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*USER'S GUIDE*

# Site Book User's Guide




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# Site Book User's Guide

## *Introduction*

Site Book is used for configuring communications options for N30 Supervisory Controllers, M-Tool, and M-Series Workstations.

This document describes how to:

- check the Ethernet related addresses of a Personal Computer (PC) running Windows® 98 software
- check the Ethernet related addresses of a PC running Windows NT® software
- check the Ethernet related addresses of a PC running Windows 2000 software
- set the Ethernet related addresses on a PC running Windows 98 software
- set the Ethernet related addresses on a PC running Windows NT software
- set the Ethernet related addresses on a PC running Windows 2000 software
- add an Ethernet Local Area Network (LAN) site to Site Book
- add device addresses in Segment Hop (SHOP)
- add device host names in SHOP
- delete device addresses or host names from SHOP
- add a direct serial or dial-up (modem) connection site
- use Browse Site Database
- add a device
- find devices
- edit a device host name

- delete a site from Site Book
- connect to an N30 site from Project Builder via a direct serial connection
- change the Point-to-Point Protocol (PPP) password
- change the BACnet® IP Port

Note: Unless otherwise indicated, the information in this document applies to all N30 and N31 Supervisory Controllers.

# Key Concepts

## Related Documentation

See the documents in Table 1 for more information.

**Table 1: Related Documents**

| Topic | Document |
|---|---|
| **Overview of N30 Networks, Including Flowcharts and Checklists of Tasks** | *N30 Supervisory Controller Quick Start Technical Bulletin (LIT-6891200)* |
| **Setting Up an N30 Network** | *N30 Supervisory Controller Networking Technical Bulletin (LIT-6891300)* |
| **Setting Up Direct Serial and Dial-up (Modem) Connections** | *Direct Connect and Dial-up on Windows NT Application Note (LIT-6893400)*<br>*Direct Connect and Dial-up on Windows 98 Application Note (LIT-6893350)*<br>*Direct Connect and Dial-up on Windows 2000 Application Note (LIT-6893450)* |
| **Using Project Builder** | *Project Builder User's Guide (LIT-693200)* |
| **Using M-Series Workstations** | *M-Series Workstation Manual* |

## Communications Options

When communicating with an N30 Supervisory Controller from M-Tool or an M-Series Workstation, connect using one of three methods: direct serial connection via serial cable between your PC and the N30, dial-up connection via telephone lines using modems, or network connection via Ethernet.

## N30 Supervisory Controller

The N30 Supervisory Controller monitors and controls the Heating, Ventilating, and Air Conditioning (HVAC) related equipment in a facility. It uses powerful data gathering and energy management tools to help make a facility economical and cost effective. Facility personnel review the system status and modify control parameters for the N30 and its associated Application Specific Controllers (ASCs) using the Local Display Terminal (LDT) installed in certain models, a VT100 Terminal, or an M-Workstation.

## Project Builder

Part of the System Tools in M-Tool, Project Builder is a software tool used to create and edit building engineering projects offline. These projects may be uploaded from and downloaded to the devices used in the building. It allows you to import configuration files from other Johnson Controls tools such as HVAC PRO™ software and GX-9100 Graphic Configuration software.

## N30 Upgrade Utility

The N30 Upgrade utility upgrades N30s from firmware Revision Level 1.x to Revision Level 2.x. It is used when a Project Builder database for the N30 is not available or the available Revision Level 1.x database is not current.

## M3 Workstation

The M3 Workstation software application suite includes monitoring, commissioning, and analysis features. It works in combination with Companion™/Facilitator™ Systems and N30 Series Supervisory Controllers to provide a complete facility management solution.

## M5 Workstation

The M5 Workstation provides extensions and enhancements to the Metasys® Operator Workstation (OWS) and works in combination with Network Control Modules (NCMs) and N30 Supervisory Controllers to provide a complete facility management solution.

## Site

A site is a logical grouping of multiple N30 or N31 Supervisory Controllers interconnected on an Internet Protocol (IP) network for the purpose of communication with each other. We recommend defining no more than 50 sites in the Site Book.

## Direct Serial or Dial-up (Modem) Connection

Specific operating systems have different steps to set up the initial direct connection. Where this document talks about setting up direct connect in Site Book, we assume you have done the initial setup on a PC running Windows 98, Windows NT, or Windows 2000 software.

For more information on setting up direct connect for a specific operating system, see the appropriate document from the list below:

- *Direct Connect and Dial-up on Windows 98 Application Note (LIT-6893350)*
- *Direct Connect and Dial-up on Windows NT Application Note (LIT-6893400)*
- *Direct Connect and Dial-up on Windows 2000 Application Note (LIT-6893450)*

## Dial-In

Alarms from N30 systems can dial in automatically to an M-Series Workstation on a PC running Windows NT software. If you are using a Windows NT Workstation or a workstation with Windows 2000 Professional, alarms can dial in from one site at a time. If you are using a Windows NT Server, multiple sites can dial in at the same time with alarm messages.

## Transmission Control Protocol/Internet Protocol (TCP/IP)

The suite of communications protocols used to connect hosts on the Internet. TCP/IP uses several protocols, the two main ones being TCP and IP. TCP/IP is used by the Internet, making it the defacto standard for transmitting data over networks.

## Point-to-Point Protocol (PPP)

A protocol for communication between computers using TCP/IP, over standard telephone lines, Integrated Services Digital Network (ISDN) lines, and other high-speed connections. PPP can connect a computer to the Internet. PPP can be used with both synchronous and asynchronous transmission.

## Ethernet Connection

Connection made over an Ethernet network. Ethernet is a popular network topology. The Johnson Controls N30 Series Supervisory Controllers support Ethernet at 10 Megabits per second (Mbps). The network hardware of PCs may have Ethernet support built on to the motherboard and generally have 100/10 Mbps Ethernet interfaces.

## Building Automation Control Network (BACnet)

The BACnet standard is a protocol developed by the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) for intervendor communication.

## IP Address

Internet Protocol (IP) is the family of protocols to which the TCP/IP network-level protocol belongs. The IP address clearly identifies a node on the network and assists in the routing of messages on the BACnet network. Each network node must have a unique IP address. The factory default range for unique IP addresses assigned to N30s is 172.16.(64 to 127).(0 to 255). An example of an IP address is 172.16.68.243.

## IP Mask (or IP Address Mask)

Subnet addressing uses the IP mask supplied by the system administrator. It specifies which bits of the IP address correspond to the network address and which bits of the IP address correspond to the device address. This is different from the **IP broadcast distribution mask**, which is data required for BACnet compliance and used when adding a Broadcast Management object. Do not change the default IP broadcast distribution mask. The Broadcast Management object is discussed later in this document.

## IP Router Address

This IP address identifies a router device on the local Ethernet segment. The Local Area Network (LAN) administrator can supply this information.

## BACnet IP Port

The BACnet IP Port isolates a set of N30s on a single Ethernet segment to a separate site. For example, if an N30 system requires more than fifty N30s or requires isolation from other N30s, use separate BACnet IP Port numbers. N30s must have the same BACnet IP Port number to communicate with each other. The default value is 47808, which is BAC0 in hexadecimal.

Setting the BACnet IP Port value takes place in the Site Book when the site is configured. If the connection information is defined as Ethernet, the BACnet IP Port must be defined.

Note: The BACnet IP Port can be modified only in the N30 Supervisory Controller. N31 Supervisory Controllers are preset to BAC0 at the factory and are not editable.

## Network Address

The network address identifies the network. The network address is used for message routing at the BACnet network layer. It must be unique for each BACnet network segment.

All nodes on all Ethernet segments must specify the same network address because they are considered one BACnet network segment. Since an N30 can support both direct serial connections/dial-up (modem) connections and Ethernet simultaneously, the serial ports and Ethernet port must have different network addresses.

> The default value for Ethernet is 1001. The default for direct serial and dial-up (modem) connections is 100. For N30 networking purposes, do not change the default.

## IP Protocols

The N30 supports several IP protocols including Bootstrap Protocol (BOOTP), Domain Name System (DNS), and Simple Mail Transfer Protocol (SMTP). These protocols can be used independently of one another. For example, a site may include a BOOTP server but not a DNS server.

### *BOOTP*

BOOTP allows a device (such as an N30) to obtain and configure its own IP information. The device sends a request to the BOOTP server and the BOOTP server responds by providing the device its IP information, such as its IP address and, if a DNS server is also used, its host name. For N30 networking, configure the BOOTP server to assign static IP addresses to devices.

A BOOTP server is not required in order to provide BOOTP protocol, however. Most Dynamic Host Configuration Protocol (DHCP) servers can be configured to accept and respond to BOOTP requests. To assign IP addresses using BOOTP protocol, configure the DHCP server to accept BOOTP requests. This allows a DHCP server to dynamically assign a specific IP address to a device based on its Media Access Control (MAC) address.

Note: In this document, the term "BOOTP server" refers both to BOOTP servers and to DHCP servers configured to accept BOOTP requests.

By setting the BOOTP Enabled attribute of an N30 to True, you allow the N30 to obtain and configure its IP address, IP mask, IP router address, host name, domain name, and DNS server IP address. See the *N30 Supervisory Controller Networking Technical Bulletin (LIT-6891300)*. Also see the *N30 Device* chapter in the *Object Dictionary*.

Note: When a network includes both BOOTP and DNS servers, make certain that host names and IP addresses provided by the BOOTP server are consistent with those configured in the DNS server.

### *DNS*

DNS allows the conversion of text-based names (such as a Web site address) into numeric IP addresses. With a DNS server, you can assign a host name (such as N30-Floor3) to an IP address (such as 172.16.68.243). An N30 uses the Object Name of the device object as its host name. A host name can be reassigned to different IP addresses as needed.

Note: When a network includes both BOOTP and DNS servers, make certain that host names and IP addresses provided by the BOOTP server are consistent with those configured in the DNS server.

A DNS server simplifies the work of identifying individual devices on a network. For example, when setting up Broadcast Management objects, you can elect to identify an object by its host name rather than entering its IP address. See the *N30 Supervisory Controller Networking Technical Bulletin (LIT-6891300)*.

## Broadcast Management Object

A Broadcast Management (called BACnet Broadcast Management Device [BBMD] object at Release 1.0) object is added to N30s on different network segments to allow communication between segments in a situation where broadcasts cannot be sent (for example, when using an IP router). A Broadcast Management object contains a list of all the IP addresses and IP broadcast distribution masks for all the N30s with Broadcast Management objects. We recommend N30 Broadcast Management objects also include the IP addresses of workstations that are permanently connected to the network.

When establishing a dial-up connection with an N30 network containing Broadcast Management objects, do not download through the N30 that has the Broadcast Management object. Since the N30 with the Broadcast Management object has additional traffic on it due to the Broadcast Management object, using this N30 to download through a dial-up connection can be slow.

| | |
|---|---|
| IMPORTANT: | Do not use Broadcast Management objects with N30s that do not need to communicate across network segments. Do not use Broadcast Management objects on more than one N30 on a network segment for a standard configuration. Either of these situations can cause communication problems. See the *N30 Supervisory Controller Networking Technical Bulletin (LIT-6891300)* for information on using Broadcast Management objects. |

## Segment Hop (SHOP)

SHOP provides a communication link between N30s and/or M-Series Workstations that exist on different physical Ethernet segments within a single site. SHOP is similar in function to Broadcast Management objects but is used in M-Series Workstations and Project Builder.

SHOP contains a list of all IP addresses for all the N30s with Broadcast Management objects. The user can add, delete, and save the IP addresses by clicking the SHOP button in the advanced configuration mode. The user can enable or disable broadcast messages between the Ethernet segments. Broadcast messages are enabled by default.

The addresses of the devices that have Broadcast Management objects on your network segments are entered on this screen to allow communications between separate BACnet nodes.

## Network Connection Icon

A network connection icon is a representation of a dial-up connection profile in the Microsoft® Windows 98 operating system. Connection profiles allow a user to have the computer dial out to a number of different Internet connection points. The network connection icon is the Windows system element that contains the information necessary for using the modem to make a connection.

## Browse Site Database

Browsing a site database in the Site Book populates the site database on the Workstation in the path specified.

Note: Browsing is not permitted when M-Application clients are connected to the OLE for Process Controls (OPC) server.

Browse Site Database defines the device names of the N30 controllers on a site, and generates a database of communication information for the devices and objects that reside on that site. This communication information is loaded at the startup of the BACnet OPC server and allows faster communication to an object. Use Browse Site Database after downloading to an N30 so that the views displayed in all M-Application (OPC) clients are updated.

Clicking the Browse Site Database button from the main Site Book screen brings up the BACnet Object Finder screen. From this screen, you can add a device or allow Site Book to automatically find all devices on the LAN for the given port of the site. If the site uses a DNS server, you can add and edit host names for devices from this screen as well.

## Simulator

A feature of Project Builder that allows you to test databases in a virtual N30 prior to downloading them to actual N30s. To use the simulator, set up a site as an Ethernet connection in Site Book with Internal Routing enabled. Internal Routing is one of the Advanced Parameters of the Ethernet connection in Site Book.

## Site Book Database Files

The Site Book has two types of database files. The sites database file and the site objects database files. The sites database (sites.mdb) contains the names and communications parameters for the sites to which an M-Series Workstation or PC with M-Tool can connect. The site objects database file ("name of site".mdb) contains data about the BACnet objects on a particular site. There is a separate site objects database file for each site. The sites database file is located in the M-Data directory. The M-Data directory is shared by several Johnson Controls M-Series products. The location of a site's site objects database file defaults to the M-Data directory but may be changed by the Site Book user.

## Note for Upgraders

The default location for Site Book database files for new installations was changed from Release 1.x to Release 2.x. Note that upgrading an M-Series Workstation or M-Tool from Release 1.x to Release 2.x does not change the location of the existing M-Data directory. If M-Data was located at C:\Program Files\Johnson Controls\M Data\, it remains there after the upgrade. An upgrade preserves the locations of existing program and data files. However, if you upgrade an M-Series Workstation, you must rebrowse the devices. See Table 2 for a listing of Site Book default database file locations.

**Table 2: Database Locations**

| Installation | File | Release | Location |
|---|---|---|---|
| **Upgrade from Release 1.x** | Sites.mdb | 1.x | C:\Program Files\Johnson Controls\M Data\ |
| | "name of site".mdb | 1.x | C:\Program Files\Johnson Controls\M Data\ |
| **New** | Sites.mdb | 2.x | C:\Documents and Settings\All Users\Application Data\Johnson Controls\M-Data\ |
| | "name of site".mdb | 2.x | C:\Documents and Settings\All Users\Application Data\Johnson Controls\M-Data\ |

## Site Book Basic Parameters

The basic parameters are available for editing by default when you add or view a site in Site Book. See Figure 23 for an example. Table 3 contains a list of basic parameters and their definitions.

### Table 3: Site Book Basic Parameters

| Parameter | Definition |
|---|---|
| **Site Name** | An ASCII string with a maximum length of 32 characters. This string must be defined in all Data Source Names (DSNs) passed from the OPC client to the OPC server. The Site Name is the primary key into the site database. The information in the rest of this table is required to describe the site. This field is required when adding a site. |
| **System** | Defines the system type being accessed at the site. The system type is an enumeration defined as BACnet. |
| **Connection** | Identifies the type of connection used when communicating or connecting to a particular site. This field is required when adding a site and can take on the values of Ethernet, direct serial, or dial-up (modem).<br>Note: Multiple connection types may be defined for a site. To switch between connection types, double-click in the connection field to display a drop-down list of connection options. An M-Series Workstation uses the last selected connection type for a site whenever it connects. |
| **Network Number** | Identifies the network. This field is required when adding a site. The network number can range from 1 through 65535 for Ethernet, direct serial, or dial-up (modem) connections. The default value for Ethernet is 1001, and the default for direct serial or dial-up (modem) is 100. The network number is used for message routing at the network layer. The network number **must be unique** on the LAN. |
| **DataBase Path** | The location where the object database is saved. This path may be different for each site and the user can configure the path. |
| **Site Description** | Describes the site. This field is limited to 125 characters. The default is blank. |
| **Workstation Name** | Lists the workstation name. This field is limited to 20 characters. The default is the name of your machine. If the machine name is blank, the default is M-WS1. The workstation name is used for reporting alarm events and must be unique for each workstation on a site. |
| **Workstation Number** | A unique number identifying the workstation. This must be a positive number limited to 65000. The default is 1. The workstation number is used for reporting alarm events and must be unique for each workstation on a site. Refer to the *N30 Supervisory Controller Networking Technical Bulletin (LIT-6891300)* for details. |
| **Connection Control** | Can be User or System. User connection requires an explicit connect/disconnect to the site. The System connection specifies that the connection is made dynamically by the system. The default for the first Ethernet connection defined is **System connection**. The default for dial and direct is **User connection**.<br>Note: Only Ethernet sites can be system connected, and only one site can be system connected. |

## Site Book Advanced Parameters

Table 4 describes the advanced parameters that apply to all Site Book connections.

### Table 4: Site Book Advanced Parameters (General)

| Parameter | Definition |
|---|---|
| **Dormant Rate** | Time in seconds used to compute the dormant period for the OPC server to keep data for an object updated after all M-Series Workstation clients no longer reference the object. Dormant period is the dormant rate multiplied by the dormant cycle. The default is 0 seconds. |
| **Dormant Cycle** | Number of cycles used to compute the dormant period. The default is 0 cycles. |
| **Segment Timer Length** | Timeout value used for segmented BACnet messages. The default is 4000 milliseconds. The maximum value can be 60000 milliseconds. |
| **Request Timer Length** | Timeout value used for BACnet messages. The default is 6000 milliseconds. The maximum value is 60000 milliseconds. |
| **Number of Retries** | Number of times a failed message is retrieved. The default is 4. The maximum value is 100. |

Table 5 describes the advanced parameters specific to Ethernet connections.

