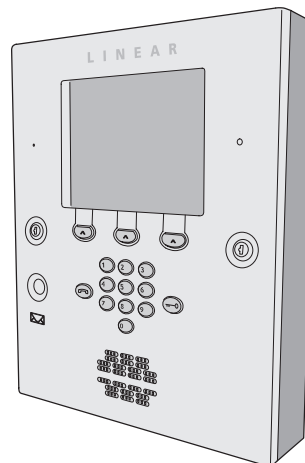
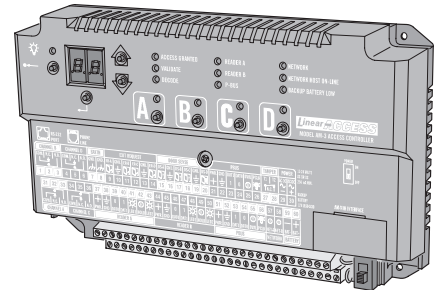
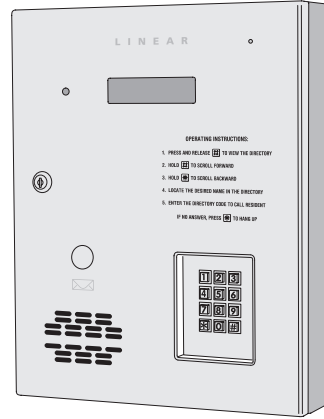


AXNET

Access Controller Browser Interface & PC Utility Software

Installation and User's Guide



Compatible with
Access Controllers:
AM3Plus
AE1000Plus
AE2000Plus

Linear®

(760) 438-7000

USA & Canada (800) 421-1587 & (800) 392-0123

Toll Free FAX (800) 468-1340

www.linearcorp.com

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1 Introduction

These instructions support Linear's AXNET Access Controller Browser Interface & PC Utility Software.

This manual contains instructions for configuring the access controllers for AXNET mode of operation, configuring the host PC for AXNET browser access, and installation instructions for the AXNET PC Utility Software.

General operating procedures for new features provided by AXNET are also covered in this manual.

2 System Requirements

This version of AXNET is designed to run with recent versions of Microsoft Windows and Internet Explorer.

AXNET has been tested on:

- Windows 2000 using Internet Explorer 6
- Windows XP using Internet Explorer 6 and Internet Explorer 7, as well as FireFox V2.0

AXNET requires a minimum of Microsoft Internet Explorer V5.5 to operate with Microsoft .NET version 1.1 and Java Runtime.

Compatibility with earlier versions of Windows and Internet Explorer is not guaranteed.

Minimum Hardware Requirements

- Intel / AMD 32-bit processor, minimum 300 MHz clock
- 128 MB RAM
- 300 MB free disk space
- 800 x 600 SVGA video minimum
- CD-ROM drive for software installation
- 9600 baud modem or greater; 33600 baud modem recommended for optimum performance
- Free RS-232 serial port if direct serial connection is desired

Additional Software Requirements

- Microsoft .NET framework version 1.1
For further details, go to:

http://msdn.microsoft.com/netframework/downloads/framework1_1/#section1

- Java Runtime Environment version 5.0
For further details go to:

<http://java.com/en/download/index.jsp>

3 Summary of AXNET Features

AXNET provides the capability to manage access controllers from any PC that has a modem or a direct serial connection to the master controller. The tenant database resides within the controllers, eliminating the need for the PC to host the database. Controllers running AXNET can be managed by first completing a dial-up Internet connection to the master controller, and then launching an Internet browser.

AXNET-based installations can be configured for a variety of network configurations, and once changes have been made on the master controller, the master controller will automatically propagate changes to the other controllers via the RS-485 connection or by automatically dialing remote controllers through the modem.

The following are the salient features of AXNET:

Maximum number of controllers	4
Maximum number of host connection points (modem or direct)	4
Maximum number of PBUS peripherals (four per node)	16
Maximum number of doors (relays)	16
Maximum number of cardholders (four Validation Groups per cardholder)	2000
Maximum number of card credentials	1600/block 2000 individual
Maximum number of card blocks (includes facility code)	24
Maximum number of transmitter credentials	1600/block 2000 individual
Maximum number of transmitter blocks (includes facility code)	24
Maximum number of key codes (fixed length)	2000
Maximum number of directory codes (fixed number - fixed length)	2000
Maximum number of split directories	4
Maximum number of time zones (two periods per zone)	8
Maximum number of door schedules	8
Maximum number of validation groups	8
Maximum number of expiring holidays	10
Maximum number of non-expiring holidays	10
Maximum number of event log entries (per node)	2500
Maximum number of obstacle transmitters (per node)	2
Maximum number of operators	4
Individually enrolled cards	2000
Individually enrolled transmitters	2000
Supports expiring credentials	Yes
Anti-passback (node basis only - lost on resets)	Timed
Keypad "Strikes and Out"	Yes
Relay modes supported (control, shunt, alarm, obstacle)	Yes
Door ajar timing (global only)	Yes
Door auto open/close (two Time Zones per relay)	Yes
Supported Wiegand formats (Wiegand 26, 30, 31)	Yes
Operator security levels (Operator, Supervisor, Administrator)	Future Option
Button schedule (global only)	Yes
System and cardholder reports	Yes

4 Access Controller Setup for AXNET Mode of Operation

- 4.1 By default, the access controllers will be configured for AccessBase mode of operation. This can be verified by examining the two-digit LED display on the front panel of the AM3Plus or the PCB assembly on the AE1000Plus and AE2000Plus. The display will sequence as follows on power-up.

A b 2.5 ' 1

- 4.2 To switch to AXNET mode of operation, press the UP and DOWN buttons simultaneously for about 1 second, until a beep is heard. The following will be displayed:

0.1.

- 4.3 Press the UP button to cycle through the display until *A.n.* is displayed.

The following shows the display sequence until *A.n.* is displayed.

*0.1. → 0.2. → 0.3. → 0.4. → 0.5. →
0.6. → 0.7. → 0.8. → A.n.*

Press the ENTER button to select the AXNET mode of operation.

- 4.4 A series of digits will flash and *CL* will flash rapidly for a few seconds indicating that the AXNET database is being initialized. The display will finally sequence as follows, indicating AXNET mode of operation:

A n → 1.0 → ' 1

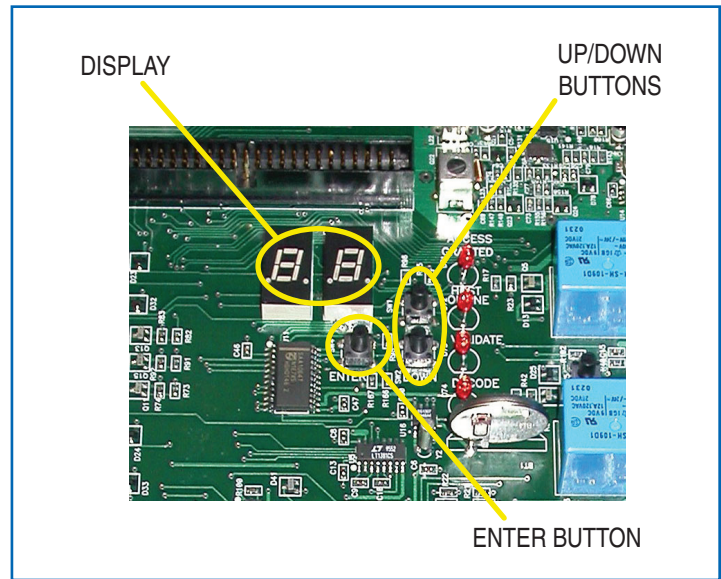


Figure 1 - AE1000Plus/AE2000Plus Display and Buttons

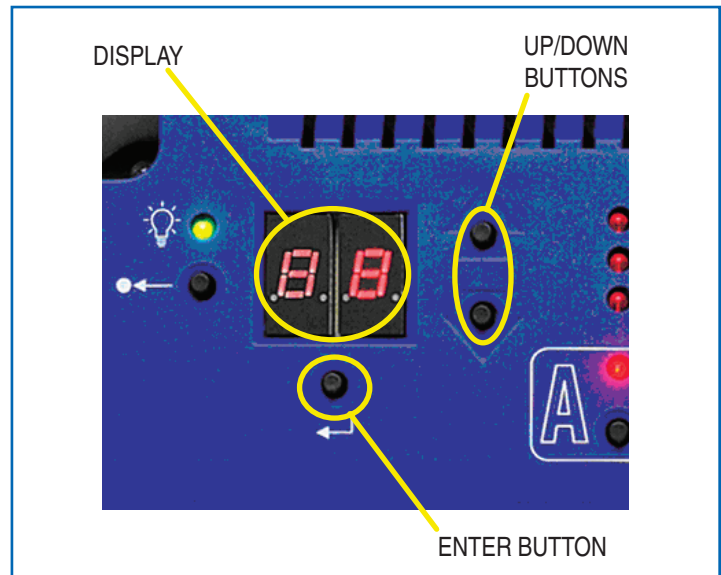
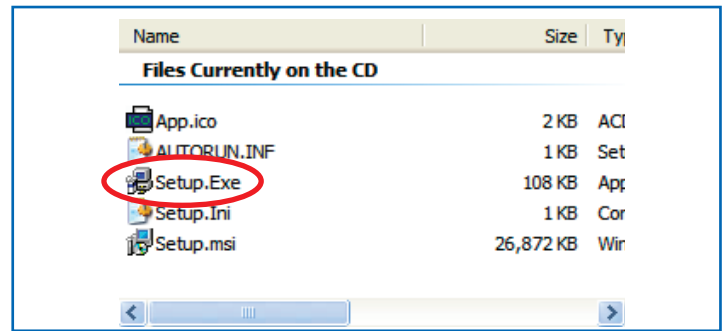


Figure 2 - AM3Plus Display and Buttons

5 Installing the AXNET PC Utility Software

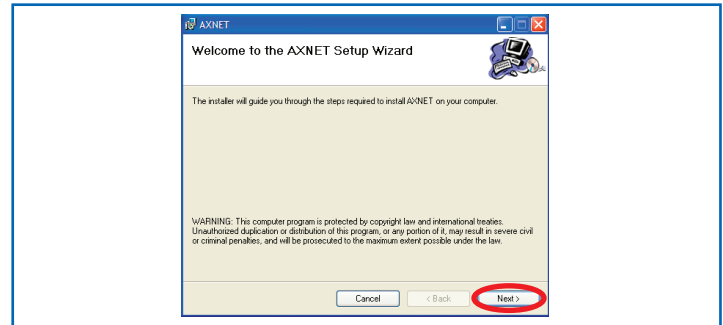
The following instructions are for installing the AXNET PC Utility Software.

- 5.1 Upon insertion of the Installation CD, the installation program will automatically run, and then the dialog in Section 5.2 will be displayed. If the installation program does not automatically run, open the CD using Windows Explorer, and then double-click on Setup.Exe.



Screen Shot 5.1

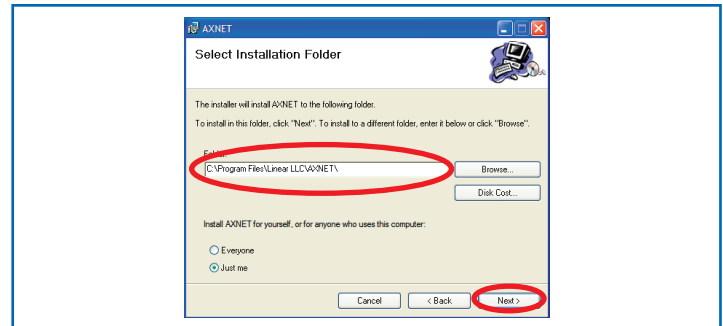
- 5.2 Click on the “Next” button to continue.



Screen Shot 5.2

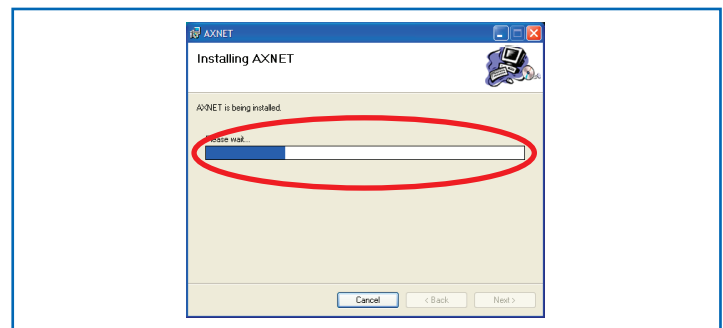
- 5.3 Click on the “Next” button to accept the default installation path and continue, or enter a new path where AXNET is to be installed, then click on the “Next” button to continue.

- 5.4 Confirm installation by clicking on the “Next” button.



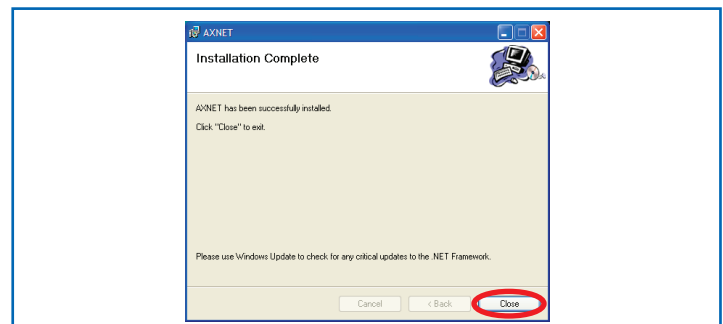
Screen Shot 5.3

- 5.5 The installation progress bar will be displayed as shown.



Screen Shot 5.5

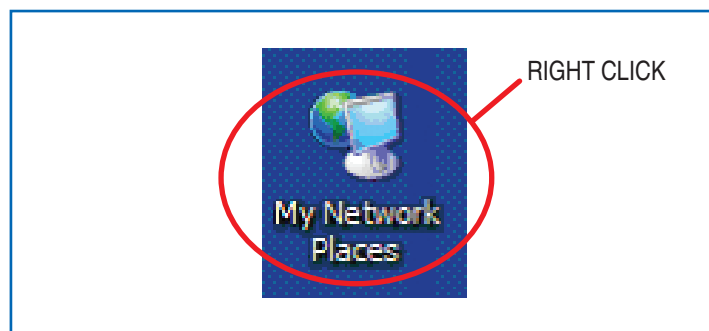
- 5.6 Click on the “Close” button to finish the installation.



Screen Shot 5.6

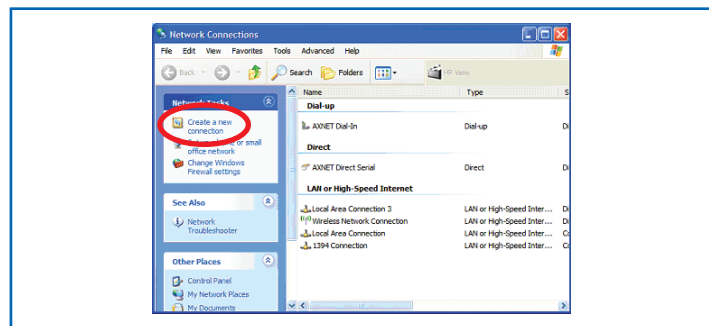
6 Configuring a Windows XP Direct Serial PPP Connection for AXNET

- 6.1 To set up a connection between a PC and an AXNET-enabled access controller, a PPP connection must be established. To configure a PPP connection on a Windows XP, first right-click on the “My Network Places” icon, and click on Properties menu item.



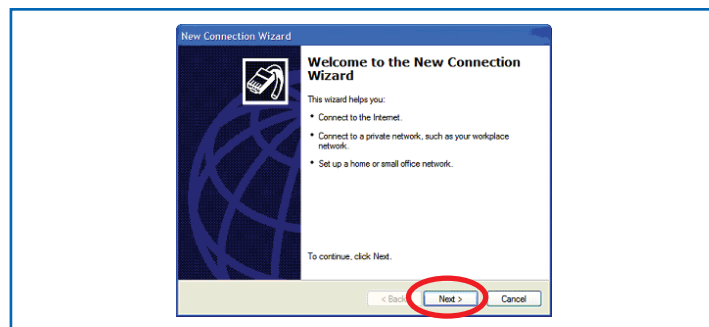
Screen Shot 6.1

- 6.2 The Networks Connection window will be displayed. Click on the “Create a new connection” menu item on the left.



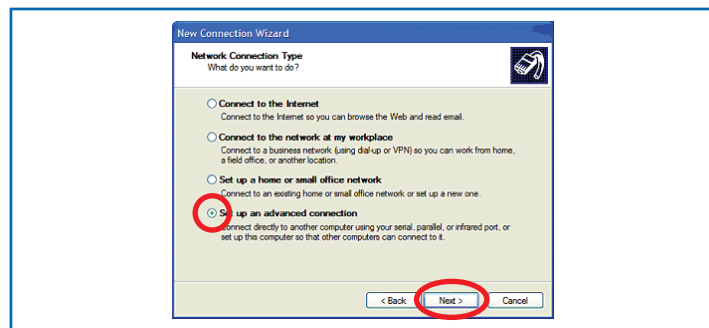
Screen Shot 6.2

- 6.3 A “New Connection Wizard” will be displayed. Click on the “Next” button.



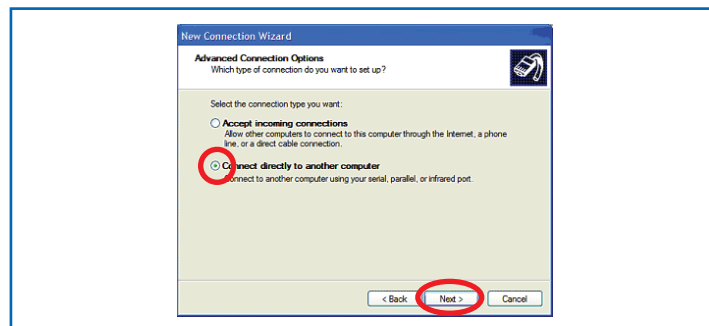
Screen Shot 6.3

- 6.4 A “Network Connection Type” window will be displayed. Click on the “Set up an advanced connection” radio button, then click on the “Next” button.



Screen Shot 6.4

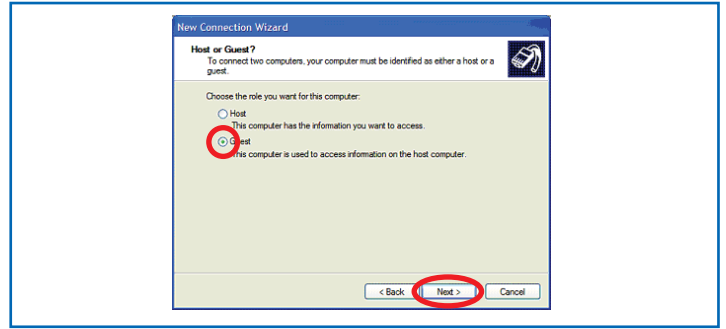
- 6.5 Click on the “Connect directly to another computer” radio button, then click on the “Next” button.



Screen Shot 6.5

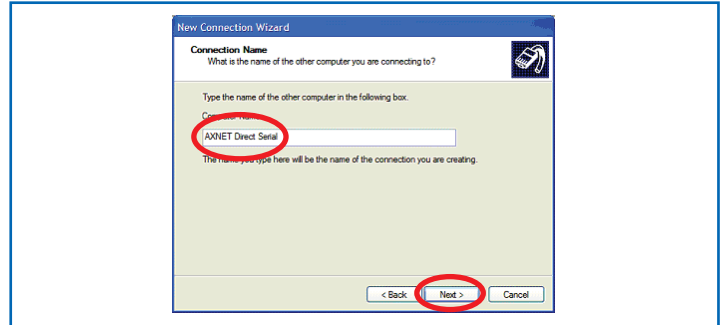
Configuring a Windows XP Direct Serial PPP Connection for AXNET (Continued)

6.6 Click on the "Guest" radio button, then click on the "Next" button.



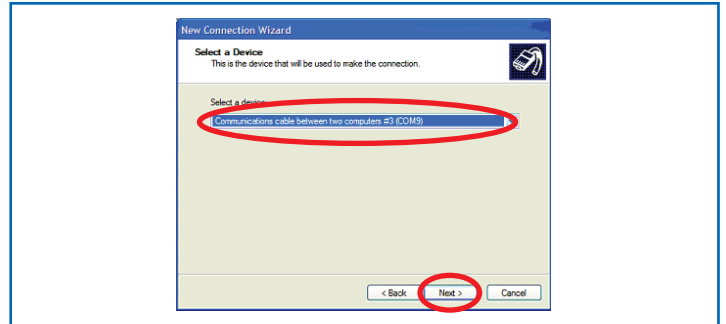
Screen Shot 6.6

6.7 Type in a name to identify this direct serial connection, and then press the "Next" button.



Screen Shot 6.7

6.8 Select the serial port that the AXNET controller is connected to using the pull-down menu selection, then click on the "Next" button.

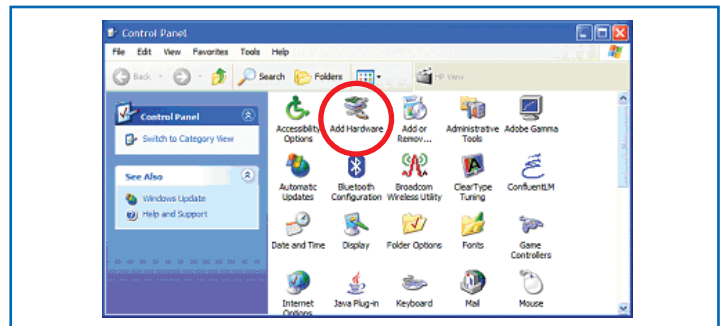


Screen Shot 6.8

6.9 If the desired serial port is not available on the pull-down, then the following procedures are necessary:

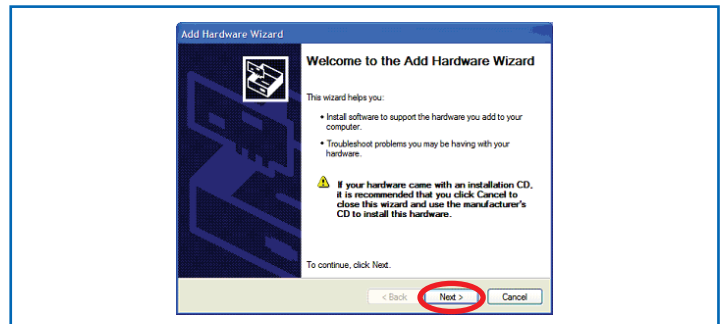
6.9.1 Cancel out of the New Connection Wizard

6.9.2 Open the Control Panel, and double-click on the "Add Hardware" icon:



Screen Shot 6.9.2

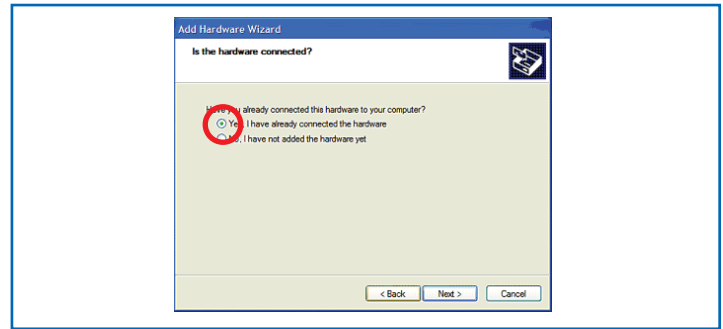
6.9.3 The Add Hardware Wizard will be started. Click on "Next" to continue.



Screen Shot 6.9.3

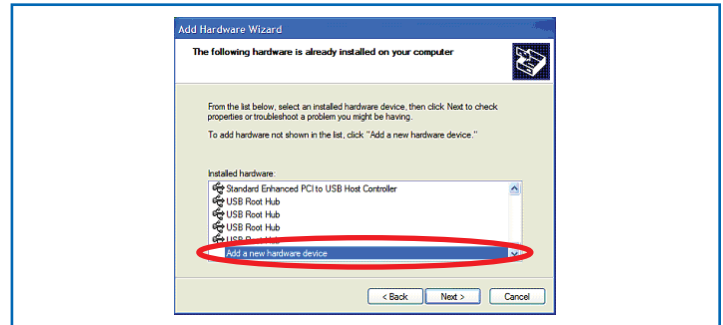
Configuring a Windows XP Direct Serial PPP Connection for AXNET (Continued)

6.9.4 The wizard will search a few moments for new hardware. Upon completion of the search, the following dialog box will open. Click on the “Yes, I have already connected the hardware” radio button, then press the “Next” button.



