



Operation/Reference Guide

NXR-ZGW/-ZRP

NetLinx ZigBee Compatible Gateway
and Repeater



Control System Accessories

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Overview

The NXR-ZGW (**FG5791-01**) is an Ethernet to ZigBee wireless gateway. The NXR-ZGW features a 10/100 Ethernet port capable of Power over Ethernet (PoE), 16 Mbytes of Flash, 16 Mbytes of SDRAM, and a ZigBee module, and is controlled via a web server interface. The NXR-ZRP (**FG5791-02**) is a ZigBee wireless repeater that features 16 Mbytes of Flash, 16 Mbytes of SDRAM, and a ZigBee module.

NXR-ZGW Specifications

The following table outlines the specifications for the NXR-ZGW.

NXR-ZGW (FG5791-01) Specifications	
Dimensions (HWD):	• .906 x 2.500 x 3.424 (23.01 mm x 63.50 mm x 86.96 mm), depth does not include antenna
Weight:	• 0.35 lbs (158.75g)
Power:	10.5 - 18 VDC; 13.5 (nominal operation voltage), or Power over Ethernet (PoE)
Memory:	<ul style="list-style-type: none"> • 16 Mbytes of Flash • 16 Mbytes of SDRAM
Radio Specifications:	
Frequency	IEEE 802.15.4
Operating channels	• 11 - 26
Data Rate	• 250 kbps (@2.4 GHz)
Modulation technique	• DSS
Security	• EUI Address filtering
Output power	• Country-specific: may be set from 0 dbm to 20 dbm
Coverage area	50m typical (5-500m based on environment)
Firmware/Software Specifications:	
Management	• Built-in browser-based management with User Name/Password authentication
IP configuration	• Static IP or DHCP client (default is static, 192.168.1.140)
Communications	• The NXR-ZGW communicates with a Netlinx master over TCP/IP encapsulating the ICSP protocol via a physical Ethernet connection. The ICSP device number can be set via the browser-based management system.
Front Components:	
LEDs	<ul style="list-style-type: none"> • PWR/STATUS - A green LED that blinks to indicate the device is installed and communicating properly. Power ON, but no master connection, is indicated with a solid light; Power OFF is indicated with no light. • LAN - A green LED indicates an Ethernet connection is established. The LED blinks to indicate both sending and receiving information via Ethernet. • RF - The LED is solid when end devices are connected; end devices not connected is indicated with no LED light; the LED blinks to indicate activity.
Antenna Mount	A reverse SMA connection that supports a 2.4GHz antenna.
ID Button	When used in conjunction with NetLinx Studio, sets the device and system numbers for the NXR-ZGW. Press and hold for approximately 30 seconds to return the NXR-ZGW to factory default settings.

NXR-ZGW (FG5791-01) Specifications (Cont.)	
Rear Components: Power connector	Two power options are available: <ul style="list-style-type: none"> • 2-pin 3.5mm Phoenix connector • Power Over Ethernet (PoE) - powers the device through the CAT5 cable. Both Power and Data can be transmitted simultaneous through the CAT5 cable when using the appropriate equipment.
Ethernet port	10/100M (RJ-45) connector - used to connect the NXR-ZGW to your LAN and/or to connect your third party device to the LAN when the NXR-ZGW is used as a gateway.
Certifications:	<ul style="list-style-type: none"> • FCC ID: CWU-ZGW • IC ID: 5078A-ZGW • CE • IEC-60950
Operating/Storage Environments:	<ul style="list-style-type: none"> • Operating Temperature: -30°C (-22°F) to 70°C (158°F) • Relative Humidity: 5% to 85% non-condensing; intended for indoor use only
Included Accessories:	<ul style="list-style-type: none"> • 2.4GHZ, MONO, RSMA, 3.5IN, 2.0DBI Antenna (70-0012-SA) • Rubber feet • Velcro mounting strip
Other AMX Products:	<ul style="list-style-type: none"> • Mio Modero R-3 Remote (FG148-03) • Mio Modero R-4 Remote (FG148-04) • NXR-ZRP NetLinx ZigBee Repeater (FG5791-02) • NXA-WAP 2403A (FG2255-20) • NXA-WAP 2405A (FG2255-21) • NXA-WAP 2413A (FG2255-24)

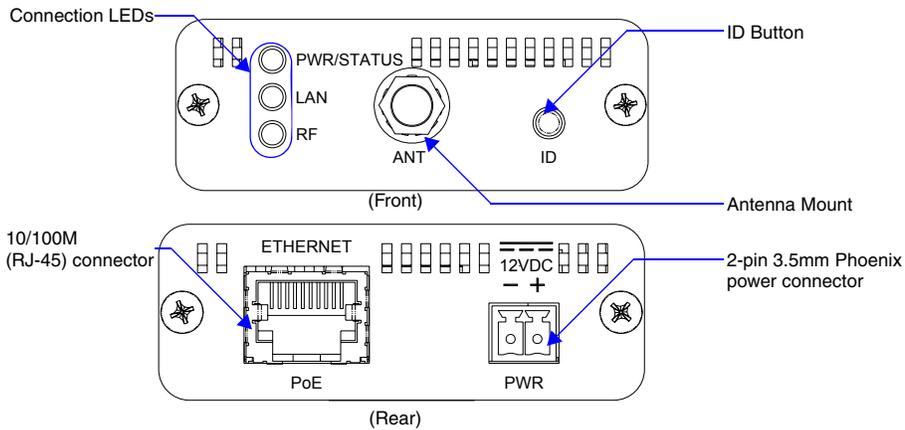


FIG. 1 Front and Rear Components of the NXR-ZGW

NXR-ZRP Specifications

The following table outlines the specifications for the NXR-ZRP.

NXR-ZRP (FG5791-02) Specifications	
Dimensions (HWD):	<ul style="list-style-type: none"> 906 x 2.500 x 3.424 (23.01 mm x 63.50 mm x 86.96 mm) depth does not include antenna
Weight:	<ul style="list-style-type: none"> 0.25 lbs (113.39g)
Power:	10.5 - 18 VDC; 13.5 (nominal operation voltage)
Memory:	<ul style="list-style-type: none"> 16 Mbytes of Flash 16 Mbytes of SDRAM
Radio Specifications:	
Frequency	IEEE 802.15.4
Operating channels	<ul style="list-style-type: none"> 11 - 26
Data Rate	<ul style="list-style-type: none"> 250 kbps (@2.4 GHz)
Modulation technique	<ul style="list-style-type: none"> DSS
Security	<ul style="list-style-type: none"> EUI Address filtering
Output power	<ul style="list-style-type: none"> Country-specific: may be set from 0 dbm to 20 dbm
Coverage area	50m typical (5-500m based on environment)
Firmware/Software Specifications:	
Communications	The NXR-ZRP communicates with a Netlinx master via a NXR-ZGW. The NXR-ZGW communicates with a Netlinx master over TCP/IP encapsulating the ICSP protocol via a physical Ethernet connection. The ICSP device number can be set via the browser-based management system.
Front Components:	
LEDs	<ul style="list-style-type: none"> PWR/STATUS - A green LED that blinks to indicate the device is programmed and communicating properly. Power ON, but no master connection, is indicated with a solid light; Power OFF is indicated with no light. ICSP - The LED is solid when ICSP connection is in place with the NetLinx master. RF - The LED is solid when end devices are connected; end devices not connected is indicated with no LED light; the LED blinks to indicate activity.
Antenna Mount	A reverse SMA connection that supports a 2.4GHz antenna.
Reset Button	Press and hold for approximately 30 seconds to return the NXR-ZRP to factory default settings.
Rear Components:	
Power connector	<ul style="list-style-type: none"> 2-pin 3.5mm Phoenix connector
Certifications:	<ul style="list-style-type: none"> FCC ID: CWU-ZRD IC ID: 5088A-ZRD CE IEC-60590
Operating/Storage Environments:	<ul style="list-style-type: none"> Operating Temperature: -30°C (-22°F) to 70°C (158°F) Relative Humidity: 5% to 85% non-condensing; intended for indoor use only
Included Accessories:	<ul style="list-style-type: none"> 2.4GHZ, MONO, RSMA, 3.5IN, 2.0DBI Antenna (70-0012-SA) Rubber feet Velcro mounting strip