### Table 5: Site Book Advanced Parameters for Ethernet Connections

| Parameter | Definition |
|---|---|
| **BACnet IP Port** | Required for Ethernet connection and must be unique within a site. When the connection information is defined as Ethernet, the BACnet IP Port address must be defined. The BACnet IP Port address is BAC0 (47808) by default. |
| **Protocol** | Defines the data link software that runs on the Ethernet connection. The default protocol is IP. If communicating with N30s, do not change this parameter. |
| **802.3 Routing** | Allows routing between the IP and 802.3 router. This is used for diagnostic purposes. The default is disabled. Do not change this parameter. |
| **Internal Routing** | Allows routing between the IP and internal devices. This is used for diagnostic purposes. The default is disabled. Internal routing must be enabled to use the Project Builder's Simulator feature. |

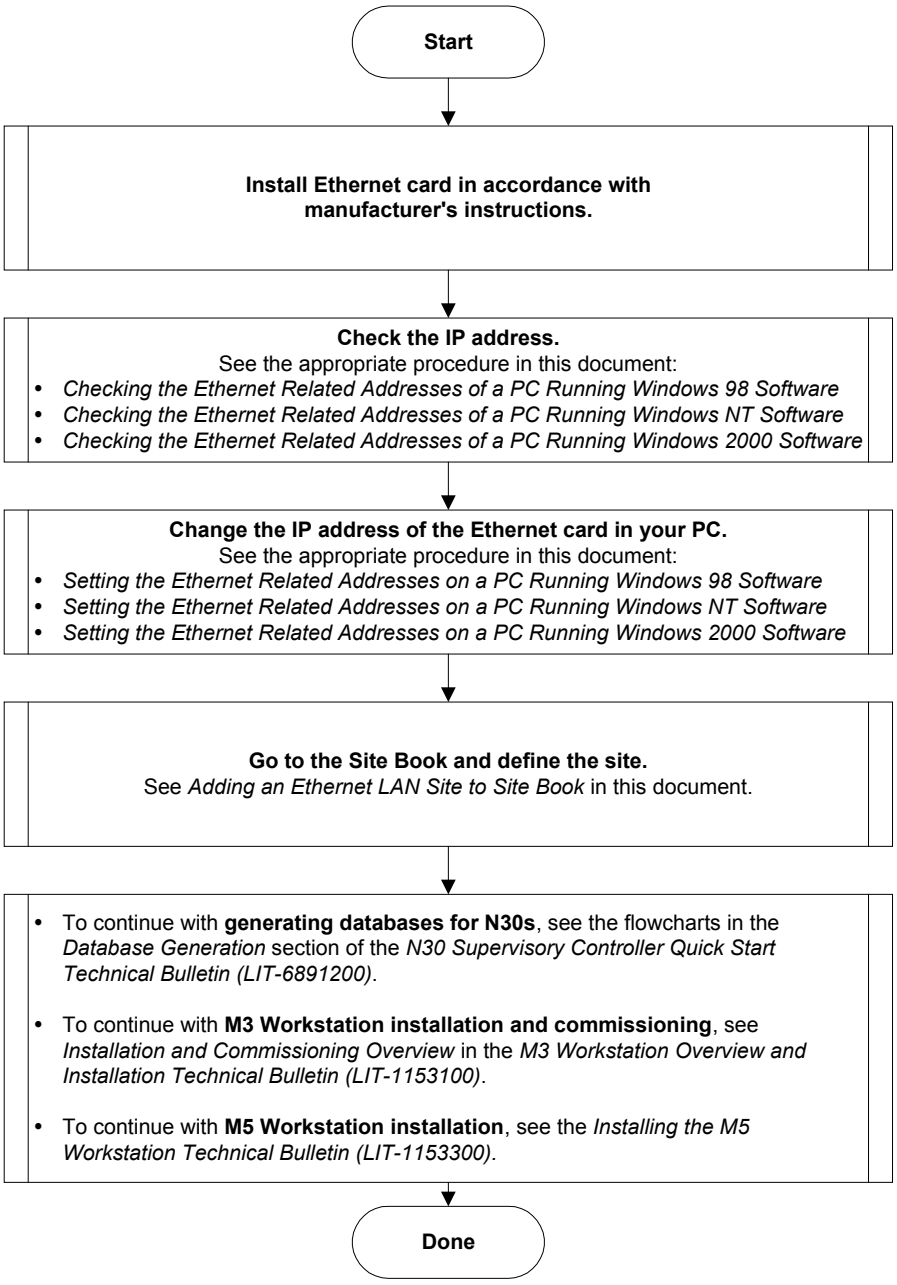
Table 6 describes the advanced parameters specific to direct connect and dial-up (modem) connections.

### Table 6: Site Book Advanced Parameters for Direct Connect and Dial-up (Modem) Connections

| Parameter | Definition |
|---|---|
| **Phonebook Entry** | Ties a site name to a matching Microsoft dial-up networking configuration. This phonebook entry contains information such as baud rate, phone number, and dialing prefix. |
| **Password** | Serial communication and PPP password for the N30. The default is 2468. |
| **Login ID** | Serial communication and PPP login ID for the N30. The default is jci. |

## Ethernet Setup Overview

The flowchart in Figure 1 provides a general overview of the steps required to set up Ethernet communications to N30 sites.



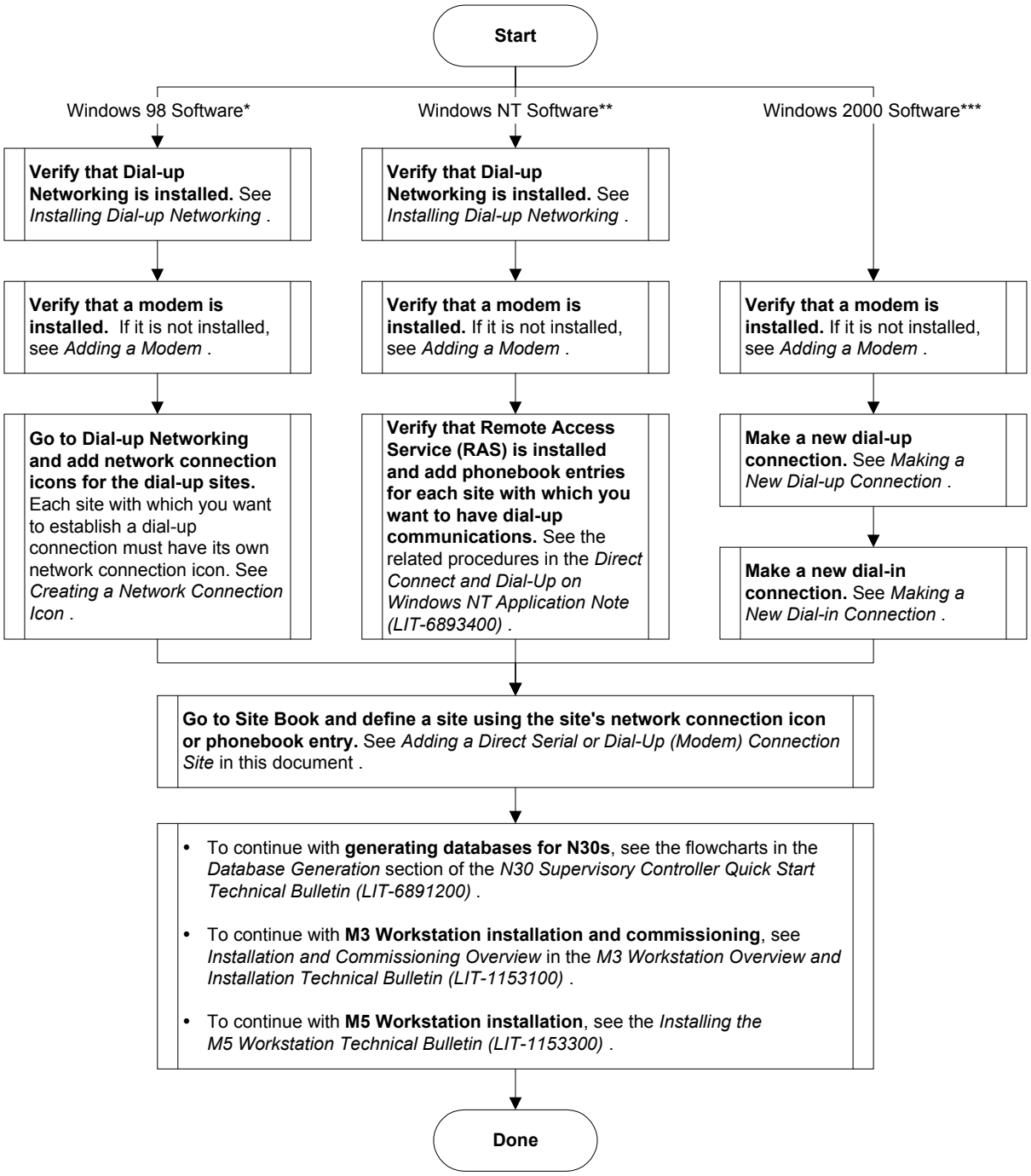

Note: If you have trouble uploading or downloading N30s after these steps are completed, please see the *Networking Troubleshooting Guide* section in the *N30 Supervisory Controller Networking Technical Bulletin (LIT-6891300)*.

Comm setup ethernet.vsd

**Figure 1: Ethernet Setup Overview**

## Dial-up (Modem) Setup Overview

The flowchart in Figure 2 provides a general overview of the steps required to set up dial-up (modem) communications to N30 sites.




The figure refers to Detailed Procedures in the following documents:

* For Windows 98 references, see the *Direct Connect and Dial-Up on Windows 98 Application Note (LIT-6893350)* .

** For Windows NT references, see the *Direct Connect and Dial-Up on Windows NT Application Note (LIT-6893400)* .

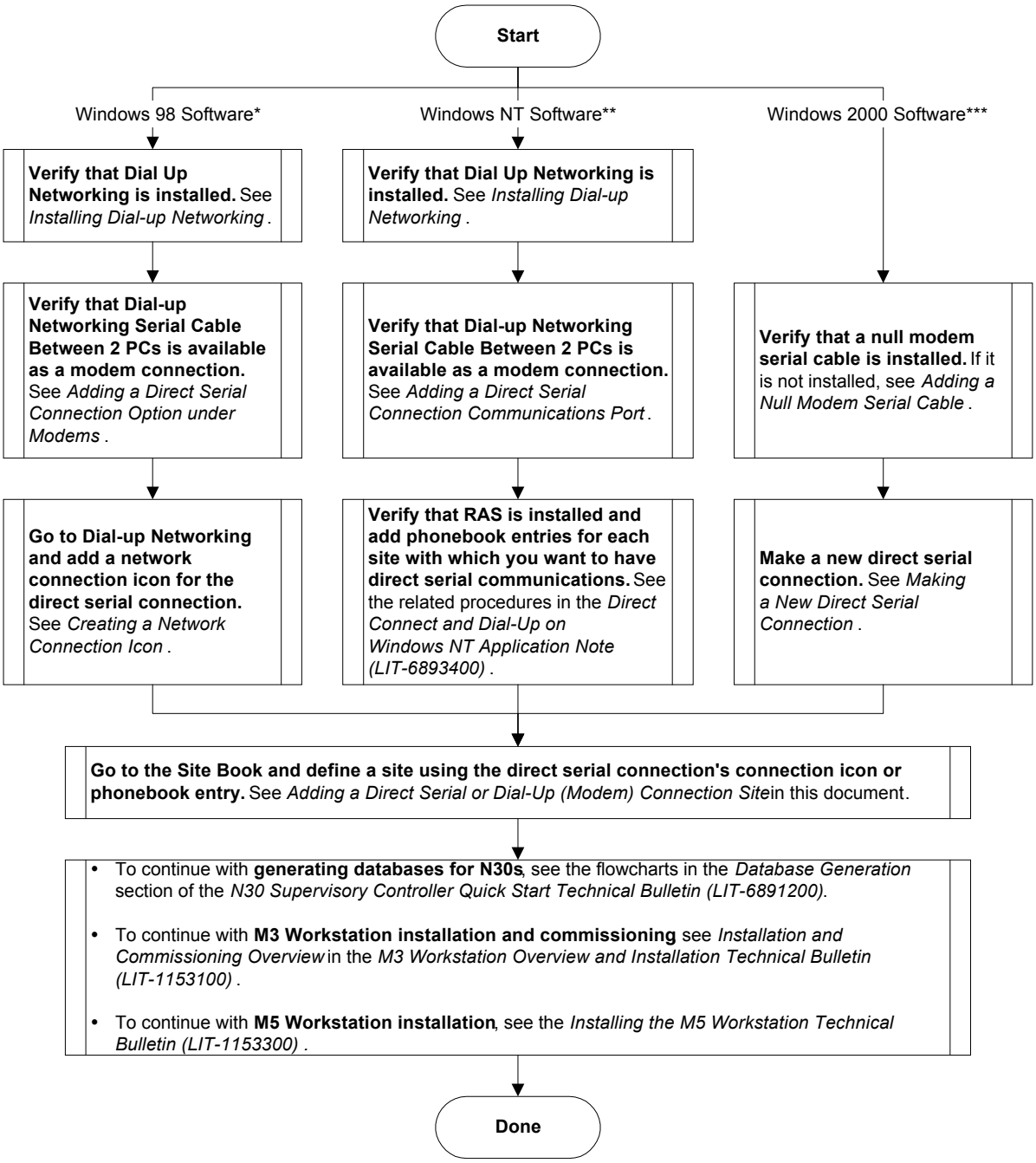
*** For Windows 2000 references, see the *Direct Connect and Dial-Up on Windows 2000 Application Note (LIT-6893450)* .

Comm setup dial up.vsd

**Figure 2: Dial-up (Modem) Setup Overview Diagram**

## Direct Serial Connection Setup Overview

The flowchart in Figure 3 provides a general overview of the steps required to set up direct serial communications to an N30 site.




The figure refers to Detailed Procedures in the following documents:

* For Windows 98 references, see the *Direct Connect and Dial-up on Windows 98 Application Note (LIT-6893350).*

** For Windows NT references, see the *Direct Connect and Dial-up on Windows NT Application Note (LIT-6893400).*

*** For Windows 2000 references, see the *Direct Connect and Dial-up on Windows 2000 Application Note (LIT-6893450).*

Comm setup direct serial.vsd

**Figure 3: Direct Serial Connection Setup Overview**

# *Procedure Overview*

## Table 7: Site Book Procedure Overview

| To Do This | Follow These Steps: |
|---|---|
| **Check the Ethernet Related Addresses of a PC Running Windows 98 Software** | 1. On the Windows Start menu, click Run.<br>2. In the Open field, type `Winipcfg`.<br>3. Click OK.<br>4. Click the Ethernet adapter on your PC on the drop-down list.<br>5. Note the addresses on the screen. The numbers on this screen must be compatible with the N30s with which you want to communicate.<br>6. Click OK. |
| **Check the Ethernet Related Addresses of a PC Running Windows NT Software** | 1. On the Windows Start menu, click Programs > Command Prompt.<br>2. Type `IPConfig`.<br>3. Press the Enter key.<br>4. Note the addresses on the screen. The numbers on this screen must be compatible with the N30s with which you want to communicate.<br>5. Click the Close button in the upper right corner of the screen to close it. |
| **Check the Ethernet Related Addresses of a PC Running Windows 2000 Software** | 1. On the Windows Start menu, click Programs > Accessories > Command Prompt.<br>2. Type `IPConfig`.<br>3. Press the Enter key.<br>4. Note the addresses on the screen. The numbers on this screen must be compatible with the N30s with which you want to communicate.<br>5. Click the Close button in the upper right corner of the screen to close it. |
| **Set the Ethernet Related Addresses on a PC Running Windows 98 Software** | IMPORTANT: See the Notes and Caution in the *Detailed Procedures* version of this process prior to performing these steps.<br>1. On the Windows Start menu, click Settings > Control Panel.<br>2. Double-click the Network icon.<br>3. Click the TCP/IP component of your Ethernet adapter in the list.<br>4. Click the Properties button.<br>5. If your network supports DHCP, click Obtain an IP address automatically and go to Step 10. Otherwise, go to Step 6.<br>6. Click Specify an IP address.<br>7. Type in a valid IP address and subnet mask.<br>8. If you are not using a router, go to Step 10. If you are using a router, click on the Gateway tab.<br>9. Type in a Gateway address to match the N30 router address.<br>10. Click the Add button.<br>11. Click OK to return to the Network Settings screen.<br>12. Click OK to close.<br>13. Restart your PC. |