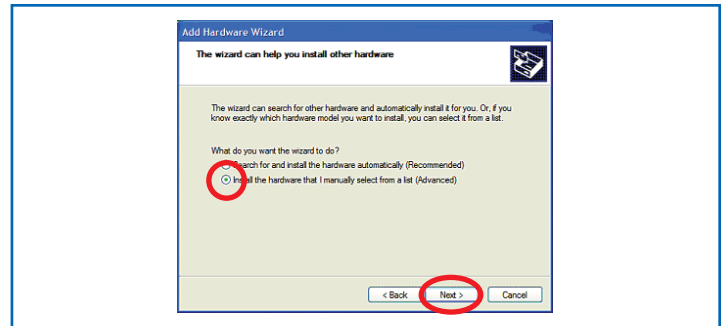
Screen Shot 6.9.4

6.9.5 Scroll down to the bottom entry, and select “Add a new hardware device”, followed by pressing the “Next” button.



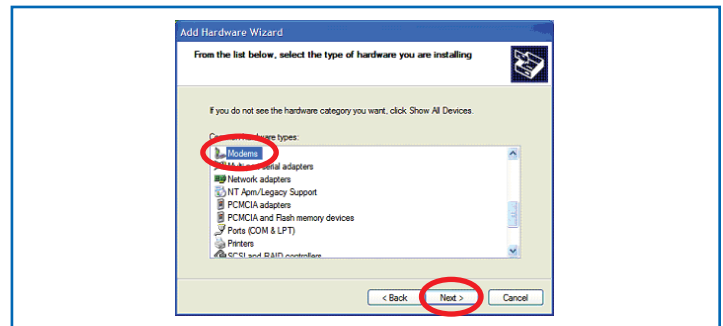
Screen Shot 6.9.5

6.9.6 Click on the “Install the hardware that I manually select from a list (Advanced)” radio button, followed by the clicking on the “Next” button.



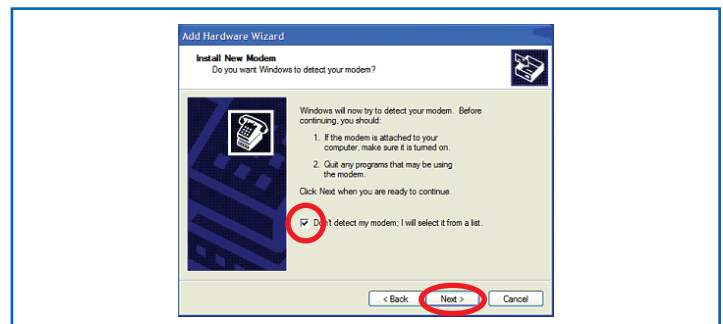
Screen Shot 6.9.6

6.9.7 Scroll down and click “Modems”, followed by the “Next” button.



Screen Shot 6.9.7

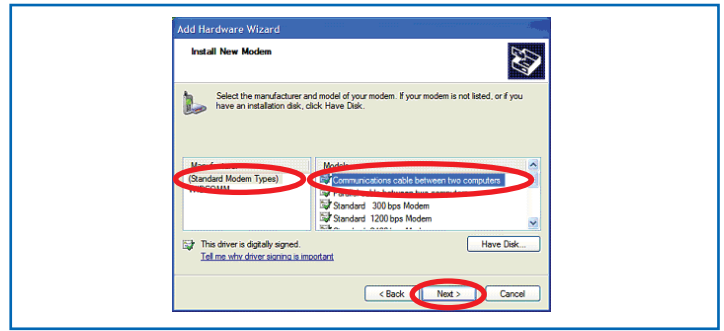
6.9.8 Check on the “Don’t detect my modem; I will select it from a list” check box, followed by the “Next” button.



Screen Shot 6.9.8

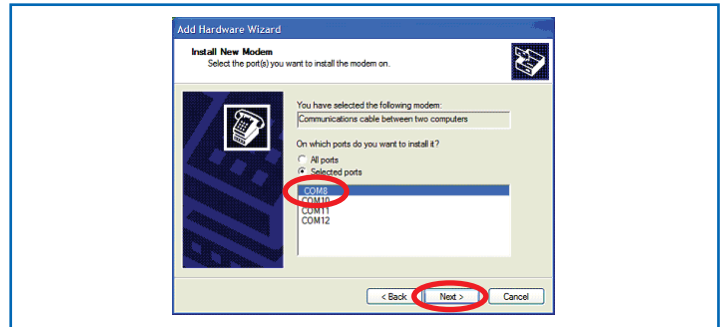
Configuring a Windows XP Direct Serial PPP Connection for AXNET (Continued)

6.9.9 For the manufacturer, click on “(Standard Modem Types)” and “Communications cable between two computers” for the model, followed by clicking on the “Next” button.



Screen Shot 6.9.9

6.9.10 Select the appropriate COM ports to enable PPP communications, and click on the “Next” button.

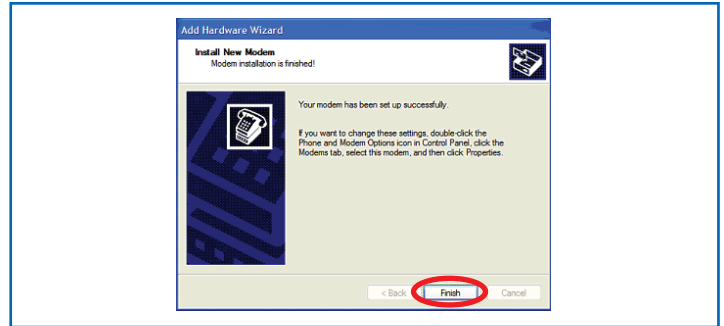


Screen Shot 6.9.10

6.9.11 The direct serial communications device should have successfully installed with the following dialog box. Click on the “Finish” button to exit.

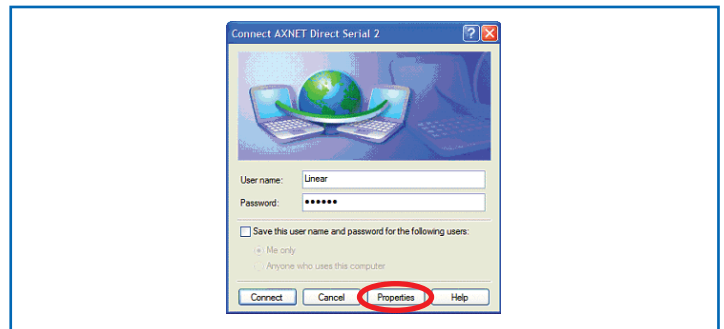
6.9.12 Go back to step 6.1 to configure a PPP direct serial connection with the device created in step 6.9.1.

6.10 Click on the “Finish” button to complete the “New Connection” wizard.



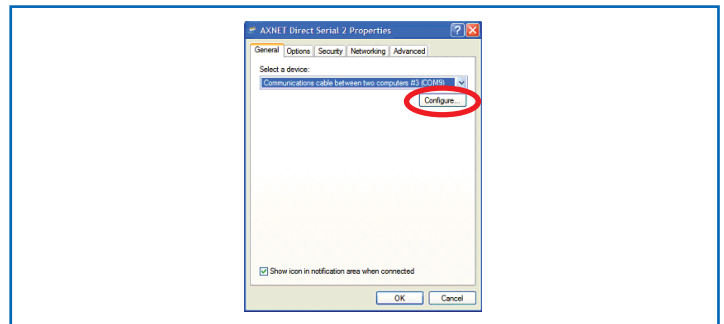
Screen Shot 6.9.11

6.11 A Direct Serial Connection pop-up will be displayed. Click on the “Properties” button to configure the serial port.



Screen Shot 6.11

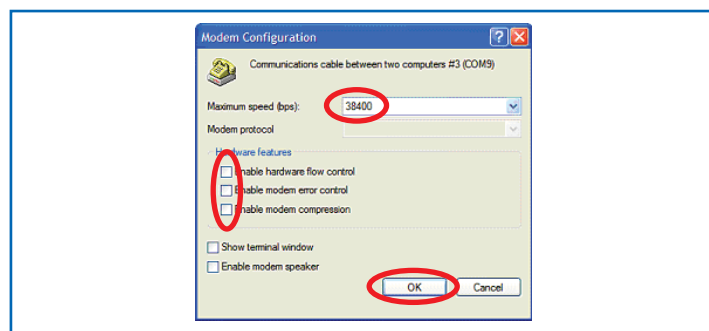
6.12 In the Properties window, click on the “Configure...” button:



Screen Shot 6.12

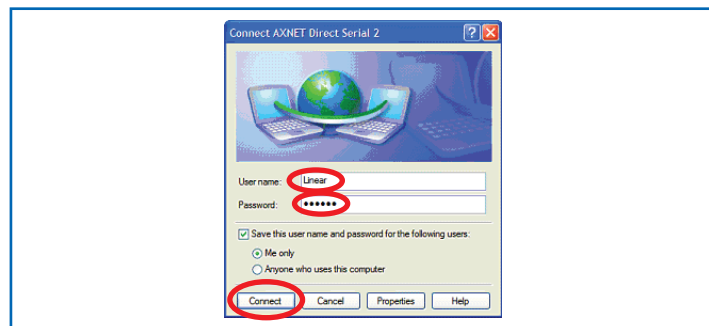
Configuring a Windows XP Direct Serial PPP Connection for AXNET (Continued)

- 6.13** Set the maximum speed to 38400 in the drop-down box, and make sure that none of the check boxes are enabled, and then click on the “OK” button.



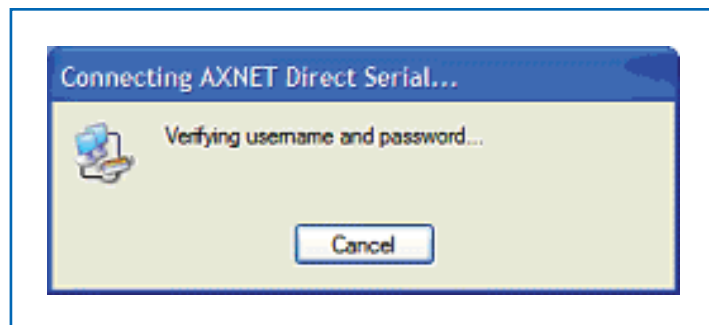
Screen Shot 6.13

- 6.14** A Direct Serial Connection pop-up will be displayed again. For a new installation, enter “Linear” as the user name, and “123456” as the password. Ensure that the access controller is connected to the PC with the serial port cable, and the unit is turned on and in the AXNET mode of operation. Click on the “Connect” button. Please note that if the user name and/or password is modified in the Operator Global Settings through the AXNET browser, the changes must be reflected in the user name and password fields as part of the PPP setup.



Screen Shot 6.14

- 6.15** If the units are connected properly, a pop-up indicating connection in process should be displayed.



Screen Shot 6.15

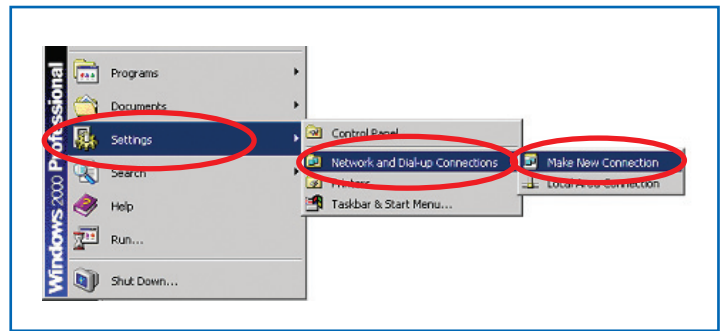
- 6.16** Upon on successful connection, “<Connection Name> is now connected” message should be displayed along with the connection icon in the taskbar.
- 6.17** Please note that there is a host connection time-out of 20 minutes. It will be necessary to re-establish a PPP connection when the time-out occurs.



Screen Shot 6.16

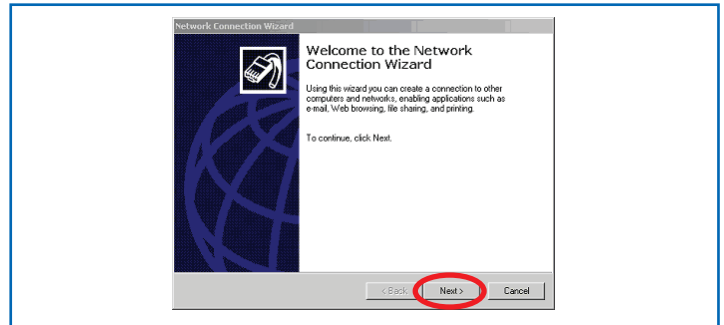
7 Configuring a Windows 2000 Direct Serial PPP Connection for AXNET

- 7.1 To set up a direct serial connection between a PC and an AXNET-enabled access controller, a direct serial connection must be defined. To configure a direct serial PPP connection on Windows 2000, click on the Start button, then select Settings -> Network and Dial-up Connections -> make New Connection



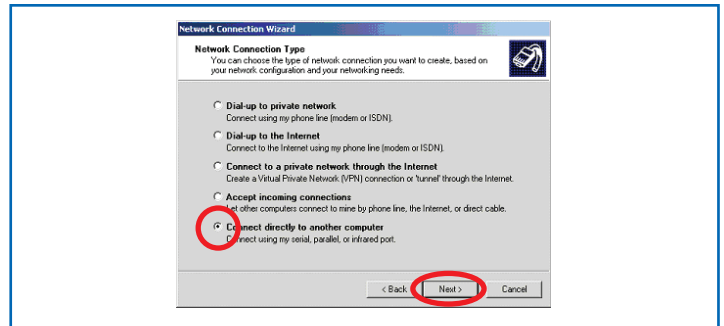
Screen Shot 7.1

- 7.2 The Network Connection Wizard will be displayed. Click on the "Next" button to continue.



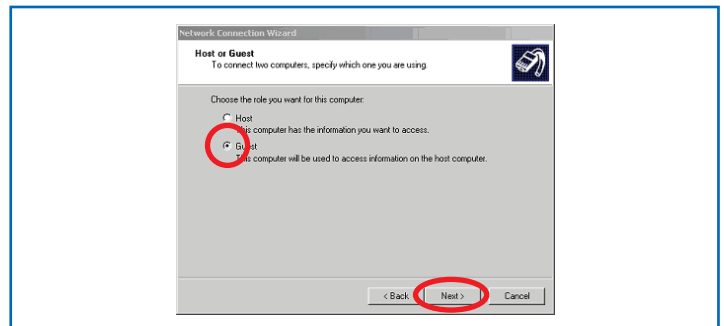
Screen Shot 7.2

- 7.3 Select the radio button to "Connect directly to another computer", and then click on the "Next" button to continue.



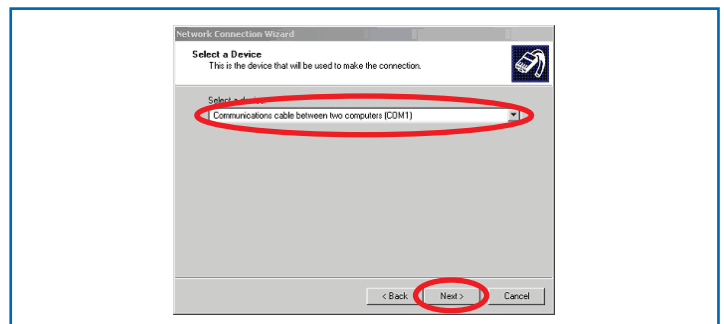
Screen Shot 7.3

- 7.4 Select the "Guest" radio button, then click on the "Next" button.



Screen Shot 7.4

- 7.5 Select the device that is connected to the appropriate COM port, then click on the "Next" button.



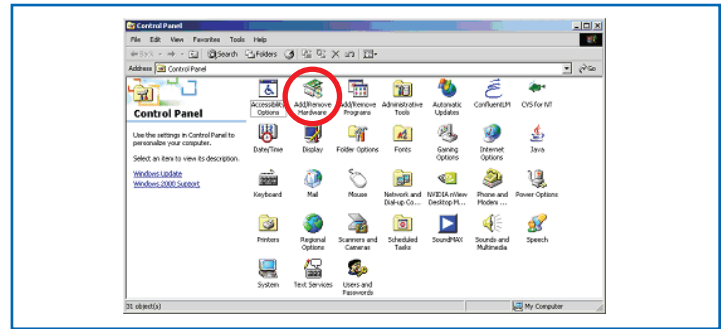
Screen Shot 7.5

Configuring a Windows 2000 Direct Serial PPP Connection for AXNET (Continued)

7.6 If the desired serial port is not available on the pull-down, then the following procedures are necessary:

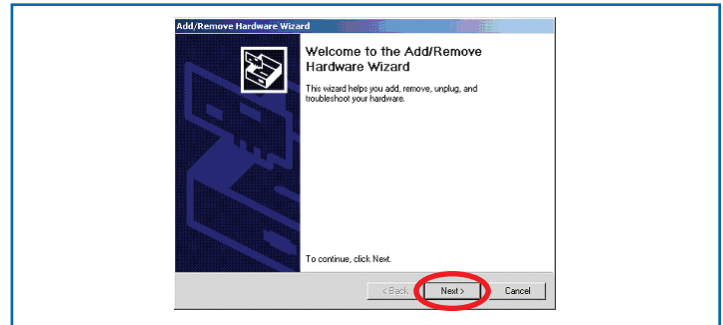
7.6.1 Cancel out of the Network Connection Wizard

7.6.2 Open the Control Panel, and double-click on the “Add/Remove Hardware” icon:



Screen Shot 7.6.2

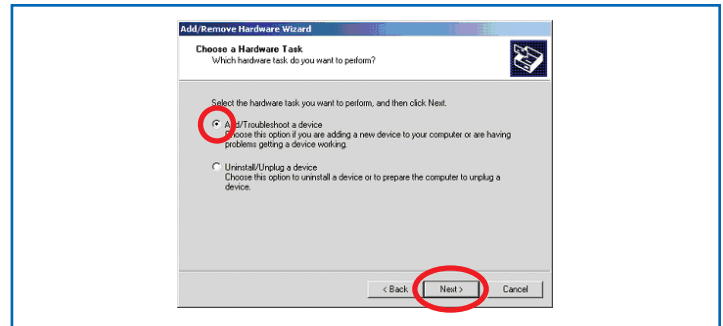
7.6.3 The Add/Remove Hardware Wizard will be started. Click on the “Next” button to continue.



Screen Shot 7.6.3

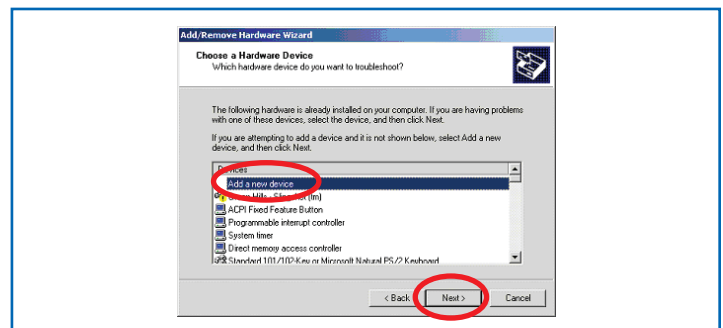
7.6.4 Select the “Add/Troubleshoot a device” radio button, and then click on the “Next” button.

7.6.5 The wizard will search a few moments for new hardware.



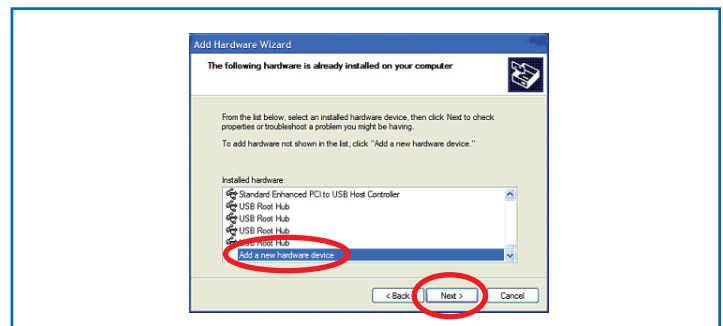
Screen Shot 7.6.4

7.6.6 Upon completion of the search, the following dialog box will open. Select “Add a new device” menu item, followed by pressing the “Next” button.



Screen Shot 7.6.6

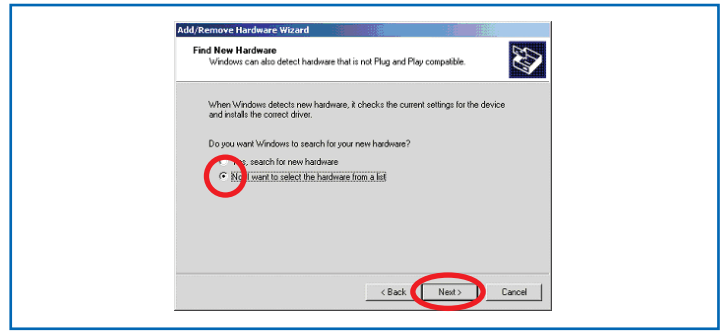
7.6.7 Scroll down to the bottom entry, and select “Add a new hardware device”, followed by pressing the “Next” button.



Screen Shot 7.6.7

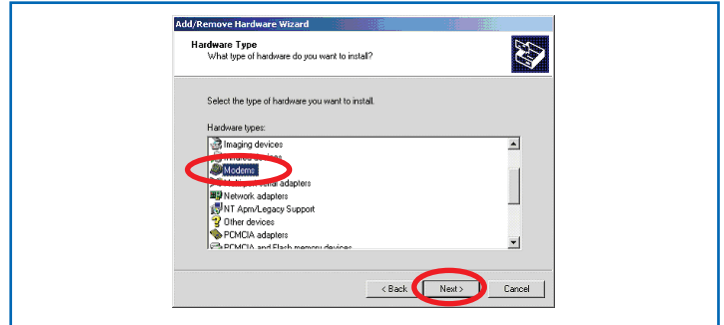
Configuring a Windows 2000 Direct Serial PPP Connection for AXNET (Continued)

- 7.6.8** Click on the “No, I want to select the hardware from a list” radio button, followed by the clicking on the “Next” button.



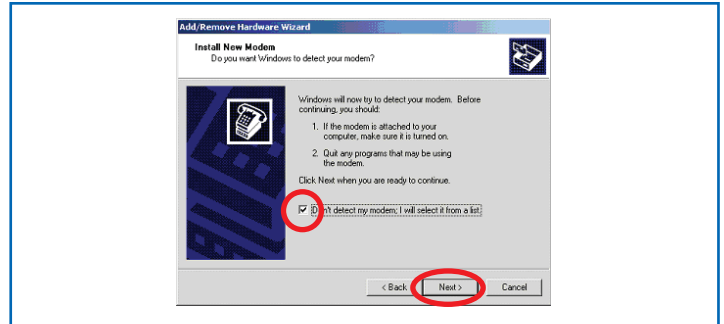
Screen Shot 7.6.8

- 7.6.9** Scroll down and click “Modems”, followed by clicking on the “Next” button.



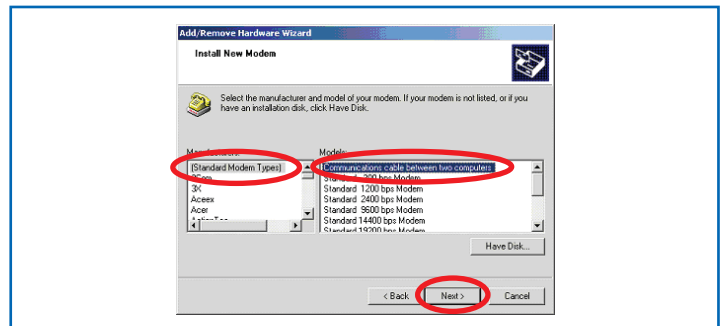
Screen Shot 7.6.9

- 7.6.10** Check on the “Don’t detect my modem; I will select it from a list” check box, followed by clicking on the “Next” button.



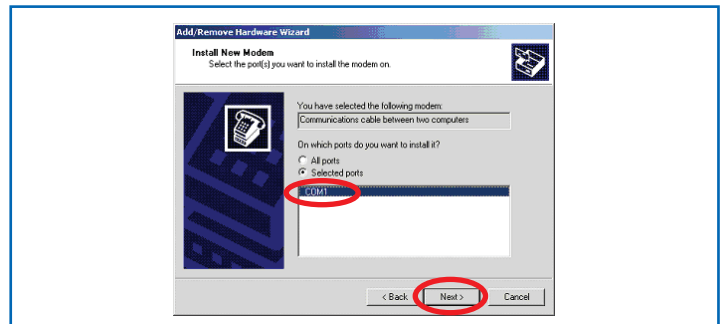
Screen Shot 7.6.10

- 7.6.11** For the manufacturer, click on “(Standard Modem Types)” and “Communications cable between two computers” for the model, followed by clicking on the “Next” button.



Screen Shot 7.6.11

- 7.6.12** Select the appropriate COM ports to enable PPP communications, and click on the “Next” button.



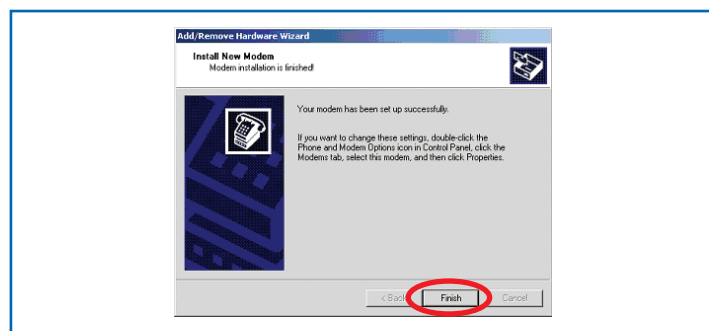
Screen Shot 7.6.12

Configuring a Windows 2000 Direct Serial PPP Connection for AXNET (Continued)

7.6.13 The direct serial communications device should have successfully installed with the dialog box shown. Click on the “Finish” button to exit.

