

NT-IP232 Installation Guide

This document will provide you with a step-by-step procedure to configure and connect your NT-IP232 to your Net/X™ Network Controller, your LAN, and the Internet. The NT-IP232 is very simple to set up, and with the integrated display on the device itself, you can always see how your NT-IP232 is configured.

The NT-IP232 ships with DHCP (Dynamic Host Connection Protocol) enabled. The DHCP feature allows your router to dynamically assign an IP address automatically when the NT-IP232 is plugged into the LAN. As soon as this happens, the NT-IP232 display shows all of the configuration information assigned by the router, including the IP address, gateway address, subnet mask, host name, and also the port number (default 10001). The display cycles through all of this information repeatedly, allowing you easy access to the configuration data at any time.

Items Provided

1. NT-IP232 Net/X™ Ethernet Bridge
2. 5VDC Power Supply
3. 9-to-9 pin cable
4. Ethernet cable
5. This Manual

Other Items Needed

1. A desktop or laptop PC with a browser and an Ethernet Port, connected to your LAN
2. A Static IP address, given to you by your LAN administrator
3. Optional (and recommended): A good quality power strip with surge protection

Install the Hardware

1. Mount the NT-IP232 close to (within a few feet of):
 - a. the Net/X™ Network Controller or Protocol Converter
 - b. the LAN port to be used for connection
2. Mount the optional power strip
3. Connect the 5VDC power supply
4. Using the 9-to-9 pin cable, connect the NT-IP232 to the Network Controller or Protocol Converter
5. Using the Ethernet cable, connect the NT-IP232 to your LAN
6. Organize the extra cable lengths neatly and secure them

NT-IP232 Configuration

In order for the Net/X™ Command Center PC software or the Net/X-Web™ Internet Service to communicate to the connected Network Controller or Protocol Converter, the software/service must know the IP address of the NT-IP232. (Just like getting mail delivered to your home, the sender must know your complete address or the mail will get lost).

The procedure below shows step-by-step instructions for configuring the NT-IP232 to reside on a permanent 'static' IP address on your LAN.

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Configuration Option #1 (Recommended)

Step 1 - Determining your DHCP range on your router

(While this is a fairly simple process, if you are not familiar with routers, cable modems, and general LAN settings, it is recommended that you get your IT administrator involved).

Using your favorite browser (i.e. Internet Explorer or Firefox), enter the IP address of your router and log in using the router password. In a small network with default settings, the router is probably located at 192.168.1.1 or 192.168.1.2.

Navigate to the DHCP area and write down the DHCP range. In the example to the right, the DHCP range for automatic IP address assignment is from 192.168.1.100 to 192.168.1.149. When the NT-IP232 is *first* connected to the network, the router will assign an IP address *inside* this range.

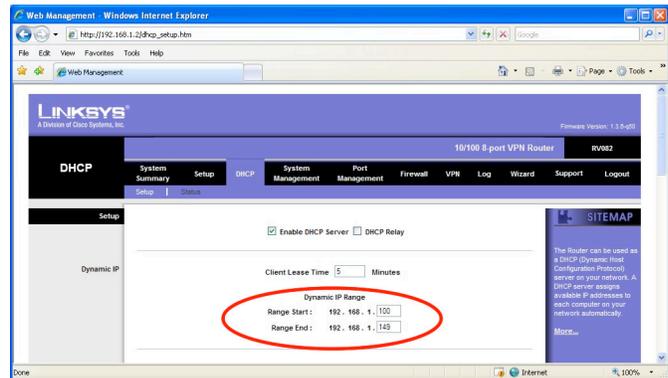
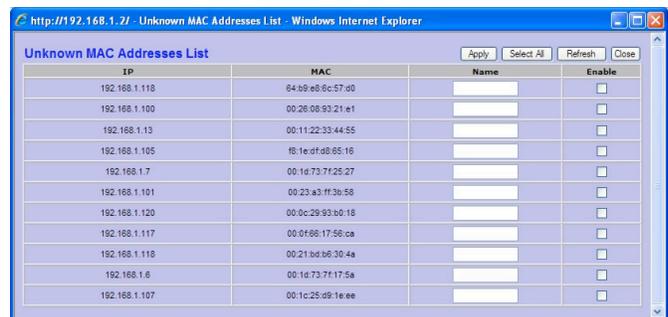