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| To Do This (Cont.) | Follow These Steps: |
|---|---|
| **Set the Ethernet Related Addresses on a PC Running Windows NT Software** | IMPORTANT: See the Notes and Caution in the *Detailed Procedures* version of this process prior to performing these steps.<br>1. On the Windows Start menu, click Settings > Control Panel.<br>2. Double-click the Network icon.<br>3. Click the Protocols tab.<br>4. Click TCP/IP Protocol and click the Properties button.<br>5. Click your Ethernet adapter in the drop-down list.<br>6. If your network supports DHCP, click Obtain an IP address from a DHCP server and go to Step 11. Otherwise, go to Step 7.<br>7. Click Specify an IP address.<br>8. Type in a valid IP address, subnet mask, and, if you are using a router, a default Gateway address.<br>9. If you need to add more addresses, click the Advanced button.<br>10. Add, edit, or remove addresses as necessary and click OK.<br>11. Click OK to return to the Network Settings screen.<br>12. Click OK to close. |
| **Set the Ethernet Related Addresses on a PC Running Windows 2000 Software** | IMPORTANT: See the Notes and Caution in the *Detailed Procedures* version of this process prior to performing these steps.<br>1. On the Windows Start menu, click Settings > Network and Dial-up Connections.<br>2. Right-click on the Local Area Connection and click Properties.<br>3. Click Internet Protocol (TCP/IP) and click the Properties button.<br>4. If your network supports DHCP, click Obtain an IP address automatically and go to Step 9. Otherwise, go to Step 5.<br>5. Click Use the following IP address.<br>6. Type in a valid IP address, subnet mask, and, if you are using a router, a default Gateway address.<br>7. If you need to add more addresses, click the Advanced button.<br>8. Add, edit, or remove addresses as necessary and click OK.<br>9. Click OK to return to the Local Area Connection Properties screen.<br>10. Click OK to return to the Network and Dial-up Connections screen.<br>11. Click the Close button to close the screen. |
| **Add an Ethernet LAN Site to Site Book** | 1. On the Main Site Book screen, press the Add button.<br>2. Click Ethernet LAN and click OK.<br>3. Fill in the fields according to Table 9 and click OK.<br>4. Edit the basic parameters.<br>5. If you need to edit the advanced parameters, click Advanced and edit the fields as needed.<br>6. Click Close. |
| **Add Device Addresses in Segment Hop (SHOP)** | 1. In the Advanced parameters screen of your Ethernet connection in Site Book, click the SHOP button.<br>2. Click ADD IP Address.<br>3. Enter the IP address and click OK.<br>4. Click SAVE to save your changes.<br>5. Click Exit. |

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| To Do This (Cont.) | Follow These Steps: |
|---|---|
| **Add Device Host Names in SHOP** | 1. In the Advanced parameters screen of your Ethernet connection in Site Book, click the SHOP button.<br>2. Click ADD Host Name.<br>3. Enter the host name and click OK.<br>4. Click SAVE to save your changes.<br>5. Click Exit. |
| **Delete Device Addresses or Host Names from SHOP** | 1. In the Advanced parameters screen of your Ethernet connection in Site Book, click the SHOP button.<br>2. Click on the device address or host name you want to delete.<br>3. Click DELETE Entry.<br>4. Click SAVE to save changes.<br>5. Click EXIT when finished. |
| **Add a Direct Serial or Dial-up (Modem) Connection Site** | 1. On the Main Site Book screen, press the Add button.<br>2. Click direct serial or dial-up (modem) and click OK.<br>3. Fill in the fields of the Serial Connection Information screen and click OK.<br>4. Edit the basic parameters.<br>5. If you need to edit the Advanced parameters, click Advanced and edit the fields as needed.<br>6. Click Close. |
| **Use Browse Site Database** | 1. Make sure that you are online with a device (physical or simulated).<br>2. Shut down any M-Applications (clients) that are running on your machine.<br>3. On the main Site Book screen, with the desired site selected, click the Browse Site DataBase button.<br>4. Click the Browse Devices button to browse all devices on the site, or click the Select Devices button to choose specific devices to browse from a list of currently added devices.<br>5. After the device objects are browsed, click Quit to return to the Site Book. |
| **Add a Device** | 1. In the BACnet Object Finder, click the Site to which you want to add devices and click the Add Device button.<br>2. Enter the device name and host name (if DNS is used) and click OK. |
| **Find Devices** | In the BACnet Object Finder, on the left side of the screen, click the Site for which you want to find devices and click the Find Devices button. |
| **Edit a Device Host Name** | 1. In the BACnet Object Finder, click the device whose host name you want to edit and click the Edit Host Name button.<br>2. Enter the new host name and click OK. |
| **Delete a Site from Site Book** | 1. Click a Site in the list on the left side of the main Site Book screen.<br>2. Click the Delete button.<br>3. Click yes to confirm the deletion. |

**Continued on next page . . .**

| To Do This (Cont.) | Follow These Steps: |
|---|---|
| **Connect to an N30 Site from Project Builder via a Direct Serial Connection** | 1. Connect a NULL modem cable from the N30 port to the PC COMM port on the PC on which the Dial-up Networking Serial Cable modem was defined.<br>2. Use Project Builder's Edit > Edit Sites dialog box to select the name of the site that you want to connect.<br>3. Select the objects to upload or download.<br>4. On the Tools menu in Project Builder, select the Upload, Download, or Advanced Download command as necessary. |
| **Change the PPP Password** | 1. Close any open instances of Site Book.<br>2. In Project Builder, open the N30 device object by double-clicking the correct row head.<br>3. Right-click on the M-View screen and click Snapshot Focus.<br>4. Scroll down to the Login ID and Password fields.<br>5. Edit as desired.<br>6. Click OK.<br>7. Save the database.<br>8. Download the N30 to which you are connected using the old PPP Login ID and Password. (That is, with the PPP Login ID and Password still at the old values in Site Book.)<br>9. On the Edit menu of Project Builder, click Edit Site.<br>10. Click the Directory button.<br>11. Click the Advanced button.<br>12. Edit the Login ID and Password to match the Login ID and Password in your site database in Project Builder.<br>13. Click Close.<br>14. Click OK.<br>15. On the Project Builder File menu, click Save. |
| **Change the BACnet IP Port** | 1. Close any open instances of Site Book.<br>2. In Project Builder, open the N30 device object by double-clicking the correct row head.<br>3. Right-click on the M-View screen and click Snapshot Focus.<br>4. Scroll down to the BACnet IP Port field.<br>5. Edit as desired.<br>6. Click OK.<br>7. Save the database.<br>8. Download the N30 to which you are connected using the old BACnet IP Port. (That is, with the BACnet IP Port still at the old values in Site Book.)<br>9. On the Edit menu of Project Builder, click Edit Site.<br>10. Click the Directory button.<br>11. Click the Advanced button.<br>12. Edit the BACnet IP Port to match the BACnet IP Port in your site database in Project Builder.<br>13. Click Close.<br>14. Click OK.<br>15. On the Project Builder File menu, click Save. |

# *Detailed Procedures*

Note: The instructions that pertain to Ethernet connections in this document assume that your PC has a working Ethernet card installed and configured properly.

## Checking the Ethernet Related Addresses of a PC Running Windows 98 Software

To check the Ethernet related addresses of a PC running Windows 98 software:

On the Windows Start menu, click Run. The Run dialog box appears (Figure 4).

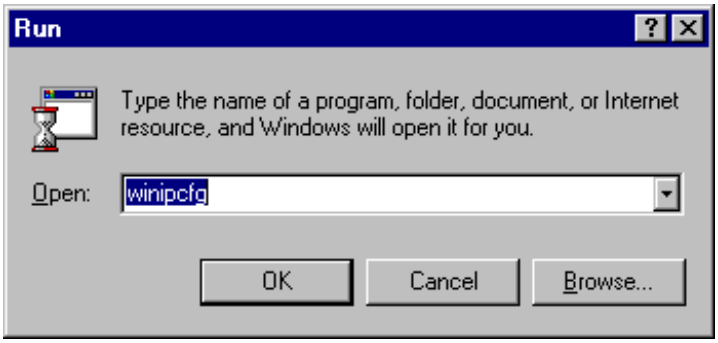


**Figure 4: Run Dialog Box**

In the Open field, type `Winipcfg`.

Note: This utility is normally in the Windows directory. If you cannot find it, select Files or Folders from the Find menu on the Windows Start menu and search for winipcfg.exe.

Click OK. The IP Configuration screen appears (Figure 5).

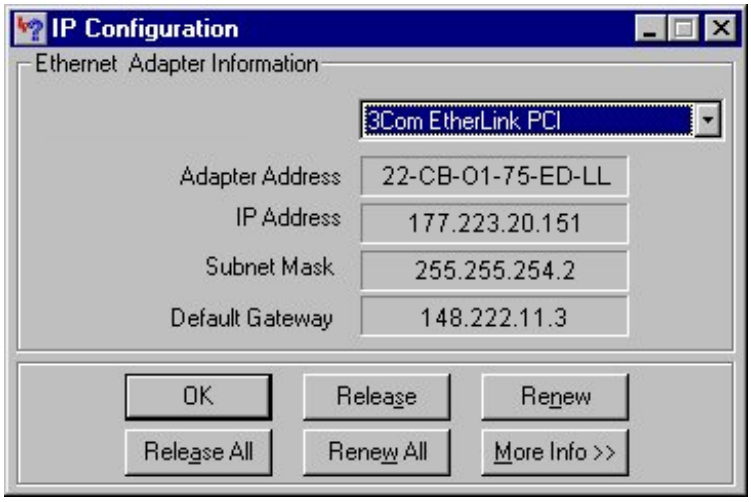


**Figure 5: Windows IP Configuration Screen**

Click the Ethernet adapter on your PC in the drop-down list.

Note the addresses on the screen. See Table 8 for information on the displayed addresses. The numbers on this screen must be compatible with the N30s with which you want to communicate.

Click OK.

**Table 8: Ethernet Adapter Information**

| Field | Meaning |
|---|---|
| **Adapter Address** | Media Access Control (MAC) Address of the Ethernet card in your PC. Each device on an Ethernet network must have a unique MAC address. |
| **IP Address** | IP address currently assigned to your PC |
| **Subnet Mask** | Subnet mask currently assigned to your PC |
| **Default Gateway** | Router address |

## Checking the Ethernet Related Addresses of a PC Running Windows NT Software

To check the Ethernet related addresses of a PC running Windows NT software:

1. On the Windows Start menu, click Programs > Command Prompt.
2. At the command prompt, type `IPConfig`.
3. Press the Enter key. The Windows NT IP Configuration information screen appears (Figure 6).

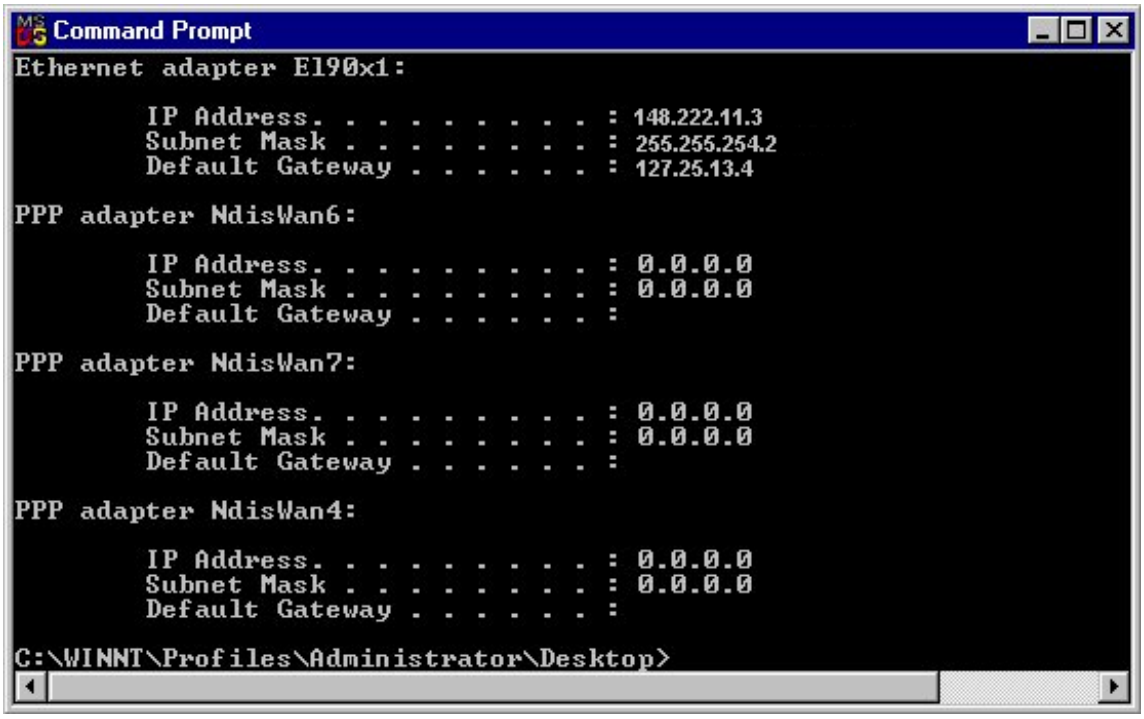


**Figure 6: Windows NT IP Configuration**

4. Note the addresses on the screen. See Table 8 for information on the displayed addresses. The numbers on this screen must be compatible with the N30s with which you want to communicate.
5. Click the Close button in the upper right corner of the screen to close it.

## Checking the Ethernet Related Addresses of a PC Running Windows 2000 Software

To check the Ethernet related addresses of a PC running Windows 2000 software:

1. On the Windows Start menu, click Programs > Accessories> Command Prompt.
2. At the command prompt, type `IPConfig`.
3. Press the Enter key. The Windows 2000 IP Configuration information screen appears (Figure 7).

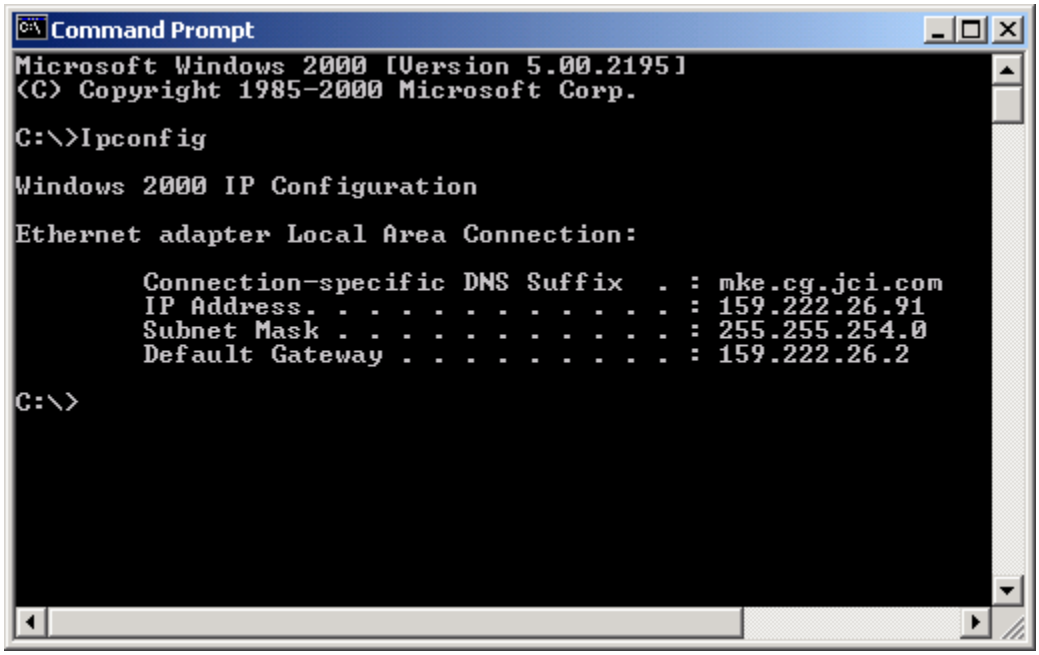


**Figure 7: Windows 2000 IP Configuration**

4. Note the addresses on the screen. See Table 8 for information on the displayed addresses. The numbers on this screen must be compatible with the N30s with which you want to communicate.
5. Click the Close button in the upper right corner of the screen to close it.

## Setting the Ethernet Related Addresses on a PC Running Windows 98 Software

IMPORTANT: For a PC running an M-Series Workstation or M-Tool to communicate with N30s on an Ethernet network, the IP addresses should be within certain parameters. These instructions assume you are setting up a dedicated Ethernet network for your N30/M-Series Workstation system. If you are connecting to a shared Ethernet network and your network does not support DHCP, you **must** obtain your IP addresses and Gateway addresses from your Network Administrator.

Note: Your screens may differ from the screen captures in the following instructions, depending on other software you may have installed on your machine.

To set the Ethernet related addresses on a PC running Windows 98 software:

1. On the Windows Start menu, click Settings > Control Panel.
2. Double-click the Network icon. The Network screen appears with the Configuration tab selected (Figure 8).

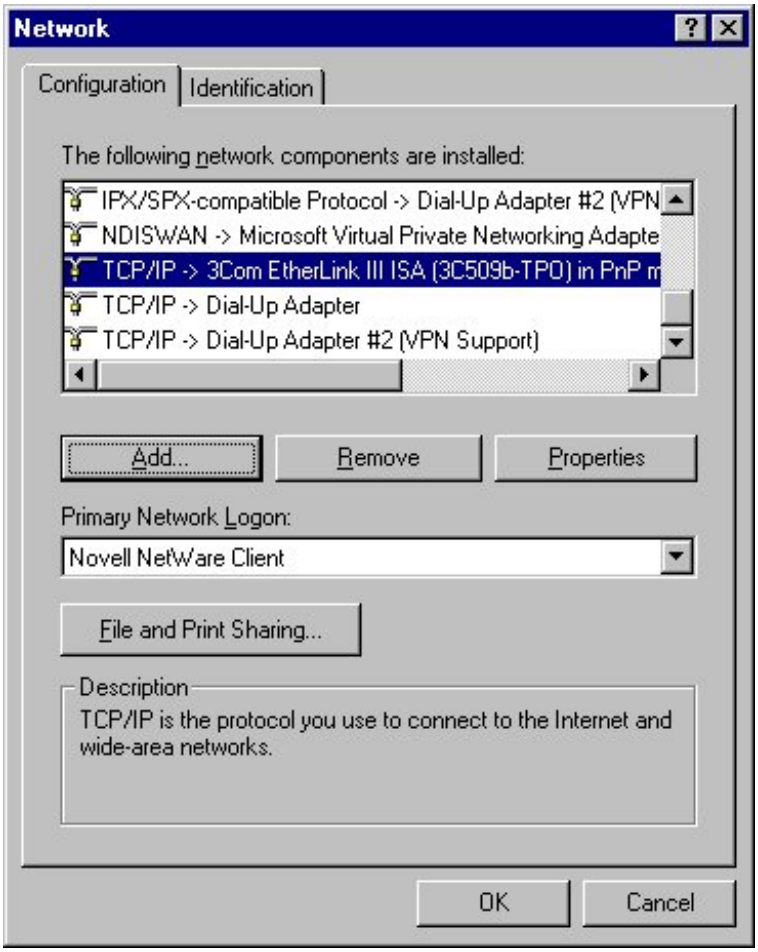


**Figure 8: Network Screen with Configuration Tab Selected**

3. Click the TCP/IP component of your Ethernet adapter in the list.
4. Click the Properties button. The TCP/IP Properties screen appears (Figure 9).

