IBM

Fast Ethernet Desktop Switch
8275 Model 324

Installation and Planning Guide

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> **Note:**
>
> Before using this information and the product it supports, be sure to read the "Safety Information" on page xiv and Appendix B, "Notices."

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About This Manual

This manual explains how to install and service the IBM Fast Ethernet Desktop Switch 8275-324.

Who Should Read This Manual

This manual is intended for use by installation technicians, network administrators, and service personnel.

How This Manual is Organized

- Chapter 1, "Introduction," describes the features of the 8275-324.

- Chapter 2, "Installing and Powering-On the 8275-324," contains step by step instructions for installing and connecting the 8275-324 to your network.

- Chapter 3, "LED Panel," describes the function of the LED panel.

- Chapter 4, "Console Based Management," describes the use and options available on each panel of the 8275-324 and configuring it to your network.

- Chapter 5, "Web-Based Management," describes how to manage the 8275-324 through your Web browser.

- Chapter 6, "Troubleshooting and Service," describes how to troubleshoot the 8275-324.

- Appendix A, "Introduction to Virtual LANs (VLANs) and Spanning Tree Protocol (STP)," describes VLANs and Spanning Tree Protocols.

- Appendix B, "Notices," details warranty information and emission information.

- Appendix C, "Cable Pinout Diagrams," describes cable pin-out diagrams.

Safety Information

⚠

Danger: Before you begin to install this product, read the safety information in *Caution: Safety Information–Read This First*, SD21-0030. This booklet describes safe procedures for cabling and plugging in electrical equipment.

⚠

Gevarr: Voodrat u begint met de installatie van dit produkt, moet u eerst de veiligheidsinstructies lezen in de brochure *PAS OP! Veiligheidsinstructies–Lees dit eerst*, SD21-0030. Hierin wordt beschreven hoe u electrische apparatuur op een veilige manier moet bekabelen en aansluiten

⚠

Danger: Avant de procéder à l'nstallation de ce produit, lisez d'abord les consignes de sécurité dans la brochure *ATTENTION: Consignes de sécurité–A lire au préalable,* SD21-0030. Cette brochure décrit les procédures pour câbler et connecter les appareils électriques en toute sécurité.

⚠

Perigo: Antes de começar a instalar deste produto, leia as informações de segurança contidas em *Cuidado: Informações Sobre Segurança–Leia Primeiro*, SD21-0030. Esse folheto descreve procedimentos de segurança para a instalação de cabos e conexões em equipamentos elétricos.

⚠

危險：安裝本產品之前，請先閱讀
"Caution: Safety Information--Read
This First" SD21-0030　手冊中所提
供的安全注意事項。這本手冊將會說明
使用電器設備的纜線及電源的安全程序。

⚠

Opasnost: Prije nego sto pŏcnete sa instalacijom produkta, pročitajte naputak o pravilima o sigurnom rukovanju u Upozorenje: Pravila o sigurnom rukovanju - Prvo pročitaj ovo, SD21-0030. Ovaj privitak opisuje sigurnosne postupke za priključivanje kabela i priključivanje na električno napajanje.

⚠️

Upozornění: než zahájíte instalaci tohoto produktu, přečtěte si nejprve bezpečnostní informace v pokynech, Bezpečnostní informace, SD21-0030. Tato brožurka popisuje bezpečnostní opatření pro kabeláž a zapojení elektrického zařízení.

⚠️

Fare! Før du installerer dette produkt, skal du læse sikkerhedsforskrifterne i *NB: Sikkerhedsforskrifter – Læs dette først* SD21-0030. Vejledningen beskriver den fremgangsmåde, du skal bruge ved tilslutning af kabler og udstyr.

⚠️

Gevarr: Voordat u begint met het installeren van dit produkt, dient u eerst de veiligheidsrichtlijnen te lezen die zijn vermeld in de publikatie *Caution: Safety Information - Read This First,* SD21-0030. In dit boekje vindt u veilige procedures voor het aansluiten van elektrische appratuur.

⚠️

VARRA: Ennen kuin aloitat tämän tuotteen asennuksen, lue julkaisussa *Varoitus: Turvaohjeet–Lue tämä ensin,* SD21-0030, olevat turvaohjeet. Tässä kirjasessa on ohjeet siitä, mitensähkölaitteet kaapeloidaan ja kytketään turvallisesti.

⚠️

Danger : Avant d'installer le présent produit, consultez le livret *Attention : Informations pour la sécurité–Lisez-moi d'abord,* SD21-0030, qui décrit les procédures à respecter pour effectuer les opérations de câblage et brancher les équipments électriques en toute sécurité.

⚠️

Vorsicht: Bevor mit der Installation des Produktes begonnen wird, die Sicherheitshinweise in *Achtung: Sicherheitsinformationen–Bitte zuerst lesen.* IBM Form SD21-0030. Diese Veröffentilchung beschreibt die Sicherheitsvorkehrungen für das Verkabien und Anschließen elektrischer Geräte.

⚠️

Κίνδυνος: Πριν ξεκινήσετε την εγκατάσταση αυτού του προϊόντος, διαβάστε τις πληροφορίες ασφάλειας στο φυλλάδιο *Caution: Safety Information-Read this first,* SD21-0030. Στο φυλλάδιο αυτό περιγράφονται οι ασφαλείς διαδικασίες για την καλωδίωση των ηλεκτρικών συσκευών και τη σύνδεσή τους στην πρίζα.

Vigyázat: Mielôtt megkezdi a berendezés üzembe helyezését, olvassa el a *Caution: Safety Information–Read This First*, SD21-0030 könyvecskében leírt biztonsági információkat. Ez a könyv leírja, miyen biztonsági intézkedéseket kell megtenni az elektromos berendezés huzalozásakor illetve csatlakoztatásakor.

Pericolo: prima di iniziare l'installazione di questo prodotto, leggere le informazioni relatie alla sicurezza riportate nell'opuscolo *Attenzione: Informazioni di sicurezza–Prime informazioni da leggere* in cui sono descritte le procedure per il cablaggio ed il collegamento di apparecchiature elettriche.

危険： 導入作業を開始する前に、安全に関する
小冊子SD21-0030 の「最初にお読みください」
(Read This First)の項をお読みください。
この小冊子は、電気機器の安全な配線と接続の
手順について説明しています。

위험: 이 제품을 설치하기 전에 반드시
"주의: 안전 정보-시작하기 전에"
(SD21-0030) 에 있는 안전 정보를
읽으십시오.

ОПАСНОСТ
Пред да почнете да го инсталирате овој продукт, прочитајте
ја информацијата за безбедност:
"Предупредување: Информација за безбедност: Прочитајте го
прво ова", SD21-0030.
Оваа брошура опишува безбедносни процедури за каблирање
и вклучување на електрична опрема.

Fare: Før du begynner å installere dette produktet, må du lese sikkerhetsinformasjonen i *Advarsel: Sikkerhetsinformasjon – Les dette forst*, SD21-0030 som beskriver sikkerhetsrutinene for kabling og tilkobling av elektrisk utstyr.

Uwaga:
Przed rozpoczęciem instalacji produktu należy zapoznać się z instrukcją:
"Caution: Safety Information - Read This First", SD21-0030.
Zawiera ona warunki bezpieczeństwa przy podłączaniu do sieci elektrycznej
i eksploatacji.

Perigo: Antes de iniciar a instalação deste produto, leia as informações de segurança *Cuidado: Informações de Segurança–Leia Primeiro*, SD21-0030. Este documento descreve como efectuar, de um modo seguro, as ligações eléctricas dos equipamentos.

