

Device Installer User Guide

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Table of Contents

1. Device Installer	1-1
1.1 Installation Notes.....	1-1
1.1.1 Upgrade	1-1
1.1.2 Installation	1-1
1.1.3 Requirements	1-1
1.1.4 Windows XP and Vista.....	1-1
1.1.5 Microsoft NET Framework	1-2
1.2 Device Installer.....	1-3
1.2.1 Install Device Installer.....	1-3
1.2.2 RUN Device Installer	1-4
1.2.3 Device Found.....	1-4
1.2.4 Assign IP	1-5
1.2.5 Assignment.....	1-6
1.3 Using Device Installer	1-8
1.3.1 Viewing the Current Configuration.....	1-8
1.4 Configuration Using Web Manager.....	1-10
1.4.1 Starting Web Manager.....	1-10
1.5 Network Configuration.....	1-11
1.5.1 Automatic IP Address Configuration	1-11
1.5.2 Static IP Address Configuration	1-12
1.5.3 Ethernet Configuration	1-12
1.6 Server Configuration	1-13
1.7 Host List Configuration	1-14
1.8 Channel 1 Configuration	1-15
1.8.2 Connection Settings - TCP	1-17
1.8.3 Connection Settings - UDP.....	1-20
1.9 Email Settings.....	1-22
1.9.1 Trigger Configuration.....	1-23
1.10 Configurable Pin Settings.....	1-24
1.11 Apply Settings	1-25
1.12 Apply Factory Defaults	1-25
1.13 Telnet.....	1-25
2. File Menu.....	2-26
2.1 Opening the Device List.....	2-26
2.2 Saving the Device List.....	2-26
2.3 Save Setup Records	2-27
2.4 Printing	2-27
2.4.1 Print Preview	2-28
3. Edit Menu	3-29
4. View Menu.....	4-29
4.1 View	4-29

4.2 Device Node Text	4-29
4.3 Expand or Collapse List	4-29
4.4 Setup Record File.....	4-29
5. Device Menu	5-30
5.1 Search.....	5-30
5.2 Add Device	5-30
5.3 Assign IP Address	5-30
5.4 Upgrade	5-30
5.5 Exclude Devices.....	5-31
6. Tools Menu	6-32
6.1 Ping	6-32
6.2 Recovering Firmware.....	6-32
6.3 Choosing the Network Adapter for Communication	6-33
6.4 Language.....	6-33
6.5 Supported Device Servers.....	6-33
6.6 Product Information Base	6-33
7. Help	7-34
7.1 Help.....	7-34
7.2 Release Notes	7-34
7.3 Lantronix Support Website	7-34
7.4 About.....	7-34

List of Figures

Figure 1 - Software CD Main Window	1-3
Figure 2 - Device Installer Dialog Box	1-4
Figure 3 - Device Installer.....	1-8

1. Device Installer

This utility provides users a single application, with a graphical interface and utilizing Microsoft's .NET Framework, to access various configuration functions for certain networking products like NET232, NET232jr, NET485 and Wi232. This makes it easy to perform initial setup, IP address assignment, and configuration changes.

1.1 Installation Notes

1.1.1 Upgrade

When upgrading to Version 4.3, please note the following changes:

- The software was converted from dependence on .NET Framework 2.0 to .NET Framework 4.0.

1.1.2 Installation

The installation of DeviceInstaller 4.3 will not uninstall DeviceInstaller 2.0, 3.x, 4.1 or 4.2.

To uninstall the DeviceInstaller utility manually, follow these steps:

1. Select Settings->Control Panel from the taskbar Start menu.
2. Double click on the Add/Remove Programs icon.
3. Under the Install/Uninstall tab, select DeviceInstaller in the Software list and then click Add/Remove. Follow the prompts. (Note: DeviceInstaller was the default Program Folder specified in the installation process.)

1.1.3 Requirements

The following items are required to run Device Installer:

1. x86: XP/2003 Server/Vista/Windows 7/2008 Server
x64: Vista/Windows 7/2008 Server
2. Microsoft .NET Framework v4.0
3. Microsoft Internet Explorer 5.1 or later
4. 30MB free hard drive space

Device Installer is distributed in a single image as a self-extracting executable. The application installation directory defaults to C:\Program Files\DeviceInstaller4.3, unless another folder is selected during the installation process. A shortcut to this application is created on the Start/Programs menu.

Note: If Microsoft .NET Framework v4.0 or later is not installed on your system, you will be prompted to install it before Device Installer is installed. It comes installed on Windows 7.

1.1.4 Windows XP and Vista

The "Internet Connection Firewall" must be disabled, or else UDP Port 30718 must be available. Otherwise, you will not be able to detect or communicate with any devices on the network.

To configure, go to the Control Panel, go to Network Settings, select the corresponding network adapter, choose Properties, and go to the Advanced tab.

1.1.5 Microsoft NET Framework

Microsoft .NET is the Microsoft strategy for connecting systems, information, and devices through Web services so people can collaborate and communicate more effectively. .NET technology is integrated throughout Microsoft products, providing the capability to quickly build, deploy, manage, and use connected, security-enhanced solutions through the use of Web services.

Web services are small, reusable applications that help computers from many different operating system platforms work together by exchanging messages. Web services are based on industry protocols that include [XML](#) (Extensible Markup Language), [SOAP](#) (Simple Object Access Protocol), and [WSDL](#) (Web Services Description Language). These protocols help computers work together across platforms and programming languages.

Device Installer uses .NET Framework to adapt embedded servers for Web services. Your system must have .NET Framework installed for Device Installer to work properly. Installation options are included on the software CD.

1.2 Device Installer

Device Installer is a utility for locating and configuring device servers such as the NET232, NET485, and Wi232. You can view device parameters, save a device list, run a simple diagnostic and recover or upgrade firmware. See the help file for additional information.

1.2.1 Install Device Installer

1. Insert the product CD into your CD-ROM drive. The CD will automatically start and display the main window.

If the CD does not launch automatically:

- a) Locate your CD Drive. Example: CD-RW Drive (D:)
- b) Double-click on **autorun.exe** to start the CD browser.

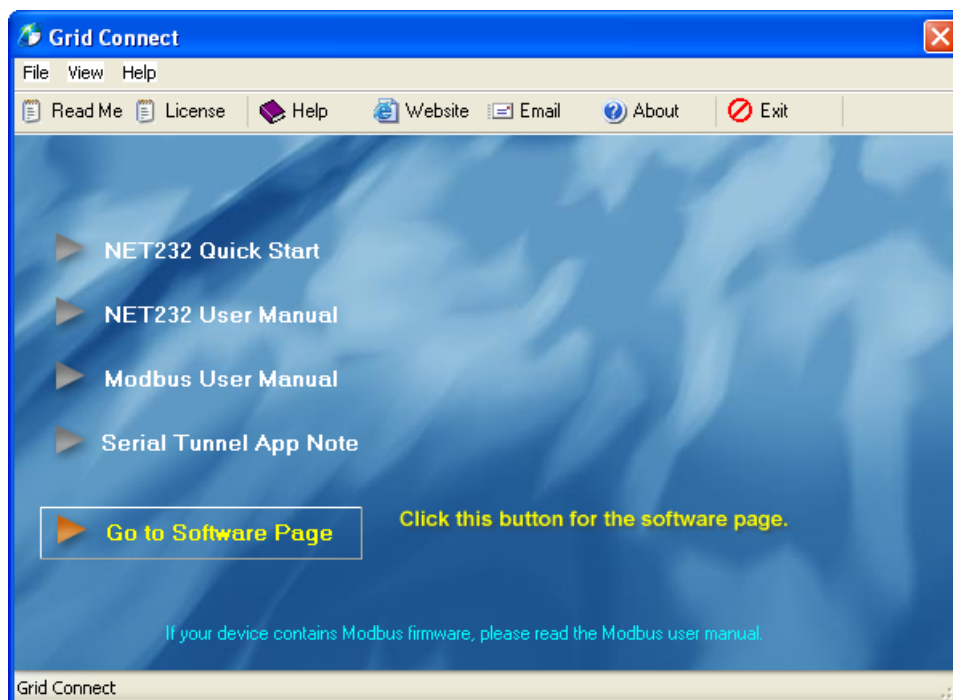


Figure 1 - Software CD Main Window

2. Click the **Go to Software Page** button to go to the software installation page.
3. Click the **Device Installer** button. The installation wizard window displays.
4. Respond to the installation wizard prompts.
5. Restart your system.