NXR-ZRP (FG5791-02) Specifications (Cont.)	
Other AMX Products:	<ul style="list-style-type: none"> • Mio Modero R-3 Remote (FG148-03) • Mio Modern R-4 (FG148-04) • NXR-ZGW NetLinx ZigBee Gateway (FG5791-01) • NXA-WAP 2403A (FG2255-20) • NXA-WAP 2405A (FG2255-21) • NXA-WAP 2413A (FG2255-24)

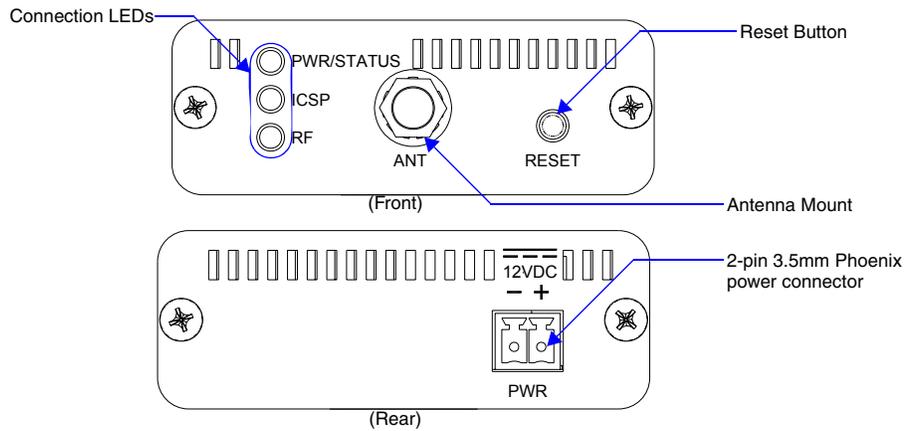


FIG. 2 Front and Rear Components of the NXR-ZRP

How ZigBee works

The NXR-ZGW, acting as a gateway, allows ZigBee-enabled devices to communicate both to and from an ICSP master. A device connects to the NXR-ZGW and is then represented to the master as an ICSP device. The master then communicates to the device through ICSP messages via a translation step at the NXR-ZGW level.

The master sends "heartbeat" queries to the NXR-ZGW device; which the NXR-ZGW provides the master with a response for all devices on the ZigBee network that have an ICSP address and use ZigBee as their primary interface to the master. The response provided by the NXR-ZGW is based on the last known status of the ZigBee-enabled device. If the NXR-ZGW determines it is no longer in communication with a device, it will indicate to the master the device is non-responsive or has left the network.

Security

The NXR-ZGW device provides two levels of security, Security Level 0 and Security Level 5. Security Level 0 provides no security and no encryption, Security Level 5 provides 32-bit Message Integrity Code (MIC). The NXR-ZGW can be configured to permit both Security Level 0 and Security Level 5 devices or only Security Level 5 devices into the network. When enabled, security is network wide.

The NXR-ZGW can also allow or deny devices to join the network based on the device's 64-bit extended unique identifier (EUI-64) via a EUI-64 filter. The EUI-64 filter is a list of devices allowed on the network. When enabled, the EUI-64 number must be on the list for the device to enter the network. After enabling the filter, any device not on the list is instructed to leave the network.

Network structure

The ZigBee network is a Personal Area Network (PAN) consisting of 1 gateway, optionally 1 or more repeaters, and end devices.

A gateway initiates a ZigBee network and all devices linked to the PAN gateway do so through either direct links or through repeaters. It is the job of the gateway to establish the network's parameters, e.g., channel and PAN ID. Within each PAN, a gateway or repeater can have 20 end devices and 4 repeaters. Each connection supports a depth of 5 devices. The topology information is contained in the system Web page.

Repeaters like the NXR-ZRP are used to expand the coverage of gateway NXR-ZGWs. Every device in the PAN has a parent, and repeaters can have children. Adding repeater devices to a network can reduce the number of hops an end device needs to make to reach the gateway while extending the coverage area for the entire network. Any device attached to a repeater NXR-ZRP appears attached to the gateway NXR-ZGW in the system web page.

Devices will always connect to a repeater or gateway with the least depth and then best quality. End devices cannot have children. The use of the NXR-ZGW and NXR-ZRP's allow ZigBee-type devices to roam seamlessly from repeater to repeater within the same PAN ID.

Mobile end devices tend to sleep frequently and thus enter and leave the network regularly. Upon awakening, the end device may be in a new physical location or the network may have changed channels. The end device will seamlessly search for a new parent and scan channels upon awakening.

Mesh Network Arrangements

The following installations depend upon the criteria for the network. A home installation would perhaps only need one NXR-ZGW or PAN ID where a commercial installation might require a NXR-ZGW and several NXR-ZRPs with a unique PAN ID for each. Further, while encryption enabling is always a good idea, it might be absolute for installation with public exposure.



When adding a ZigBee network to a NetLinx master, an Ethernet switch or hub must be added to the master for proper function of the ZigBee network.

Single PAN ID installations

After you have installed the NXR-ZGW, you should consider the arrangement of devices. The following is an example where there is only one NXR-ZGW in the installation and thus only one PAN ID with which to contend. While there is no reason to worry about the wrong device appearing on the PAN ID, setting up proper security measures is a good thing. See *Setting up a Network* section on page 23 for setting the PAN ID and adding device EUI Addresses.

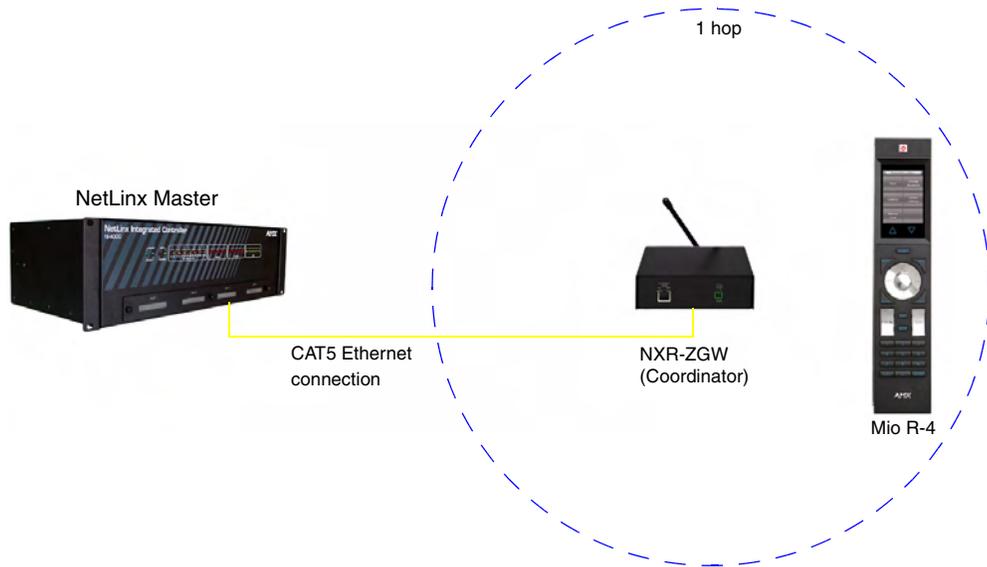


FIG. 3 Single PAN ID Network

Multiple PAN ID installations

A more commercial application of the NXR-ZGW is having multiple gateways and specific devices operating in close proximity of each other. End devices and repeaters of different networks can operate side-by-side without interference if they have different PAN ID numbers. See *Setting up a Network* section on page 23 for setting the PAN ID and adding device EUI Addresses.