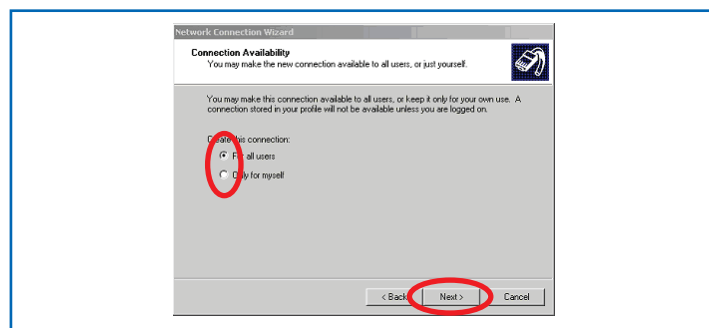
7.6.14 Go back to step 7.1 to configure a PPP direct serial connection with the device created in step 7.6.1.

7.7 Click on the “Finish” button to complete the “New Connection” wizard.



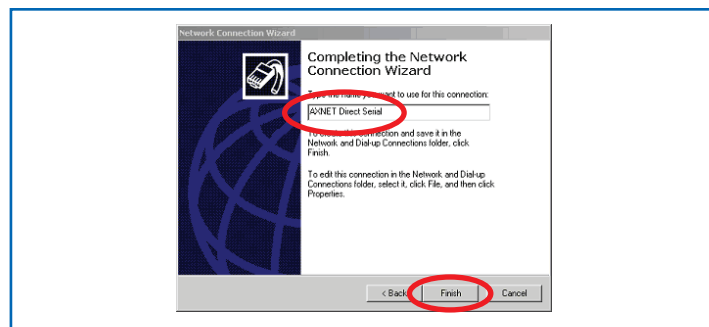
Screen Shot 7.6.13

7.8 Select the radio button appropriate for the computer setup (all users or current user), then click on the “Next” button.



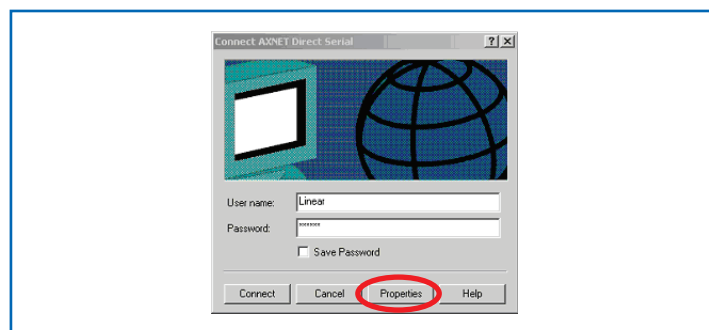
Screen Shot 7.8

7.9 Type in a name for the connection, then click on the “Finish” button.



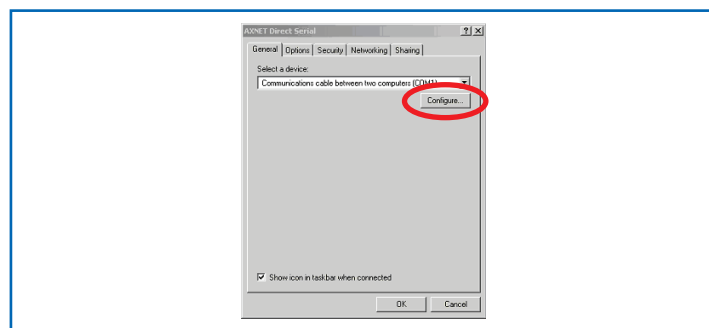
Screen Shot 7.9

7.10 The connection log-in pop-up will be displayed. Click on the “Properties” button.



Screen Shot 7.10

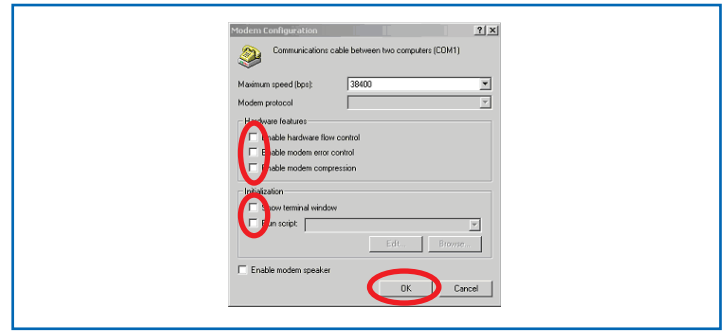
7.11 The pop-up for the connection will be displayed. Click on the “Configure...” button.



Screen Shot 7.11

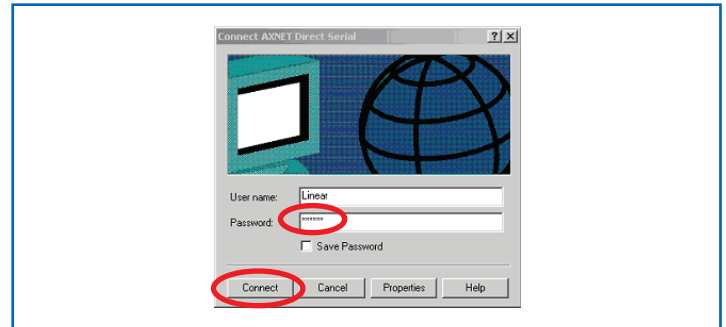
Configuring a Windows 2000 Direct Serial PPP Connection for AXNET (Continued)

7.12 Set the maximum speed to 38400 baud, and ensure that all of the check boxes are unchecked. Click on the “OK” button when complete.



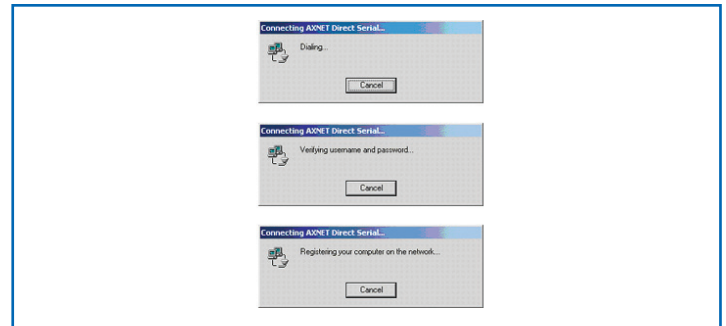
Screen Shot 7.12

7.13 The log-in pop-up will be displayed again. Enter “123456” for the password, then click on the “Connect” button to initiate a direct serial connection.



Screen Shot 7.13

7.14 Windows 2000 will initiate a direct serial connection with the progress indications shown in Screen Shot 7.14:



Screen Shot 7.14

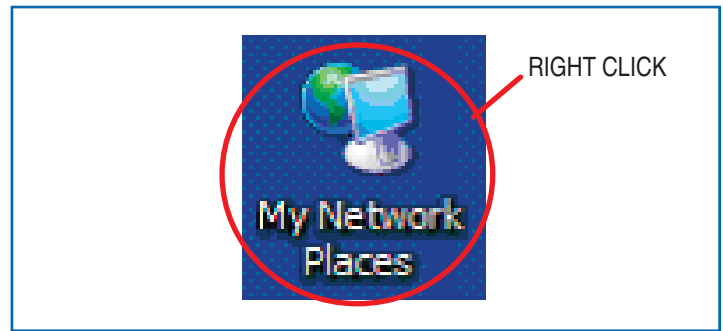
7.15 Once connected, the information shown in Screen Shot 7.15 will be displayed in the task bar:



Screen Shot 7.15

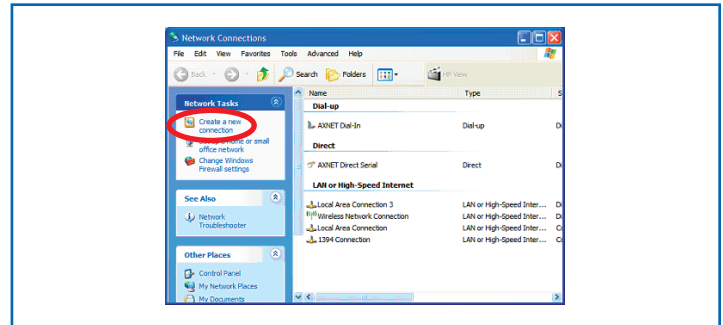
8 Configuring a Windows XP Modem PPP Connection for AXNET

- 8.1 To set up a modem connection between a PC and an AXNET-enabled access controller, modem connection must be established. To configure a modem PPP connection on a Windows XP, first right-click on the “My Network Places” icon, and click on Properties menu item.



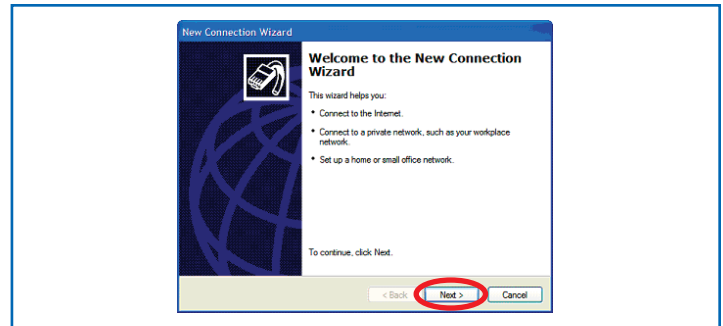
Screen Shot 8.1

- 8.2 The Networks Connection window will be displayed. Click on the “Create a new connection” menu item on the left.



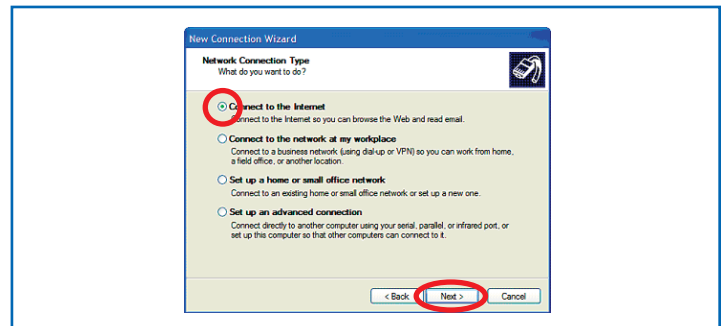
Screen Shot 8.2

- 8.3 A “New Connection Wizard” will be displayed. Click on the “Next” button.



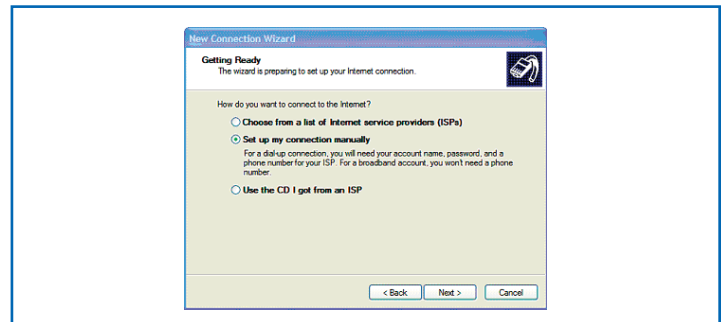
Screen Shot 8.3

- 8.4 Click on the “Connect to the Internet” radio button, and then click on the “Next” button.



Screen Shot 8.4

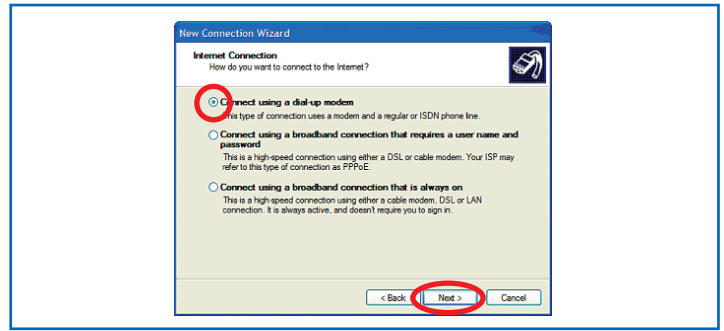
- 8.5 Click on the “Set up my connection manually” radio button, and then click on the “Next” button.



Screen Shot 8.5

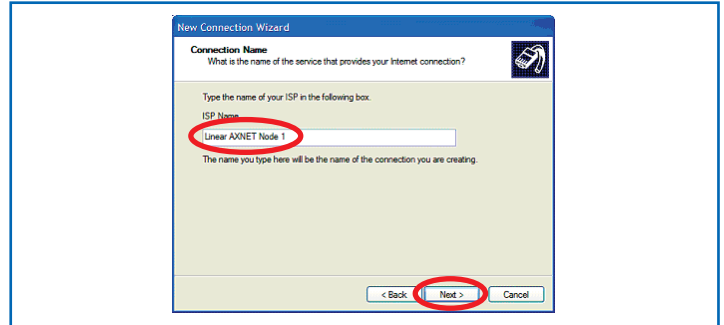
Configuring a Windows XP Modem PPP Connection for AXNET (Continued)

- 8.6 Click on the “Connect using a dial-up modem” radio button, and then click on the “Next” button.



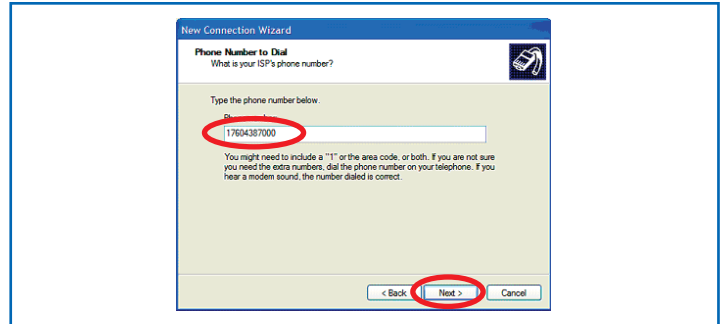
Screen Shot 8.6

- 8.7 Enter a name for this modem dial-up connection, and then click on the “Next” button.



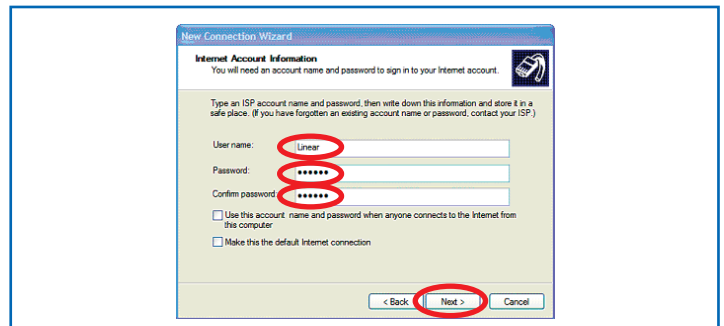
Screen Shot 8.7

- 8.8 Enter the phone number for the controller, then click on the “Next” button.



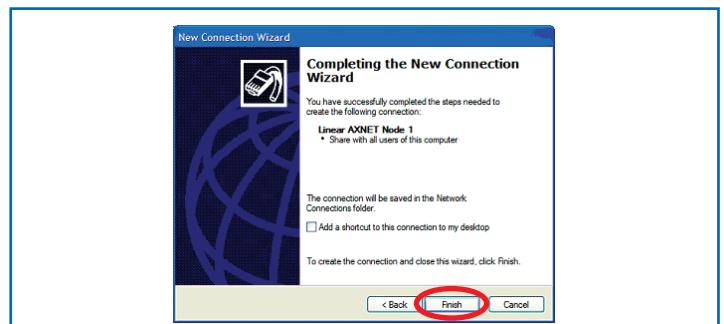
Screen Shot 8.8

- 8.9 Enter “Linear” as the user name and “123456” as the password. Please note that this is the default user name and password for new installations. Uncheck both buttons and then click on the “Next” button. Please note that if the user name and/or password is modified in the Operator Global Settings through the AXNET browser, the changes must be reflected in the user name and password fields as part of the PPP setup.



Screen Shot 8.9

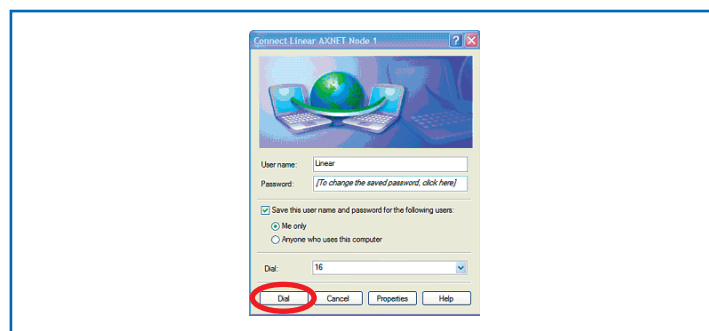
- 8.10 Click on the “Finish” button to complete the installation.



Screen Shot 8.10

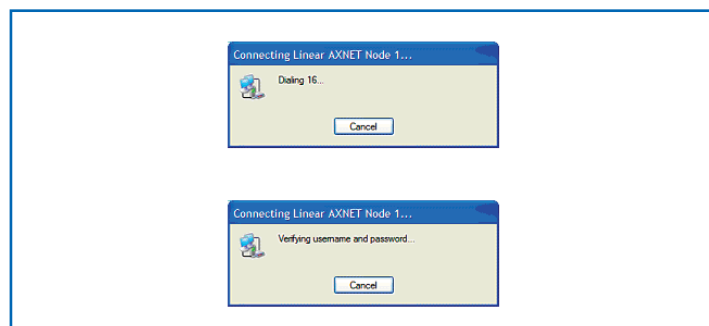
Configuring a Windows XP Modem PPP Connection for AXNET (Continued)

- 8.11** A Dial-up Connection pop-up will be displayed. Ensure that the access controller modem is connected to the phone line, and the unit is turned on and in the AXNET mode of operation. Click on the “Dial” button.



Screen Shot 8.11

- 8.12** If the units are connected properly, the pop-up indicating connection in process should be displayed.



Screen Shot 8.12

- 8.13** Upon on successful connection, “<Connection Name> is now connected” message should be displayed along with the connection icon in the taskbar.

- 8.14** Please note that there is a host connection time-out of 20 minutes. It will be necessary to re-establish a PPP connection when the time-out occurs.

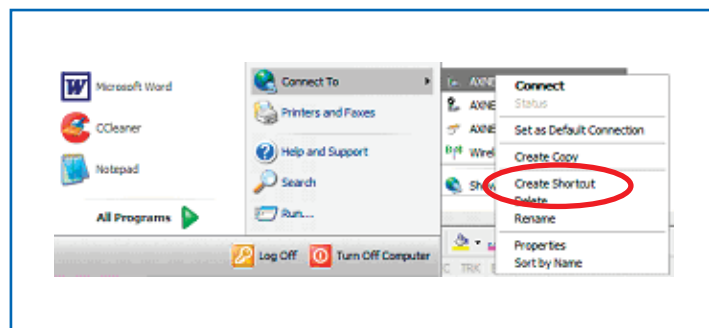


Screen Shot 8.13

9 Adding a Windows XP Shortcut Icon for the PPP Connection

The following steps provide instructions on adding a AXNET connection shortcut icon to the desktop.

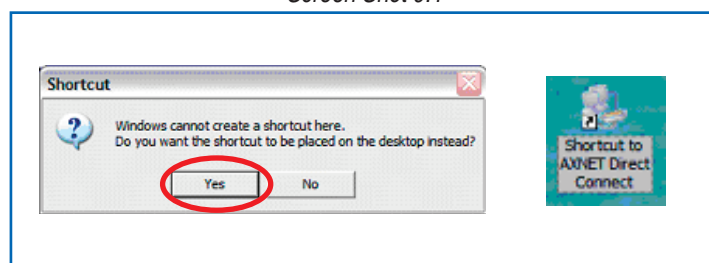
- 9.1** To set up a one-click shortcut on the desktop to an AXNET connection, click on the “Start” button and select “Connect To”. Highlight the “AXNET” connection, then right click on the connection. Click on the “Create Shortcut” menu item.



Screen Shot 9.1

- 9.2** The shortcut pop-up will be displayed. Click on the “Yes” button to continue.

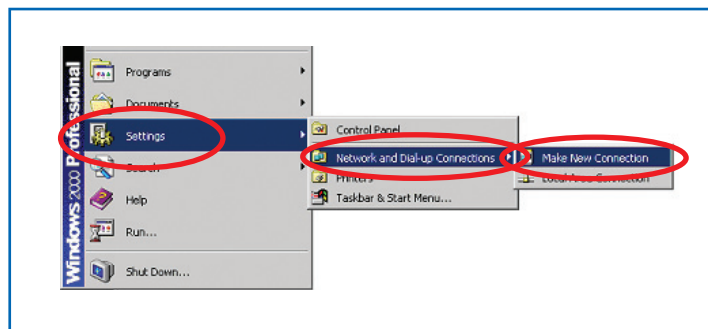
- 9.3** A desktop icon will now be available for access to AXNET.



Screen Shots 9.2 & 9.3

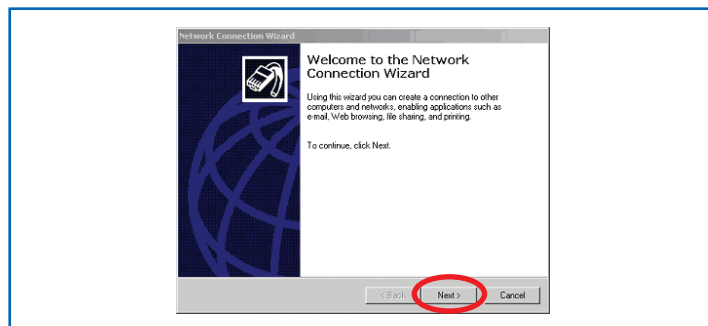
10 Configuring a Windows 2000 Modem PPP Connection for AXNET

- 10.1 To set up a modem dial-up connection between a PC and an AXNET-enabled access controller, a modem dial-up connection must be defined. To configure a modem dial-up PPP connection on Windows 2000, click on the Start button, then select Settings -> Network and Dial-up Connections -> make New Connection.



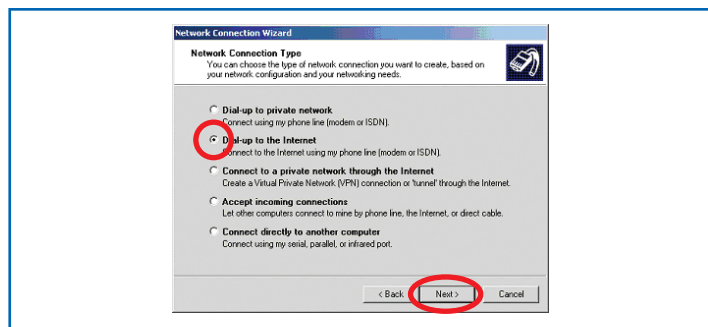
Screen Shot 10.1

- 10.2 A The Network Connection wizard will be displayed. Click on the "Next" button to continue.



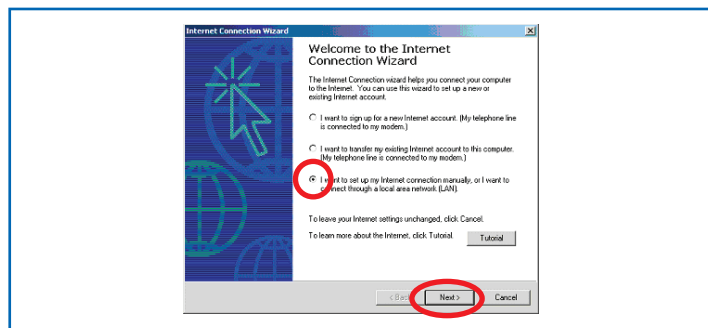
Screen Shot 10.2

- 10.3 Select the "Dial-up to the Internet" radio button, then click on the "Next" button to continue.



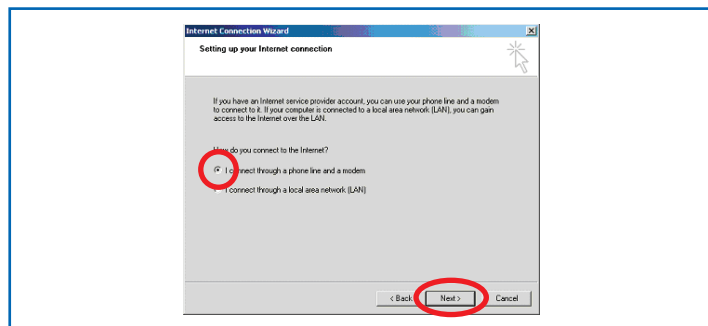
Screen Shot 10.3

- 10.4 Select the radio button to set up the Internet connection manually, and then click on the "Next" button to continue.



Screen Shot 10.4

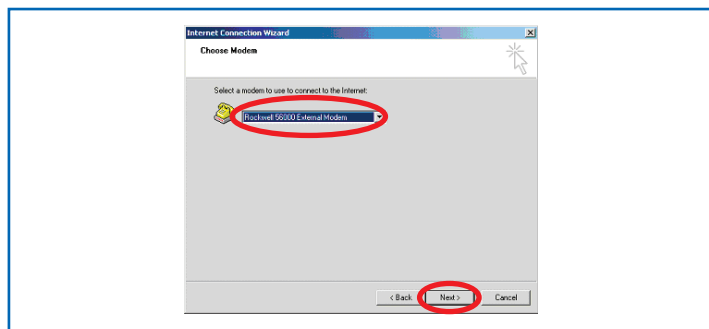
- 10.5 Select the radio button to connect through a modem, and click on the "Next" button to continue.