ОСТОРОЖНО: Прежде чем инсталлировать этот продукт, прочтите Инструкцию по технике безопасности в документе "Внимание: Инструкция по технике безопасности -- Прочесть в первую очередь", SD21-0030. В этой брошюре описаны безопасные способы каблирования и подключения электрического оборудования.

Nebezpečenstvo: Pred inštaláciou výrobku si prečítajte bezpečnosté predpisy v
Výstraha: Bezpeč osté predpisy - Prečítaj ako prvé, SD21‒0030. V tejto brožúrke sú opísané bezpečnosté postupy pre pripojenie elektrických zariadení.

Pozor: Preden zaènete z instalacijo tega produkta preberite poglavje: ´Opozorilo: Informacije o varnem rokovanju-preberi pred uporabo," SD21-0030. To poglavje opisuje pravilne postopke za kabliranje,

Peligro: Antes de empezar a instalar este producto, lea la información de seguridad en *Atención: Información de Seguridad–Lea Esto Primero,* SD21-0030. Este documento describe los procedimientos de seguridad para cablear y enchufar equipos eléctricos.

Varning — livsfara: Innan du börjar installera den här produkten bör du läsa säkerhetsinformationen i dokumentet *Varning: Säkerhetsforeskrifter – Läs detta först*, SD21-0030. Där beskrivs hur du på ett säkert satt ansluter elektrisk utrustning.

危險：

開始安裝此產品之前，請先閱讀安全資訊。

注意：

請先閱讀 - 安全資訊 SD21-0030

此冊子說明插接電器設備之電纜線的安全程序。

Chapter 1. Introduction

This chapter describes the features of the IBM Fast Ethernet Desktop Switch model 8275-324. The 8275-324 is an intelligent, managed switch designed for medium-sized networks or a remote location as part of a larger network.

Product Features

The 8275-324 has the following features:

- Twenty-four ports that auto-negotiate 10/100 Mbps.

- A management interface that allows you to configure the 8275-324 for your network. The following management options can be used:

    - Console-Based Management
    - SNMP Management
    - Web-Based management

- Switch Security — Access to the 8275-324 is protected by user name and password.

- Virtual LANs (VLANs) — The ability to divide the 8275-324 in up to 8 separate, port-based VLANs to aid in reducing broadcasts across your network.

- Port Trunking — Allows the creation of up to 8 high-bandwidth connections between the 8275-324 and other 8275-324s.

- Software Update — Allows you to download software upgrades to the 8275-324.

- Supports Spanning Tree Protocol 802.1d to prevent network looping.

- Upload and download Configuration file via TFTP or Xmodem.

- Supports Telnet management.

- SNMP support for RFC 1213, RFC 1757, RFC 1493, and IBM proprietary MIB.

- Supports RMON Statistics (1), History (2), Alarms (3) and Events (9).

Functional Characteristics

Figure 1-1 on page 1-2, shows the LED panel, power connection and ports on the front panel of the 8275-324.

- The three-pronged power plug is located on the far left.

- The LED Panel displays information about the state of the 8275-324, the ports and the network.

- The management port (EIA 232 port) is used for Local console management and Out-of-Band management.

- The MDI port is used for connecting to hubs and switches without an MDI port.

- The 24 MDI-X ports can be used for a 10/100 Mbps network connection.
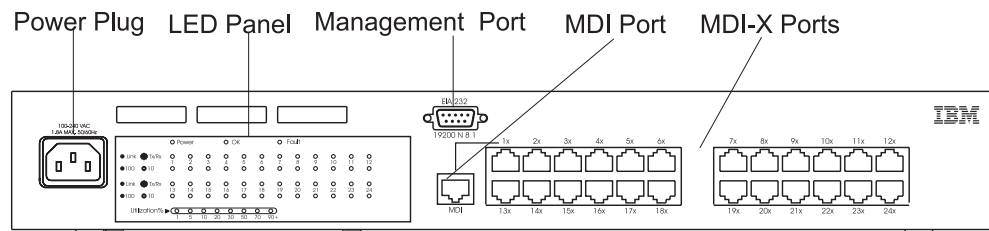
Figure 1-1.   Front Panel

Communication Ports

The 8275-324 has the following types of ports:

- The MDI port is shared with port 1. Only one of these can be used at a time.

  - The MDI port allows you to connect to a hub or a switch with a straight-through cable.

  - This port is located on the front panel of the 8275-324 and uses UTP or STP Category 3, 4, 5 cable with RJ-45 connectors.

  - A Category 3, 4, 5 UTP or STP cable can be used when running at 10 Mbps. You must use Category 5 STP or UTP cable when running at 100 Mbps.

- There are 24 10/100BASE-TX ports, referred to as MDI-X ports.

- The MDI-X ports use Category 3, 4, or 5, Category 5 UTP or STP cable.

- All ports auto-negotiate between 10 Mbps and 100 Mbps as well as full-duplex and half-duplex.

Management Port

The Management Port provides a local console for an Out-of-Band connection between the 8275-324 and other devices.

Chapter 2. Installing and Powering-On the 8275-324

Read "Safety Information" on page xiv and the notices and warranty information in Appendix B, "Notices" before installing the 8275-324.

This chapter provides step-by-step instructions for installing the 8275-324.

Installation Summary

Table 2-1.   Summary of Installation Procedures for the 8275-324

Step	Procedure	Reference
1.	Read the safety instruction booklet shipped with the 8275-324.	Read document SD21-0030 (shipped with the 8275-324)
2.	Unpack and visually inspect the 8275-324 for any damage incurred during shipping.	"Unpacking Instructions" on page 2-1
3.	Install the 8275-324 on a desktop, in a rack or wall-mount.	"Installation Options" on page 2-5
4.	Power-on the 8275-324.	"Powering-On" on page 2-8
5.	Connect the 8275-324 to the network and attach cables.	"Connecting the 8275-324 to the Network" on page 2-8

Unpacking Instructions

Open the box and carefully unpack the 8275-324. Visually inspect the unit for any damage caused during shipping.

Verify that you have all the items on the following checklist. If an item is missing or has been damaged during shipping, call your place of purchase for assistance.

The package should contain:

- An IBM 8275-324 Fast Ethernet Desktop Switch
- An accessory pack containing four mounting brackets and screws
- *Fast Ethernet Desktop Switch 8275-324 Installation and Planning Guide*
- *8275-324 Quick Reference Card* which can be stored in the card tray beneath the 8275-324
- *Caution: Safety Information-Read this First*
- Wall-Mount Template (part number 25L4906)

Cables and Connectors

Table 2-2 shows the cable requirements. Cable requirements depend on the speed of the network. Cables and connecting hardware must meet the standards specified in the ANSI/TIA/EIA 568-A or CSA T529 standards.

Table 2-2. Cable Requirements

Ethernet Type	Cable requirements	Cable length
10BASE-T	Category 3, 4, or 5, 100-ohm STP/UTP cable	100 m (328 ft.)
100BASE-TX	Category 5, 100-ohm STP or UTP cable and connecting hardware	100 m (328 ft.)

Cabling Requirements for 10BASE-T Ports

10BASE-T ports operate correctly on any of the following cables:

- Category 3, 4, or 5, 100-ohm UTP or STP cable and connecting hardware, as specified in the ANSI/TIA/EIA 568-A or CSA T529 standards.

All devices connected to the cables must be grounded.