1.2.2 RUN Device Installer

Click the Start button on the Task Bar and select **Programs\DeviceInstaller 4.3**. From the list of options, select **DeviceInstaller**.

The Device Installer main dialog box appears.

Note: The following screen shows an earlier version. The screens are the same for version 4.3.

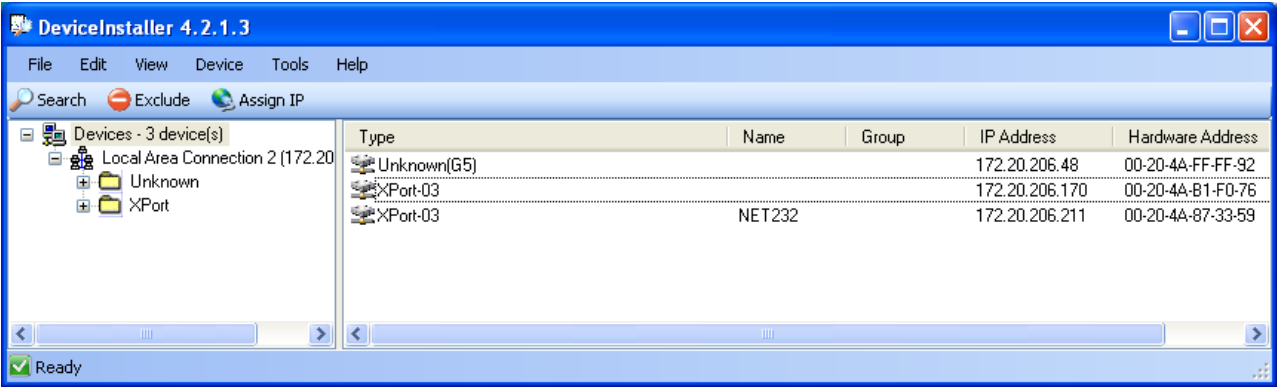
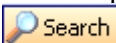


Figure 2 - Device Installer Dialog Box

Device Installer automatically locates and displays devices on the network. To search for devices recently added to the network, click the icon , select **Search** from the **Device** menu or press the **F5** key.

1.2.3 Device Found

Figure 2 shows a device (or devices) found on the network, with the IP addresses assigned by the DHCP server. The device IP Address is set to 0.0.0.0 at the factory, which enables the DHCP software. It is important to remember that the DHCP address is temporary.

The Hardware Address is an individual permanent address assigned to a particular device on the network. The Hardware Address can be found on the product label.

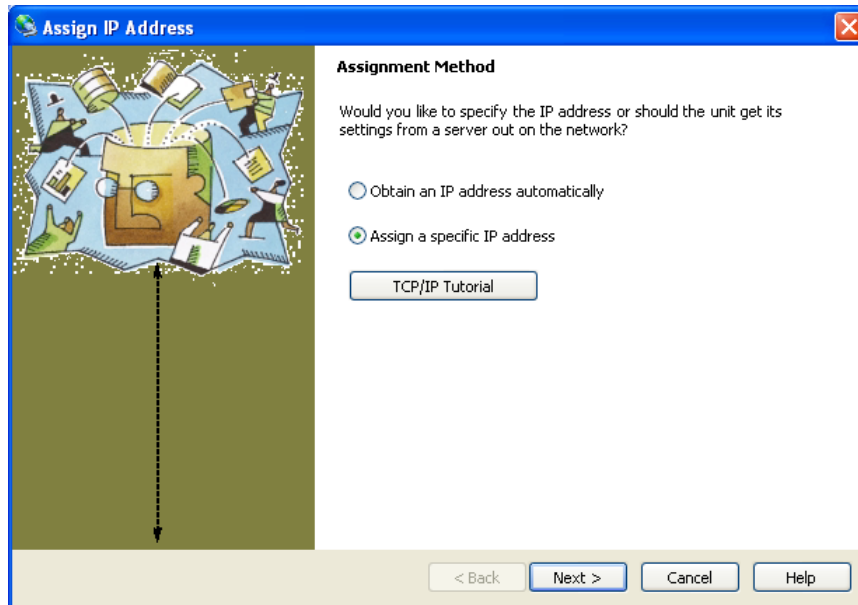
To change the IP address, first select the device from the list. (Click on it)

*Note: the **Upgrade** icon appears on the toolbar when you select a device.*

1.2.4 Assign IP

Click the **Assign IP** icon .

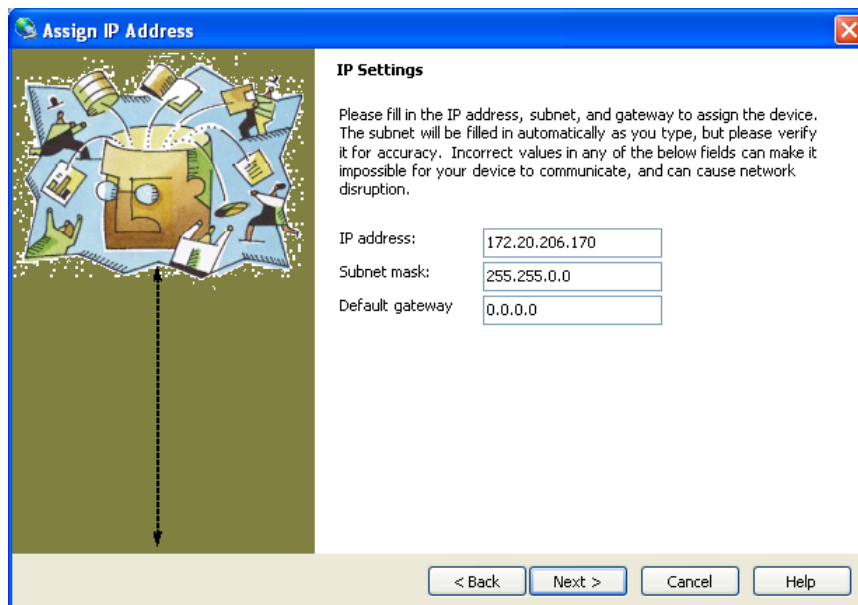
You can also select **Assign IP Address** from the **Device** menu or press the **F7** key. To use the Web Manager page option, go to [Starting Web Manager on page 1-10](#).



Select the **Assign a specific IP address** option in the dialog box. Click **Next** to continue.

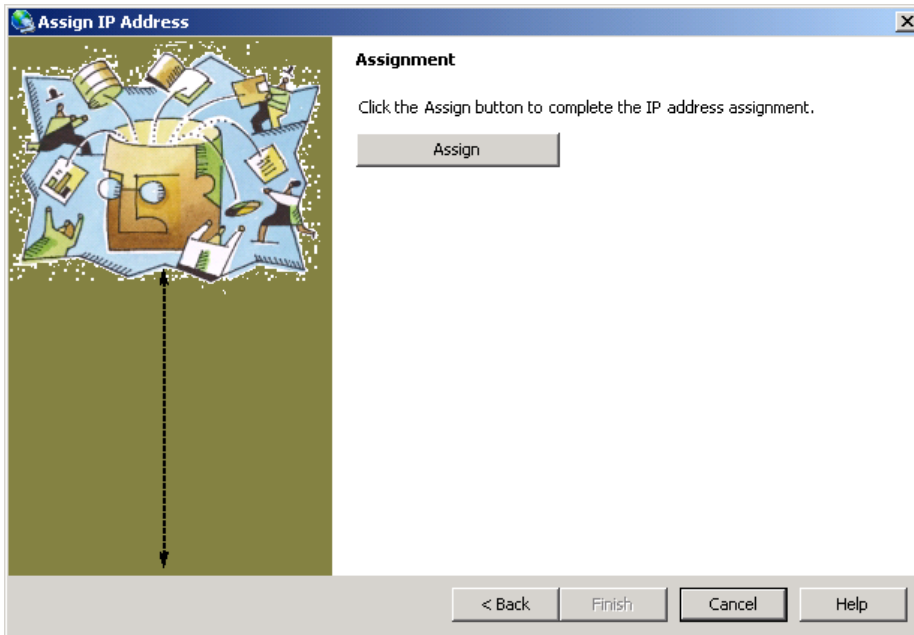
Enter the **IP address**, the **Subnet mask** and the **Default gateway** in the IP Settings dialog box. Click **Next** to continue.