Screen Shot 8.10

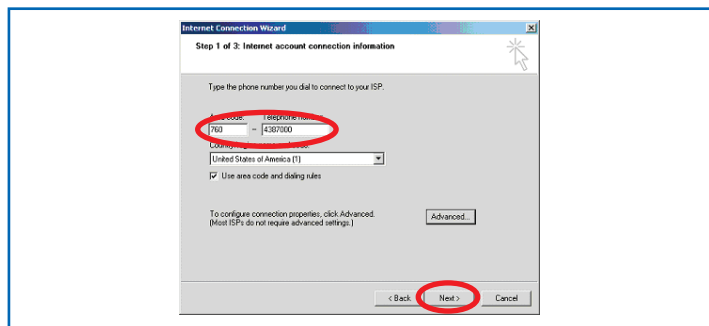
Configuring a Windows 2000 Modem PPP Connection for AXNET (Continued)

- 10.6** Select the modem to be used for the AXNET connection and click on the “Next” button to continue.



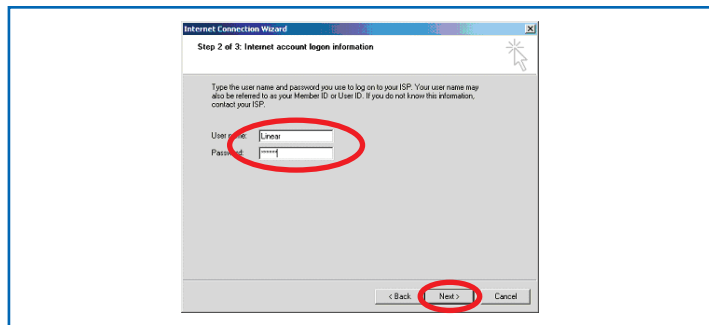
Screen Shot 10.6

- 10.7** Enter the phone number of the AXNET controller to be accessed, and then click on the “Next” button.



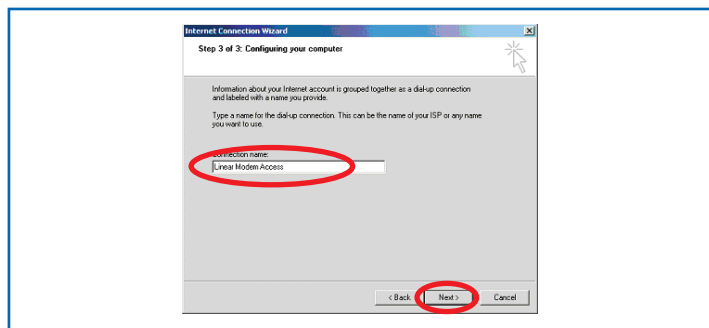
Screen Shot 10.7

- 10.8** Enter “Linear” as the user name and “123456” as the password, and click on the “Next” button to continue.



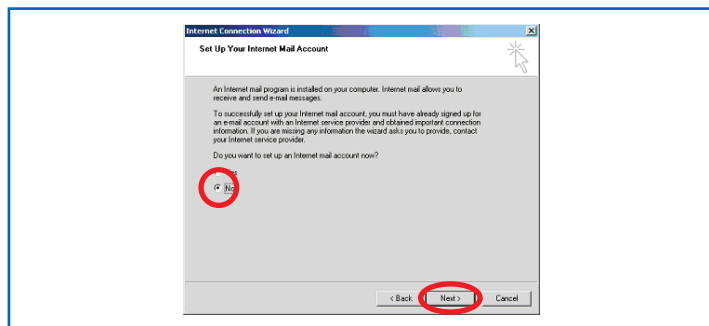
Screen Shot 10.8

- 10.9** Enter a name for this AXNET modem connection, and click on the “Next” button to continue.



Screen Shot 10.9

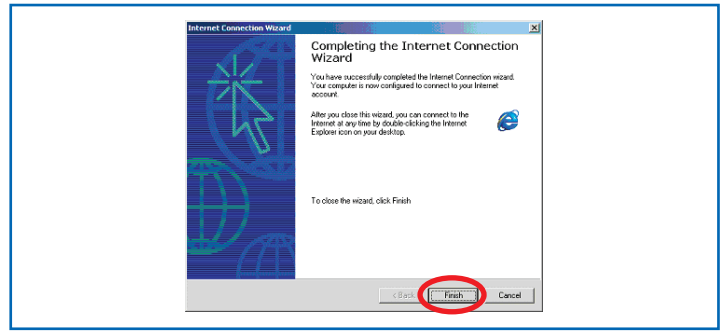
- 10.10** Click on the “No” radio button when prompted to set up an Internet mail account, and then click on the “Next” button to continue.



Screen Shot 10.10

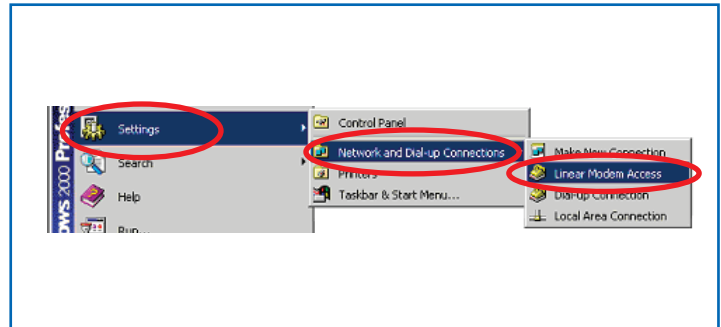
Configuring a Windows 2000 Modem PPP Connection for AXNET (Continued)

10.11 Click on the “Finish” button to complete the connection setup.



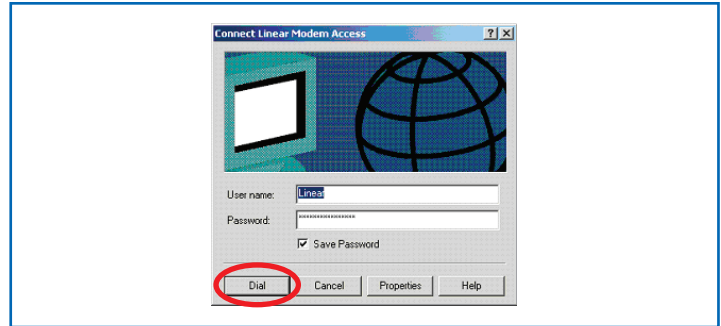
Screen Shot 10.11

10.12 To initiate the new dial-up connection, click on the “Start” button, then select Settings -> Network and Dial-up Connections, and then click on the modem connection created.



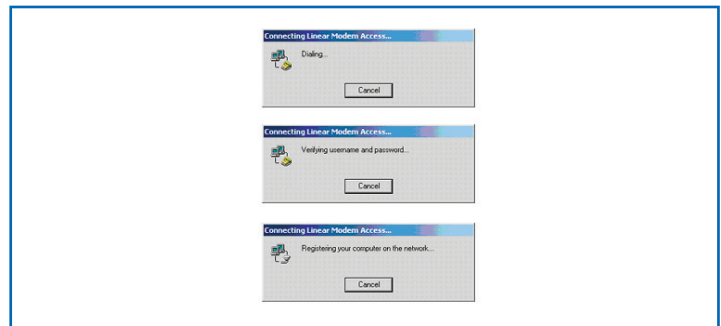
Screen Shot 10.12

10.13 Click on the “Dial” button to initiate a modem dial-up connection.



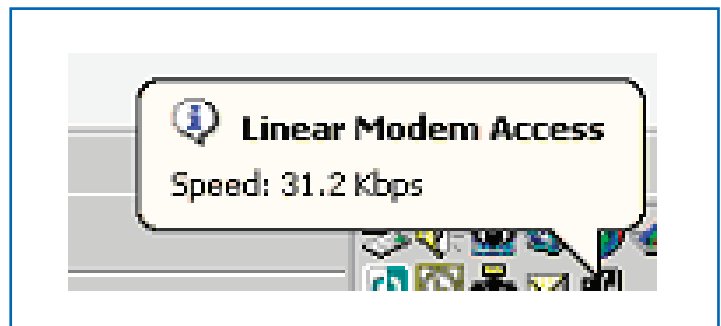
Screen Shot 10.13

10.14 Windows 2000 will initiate a direct serial connection with the progress indications shown in Screen Shot 10.14.



Screen Shot 10.14

10.15 Once connected, the information shown in Screen View 10.15 will be displayed in the task bar.

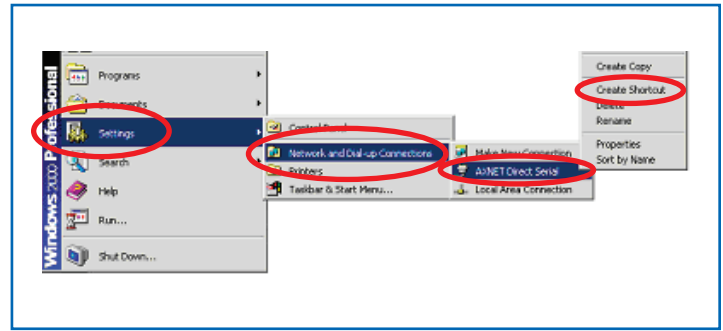


Screen Shot 10.15

11 Adding a Windows 2000 Shortcut Icon for the PPP Connection

The following steps provide instructions on adding a AXNET connection shortcut icon to the desktop.

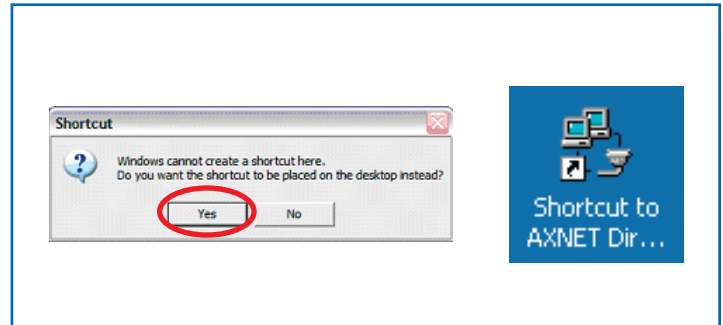
11.1 To set up a one-click shortcut on the desktop to an AXNET connection, click on the “Start” button and select Settings > Network and Dial-up Connections. Highlight the AXNET connection, then right click on the connection. Click on the “Create Shortcut” menu item.



Screen Shot 11.1

11.2 The shortcut pop-up will be displayed. Click on the “Yes” button to continue.

11.3 A desktop icon will now be available for access to AXNET.

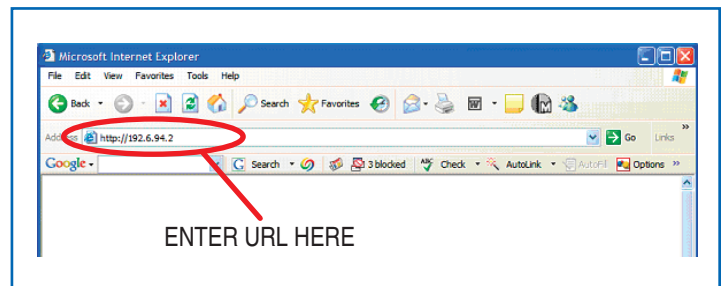


Screen Shots 11.2 & 11.3

12 Initiating an AXNET Browser Interface Session

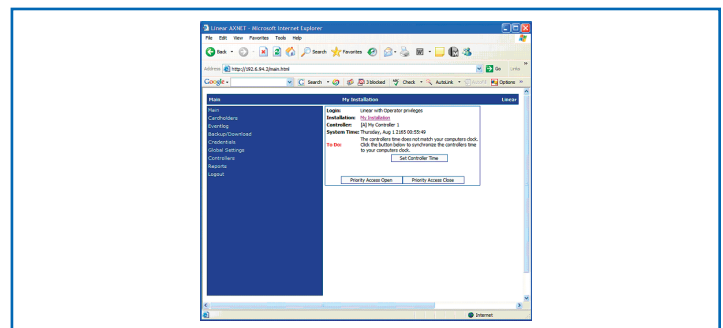
12.1 Ensure that either a direct serial PPP connection or a modem PPP connection has been established.

12.2 Once a PPP session has been initiated, launch the browser (Internet Explorer, or other browser). Use the following URL to launch an AXNET browser session: <http://192.6.94.2>



Screen Shot 12.2

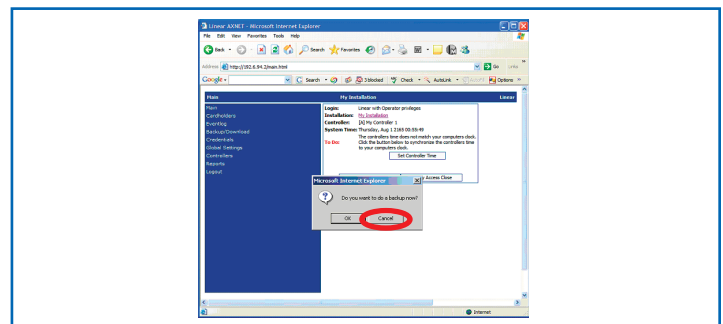
12.3 The information shown in Screen Shot 12.3 will be displayed in the browser. For the initial session, it may take a minute for all of the browser components to be downloaded and cached before the AXNET page is displayed.



Screen Shot 12.3

12.4 A pop-up will be displayed asking whether a backup is to be performed. For AXNET, it is essential that backups be performed on a regular basis since the database is stored in the controller. For this session, click on the “Cancel” button.

To view the full navigation tree for the functionality, see **Section 17, AXNET Browser Interface Navigation Tree**. For a description of features available for each of the browser pages, see **Section 18, AXNET Browser Interface Screen Shots and Descriptions**.



Screen Shot 12.4

13 Network Installation Basics

This section will provide the basics of setting up a networked, multi-controller installation. It is important that these steps are followed carefully, or the panels will not be configured properly, and the databases in each of the panels will not be synchronized.

13.1 All panels that are to be operational as part of the installation must be configured in one of the 11 network configurations as described in **Section 20, Appendix - Network Configurations**. All of the nodes should be interconnected as appropriate and powered up with the database cleared, and the proper node numbers assigned (see **Section 19, Appendix - Definition of Front Panel Configuration Modes**).

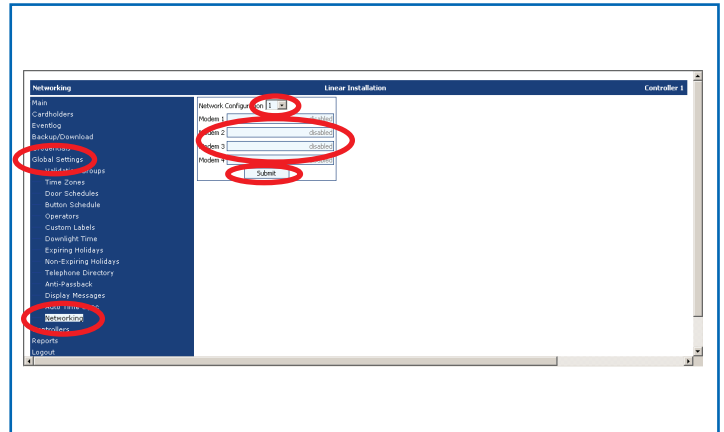
13.2 Connect to the Node 1 Controller. Click on the Global Settings menu, followed by the Networking menu. The network configuration page will be displayed. Select the desired network configuration number and enter the phone numbers for the modems in the controllers. Click on the "Submit" button.

13.3 **DO NOT MODIFY ANY OTHER INFORMATION IN THE BROWSER.** It is first necessary for the network configuration to be propagated throughout the installation. In the case of a modem PPP connection, click on the "Logout" menu item, followed by the "Logout and Hangup" menu item.

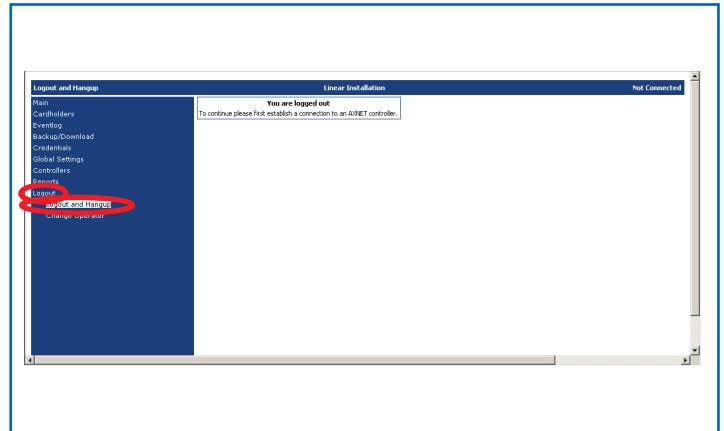
13.4 A pop-up will be displayed asking whether a backup is to be performed. For AXNET, it is essential that backups be performed on a regular basis since the database is stored in the controller. For this session, click on the "Cancel" button.

It may take up to 3 minutes for the network configuration to propagate throughout the installation. Please wait at least 3 minutes before attempting to log onto a controller to further configure the installation.

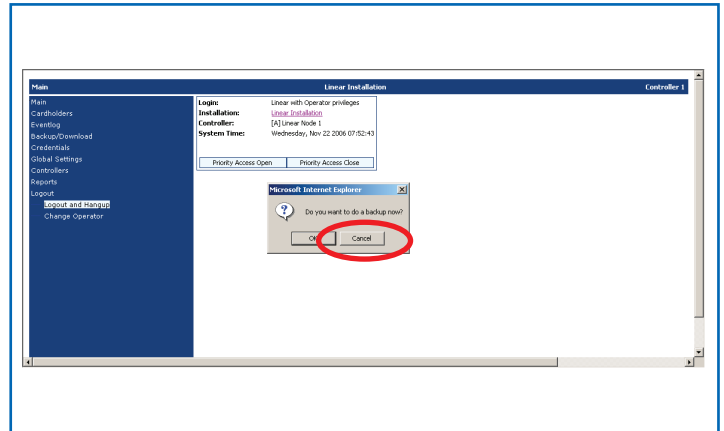
13.5 To verify that the network configuration has propagated throughout the installation, initiate a PPP connection, launch the browser, and then go to the "Reports" menu, followed by the "Network Report" menu item. The status for all of the nodes will show as OK if the network configuration has completed propagating throughout the installation.



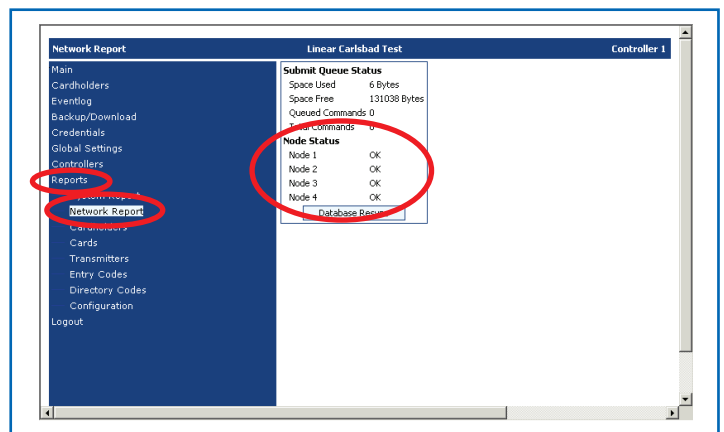
Screen Shot 13.2



Screen Shot 13.3



Screen Shot 13.4

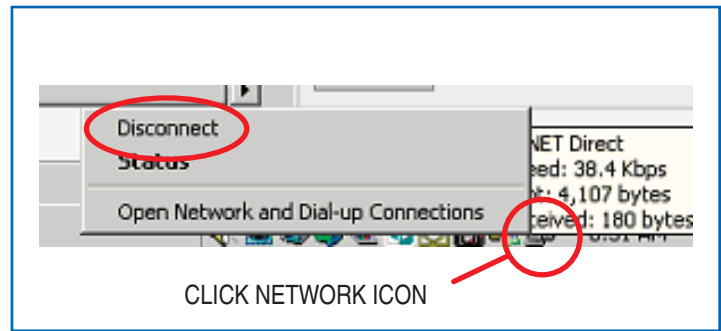


Screen Shot 13.5

14 Networked Installation Maintenance

Synchronization of databases in each of the controllers is achieved by the propagation of incremental changes from the Node 1 controller. Database updates will tie up modem and RS-485 resources while the synchronization takes place, and this may require a considerable amount of time. Modem resources will also compete with the voice line, and may interfere with tenant access. It is therefore desirable that database updates be performed during the off-peak tenant traffic hours to minimize impact to normal tenant access.

Database synchronization will not commence until the operator has logged off the controller when a modem PPP connection is used for remote modem connections. In this case, it is therefore necessary to log off the controller and disconnect the PPP session as soon as all changes have been completed. Otherwise, the normal browser session time-out will not occur for about 20 minutes, and if connected via modem, tenant access will not be possible on this controller during this time, as well as database propagation. Please note that closing of the browser window does not terminate the PPP session. It is either necessary to log off and terminate the PPP session by clicking on the “Logout -> Logout and Hangup” menu items, or disconnect the PPP session by right-clicking on the network icon in the task bar, then clicking on “Disconnect”.

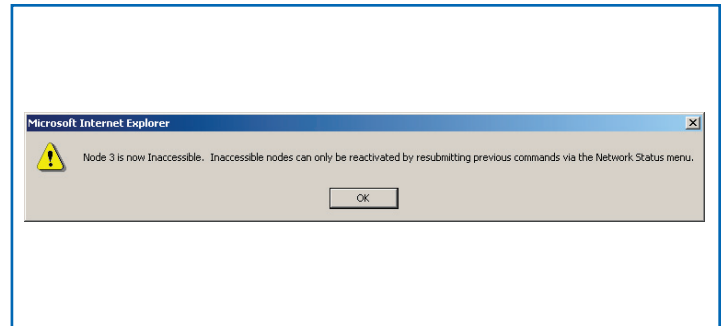


Screen Shot 14

15 Network Troubleshooting

This version of AXNET has built-in facilities to operate even when controllers become non-responsive during the course of time (e.g., network link severed, unit powered off). When AXNET detects that a controller is non-responsive after a number of retries, it will mark the non-responsive controller as off-line, and will not attempt to communicate to the controller. This is necessary to minimize network congestion, so that the normal mode of operation is not affected.

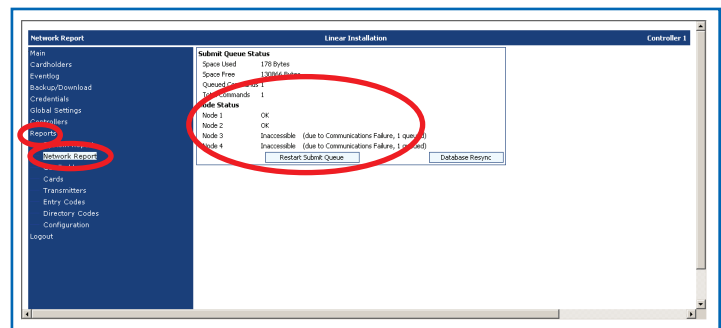
A pop-up dialog similar to the one shown in Screen Shot 15 will be displayed when a non-responsive controller is detected:



Screen Shot 15

15.1 When the node warning pop-up is displayed, click on the “Reports” menu, then the “Network Report” menu item.

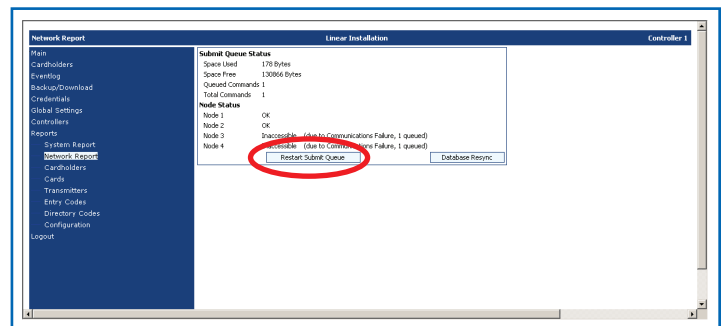
15.2 The Node Status shows which controllers are inactive, as well as the number of pending commands not accepted by the controllers.



Screen Views 15.1 & 15.2

15.3 To return the inactive controller to an operational state, after repairing the problem and powering up the controller, click the “Restart Submit Queue” button while in the “Reports -> Network Report” screen:

15.4 In the case of a modem PPP connection, the operator must log out and hang up from the browser session to allow the commands to be submitted to the activated controller.



Screen Shot 15.3

16 AXNET PC Utility Software Basics

The AXNET PC Utility Software is an application installed on a PC that supports several utility functions for AXNET-enabled access controllers.

The AXNET PC Utility Software supports these utility functions:

- Backup and restore the installation's database
- Export and import the database to and from a file on the PC
- Update the firmware in controllers
- Download installation event logs
- Create event log reports

16.1 Launching The AXNET PC Utility Software

16.1.1 Ensure that a PPP connection is active with an access controller. Launch the AXNET PC Utility software, and the window shown in Screen Shot 16.1.1 should be displayed.

16.2 Tools

Clicking on the “Tools” menu item will reveal the main functions of this application.

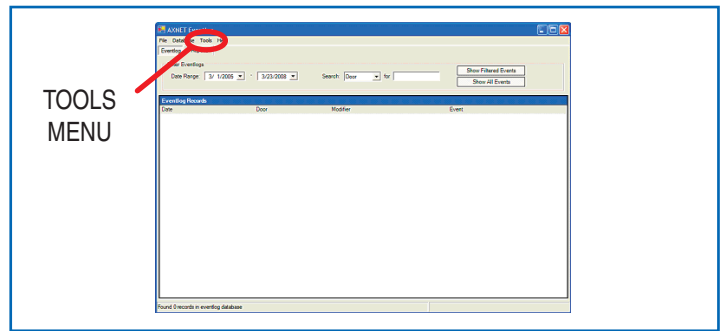
16.2.1 Backup/Restore

16.2.1.1 By clicking on the “Download Backup” button, a database backup will be initiated, and will be placed in the C:\Program Files\Linear\AXNET directory by default (AXNET installation directory).