Note: The addresses shown in these procedures are **examples**. Use approved addresses from your System or Network Administrator.

5. If your network supports DHCP, click Obtain an IP address automatically and go to Step 11. Otherwise, go to Step 6 to manually set your addresses.

Note: Contact your Network Administrator to see if your network supports DHCP.

6. Click Specify an IP address (Figure 9).

> **CAUTION:** If you are connected to an Ethernet network that is not dedicated to your N30/M-Series Workstation system, do not change IP addresses without using an approved address from your System Administrator or IT Department.

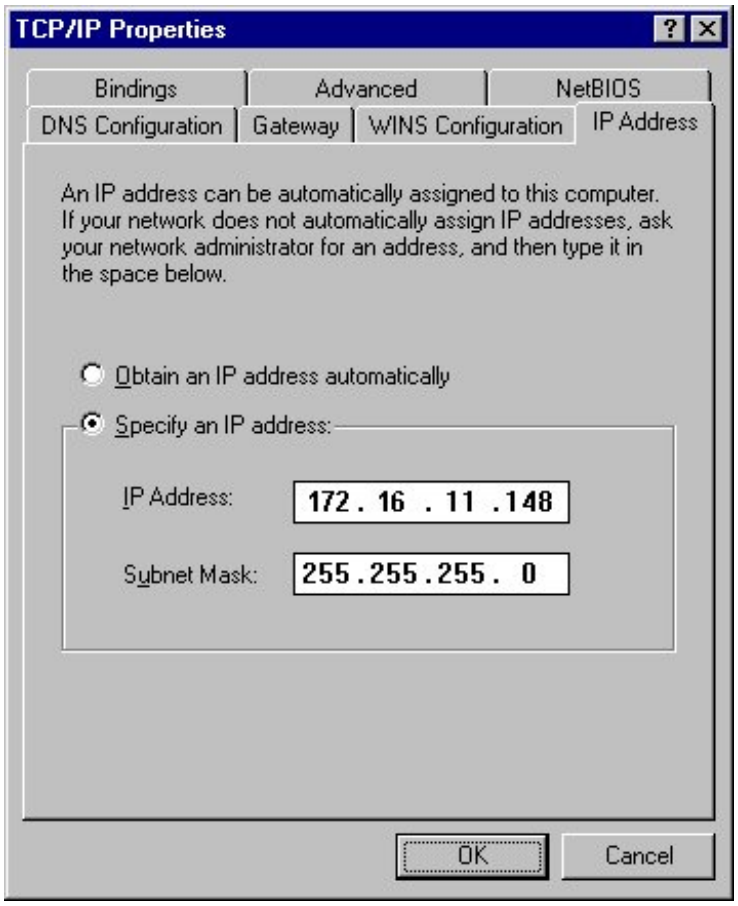


**Figure 9: TCP/IP Properties Screen - IP Address Tab**

7. Type in a valid IP address and subnet mask.

Notes: Match the IP address to the first three octets of the N30. Make the last octet within a few numbers of the N30. Keep the subnet mask the same as the N30.

In the example in Figure 9, the N30 IP address is 172.16.11.145 and the subnet mask is 255.255.255.0. Therefore, the IP address for the PC is set to match the first three octets of the N30 (172.16.11) and the last octet is within a few numbers (148 vs. 145) of the last octet of the N30. The subnet mask is set the same as the subnet mask of the N30.

8. If you are not using a router, go to Step 10. If you are using a router, click on the Gateway tab. The TCP/IP Properties Gateway screen appears (Figure 10).

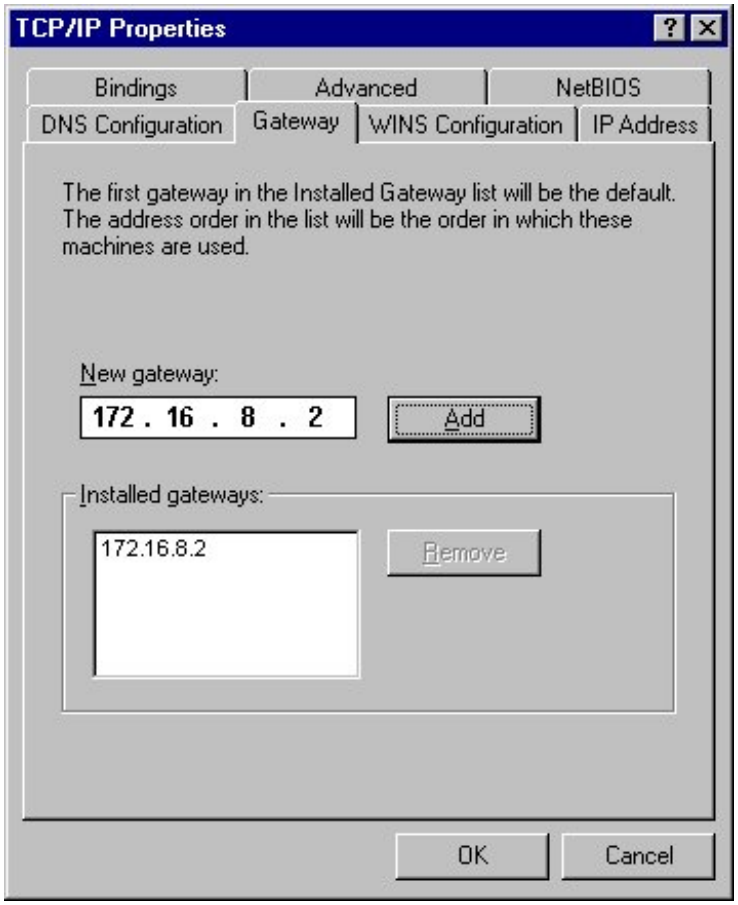


**Figure 10: TCP/IP Properties Screen - Gateway Tab**

9. Type in the Gateway address provided by your Network Administrator. This address is for the router on the local subnet.

10. Click the Add button.

11. Click OK to return to the Network Settings screen.
12. Click OK to close.
13. Restart your PC.

## Setting the Ethernet Related Addresses on a PC Running Windows NT Software

IMPORTANT: For a PC running an M-Series Workstation or M-Tool to communicate with N30s on an Ethernet network, the IP addresses should be within certain parameters. These instructions assume you are setting up a dedicated Ethernet network for your N30/M-Series Workstation system. If you are connecting to a shared Ethernet network and your network does not support DHCP, you **must** obtain your IP addresses and Gateway addresses from your Network Administrator.

Note: Your screens may differ from the screen captures in the following instructions, depending on other software you may have installed on your machine.

To set the Ethernet related addresses on a PC running Windows NT software:

1. On the Windows Start menu, click Settings > Control Panel.
2. Double-click the Network icon. The Network screen appears with the Identification tab selected (Figure 11).

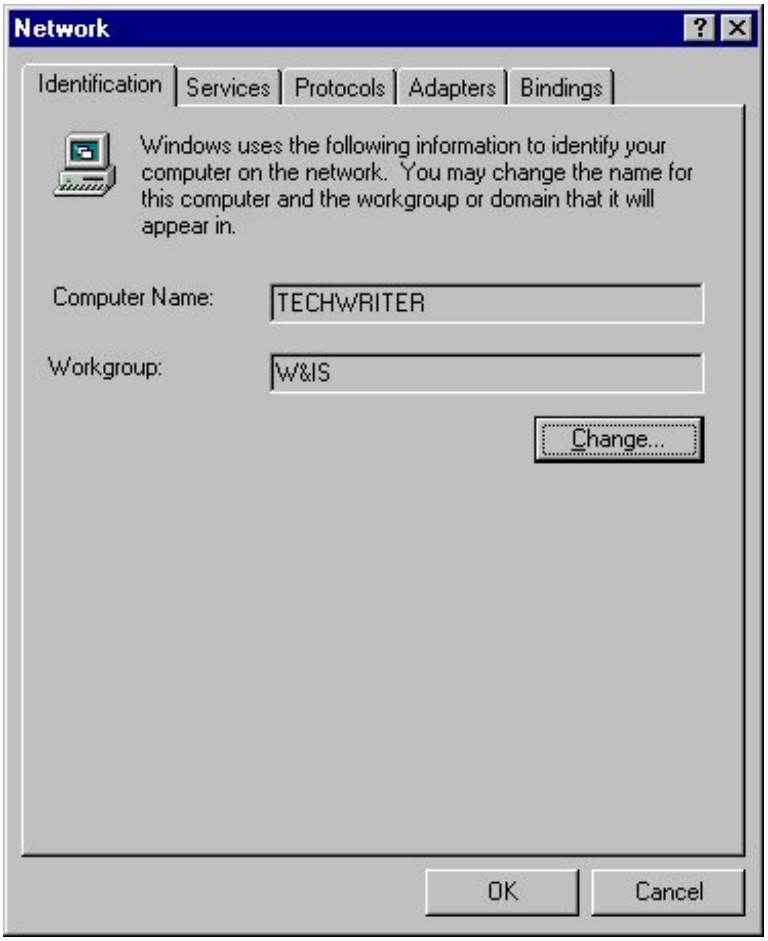


**Figure 11: Network Screen with Identification Tab Selected**

3. Click the Protocols tab (Figure 12).

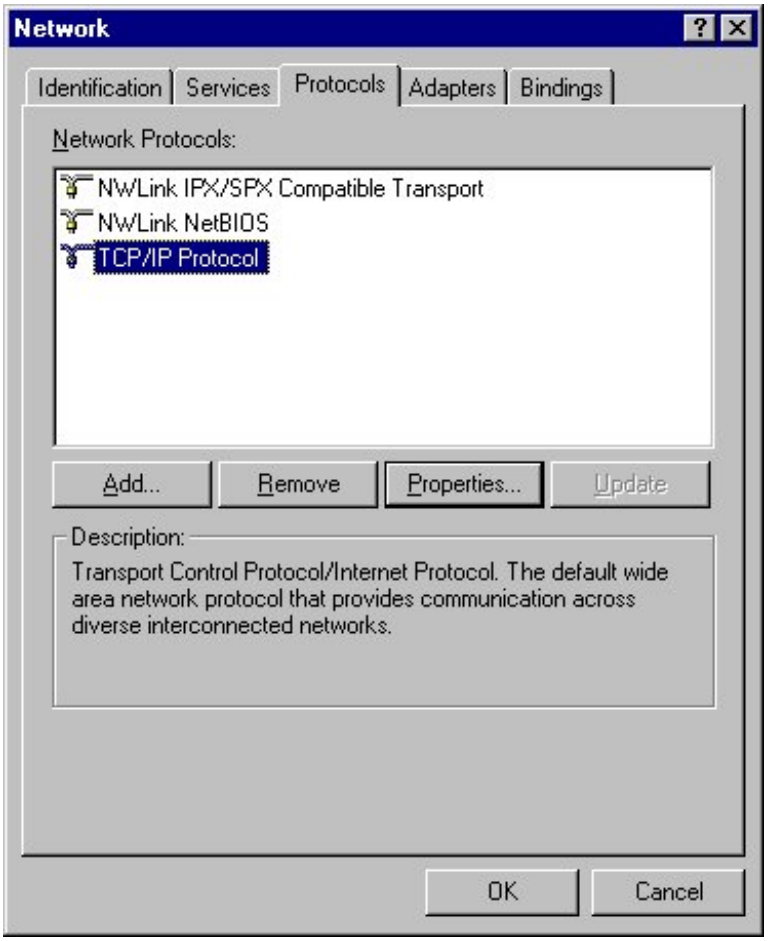


**Figure 12: Network Screen with Protocols Tab Selected**

4. Click TCP/IP Protocol and click the Properties button. The Microsoft TCP/IP Properties screen appears (Figure 13). If it is not already on the IP Address tab, click the IP Address tab.

Note: The addresses shown in these procedures are **examples**. Use approved addresses from your System Administrator or IT Department.

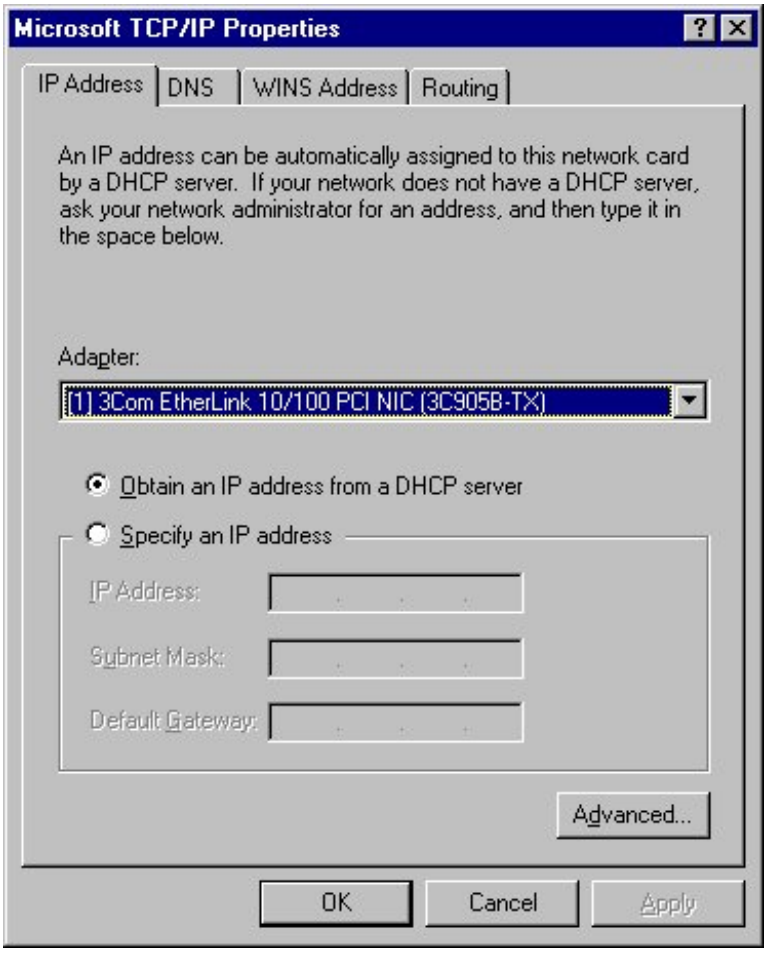


**Figure 13: Microsoft TCP/IP Properties Screen - IP Address Tab**

5. Click your Ethernet adapter in the drop-down list.
6. If your network supports DHCP, click Obtain an IP address from a DHCP server and go to Step 11. Otherwise, go to Step 7 to manually set your addresses.

Note: Contact your Network Administrator to see if your network supports DHCP.

7. Click Specify an IP address (see Figure 14).

CAUTION: **Possible network problems**. If you are connected to an Ethernet network that is not dedicated to your N30/M-Series Workstation system, do not change IP addresses without using an approved address from your System Administrator or IT Department.

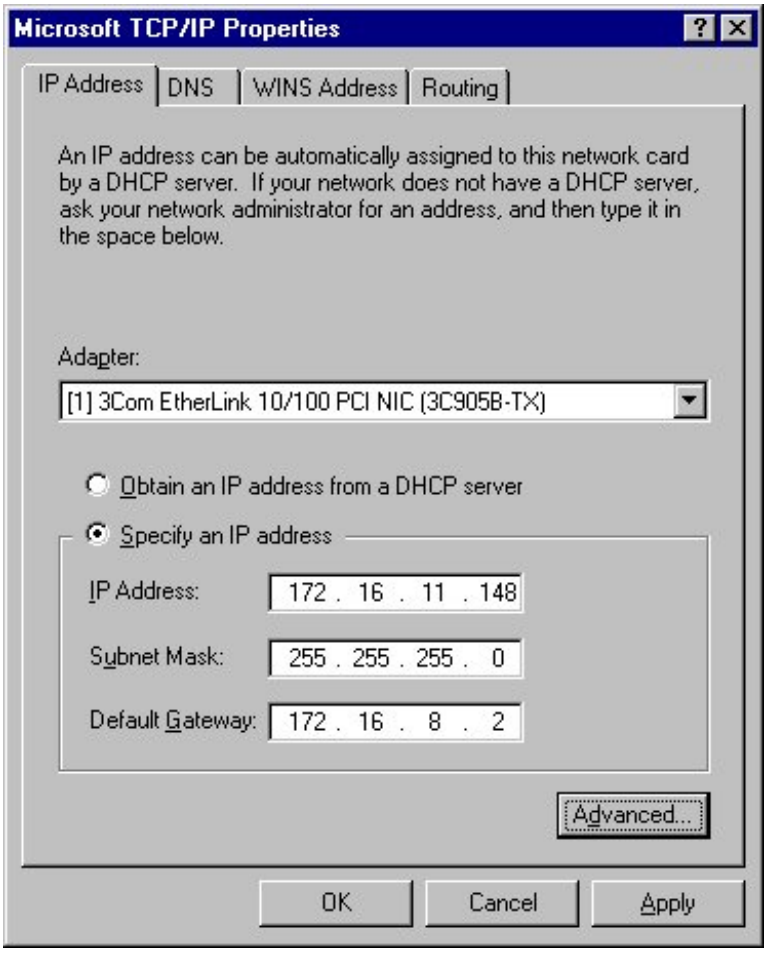


**Figure 14: Microsoft TCP/IP Properties Screen - IP Address Tab with Specific IP Address**

8. Type in a valid IP address, subnet mask, and, if you are using a router, a default Gateway address.

Notes: Match the IP address to the first three octets of the N30. Make the last octet within a few numbers of the N30. Keep the subnet mask the same as the N30.