In the following example, the new IP address is 172.20.206.170. Press the TAB key to advance to the next field. The Subnet mask will be filled in automatically. On a local network, you can leave the Default gateway blank (all zeros). Click the **Next** button to continue.



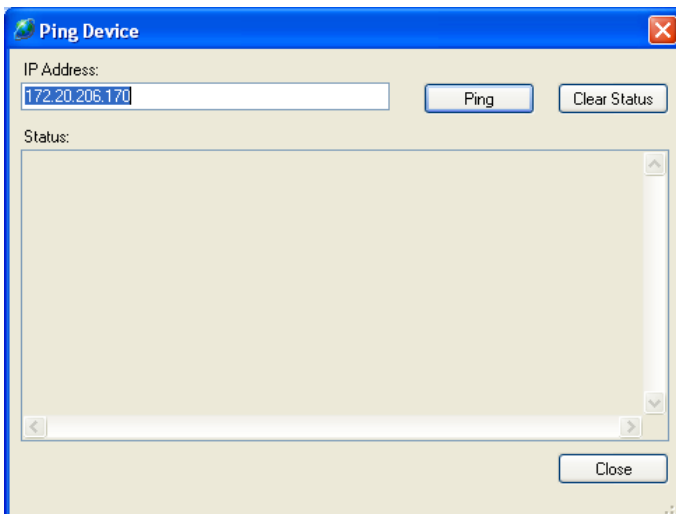
1.2.5 Assignment

Click the **Assign** button and wait until the progress bar shows the task is complete.

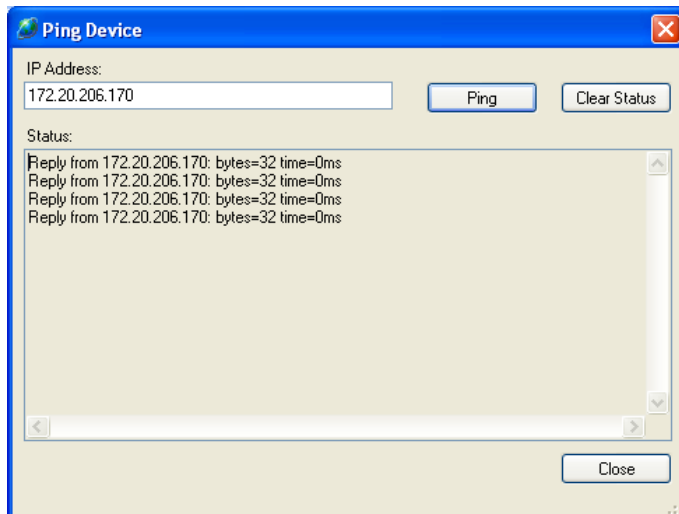


Click the **Finish** button to return to the main Device Installer dialog.

Select the device from the main window list and select **Ping** from the **Tools** menu. The Ping Device dialog box shows the IP address of the selected unit.



Click the **Ping** button. The results display in the Status window. Click the **Clear Status** button to clear the window so you can ping the device again.



Note: If you do not receive “Reply” messages, make sure the unit is properly attached to the network and that the IP address assigned is valid for the particular network segment you are working with. If you are not sure, check with your systems administrator.

Click the **Close** button to finish.

1.3 Using Device Installer

Device Installer is used to locate embedded device servers on your network.

Double-click one of the devices listed in the Device Installer window to display the expanded window shown in Figure 3 - Device Installer. The **Device Details** tab is automatically selected and will display information about the selected device.

See *Viewing the Current Configuration* on page 1-8 for more details.

To configure the unit using a Web browser, click on the **Web Configuration** tab.

See *Configuration Using Web Manager* on page 1-10.

To configure the unit using a Telnet connection, click on the Telnet Configuration tab. See the hardware product user manual for details.

Note: The following screen shows an earlier version. The screens are the same for version 4.3.

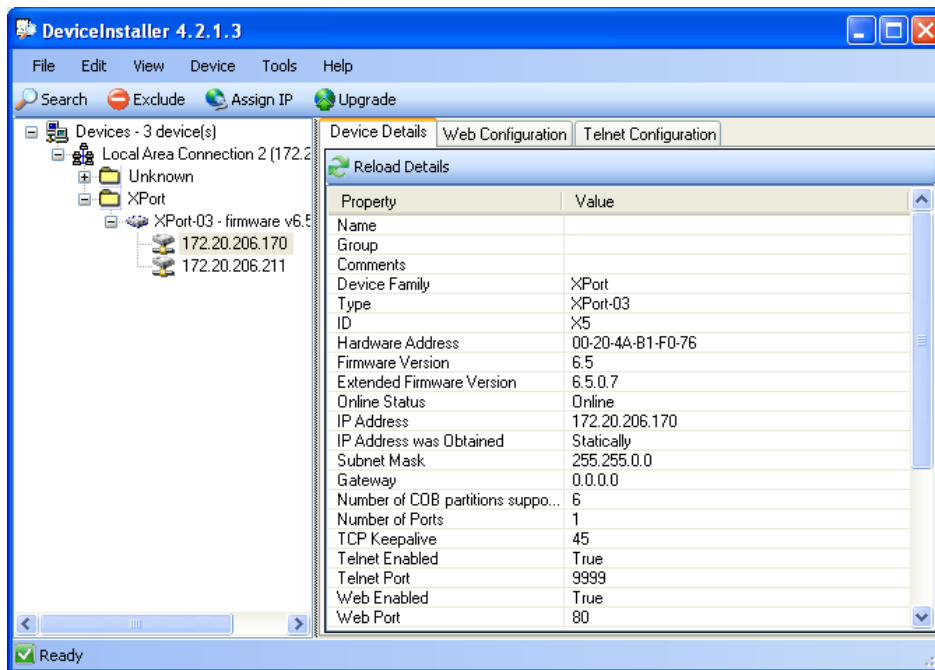


Figure 3 - Device Installer

1.3.1 Viewing the Current Configuration

Device Installer provides a view of the unit's configuration. To view the unit's current settings:

1. Follow the instructions above to locate the device.
2. In the right pane, click the **Device Details** tab. The current device configuration displays:

Name	Configurable field. A name that identifies the Device. Double-click the field, type in the value, and press Enter to complete. This name is not visible on other PCs or laptops using DeviceInstaller.
Group	Configurable field. A group name to categorize the Device. Double-click the field, type in the value, and press Enter to complete. This group name is not visible on other PCs or laptops using DeviceInstaller.
Comments	Configurable field. Information about the Device. Double-click the field, type in the value, and press Enter to complete. This description or comment is not visible on other PCs or laptops using DeviceInstaller.