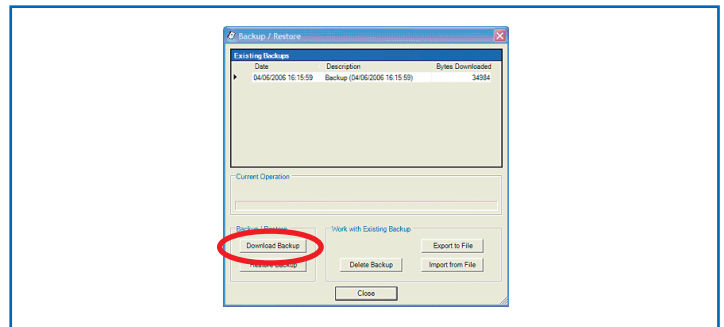
16.2.1.2 Download progress will be visible by examining the “Current Operation” status.

16.2.1.3 Successful completion of a back-up will be indicated in the Current Operation status window, as well as a new back-up item in the “Existing Backups” window.

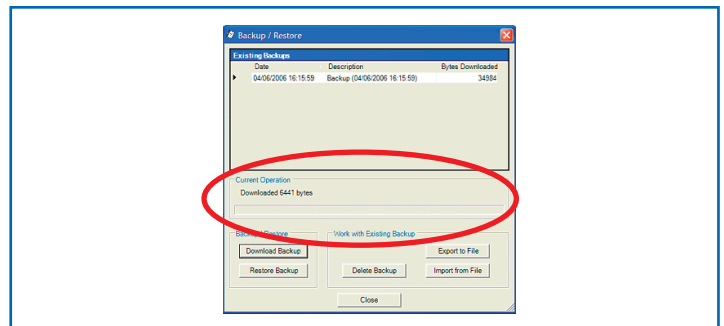
16.2.1.4 Restore operation is performed by selecting (clicking on) one of the existing backups, and clicking on the “Restore Backup” button.



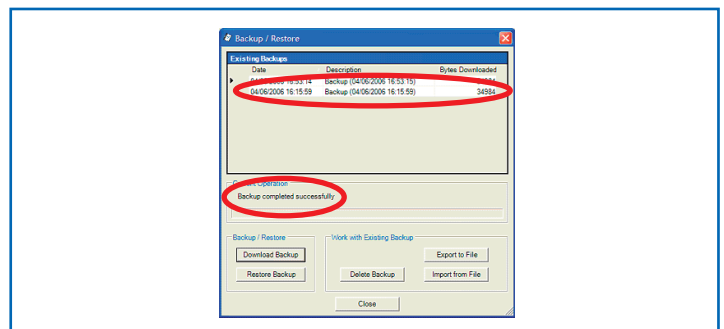
Screen Views 16.1.1 & 16.2



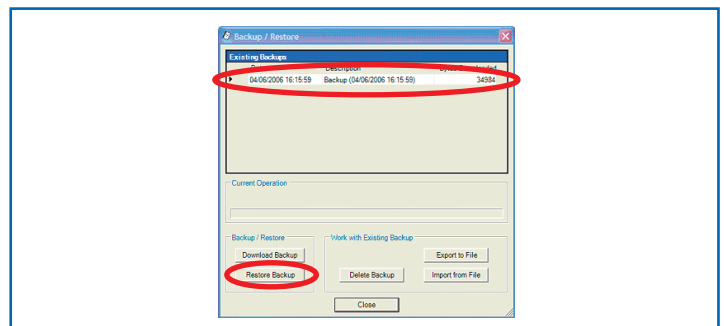
Screen Shot 16.2.1.1



Screen Shot 16.2.1.2



Screen Shot 16.2.1.3

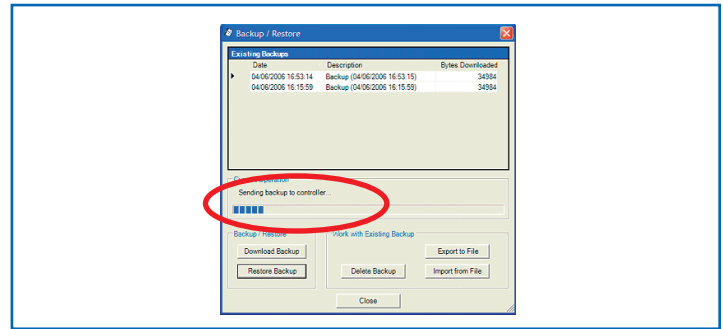


Screen Shot 16.2.1.4

AXNET PC Utility Software Basics (Continued)

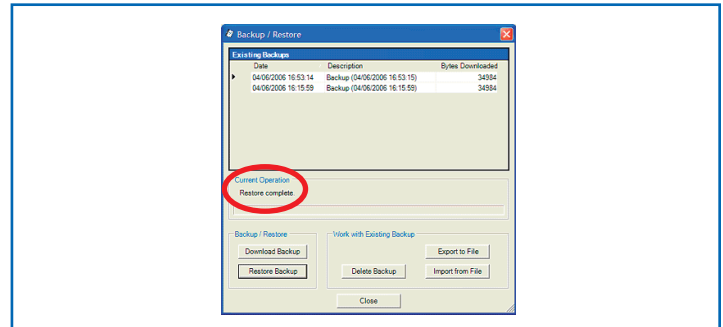
16.2.1.5 Click on the “Yes” button to verify the start of the restore operation.

16.2.1.6 Restore progress will be visible by examining the “Current Operation” status.



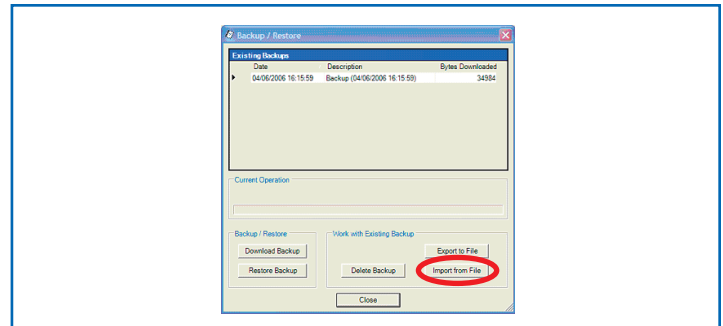
Screen Shot 16.2.1.6

16.2.1.7 Successful completion of a restore will be indicated in the Current Operation status window.



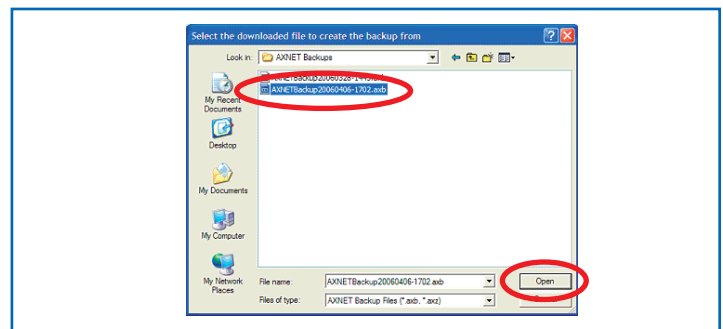
Screen Shot 16.2.1.7

16.2.1.8 Backups performed under the AXNET browser interface (see **Section 18.7.1**) can be restored by first importing it into the AXNET PC format. Click on “Import from File” to begin the restore operation.



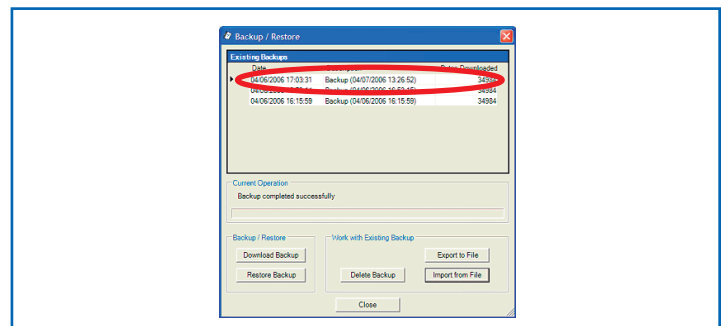
Screen Shot 16.2.1.8

16.2.1.9 A window will be displayed requesting for a back-up to be imported. Navigate to the directory where the backups are located and select the back-up to be restored. Click on “Open” to continue.



Screen Shot 16.2.1.9

16.2.1.10 A new back-up will be displayed in the Backup/Restore window. A normal restore operation can be performed as outlined in steps starting at Section 16.2.1.4.



Screen Shot 16.2.1.10

16.2.2 Firmware Update

16.2.2.1 This feature will allow updates of the access controller firmware. Ensure that the proper path to the firmware files have been entered (see **Section 16.2.3**). Click on the “Check for Updates” and “Poll for Controller” buttons to get the latest firmware and controller information. Firmware versions and controllers available should be visible in the “Existing Firmware Updates” window and “Controllers on the Network” window, respectively.

16.2.2.2 Select the firmware revision and controller to be updated, and click on the “Update Controller” button to continue.

16.2.2.3 Click on the “Yes” button to start the firmware update.

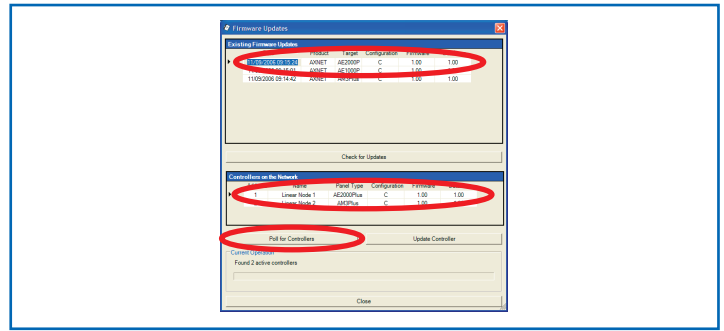
16.2.2.4 Firmware update progress can be seen by examining the “Current Operation” window.

16.2.2.5 Firmware update completion can be verified by examining the “Current Operation” window.

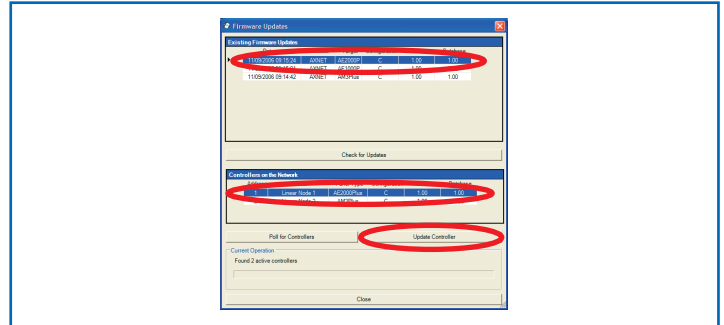
Please note that when the firmware update has been completed, the access controller will reset, terminating the PPP session. It will be necessary to first initiate a PPP session as outlined in Sections 6.14 or 8.11 before using the AXNET PC Utility Software application or using the AXNET Browser Interface again.

16.2.3 Preferences

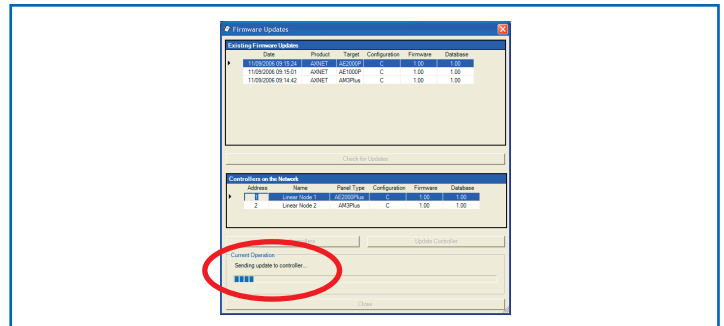
This window allows the setting of the path to firmware updates. The proper path will be provided by Linear when firmware updates become available.



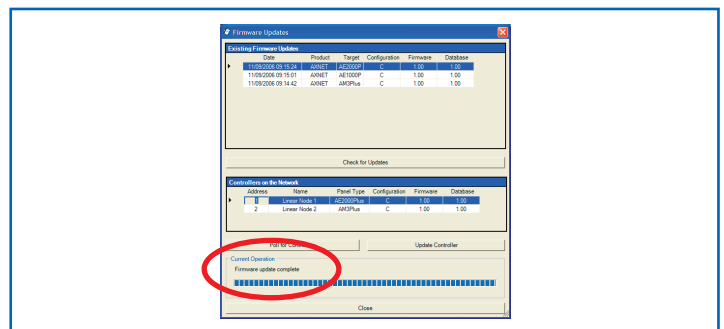
Screen Shot 16.2.2.1



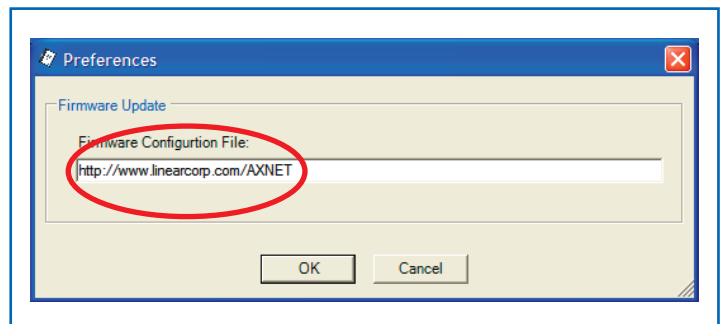
Screen Shot 16.2.2.2



Screen Shot 16.2.2.4



Screen Shot 16.2.2.5

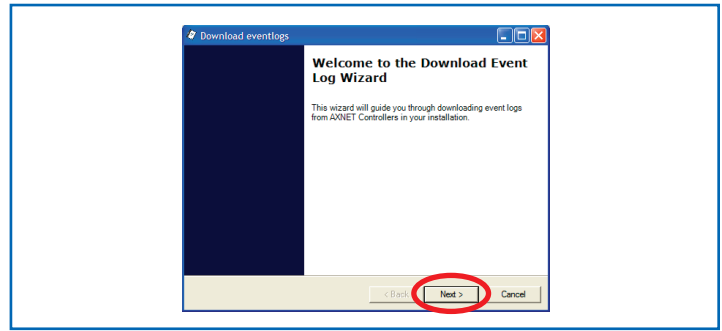


Screen Shot 16.2.3

AXNET PC Utility Software Basics (Continued)

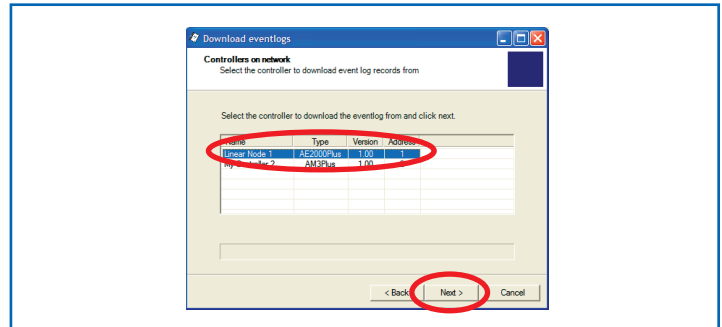
16.2.4 Download Eventlog

16.2.4.1 Click on the "Next" button to continue.



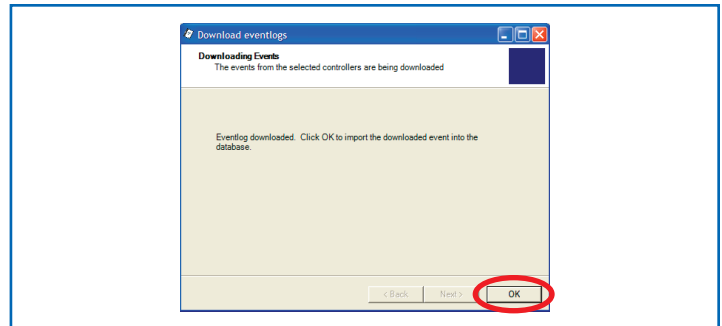
Screen Shot 16.2.4.1

16.2.4.2 A list of available controllers will be displayed. Click on the controller to download the eventlog from and then click on the "Next" button.



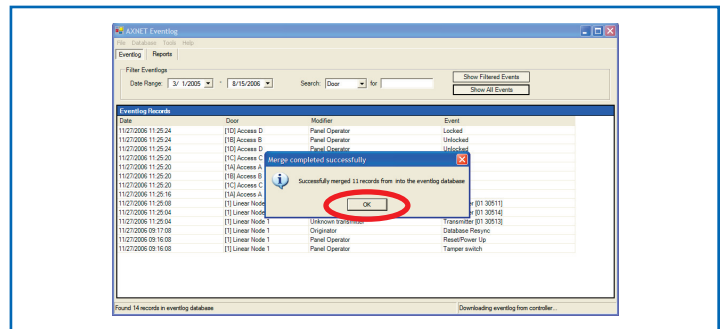
Screen Shot 16.2.4.2

16.2.4.3 On the completion of the eventlog, the download event log window will be displayed. Click on the "OK" button to continue.



Screen Shot 16.2.4.3

16.2.4.4 This window should be displayed upon successful merge of the eventlogs. Note the eventlog records in the background. Click on the "OK" button to complete the eventlog download.

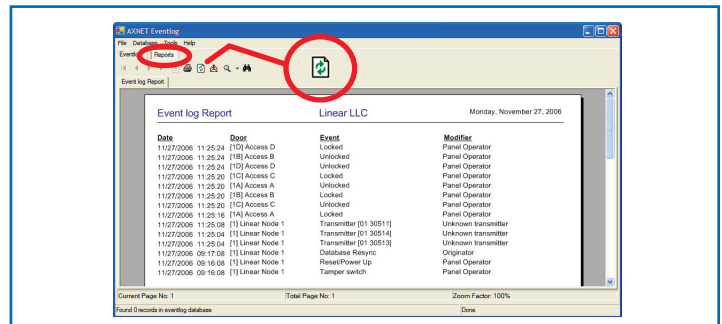


Screen Shot 16.2.4.4

16.3 Eventlog Reports

16.3.1 Eventlog reports can be generated clicking on the Reports tab.

16.3.2 The Reports view is shown. The event filters do not apply to reports. To ensure that the latest eventlog is reflected in the report click on the Refresh icon.



Screen Shots 16.3.1 & 16.3.2

17 AXNET Browser Interface Navigation Tree

The following is the navigation tree for the AXNET Browser Interface. Numbers in parenthesis after major functionality indicate the number of entries available for that feature. Items underlined in blue indicate the default value for the parameter.

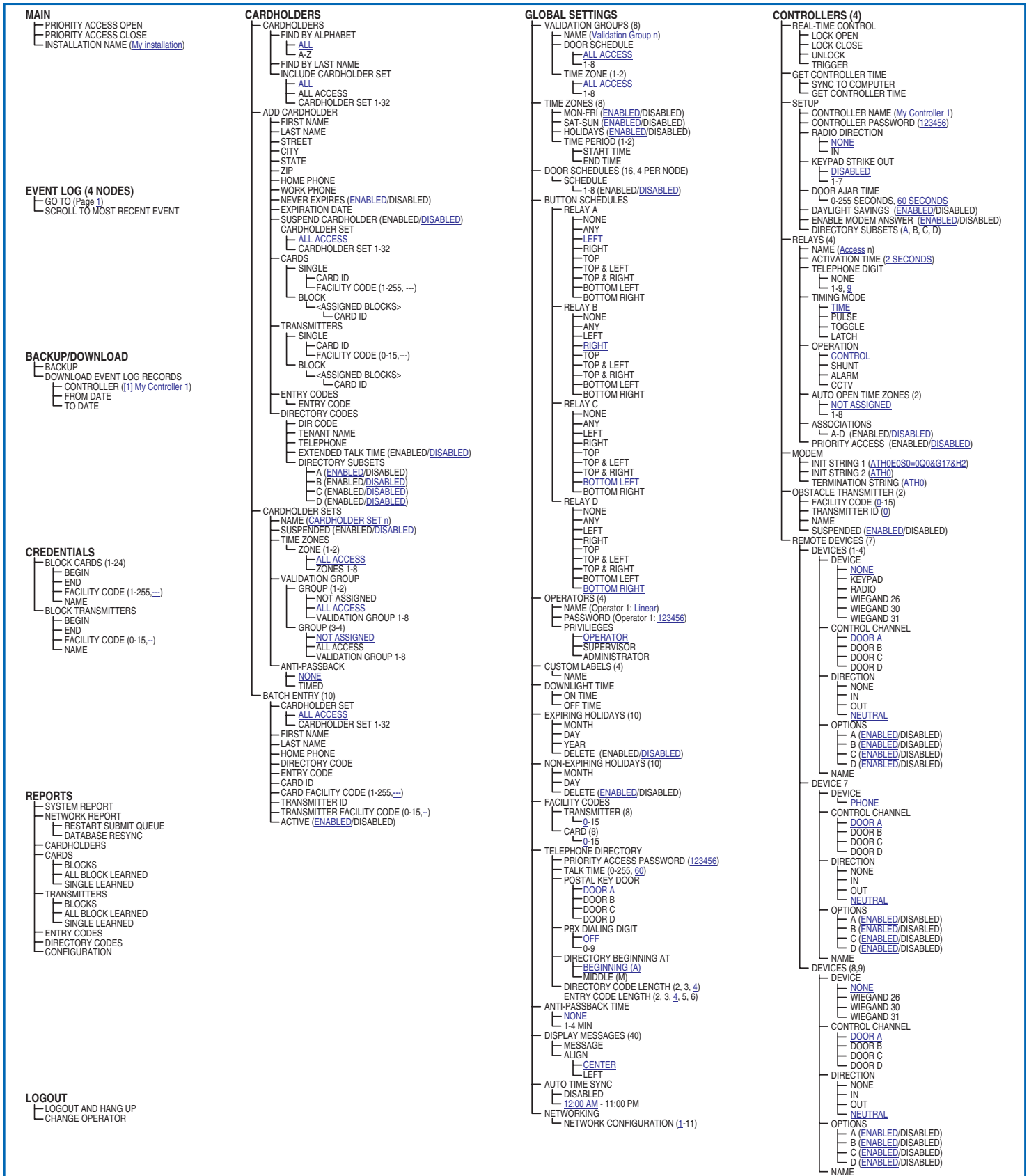
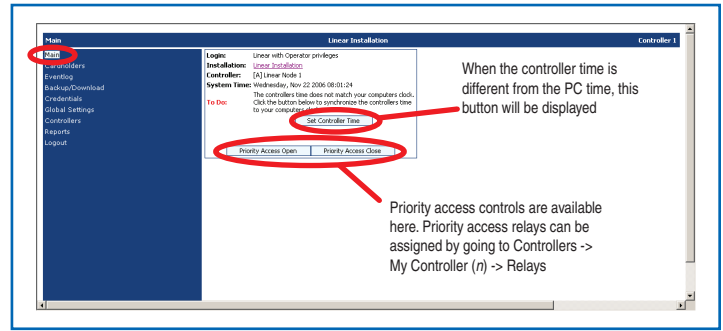


Figure 3 - AXNET Browser Application Navigation Tree

18 AXNET Browser Interface Screen Shots and Descriptions

18.1 Main Screen

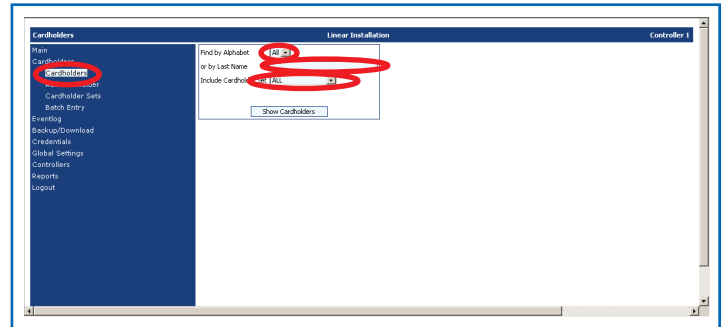
This is the default screen when the browser is launched. Priority access is controlled from this screen, and if the controller time is different from the PC time, an additional button is displayed for synchronizing the PC time to the controller time.



Screen Shot 18.1

18.2 Cardholders> Cardholders Screen

Cardholders can be searched by alphabet or last name, and can be further filtered by cardholder sets.



Screen Shot 18.2

18.3 Cardholders> Add Cardholders Screen

New cardholders can be added in this browser screen. The following information can be added:

First Name: The cardholder's first name (maximum 24 characters).

Last Name: The cardholder's last name (maximum 24 characters).

Street: The cardholder's street address (maximum 24 characters).

City: The cardholder's city (maximum 10 characters).

State: The cardholder's state (pulldown menu).

Zip: The cardholder's zip code (maximum 10 digits).

Home Phone: The cardholder's home phone number (maximum 10 digits).

Work Phone: The cardholder's work phone number (maximum 10 digits).

Never Expires: Checked if the cardholder is does not have an expiration date.

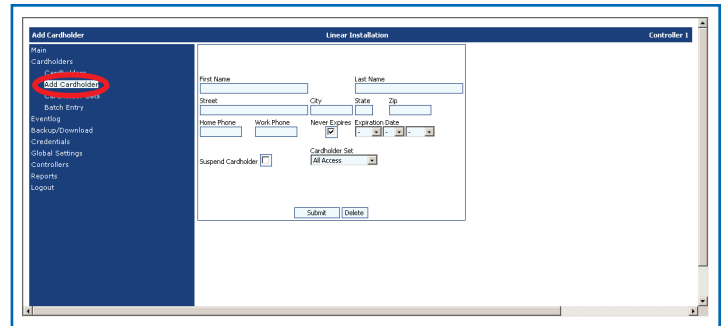
Expiration Date: Expiration date for the cardholder. Requires the Never Expires radio box to be checked.