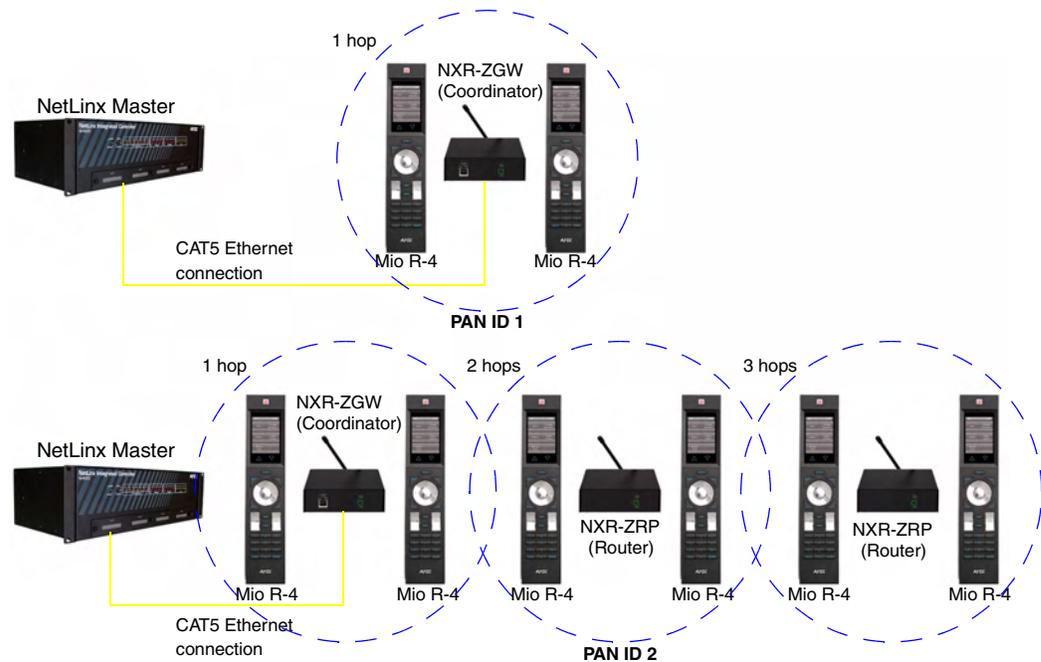


FIG. 4 Multiple PAN ID Network

FCC Compliance

This device complies with Part 15 of the FCC rules. Subject to the following two conditions:

1. This device must not cause harmful interference and
2. This device must accept all interference, including interference that interferes with the operation of this device.

Modifications not expressly approved by the manufacturer will void the user's authority to operate the equipment.



This device has been evaluated and found to be compliant with the FCC Rules for RF Exposure when the device is operated at a minimum separation distance of 20 cm. from the user and nearby persons. Operation of this device at closer distances should be avoided.

Installation

Things to Consider Before Starting

Several factors will help decide the best place to install NXR-ZGW and NXR-ZRP devices. Before installing, consider the following:

Location and Antenna Direction

The best location for NXR-ZGW and NXR-ZRP devices are usually in the center of your wireless network, with line of sight to all of your mobile devices. Try to place the antenna in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better performance you receive.

Connecting the Optional Accessory Antennas

Several accessory 2.4GHz antennas are available for use with NXR-ZGW and NXR-ZRP devices. Each of these antennas is uniquely suited to meet a wide variety of installation requirements.

Determining the Power Source

Based upon location and the availability of electricity, select one of the two following methods for power:

- **2-pin 3.5mm Phoenix connector** - Prepare the captive wire pair and insert it into the Phoenix connector. See *Preparing captive wires for the 2-pin 3.5 mm mini-Phoenix connector* section on page 10. This is the only power option for the NXR-ZRP device.
- **Power Over Ethernet (PoE)** - If no electrical outlet is available, you can plug one end of the CAT5 Ethernet cable into the RJ-45 jack of the NXR-ZGW and plug the other end of the CAT5 cable into a PoE supply equipment (*this unit must be 802.3af compliant*).

The ability to choose a power supply option increases the availability of deployment locations. In addition, the NXR-ZGW makes installation into areas previously without power much easier, since it is no longer necessary to run new electrical wires to the device.

Connecting the NXR-ZGW to a LAN

Insert one end of the CAT5 Ethernet cable into the rear RJ-45 jack (illustrated in FIG. 1) and connect the other end of the same cable to a master. See *Mesh Network Arrangements* section on page 6 for possible network configurations.

Connecting Power to the NXR-ZGW and NXR-ZRP

The NXR-ZGW receives power via either PoE or 2-pin 3.5 mm mini-Phoenix connection, the NXR-ZRP only utilizes the 2-pin 3.5 mm mini-Phoenix connection.

If PoE is selected, the NXR-ZGW will draw power through the CAT5 Ethernet cable.

If the 2-pin 3.5 mm mini-Phoenix is selected, the following steps are necessary:

Preparing captive wires for the 2-pin 3.5 mm mini-Phoenix connector

You will need a wire stripper and flat-blade screwdriver to prepare and connect the captive wires.

1. Strip 0.25 inch (6.35 mm) of wire insulation off all wires.
2. Insert each wire into the appropriate opening on the connector according to the wiring diagrams and connector types described in this section.
3. Turn the screws clockwise to secure the wires in the connector. Do not over-torque the screws; doing so can bend the seating pins and damage the connector.

Using the PSN NetLinX connector for power

The PWR and GND cable from the 12 VDC power supply must be connected to the corresponding location on the 2-pin 3.5 mm mini-Phoenix connector (FIG. 5).

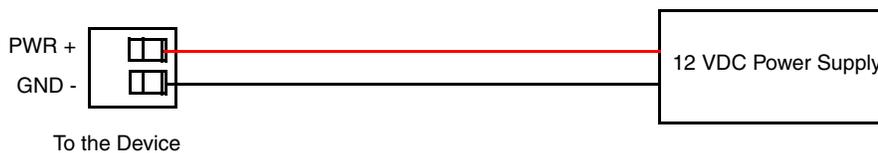


FIG. 5 12 VDC Power Connector Wiring Diagram

1. Insert the PWR and GND wires on the terminal end of a PSN 2-pin 3.5 mm mini-Phoenix cable. Match the wiring locations of the +/- on both the power supply and the terminal connector.
2. Tighten the clamp to secure the two wires. Do not over-torque the screws; doing so may strip the threads and damage the connector.
3. Verify the connection of the 2-pin 3.5 mm mini-Phoenix to the power supply.

Table top installation of the NXR-ZGW and NXR-ZRP

Using the provided rubber pads, place one in each bottom corner of the device.

Rack mounting the NXR-ZGW and NXR-ZRP

Using the Velcro pad provided, remove the backing and adhere one side to the device. Remove the backing of the other side of the Velcro and place it on your rack where you want the NXR-ZGW/ZRP mounted.

Before continuing, consult *Setting up a Network* section on page 23.

Setting up a Network

After you have established the location of the gateway (page 9), connected it (page 10), provided power (page 10), and placed the device in either a rack (page 10) or wall installation (page 10) you can then begin configuring the NXR-ZGW and adding an NXR-ZRP and ZigBee-compatible devices to the network.

1. Confirm the NXR-ZGW is receiving power by checking the PWR LED (See “Front and Rear Components of the NXR-ZGW” on page 2.).
2. Using a PC connected to your NetLinx system, navigate to the NXR-ZGW Browser-based Configuration Manager (See “NXR-ZGW Browser-based Configuration Manager Pages” on page 13.) in your preferred browser application. The default IP address for the NXR-ZGW is 192.168.1.140.
3. Go to the NetLinx setup page and configure the NXR-ZGW to communicate with the master.
4. Go to the NXR-ZGW Browser-based Configuration Manager PAN page (See “Personal Area Network (PAN)” on page 18.) and change the PAN ID.
5. Turn on AMX ZigBee-compatible devices one at a time, e.g., Mio R-4 or NXR-ZRP. Select the correct new PAN ID.
6. For devices that do not have displays (NXR-ZRP), or not enough display to select the PAN ID to join a network, place each device one at a time near the gateway, turn one of them on, and configure it using the gateway web pages before turning on the next one. Then use the PAN pages to change the devices over to a new PAN ID.
7. This method may also be used if you do not want to go to each ZigBee compatible device to set the PAN ID; however, once each device is set, the change must be done to the gateway itself. It may be necessary to cycle power on each device for them to come online.
8. Due to the wireless nature of the ZigBee network, temporary interference (such as leaving a room or large objects passing between a remote and its gateway device) may prevent a command from reaching the NetLinx master.



CAUTION

If this happens while increasing volume, the master may receive the command to increase the volume but not the command to stop increasing it.

Therefore, programmers should consider setting safeguards for volume control, either established volume limits or timeouts with the NetLinx master or more interactive adjustment from the remote (i.e., direct volume control), to prevent issues with lost commands.

NXR-ZGW Browser-based Configuration Manager Pages

To access the Configuration Manager pages, enter the IP address of the NXR-ZGW into your web browser; the default IP address for the NXR-ZGW is **192.168.1.140**. When prompted, enter your username and password in the spaces provided.