	laptops using DeviceInstaller.
Device Family	Non-configurable field. Displays the device family type. Note: XPort is the name of the embedded device server used in some Grid Connect products like the NET232.
Type	Non-configurable field. Displays the device type.
ID	Non-configurable field. Displays the Device ID embedded within the box.
Hardware Address	Non-configurable field. Displays the Device hardware (or MAC) address.
Firmware Version	Non-configurable field. Displays the firmware currently installed on the Device.
Extended Firmware Version	Non-configurable field. Displays the full version nomenclature of the firmware.
Online Status	Non-configurable field. Displays the Device status as online, offline, unreachable (the Device is on a different subnet), or busy (the Device is currently performing a task).
IP Address	Non-configurable field. Displays the Device current IP address.
IP Address was Obtained	Non-configurable field. Indicates whether the current IP address on the Device was set manually or assigned by DHCP.
Subnet Mask	Non-configurable field. Displays the Device current subnet mask.
Gateway	Non-configurable field. Displays the Device current gateway.
Number of COB partitions supported	Non-configurable field. Displays the number of COB partitions supported.
Number of Ports	Non-configurable field. Displays the number of ports on the Device.
TC P Keepalive	Non-configurable field. Displays 1-65s, the Device TCP keepalive value. The default setting is 45.
Telnet Enabled	Non-configurable field. Permits Telnet sessions.
Telnet Port	Non-configurable field. Displays the Device port for telnet sessions.
Web Enabled	Non-configurable field. Permits configuration through Web Manager.
Web Port	Non-configurable field. Displays the Device port for Web Manager configuration.
Maximum Baud Rate Supported	Non-configurable field. Displays the Device maximum baud rate. Note: the Device may not currently be running at this rate.
Firmware Upgradeable	Non-configurable field. Displays True, indicating the Device firmware is upgradeable as newer version become available.
Supports Configurable Pins	Non-configurable field. Displays True, indicating configurable pins are available on the Device.
Supports Email Triggers	Non-configurable field. Displays True, indicating email triggers are available on the Device.
Supports AES Data Stream	Non-configurable field. Displays True if the Device unit supports AES encryption.
Supports 485	Non-configurable field. Displays True if the Device supports the RS-485 protocol.
Supports 920K Baudrate	Non-configurable field. Device supports baud rates up to 920 Kbps.
Supports HTTP Server	Non-configurable field. Device supports HTTP Server
Supports HTTP Setup	Non-configurable field. Device supports HTTP setup.
Supports 230K Baud Rate	Non-configurable field. Device supports a baud rate of 230 Kbps.
Supports GPIO	Non-configurable field. Device supports GPIO

1.4 Configuration Using Web Manager

You must configure the unit so that it can communicate on a network with your serial device. For example, you must set the way the unit will respond to serial and network traffic, how it will handle serial packets, and when to start or close a connection.

The unit's configuration is stored in nonvolatile memory and is retained without power. You can change the configuration at any time. The unit performs a reset after you change and store the configuration.

In this chapter, we describe how to configure the XPort in the NET232 using Web-Manager, a browser-based configuration tool.

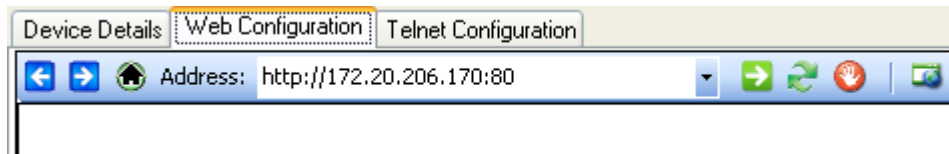
Note: The examples in this section show a typical device. Your device may have different configuration options. Help button may not appear in later versions.



1.4.1 Starting Web Manager

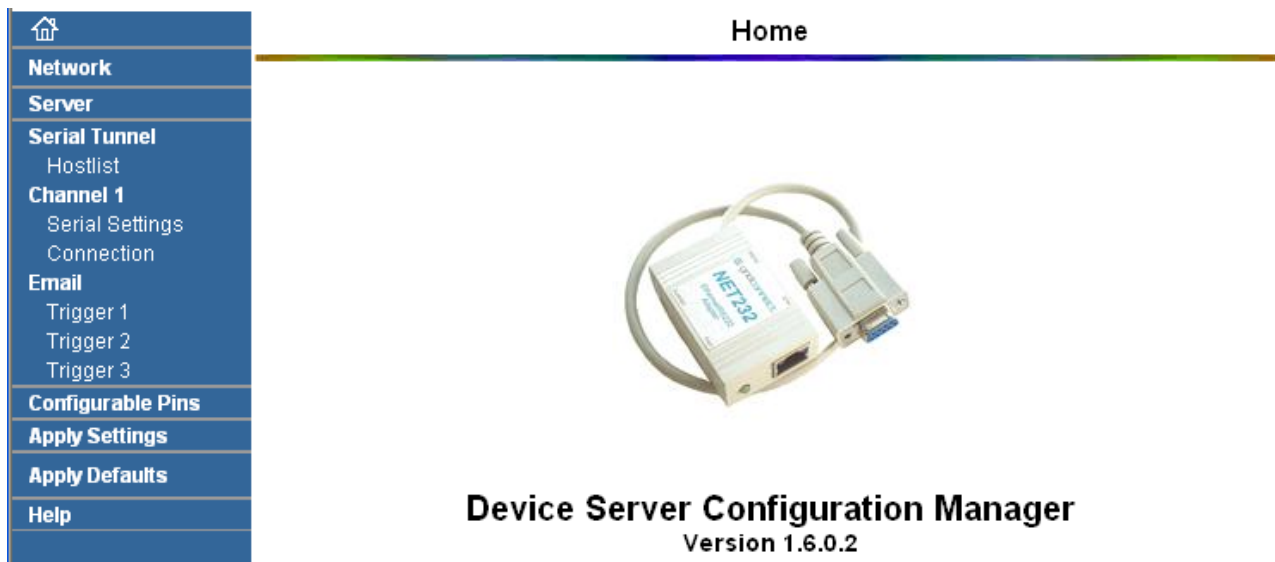
Note: Make note of the hardware (MAC) address on the product label. You will need it to locate the XPort using DeviceInstaller.

Follow the instructions on the product CD to install and run DeviceInstaller.

1. Click **Start/Programs/DeviceInstaller 4.3/DeviceInstaller**.
2. Click the Search icon. The list of device servers displays.
3. Double-click one of the items in the list. The window will expand to display three tabs.
4. Click the Web Configuration tab.



5. To view the Web-Manager in the current DeviceInstaller window, click the **Navigate** icon . To open the Web-Manager in a web browser, click the **External Browser** icon .
6. If a password window appears, press **Enter**.



1.5 Network Configuration

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

The unit's network values display when you select **Network** from the main menu. The following sections describe the configurable parameters on the Network Settings page.

Network Settings

Network Mode:

IP Configuration

☐ Obtain IP address automatically

Auto Configuration Methods

BOOTP: ☒ Enable ☐ Disable

DHCP: ☒ Enable ☐ Disable

AutoIP: ☒ Enable ☐ Disable

DHCP Host Name:

☒ Use the following IP configuration:

IP Address:

Subnet Mask:

Default Gateway:

Ethernet Configuration

☒ Auto Negotiate

Speed: ☒ 100 Mbps ☐ 10 Mbps

Duplex: ☒ Full ☐ Half

1.5.1 Automatic IP Address Configuration

An IP address can be assigned automatically. You then enter related network settings.

To assign an IP address automatically:

1. On the main menu, click **Network**.
2. Select **Obtain IP address automatically**.
3. Enter the following (as necessary):

BOOTP	Select Enable to permit the Bootstrap Protocol (BOOTP). server to assign the IP address from a pool of addresses automatically. Enable is the default.
DHCP	Select Enable to permit the Dynamic Host Configuration Protocol (DHCP) to assign a leased IP address to the unit automatically. Enable is the default.
AutoIP	Select Enable to permit the unit to generate an IP in the 169.254.x.x address range with a Class B subnet. Enable is the default.
DHCP Host Name	Enter the name of the host on the network providing the IP address.

Note: Disabling BOOTP, DHCP, and AutoIP (all three checkboxes) is not advised as the only available IP assignment method will then be ARP or serial port.

4. When you are finished, click the **OK** button.
5. On the main menu, click **Apply Settings**.

1.5.2 Static IP Address Configuration

You manually assign an IP address to the unit and enter related network settings.

To assign an IP address manually:

1. On the main menu, click **Network**.
2. Select **Use the following IP configuration**.
3. Enter the following (as necessary):

IP Address	If DHCP is not used to assign IP addresses, enter it manually in decimal-dot notation. The IP address must be set to a unique value in the network.
Subnet Mask	A subnet mask defines the number of bits taken from the IP address that are assigned for the host part.
Default Gateway	The gateway address, or router, allows communication to other LAN segments. The gateway address should be the IP address of the router connected to the same LAN segment as the unit. The gateway address must be within the local network.

4. When you are finished, click the **OK** button.
5. On the main menu, click **Apply Settings**.

1.5.3 Ethernet Configuration

You must specify the speed and direction of data transmission.

