial Port Configuration page opens as below:

- Configuration**
- Network
- Serial Ports**
- GPIO
- Alarms
- System
- Users
- Management**
- Serial Ports
- Connections
- Administration**
- File Management
- Backup/Restore
- Update Firmware
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- System Information
- Reboot
- Logout

Serial Port Configuration

▼ Port Profile Settings

Current Port Profile: **TCP Sockets** Change Profile...
 The TCP Sockets Profile allows a serial device to communicate over a TCP network.

TCP Server Settings

Connect directly to the serial device using the following TCP ports on the network.

<input checked="" type="checkbox"/> Enable Telnet access using TCP Port:	<input type="text" value="2001"/>	<input checked="" type="checkbox"/> Enable TCP Keep-Alive	
<input checked="" type="checkbox"/> Enable Raw TCP access using TCP Port:	<input type="text" value="2101"/>	<input checked="" type="checkbox"/> Enable TCP Keep-Alive	
<input checked="" type="checkbox"/> Enable Secure Socket access using TCP Port:	<input type="text" value="2601"/>	<input checked="" type="checkbox"/> Enable TCP Keep-Alive	

TCP Client Settings

Automatically establish bi-directional TCP connections between the serial device and a server or other networked device.

Automatically establish TCP connections

Establish connection under one of the following conditions:

- Always connect and maintain connection
- Connect when data is present on the serial line
 - Match string:
 - Strip string before sending
- Connect when DCD (Data Carrier Detect) line goes high
- Connect when DSR (Data Set Ready) line goes high

Establish connection to the following network service:

IP Address:

Service:

TCP Port:

Enable TCP Keep-Alive

Apply

▶ Basic Serial Settings

▶ Advanced Serial Settings

10. By default, the TCP Keep-Alive options are not enabled. Enable these as shown.

11. Scroll down and click “**Apply**” after making any changes.

Basic Serial Settings:

12. At the bottom of the page, click on “**Basic Serial Settings.**”

The following page will open. Make any changes to the serial port parameters you wish to use, and enter a description for this port.

The screenshot shows a web interface for configuring a serial port. On the left is a sidebar menu with the following items:

- Configuration**
 - Network
 - Serial Ports
 - GPIO
 - Alarms
 - System
 - Users
- Management**
 - Serial Ports
 - Connections
- Administration**
 - File Management
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- Logout

The main content area is titled "Serial Port Configuration - 4th and Elm" and is divided into two sections:

- Port Profile Settings** (collapsed)
- Basic Serial Settings** (expanded)
 - Description: 4th and Elm
 - Baud Rate: 9600
 - Data Bits: 8
 - Parity: None
 - Stop Bits: 1
 - Flow Control: None

An "Apply" button is located below the settings. At the bottom, there is a section for "Advanced Serial Settings" (collapsed).