NOTE

Upon accessing the Configuration Manager, the user must enter a username and password. The default entries are “Admin” and “1988”; changing the password as soon as possible is highly recommended.

Summary of Gateway Settings

The *Summary of Gateway Settings* page is the initial access point for the user.



FIG. 6 Summary Page

Summary Page	
Firmware	The version of the software running on the device.
ZigBee Firmware	The version of software running on the ZigBee processor
ZigBee Stack	The main version of software running on the ZigBee processor
IP	The IP address of the unit
Host	The hostname of the unit.
IP Address	The IP address of the unit.
Subnet Mask	The subnet mask associated with IP addressing
Gateway	The IP gateway used by this unit.
Device ID	The ICSP device number of this unit
Wireless	The state (Disabled/Enabled) of the wireless connection.
Channel	The channel the ZigBee wireless will use.

Summary Page (Cont.)	
Pan ID	The ZigBee personal area network ID used.
Security	The current state of wireless security (Disabled/Enabled).
Access List	The current state of the Access List (Disabled/Enabled).
Distribute Password	Current mode of ZigBee password distribution (Disabled/Enabled).

Checking the firmware version

The firmware version is listed on the *Summary of Gateway Settings* page of the NXR-ZGW Browser-based Configuration Manager.

Checking the ZigBee firmware version

The ZigBee firmware version is listed on the *Summary of Gateway Settings* page of the NXR-ZGW Browser-based Configuration Manager.

Determining the IP settings of the NXR-ZGW

1. Browse to the *Summary of Gateway Settings* page of the NXR-ZGW Browser-based Configuration Manager.
2. The IP settings are listed in the aptly-named section *IP Settings*.

Finding the ICSP device number of this unit

1. Browse to the *Summary of Gateway Settings* page of the NXR-ZGW Browser-based Configuration Manager.
2. The ICSP device number is listed under the section *System Connection, Device ID*.

Determining the PAN settings of the NXR-ZGW

1. Browse to the *Summary of Gateway Settings* page of the NXR-ZGW Browser-based Configuration Manager.
2. The PAN settings are listed in the aptly-named section *PAN Settings*.

Rebooting the Configuration Manager

1. Browse to the *Summary of Gateway Settings* page of the NXR-ZGW Browser-based Configuration Manager.
2. Click the **Reboot** button on the left bottom of the *Summary of Gateway Settings* page.

Configuration

Network IP Settings

The *Network IP Settings* page is used to set IP and DNS addresses. The IP address can be either a static or dynamic assignment.

FIG. 7 IP Settings Page

IP Address	
IP	<ul style="list-style-type: none"> • Dynamic: IP address and subnet mask are requested from the DHCP server. • Static: User provides IP address information.
Host	The hostname of the unit.
IP Address	The IP address of the unit.
Subnet Mask	The IP subnet mask of the unit.
Gateway	The gateway used for IP routing.

The DNS Address allows the IP addresses of domain name servers to be specified.

DNS Address	
Domain Suffix	The domain name.T
Primary DNS - Secondary DNS	Domain Name System IP numbers associated to the domain suffix.

Setting the IP Address

1. In the menu at the top of the NXR-ZGW Browser-based Configuration Manager, select *IP Settings* under the section *Configuration*.
2. Click the radio button for either *Dynamic* or *Static*. If you selected *Dynamic*, the DHCP server automatically provides the IP address.
3. If configured for *Static*, type the IP address in the field provided.
4. If necessary, type the subnet mask and gateway in the fields provided.
5. Click **Accept**.
6. In the *The system will need to reboot for changes to take effect* window, click **OK**.

Setting the DNS Address

1. In the menu at the top of the NXR-ZGW Browser-based Configuration Manager, select *IP Settings* under the section *Configuration*.
2. Click the **Static** radio button in the IP Address section.

3. Type the Domain Suffix in the field provided.
4. Type the necessary DNS IP numbers in the fields.
5. Click **Accept**.
6. In the *The system will need to reboot for changes to take effect* window, click **OK**.

NetLinx Settings

This page specifies the ICSP connection to the NetLinx master.



FIG. 8 NetLinx Settings Page

NetLinx Settings Page	
Connection	Displays the ICSP connection status (Not Connected/Connected)
Mode	Master connection mode (URL)
URL	The device connects to the specific IP/URL of a master via a TCP connection.
System Number	The ICSP system number.
Device Number	The ICSP device number.
Master IP/URL	IP or URL of master for URL master connection mode
Master Port Number	The ICSP socket port number.
Username	The ICSP network username
Password	The ICSP network password

Setting the ICSP connection to the Netlinx master

1. In the menu at the top of the NXR-ZGW Browser-based Configuration Manager, select *NetLinx Settings* under the section *Configuration*.
2. Enter the device number to be assigned to the NXR-ZGW in the *Device Number* field.
3. Enter the IP address of the master that the NXR-ZGW is to connect with in the *Master IP/URL* field.



NOTE

Setting the Host Name requires DNS implementation on the IP network.

4. If you have enabled password security on your master, you need to set the username and password within the fields provided.
5. Click **Accept**.
6. In the *The system will need to reboot for changes to take effect* window, click **OK**.

User Settings

This page is used to set the username and password for access to the NXR-ZGW web server pages.

FIG. 9 User Settings page

User Settings Page	
New Username	Text field for new username.
New Password	Text field for new password.
Re-type Password	Text field to confirm new password.

Setting a new username and password

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *User Settings* under the section *Configuration*.
2. In the text field next to *New Username*, type the new name.
3. In the text field next to *New Password*, type the new password.
4. Confirm the password in the field *Re-type Password*.
5. Click **Accept**.



NOTE

The default username and password are “Admin” and “1988”, respectively; changing the password as soon as possible is highly recommended.

Personal Area Network (PAN)

Network

The *Network* page allows you to modify the status of the Personal Area Network.



FIG. 10 Network Page

Network Page	
Network status	Lists whether the network is online or offline.
Wireless	Enables or disables the ZigBee wireless networking.
PAN ID	The current PAN ID number for the device.
Country/Region	Drop down menu; sets ZigBee region (US, Europe, Japan).
Channel	Drop down menu; sets the ZigBee operating channel between 11 and 26. The default channel is 26.

Enabling and disabling the wireless network

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Network* under the section *Pan*.
2. Click the radio button next to *Enable* to enable the wireless network or select *Disable* to disable the network.
3. Click **Accept**.

Setting the PAN channel

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Network* under the section *Pan*.
2. Click the radio button to *Disable* the wireless network. This activates the Country/Region and Channel dropdown menus.
3. Select your country or region of operation from the drop down menu.
4. Select the Channel number from the drop down menu.
5. Click **Accept**.

Security

The Security page allows and sets the method by which devices connect to the PAN.

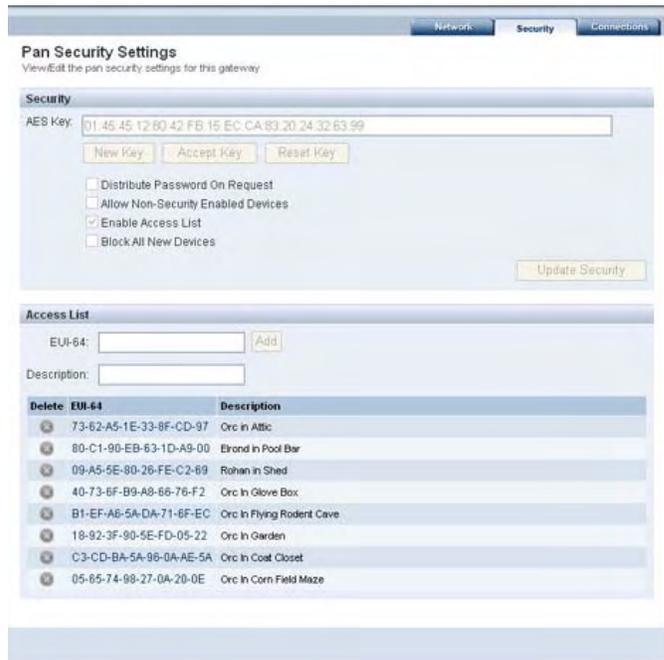


FIG. 11 Pan Security Settings Page

Pan Security Settings Page	
Security	Enables or disables the ZigBee security.
AES Key	This is the security key used by the ZigBee network. This field is currently greyed out.