In the example in Figure 14, the N30 IP address is 172.16.11.145 and the Subnet Mask is 255.255.255.0. Therefore, the IP address for the PC is set to match the first three octets of the N30 (172.16.11) and the last octet is within a few numbers (148 vs. 145) of the last octet of the N30. The subnet mask is set the same as the subnet mask of the N30. The Gateway address is provided by your Network Administrator. The Gateway address is for the router on the local subnet.

9. If you need to add more addresses, click the Advanced button. The Advanced IP Addressing screen appears (Figure 15).

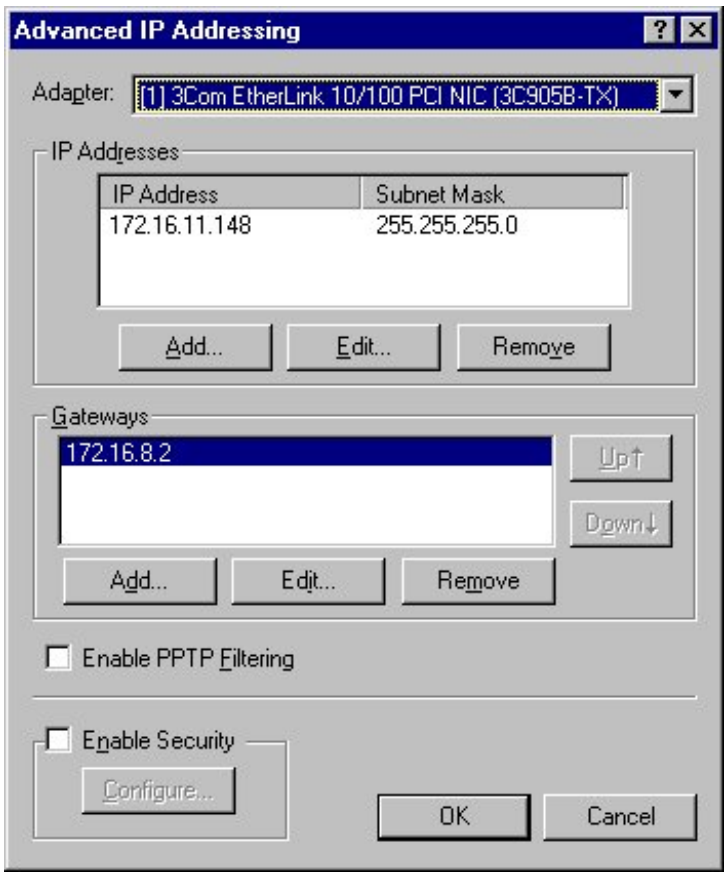


**Figure 15: Advanced IP Addressing Screen**

10. Add, edit, or remove addresses as necessary and click OK to return to the Microsoft TCP/IP Addressing screen.
11. Click OK to return to the Network Settings screen.
12. Click OK to close.

## Setting the Ethernet Related Addresses on a PC Running Windows 2000 Software

IMPORTANT: For a PC running an M-Series Workstation or M-Tool to communicate with N30s on an Ethernet network, the IP addresses should be within certain parameters. These instructions assume you are setting up a dedicated Ethernet network for your N30/M-Series Workstation system. If you are connecting to a shared Ethernet network and your network does not support DHCP, you **must** obtain your IP addresses and Gateway addresses from your Network Administrator.

Note: Your screens may differ from the screen captures in the following instructions, depending on other software you may have installed on your machine.

To set the Ethernet related addresses on a PC running Windows 2000 software:

1. On the Windows Start menu, click Settings > Network and Dial-up Connections. The Network and Dial-up Connections screen appears (Figure 16).

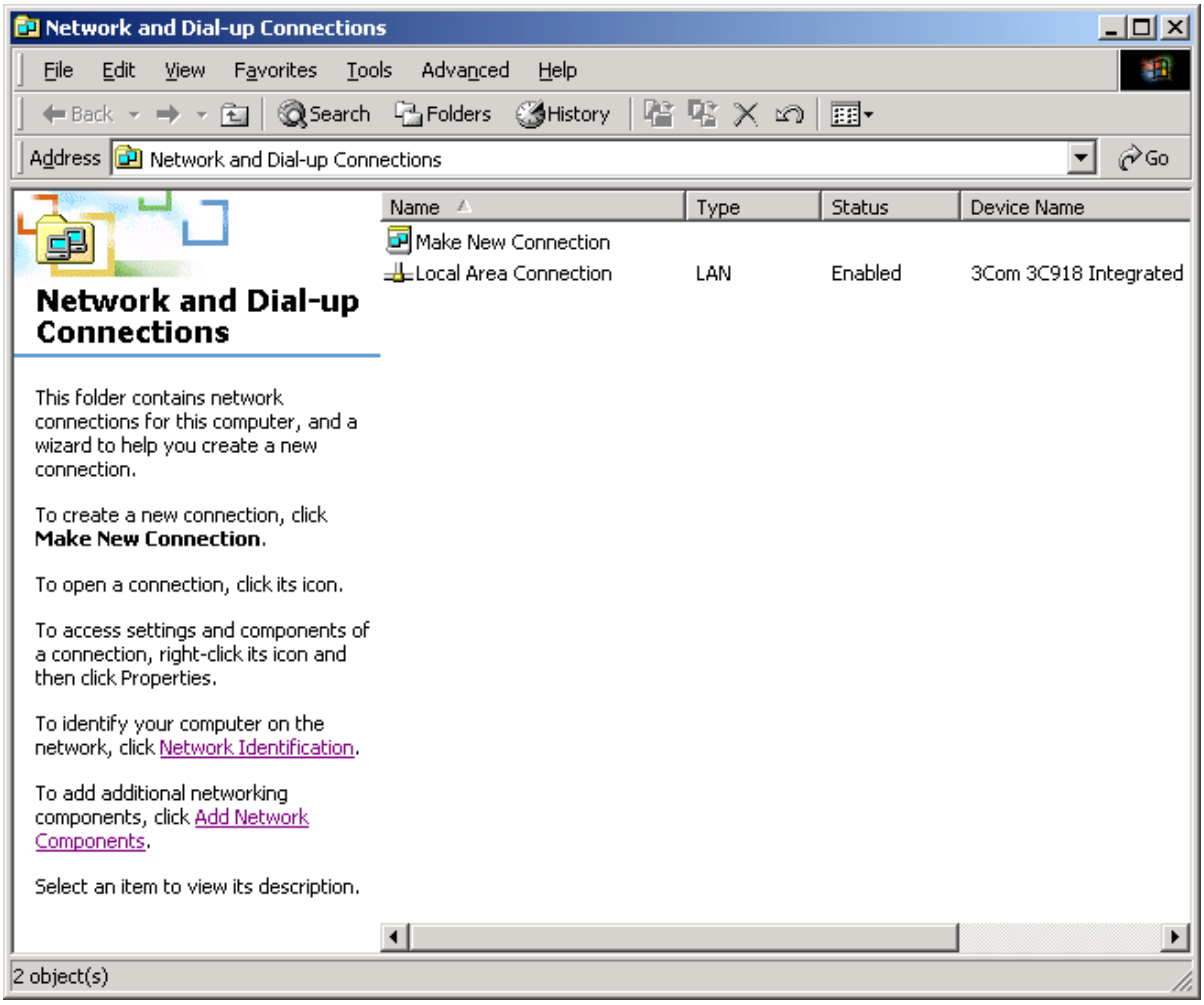


**Figure 16: Network and Dial-up Connections Screen**

2. Right-click on the connection to be used to access the N30 network and click Properties. The Properties screen for the selected connection appears (Figure 17).

Note: The sample connection shown in Figure 16 is named Local Area Connection. However, connection names vary according to individual connection configurations. In Step 2, select whichever connection the PC will use to communicate with the N30s on the network.

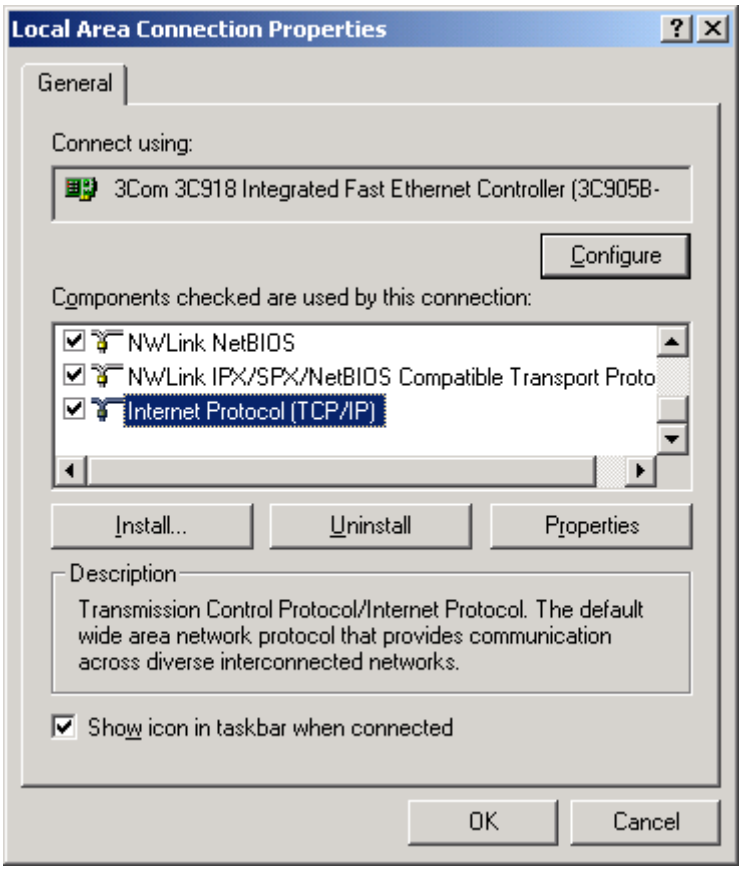


**Figure 17: Properties Screen for Selected Connection**

3. In the list of components, click Internet Protocol (TCP/IP) and click the Properties button. The Internet Protocol (TCP/IP) Properties screen appears (Figure 18).

Note: The addresses shown in these procedures are **examples**. Use approved addresses from your System Administrator or IT Department.

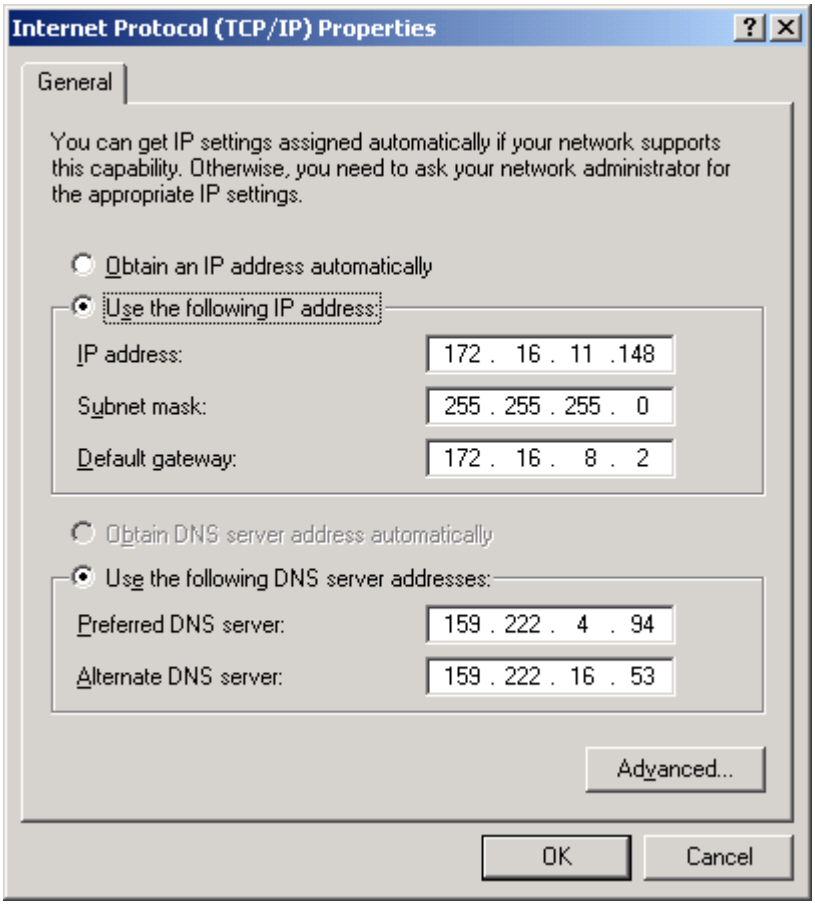


**Figure 18: Internet Protocol (TCP/IP) Properties Screen**

4. If your network supports DHCP, click Obtain an IP address automatically and go to Step 9. Otherwise, go to Step 5 to manually set your addresses.

Note: Contact your Network Administrator to see if your network supports DHCP.

5. Click Use the following IP address (see Figure 18).

CAUTION: **Possible network problems**. If you are connected to an Ethernet network that is not dedicated to your N30/M-Series Workstation system, do not change IP addresses without using an approved address from your System Administrator or IT Department.

6. Type in a valid IP address, subnet mask, and, if you are using a router, a default Gateway address.

Notes: Match the IP address to the first three octets of the N30. Make the last octet within a few numbers of the N30. Keep the subnet mask the same as the N30.

In the example in Figure 18, the N30 IP address is 172.16.11.145 and the subnet mask is 255.255.255.0. Therefore, the IP address for the PC is set to match the first three octets of the N30 (172.16.11) and the last octet is within a few numbers (148 vs. 145) of the last octet of the N30. The subnet mask is set the same as the subnet mask of the N30. The Gateway address is provided by your Network Administrator. The Gateway address is for the router on the local subnet.

7. If you need to add more addresses, click the Advanced button. The Advanced TCP/IP Settings screen appears (Figure 19).

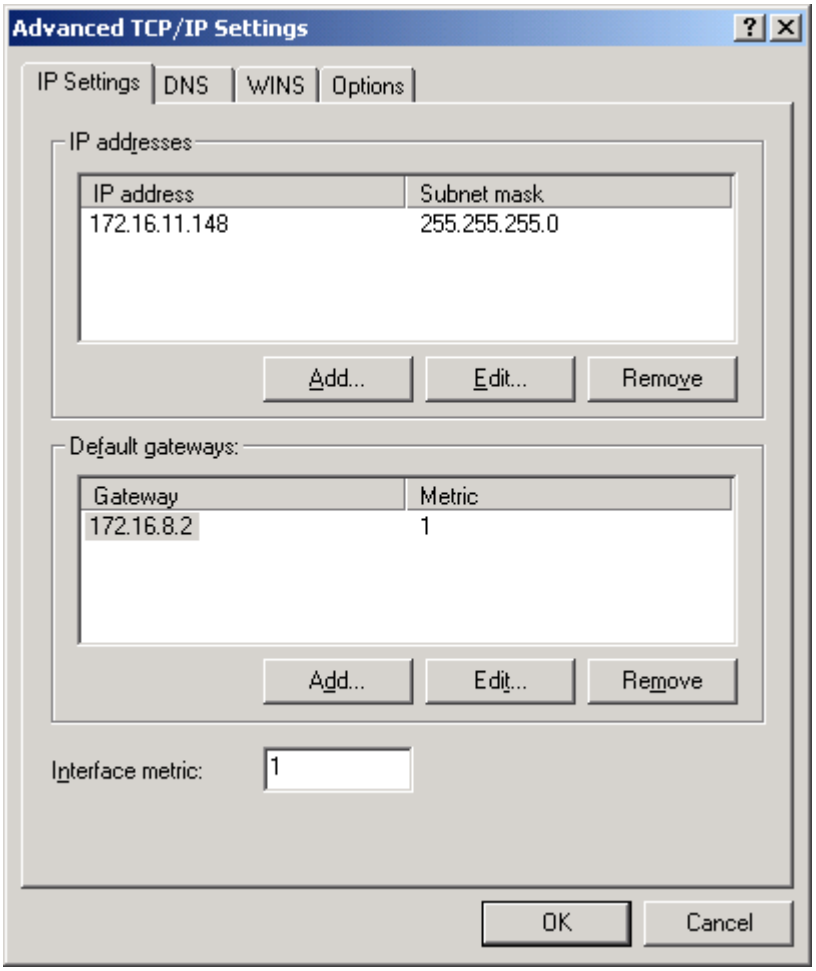


**Figure 19: Advanced TCP/IP Settings Screen**

8. Add, edit, or remove addresses as necessary and click OK to return to the Internet Protocol (TCP/IP) Properties screen.

9. Click OK to return to the Properties screen for the selected connection.
10. Click OK to return to the Network and Dial-up Connections screen.
11. Click the Close button on the upper right corner of the screen to close the Network and Dial-up Connections screen.

## Adding an Ethernet LAN Site to Site Book

Note: We recommend that the maximum number of sites defined in the Site Book is 50.

To add an Ethernet LAN site to Site Book:

1. On the Windows Start menu, click either Programs > Johnson Controls > BACnet OPC > Site Book or Programs > Johnson Controls > M-Tool > System Tools > Site Book. The Site Book's main screen appears (Figure 20). If this is the first time you are running Site Book, all fields are blank.