Figure 1 - Sample Router DHCP Range from x.100 to x.149

Step 2 - Determining Assigned and Available Static IP Addresses

Most routers/cable modems will also have a menu option for viewing ALL previously assigned IP addresses on the network. Locate that menu option and view all IP address, both inside and outside the DHCP range. Any address that is shown outside the DHCP range can NOT be used, as another device, computer, or printer is already using it.

The example to the right shows a sample table of IP addresses that are already in use.



IP	MAC	Name	Enable
192.168.1.118	64:b9:e8:0c:57:d0		<input type="checkbox"/>
192.168.1.100	00:26:08:93:21:e1		<input type="checkbox"/>
192.168.1.13	00:11:22:33:44:55		<input type="checkbox"/>
192.168.1.105	f8:1e:df:d8:65:16		<input type="checkbox"/>
192.168.1.7	00:14:73:71:25:27		<input type="checkbox"/>
192.168.1.101	00:23:a3:f1:36:58		<input type="checkbox"/>
192.168.1.120	00:0c:29:93:b0:18		<input type="checkbox"/>
192.168.1.117	00:04:68:17:56:ca		<input type="checkbox"/>
192.168.1.118	00:21:bd:50:30:4a		<input type="checkbox"/>
192.168.1.6	00:14:73:71:17:5a		<input type="checkbox"/>
192.168.1.107	00:1c:25:d9:1e:ee		<input type="checkbox"/>

Figure 2 - Sample Router Assigned IP Addresses

Step 3 - Selecting a Valid Static IP Address for the NT-IP232

The task now is to **CHANGE the NT-IP232 address** that meets the following criteria:

- an IP address **OUTSIDE** of the DHCP range
- an IP address that is not used by any other device on the LAN that is using a static IP address (such as another NT-IP232, printer, scanner, etc.)

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Select an IP address based on the criteria above and write it down. If multiple NT-IP232 devices are being installed, a separate Static IP address will be needed for each one. Try to group the IP addresses next to each other for easy configuration.

Step 4 - Locating the NT-IP232 on the LAN

Open the browser and type

NT-IP232

into the address bar, as shown, and press 'enter'.



Figure 3 - NT-IP232 in Address Bar

A User Name / Password dialog will pop up as seen in Figure 4.

For User Name, type **admin** (lower case),
 For Password, type **netx** (lower case).

Click 'OK' to complete the connection to the NT-IP232.



Figure 4 – Log-In Screen

Once the connection is made, the main screen of the NT-IP232 will appear in the browser window.

In the example to the right, notice that the address bar now shows the address 192.168.1.100. This is the IP address that was assigned by the router's DHCP process.

Also notice they green light, indicating LAN port is connected. On a live screen, this light will flash. There is a corresponding green LED on the NT-IP232 itself, indicating connectivity. If the LED remains off, there is a network connection problem.