Access List

The Access List catalogues all of the available devices currently running through the Personal Access Network. This section allows the user to view the attributes of devices connected via the PAN.

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Security* under the section *Pan*.
2. To view details on a particular device in the Access List, click on the link in the device's EUI-64 number. This opens the *PAN Device Details* page for the particular device.

Connections

All devices connected to the NXR-ZGW is displayed on this page.

No.	EUI-64	Description	Type	Latency	LQI	Status
71	73-62-A5-1E-33-8F-CD-97	Orc in Attic	Mio Modero R4 ZigBee Remote CoDv1.03.91	14 ms	Nothing	Asleep
72	80-C1-90-EB-63-1D-A9-00	Brond in Pool Bar	Mio Modero R4 ZigBee Remote CoDv1.03.91	42 ms	Nothing	Asleep
73	09-A5-5E-80-26-FE-C2-69	Rohan in Shed	Mio Modero R4 ZigBee Remote CoDv1.03.91	70 ms	Nothing	Asleep
74	40-73-6F-B9-A8-66-76-F2	Orc in Glove Box	Mio Modero R4 ZigBee Remote CoDv1.03.91	172 ms	Nothing	Asleep
75	B1-EF-A8-5A-DA-71-6F-EC	Orc in Flying Rodent Cave	Mio Modero R4 ZigBee Remote CoDv1.03.91	108 ms	Nothing	Asleep
76	18-92-3F-90-5E-FD-05-22	Orc in Garden	Mio Modero R4 ZigBee Remote CoDv1.03.91	76 ms	Nothing	Asleep
77	C3-CD-BA-5A-96-DA-AE-5A	Orc in Coat Closet	Mio Modero R4 ZigBee Remote CoDv1.03.91	180 ms	Nothing	Asleep
78	05-65-74-96-27-0A-20-0E	Orc in Corn Field Maze	Mio Modero R4 ZigBee Remote CoDv1.03.91	172 ms	Nothing	Asleep
79	ED-6A-41-60-AE-6D-BC-B7	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	100 ms	Nothing	Asleep
80	55-3F-C9-12-90-5F-0F-0C	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	156 ms	Nothing	Asleep
81	0D-69-48-F5-CD-C7-7B-BC	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	50 ms	Nothing	Asleep
82	84-F5-30-C0-EF-7C-78-0A	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	134 ms	Nothing	Asleep
83	54-A0-F2-E6-FE-7C-AB-F4	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	162 ms	Nothing	Asleep
84	0E-EA-C6-67-36-B0-EC-08	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	118 ms	Nothing	Asleep
85	A2-06-9F-B9-8F-0F-F2-9C	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	90 ms	Nothing	Asleep
86	5B-01-91-27-D3-92-D8-B2	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	150 ms	Nothing	Asleep
87	CA-50-97-76-68-AD-A6-5C	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	124 ms	Nothing	Asleep
88	9F-96-E5-B3-41-EA-18-93	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	156 ms	Nothing	Asleep
89	EE-DA-17-F7-EA-02-EB-05	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	146 ms	Nothing	Asleep
90	65-BB-62-81-C2-7D-10-BA	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	16 ms	Nothing	Asleep
91	24-B4-C6-8B-B0-73-A1-92	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	96 ms	Nothing	Asleep
92	52-19-92-CF-01-BB-05-80	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	72 ms	Nothing	Asleep
93	65-9F-9D-A9-35-5C-62-76	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	24 ms	Nothing	Asleep
94	5D-15-9C-79-B6-C8-9A-8F	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	102 ms	Nothing	Asleep
95	CA-29-C5-36-41-EA-6D-01	Short Description	Mio Modero R4 ZigBee Remote CoDv1.03.91	196 ms	Nothing	Asleep
96	3A-6D-06-F5-11-01-03-AB	Short Description	Mio Modero R4 ZigBee Remote Co	146 ms	Nothing	Asleep
97	4E-64-CA-83-A5-46-C9-6F	Short Description	Mio Modero R4 ZigBee Remote Co	190 ms	Nothing	Asleep
98	EB-95-C4-F4-8A-84-7B-55	Short Description	Mio Modero R4 ZigBee Remote Co	82 ms	Nothing	Asleep
99	F9-C2-A4-22-6C-4A-3B-5E	Short Description	Mio Modero R4 ZigBee Remote Co	176 ms	Nothing	Asleep
100	8A-F6-2B-7D-7F-50-CB-14	Short Description	Mio Modero R4 ZigBee Remote Co	14 ms	Nothing	Asleep

FIG. 12 Connections Page

Each device provides the following:

Connections Page	
No.	The Netlinx ID number.
EUI-64	The 64 bit ZigBee EUI address of the device.
Description	The device's description, supplied by the device.
Type	The specific type of device being accessed.
Latency	A measure of the amount of time (in milliseconds) for a message round-trip from the device to the gateway and back.
LQI	LQ is the link quality of the RF path between the PAN coordinator and the device. Quality levels are: <ul style="list-style-type: none"> • not recommended • edge • marginal • good
Status	The current status of the device: either "Active" or "Asleep".

Finding a device's EUI address

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connections* under the section *Pan*.
2. The EUI address is located in the *Connections* table under "EUI-64". Click on the EUI address to open the *PAN Device Details* page for this device. (See FIG. 13)

Finding the device's description

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connections* under the section *Pan*.
2. The device's description is located in the table under "Description".

Determining the device type

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connections* under the section *Pan*.
2. The device type is located in the table under "Type".

Finding the amount of time a signal takes from the device to the gateway and back

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connections* under the section *Pan*.
2. The "Latency" column lists the amount of time the current signal takes to go from the device to the gateway and back again.

Determining the device link quality

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connections* under the section *Pan*.
2. The link quality is located in the table under the "LQI" column. The status of the channel is as follows: green is good all the way to red, not recommended.

Checking the device link status

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connections* under the section *Pan*.
2. The status of the device is located in the table under the "Status" column.

PAN Device Details

From both the *Pan Security Settings* and the *Connections* pages, clicking on a device’s EUI-64 number opens the *PAN Device Details* page.



FIG. 13 PAN Device Details Page

Each device provides the following:

PAN Device Details Page	
Device Options	<ul style="list-style-type: none"> On Access List: Controls whether the device is on the access list for the Connections page. Locate: Finds the location of the device if active.
Connected Device	<ul style="list-style-type: none"> Device Type: The type of network device. Device Description: Description of the device as entered on PAN. Status: Whether the networked device is active or asleep.
Device Networking	<ul style="list-style-type: none"> EUI-64: The 64 bit ZigBee EUI address of the device. Node ID: The ID number of the network node closest to the device. Link Quality: The quality of the connection to the network. Traffic: The traffic byte count of the device. Latency: A measure of the amount of time (in milliseconds) for a message round-trip from the device to the gateway and back.
Device Information	<ul style="list-style-type: none"> Power Sources: All of the possible sources for power for the device, including mains electric power and battery backup Current Power: Current power source being used by the device. Power Level: Amount of required power being received by the device. Host F/W Version: Latest firmware version installed in the device. Node Type: The type of node used by the device.

PAN Device Details Page (Cont.)	
ZigBee Networking	<ul style="list-style-type: none"> • Application Version: The version of the ZigBee application being used. • Pan ID: ID number for the device within the PAN. • AES Key: This is the security key used by the ZigBee network.
Connection Log	The device or devices currently or previously connected to the network.

Putting a device on the Access List

1. From the *PAN Device Details* page, check to see if the *On Access List:* button in the *Device Options* section is on or off.
2. If the button reads **Off**, click it once. This will open a window reading "This will change On Access List to 'On'. Any changes entered to the Connected Devices Section below will be lost. Are you sure you wish to continue?"
3. Click **Yes** to continue. If the device is active, the *PAN Device Details* page will refresh, showing the new **On** status. If the status remains **Off**, check the device's connection.

Removing a device from the Access List

1. From the *PAN Device Details* page, check to see if the *On Access List:* button in the *Device Options* section is on or off.
2. If the button reads **On**, click it once. This will open a window reading "This will change On Access List to 'Off'. Any changes entered to the Connected Devices Section below will be lost. Are you sure you wish to continue?"
3. Click **Yes** to continue. If the device is active, the *PAN Device Details* page will refresh, showing the new **On** status.