To specify how data will be transmitted:

1. On the main menu, click **Network**.
2. Enter the following (as necessary):

Auto Negotiate	With this option, the Ethernet port auto-negotiates the speed and duplex with the hardware endpoint to which it is connected. This is the default. If this option is not selected, then complete the fields that become available: Speed: The speed of data transmission. The default is 100 Mbps . Duplex: The direction of data transmission. The default is Full .
-----------------------	---

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings**.

1.6 Server Configuration

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

The unit's server values display when you select **Server** from the main menu. The following sections describe the configurable parameters on the Server Settings page.

Server Settings

Server Configuration

Telnet Password:

Retype Password:

Advanced

ARP Cache Timeout (secs):

TCP Keepalive (secs):

Monitor Mode @ Bootup: ☒ Enable ☐ Disable

CPU Performance Mode: ☐ Low ☒ Regular ☐ High

HTTP Server Port:

Config Server Port:

MTU Size:

To configure the device server settings:

1. On the main menu, click **Server**.
2. Configure or modify the following fields:

Server Configuration

Telnet Password	Enter the password required for Telnet access
Retype Password	Re-enter the password required for Telnet access.

Advanced

ARP Cache Timeout	When the unit communicates with another device on the network, it adds an entry into its ARP table. ARP Cache timeout defines the number of seconds (1-600) before it refreshes this table.
TCP Keepalive	TCP Keepalive time defines how many seconds the unit waits during an inactive connection before checking its status. If the unit does not receive a response, it drops that connection. Enter a value between 0 and 60 seconds. 0 disables keepalive.
Monitor Mode @ Bootup	Select Disable to disable entry into the monitor mode using the 'yyy' or 'xx1' key sequence at startup. This field prevents the unit from entering monitor mode by interpreting the stream of characters that are received during the device server's initialization at startup.
CPU Performance Mode	Select the XPort's performance mode. Higher performance settings require more energy. Regular is 48 Mhz, High is 88 Mhz. The default is Regular .
HTTP Server Port	This option allows the configuration of the web server port number. The valid range is 1-65535. The default is 80 .
Config Server Port	Default setting of 30718.

MTU Size	The Maximum Transmission Unit (MTU) is the largest physical packet size a network can transmit for TCP and UDP. Enter between 512 and 1400 bytes. The default is 1400 bytes.
-----------------	---

3. When you are finished, click the **OK** button.

4. On the main menu, click **Apply Settings**.

1.7 Host List Configuration

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

The NET232 scrolls through the host list until it connects to a device listed in the host list table. After a successful connection, the unit stops trying to connect to any others. If this connection fails, the unit continues to scroll through the table until the next successful connection.

The host list supports a minimum of 1 and a maximum of 12 entries. Each entry contains an IP address and a port number.

Note: The host list is disabled for Manual and Modem Mode. The unit does not accept a data connection from a remote device when the hostlist option is enabled.

Note: Do NOT use the Hostlist when trying to setup a Tunnel Mode configuration.

To configure the host list:

1. On the main menu, click **Hostlist**.

- Network
- Server
- Serial Tunnel
- Hostlist
- Channel 1
- Email
- Configurable Pins
- Apply Settings
- Apply Defaults
- Help

Hostlist Settings

Retry Settings
 Retry Counter: Retry Timeout:

Host Information

No.	Host Address	Port	No.	Host Address	Port
1	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	2	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>
3	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	4	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>
5	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	6	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>
7	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	8	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>
9	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	10	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>
11	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>	12	<input type="text" value="0.0.0.0"/>	<input type="text" value="0"/>

2. Enter or modify the following fields:

Retry Settings

Retry Counter	Enter the value for the number of times the unit should attempt to retry connecting to the host list.
Retry Timeout	Enter the duration (in seconds) the unit should abandon attempting a connection to the host list.

Host Information

Host Address	Enter or modify the host's IP address.
---------------------	--

Port	Enter the target port number.
-------------	-------------------------------

- When you are finished, click the **OK button**.
- On the main menu, click **Apply Settings**.

1.8 Channel 1 Configuration

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

The Channel 1 configuration defines how the serial port responds to network and serial communication.

1.8.1.1 Serial Settings

To configure the channel's serial settings:

- On the main menu, click **Serial Settings** (under **Channel 1**) to display the Serial Settings window.

- In the available fields, enter the following information:

Channel 1

Disable Serial Port	When selected, disables communication through the serial port. The serial port is enabled by default.
----------------------------	---

Port Settings

Protocol	From the drop-down menu, select the protocol type for the selected channel.
Flow Control	Flow control manages data flow between devices in a network to ensure it is processed efficiently. Too much data arriving before a

	device is prepared to manage it causes lost or retransmitted data. None is the default.
Baud Rate	The unit and attached serial device, such as a modem, must agree on a speed or baud rate to use for the serial connection. Valid baud rates are 300, 600, 1200, 2400, 4800, 9600 (default), 19200, 38400, 57600, 115200, 230400, 460800, or 921600.
Data Bits	Indicates the number of bits in a transmitted data package. The default is 8 .
Parity	Checks for the parity bit. The default is None .
Stop Bits	The stop bit follows the data and parity bits in serial communication. It indicates the end of transmission. The default is 1 .

Pack Control

Enable Packing	<p>Select to enable packing on the NET232.</p> <p>Two firmware-selectable packing algorithms define how and when packets are sent to the network.</p> <p>The standard algorithm is optimized for applications in which the unit is used in a local environment, allowing for very small delays for single characters, while keeping the packet count low.</p> <p>The alternate packing algorithm minimizes the packet count on the network and is especially useful in applications in a routed Wide Area Network (WAN). Adjusting parameters in this mode can economize the network data stream.</p> <p>Disabled by default.</p>
Idle Gap Time	Select the maximum time for inactivity. The default time is 12 milliseconds.
Match 2 Byte Sequence	Use to indicate the end of a series of data to be sent as one group. The sequence must occur sequentially to indicate end of the data collection to the XPort. The default is No .
Match Bytes	Use to indicate the end of a series of data to be sent as one group. Set this value to 00 if specific functions are not needed.
Send Frame Only	After the detection of the byte sequence, indicates whether to send the data frame or the entire buffer. Select Yes to send only the data frame. The default is No .
Send Trailing Bytes	Select the number of bytes to send after the end-of-sequence characters. The default is None .

Flush Input Buffer (Serial to Network)

With Active Connect	Select Yes to clear the input buffer with a connection that is initiated from the device to the network. The default is No .
With Passive Connect	Select Yes to clear the input buffer with a connection initiated from the network to the device. The default is No .
At Time of Disconnect	Select Yes to clear the input buffer when the network connection to or from the device is disconnected. The default is No .

Flush Output Buffer (Network to Serial)

With Active Connect	Select Yes to clear the output buffer with a connection that is initiated from the device to the network. The default is No .
With Passive Connect	Select Yes to clear the output buffer with a connection initiated from the network to the device. The default is No .
At Time of Disconnect	Select Yes to clear the output buffer when the network connection to or from the device is disconnected. The default is No .

4. On the main menu, click **Apply Settings**.

1.8.2 Connection Settings - TCP

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

To configure a channel's TCP settings:

1. On the main menu, click **Connection**. The Connection Settings window for the channel displays.

	Connection Settings	
Network		
Server		
Serial Tunnel		
Hostlist		
Channel 1		
Serial Settings		
Connection		
Email		
Trigger 1		
Trigger 2		
Trigger 3		
Configurable Pins		
Apply Settings		
Apply Defaults		
Help		

Channel 1

Connect Protocol

Protocol: TCP ▾

Connect Mode

Passive Connection:

Accept Incoming: Yes ▾

Password Required: ☐ Yes ☒ No

Password:

Modem Escape Sequence Pass Through: ☒ Yes ☐ No

Active Connection:

Active Connect: Auto Start ▾

Start Character: 0x0D (in Hex)

Modem Mode: None ▾

Show IP Address After RING: ☒ Yes ☐ No

Endpoint Configuration:

Local Port: 10001

Remote Port: 0

☐ Auto increment for active connect

Remote Host: 0.0.0.0

Common Options:

Telnet Com Port Cntrl: Enable ▾

Terminal Name: password

Connect Response: None ▾

Use Hostlist: ☐ Yes ☒ No

LED: Blink ▾

Disconnect Mode

On Mdm_Ctrl_In Drop: ☐ Yes ☒ No

Check EOT(Ctrl-D): ☐ Yes ☒ No

Hard Disconnect: ☒ Yes ☐ No

Inactivity Timeout: 0 : 0 (mins : secs)

2. In the available fields, enter or modify the following information:

Connect Protocol

Protocol	From the drop-down menu, select TCP.
-----------------	--------------------------------------

Connect Mode: Passive Connection

Accept Incoming	Select Yes to accept incoming connections. The default is Yes .
Password Required	Determines whether a password is required for an incoming passive connection. This field is not available when a password is set for Telnet mode.
Password	If Password Required was set to Yes , enter the password for passive connections.