Suspend Cardholder: Makes the cardholder entry inactive.

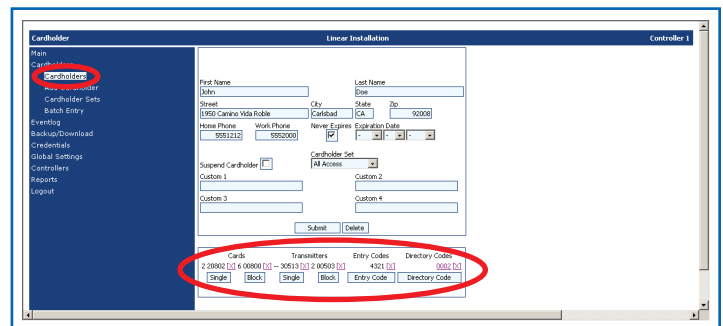
Cardholder Set: Cardholder set to be used for the cardholder. Used to restrict access by time and door location.

Custom Fields: Custom fields become visible when labels are applied to the Custom fields (see **Section 18.15, Global Settings> Custom Labels**).

After the "Submit" button has been pressed, and the cardholder entry validated, additional fields will become visible, so that credentials can be entered.



Screen Shot 18.3A



Screen Shot 18.3B

18.3.1 Directory Codes

When the Directory Code button is pressed to configure the cardholder for directory codes for display on AE1000Plus and AE2000Plus units, the following additional fields will be displayed:

Dir Code: The next available directory code will be automatically filled in this field. The data in this field can be overridden by entering a new directory code. The maximum number of digits that can be entered in this field is determined by the Directory Code Length field in the Global Settings->Telephone Directory page (see **Section 18.19, Global Settings> Telephone Directory**).

Tenant Name: The tenant name derived from the first and last name fields for the cardholder will be automatically filled in this field as "Last Name First Name". The data in this field will be displayed on the panel as the tenant name. The data in this field can be overridden by entering a new name to be associated with the directory code. The maximum length of this field is 24 characters.

Telephone: The data in the Home Phone number field for the cardholder will be automatically filled in this field. The data in this field will be used by the controller to dial the tenant. The data in this field can be overridden by entering a new phone number to be associated with the directory code. The maximum length of this field is 10 digits.

Ext Talk Time: When enabled, the cardholder / directory code will be allowed double the amount of standard talk time.

Directory Subsets: In networked installations with multiple AE1000Plus or AE2000Plus telephone entry systems, it is possible to determine which directory names are displayed on the individual telephone entry systems. Each cardholder can be assigned to any or all four directory subsets. Check the directory subsets that you would like to be displayed on this telephone entry.

18.3.2 Entry Codes

When the Entry Code button is pressed to configure the cardholder for keypad entry, the following additional field will be displayed:

Entry Code: The keypad entry code associated with this cardholder is added here. The maximum number of digits that can be entered in this field is determined by the Entry Code Length field in the Global Settings->Telephone Directory page (see **Section 18.19, Global Settings> Telephone Directory**).

Cards	Transmitters	Entry Codes	Directory Codes
2 20802 [X] 6 00800 [X]	-- 30513 [X] 2 00503 [X]	4321 [X]	0002 [X]

Single Block Single Block **Entry Code** Directory Code

Assign Entry Code: Add to Cardholder

Screen Shot 18.3.1

Cards	Transmitters	Entry Codes	Directory Codes
2 20802 [X] 6 00800 [X]	-- 30513 [X] 2 00503 [X]	4321 [X]	0002 [X]

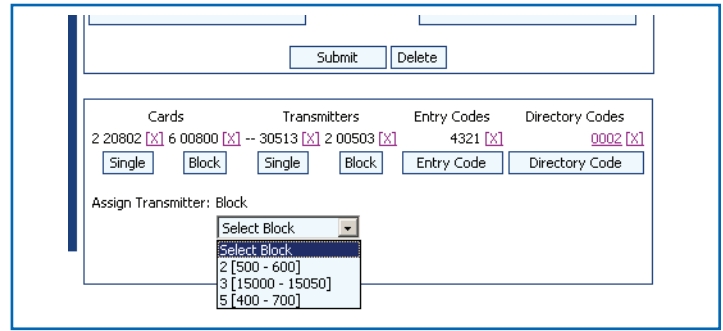
Single Block Single Block **Entry Code** Directory Code

Assign Entry Code: Add to Cardholder

Screen Shot 18.3.2

18.3.3 Block Transmitters

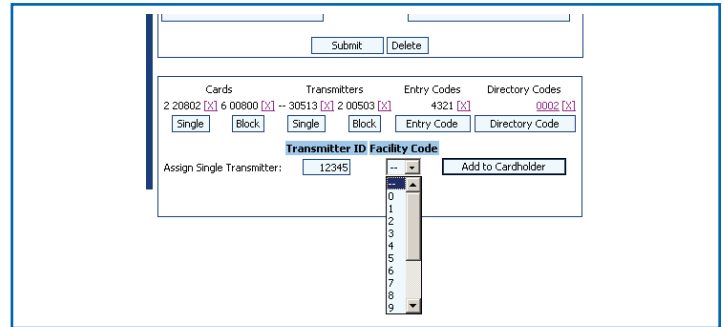
Block coded transmitters can be entered from this page. Facility codes and IDs are checked for duplicates before confirmation of assignment. For a block coded transmitter, block assignments must be done first (see *Section 18.9, Credentials > Block Transmitters Screen*).



Screen Shot 18.3.3

18.3.4 Single Transmitters

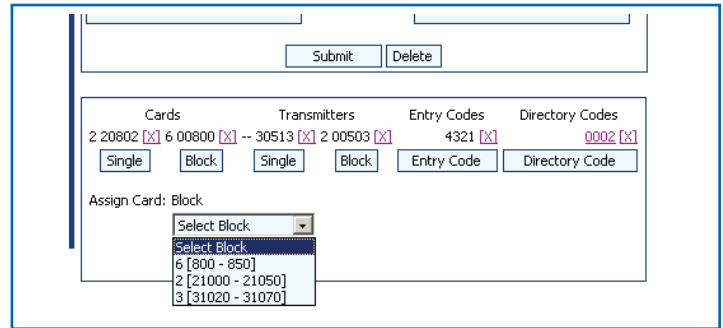
Single transmitters can be entered from this page. Facility codes and IDs are checked for duplicates before confirmation of assignment.



Screen Shot 18.3.4

18.3.5 Block Cards

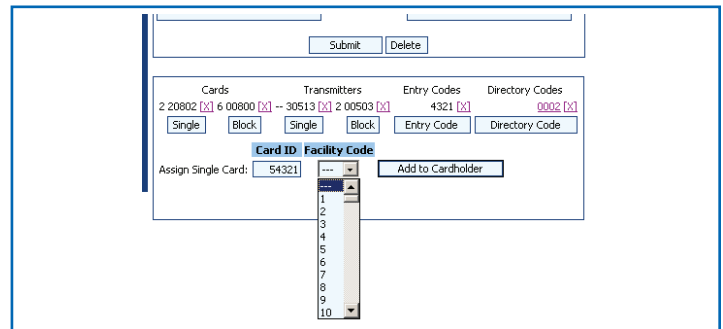
Block coded cards can be entered from this page. Facility codes and IDs are checked for duplicates before confirmation of assignment. For a block coded card, block assignments must be done first (see *Section 18.8 Credentials > Block Cards Screen*).



Screen Shot 18.3.5

18.3.6 Single Cards

Single cards can be entered from this page. Facility codes and IDs are checked for duplicates before confirmation of assignment.



Screen Shot 18.3.6

18.4 Cardholders> Cardholder Sets Screen

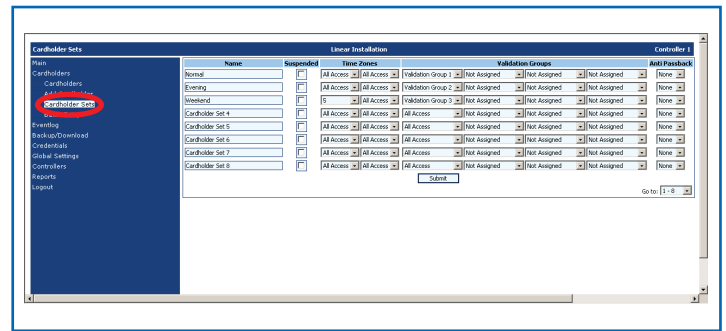
Cardholder Sets allow cardholders to be organized into groups. Up to four validation groups and two time zones can be assigned to each cardholder set. Also, anti-passback rules may be assigned to a cardholder set. It may be desirable to create a cardholder set for cardholders that share the same access requirements, such as, day shift and night shift if AXNET is used in an industrial application. In a gated community application, it may be desirable to create a cardholder set for residents, a cardholder set for employees and a cardholder set for vendors.

To add a cardholder set, first assign a name to the cardholder set. Time zones and validation groups can then be modified as follows:

Rules for Validation Groups and Time Zones:

1. Up to 4 different validation groups and 2 different time zones per cardholder set may be assigned.
2. Validation group ALL ACCESS is for 24/7 access to all doors.
3. Validation group NO ACCESS does not allow access to any doors.
4. To use the time zones available in the cardholder set, a validation group must first be defined with ALL ACCESS for both time zones, and then assigned to the cardholder set. Time zones defined directly in the cardholder set will now take effect.

Timed anti-passback means that once a cardholder has been granted access, they will not be granted access for a predetermined amount of time (1 – 4 minutes). If a cardholder attempts to gain access before the anti-passback time has expired, access will be denied and an anti-passback violation will be logged into the event log. For timed anti-passback to apply for a device, the DIRECTION of the device must be set to IN.



Screen Shot 18.4

18.5 Cardholders> Batch Entry Screen

The batch entry screen allows the entry of up to 10 cardholders in one submit cycle, quickening the entry of multiple cardholders.

It is strongly recommended that the installation setup for access rights be completed before using batch entry method of adding cardholders (set up time zones, validation groups and cardholder sets). Otherwise, it will become necessary later to make changes to set the cardholder set, one cardholder at a time.

Any error in the batch mode screen will cause the submittal of all entries to fail. Errors will be displayed in a pop-up display, one at a time, as shown in the Screen Shot 18.5A.

The batch submittal will be complete when all errors are corrected.

The following are the fields that can be entered for each cardholder in batch mode entry.

Cardholder Set: Cardholder set to be used for the cardholder. Used to restrict access by time and door location.

First Name: The cardholder's first name (maximum 24 characters).

Last Name: The cardholder's last name (maximum 24 characters).

Home Phone: The cardholder's home phone number (maximum 10 digits).

Directory Code: The next available directory code will be automatically filled in this field. The data in this field can be overridden by entering a new directory code. The maximum number of digits that can be entered in this field is determined by the Directory Code Length field in the Global Settings->Telephone Directory page (see **Section 18.19, Global Settings> Telephone Directory**).

Entry Code: The keypad entry code associated with this cardholder is added here. The maximum number of digits that can be entered in this field is determined by the Entry Code Length field in the Global Settings->Telephone Directory page (see **Section 18.19, Global Settings> Telephone Directory**).

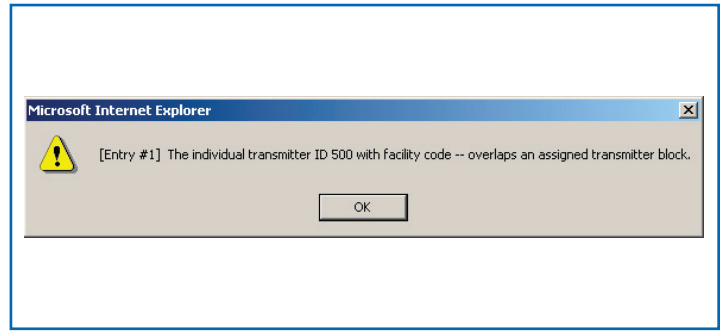
Card: The ID for an unused single card. Unused block coded card ID's will not be allowed.

Fac Code: The facility code for the card. A "--" selection will cause the panel to ignore the facility code when validating this card.

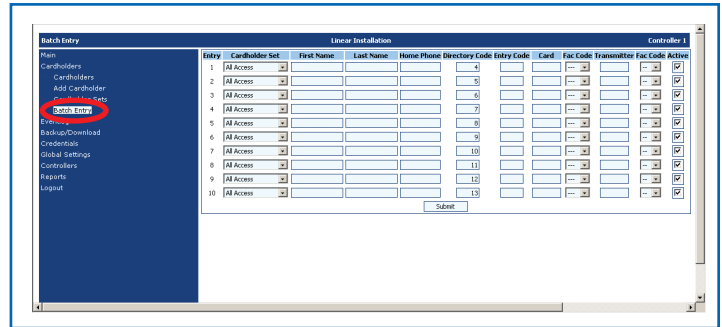
Transmitter: The ID for an unused single transmitter. Unused block coded transmitter ID's will not be allowed.

Fac Code: The facility code for the transmitter. A "--" selection will cause the panel to ignore the facility code when validating this transmitter.

Active: When unchecked, makes the cardholder entry inactive.



Screen Shot 18.5A



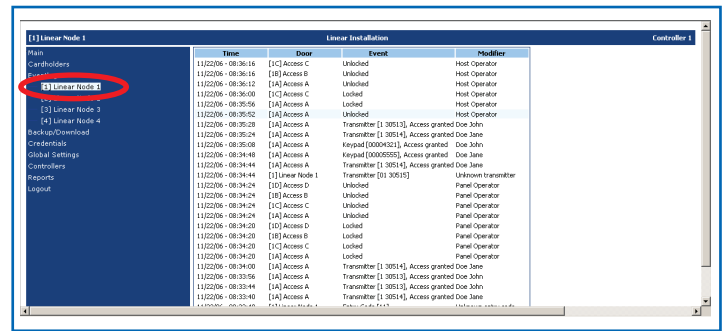
Screen Shot 18.5B

18.6 Eventlog Screen

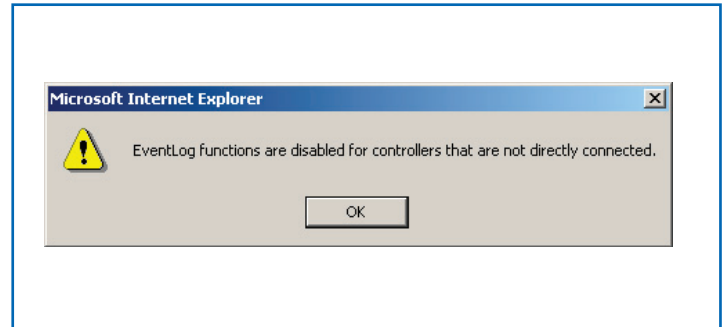
Event logs for each controller can be viewed using the Eventlog function. This function is useful in viewing recent events that have occurred on the controller.

Event logs are available for the connected controller or those controllers that are linked to the connected controller via RS-485 connection. To retrieve event logs from remote controllers accessible via modem, a dial-up connection must be established with the remote controller. When an event log retrieval is attempted with a controller not accessible, then the pop-up shown in Screen Shot 18.6B will be displayed.

To consolidate event logs from all controllers into a single event log that is sorted in reverse chronological order, then the AXNET PC Software application must be used (see **Sections 16.2.4, Download Eventlog,** and **16.3, Eventlog Reports**).



Screen Shot 18.6A



Screen Shot 18.6B

18.7 Backup/Download Screen

Database backups and event log downloads can be performed from this screen. It is highly recommended that periodic backups of the database be performed as a preventative measure against data loss.

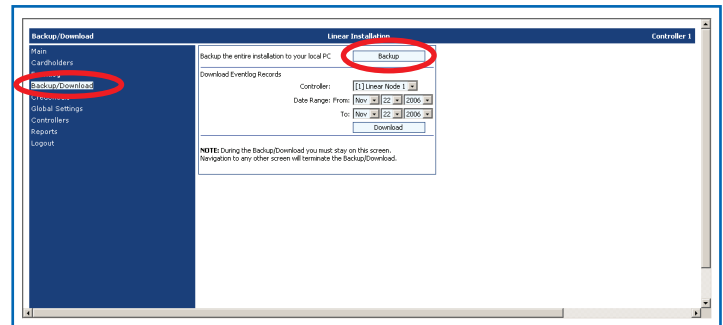
18.7.1 Backup

To initiate a backup of the database in the controller, click on the "Backup" button.

Click on the "Save" button to continue.

Make any modifications to the path and file name, and then click on the "Save" button.

A pop-up display will indicate the download progress. A pop-up will be displayed when the download is complete. Click on the "Close" button to complete the download session.



Screen Shot 18.7.1

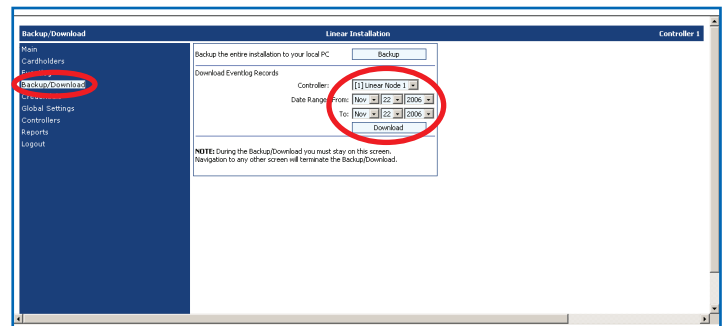
18.7.2 Download Eventlog Records

To initiate an eventlog download for a controller, select the controller to download the eventlog from, select the date range, and then click on the "Download" button.

Click on the "Save" button to continue.

Make any modifications to the path and file name, and then click on the "Save" button.

A pop-up display will indicate the download progress. A pop-up will be displayed when the download is complete. Click on the "Close" button to complete the download session.



Screen Shot 18.7.2

18.8 Credentials > Block Cards Screen

Block cards are added as a range of cards with starting and ending numbers. AXNET supports up to 24 blocks. Each block can contain up to 1,600 cards.

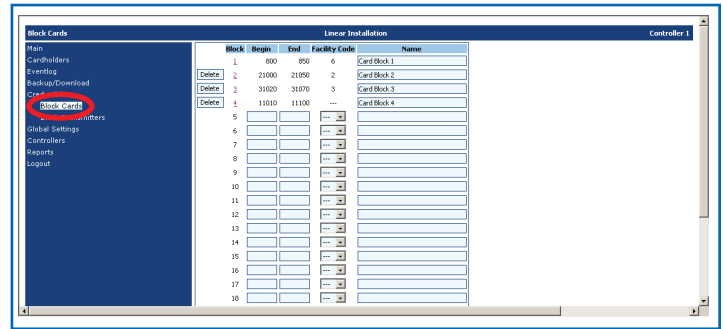
Block cards are provided in Block Code format. The cards are sequentially coded in the manufacturing process. Starting and ending numbers for the block are required to program the blocks, along with the facility code for the block.

NOTE: To associate a card to a validation group, the card must be assigned to a cardholder. Up to four validation groups are assigned to each cardholder set. Therefore every cardholder will have the same restrictions that belong to the selected validation group(s).

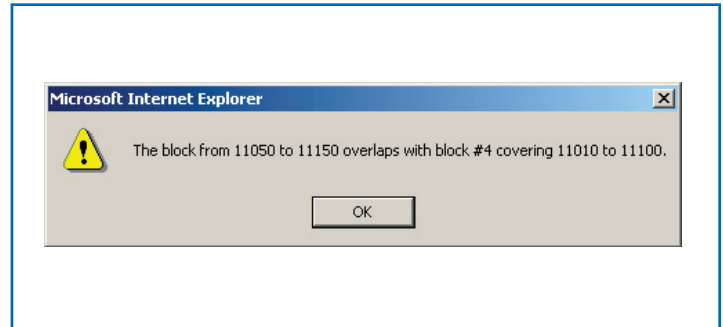
To add a card block in AXNET, enter the starting ID of the block in the “Begin” field, and the ending ID of the block in the “End” field. Select the facility code of the block with the pull-down list. When “---” is selected as the facility code entry, the facility code will be ignored for authentication purposes.

Enter a name to identify the card block (up to 24 characters), and then click on the “Submit” button. AXNET will check whether there are any overlaps with existing blocks or assigned single cards. If there is any overlap, then the submission will fail with a pop-up message displayed describing the problem, as shown in Screen Shot 18.8B.

Ensure that there are no overlaps by examining assigned card blocks and by examining the single learned cards report. Delete the overlapping entries and submit again.



Screen Shot 18.8A



Screen Shot 18.8B

18.9 Credentials > Block Transmitters Screen

Block transmitters are added as a range of transmitters with starting and ending numbers. AXNET supports up to 24 blocks. Each block can contain up to 1,600 transmitters.

Block transmitters are provided in Block Code format. The transmitters are sequentially coded in the manufacturing process. Starting and ending numbers for the block are required to program the blocks, along with the facility code for the block.

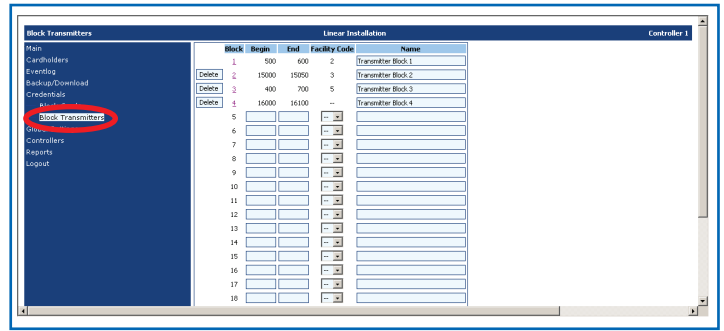
NOTE: To associate a transmitter to a validation group, the transmitter must be assigned to a cardholder. Up to four validation groups are assigned to each cardholder set. Therefore every cardholder will have the same restrictions that belong to the selected validation group(s).

To add a transmitter block in AXNET, enter the starting ID of the block in the “Begin” field, and the ending ID of the block in the “End” field. Select the facility code of the block with the pull-down list. When “--” is selected as the facility code entry, the facility code will be ignored for authentication purposes.

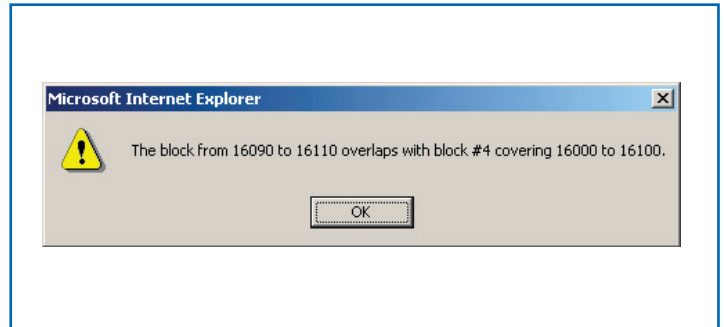
Enter a name to identify the card block (up to 24 characters), and then click on the “Submit” button. AXNET will check whether there are any overlaps with existing blocks or assigned single transmitters. If there is any overlap, then the submission will fail with a pop-up message displayed describing the problem, as shown in Screen Shot 18.9B.

Ensure that there are no overlaps by examining assigned transmitter block entries and by examining the single learned transmitters report. Delete the overlapping entries submit again.

Please note that transmitter blocks cannot be deleted until all assigned entries within the block range are removed. The “Delete” button to the left of the block entry will not be visible for those transmitter blocks that have cardholders assigned within the block range.



Screen Shot 18.9A



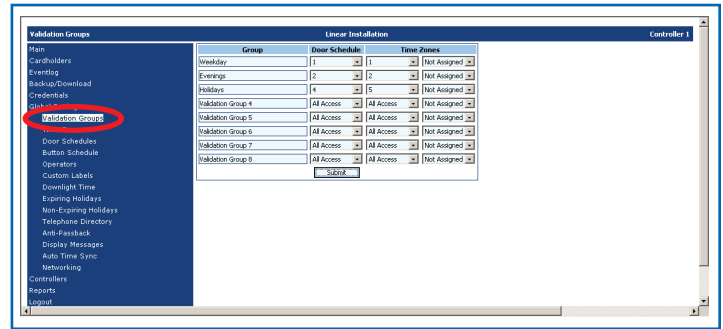
Screen Shot 18.9B

18.10 Global Settings> Validation Groups Screen

Validation Groups are often called security levels, and allows the restriction of access of a cardholder by date/time and door. Typically, validation groups are set up for groups of people with the same access requirements. For example, a validation group can be set up that allows the employees that work the day shift in a plant to have access to the main entrance during the day, but not on weekends. This same group, once inside the building, can have access to the tool room or the cafeteria only during the hours specified in the validation group. AXNET supports 8 different validation groups.

Group: A name that best describes the validation group can be entered here (24 characters maximum).

Door Schedule: The door schedule allows the restriction of access of the cardholder to certain doors.