Locating the device

1. From the *PAN Device Details* page, check to see if the *Locate:* button in the *Device Options* section reads **Active** or **Inactive**.
2. If the button reads **Inactive**, click it once. This will open a window reading "This will change Locate to 'Active'. Any changes entered to the Connected Devices Section below will be lost. Are you sure you wish to continue?"
3. Click **Yes** to continue. If the device is active, the *PAN Device Details* page will refresh, showing the new **Active** status.

Changing a Connected Device description

1. From the *PAN Device Details* page, enter a Device Description in the field of the same name in the *Connected Device* section. This description usually includes the name of or nickname for the device and its physical location, but anything may be entered.



NOTE

While over 200 characters may be entered into the Device Description field, descriptions should be short but informative.

2. To save the device description, click the **Accept** button.

Changing a device's ZigBee networking information

1. The *PAN Device Details* page also allows users to enter a new PAN ID number for a particular device, if the device is currently active. To enter a new PAN ID number, enter the new number in the *PAN ID* field.

2. Click the **Accept** button. A new window opens that reads "Are you sure you wish to accept these new changes?" Click **OK** to accept the new changes.
3. If the device is active, the *PAN Device Details* page will refresh, displaying the completed changes.

Utilities

Device Firmware

The device details page shows all the information about the status of firmware on a network's devices.

Allow Updates	EUI-64	Description	Status	Version	Uploads Allowed
On	73-62-A5-1E-33-8F-CD-97	Orc in Attic	Asleep - Low	v1.71.23	No - Place in Charger
On	80-C1-90-EB-63-1D-A9-00	Erond in Pool Bar	Asleep - 33%	v1.71.23	No - Place in Charger
On	09-A5-5E-80-26-FE-C2-69	Rohan in Shed	Asleep - 66%	v1.71.23	No - Place in Charger
On	40-73-6F-B9-AB-66-76-F2	Orc in Glove Box	Main Power - 100%	v1.71.23	No - Place in Charger
On	B1-EF-A6-5A-DA-71-6F-EC	Orc in Flying Rodent Cave	Asleep - Charging	v1.71.23	No - Place in Charger
On	18-92-3F-90-5E-FD-05-22	Orc in Garden	Asleep - Low	v1.71.23	No - Place in Charger
On	C3-CD-BA-5A-96-0A-AE-5A	Orc in Coat Closet	Asleep - 33%	v1.71.23	No - Place in Charger
On	05-65-74-96-27-0A-20-DE	Orc in Corn Field Maze	Asleep - 66%	v1.71.23	No - Place in Charger
On	ED-6A-41-60-AE-6D-BC-B7	Short Description	Asleep - 100%	v1.71.23	No - Place in Charger
On	55-3F-C9-12-90-5F-0F-0C	Short Description	Asleep - Charging	v1.71.23	No - Place in Charger
On	0D-69-4B-F5-CD-C7-7B-BC	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
On	B4-F5-30-C0-EF-7C-78-0A	Short Description	Asleep - 33%	v1.71.23	No - Place in Charger
On	54-A0-F2-E6-FE-7C-AB-F4	Short Description	Asleep - 66%	v1.71.23	No - Place in Charger
On	0E-EA-C6-67-36-B0-EC-06	Short Description	Asleep - 100%	v1.71.23	No - Place in Charger
On	A2-06-9F-B9-8F-0F-F2-9C	Short Description	Asleep - Charging	v1.71.23	No - Place in Charger
On	5B-01-91-27-03-92-D8-B2	Short Description	Asleep - Low	v1.71.23	No - Place in Charger
On	CA-50-87-76-68-AD-A6-5C	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
On	9F-96-E6-B3-41-EA-18-93	Short Description	Asleep - 66%	v1.71.23	No - Place in Charger
On	EE-DA-17-F7-EA-02-EB-05	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
On	65-EB-62-81-C2-7D-10-BA	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
On	24-B4-C6-6B-B0-73-A1-92	Short Description	Asleep - Low	v1.71.23	No - Place in Charger
On	52-18-92-CF-01-BB-05-80	Short Description	Asleep - 33%	v1.71.23	No - Place in Charger
On	65-8F-8D-A9-35-5C-62-76	Short Description	Asleep - 66%	v1.71.23	No - Place in Charger
On	5D-15-BC-79-B6-CB-8A-8F	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
On	CA-29-C5-36-41-EA-6B-01	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
Off	3A-6D-06-F5-11-01-03-AB	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
Off	4E-64-CA-63-A5-46-C9-6F	Short Description	Asleep - 33%	v1.71.23	No - Place in Charger
Off	EB-95-C4-F4-8A-84-7B-55	Short Description	Asleep - 66%	v1.71.23	No - Place in Charger
Off	F9-C2-A4-22-6C-4A-3B-5E	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger
Off	8A-F6-2B-7D-7F-50-CB-14	Short Description	Main Power - 100%	v1.71.23	No - Place in Charger

FIG. 14 Device Firmware Page

Device Firmware	
Updates	Permissions to allow firmware uploads to the selected device.
EUI-64	The 64-bit EUI address of the device.
Description	The name and location of the device, as provided by the device.
Status	The current activity of the device, whether active or asleep.
Version	The last uploaded version of the ZigBee firmware.
Uploads Allowed	Displays whether or not the device may have further upgrades to its firmware.

Allowing firmware updates to individual devices

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Device Firmware* under the section *Utilities*.

2. Choose the device to be updated by its EUI-64 number.
3. Click the button next to the device's EUI-64 number in the *Allow Updates* column. The page will automatically refresh, displaying the device's new status.
4. Some devices cannot have their firmware update status changed; these devices will continue to read **Off** even after selecting to allow new updates.

Allowing firmware updates to all devices on a network

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Device Firmware* under the section *Utilities*.
2. In the *Allow Updates* column, click **All On** or **All Off** to allow or block upgrades to all devices on the network. The page will automatically refresh, displaying the new status of all network devices.
3. Some devices cannot have their firmware update status changed; these devices will continue to read **Off** even after selecting to allow new updates.



Clicking on the EUI-64 number in the *Device Firmware* page will open the device's *PAN Device Details* page (see FIG. 13).

Connection Log

The connection log is a list of all recent ZigBee device activity.

#	Connection	EUI-64	Device #
58350	Zigbee Join - Initial	73-62-A5-1E-33-8F-CD-97	71
58351	Zigbee Join - Node ID Received	80-C1-90-EB-63-1D-A9-00	72
58352	ICSP Join - Device Info Received	09-A5-5E-80-26-FE-C2-69	73
58353	Zigbee Leave - Device Timeout	40-73-6F-B9-A8-68-76-F2	74
58354	Zigbee Leave - Device Blocked	B1-EF-A8-5A-DA-71-6F-EC	75
58355	Zigbee Leave - Manual	18-92-3F-90-5E-FD-05-22	76
58356	Zigbee Join - Initial	C3-CD-8A-5A-96-0A-AE-5A	77
58357	Zigbee Join - Node ID Received	05-65-74-98-27-0A-20-0E	78
58358	ICSP Join - Device Info Received	ED-6A-41-60-AE-6D-BC-B7	79
58359	Zigbee Leave - Device Timeout	55-3F-C9-12-90-5F-0F-0C	80
58360	Zigbee Leave - Device Blocked	0D-69-48-F5-CD-C7-7B-BC	81
58361	Zigbee Leave - Manual	84-F5-30-C0-EF-7C-78-0A	82
58362	Zigbee Join - Initial	54-A0-F2-E6-FE-7C-AB-F4	83
58363	Zigbee Join - Node ID Received	0E-EA-C6-67-3E-B0-EC-08	84
58364	ICSP Join - Device Info Received	A2-06-9F-B9-BF-0F-F2-9C	85
58365	Zigbee Leave - Device Timeout	5B-01-91-27-D3-92-D8-B2	86
58366	Zigbee Leave - Device Blocked	CA-50-87-76-68-AD-A6-5C	87
58367	Zigbee Leave - Manual	9F-96-E8-B3-41-EA-18-93	88
58368	Zigbee Join - Initial	EE-DA-17-F7-EA-02-EB-05	89
58369	Zigbee Join - Node ID Received	65-BB-62-81-C2-7D-10-BA	90

FIG. 15 Connection Log Page

Connection Log Page	
#	The device's NetLinX ID number
Connection	Indicates the connection status of the device.
EUI-64	The 64-bit EUI address of the device.
Device #	The device's ICSP device number.