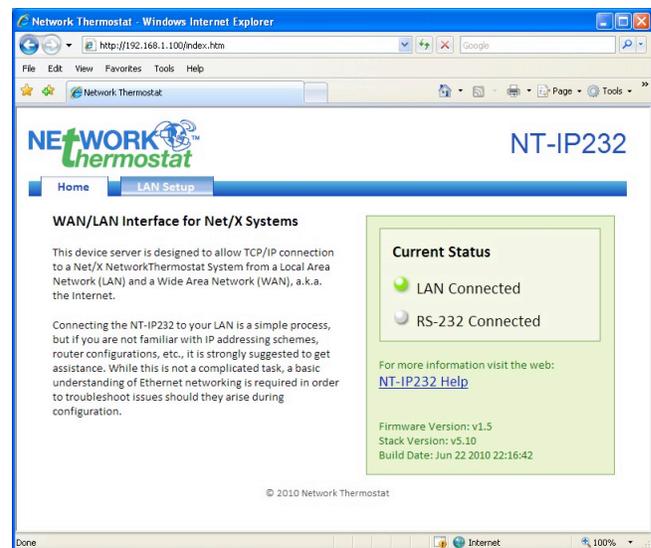


Figure 5 - Default Home Screen

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Step 5 - Updating the Host Name for the NT-IP232

Give a device a Host Name is an easy way to identify a device. The Host Name gets associated with the MAC address (unique device serial number). That way, if a router changes the IP address with DHCP, the device can still be found using the Host Name.

If there is only one (1) NT-IP232 that is going to reside on the LAN, then changing the host name from the default of NT-IP232 to a different name (i.e. SYSTEM-01) is optional, but still recommended.

If there will be multiple NT-IP232 devices on the same LAN, it is highly recommended to update the Host Name on the each devices to unique names.

A Host Name is restricted to the following rules:

- 15 characters or less
- Letters, numbers and the '-' symbol
- No Spaces and no special characters
- Upper and lower case letters are treated as the same

It is highly recommended to configure only one (1) NT-IP232 at a time. Complete ALL configurations before plugging in an additional NT-IP232.

To update the Host Name, simply click the Host Name field and update it to a name that makes sense for the application.

The name **SYSTEM-01** is inserted in the example to the right. This could also have been something even more descriptive such as

2ND-FLOOR-EAST or

1234-N-MAIN or

STORE-1492

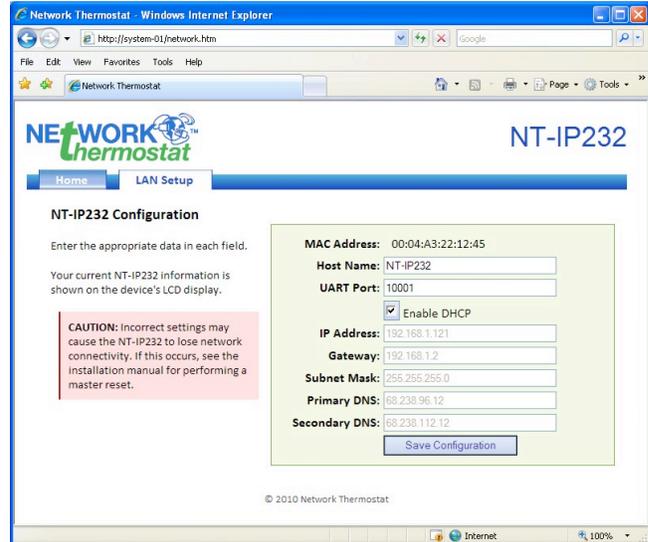


Figure 6 - Default Host Name

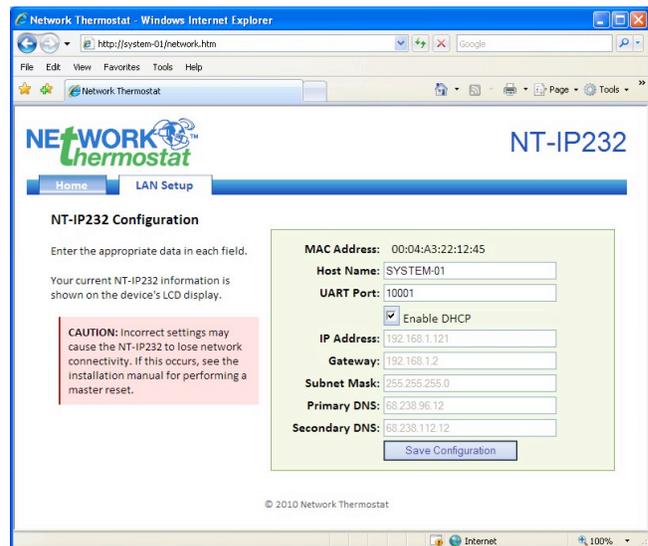


Figure 7 - Updated Host Name

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Step 6 - Entering the Static IP Address on the NT-IP232

Refer to [Step 3](#) for selecting a static IP address for the NT-IP232.