13. Write down the correct settings for your device below for future reference:

Description _____

Baud Rate: _____

Data Bits: _____

Parity: _____

Stop Bits: _____

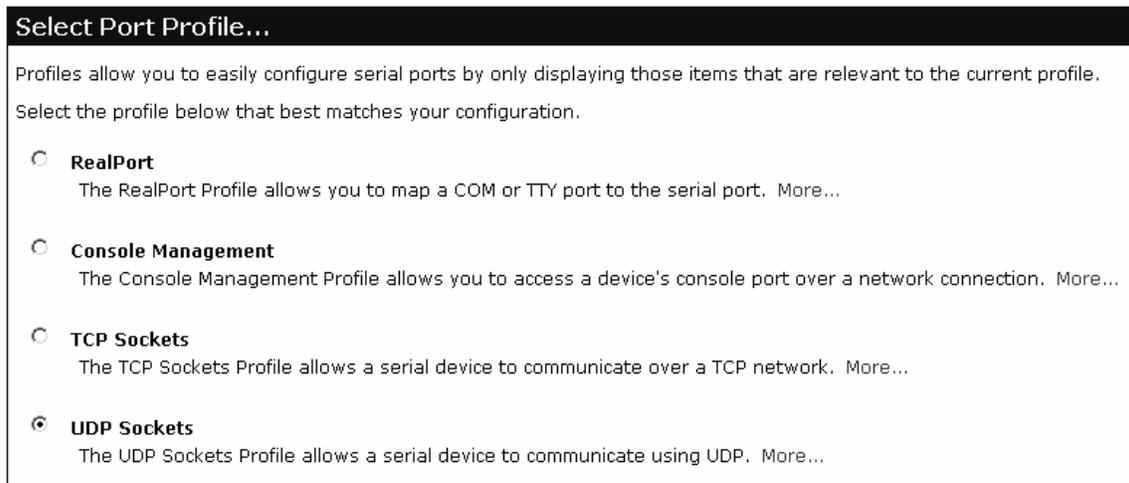
Flow Control: _____

14. Make any necessary changes for the device you are connecting to.

15. Make sure to Click “**Apply**” when you are done.

III. **UDP Socket Communication**

1. Log into the Digi Connect N2S-170 by typing its IP address into your browser.
Log in as:
Username: **root**
Password: **dbps**
2. Under Configuration, select **“Serial Ports,” “Port 1,”** and **“UDP Sockets.”**



3. Scroll down and click **“Apply.”**

The following page will open:

Home

Configuration

- Network
- Serial Ports**
- GPIO
- Alarms
- System
- Users

Management

- Serial Ports
- Connections

Administration

- File Management
- Backup/Restore
- Update Firmware
- Factory Default Settings
- System Information
- Reboot

Logout

Serial Port Configuration

Port Profile Settings

Current Port Profile: **UDP Sockets** [Change Profile...](#)
The UDP Sockets Profile allows a serial device to communicate using UDP.

UDP Server Settings

The serial device receives data from one or more devices or systems on the network using UDP sockets.

Enable UDP access using UDP Port:

UDP Client Settings

Automatically send serial data to one or more devices or systems on the network using UDP sockets.

Automatically send serial data

By default, serial data is returned to the last client which sent any data. To override this default, enter a list of destinations and a unicast copy of all serial data is sent to each:

Description	Send To	UDP Port	
No destinations currently configured			
<input type="text"/>	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	<input type="button" value="Add"/>

Send data under any of the following conditions:

Send when data is present on the serial line
Match string:
 Strip string before sending

Send after following number of idle milliseconds
 ms

Force send after the following number of bytes (limits UDP packet size)
 bytes

► Basic Serial Settings

► Advanced Serial Settings

4. Check **“Enable UDP access using UDP Port,”** and set the correct port number for your application. 8001 is used in this example. (Default is 2101.)
5. Check **“Automatically send serial data.”** Additional information is not required.
6. Check **“Send after the following number of idle milliseconds.”**
7. Set the value to 12 ms.
If instructed to use different values write them here:
UDP Socket Number _____
Send after _____ idle ms
8. Click **“Apply.”**
9. At the bottom of the page, click on **“Basic Serial Settings.”**

Basic Serial Settings:

The following page will open. Here you can make any changes to the serial port parameters you wish to use, and enter a description for this port.

Configuration
Network
Serial Ports
GPIO
Alarms
System
Users

Management
Serial Ports
Connections

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File Management
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Factory Default Settings
System Information
Reboot

Logout

Serial Port Configuration - 4th and Elm

▶ Port Profile Settings

▼ **Basic Serial Settings**

Description: 4th and Elm

Baud Rate: 9600

Data Bits: 8

Parity: None

Stop Bits: 1

Flow Control: None

Apply

▶ Advanced Serial Settings

10. Write down the correct settings for your device below for future reference:

Description _____

Baud Rate: _____

Data Bits: _____

Parity: _____

Stop Bits: _____

Flow Control: _____

11. Make any necessary changes for the device to which you are connecting.

12. Make sure to click “**Apply**” when you are done.

13. To finish UDP configuration, set the output signals.

UDP Output signal configuration:

14. Under Configuration, select “GPIO.”

The page below opens.

Home

Configuration

- Network
- Serial Ports
- GPIO**
- Alarms
- System
- Users

Management

- Serial Ports
- Connections

Administration

- File Management
- Backup/Restore
- Update Firmware
- Factory Default Settings
- System Information
- Reboot

Logout

GPIO Configuration

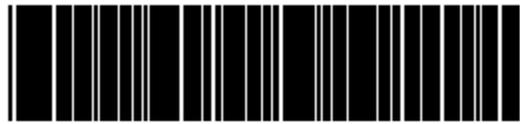
General Purpose Input/Output Pins

	Mode	Initial Output State
Pin 1:	Serial (DCD)	Default
Pin 2:	Serial (CTS)	Default
Pin 3:	Serial (DSR)	Default
Pin 4:	Out	De-asserted
Pin 5:	Serial (DTR)	Default

Apply

15. Set pin 4 mode to “**Out,**” and set pin 4 Initial Output State to “**De-asserted.**”

16. Click “**Apply.**”



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