Do not use telephone extension cables in 10BASE-T networks. The wire pairs in those cables are not twisted and the cable does not meet other requirements for use in a 10BASE-T network.

Cabling Requirements for 100BASE-TX

For connection to 100BASE-TX networks, you can use only Category 5 STP or UTP cables.

Cabling Requirements for the Management Port

The Management Port is a standard DB-9 male connector that provides an EIA 232 serial interface. This port is used for local console access and Out-of-Band management.

Use a null modem cable when connecting to a workstation. Use a serial cable when connecting to a modem.

Physical Characteristics and Requirements

Dimensions

Width	441 mm (17.4 in.)
Depth	264 mm (10.4 in.)
Height	63 mm (2.4 in.)

Operating Clearances

Front	Adequate space to view LEDs
Sides	50.8 mm (2 in.)
Rear	50.8 mm (2 in.)

Weight

4.18 kg (9.20 lb.)

Power Requirements

The 8275-324 can be used with power sources in the range 100 to 240 V ac, 50 to 60 Hz.

Power Dissipation

60.0 watts (229.29 BTU/Hour)

Electrical Power

0.1159 kVA

Inrush Current

30 Amps at 230 V

Leakage Current

3.5 mA

dB Rating

41.9 dB

Air Exhaust

0.181 m^3/min (6.41 ft^3/min)

Operating Environment

Table 2-3.   Operating Environment

Operating Temperature	10°C to 40°C
Storage Temperature	-25°C to 70°C
Operating Humidity	8% to 80%

Installation Options

Read "Safety Information" on page xiv and Appendix B, "Notices" on page B-1 before installing.

There are three options for setting up the 8275-324: desktop/shelf installation, rack installation or wall mounting. Follow these guidelines for the any of these options:

- Ensure that the surface supports 4.18 kg (9.20 lbs.).
- Locate the 8275-324 within 1.8 m (6 ft.) of a power source.
- Ensure that there is adequate ventilation around the 8275-324.

    Note: You can set up the 8275-324 in a wiring closet.

You can use any EIA standard 19-inch rack. See "Physical Characteristics and Requirements" on page 2-3 for the dimensions of the 8275-324.

Rack Installation

You can mount the 8275-324 on any EIA standard 19-inch rack.

The rack can be open or closed. If you mount the 8275-324 on a closed rack, be sure that enough air flows through the 8275-324. Covers on the front of the rack that prevent airflow from reaching the 8275-324 must be removed or modified to let air pass. Similarly, unvented rear rack covers that prevent air from exiting the 8275-324 or cause a build-up of back pressure from several machines must not be used.

Follow these steps for rack installation:

Step 1. Attach the two rack mounting brackets provided with the 8275-324 to the right and left sides of the 8275-324 with the screws provided.

Step 2. Mount the 8275-324 in the 19-inch rack.

Step 3. Plug the power cord into the three-pronged ac power connector. This powers on the 8275-324.
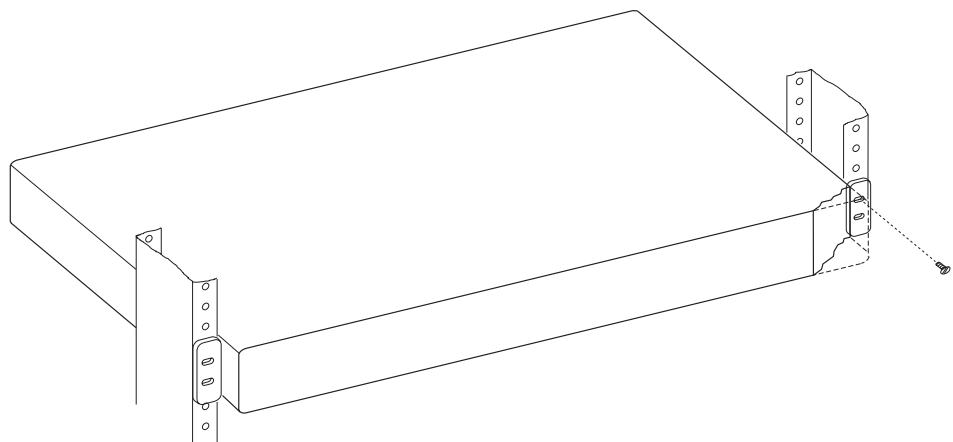
Figure 2-1.   Rack Installation

Vertical Wall-Mounting Instructions
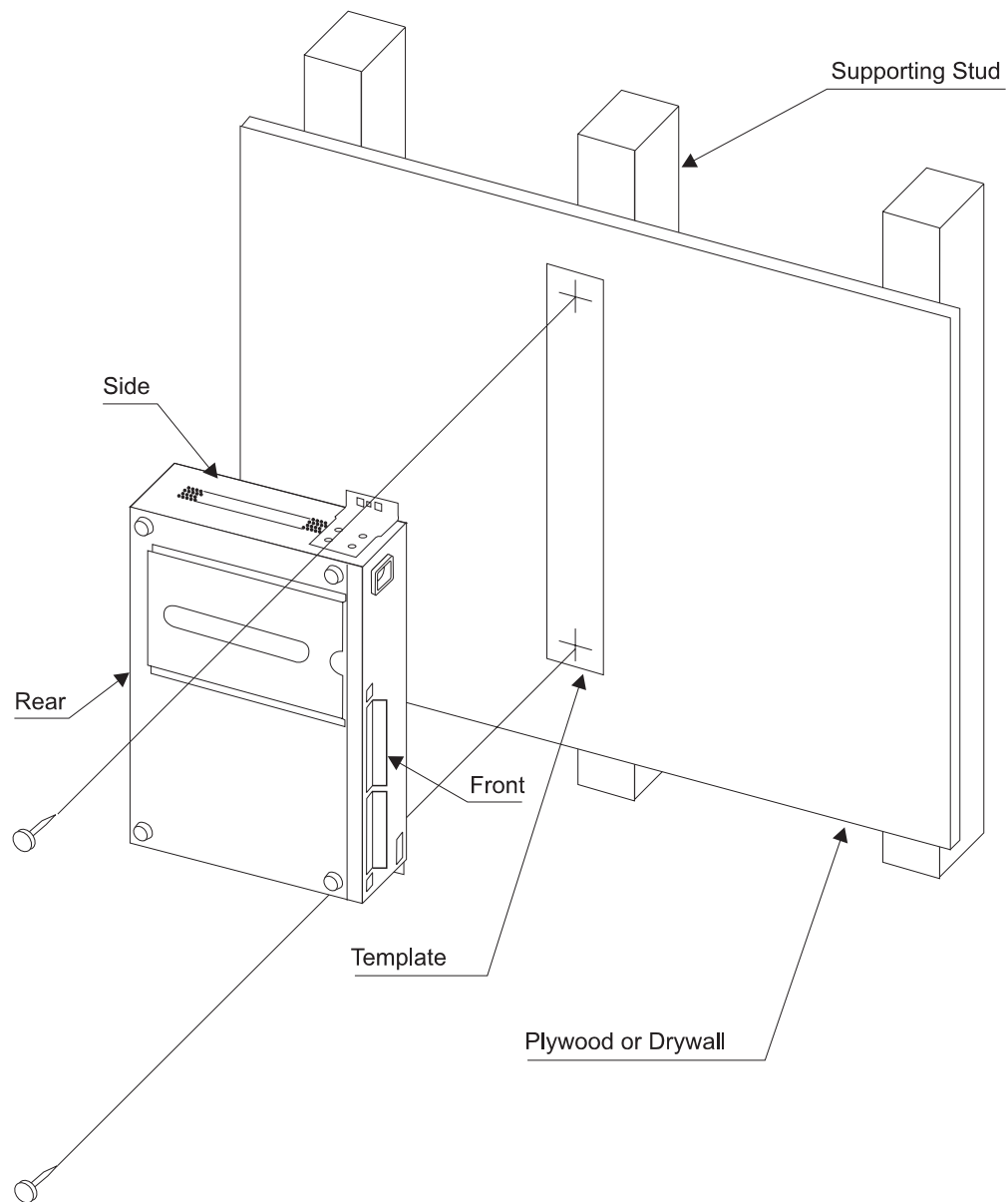
Figure 2-2.   Wall-Mounting the 8275-324 Fast Ethernet Desktop Switch

Note: Before wall-mounting the 8275-324, be sure you are following all applicable local building and electric codes.