Connect Mode: Active Connection

Active Connect	<p>Select None to disable Active Connect. Otherwise, indicate the connection type from the drop-down list:</p> <ul style="list-style-type: none"> - With Any Character: Attempts to connect when any character is received from the serial port. - With Active Mdm Ctrl In: Accepts external connection requests only when the modem_control_in input is asserted. - With Start Character: Attempts to connect when it receives a specific start character from the serial port. The default start character is carriage return. - Manual Connection: Attempts to connect when directed by a command string received from the serial port. - Auto Start: Automatically connects to the remote IP address and port after booting up.
Start Character	If Active Connect is set to With Start Character , enter the start character in this field.
Modem Mode	Indicates the on-screen response type when in Modem Mode (if Modem Mode is enabled).
Modem Escape Sequence Pass Through	Select Yes or No. Default is Yes.
Show IP Address After RING	Select Yes or No. Default is Yes.

Endpoint Configuration

Local Port	Enter the local port number. Default is 10001.
Auto increment for active connect	Select to auto-increment the local port number for new outgoing connections. The range of auto-incremented port numbers is 50,000 to 59,999 and loops back to the beginning when the maximum range is reached.
Remote Port	Enter the remote port number. (Can be the same on different devices)
Remote Host	Enter the IP address of the remote device.

Common Options

Telnet Com Port Cntrl	Default setting is set to Disable.
Terminal Name	<p>This field is available for configuration only when Telnet Mode is set to Enable.</p> <p>Use the terminal name for the Telnet terminal type. Enter only one name. When this option is enabled, the unit also reacts to the end of record (EOR) and binary options, which can be used for application such as terminal emulation to IBM hosts.</p>
Connect Response	A single character is transmitted to the serial port when there is a change in connection state. Default setting is None .
Use Hostlist	<p>If this option is set to True, the device server scrolls through the host list until it connects to a device listed in the host list table. Once it connects, the unit stops trying to connect to any others. If this connection fails, the unit continues to scroll through the table until it connects to another IP in the host list.</p> <p>The host list is disabled for Manual Mode and for Modem Mode. The unit will not accept a data connection from a remote device when the host list option is enabled.</p> <p>Default setting is No. Do not use when connecting two devices in</p>

	Tunnel mode.
LED	Select Blink for the status LEDs to blink upon connection or None for no LED output. (Not available on Grid Connect products)

Disconnect Mode

On Mdm_Ctrl_In Drop	Set to Yes for the network connection to or from the serial port to drop when modem_control_in transitions from a high state to a low state. Default setting is No.
Hard Disconnect	When set to Yes , the TCP connection closes even if the remote site does not acknowledge the disconnect request. Default setting is Yes.
Check EOT (Ctrl-D)	Select Yes to drop the connection when Ctrl-D or Hex 04 is detected. Both Telnet Mode and Disconnect with EOT must be enabled for Disconnect with EOT to function properly. Ctrl+D is only detected going from the serial port to the network. Default setting is No.
Inactivity Timeout	Use this parameter to set an inactivity timeout. The unit drops the connection if there is no activity on the serial line before the set time expires. Enter time in the format mm:ss, where m is the number of minutes and s is the number of seconds. To disable the inactivity timeout, enter 00:00 .

- When you are finished, click the **OK** button.
- On the main menu, click **Apply Settings**.

1.8.3 Connection Settings - UDP

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

To configure a channel's UDP settings:

1. On the main menu, click **Connection**. The Connection Settings window for the selected channel displays.
2. In the available fields, enter or modify the following information:

Network
Server
Serial Tunnel
Hostlist
Channel 1
Serial Settings
Connection
Email
Trigger 1
Trigger 2
Trigger 3
Configurable Pins
Apply Settings
Apply Defaults
Help

Connection Settings

Channel 1

Connect Protocol

Protocol: UDP

Datagram Mode:

Datagram Type: 00 Accept Incoming: Yes

Endpoint Configuration:

Local Port: 10001 Remote Port: 0

Remote Host: 0.0.0.0 ☐ Use Broadcast

Device Address Table:

No.	Dev Addr	No.	Dev Addr	No.	Dev Addr	No.	Dev Addr
0	0	1	0	2	0	3	0
4	0	5	0	6	0	7	0
8	0	9	0	10	112	11	97
12	115	13	115	14	119	15	111

OK

Connect Protocol

Protocol	Select UDP from the drop-down menu.
-----------------	-------------------------------------

Datagram Mode

Datagram Type	Configures the remote IP or network broadcast address and the remote port. Enter 01 for directed or broadcast UDP.
Accept Incoming	Select Yes to accept incoming UDP datagrams.

Local Port	Enter the local port number.
Remote Port	Enter the port number of the remote device.
Remote Host	Enter the IP address of the remote device.
Use Broadcast	Select to use a UDP Broadcast
Device Address Table	<p>The table is enabled when Datagram Type is set to FD. Enter values between 1 and 255 to identify units on the local network of device servers.</p> <p><i>Note: Grid Connect supports Datagram type 01. Datagram Type FD is for OEM use.</i></p>

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings**.

1.9 Email Settings

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

The unit sends an email to multiple recipients when a specific trigger event occurs. There are three separate triggers, based on a two-byte serial string to initiate a trigger. Each trigger is independent of the others. Each condition within an individual trigger must be met before the unit will send the email.

Note: Using Configurable Pins for Email is not supported on Grid Connect products.

To configure the NET232's email settings:

1. On the main menu, select **Email**. The Email Settings window opens.

Email Settings

Server IP Address: Server Port:

Domain Name:

Unit Name:

Recipients

Recipient 1:
Email Address:

Recipient 2:
Email Address:

2. Configure the following fields:

Server IP Address	Enter the IP address of the mail server.
Server Port	Enter the port number on the email server.
Domain Name	Enter the email server's domain name.
Unit Name	Enter the user name used by the XPort to send email messages.

Recipients

Recipient 1: Email Address	Enter the email address designated to receive email notifications
Recipient 2: Email Address	Enter an additional email address designated to receive email notifications.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings**.

1.9.1 Trigger Configuration

Note: Menu items may be different depending on the firmware installed in your device. Help button may not appear in later versions.

To configure the email trigger settings:

1. On the main menu, click **Trigger 1**, **Trigger 2**, or **Trigger 3** to configure the desired trigger settings. The **Email Trigger Settings** page opens.

Email Trigger Settings

Trigger 1

Conditions

Configurable Pins

Trigger Input 1:

Trigger Input 2:

Trigger Input 3:

Serial Trigger

☐ Enable Serial Trigger Input

Channel:

Data Size:

Match Data: (in Hex)

Message Properties

Message:

Priority:

Min. Notification Interval: (secs)

Re-notification Interval: (secs)

Note: Do NOT change any of the Configurable Pins settings.

2. Configure or modify the following fields:

Conditions

Configurable Pins	Not used on Grid Connect Products. Leave set to None.
Enable Serial Trigger Input	Enabling this option causes specified serial communications to count as a trigger input.
Channel	Select the channel prompting the trigger. For the XPort, there is only one channel.
Data Size	Select the data size prompting the trigger.
Match Data	Enter the data, which, when it appears in the communication stream, prompts a trigger.

Note: All of the conditions must match for the XPort to send an email notification.