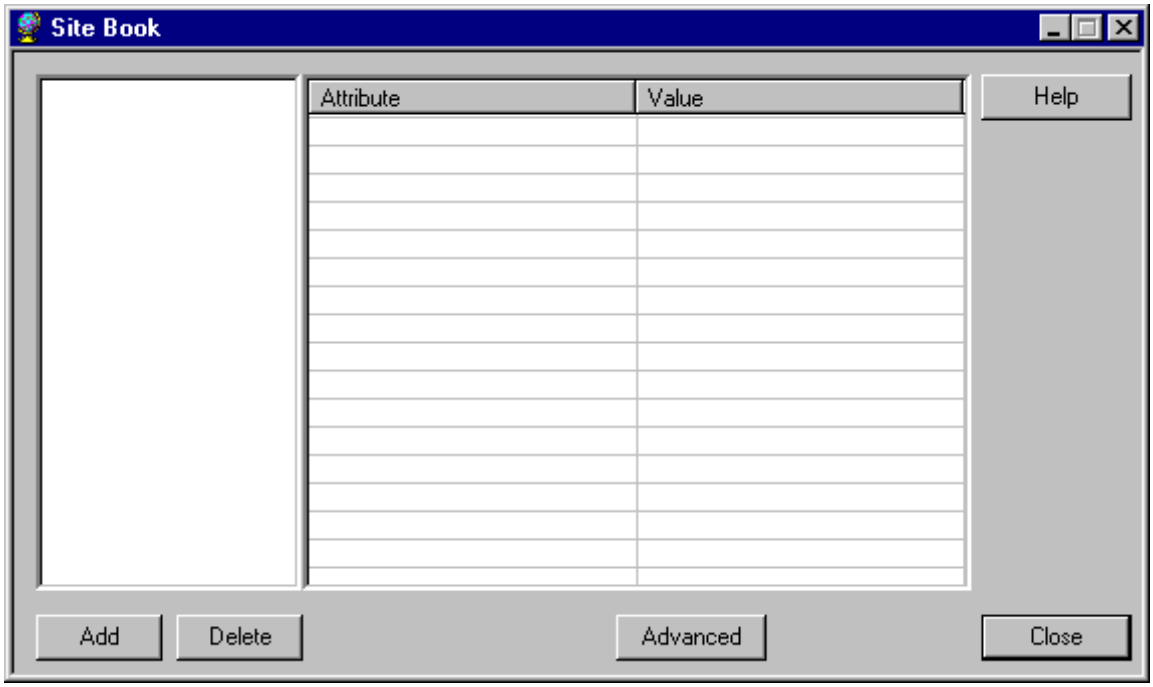


**Figure 20: Site Book - Blank Main Screen**

2. Click the Add button. The Choose a Connection Type screen appears (Figure 21).

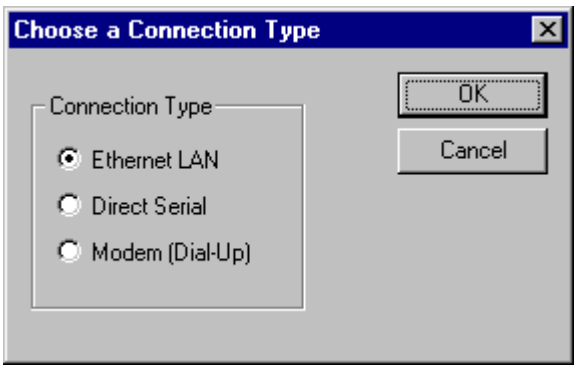


**Figure 21: Choose a Connection Type Screen**

3. Click Ethernet LAN and click OK. The Ethernet Connection Information screen appears (Figure 22).

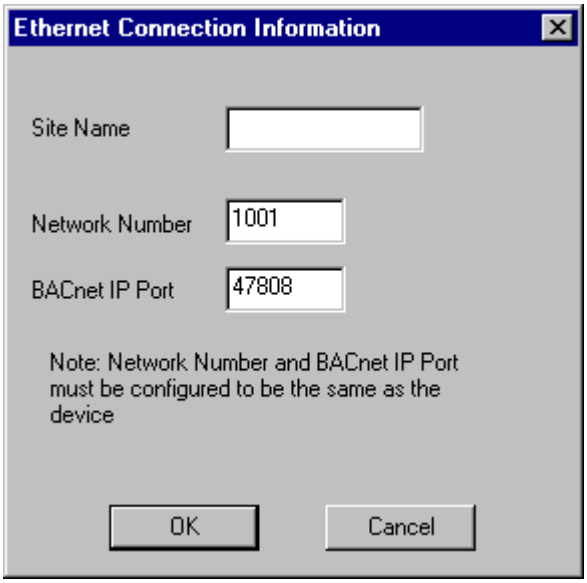


**Figure 22: Ethernet Connection Information Screen**

4. Fill in the fields on the Ethernet Connection Information screen according to Table 9 and click OK. The Site Book Basic Configuration screen for Ethernet connections appears (Figure 23).

**Table 9: Ethernet Connection Information Screen Fields**

| Field | Default | Notes |
|---|---|---|
| **Site Name** | Blank | The Site Name can be from 1 to 32 characters. It must be unique and must be defined for each site. |
| **Network Number** | 1001 | The range is 1 to 65535. It must be defined for each site and must match the network number defined in the N30 device objects for this site. |
| **BACnet IP Port** | 47808 (BAC0 in Hexadecimal) | The range is 0 to 65000. It must be unique within a site. The BACnet IP Port must match the one defined in the N30 Device objects for this site.* |

* The BACnet IP Port cannot be changed using the Facilitator M-Tool.

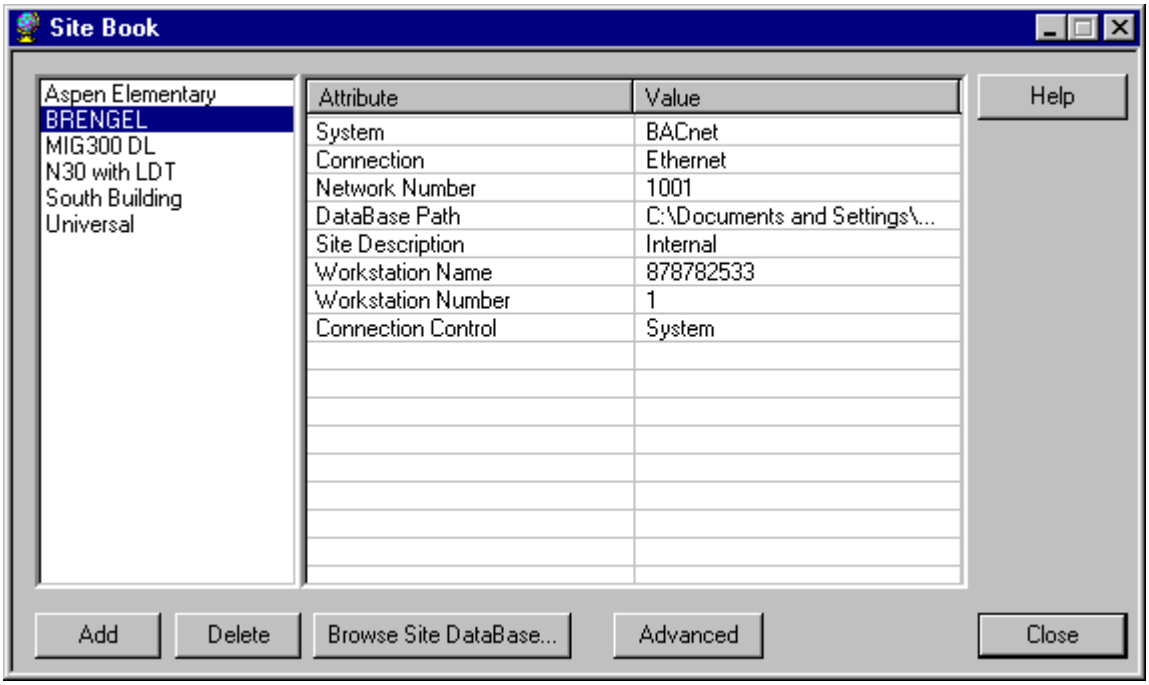


**Figure 23: Ethernet Connection - Basic Parameters**

5. Edit the fields of the Basic Parameters screen as required according to Table 10.

## Table 10: Ethernet Connection - Basic Parameters Fields

| Field | Default | Notes |
|---|---|---|
| **System** | BACnet | Defines system type. Currently limited to BACnet systems and cannot be changed. |
| **Connection** | Ethernet | Set when adding a new site, but may be changed by double-clicking. The choices are Ethernet, Direct Serial, or Modem (Dial-up). |
| **Network Number** | 1001 | 1001 is the default for Ethernet connections. The default for Dial and Serial connections is 100. |
| **DataBase Path** | C:\Documents and Settings\All Users\ Application Data\ Johnson Controls\ M-Data | Path may be different for each site. Clicking on the DataBase Path field brings up the Browse Path button. The default path at Release 1.x was: C:\Program Files\Johnson Controls\M-Data\. |
| **Site Description** | Blank | Optional description of from 1 to 125 characters |
| **Workstation Name** | Your computer's name | Must be a unique workstation name up to 20 characters of text. |
| **Workstation Number** | 1 | Must be a unique workstation number. The range is 1-65000. |
| **Connection Control** | System | System is the default for the first Ethernet site. For direct serial and dial-up (modem) connections, the connection control is User. |

Note: For a more detailed explanation of each field, refer to Table 3.

6. If you need to edit the advanced parameters, click the Advanced button. The Site Book Advanced Configuration screen for Ethernet connections appears (Figure 24).

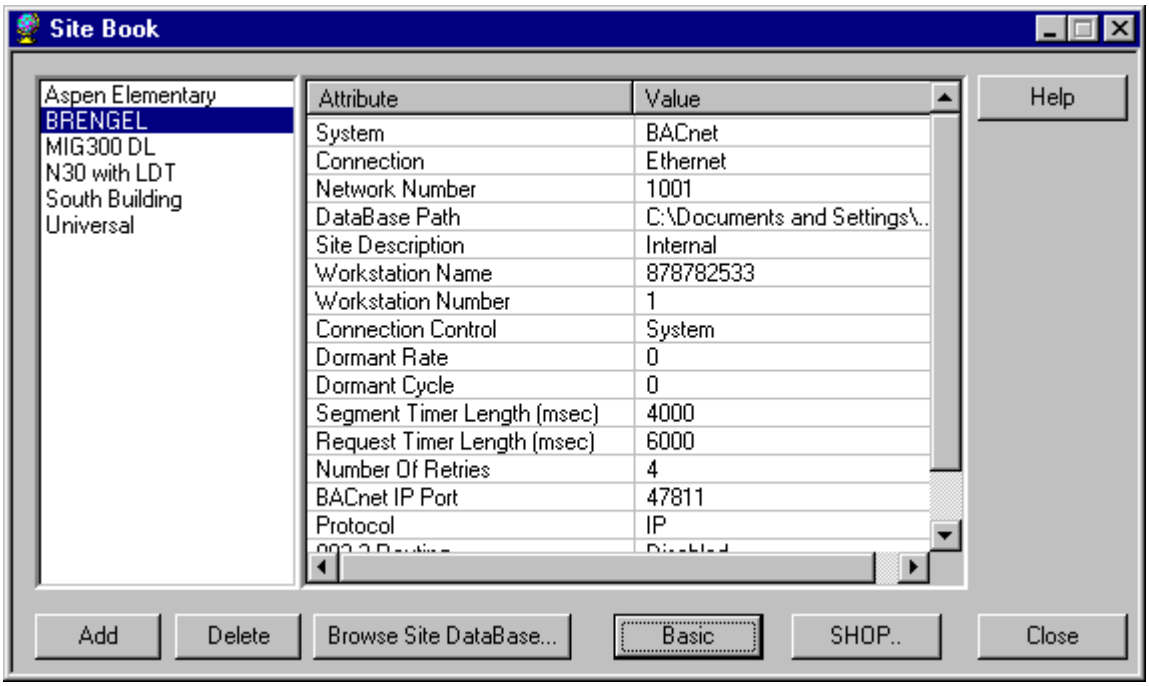


**Figure 24: Ethernet Connection - Advanced Parameters**

7. Edit the additional fields as required according to Table 11.

**Table 11: Ethernet Connection - Advanced Parameters Fields**

| Field | Default | Notes |
|---|---|---|
| **Dormant Rate** | 0 | Cannot exceed 65,000. |
| **Dormant Cycle** | 0 | Cannot exceed 65,000. |
| **Segment Timer Length (msec)** | 4000 | Cannot exceed 60,000 milliseconds. |
| **Request Timer Length (msec)** | 6000 | Cannot exceed 60,000 milliseconds. |
| **Number Of Retries** | 4 | Maximum of 100 |
| **BACnet IP Port** | 47808 (BAC0) | Cannot be changed from 47808 in N31s or Facilitator M-Tool. |
| **Protocol** | IP | Cannot be changed in Site Book. |
| **802.3 Routing** | Disabled | Cannot be changed in Site Book. |
| **Internal Routing** | Disabled | Leave disabled unless you are using the simulator feature of Project Builder. Internal Routing must be enabled to use the simulator. |

Note: For a more detailed explanation of each field, please refer to Table 4 and Table 5.

8. Click Close to save changes and exit Site Book.

## Adding Device Addresses in Segment Hop (SHOP)

Note: This only applies to Ethernet connected sites.

To add device addresses in Segment Hop (SHOP):

1. In the advanced parameters screen of your Ethernet connection in Site Book (Figure 24), click on the SHOP button. The Segment Hop Devices screen appears (Figure 25).

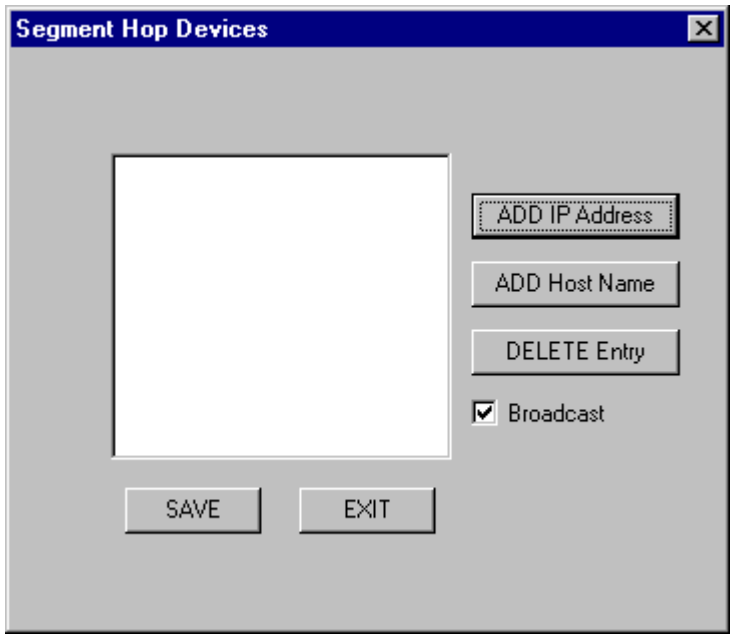


**Figure 25: Segment Hop Devices Screen**

2. To add an IP address for the device on the target network segment that contains the Broadcast Management object, click the ADD IP Address button. The Device Address dialog box appears (Figure 26).

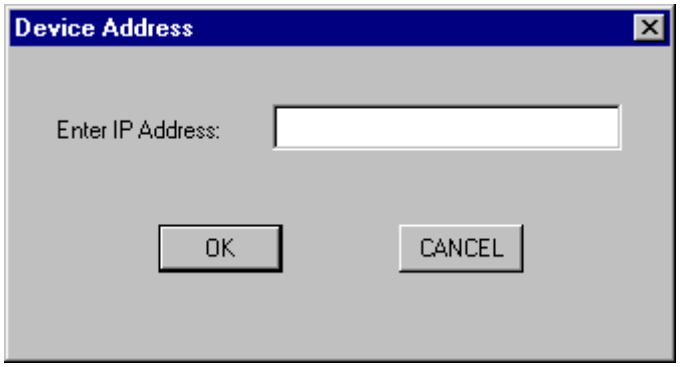


**Figure 26: Device Address Dialog Box**

3. Enter the IP address and click OK.

Note: The following IP addresses are invalid:

- 0.0.0.0
- 255.255.255.255
- 127.0.0.1

4. Click ADD IP Address to add additional device addresses.
5. If you have an M-Series Workstation on an Ethernet segment that contains N30s and their IP addresses are not listed in the Segment Hop Devices screen, then check the Broadcast box.

Note: Broadcast is not required if you are setting up a SHOP address list for an M-Series Workstation on an Ethernet segment that does not contain any N30 controllers. Broadcast also is not required if the IP addresses of all the N30s are in the SHOP list.

6. Click SAVE to save your changes.
7. Click EXIT when finished.

## Adding Device Host Names in SHOP

Note: This only applies to Ethernet connected sites.

To add device host names in SHOP:

1. In the advanced parameters screen of your Ethernet connection in Site Book (Figure 24), click on the SHOP button. The Segment Hop Devices screen appears (Figure 25).
2. To add a host name for the device on the target network segment that contains the Broadcast Management object, click the ADD Host Name button. The Host Name dialog box appears (Figure 27).

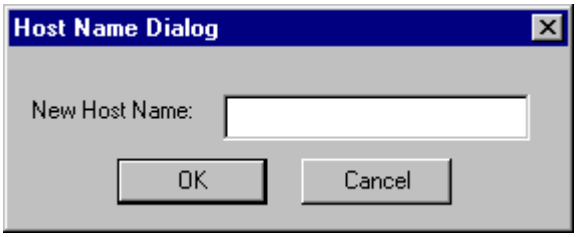


**Figure 27: Host Name Dialog Box**

3. Enter the host name and click OK.

Note: If Site Book cannot verify the host name you enter, it does not add the host name to the list.