Screen Shot 18.10

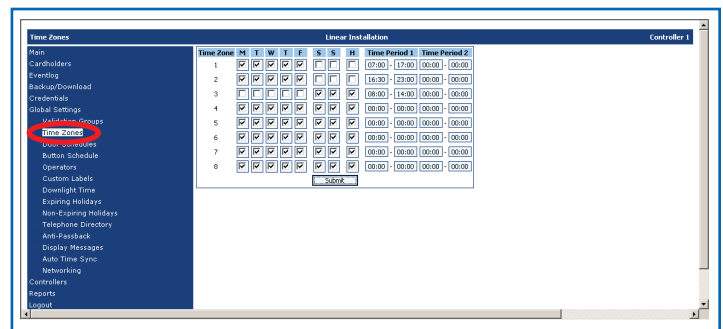
18.11 Global Settings> Time Zones Screen

Time Zones perform two functions in AXNET. A time zone can be used to restrict the access of the cardholder by day and time. A time zone can also be used to hold open doors or gates via an auto open time zone. In addition, holiday schedules can be implemented to allow unique access requirements for holidays.

AXNET supports up to 8 different time zones. Each time zone can have up to two time periods. The periods allow the utilization of one time zone to accomplish two actions during a 24 hour period. For example, if a gate is to be locked open in the morning from 6:00 A.M. until 8:00 A.M. and from 3:00 P.M. until 6:00 P.M., this can be accomplished with one time zone by creating a period for the morning and a period for the afternoon.

To enable a time zone, first check the days of the week that the time zone is to valid and/or check "H" if the time zone is to enabled for holidays. Holiday schedules can be set in the Expiring Holidays and Non-Expiring Holidays browser panels (see **Sections 18.17, Global Settings> Expiring Holidays;** and **18.18, Global Settings> Non-Expiring Holidays**).

Set the start and end times that the time zone is active in 24-hour format. To disable a time zone set the start and end times for both time periods to 00:00.

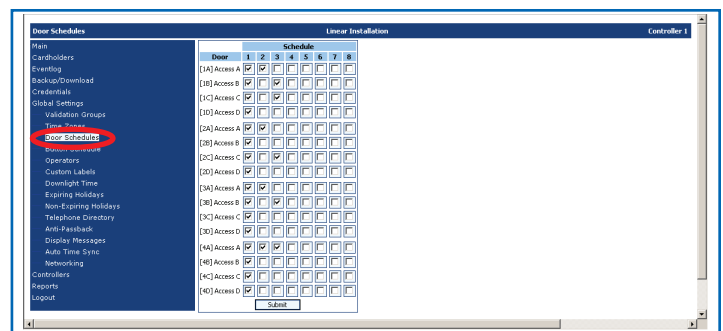


Screen Shot 18.11

18.12 Global Settings> Door Schedules Screen

Door Schedules allow the restriction of access of the cardholder to certain doors (relays). AXNET supports up to 8 different door schedules.

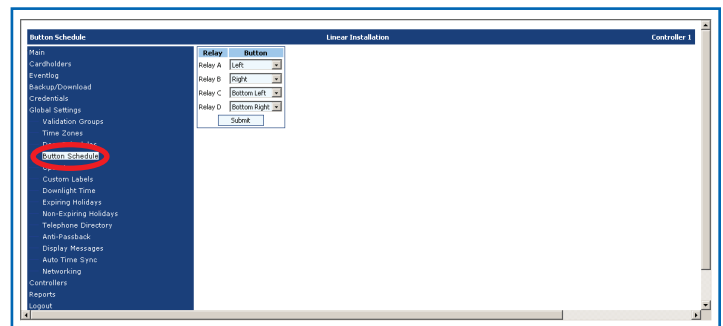
If there are more than one node present within the network, there will be the ability to restrict access to each door via the door schedule. Check each door on the browser panel to be associated with a specific door schedule.



Screen Shot 18.12

18.13 Global Settings> Button Schedule

Button Schedules allow changes to be made in the way multiple button transmitters react within the system. By default, a two-button transmitter will activate the A & B relays. A four-button transmitter will activate all four relays. Using button schedules, relays can be re-configured to have them activate via a button instead of via the default. This is an advanced feature that should only be used when necessary. Click the "Submit" button after configuration of the Button Schedule is completed.

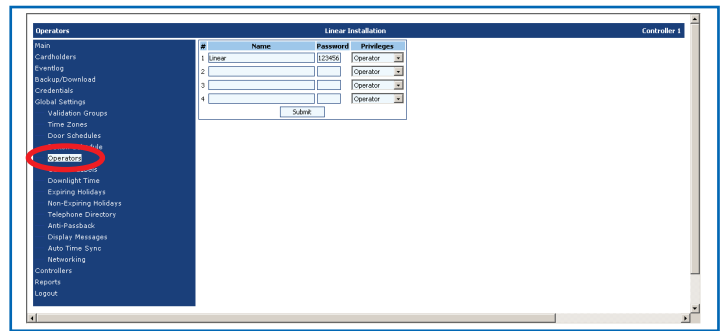


Screen Shot 18.13

18.14 Global Settings> Operators Screen

Operator user names and passwords can be set in this browser panel. Currently, the all operators will have administrator privileges (access to all AXNET features) regardless of the "Privileges" setting.

Please note that the user name and password are case sensitive, and must be entered exactly as specified in this browser page for the dial-up access or direct serial connection authentication.

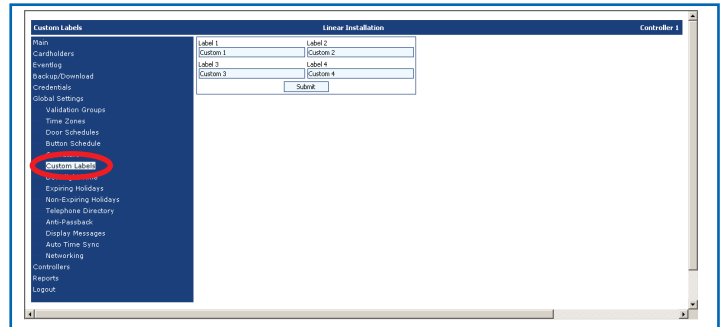


Screen Shot 18.14

18.15 Global Settings> Custom Labels

There are four user-definable fields provided that are displayed in the cardholder screen and in the Cardholder report.

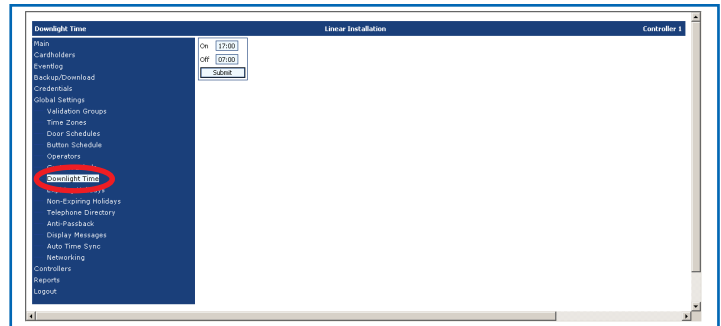
The custom label fields allow unique data to be added for each cardholder, such as vehicle driven to work, vehicle color, license, etc.



Screen Shot 18.15

18.16 Global Settings> Downtime Time

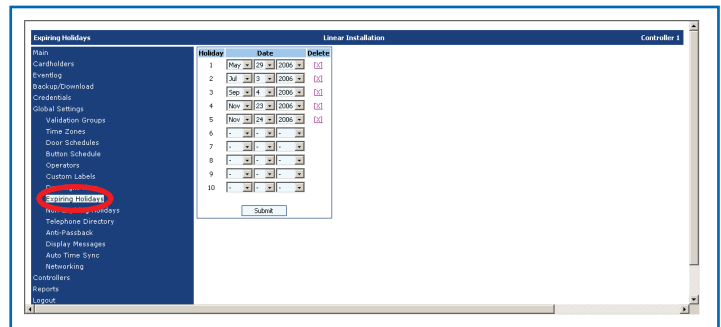
Downtime On/Off Time. This will set the time that the downtime on the AM-KP and AM-KPI access control keypads will turn on and turn off. The option must be enabled in the keypads remote device setting (see [Section 18.29, Controllers> My Controller \(n\)> Remote Devices](#)). Enter the time in 24 hour format.



Screen Shot 18.16

18.17 Global Settings> Expiring Holidays

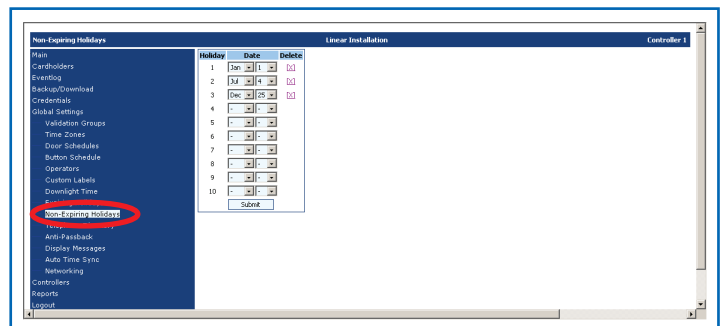
An Expiring Holiday is a Holiday that will only work once. An expiring holiday could be an event that falls on the same DAY of the week every year.



Screen Shot 18.17

18.18 Global Settings> Non-Expiring Holidays

Non-Expiring Holidays will be effective on the same day every year. Typically non-expiring holidays fall on the same DATE every year.



Screen Shot 18.18

18.19 Global Settings> Telephone Directory

This section applies to AE1000Plus or AE2000Plus Telephone Entry Systems ONLY.

Priority Access Password: This is the 6-digit password that must be entered on a touch-tone phone to lock the relays assigned as Priority Access open. The relays are assigned in the Controllers -> Relays browser screen (see **Section 18.26, Controllers> My Controller (n)> Relays**).

Priority Access commands can be entered from a touch-tone phone by entering the 6-digit password assigned here, followed by a single-digit command.

The following commands are available:

- “9” will lock open all relays assigned as a Priority Access relay.
- “5” will unlock all relays assigned as a Priority Access relay.
- “1” will lock open all relays assigned as a Priority Access relay for one hour.

For example, if the Priority Access password is 123456, to lock the relays on for one hour, the following steps need to be performed:

1. From any touch tone phone, dial the phone number of the modem.
2. When the controller answers the phone a beep will be heard.
3. Enter 1 2 3 4 5 6 1 on your telephone keypad. A series of beeps as an acknowledgement will be heard if the password and command is accepted. The telephone entry system will then lock open all relays assigned as Priority Access for a period of one hour.

Talk Time: Talk time is how much time the resident has to communicate with the guest via the telephone entry system. The talk time is programmable to between 0 and 255 seconds.

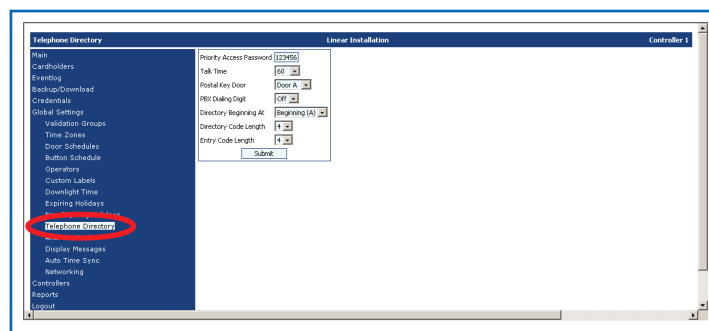
Postal Key Door: If a postal switch is installed in the telephone entry system, the Postal Key Door tells the controller which relay to activate.

PBX Dialing Digit: If the system is connected to the phone company through a PBX and a certain digit must be dialed in order to access an outside line, this digit may be selected (0-9) here. When assigning a directory code to a cardholder, the PBX dialing digit does not have to be accounted for in order to access an outside line.

Directory Begins At: (AE1000Plus only) When a guest approaches the telephone entry system and presses the # key to enter the directory mode, the directory display can be set to start in the beginning (A) or the middle (M).

Directory Code Length: This sets the number of digits used to enter and display directory codes on the unit (2 to 4 digits). For example, if there are 600 residents with directory codes, at least a 3-digit directory code length is required.

Entry Code Length: This sets the number of digits required for the input of entry codes (2 to 6 digits).



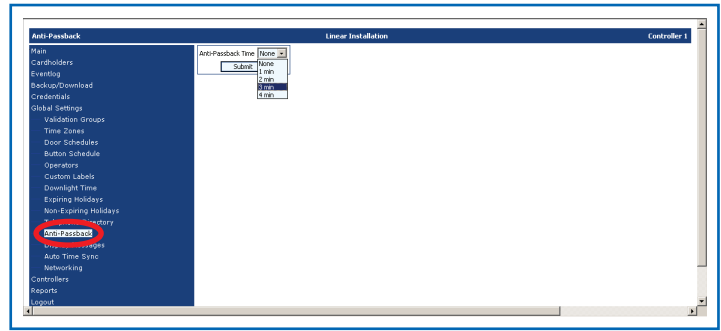
Screen Shot 18.19

18.20 Global Settings> Anti-Passback

Anti-passback helps to prevent cardholders from using the same credentials to gain unauthorized access. This is particularly helpful in installations with keypads.

Anti-Passback Time: AXNET incorporates the 'timed' anti-passback method. Once the user has been granted access, the user must wait until the anti-passback time expires before they will be allowed access again. The time is programmable from **NONE** to **4 minutes**.

To enable anti-passback, in addition to setting the time, the appropriate device must be enabled for anti-passback



Screen Shot 18.20

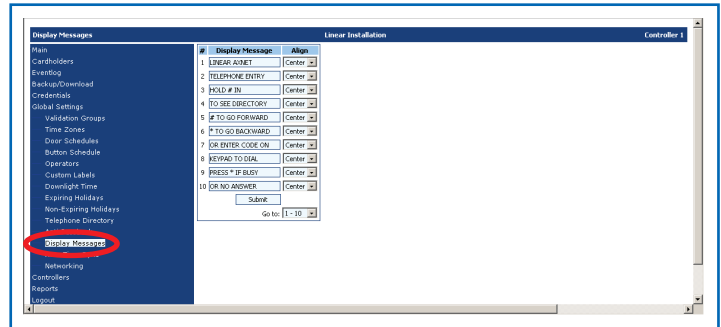
18.21 Global Settings> Display Messages

This section applies to AE1000Plus or AE2000Plus Telephone Entry systems ONLY.

Messages that are displayed on the telephone entry system can be edited. There are a total of 40 messages that can be edited.

To edit the display messages enter the new text (up to 16 characters), choose the text alignment (left or center), and click on the Submit button. All of the messages can be accessed by clicking on the "Go to" pull-down.

The messages that are most frequently modified are messages 1 and 2. These messages are displayed on the front panel during the normal mode of operation.

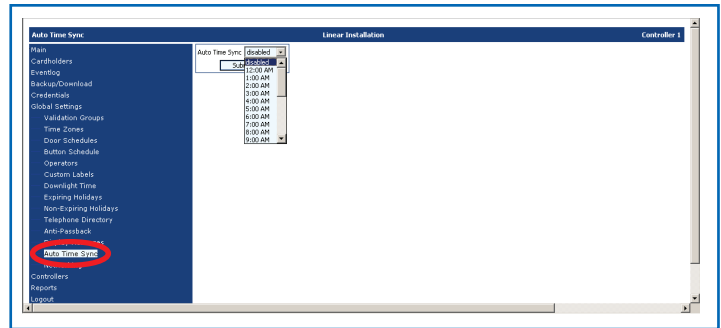


Screen Shot 18.21

18.22 Global Settings> Auto Time Sync

Auto Time Sync will enable the synchronization of the real-time clock for all nodes in the installation at the specified time.

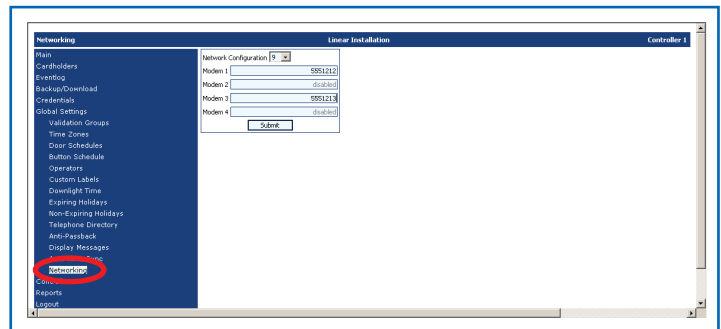
To enable the Auto Time Sync function, click on the pull-down menu, and select a time for the controller to initiate the clock synchronization.



Screen Shot 18.22

18.23 Global Settings> Networking

The network configuration of the installation is set here. This is the first parameter that is set when setting up the installation. See **Section 13, Network Installation Basics**, for more details.



Screen Shot 18.23

18.24 Controllers> My Controller (n)

The main screen for each of the controllers provide real-time control of the relays, as well as a facility to synchronize the controller real-time clock with the PC clock.

To initiate action on the relays, the appropriate buttons need to be clicked, followed by a click of the “Submit” button. If a mistake is made in the setting of the relay states prior to issuing a Submit command, then clicking on the “Clear” button will clear all pending relay actions. Real-time control of relays on the remote nodes are possible as well. Select the appropriate remote controller, click on the buttons to set the appropriate relay state, and then click on the “Submit” button. Then to initiate real-time control on the remote controllers, it is necessary to log off and disconnect from controller (see **Section 18.38, Logout> Logout and Hangup**).

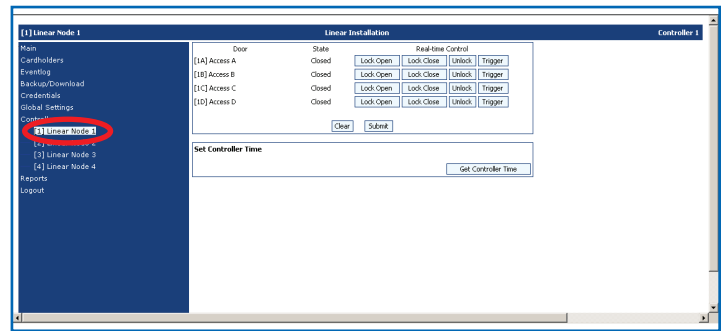
The following are descriptions of real-time control options for the relays:

Lock Open: this will energize the relay and lock the relay state.

Lock Close: this will de-energize the relay and lock the relay state. The two-digit LED display on the controller board will indicate the relays that are lock closed as shown in Figure 4.

Unlock: this will de-energize the relay and unlock the relay state.

Trigger: this will energize the relay for the length of time set by the activation time (see **Section 18.26, Controllers> My Controller (n)> Relays**), then de-energize the relay.



Screen Shot 18.24

05 = Relay A is locked closed

06 = Relay B is locked closed

07 = Relay C is locked closed

08 = Relay D is locked closed

Figure 4. Relay Status Display Indication

18.25 Controllers> My Controller (n)> Setup

The basic controller configuration is assigned here.

Controller Name: This is the name assigned to the controller (maximum 23 characters).

Controller Password: This is the password used to authenticate controller to controller communications.

Radio Direction (only applicable for AE1000Plus and AE2000Plus): This setting is used in anti-passback applications. The options are:

- **NONE:** This device will not be used to determine anti-passback direction.
- **IN:** This device will be used as an IN device in a timed anti-passback application.

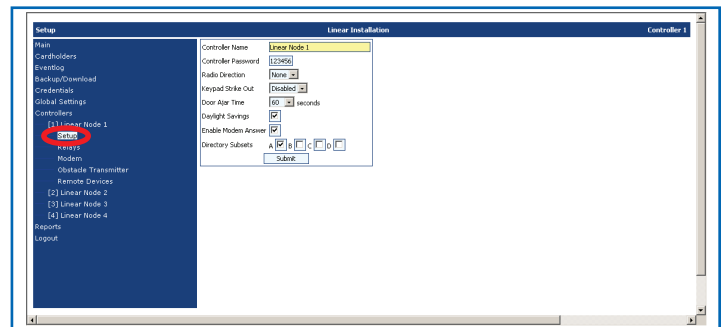
Keypad Strike Out: This is where the number of invalid keypad attempts before keypad lockout occurs is configured. The keypad will remain locked for a period of 1 minute when the specified number of invalid attempts occurs. The number of invalid attempts before lockout is programmable between 1 and 7. To disable this feature, set the parameter to Disabled.

Door Ajar Time: This is the amount of time that the door can remain open before a relay set for alarm is activated.

Daylight Savings: If the installation is in an area that practices Daylight Saving Time, please leave the Daylight Savings box checked.

Enable Modem Answer: When the box is not checked (checked by default), the on-board modem will not auto-answer.

Directory Subsets: In networked installations with multiple AE1000Plus or AE-2000 telephone entry systems, it is possible to determine which directory names are displayed on the individual telephone entry systems. Each cardholder can be assigned to any or all four directory subsets. This is done in the cardholder screen. Check the directory subsets that are to be displayed on this controller.



Screen Shot 18.25

18.26 Controllers> My Controller (n)> Relays

Individual relays on the node are configured using this browser window.

There are four relays on the controller. Each relay is programmed individually, and the following parameters can be changed:

Name: This is the name associated with the relay. The name can be up to 23 characters in length.

Activation Time: This is the amount of time that the relay is activated in seconds. This is only applicable in the timed mode of relay operation. Typically, a relay set to activate a mag lock or electric strike will be set for around five seconds. Two seconds is usually sufficient for the average gate operator.

Telephone Digit: This feature is only valid with AE1000Plus and AE2000Plus units. This is the key which the user will have to press on their touch-tone phone to grant access on a telephone entry call. The programmable options are NONE or 1 – 9.

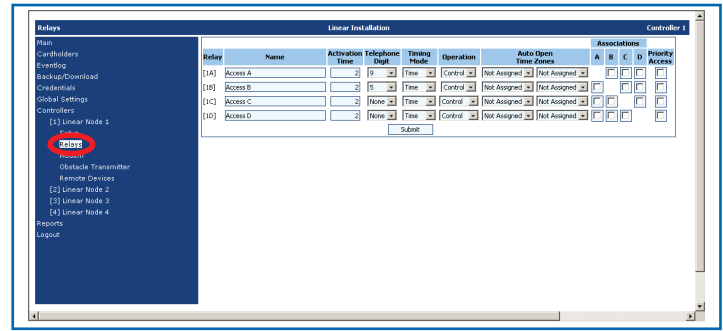
Timing Mode: This selects the mode of operation for the relay. See the Relay Timing Modes Table.

Operation: This parameter determines how the relay will function in the system. See the Relay Operation Table.

Auto Open Time Zones: Time Zones can be assigned to automatically lock open and unlock relays during specific time periods. Up to two time zones can be set per relay. For example, auto open time zones can be used if there is an entrance door or gate that is to be locked open in the morning when everyone is coming to work and again when they are going home from work. A time zone can be specified for a period that opens the gate in the morning and another time zone can be specified for a period that opens the gate in the afternoon. The time zones are set up in the Global Settings -> Time Zones browser page (see **Section 18.11 Global Settings> Time Zones Screen**).

Associations: Applicable when the relay control is set to Shunt or Alarm, actions on relays associated with a shunt or alarm relay will cause this relay to be activated.

Priority Access: When checked, these relays can be controlled from the main browser screen (see **Section 18.1 Main Screen**) or from the telephone for AE1000Plus and AE2000Plus controllers (see **Section 18.19 Global Settings> Telephone Directory**).



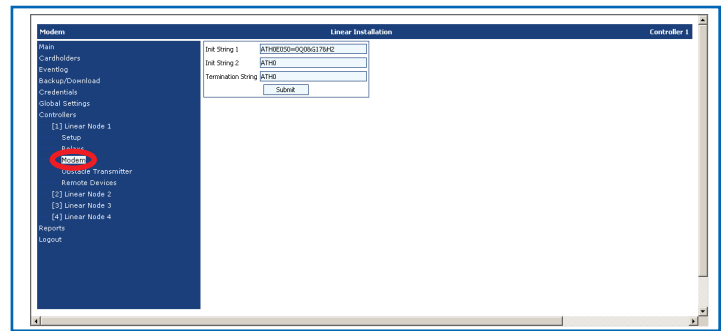
Screen Shot 18.26

RELAY TIMING MODES	
TIMING MODE	FUNCTION
Timed	The relay stays activated for the specified duration.
Pulse	The relay will trigger for 1/4 second.
Toggle	The relay will activate for the first activation and release on the next activation.
Latch	The relay will activate and remain activated until reset at the control.

RELAY OPERATION	
OPERATION	FUNCTION
Control	In this mode, the relay will activate per the Timing Mode and Activation Time parameters.
Shunt	When a relay is set for shunt, any of the other relays may be associated with this shunt relay. Relay associations are made by checking the appropriate relays in the Associations section. This shunt relay will activate and remain activated as long as any relay associated with it is activated.
Alarm	If a relay is set for alarm, any of the other relays may be associated with this alarm relay. This alarm relay follows the door ajar input of any of the relay associated with it. The door ajar input changes when the door or gate remains open past the setting for Door Ajar Time.
Obstacle	If set for obstacle, the C relay will activate if a wireless supervised gate edge transmitter (MGT) is programmed into transmitter 1 senses an obstruction. The D relay will activate if an MGT programmed into transmitter 2 senses an obstruction.
CCTV	This feature is only applicable to AE1000Plus and AE2000Plus. When talking to a visitor via the telephone entry system, the user can press "5" on their touch-tone phone to activate the relay set for CCTV. A CCTV camera at the entry point could then send an image back to the resident. CCTV equipment is sold separately.

18.27 Controllers> My Controller (n)> Modem

This screen allows for the configuration of the initialization and termination strings for the modem. These strings are configured specifically for the modem installed in the controller unit, and should not be modified unless instructed to do so.