To enter the new address, uncheck the 'Enable DHCP' box as shown to the right.

Then...

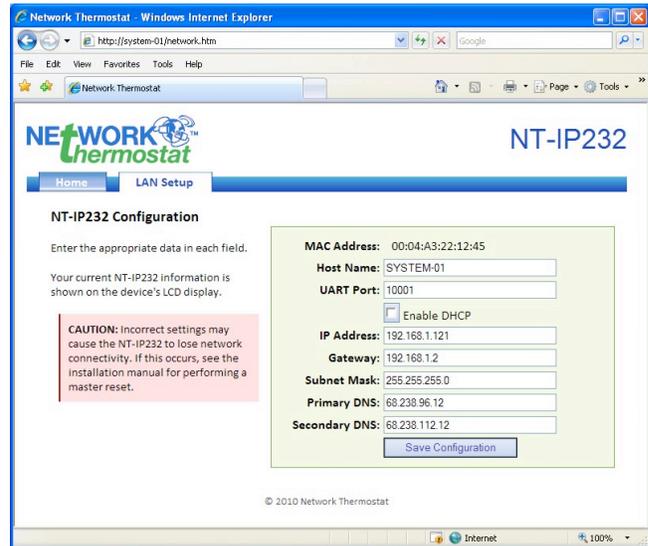


Figure 8 - Uncheck 'Enable DHCP'

Enter the new static IP address.

In this example, 192.168.1.47 has been entered.

Leave the rest of the fields alone. The Gateway, Subnet Mask, Primary DNS and Secondary DNS have been automatically entered with the right values by the router upon initial connection.

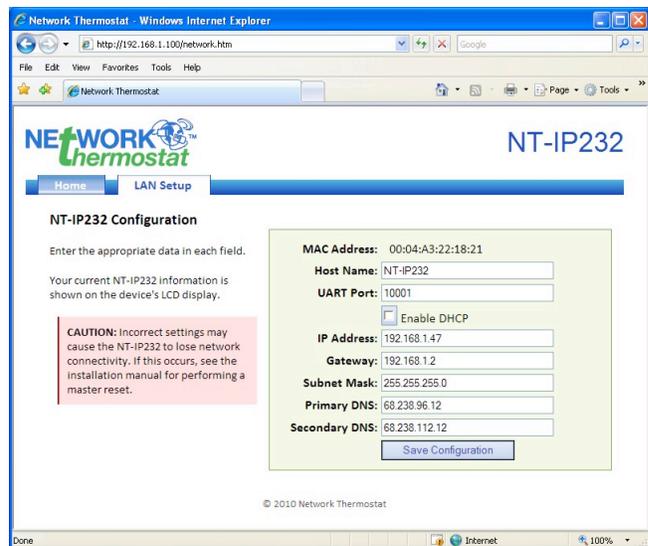


Figure 9 - Enter New Static IP Address

Step 7 - Save the Configuration and Reboot

It's now time to save changes by clicking the 'Save Configuration' button.

The NT-IP232 will then store all values and reboot itself.

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Step 8 - Verify Reconnection

When the reboot is complete, the browser page should automatically update to the new static IP address entered (192.168.1.47 in the example).

If not, simply type the new static IP address in the address bar and the NT-IP232 will once again be available.

Alternatively,

The NT-IP232 can also be found by typing in the new Host Name in the address bar.