Message Properties

Message	The subject line of the trigger event email to the specified recipient(s).
Priority	The priority level for the email.
Notification Interval	The minimum time allowed between individual triggers. If a trigger event occurs within the minimum interval since the last trigger, it is ignored.
Re-notification Interval	Indicates the time interval in which a new email message is sent to the recipient(s) when a single trigger event remains active.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings**.

1.10 Configurable Pin Settings

There are three configurable hardware pins on the XPort unit. For each pin, configure the pin function, communication direction, and activity level.

Note: On the NET232, CP0 should only be set to Clear To Send (CTS) or the default setting.. CP1 is not used. CP2 should only be set to Ready To Send (RTS), Data Terminal Ready (DTR) or the default setting.

Note: Some products require specific settings to operate properly. See the product manual for details.

To configure a device server Configurable Pins:

1. On the main menu, click **Configurable Pins**. The Configurable Pins page opens.

CP	Function	Direction	Active Level
0	General Purpose I/O	<input checked="" type="radio"/> Input <input type="radio"/> Output	<input checked="" type="radio"/> Low <input type="radio"/> High
1	General Purpose I/O	<input checked="" type="radio"/> Input <input type="radio"/> Output	<input checked="" type="radio"/> Low <input type="radio"/> High
2	General Purpose I/O	<input checked="" type="radio"/> Input <input type="radio"/> Output	<input checked="" type="radio"/> Low <input type="radio"/> High

OK

2. Configure or modify the following fields for each pin:

Function	From the drop-down menu, select the purpose of the specified pin. See Configurable Pin Functions for a description of each available function.
Direction	Select whether the pin is an Input or an Output. Automatically set for RTS and CTS
Active Level	Select the signal active level (Low or High) Automatically set for RTS and CTS

Configurable Pin Functions

General Purpose I/O	Monitors input using the 77F0 port or controls output by the 77F0 port. Not used on some Grid Connect products.
Modem Ctrl In (DTR)	Allows for control of the connection (and disconnection) of channel 1. Not used on some Grid Connect products. (CP2 only)
Modem Ctrl Out (DCD)	Indicates a connection is established on channel 1. (CP1 only) Not used on some Grid Connect products (CP1 only)
Status LED 1 Status LED 3	Not used on some Grid Connect products.
Link Status	Not used on some Grid Connect products. Link status is shown on the Ethernet RJ45 jack.
HW Flow Control In (RTS)	Allows for flow control on the connection with hardware handshaking. (CP2 only)
HW Flow Control Out (CTS)	Allows for flow control on the connection with hardware handshaking. (CP0 only)
RS485 Tx Enable	Used for NET485 products. See user manual for details.

3. When you are finished, click the **OK** button.
4. On the main menu, click **Apply Settings**.

1.11 Apply Settings

1. To save and apply the configuration changes to the device server, click the **Apply Settings** button.

*Note: Clicking **OK** on each page does not change the configuration on the device. **OK** tells the unit what changes to use; **Apply Settings** makes the changes permanent and reboots the unit.*

2. Click **Yes** to set factory settings or click **No** to cancel.

1.12 Apply Factory Defaults

Click the **Apply Factory Defaults** button to set the device server back to the default settings.

1.13 Telnet

You can also configure a device by text-based configuration over Telnet. Select a device in the List and click the Telnet Configuration tab. A dialog box will prompt for the IP address and port number.

The Port defaults to whatever port the particular device model uses for accessing its configuration interface, though it may be changed to any other port that may be supported on the device. Click **Connect** to proceed.

A Telnet window will appear, using the default telnet program of the operating system. Follow the instructions that appear in the window. You have only a few seconds to respond to the instructions or the window will close.

For detailed information about the menu selections, refer to the hardware user manual. Each hardware product has a specific hardware manual that covers installation, operation, and configuration.

2. File Menu

2.1 Opening the Device List

To open a previously stored list of devices:

From the File menu, click **Open**. The Open window displays.

Find the location of the stored device file list (in text format). Highlight the filename and press **Open**. The list of stored devices displays in the DeviceInstaller window.

To close the list, select **New** from the File menu.

2.2 Saving the Device List

The list of devices may be saved as a text file and restored for later use. The following information is stored:

- Device Name
- Group
- Comments
- IP Address for the device

Note: *The configuration of the devices in the list is not stored when saving the device list.*

To save the list of devices:

From the File menu, select **Save As**. The Save As screen displays in a new window.

Locate the directory in which the device list text file will be saved.

The default name of the file is Devices1. To rename the file, clear the **File name** field and enter another filename.

Click **Save**.

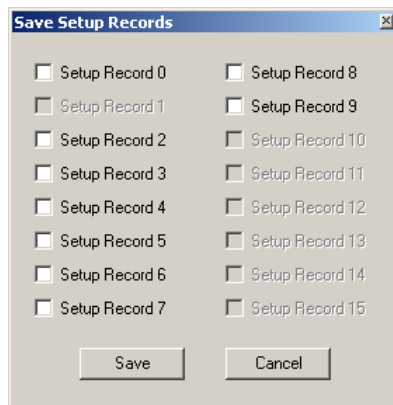
2.3 Save Setup Records

Setup records contain the setup configuration options selected in the menus displayed in the web manager. You can save the setup records for updating sections of flash memory at a later time. You can install previously saved setup records to upgrade the device.

To Save setup records:

On the device list, select the device.

On the File menu, select Save Setup Records. The Save Setup Records window displays.



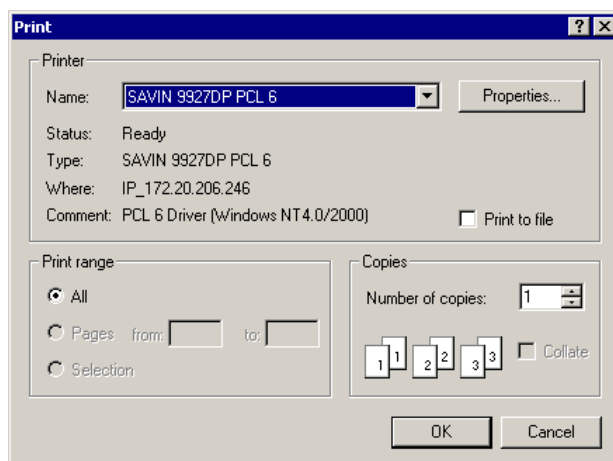
Select as many records as desired and click Save. The Save As window displays. Some setup records are unavailable.

Save the setup record and name it as desired. (You must save the records one at a time.)

To install setup records, see the Upgrade information on page 5-30.

2.4 Printing

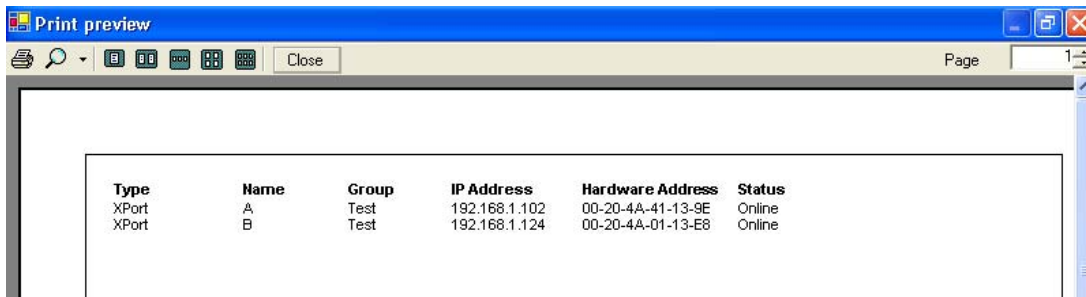
To print out the list of devices, select the Print command from the File menu. A dialog box will appear prompting for selection of a printer.



Click OK to print the list of devices.

2.4.1 Print Preview

A preview of the printed list may be viewed using the Print Preview command. From the File menu, click Print Preview and a window will be displayed.



The scrollbars may be used to scroll through the page to see its entirety. The Toolbar buttons may be used to adjust the size and layout of the preview.

Click the Print button to print the pages.

Click the Zoom button to change the zoom factor.

Click any of the five Page Layout buttons to view multiple pages at the same time.

Click the Close button to close the Print Preview window.