Screen Shot 18.27

18.28 Controllers> My Controller (n)> Obstacle Transmitter

Up to two MGT safety edge transmitters can be programmed per node. The MGT is a wireless supervised gate edge transmitter. An edge sensor, such as a tape switch or a safety edge is connected to the MGT. When the edge sensor strikes another object, the MGT sends a signal to the controller. The controller supervises the MGT for battery, status and tamper. Any of these events will cause the MGT report the trouble condition to the controller.

Obstacle Transmitter 1 is associated with Relay C of the controller. To enable the association of obstacle transmitter 1 with Relay C, Relay C, must be configured for Obstacle in the Operation field of the relay setup (see **Section 18.26 Controllers> My Controller (n)> Relays**).

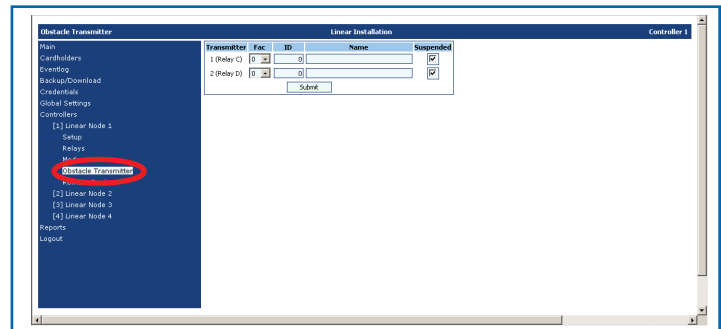
Obstacle Transmitter 2 is associated with Relay D of the controller. To enable the association of obstacle transmitter 1 with Relay D, Relay D, must be configured for Obstacle in the Operation field of the relay setup (see **Section 18.26 Controllers> My Controller (n)> Relays**).

Fac: The facility code of the MGT is entered here.

ID: The ID code for the MGT is entered here.

Name: The name associated with the obstacle transmitter is entered here (maximum 24 characters).

Suspended: This box is checked if the obstacle transmitter is to be disabled.



Screen Shot 18.28

18.29 Controllers> My Controller (n)> Remote Devices

Up to four remote devices can be connected to a node. On each remote device, there is a rotary switch that is used to set each device to a unique device address. During installation, each remote device should have been assigned a unique device address.

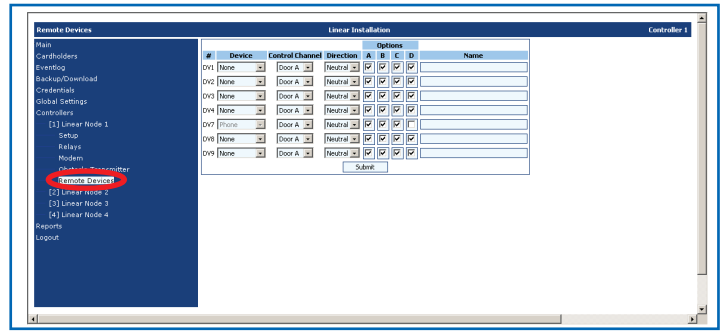
DV1 – DV9: Each remote device will have a unique device address set during installation. DV1 – DV4 and DV8 & DV9 are possible device addresses. DV7 is used for type PHONE only and is always assigned to the keypad found on an AE1000Plus or AE2000Plus. DV8 is used for type Reader A and DV9 is used for type Reader B.

Device: The AXNET device category of the remote device is set here. The types of devices and their categories are listed in the Remote Device Categories Table.

Control Channel: The relay that is to be activated when a valid credential is received is set here. More than one device may activate the same relay, but a device may not activate more than one relay, with one exception. When the “Button” selection is made for Radio type devices, a multi-button transmitter will activate different relays as defined in Button Schedule settings (see **Section 18.13 Global Settings> Button Schedule**). Please note that setting any other device to the “Button” setting will cause none of the relays to be activated.

Direction: This setting is used in anti-passback applications. The settings are shown in the Anti-passback Direction Settings table.

Options: Special device features are enabled and disabled using these settings. Currently, the AM-KP, AM-KPI, and PHONE devices are the only remote devices that have programming options. The options are shown in the Keypad Device Options and Phone Device Options Tables.



Screen Shot 18.29

REMOTE DEVICE CATEGORIES		
CATEGORY	AXNET DEVICE	OPTIONS/NOTES
Keypad	AM-KP Entry Keypad	Yes
Keypad	AM-KPI Entry Keypad	Yes
Radio	AM-RRR Remote Radio Receiver	None
Radio	AM-RPR Remote Proximity Receiver	None
Phone	Keypad on AE1000Plus or AE2000Plus	Yes
Wiegand 26	AM-CRI Card Reader Interface	None
Wiegand 30	AM-CRI Card Reader Interface	None
Wiegand 31	AM-CRI Card Reader Interface	None

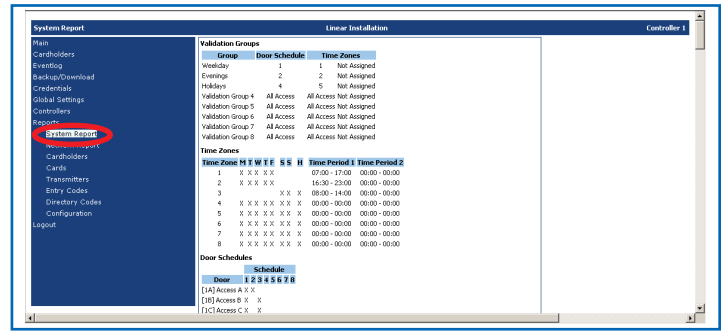
ANTI-PASSBACK DIRECTION SETTINGS	
DIRECTION	DESCRIPTION
NONE	This device will not be used to determine anti-passback direction.
IN	This device will be used as an IN device in a timed anti-passback application
OUT	Currently not supported.
NEUTRAL	Currently not supported

KEYPAD DEVICE OPTIONS	
OPTION	DESCRIPTION
A	Keypad Beeps On
B	Downlight Timing On. Keypad’s built-in downlight can be set to turn on and turn off at certain times by setting the start and end times in the Downlight Time browser panel (see Section 17.16, Global Settings >Downlight Time)
C	If enabled, it will cause the downlight to remain on 24 hours a day. By setting this option, Option B settings will be overridden.
D	Keypad Beeps On

PHONE DEVICE OPTIONS	
OPTION	DESCRIPTION
A	Not Used
B	Not Used
C	Not Used
D	Keypad Activates Dual Relays. When enabled, entry codes are entered on the keypad on AE1000Plus or AE2000Plus activate specific relays > If the control channel for DV7 is set to RELAY A entry codes ending with an EVEN number will activate RELAY A. Entry codes ending with an ODD number will activate RELAY B. > If the control channel for DV7 is set to RELAY C, entry codes ending with an EVEN number will activate RELAY C. Entry codes ending with an ODD number will activate RELAY D.

18.30 Reports> System Report

This report displays all global settings, as well as controller configurations.

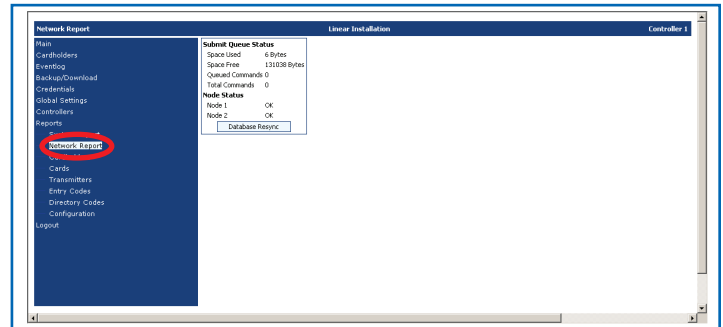


Screen Shot 18.30

18.31 Reports> Network Report

The Network Report provides status of the communications between nodes, and provides a facility to restart the network after an issue has been reported and caused controller to go offline:

Screen Shot 18.31 shows that all nodes are on-line (Node Status is OK), and that there are no pending commands in the Submit status queue.

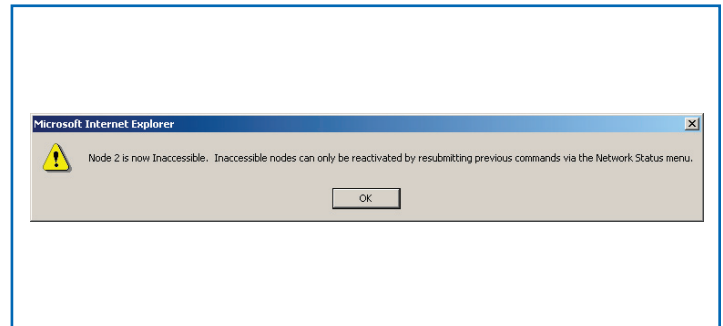


Screen Shot 18.31

18.31.1 Restart Submit Queue

If there is a communication problem with one of the nodes, then the pop-up shown in Screen Shot 18.31.1A will be displayed:

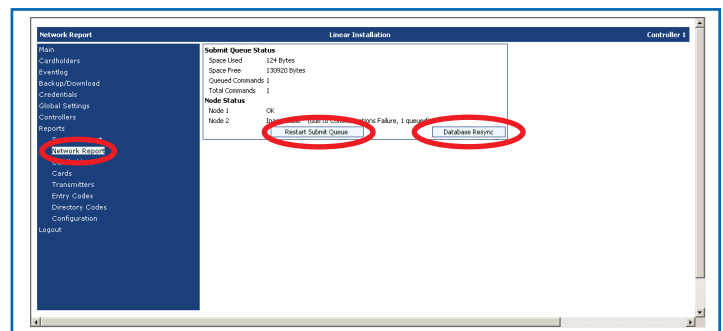
Screen Shot 18.31.1A shows that one of the nodes is inaccessible. An additional button is displayed ("Restart Submit Queue") to allow the panel operator to restart the network communication (see Screen Shot 18.31.1B).



Screen Shot 18.31.1A

18.31.2 Database Resync

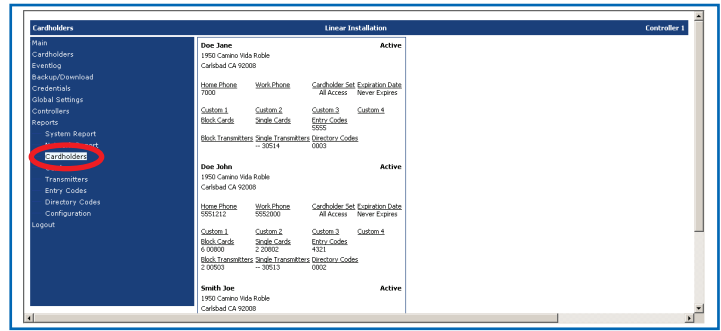
In AXNET mode of operation, it is essential that the databases in all of the controllers in the installation be synchronized. AXNET automatically performs synchronization with other controllers when changes are made in Node 1. In the event that the state of the database in the controllers become unknown, or if a restore of a backup is desired and synchronization of the databases is required, the Database Resync feature is used. Database Resync will propagate the entire contents of a database to all of the controllers in the installation. Database Resync can only be initiated from Node 1. Please also note that for large databases, the resync activity can take a considerable amount of time.



Screen Shot 18.31.1B

18.32 Reports > Cardholders

The Cardholder report provides Cardholders information in report form.

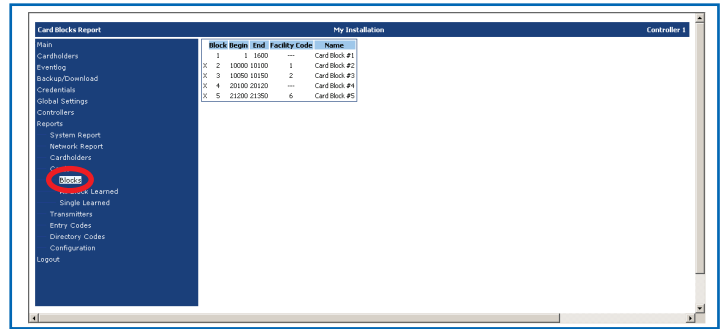


Screen Shot 18.32

18.33 Reports > Cards

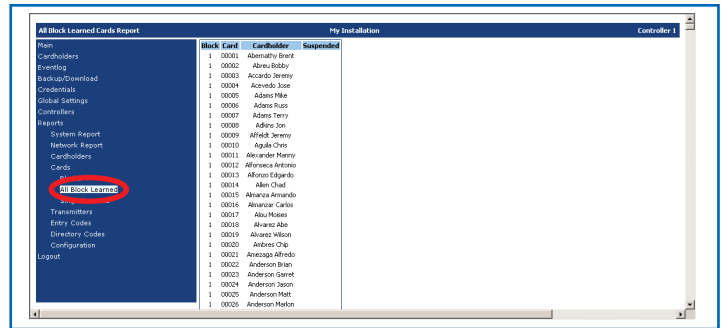
Various reports can be displayed for the cards.

The report in Screen Shot 18.33A displays all card blocks that have been defined.



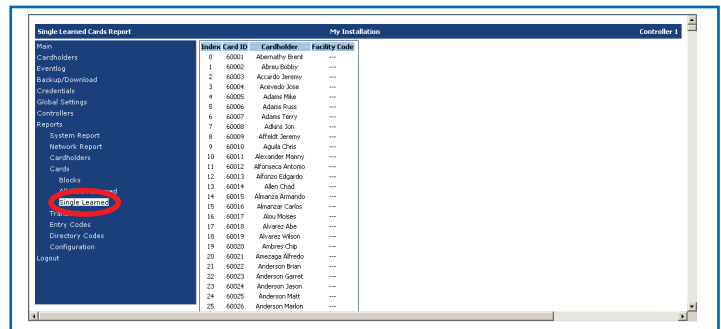
Screen Shot 18.33A

The report in Screen Shot 18.33B displays all IDs that have been defined within the card block range.



Screen Shot 18.33B

The report in Screen Shot 18.33C displays all single cards that were enrolled:



Screen Shot 18.33C

AXNET Browser Interface Screen Shots and Descriptions (Continued)

18.34 Reports> Transmitters

Various reports that can be displayed for the transmitters:

The report in Screen Shot 18.34A displays all transmitter blocks that have been defined.

Block	Begin	End	Facility Code	Name
1	1	1	1500	Walker Block #1
2	2000	2050	1	Walker Block #2
3	2000	2050	3	Walker Block #3
4	2100	2150	--	Walker Block #4
5	2000	2050	8	Walker Block #5

Screen Shot 18.34A

The report in Screen Shot 18.34B displays all IDs that have been defined within the transmitter block range.

Block	Transmitter	Cardholder
1	00000	Abenathy Brent
1	00002	Abreu Bobby
1	00003	Acardo Jeremy
1	00004	Acervo Jose
1	00005	Adams Mike
1	00006	Adams Russ
1	00007	Adams Terry
1	00008	Adams Jon
1	00009	Alfadh Jeremy
1	00010	Agala Chris
1	00011	Alexander Harry
1	00012	Alfonso Antonio
1	00013	Alfonso Edgardo
1	00014	Allen Chad
1	00015	Alvarca Armando
1	00016	Alvarca Carlos
1	00017	Alva Moses
1	00018	Alvarez Abe
1	00019	Alvarez Wilson
1	00020	Andres Chip
1	00021	Amecaga Alfredo
1	00022	Anderson Brian
1	00023	Anderson Garret
1	00024	Anderson Jason
1	00025	Anderson Matt
1	00026	Anderson Markon

Screen Shot 18.34B

The report in Screen Shot 18.34C displays all single transmitters that were enrolled.

Index	Transmitter ID	Cardholder	Facility Code
0	00000	Abenathy Brent	--
1	00002	Abreu Bobby	--
2	00003	Acardo Jeremy	--
3	00004	Acervo Jose	--
4	00005	Adams Mike	--
5	00006	Adams Russ	--
6	00007	Adams Terry	--
7	00008	Adams Jon	--
8	00009	Alfadh Jeremy	--
9	00010	Agala Chris	--
10	00011	Alexander Harry	--
11	00012	Alfonso Antonio	--
12	00013	Alfonso Edgardo	--
13	00014	Allen Chad	--
14	00015	Alvarca Armando	--
15	00016	Alvarca Carlos	--
16	00017	Alva Moses	--
17	00018	Alvarez Abe	--
18	00019	Alvarez Wilson	--
19	00020	Andres Chip	--
20	00021	Amecaga Alfredo	--
21	00022	Anderson Brian	--
22	00023	Anderson Garret	--
23	00024	Anderson Jason	--
24	00025	Anderson Matt	--
25	00026	Anderson Markon	--

Screen Shot 18.34C

18.35 Reports> Entry Codes

The report in Screen Shot 18.35 displays all entry codes that have been assigned to cardholders.

Entry Code	Cardholder
0001	Abenathy Brent
0002	Abreu Bobby
0003	Acardo Jeremy
0004	Acervo Jose
0005	Adams Mike
0006	Adams Russ
0007	Adams Terry
0008	Adams Jon
0009	Alfadh Jeremy
0010	Agala Chris
0011	Alexander Harry
0012	Alfonso Antonio
0013	Alfonso Edgardo
0014	Allen Chad
0015	Alvarca Armando
0016	Alvarca Carlos
0017	Alva Moses
0018	Alvarez Abe
0019	Alvarez Wilson
0020	Andres Chip
0021	Amecaga Alfredo
0022	Anderson Brian
0023	Anderson Garret
0024	Anderson Jason
0025	Anderson Matt
0026	Anderson Markon

Screen Shot 18.35

18.36 Reports> Directory Codes

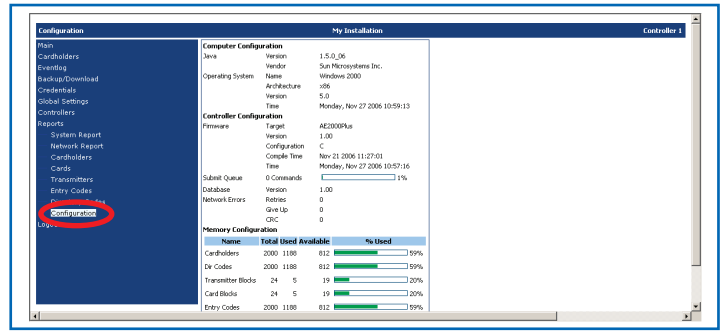
The report in Screen Shot 18.36 displays all directory codes that have assigned to cardholders, with the cardholder name, phone number to be dialed, whether or not extended talk time is enabled, and the directory subsets assigned displayed.

Index	Dir Code	Cardholder	Internal Name	Telephone Number	Call	Talk Time	A	B	C	D
1	0001	Abenathy Brent	Abenathy Brent	1						
2	0002	Abreu Bobby	Abreu Bobby	2				X		
3	0003	Acardo Jeremy	Acardo Jeremy	3					X	
4	0004	Acervo Jose	Acervo Jose	4						X
5	0005	Adams Mike	Adams Mike	5			X			
6	0006	Adams Russ	Adams Russ	6				X		
7	0007	Adams Terry	Adams Terry	7					X	
8	0008	Adams Jon	Adams Jon	8						X
9	0009	Alfadh Jeremy	Alfadh Jeremy	9			X			
10	0010	Agala Chris	Agala Chris	10				X		
11	0011	Alexander Harry	Alexander Harry	11					X	
12	0012	Alfonso Antonio	Alfonso Antonio	12						X
13	0013	Alfonso Edgardo	Alfonso Edgardo	13			X			
14	0014	Allen Chad	Allen Chad	14						X
15	0015	Alvarca Armando	Alvarca Armando	15					X	
16	0016	Alvarca Carlos	Alvarca Carlos	16						X
17	0017	Alva Moses	Alva Moses	17			X			
18	0018	Alvarez Abe	Alvarez Abe	18				X		
19	0019	Alvarez Wilson	Alvarez Wilson	19					X	
20	0020	Andres Chip	Andres Chip	20						X
21	0021	Amecaga Alfredo	Amecaga Alfredo	21			X			
22	0022	Anderson Brian	Anderson Brian	22					X	
23	0023	Anderson Garret	Anderson Garret	23						X
24	0024	Anderson Jason	Anderson Jason	24						X
25	0025	Anderson Markon	Anderson Markon	25			X			

Screen Shot 18.36

18.37 Reports> Configuration

This report displays the configuration of the computer running AXNET, including the operating system version and the Java version. This report also displays the controller configuration including the controller type, embedded firmware revision, database revision, and network status. Finally, this report displays the current database memory usage.

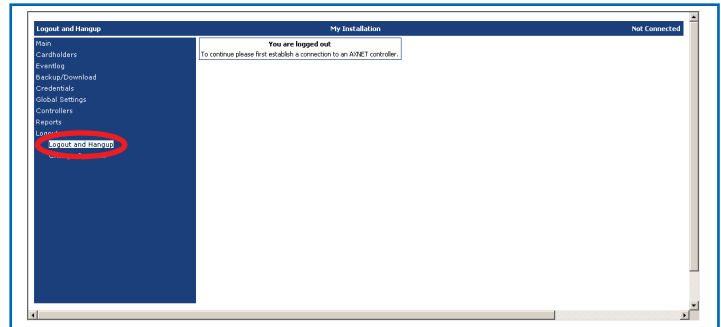


Screen Shot 18.37

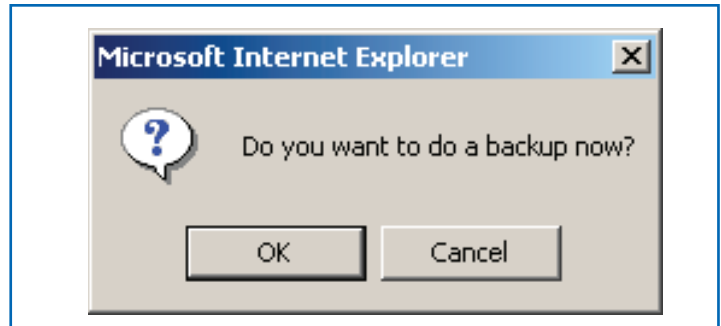
18.38 Logout> Logout and Hangup

This will cause AXNET to log out and hang up the PPP connection. When this menu item is clicked, a pop-up dialog will appear prompting whether to initiate a back-up (see Screen Shot 18.38B).

If "OK" is clicked, then the browser will open the Backup/Download screen. Follow instructions in **Section 18.7, Backup/Download Screen**.



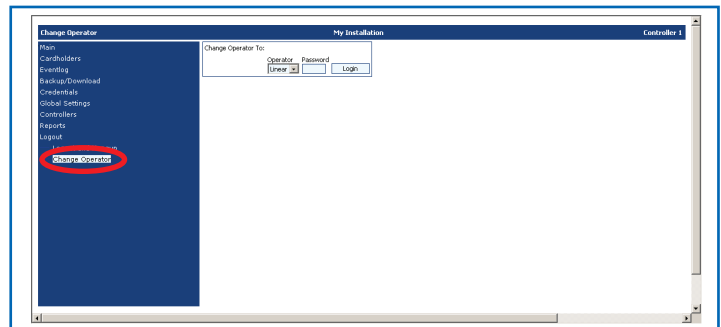
Screen Shot 18.38A



Screen Shot 18.38B

18.39 Logout> Change Operator

The Change Operator screen allows the switching between operators without having to disconnect and re-establish a PPP connection.



Screen Shot 18.39

19 Appendix - Definition of Front Panel Configuration Modes

The front panel display operation will be different between AXNET mode of operation and AccessBase mode of operation. The set-up mode can be entered by pressing the UP and DOWN buttons simultaneously for about 1 second. The controller will acknowledge with a beep when entering the set-up mode.

AXNET Mode (An 1.0 on power-up display)






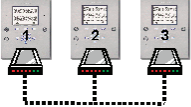


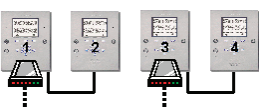
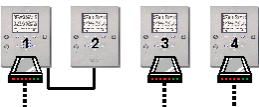
- 0.1. Assign Controller as Node 1
- 0.2. Assign Controller as Node 2
- 0.3. Assign Controller as Node 3
- 0.4. Assign Controller as Node 4
- A.b. Switch to AccessBase Mode of Operation
- b.L. Reserved
- C.L. Clear Controller Database

AccessBase Mode (Ab 2.5 on power-up display)

- 0.1. Assign Controller as Node 1
- 0.2. Assign Controller as Node 2
- 0.3. Assign Controller as Node 3
- 0.4. Assign Controller as Node 4
- 0.5. Assign Controller as Node 5
- 0.6. Assign Controller as Node 6
- 0.7. Assign Controller as Node 7
- 0.8. Assign Controller as Node 8
- A.n. Switch to AXNET Mode of Operation
- b.L. Reserved
- C.L. Clear Controller Configuration

20 Appendix - Network Configurations

Solid lines between the controllers indicate RS-485 connections. Dashed lines between the controllers indicate modem connections.

NETWORK CONFIGURATION TABLE		
NETWORK CONFIGURATION NUMBER	DESCRIPTION	CONFIGURATION
1	Single Node	
2	Two RS-485 Networked Nodes	
3	Two Modem Nodes	
4	Three RS-485 Networked Nodes	
5	Two RS-485 Networked Nodes + One Modem Node	
6	Three Modem Nodes	
7	Four RS-485 Networked Nodes	
8	Three RS-485 Networked Nodes + One Modem Node	
9	2 x Two RS-485 Networked Nodes	
10	Two RS-485 Networked Nodes + Two Modem Nodes	
11	Four Modem Nodes	