Materials Needed

- Template (part number 25L4906) shipped with the 8275-324.
- Drill with a 3.22 mm (1/8 in.) drill bit.
- Two #10 pan-head mounting screws, in the following lengths, and associated screwdriver.
    - Screw length for plywood surface mounting—20 mm (3/4 in.)
    - Screw length for drywall surface mounting—20 mm (3/4 in.) plus the thickness of the drywall

Mounting Requirements

When mounting the 8275-324 be sure that you have enough room for adequate viewing, ventilation, and access to an ac power outlet. The method of mounting must be able to support the combined weight of the 8275-324 plus the suspended weight of all the cables to be attached to the 8275-324.

Clearance Requirements

Front	Adequate room to view control panel display and LEDs.
Side	51 mm (2 in.)
Rear	127 mm (5 in.)
Plywood surface	A minimum plywood thickness—16 mm (5/8 in.) is recommended.
Drywall surface	Drywall over either wood or steel studs is acceptable.

Mounting Procedure

Step 1. Install the two wall-mounting brackets to the sides of the 8275-324 with the screws provided.

Step 2. Use the provided template to locate and mark the wall-mounting screw positions.

Step 3. Pre-drill the mounting holes.

Step 4. Install the two mounting screws in the pre-drilled holes. Tighten each screw until the head is approximately 3 mm (1/8 in.) from the wall.

Step 5. Using the two center holes in the mounting brackets, slide the brackets down securely into place over the screw heads.

Desktop or Shelf Installation

The 8275-324 can be installed on a flat surface, such as a desktop or shelf. Follow these steps to install the 8275-324 on a desktop or shelf:

Step 1. Place the 8275-324 on a level surface.

Step 2. Plug the power cord into the three-pronged ac power connector. This powers on the 8275-324.

Powering-On

The power supply automatically adjusts to the local power source. You can power-on the 8275-324 with all LAN segment cables connected. The three-pronged power connector is located at the far left of the front panel.

A power-on self-test (POST) takes place every time the 8275-324 is powered-on. If any component fails during the POST an error displays on the console. At that point, you have the option to continue or end the POST. Results from the POST also display on the LED panel.

If the LED panel fails during POST, the result will be displayed on the console but not on the LED panel. The console displays error messages with more detail.

If the COM port does not pass the Serial Communications Controller Test, no results will be shown on the console screen.

Handling Cables

The following guidelines should always be observed when working with cables.

- Avoid stretching or bending cables.

- Avoid routing cables near sources of electromagnetic interference, such as motorized devices or fluorescent lights.

- Route cables away from aisles and walkways to avoid creating trip hazards. Use floor cable covers to secure cables if such routes cannot be avoided.

Connecting the 8275-324 to the Network

Label each end of the cable so that it is easy to identify the device at the other end of the cable. At the end of the cable nearest the switch, place a label with a unique identifier for the cable and the number of the port it is connected to.

Keep a record of how the network is cabled so that you can identify and repair problems and expand the network as needed.

Figure 2-3 shows the MDI port and the 24 MDI-X ports.
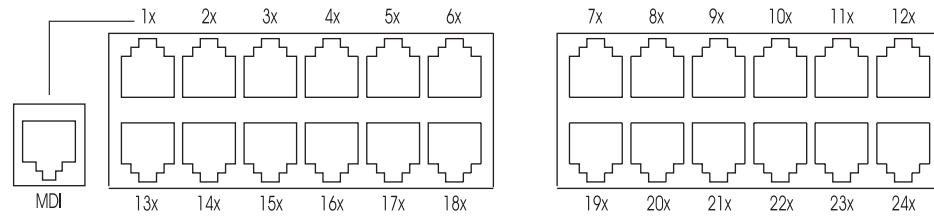
Figure 2-3.   Ethernet Ports

Table 2-1 indicates the correct cable to use when connecting the 8275-324 to other devices on the network. The table displays the typical port and connector found on most devices. Be sure to verify the type of port you are connecting to before attaching the cable.

Table 2-1.   Straight-Through and Crossover

8275-324 port	Workstation	Other Device	
		MDI-X	MDI
MDI	Crossover	Straight	Crossover
MDI-X	Straight	Crossover	Straight

The steps for connecting Category 3, 4, or 5 UTP/STP cables are the same for 10 Mbps and 100 Mbps ports and devices.

Follow these steps to connect cables to the 8275-324:

Step 1.   See Table 2-1 for the appropriate cable to use when connecting to a device.

Step 2.   Plug one end of a Category 3, 4, or 5 UTP/STP cable into any of the 24 MDI-X ports or the MDI port of the 8275-324.

Step 3.   Plug the other end into the appropriate port on the other device.

Step 4.   Verify that the LED states are as indicated in "Meanings of the LEDs" on page 3-2.

Cables must have the correct pin configuration. See "Cables and Connectors" on page 2-2, for cable specifications and Appendix C, "Cable Pinout Diagrams" for pinout diagrams of straight-through and crossover cables.

Chapter 3. LED Panel

The LED panel, shown in Figure 3-1 is an effective tool for monitoring the performance of the 8275-324. The meanings of the LEDs are shown in Table 3-1 on page 3-2 The front panel provides overall utilization statistics and allows you to monitor the 8275-324 at a glance.
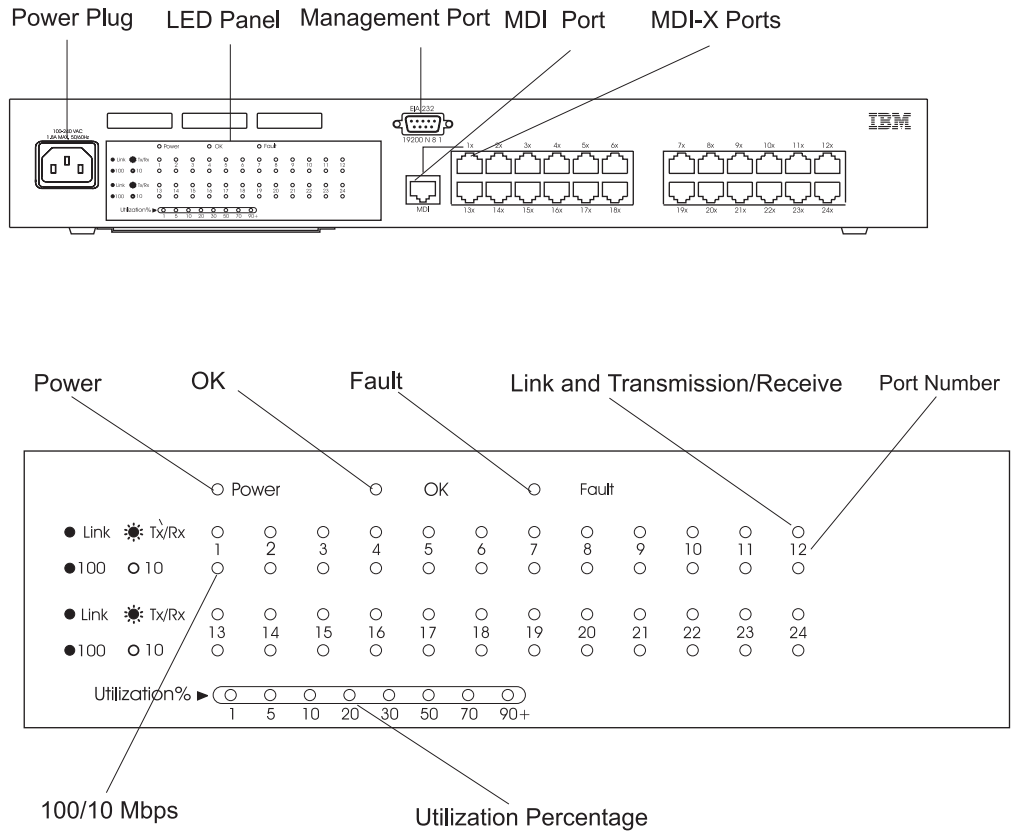
Figure 3-1.   LED Panel