In the event there are multiple pages, you can specify which page to view by adjusting the Page edit box on the right side of the toolbar.

3. Edit Menu

The edit menu allows you to Delete, Select All, or Clear Selection. You can click on an item to select it and click the DEL key to delete it.

4. View Menu

4.1 View

Device Installer can show devices in the form of a table or as icons. To change the view mode, go to the View menu and select either Icons or Details.

When the List is in Details mode, items can be sorted by particular columns, in ascending or descending order. To sort the list, click on the column that is to be sorted. The first time you click on a column, it will sort in ascending order. To sort in descending order, click on the same column again.

Devices within the List may be selected individually or along with other devices. To select a single device, just click on it. To select a consecutive group of devices, click on the first device, then hold down the Shift key and click on the last device of the group. To select or deselect other devices as part of a multiple selection, hold down the Control key and click on a device.

You may also select multiple devices by clicking and dragging on the background of the List to form a fencing rectangle. Once you release the mouse, all devices overlapping the rectangle become selected.

To select all devices in the list, choose the Select All command from the Edit menu.

To deselect all devices, click on the background of the list.

When multiple devices are selected at the same time, some options may be limited.

4.2 Device Node Text

Below each device in the table is an icon of a node. The information for each device node can be shown with the hardware address, the IP address or the Name.

4.3 Expand or Collapse List

All items in the list can be expanded or collapsed by a selection in the View menu.


4.4 Setup Record File

Allows you to view setup records previously saved with the File command.

5. Device Menu

5.1 Search

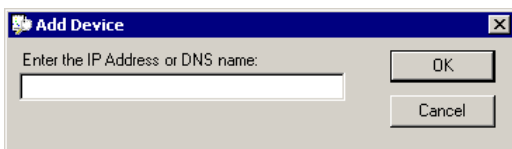
The Search tool finds all devices within the local area network and adds them to the device list. If the devices you are using are within the same local area network as your PC (within the same subnet), use the Search command.

To search for devices, click the **Search** icon  or select **Search F5** from the Device menu. It may take several seconds to find all of the devices.

5.2 Add Device

As an alternative to the Search tool, you can add devices manually to the list. Device must have an IP address already assigned. This feature works well when you have several devices on a network.

To add a device, select the **Add Device F6** command from the Device menu. A dialog box will prompt for the IP address. Enter the IP address and click OK. If the device was found successfully, it will be added to the list.



5.3 Assign IP Address

See [Assign IP](#) on page 1-5.


5.4 Upgrade

The firmware of a device (the software running on the device that defines its behavior) may be changed. The files stored on the device (in Flash) may also be changed.

Typical reasons for changing the firmware or files are for using newer functionality that the manufacturer may make available since the device was manufactured. Custom applications may also use specific firmware or files.

The file system is similar in function to that of a PC, but is divided into several partitions to accommodate the layout of the flash memory. The number of partitions varies depending on the device model. Each partition is 64K in size and includes both file content and directory entries.

Files may be transferred to a device in one of two ways: either by copying a directory over from the PC or by copying pre-formed partitions. These pre-formed partitions are commonly stored in a file format with an extension of “.COB”. The COB file is a proprietary format, and is similar in concept to a zip file.

To start the Upgrade process, select Upgrade from the Device menu or click the Upgrade  button on the toolbar. Follow the wizard instructions to install firmware, applications, web pages, setup records and other configuration settings.

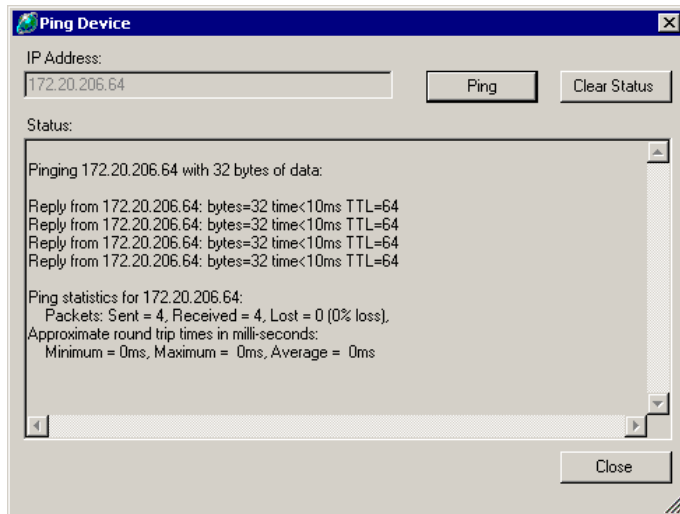
5.5 Exclude Devices

The Product Information Base file contains information about all supported devices. You can limit your search for devices by excluding devices from the search list. There is a toolbar button marked “Exclude” or you can select **Exclude Devices From Search Results** from the Device menu. Use the arrow buttons to move items from the Included Devices panel to the Excluded Devices panel.

6. Tools Menu

6.1 Ping

To detect if a device is online and the network is functional, use the **Ping F4** command in the Tools menu.



Enter the IP address of the device you are trying to reach and click the Ping button.

Within several seconds, the Status area will display the results of the ping.

Click Clear Status to clear the display.

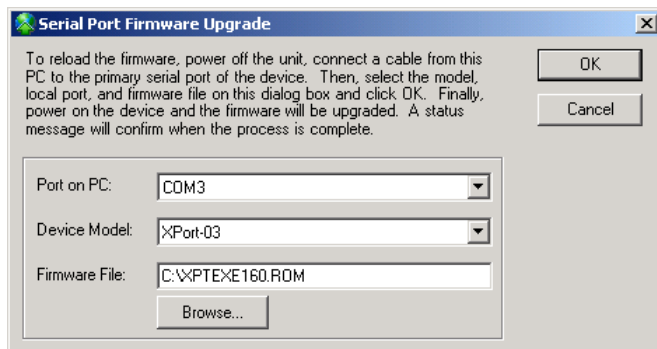
Click Close when you are done, to close the dialog box.

6.2 Recovering Firmware

In the event that a device is no longer operational, due to corruption or accidental replacement of the firmware, the firmware may be restored by using a serial port connection from the PC to the device.

To recover firmware, connect a serial cable from the PC to the device, taking note which port is used on the PC.

From the **Tools** menu, select **Advanced** then choose the **Recover Firmware F8** command. The Serial Port Firmware Upgrade dialog box will appear.



In the **Port on PC** field, select the port on the PC.

In the **Device Model** field, select the particular model of the device.

Note: Supported devices are XP485, XPort-03 and WiPort.

For the **Firmware File** field, click the Browse button to select the appropriate firmware ROM file.

Click OK to proceed with the firmware recovery.

6.3 Choosing the Network Adapter for Communication

By default, the primary adapter used by Windows is the network adapter used for communication with devices on the network. To select a different adapter:

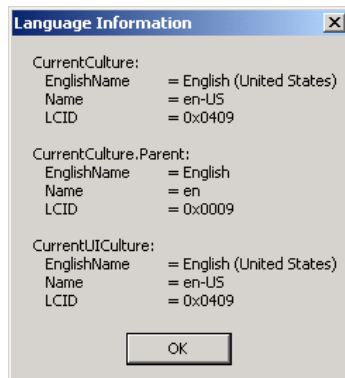
From the Tools menu, click **Options**. The Options window opens, displaying the list of available adapters.

Select the adapter by clicking its checkbox.

Click **Apply** then **OK** to exit.

6.4 Language

Each device server is loaded with firmware that is language specific. To view the language settings, select Language from the Tools menu.



6.5 Supported Device Servers

Select this option to display a list of supported device servers. For example, the NET232 uses an XPort-03, which uses Firmware type X5, has 1 port and is in the XPort category.

6.6 Product Information Base

Select this option to display the Product Information Base Viewer.

7. Help

7.1 Help

Press the F1 key to invoke Help or go to the Help menu and click on **Contents**.

7.2 Release Notes

The latest release notes for Device Installer can be found by going to the Help menu and selecting Release Notes.

7.3 Lantronix Support Website

A direct link to the Lantronix Support Web page.

7.4 About

The About option will display the software information box. Note the Version number of the package for future reference.