Determining the connection status of a device

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connection Log* under the section *Utilities*.
2. The connection status of each device is located in the column *Connection*; the possible values are either *Connected* or *Disconnected*.

Finding a device's EUI address

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connection Log* under the section *Utilities*.
2. The EUI address of each device is located in the column *EUI-64*.

Finding the device's ICSP number

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Connection Log* under the section *Utilities*.
2. The ICSP number of each device is located in the column *Device #*.



NOTE

Clicking on the *EUI-64* number in the *Connection Log* page will open the device's *PAN Device Details* page (see FIG. 13).

Traffic Log

The traffic log shows traffic statistics for all ZigBee devices.

Device #	EUI-64	Description	Device Type	RX	TX
71	73-62-A5-1E-33-8F-CD-97	Orc In Attic	Mio Madero R4 ZigBee Remote CoDv1.03.91	41373	409026
72	80-C1-90-EB-63-1D-A9-00	Ebrond in Pool Bar	Mio Madero R4 ZigBee Remote CoDv1.03.91	256712	220375
73	09-A5-5E-80-26-FE-C2-69	Rohan in Shed	Mio Madero R4 ZigBee Remote CoDv1.03.91	545748	595448
74	40-73-8F-89-A8-66-76-F2	Orc In Glove Box	Mio Madero R4 ZigBee Remote CoDv1.03.91	725795	67312
75	B1-EF-A8-5A-DA-71-8F-EC	Orc In Flying Rodent Cave	Mio Madero R4 ZigBee Remote CoDv1.03.91	783016	721041
76	18-92-3F-90-5E-FD-05-22	Orc In Garden	Mio Madero R4 ZigBee Remote CoDv1.03.91	167413	711842
77	C3-CD-BA-5A-96-0A-AE-5A	Orc In Coat Closet	Mio Madero R4 ZigBee Remote CoDv1.03.91	284583	287894
78	05-65-74-98-27-0A-20-0E	Orc In Corn Field Maze	Mio Madero R4 ZigBee Remote CoDv1.03.91	354484	496814
79	ED-6A-A1-60-AE-6D-BC-B7	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	396179	347316
80	55-3F-C9-12-90-8F-8F-8C	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	212034	823729
81	0D-69-48-F5-CD-C7-7B-8C	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	518771	318007
82	84-F5-30-C0-EF-7C-78-0A	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	332310	645369
83	54-A0-F2-E6-FE-7C-AB-F4	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	331642	526594
84	0E-EA-C8-67-36-B0-8C-08	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	659926	76104
85	A2-06-8F-89-8F-0F-F2-9C	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	501978	69228
86	5B-01-91-27-03-92-08-B2	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	443454	477646
87	CA-50-87-76-88-AD-A6-5C	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	592670	22926
88	9F-96-E8-B3-41-EA-18-93	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	378510	516039
89	EE-DA-17-F7-EA-02-EB-05	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	588419	565012
90	65-BB-62-81-C2-7D-10-BA	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	845018	769314
91	24-B4-C8-8B-80-73-A1-92	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	658587	746376
92	52-18-92-CF-01-8B-05-80	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	28492	662049
93	65-9F-9D-A9-35-5C-62-76	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	375972	283755
94	5D-15-9C-79-86-C8-9A-8F	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	337160	614767
95	CA-29-C5-36-41-EA-6B-01	Short Description	Mio Madero R4 ZigBee Remote CoDv1.03.91	599544	505140
96	3A-6D-06-F5-11-01-03-AB	Short Description	Mio Madero R4 ZigBee Remote Co	29360	286052
97	4E-64-CA-83-A5-A6-C9-8F	Short Description	Mio Madero R4 ZigBee Remote Co	192282	798913
98	EB-95-C4-F4-8A-84-7B-55	Short Description	Mio Madero R4 ZigBee Remote Co	755144	401252
99	F9-C2-A4-22-8C-4A-3B-5E	Short Description	Mio Madero R4 ZigBee Remote Co	616206	574973
100	8A-F6-2B-7D-7F-5D-CB-14	Short Description	Mio Madero R4 ZigBee Remote Co	337836	605819

FIG. 16 Traffic Log Page

Traffic Log Page	
Device #	The device's ICSP device number.
EUI-64	The 64-bit EUI address of the device.
Description	The device's description, supplied by the device.
Device Type	The types are: <ul style="list-style-type: none"> • End Device • Repeater • PAN coordinator.
RX	The total number of bytes received by the device since it connected.
TX	The total number of bytes transferred to the device since it connected.

Finding the device's ICSP number

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Traffic Log* under the section *Utilities*.
2. The ICSP number of each device is located in the column *Device #*.

Finding a device's EUI address

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Traffic Log* under the section *Utilities*.
2. The EUI address of each device is located in the column *EUI-64*.

Finding the device's description

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Traffic Log* under the section *Utilities*.
2. The description of each device is located in the column *Description*.

Determining the device type

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Traffic Log* under the section *Utilities*.
2. The type of each device is located in the column *Device Type*.

Finding the device traffic

1. In the menu on the top of the NXR-ZGW Browser-based Configuration Manager, select *Traffic Log* under the section *Utilities*.
2. The traffic byte count of each device is located within the columns RX and TX. RX lists received traffic, while TX lists transmitted traffic



NOTE

Clicking on the EUI-64 number in the Traffic Log page will open the device's PAN Device Details page (see FIG. 13).

Device Configuration

Sending Firmware to The NXR-ZGW

Before beginning the Upgrade process

- Set up and configure your NetLinx Master. Refer to your particular NetLinx Master instruction manual for detailed setup procedures.
- Prepare the communication on the NXR-ZGW for use. Refer to the *Setting up a Network* section on page 11.
- Refer to the NetLinx Studio version 2.4 or higher Help file for information on uploading firmware files via Ethernet.



WARNING

If power or connection fails during a firmware upgrade, the file system may become corrupted.

A NXR-ZGW which is not using a valid username and password will not communicate with a secured Master. If you are updating the firmware on a keypad which is not using a username or password field, you must first remove the Master Security feature to establish an unsecured connection.

Upgrading The NXR-ZGW via An IP Address

Before beginning this section, verify that your device is powered and connected to the NetLinX Master through an Ethernet connection.

Preparing the Master for communication via an IP

1. Obtain the IP Address of the NetLinX Master from your System Administrator. If you do not have an IP Address for the Master, refer to your particular Master's instruction manual for more information on obtaining an IP Address using NetLinX Studio 2.4 or higher.
 - From the **Online Tree** tab of the Workspace window, select the NetLinX Master.
 - Follow steps outlined in either the *Obtaining or Assigning the Master's IP Address* sections from your particular NetLinX Master instruction manual to use an address.
 - Note the IP Address and Gateway information.
2. Launch NetLinX Studio 2.4 (default location is **Start > Programs > AMX Control Disc > NetLinX Studio > NetLinX Studio 2.4**).
3. Select **Settings > Master Communication Settings**, from the Main menu to open the Master Communication Settings dialog (FIG. 17).

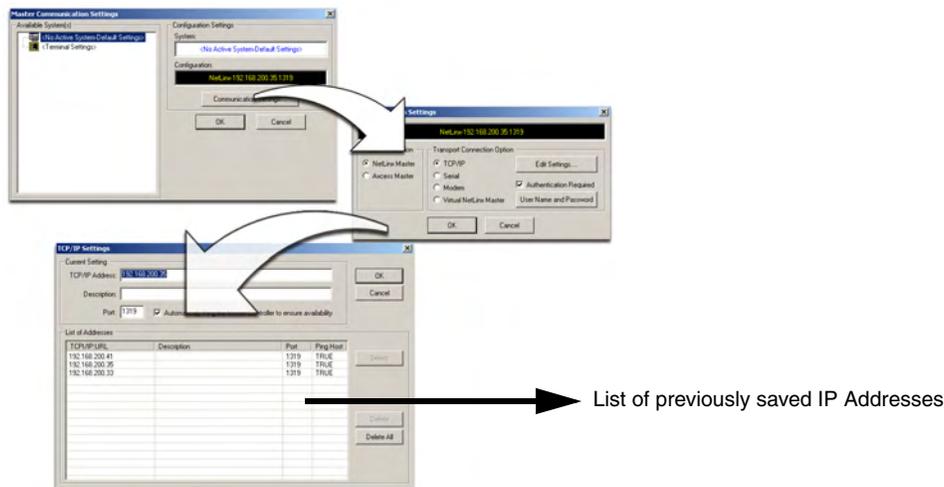


FIG. 17 Assigning Communication Settings and TCP/IP Settings

4. Click the **Communications Settings** button to open the *Communications Settings* dialog.
5. Click on the **NetLinX Master** radio button (from the *Platform Selection* section) to indicate that you are working with a NetLinX Master (such as the NXC-ME260 or NI-Series of Integrated Controllers).
6. Click on the **Authentication Required** radio box (if the Master is secured) and then enter a username and password.
7. Click on the **TCP/IP** radio button (from the *Transport Connection Option* section) to indicate you are connecting to the Master through an IP Address.
8. Click the **Edit Settings** button (on the *Communications Settings* dialog) to open the TCP/IP Settings dialog (FIG. 17).
9. Enter the IP Address into the *TCP/IP Address* field. This information is obtained from either your System Administrator or obtained from the Master.
10. Click **OK** three times to close the open dialogs and save your settings.
11. Click **Yes** to interrupt the current communication from the Master and apply the new settings.