Table 3-1.   Meanings of the LEDs

LED	State	Meaning
Power	On	Power is on
	Off	8275-324 is not getting power
OK	On	Normal operation
	Off	8275-324 Internal failure
Fault	On	8275-324 Internal failure
	Off	Normal operation
Link Tx/Rx	On	Link port has an active connection
	Blinking	Transmitting or Receiving
	Off	Link port does not have an active connection
100	On	This is a 100 Mbps port
	Off	10 Mbps port or no 100 Mbps detected
Utilization %	Blinking	Indicates the relative percentage of traffic processed by the 8275-324 over the network

Chapter 4. Console Based Management

There are two types of console based management on the 8275-324: Local Console management and Telnet Console management. Each management method is explained in the following sections.

Local Console Management

You can set up a management session by connecting a direct null modem cable between the Management Port on the 8275-324 and the communication port on your PC or terminal.

To connect a terminal to the 8275-324, perform the following steps:

Step 1.   Install a terminal emulation application, such as Windows Hyperterminal, on your PC.

Step 2.   Configure the terminal emulation application as follows:

Baud Rate:	19 200
Parity:	None
Data bits:	8
Stop bits:	1
Flow Control:	None

> **Note:**   If you are using Microsoft Windows terminal emulation, disable the "Use function, arrow, and control keys for Windows" option in the Terminal Preferences menu under Settings.

Step 3.   Connect the EIA 232 Management Port on the 8275-324 to your PC or DTE device using a null modem cable or straight-through cable and null-modem adapter. The 8275-324 has a 9-pin male connector. For more information see "Cabling Requirements for the Management Port" on page 2-2.

Step 4.   Press **Enter** 2 or 3 times to see the login panel.

Note: If you have previously connected to the switch, removed the serial cable from the Management Port, and then reconnected you can use Cntrl-r to refresh the screen.

User Name:	admin
Default Password:	blank (none required)

Step 5.   Press **Enter** to reach the Main Menu.

You can now elect to continue on to the Main Menu to configure the 8275-324.

Telnet Console Management

Telnet Console management can be performed either through an Ethernet port (In-Band) or through the EIA 232 port (Out-of-Band). You must configure an Ethernet IP address for the In-Band management or a SLIP IP address for Out-of-Band management before using Telnet Console management.

Before using Telnet through the EIA 232 port you must configure the Serial Port Operation Mode to Out-of-Band. See the "Serial Port Configuration" on page 4-26 for more information.

You can use any Telnet application that emulates a VT100 terminal to establish a Telnet Console management session on the 8275-324. Only one Telnet session can be active at a time.

Note: Telnet is a component of most TCP/IP applications. You must install TCP/IP on your workstation before you can use this interface.

Configuring Through the Ethernet Port

Follow these steps to configure the 8275-324 through the Ethernet port:

Step 1. Attach one end of an Ethernet cable to one of the Ethernet ports on the 8275-324.

Step 2. Attach the other end of the Ethernet cable to a workstation.

Step 3. Access 8275-324 through Telnet.

Step 4. Log in using the default User Name and Password. The User Name and Password are not case sensitive.

User Name:	admin
Default Password:	blank (none required)

Step 5. Press **Enter** to reach the Main Menu.

The default timeout of Telnet sessions is 5 minutes. You will be notified of a timeout when you see the following message:

```
 Console timeout, press Enter to reconnect.
```

If you have not saved your changes before the timeout period occurs, they will be lost.

You can change or eliminate the timeout period see "Login Timeout Interval" on page 4-54.

Configuring the EIA 232 Port

Follow these steps to configure the 8275-324 through the EIA 232 port:

Step 1. Attach one end of a straight-through cable to the Management Port of the 8275-324 and attach the other end of the cable to a modem.

Step 2. Connect the workstation to the modem using a straight-through cable.

Step 3. Run a terminal emulation program using the same COM port settings as the modem.

- Emulation
- Baud rate
- Data bits
- Parity
- Stop bits
- Flow Control
- Enable terminal keys

Step 4. Press **Enter** to display the login panel.

Step 5. Log in using the default User Name and Password. The User Name and Password are not case sensitive.

User Name: admin
Default Password: blank (none required)

Step 6. Press **Enter** to reach the Main Menu.

Help Message Panel

Selecting this option displays the Help Message Panel, shown in Figure 4-1.

```
              IBM Fast Ethernet Desktop Switch, 8275-324

                         - Help Message -


Please read the following menu operation guide:

Keystroke Conventions

Example            Description

UP, DOWN, or TAB    Select different items.

SPACEBAR            Toggle-switch.

DEL, or BACKSPACE   Removes any input character from the screen.

LEFT or RIGHT keys  Move cursor backward or forward.

Ctrl-r              Refresh Screen


Typographic Conventions

Example            Description

:168.8.254.20       Each read only value follows a colon.

<Enable>            Each changeable value can only be changed by the
                    toggle switch.

[168.8.254.1]       Each changeable value is enclosed in a square
                    bracket.

EXIT                Uppercase letter Displays COMMAND.

Blinking Text       Warning Message.



                  Press ENTER to Continue…
```

Figure 4-1.   Help Message Panel

Panel Command Usage: Use the Tab key and Up/Down arrow keys to toggle
through available commands. Use the Left and Right arrow keys to toggle through
selections (indicated by "< >") within a command.

If a field on a panel is enclosed by brackets, [field], then you must type in the value for
that field. If a field on a panel is enclosed by less-than and greater-than signs, <field>,
then you can toggle through a list of values to be used for that field.

Panel Conventions

The following commands are used throughout the panels on the 8275-324:

Angle brackets	Toggle item with the spacebar
Arrow keys	Use to move within fields
Back Space	Use to delete characters
Blinking text	Warning messages
Colon	Followed by read-only values
Main Menu	Return to the main menu
Prev/Next	See previous or next screen for the same menu
Spacebar	Use to toggle values in some fields
Square Brackets	Enclose changeable values
Uppercase	Command items

Commands

Ctrl-r	Refresh the screen
Delete	Delete characters
Escape	Move back one menu at a time
Execute	Process software upload or download
Exit	Exit current menu and returns to previous menu
Help	Display help about the current menu
Logoff	Log off from Console session
Save	Save changes
Tab	Enables you to select items and move between fields

Note: All changes must be **SAVED** in order to take effect, unless stated otherwise. You are not prompted to save your changes.