4. Click ADD Host Name to add additional host names.
5. If you have an M-Series Workstation on an Ethernet segment that contains N30s, and their IP addresses or host names are not listed in the Segment Hop Devices screen, then check the Broadcast box.

Note: Broadcast is not required if you are setting up a SHOP address list for an M-Series Workstation on an Ethernet segment that does not contain any N30 controllers. Broadcast also is not required if the IP addresses or host names of all the N30s are listed.

6. Click SAVE to save your changes.
7. Click EXIT when finished.

## Deleting Device Addresses or Host Names from SHOP

To delete device addresses or host names from SHOP:

1. In the advanced parameters screen of your Ethernet connection in Site Book (Figure 24), click on the SHOP button. The Segment Hop Devices screen appears (Figure 25).
2. Click on the device address or host name that you want to delete.
3. Click DELETE Entry. The entry is removed.
4. To save your changes, click SAVE. Clicking EXIT without saving allows you to exit Segment Hop without the devices being deleted.
5. Delete additional device addresses or host names as necessary.
6. Click SAVE to save your changes.
7. Click EXIT when finished.

## Adding a Direct Serial or Dial-up (Modem) Connection Site

Before adding a direct serial or dial-up connection to the Site Book, Microsoft Dial-up Networking must be installed and configured. See the *Direct Connect and Dial-Up on Windows 98 Application Note (LIT-6893350)*, the *Direct Connect and Dial-Up on Windows NT Application Note (LIT-6893400)*, or the *Direct Connect and Dial-Up on Windows 2000 Application Note (LIT-6893450)* before proceeding.

Note: We recommend defining a maximum number of 50 sites in Site Book.

To add a direct serial or dial-up (modem) connection site:

1. On the Windows Start menu, click either Programs > Johnson Controls > M-Tool > System Tools > Site Book or Programs > Johnson Controls > BACnet OPC > Site Book. The Site Book's main screen appears (Figure 20). If this is the first time you are running Site Book, all fields are blank.
2. Click the Add button. The Choose a Connection Type screen appears (Figure 21).
3. Click Direct Serial or dial-up (modem) and click OK. The Serial Connection Information screen appears (Figure 28).

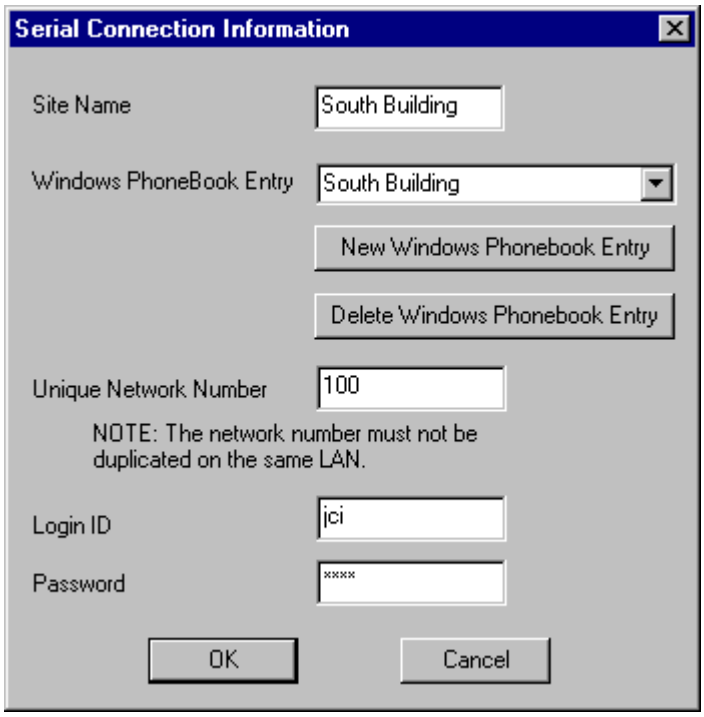


**Figure 28: Serial Connection Information Screen**

4. Fill in the fields on the Serial Connection Information screen according to Table 12 and click OK. The Site Book Direct Serial Basic Configuration screen appears (Figure 29).

## Table 12: Serial Connection Information Screen Fields

| Field | Default | Notes |
|---|---|---|
| **Site Name** | Blank | The Site Name can be from 1 to 32 characters. It must be unique and must be defined for each site. |
| **Windows Phonebook Entry** | First phonebook entry in list | Selects the appropriate Dial-up Networking entry in the Windows phonebook that corresponds to this site. |
| **New Windows Phonebook Entry** | N/A | In Windows NT software, this button allows you to access the Windows NT Dial-up Networking definition screens to add a new Windows phonebook entry.<br>Note: In Windows 98 software, add a new phonebook entry through Dial-up Networking. |
| **Delete Windows Phonebook Entry** | N/A | In Windows NT software, this button allows access to the Windows NT Dial-up Networking screens to delete entries.<br>Note: In Windows 98 software, delete a new phonebook entry through Dial-up Networking. |
| **Unique Network Number** | 100 | This number must be unique on the network. It must **not** match the network number in N30 devices. The range is 1-65535. |
| **Login ID** | Blank | Must match the PPP login ID in the N30.* |
| **Password** | Blank | Must match the PPP password in the N30.* |

* The default login ID and password in N30s are jci and 2468.

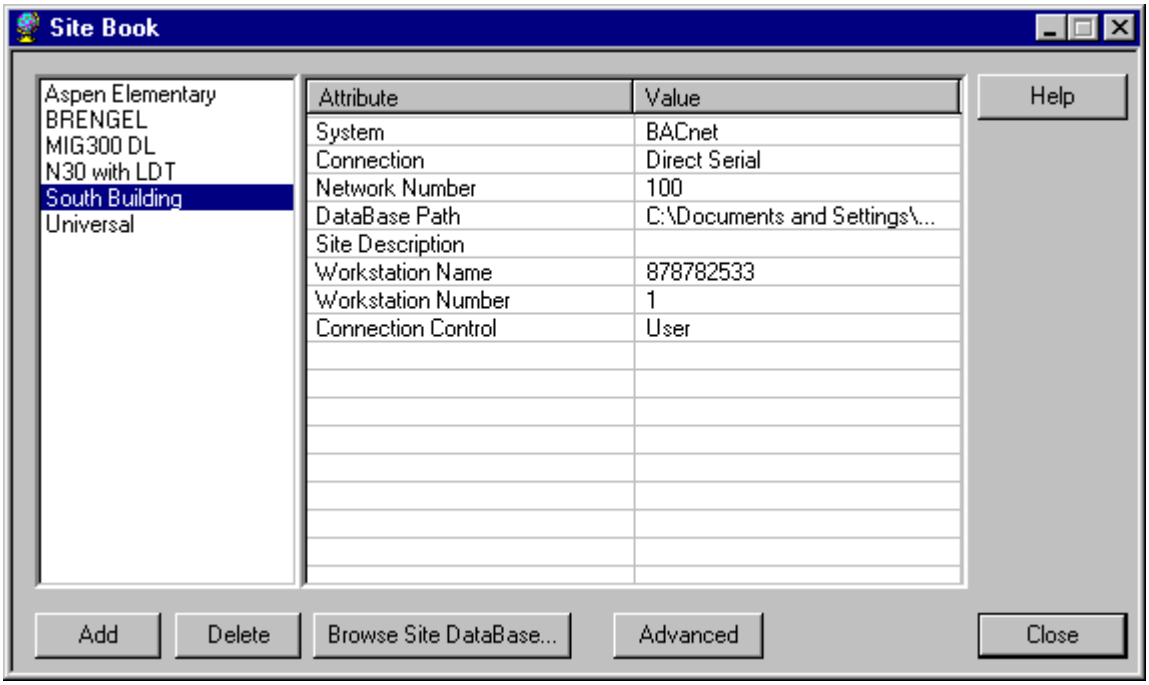


**Figure 29: Site Book Direct Serial Basic Configuration Screen**

5. If necessary, edit the fields of the Basic Parameters screen as required according to Table 13.

### Table 13: Direct Serial Configuration Screen Basic Parameters

| Field | Default | Notes |
|---|---|---|
| **System** | BACnet | Defines system type. Currently limited to BACnet systems. |
| **Connection** | Direct Serial | Set when adding a new site but may be changed by double-clicking. The choices are Ethernet, Direct Serial, or Modem (Dial-up). |
| **Network Number** | 100 | This number must be unique on the network. It must **not** match the network number in N30 devices. |
| **DataBase Path** | C:\Documents and Settings\All Users\ Application Data\ Johnson Controls\ M-Data | Path may be different for each site. Clicking on the DataBase Path field brings up the Browse Path button. The default path at Release 1.x was: C:\Program Files\Johnson Controls\M-Data\. This is the path created on installation. |
| **Site Description** | Blank | An optional site description of up to 125 characters can be entered here. |
| **Workstation Name** | Your computer's name | Up to 20 characters of text. It must be unique for alarm notification. |
| **Workstation Number** | 1 | From 1-65000. It must be unique for alarm notification. |
| **Connection Control** | User | Requires explicit connect/disconnect command from user when using an M-Series Workstation. For direct serial and dial-up (modem) connections, the connection control is User. System is the default for the first Ethernet site. |

Note: For a more detailed explanation of each field, refer to Table 3.

6. If you need to edit the advanced parameters, click the Advanced button and edit the additional fields as required according to Table 14.

### Table 14: Direct Serial Configuration - Advanced Parameters Fields

| Field | Default | Notes |
|---|---|---|
| **Dormant Rate** | 0 | Cannot exceed 65,000. |
| **Dormant Cycle** | 0 | Cannot exceed 65,000. |
| **Segment Timer Length (msec)** | 4000 | Cannot exceed 60,000 milliseconds. |
| **Request Timer Length (msec)** | 6000 | Cannot exceed 60,000 milliseconds. |
| **Number Of Retries** | 4 | Maximum of 100 |
| **Phonebook Entry** | N/A | Windows Dial-up Networking entry defining serial connections for this site |
| **Password** | N/A | PPP password for the N30 |
| **Login ID** | N/A | PPP login ID for the N30 |

Note: For a more detailed explanation of each field, refer to Table 4 and Table 6.

7. Click Close to save changes and exit Site Book.

## Using Browse Site Database

IMPORTANT: Trying to use older databases (Release 1.x) with new software displays a warning message that allows you to upgrade the database from the Release 1.x format to the Release 2.x format. If you have upgraded an M-Series Workstation, you need to rebrowse your devices to update the site object database.

The Browse Site Database feature of Site Book is used to add devices to site databases, to browse sites, and to rebrowse sites. To use browse site database:

1. Make sure that you are online with a device (physical or simulated).
2. Shut down any M-Applications (clients) running on your PC.

Note: If an M-Application client is running, Browse displays an error.

3. On the main Site Book screen (Figure 30), click the Browse Site DataBase button. The BACnet Object Finder screen appears (Figure 31).

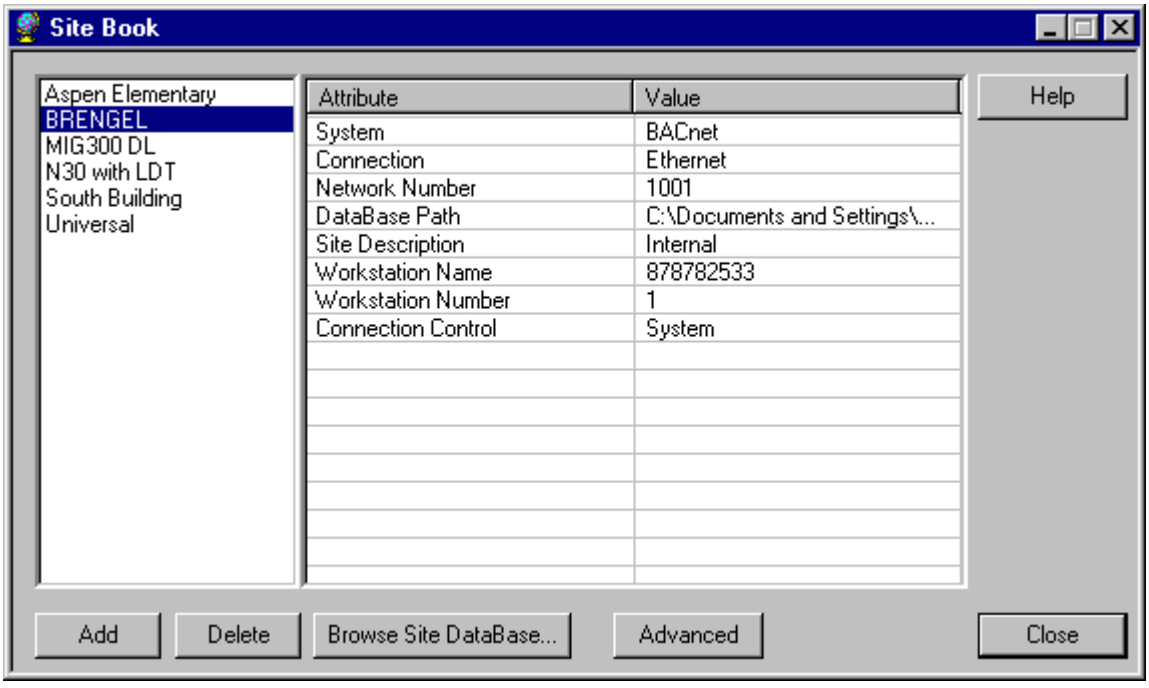


**Figure 30: Basic Ethernet Connection**

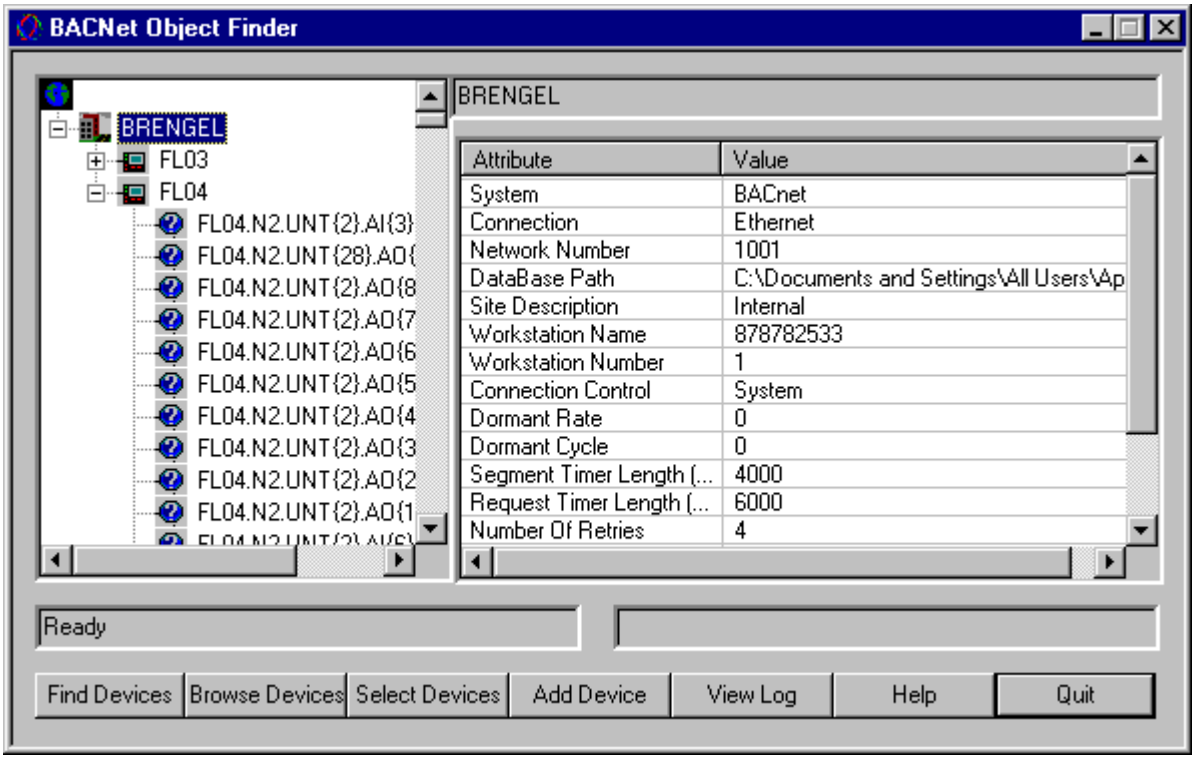


**Figure 31: BACnet Object Finder Screen**

4. With the site you want to browse selected, click the Browse Devices button to browse all devices on the site, or click the Select Devices button to choose specific devices to browse from a list of currently added devices.

5. See *Adding a Device*, *Finding Devices*, and *Editing a Device Host Name* for other tasks that can be performed from this screen. Otherwise, after the device objects are browsed, click Quit to return to the Site Book.

## Adding a Device

Note: Use this procedure while in the Browse Site Database feature. See the *Using Browse Site Database* procedure.

To add a device:

1. On the left side of the BACnet Object Finder screen (Figure 31), click the Site to which you want to add devices and click the Add Device button. The Device Entry Dialog dialog box for the selected site appears (Figure 32).