12. Select **Tools > Reboot the Master Controller** to access the Reboot the Master dialog, then click **Reboot** to reboot the Master and incorporate any changes.
13. Once the dialog replies with "Reboot of system complete", press **Done**.
14. Click the **OnLine Tree** tab in the Workspace window to view the devices on the System. *The default System value is one.*
15. Right-click on the *Empty Device Tree/System* entry and select **Refresh System** to re-populate the list.

Verifying and Upgrading the device firmware via an IP

1. Click the **OnLine Tree** tab in the Workspace window to view the devices on the System. *The default System value is one.*
2. Right-click the associated System number (from the Workspace window) and select **Refresh System** to detect all devices on the current system, establish a new connection to the Master, and refresh the System list with devices on that system.
3. After the *Communication Verification* dialog window verifies active communication between the PC and the Master, verify the NXR-ZGW appears in the **OnLine Tree** tab of the Workspace window. *The default device value is 10001.*
4. If the device firmware version is not the latest available; locate and download the latest firmware file from the www.amx.com > **Tech Center > Downloadable Files > Firmware Files** section of the website.
5. Select **Tools > Firmware Transfers > Send to NetLinX Device** from the Main menu to open the Send to NetLinX Device dialog (FIG. 18). Verify the device's System and Device number values match those values listed within the System folder in the **OnLine Tree** tab of the Workspace window.

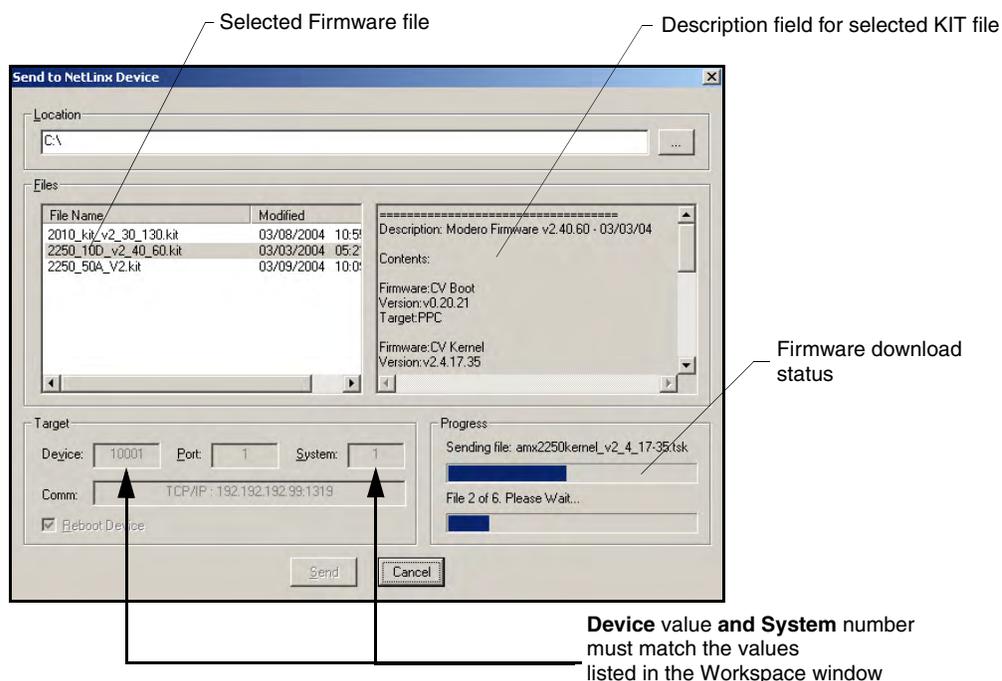


FIG. 18 Send to NetLinX Device dialog

6. Select the device's firmware file from the **Files** section (FIG. 18).
7. Enter the **Device** value associated with the device and the **System** number associated with the Master (listed in the *OnLine Tree* tab of the Workspace window). The Port field is greyed-out.

8. Click the **Reboot Device** checkbox. This causes the NXR-ZGW device to reboot after the firmware update process is complete.
9. Click **Send** to begin the transfer. The file transfer progress is indicated on the bottom-right of the dialog (FIG. 18). Do not pull power from device during transfer, it can take approximately 5 minutes to finalize firmware transfer. The upgrade can still be in progress when the bargraph reaches the end, it is a good idea to wait until the process is complete.
10. Click **Close** (after the device reboots) to return to the main program.
11. Right-click the associated System number and select **Refresh System**. This causes a refresh of all project systems, establishes a new connection to the Master, and populates the System list with devices on your particular system.

Using the ID Button to Change the NXR-ZGW's Device Number

1. Launch NetLinx Studio 2.4 (default location is Start >Programs > AMX Control Disc > NetLinx Studio > NetLinx Studio 2.4).
2. Access the Device Addressing dialog (FIG. 19) by selecting **Diagnostics > Device Addressing** from the Main menu.

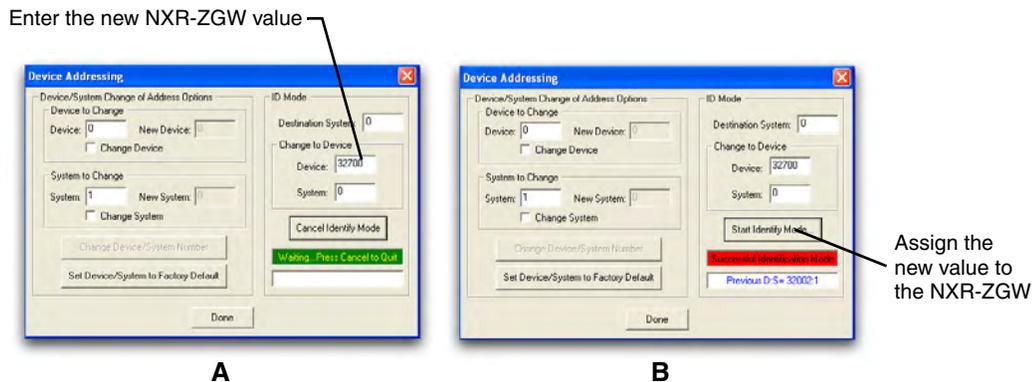


FIG. 19 Device Addressing dialog (using the ID mode to set the NXR-ZGW device value)

3. Locate the *Device* field (A in FIG. 19) and enter the new value for the NXR-ZGW. **This value must fall within a range of 0 - 32767.**
4. Press the on-screen **Start Identify Mode** button.
 - This action causes a previously red **Not Active** field to now display a green *Waiting...Press Cancel to Quit*.field.
 - This green field indicates that Studio is waiting to detect the device value of the NXR-ZGW associated with the **ID** button on the target NXR-ZGW.
5. Press the target NXR-ZGW's **ID** button to begin process of reading the current device value of the NXR-ZGW and then assigning it to the new value entered in step 2.
 - Once the swap has been successfully made, a red *Successful Identification Made* field appears.
 - The previous Device value and associated System number of the targeted NXR-ZGW are then displayed below the red field. As an example, *Previous D:S=32002:1*, where 32002 was the previous device value of the NXR-ZGW (**D**) and 1 was the System value (**S**).



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