Follow these steps to access any of the panels displayed:

Step 1. Select an option.

Step 2. Press **Enter** to go to that panel.

Login

The login panel appears when you begin a management session using any of the ways described in the preceding section. The default user name is admin. No password is required.

Enter the default user name when you log into the 8275-324 for the first time as shown in Figure 4-2. You should change the default user name to prevent unauthorized access to the 8275-324. For more information, see "User Account Management" on page 4-39.

```
            IBM Fast Ethernet Desktop Switch, 8275-324

                    Copyright 1998, IBM Corp.



            User Name   [admin      ]
            Password    [           ]



            MAC Address: 0080C81234DD
```

Figure 4-2.   Login Panel

To log in for the first time enter the default user name and leave the default password field blank.

The MAC Address, shown at the bottom of the panel, cannot be changed.

Main Menu

Selecting this option displays the Main Menu, shown in Figure 4-3. The Main Menu displays a list of available management categories.

```
IBM Fast Ethernet Desktop Switch, 8275-324

                -Main Menu-



              System Information
              Management Configuration
              Device Configuration
              User Account Management
              System Utility



                LOGOFF      HELP
```

Figure 4-3.   Main Menu

System Information	Displays general information about the 8275-324 as well as the 8275-324's system name, system location and the network administrator's contact information.
Management Configuration	Allows you to view and specify management configurations.
Device Configuration	Allows you to configure the rate, port configuration, serial port settings, VLANs and Port Trunking.
User Account Management	Allows you to add and delete users and set passwords and access rights.
System Utility	Enables you to download code, upload configuration data, download configuration data, reset the 8275-324, and change the BootP/TFTP server configuration.

System Information

Selecting this option displays the System Information Panel, shown in Figure 4-4. The System Information panel provides information about the hardware and software versions installed on the 8275-324.

There are three fields that you can specify: System Name, System Location, and System Contact. Changes to these fields are effective after they are saved.

```
                IBM Fast Ethernet Desktop Switch, 8275-324

                          -System Information-


Hardware Revision:              Rev. A1

Boot PROM Firmware Version:     V1.00

Software Version:               V1.00

MAC Address:                    0080C81234DD

Serial Number:                  8275-324/H0001


System Description:

        10/100 Fast Ethernet Switch

System Name:       [IBM Fast Ethernet Desktop Switch, 8275-324]

System Location:   [                 ]

System Contact:    [                 ]

System Object ID:  1.3.6.1.4.1.2.3.46

System Up Time     2 Days, 3 Hours, 16 Minutes, 25 Seconds

MIBs Supported:    RFC-1213, RFC-1493, RFC-1757, IBM proprietary MIB



        SAVE            EXIT          MAIN MENU           HELP
```

Figure 4-4.   System Information Panel

Follow these steps to set the System Name, System Location, and System Contact. You can enter a maximum of 64 characters in each field.

Step 1.   Enter the system name.

Step 2.   Enter the system location.

Step 3.   Enter the system contact.

Step 4.   Select **SAVE** and press **Enter** to save and implement your changes.

Hardware Revision   Displays the hardware revision, including the 8275-324 and the release level. Revision numbers refer to the product generation.

Boot PROM   Displays the version of the boot code.
Firmware Version

Software Version   The run-time software version being used. Software can be updated to enhance functions or add new features.

MAC Address   The unique network address that differentiates the 8275-324 from any other nodes on the network. The MAC address cannot be changed.

Serial Number   The serial number of the 8275-324.

System Description   A brief, predefined description of the 8275-324. The description cannot be changed.

System Name   The name assigned to the 8275-324.

System Location   The physical location of the 8275-324. You can enter a building number or street address.

System Contact   The system administrator's name and other contact information.

System Object ID   The vendor identification of the network management subsystem contained in the 8275-324. This value provides an easy and unambiguous means for determining what kind of device is being managed.

System Up Time   The duration of time the 8275-324 has been running.

MIBs Supported   Lists the SNMP MIBs that are supported by the 8275-324.

Management Configuration

Selecting this option displays the Management Configuration Menu, shown in Figure 4-5.

```
            IBM Fast Ethernet Desktop Switch, 8275-324

                   -Management Configuration-



                 Network Configuration

                 Trap Receiver Configuration

                 SNMP Community Configuration




         EXIT              MAIN MENU              HELP
```

Figure 4-5.   Management Configuration Menu

Network Configuration	Specifies the 8275-324's IP address, Subnet Mask, and Default Gateway.
Trap Receiver Configuration	Allows you to assign who will receive trap information.
SNMP Community Configuration	Allows you to configure community names, access rights and status.

Network Configuration

Selecting this option displays the Network Configuration Panel, shown in Figure 4-6. Use this panel to assign an IP address to the 8275-324. You must assign a unique IP address to manage the 8275-324 through the Web. You must assign different IP addresses for Ethernet and SLIP.

The Ethernet column on the panel relates to management over the LAN.

```
           IBM Fast Ethernet Desktop Switch, 8275-324

                      -Network Configuration-



   Network Interface:   Ethernet          SLIP
   Configuration:
   IP Address:         [ 0.0.0.0 ]     [192.168.101.1  ]
   Subnet Mask:        [ 0.0.0.0 ]     [ 255.255.255.0 ]
   Default Gateway:    [ 0.0.0.0 ]     [ 0.0.0.0       ]




       SAVE           EXIT        MAIN MENU          HELP
```
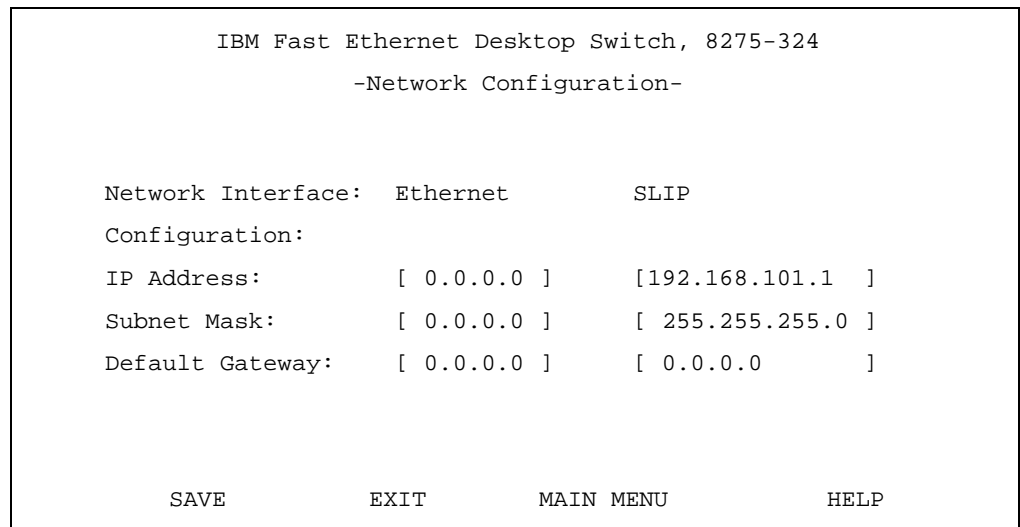
Figure 4-6.   Network Configuration Panel

Follow these steps to set the IP Address, Subnet Mask and Default Gateway:

Step 1.   Enter the IP address.