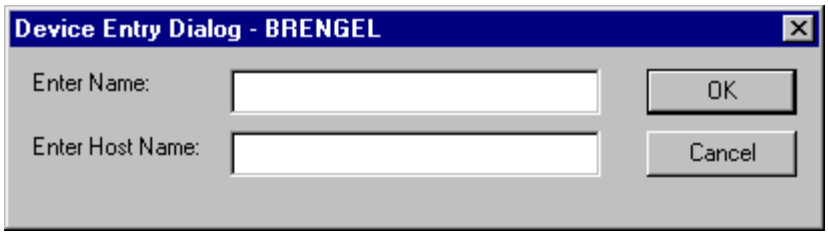


**Figure 32: Device Entry Dialog Dialog Box**

2. Enter the name of a device in this site's database.
3. If the N30s in this site are configured to use a DNS server, enter the host name of the device as well. If a DNS server is not used, leave the Enter Host Name box blank.

Notes: The Enter Host Name box appears only if the site uses an Ethernet connection.

The Host Name may be the Object Name (such as Building1) or a fully qualified host name that includes the Object Name and the domain name (such as Building1.Medctr).

4. Click OK.

## Finding Devices

Note: Use this procedure while in the Browse Site Database feature. See the *Using Browse Site Database* procedure.

To find devices, click the Site for which you want to find devices (on the left side of the BACnet Object Finder screen [Figure 31]) and click the Find Devices button.

Site Book locates all devices on the LAN for the port of the selected site and adds them automatically.

## Editing a Device Host Name

If an N30 host name changes, use this procedure to manually change the host name of the device in Site Book.

Notes: Use this procedure while in the Browse Site Database feature. See the *Using Browse Site Database* procedure.

The Edit Host Name feature is only available if the site uses an Ethernet connection.

To edit a device host name:

1. On the left side of the BACnet Object Finder screen (Figure 31), click the device whose host name you want to edit and click the Edit Host Name button. The Host Name Dialog dialog box for the selected device appears (Figure 33).

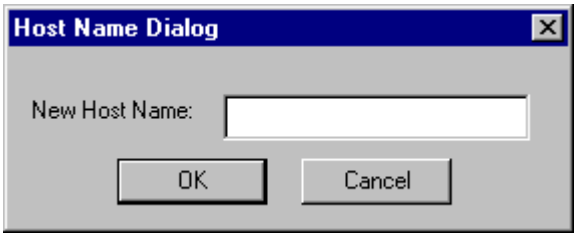


**Figure 33: Host Name Dialog Dialog Box**

2. Enter the new host name and click OK.

## Deleting a Site from Site Book

To delete a site from Site Book:

1. Open Site Book. The main Site Book screen appears (Figure 34).

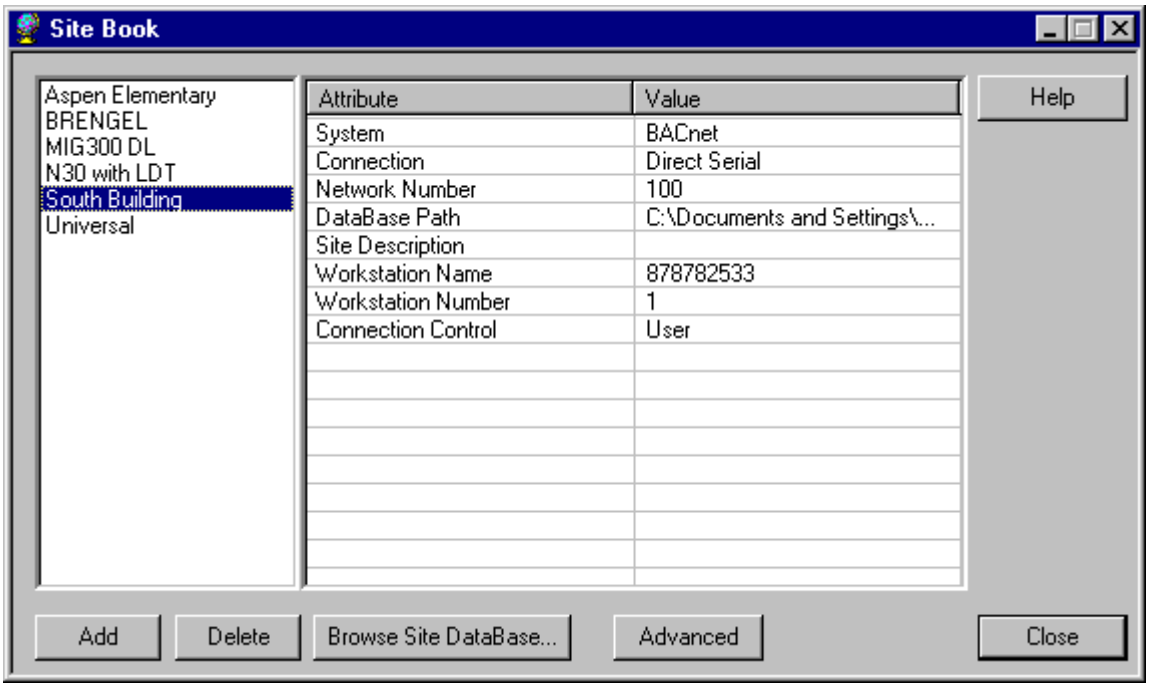


**Figure 34: Site Book - Main Screen**

2. Click the site you want to delete.
3. Click the delete button. Site Book prompts you to click Yes if you are sure that you want to delete the site.

## Connecting to an N30 Site from Project Builder via a Direct Serial Connection

If using Windows 98 software and you have not set up the network connection icon for the site to which you want to connect, see the *Direct Connect and Dial-Up in Windows 98 Application Note (LIT-6893350)* in this manual before proceeding. If using Windows NT or Windows 2000 software and you have not set up your phonebook entry for the site to which you want to connect, see the *Direct Connect and Dial-Up on Windows NT Application Note (LIT-6893400)* or the *Direct Connect and Dial-Up on Windows 2000 Application Note (LIT-6893450)* before proceeding. See the *Project Builder User's Guide* for more information on using Project Builder.

To connect to an N30 Site from Project Builder via a direct serial connection:

1. Connect a NULL modem cable from the N30 port to the PC COMM port on the PC on which the Dial-up Networking Serial Cable modem was defined.

Notes: See the *N30 Supervisory Controller Installation Technical Bulletin (LIT-6891300)* for information about NULL modem cables that work with the N30.

Choose an N30 port whose baud rate matches the baud rate defined for the site's network connection icon. The M-Tool communications component can talk to an N30 through any port with a matching baud rate.

2. Use Project Builder's Edit > Edit Sites dialog box to select the name of the site to which you want to connect.
3. Select the device or objects to upload or download.
4. On the Tools menu in Project Builder, select the Upload, Download, or Advanced Download command as necessary.

A connection is established automatically with the controller. When the connection is successful, the standard Windows connect icon appears in the system tray.

When the upload or download is complete, the communications component prompts whether to close the connection. By selecting No, the connection is kept open for additional uploads or downloads.

## Changing the PPP Password

The PPP password in Site Book must match the PPP password in the N30 device object for the site to which you want to connect. Changing the PPP password requires changing it in both Project Builder and Site Book. For further information on the use of Project Builder, see the *Project Builder User's Guide*.

To change the PPP password:

1. Close any open instances of Site Book.
2. In Project Builder, open the N30 device object by double-clicking the correct row head. The M-View screen appears (Figure 35).

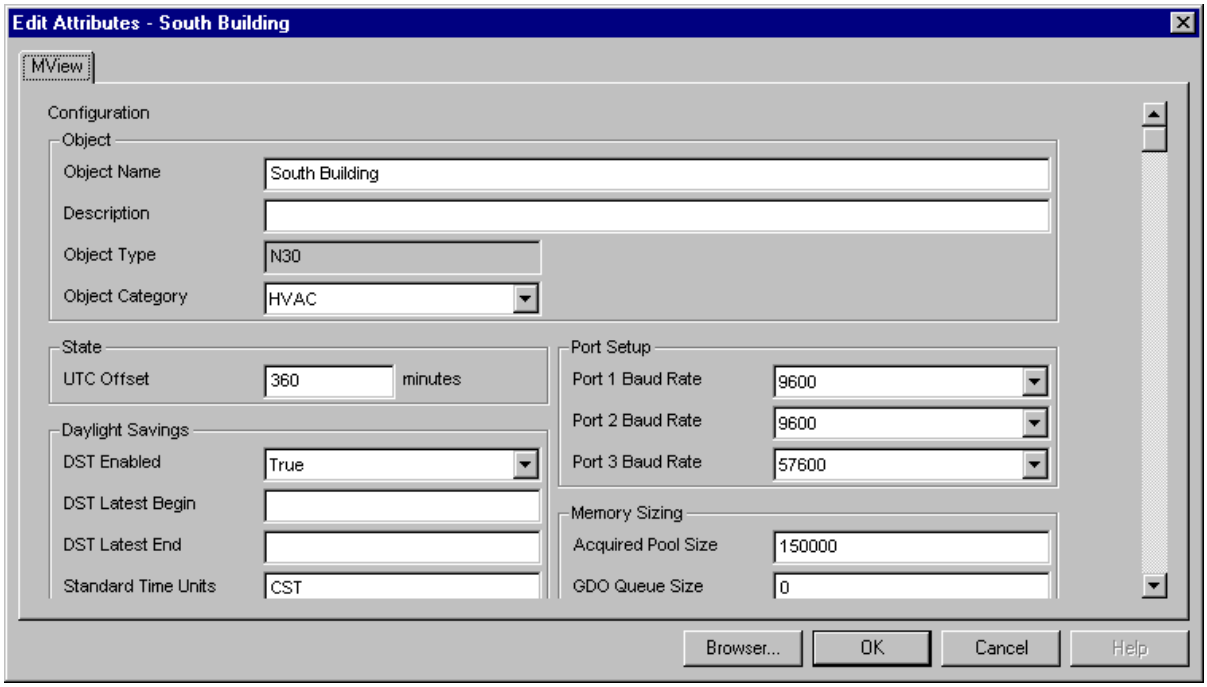


**Figure 35: N30 Device Object M-View Configuration Screen in Project Builder**

3. Right-click on the M-View screen and click Snapshot Focus. The Snapshot Focus screen appears (Figure 36).

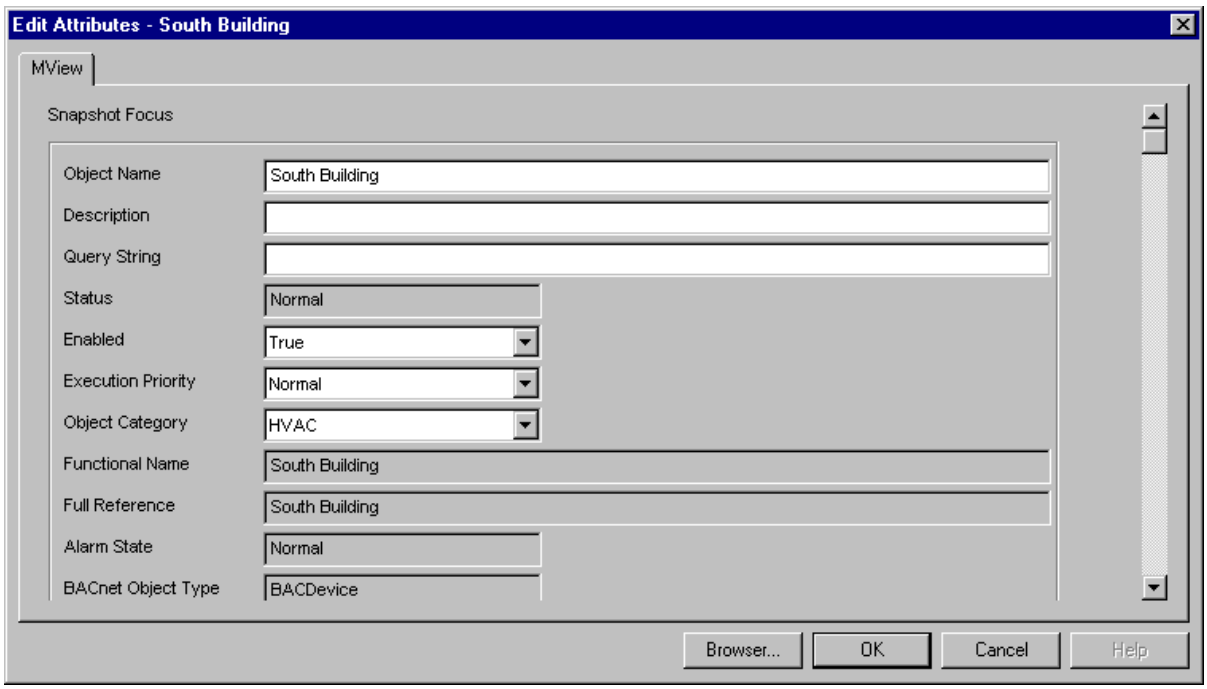


**Figure 36: N30 Device Object M-View Snapshot Focus Screen in Project Builder**

4. Scroll down to the Login ID and Password fields.
5. Edit as desired.
6. Click OK.
7. Save your database by clicking Save on the File menu.

Note: The changes are not properly registered to the Site Data object until you download all devices on the site.

8. Download the N30 to which you are connected without changing the old PPP Login ID and Password in Site Book.

IMPORTANT: After the N30 is downloaded and before any other PPP communication connections are made, you **must** perform Steps 9 through 15.

9. On the Edit menu of Project Builder, click Edit Site. The Edit Site screen appears (Figure 37).

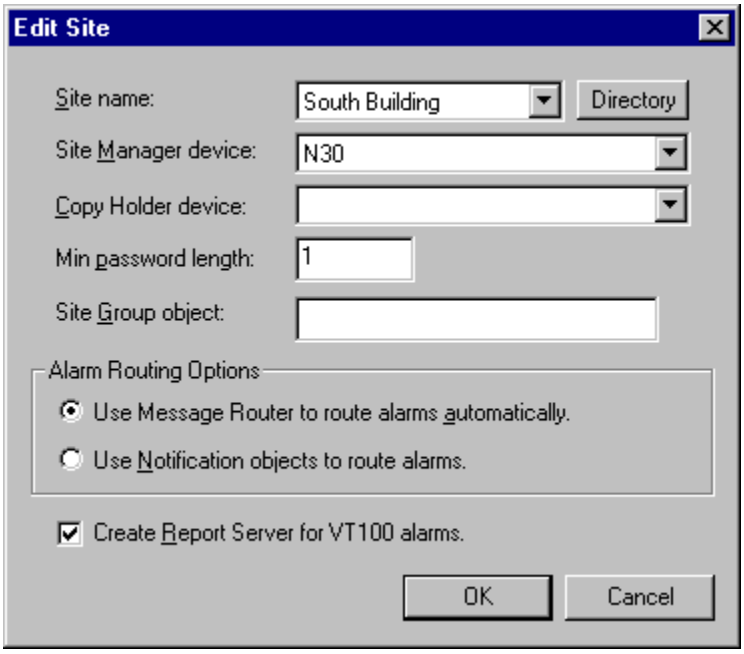


**Figure 37: Edit Site Screen**

10. Click the Directory button. Site Book opens to the basic parameters screen for this site.
11. Click the Advanced button.
12. Edit the Login ID and Password to match the Login ID and Password in your site database in Project Builder.
13. Click Close to close Site Book and return to the Edit Site screen.
14. Click OK. The changes are saved to your project database.
15. On the Project Builder File menu, click Save.

## Changing the BACnet IP Port

The BACnet IP Port in Site Book must match the BACnet IP Port in the N30 device object for the site to which you want to connect. Changing the BACnet IP Port requires changing it in both Project Builder and Site Book. For further information on the use of Project Builder, see the *Project Builder User's Guide*.

To change the BACnet IP Port:

1. Close any open instances of Site Book.
2. In Project Builder, open the N30 device object by double-clicking the correct row head. The M-View screen appears (Figure 35).
3. Right-click on the M-View screen and click Snapshot Focus. The Snapshot Focus screen appears (Figure 36).
4. Scroll down to the BACnet IP Port field.

5. Edit as desired.
6. Click OK.
7. Save your database by clicking Save on the File menu.

Note: The changes are not properly registered to the Site Data object until you download all devices on the site.

8. Download the N30 to which you are connected without changing the old BACnet IP Port in Site Book.

IMPORTANT: After the N30 is downloaded and before any other Ethernet communication connections are made, you **must** perform Steps 9 through 15.

9. On the Edit menu of Project Builder, click Edit Site. The Edit Site screen appears (Figure 37).
10. Click the Directory button. Site Book opens to the basic parameters screen for this site.
11. Click the Advanced button.
12. Double-click the BACnet IP Port value and edit it to match the BACnet IP Port in your site database in Project Builder.
13. Click Close to close Site Book and return to the Edit Site screen.
14. Click OK. The changes are saved to your project database.
15. On the Project Builder File menu, click Save.

# *Troubleshooting*

## Table 15: Site Book Troubleshooting Guidelines

| Error/Condition | Problem | Solution |
|---|---|---|
| **Disconnected from site <site name> due to Remote Access Service (RAS) Error Code 721:** `Remote PPP peer is not responding.` | Invalid PPP login ID and/or password | Verify that the PPP login ID and password in Site Book match the login ID and password in the N30 object. |
| **Connection does not occur as expected.** | Wrong connection type | Double-click the connection field on the Site Book and click the proper connection type in the drop-down list. |
| **With a dial-up or direct serial connection, either browsing device fails because it cannot connect to site, or Project Builder download/upload fails with Error Code 282.** | Wrong network number | **Make sure** that the network number entered in the Site Book for dial-up (modem) or direct serial connections, **does not match** the network number of the N30 site to which you are trying to connect. |
| **When browsing a site for new objects, you receive the following message: Object database is old. Select yes to convert to a new database.** | Attempting to use older databases (Release 1.x) with new software | If you have upgraded M-Tool or an M-Series Workstation, rebrowse the device. The old Site Book object database for each site is saved with a .old extension. |

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