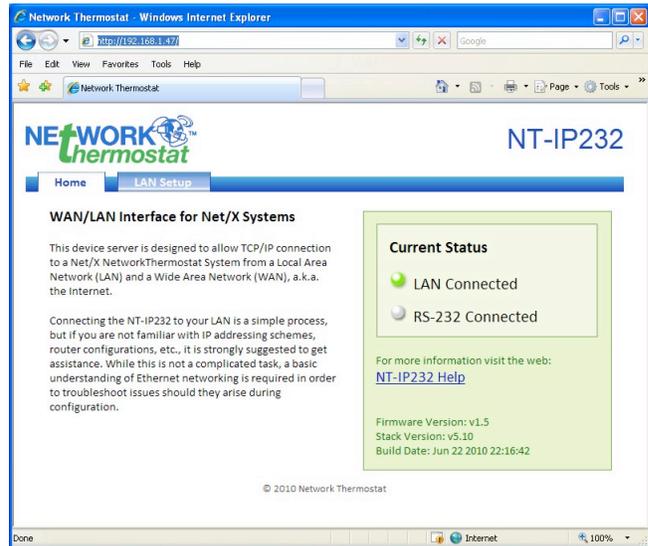


Figure 10 - New Static IP in Address Bar

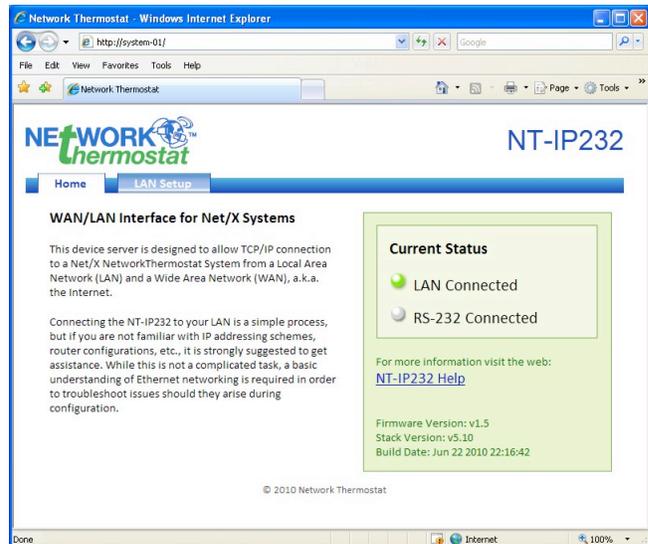
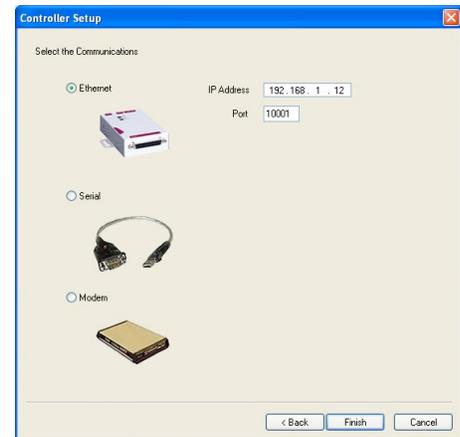


Figure 11 - New Host Name in Address Bar

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Step 9 - Enter IP Address into Net/X™ Command Center Software

The final step is to open the Net/X™ Command Center software and enter the static IP address into the Controller address field.



Complete!

Configuration Option #2 (not recommended, but possible)

It's possible to simply leave the NT-IP232 in DHCP mode and use the IP address that scrolls across the NT-IP232 display, and enter it into the software. While this will initially work, a problem may exist at some time in the future if the router decides to dynamically change the NT-IP232's address. Depending on the router type and settings, the router may change the address unexpectedly. This can also happen any time the router, an intermediate network switch, or the NT-IP232 loses power. When power is returned the router may change the IP address automatically, making it unreachable until the IP address is updated in the Net/X™ Command Center PC software or the Net/X-Web™ Internet Service. Therefore, while using this configuration method is possible, it is not recommended.