Step 2.   Enter the subnet mask.

Step 3.   Enter the default gateway.

Step 4.   Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Ethernet	IP Address	The IP address of the 8275-324.
	Subnet Mask	Specify your LAN's subnet mask.
	Default Gateway	The Default Gateway is only necessary if you are attempting to reach a node outside your LAN's IP range.
SLIP	IP Address	The IP address used for a SLIP connection.
	Subnet Mask	The Subnet Mask must match the IP address used in the Ethernet setting.
	Default Gateway	The Default Gateway is used to reach a node outside your local area network. This is usually the IP address of a router.

Trap Receiver Configuration

Traps are messages sent across a network to an SNMP Network Manager. These messages alert the manager to changes in the 8275-324.

Selecting this option displays the Trap Receiver Configuration Panel, shown in Figure 4-7. This menu allows you to set the IP Address and SNMP Community Name of the Trap Receivers.

```
           IBM Fast Ethernet Desktop Switch, 8275-324

                   -Trap Receiver Configuration-



SNMP Trap Receiver Setting

         IP Address       SNMP Community String      Status

         [0.0.0.0   ]    [                     ]     <Delete>

         [0.0.0.0   ]    [                     ]     <Delete>

         [0.0.0.0   ]    [                     ]     <Delete>

         [0.0.0.0   ]    [                     ]     <Delete>




         SAVE            EXIT          MAIN MENU          HELP
```

Figure 4-7.   Trap Receiver Configuration Panel

Follow these steps to configure Trap Receivers:

Step 1.   Enter the IP address of the trap receiver.

Step 2.   Enter the SNMP community string of the trap receiver.

Step 3.   Set the status to **Enable** to make the trap receiver active, or to **Delete** to remove a trap receiver from the configuration.

Step 4.   Select **SAVE** and press **Enter** to save and implement your changes.

IP Address	The IP address of the remote network manager station to which traps should be sent.
SNMP Community String	The SNMP community string of the remote network manager. You can enter up to 32 characters in the field. Public and private are defaults and can be replaced with unique identifiers for each community.

Status   A trap receiver's status can be either enabled or deleted. Trap receivers with enabled status are active and receive all traps sent by the switch. Trap receivers with a deleted status are removed from the configuration. The default is delete.

Table 4-1.   Trap Conditions

Warm Boot	Displays that a system reset has occurred.
Cold Boot	Displays the 8275-324 has been powered up, completed its self-initialization phase, and is working correctly.
Authentication Failure	Displays a failed access attempt.
IBM Proprietary Trap	This trap enables the SNMP application to auto-negotiate the 8275-324 on the network. It sends out a trap specifying its name and location.
Link Up	Displays that the port is active.
Link Down	Displays that the port is inactive.

SNMP Community Configuration

Selecting this option displays the SNMP Community Configuration Panel, shown in Figure 4-8. Use this panel to define community names and access rights. The 8275-324 supports up to four communities simultaneously. All members of a community have the same access rights.

```
         IBM Fast Ethernet Desktop Switch, 8275-324
                -SNMP Community Configuration-


 SNMP Manager Setting

         SNMP Community String    Access Right    Status
         [ public            ]    <Read Only >    <Enable >
         [ private           ]    <Read/Write>    <Enable >
         [                   ]    <Read Only >    <Delete>
         [                   ]    <Read Only >    <Delete>




      SAVE           EXIT         MAIN MENU        HELP
```
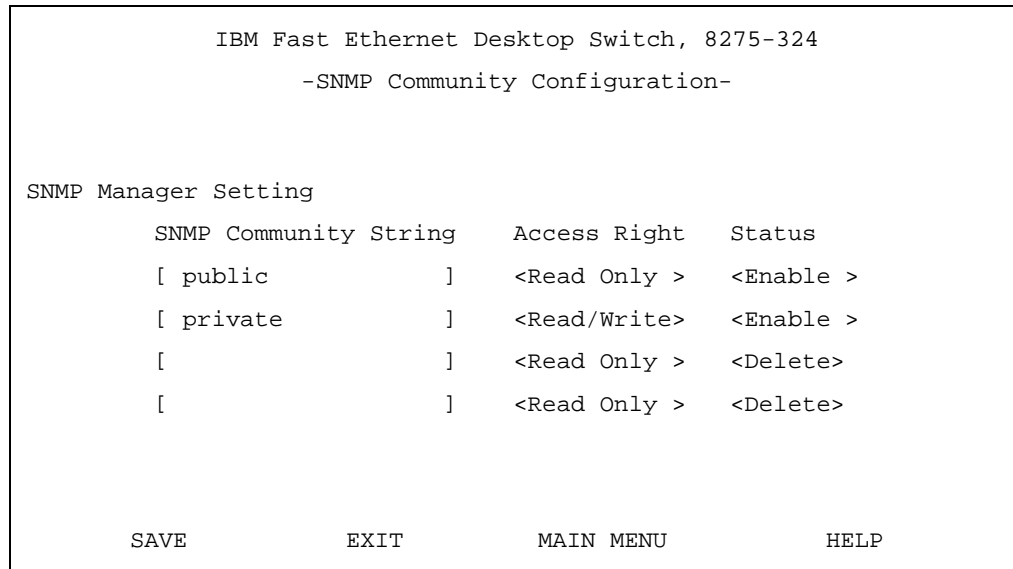
Figure 4-8.   SNMP Community Configuration Panel

Follow these steps to create an SNMP Community. You can enter up to 32 characters in each field.

Step 1.   Enter a community name.

Step 2.   Set the access right to **Read Only** or **Read/Write**.

Step 3.   Set the status to **Enable** to make the community active, or to **Delete** to remove a community from the configuration.

Step 4.   Repeat steps 1 to 3 to create up to four community names.

Step 5.   Select **SAVE** and press **Enter** to save and implement your changes.

SNMP Community String	Name that identifies each SNMP community. A public community means users have read-only access. A private community is for users who have read/write access. Public and private are defaults and can be replaced with unique identifiers for each community.

Access Right   Users with read-only access can see the information on the panel and gather SNMP statistics. Users with read/write access can see the panel settings, gather SNMP statistics and make changes.

Status   Assign a status for the community. Enabled communities are active. Communities with a deleted status are removed from the configuration. The default is delete.

Device Configuration

Selecting this option displays the Device Configuration Menu, shown in Figure 4-9.

```
            IBM Fast Ethernet Desktop Switch, 8275-324

                      -Device Configuration-



                  Switch Configuration
                  Port Configuration
                  Port Statistics
                  Spanning Tree Configuration
                  Serial Port Configuration
                  VLAN Port Management
                  Trunking Port Management




        EXIT              MAIN MENU              HELP
```

Figure 4-9.   Device Configuration Menu

Switch Configuration	Changes switch modes and address aging.
Port Configuration	Configures individual ports.
Port Statistics	Displays the configuration statistics for each port.
Spanning Tree Configuration	Displays Spanning Tree Configuration. Spanning Tree is used to prevent Bridge Looping as specified in the IEEE 802.1d standard.
Serial Port Configuration	Changes the default settings of the serial port.
VLAN Port Management	Creates and configures port-based VLANs.
Trunking Port Management	Configures ports for trunking between switches.

Switch Configuration

Selecting this option displays the Switch Configuration Panel, shown in Figure 4-10. Use this panel to set the Rate Control, assign Address Aging, and Enable or Disable RMON Statistics.

```
          IBM Fast Ethernet Desktop Switch, 8275-324
                    -Switch Configuration-



     Rate Control:                      <Store&Forward>
     Address Aging [ 10..1000000 ] (sec)  [ 300 ]
     RMON Statistics:                   <Enable >




        SAVE           EXIT        MAIN MENU          HELP
```

Figure 4-10. Switch Configuration Panel

Follow these steps to set the Rate Control, Address Aging, and RMON Statistics:

Step 1. Set the rate control to **Store & Forward** or **Cut-Through**.

Step 2. Enter a number to set the address aging.

Step 3. Set the RMON statistics to **Enable** or **Disable**.

Step 4. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Rate Control   You can set the 8275-324 for Store & Forward or Cut-Through and change the address aging to better meet the needs of your network. The default is Store & Forward.

        Note: The Store & Forward and Address Aging settings are global. They are set for the 8275-324 as a whole, not for individual ports.

        Store & Forward   In Store & Forward mode, packets are stored until they are complete before being sent to their destinations. Runts and damaged packets are discarded.

        Cut-Through   In Cut-Through mode, packets are sent as soon as the destination address is received. Cut-Through is faster than Store & Forward but it can perpetuate problems because runts and other bad packets are

not filtered out. Do not use this mode unless you understand the effect it will have on the network.

Address Aging Checks the status of each MAC address. It determines inclusion into the MAC address table. If the time interval for the MAC address expires, the MAC address is removed from the MAC address table. The aging can be set between 10 to 1 000 000 seconds. The default is 300 seconds.

RMON Statistics RMON Statistics can be enabled or disabled. The default is enabled. When RMON is enabled, the you will be able to gather statistics from the statistics counter.

Port Configuration

Selecting this option displays the Port Configuration Panel, shown in Figure 4-11. Use this panel to configure individual ports.

```
            IBM Fast Ethernet Desktop Switch, 8275-324

                       -Port Configuration-


Port: State:    Physical: Link Status: STP Priority: STP Port State:
1    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
2    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
3    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
4    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
5    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
6    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
7    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding
8    <Enable> <Auto >   Link Down     [ 128 ]        Forwarding




    PREV     NEXT       SAVE      EXIT     MAIN MENU    HELP
```

Figure 4-11. Port Configuration Panel

Follow these steps to change the port settings.

Step 1.   Set the port number's state to **Enable** or **Disable**.

Step 2.   Set the port number's physical setting.

Step 3.   Enter a number to set the STP priority.

Step 4.   Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Port   Displays the number of the port you are configuring.

State   Displays the state of the port. Each port can be enabled or disabled. An enabled port is active. A disabled port is partitioned and inactive, and cannot send or receive data. The default is Enable.

Physical	Displays the speed and the duplex mode of the port. Auto means that the port auto-negotiates the fastest compatible speed and duplex mode. The other settings are 100 Mbps Full-Duplex, 100 Mbps Half-Duplex, 10 Mbps Full-Duplex, 10 Mbps Half-Duplex. The default is Auto, indicating that the port auto-negotiates the correct speed and duplex mode.
Link Status	Reports the speed and duplex mode of current active port.

Link Down	Displays that the port connection is not active.
10T/Half	Link is connected at 10T/Half duplex.
10T/Full	Link is connected at 10T/Full duplex.
100TX/Half	Link is connected at 100TX/Half duplex.
100TX/Full	Link is connected at 100TX/Full duplex.

STP Priority	Spanning Tree Priority (STP) determines the likelihood of the 8275-324 becoming the root. The smaller the value, the higher the bridge priority. STP can be set between 0 and 255. The default is 128.
STP Port State	The port can be in four states: forwarding, listening, learning and blocking:

Forwarding	The packets can pass through a port.
Listening	The port is available and waiting for packets.
Learning	The port is learning the MAC address of the nodes available to it.
Blocking	The port is blocking all traffic, no packets can pass through a port.

PREV/NEXT	If you select NEXT, the next eight ports are displayed. Selecting PREV displays the previous eight ports. Each numbered line relates to the same numbered port on the front panel of the 8275-324.

Port Statistics

Selecting this option displays the Port Statistics Panel, shown in Figure 4-12. This displays the configuration and statistical information about each port.

```
              IBM Fast Ethernet Desktop Switch, 8275-324
                          -Port Statistics


        Port Number:   [9 ]

      Tx_TotalBytes:      9528256        Rx_Uni_frame:       4100

      Tx_Uni_frame:       0              Rx_Mult_frame:      3

      Tx_Mult_frame:      1423           Rx_Broad_frame:     17

      Tx_Broad_frame:     2048           Rx_Good_Oversize:   0

      Tx_Aged_frame:      7              Rx_Err_Oversize:    0

      Tx_FCS_errors:      0              Rx_Good_Undersize:  0

      Tx_Ex_collision:    0              Rx_Err_Undersize:   0

      Tx_1_collision:     0              Rx_64:              2084

      Tx_mult_collision:  0              Rx_65_to_127:       1040

      Tx_underrun_err:    0              Rx_128_to_255:      1028

      Rx_TotalBytes:      2088           Rx_256_to_511:      0

      Rx_Disc_Buff_Full:  0              Rx_512_to_1023:     16

      Rx_align_err:       0              Rx_1024_to_1518:    0

      Rx_FCS_errors:      0              Rx_Disc_Mem_Full:   0


             EXIT              MAIN MENU              HELP
```

Figure 4-12. Port Statistics Panel

To view statistics about a port, enter the port number and then press **Enter**.

Total Bytes Transmitted	Total number of bytes transmitted to the port.
Unicast Frames Out	Number of unicast frames transmitted.
Multicast Frames Out	Number of multicast frames transmitted.
Broadcast Frames Out	Number of broadcast frames transmitted.
Aged Frames	Number of frames that were dropped because they were in transit too long.

Tx FCS Errors	Number of frames that were discarded on the transmit side because of FCS error.
Tx Excessive Collision	Number of frames that were dropped because of excessive collision.
Tx One Collision	Number of frames that were transmitted after one collision.
Tx Multiple Collisions	Number of frames that were transmitted after more than one collision.
Tx Run Errors	Number of frames that were discarded on the transmit side because of an underrun.
Total Bytes Received	Total number of bytes received on a port.
Disc Buff Full	Number of good frames that were discarded because the Rx Buffer was full.
Rx Align or Errors	Number of well-aligned frames that were received with FCS error.
Unicast Frames In	Number of unicast frames received.
Multicast Frames In	Number multicast frames received.
Broadcast Frames In	Number of broadcast frames received.
Rx Good Oversized	Number of good over-sized frames received.
Rx Error Oversized	Number of good over-sized frames with errors (FCS, Alignment).
Rx Good Undersized	Number of good under-sized frames received.
Rx Error Undersized	Number of under-sized frames received with errors.
Rx64	Number of frames (including frames with errors) that were 64 bytes long.
Rx65 to 127	Number of frames (including frames with errors) 65 to 127 bytes long.
Rx128 to 255	Number of frames (including frames with errors) 128 to 255 bytes long.
Rx256 to 511	Number of frames (including frames with errors) 256 to 511 bytes long.
Rx512 to 1023	Number of frames (including frames with errors) 512 to 1023 bytes long.

Rx 1024 to 1518   Number of frames (including frames with errors) 1024 to 1518 bytes long.

Disc Mem Full   Number of good frames that were discarded because the memory was full.

Spanning Tree Configuration

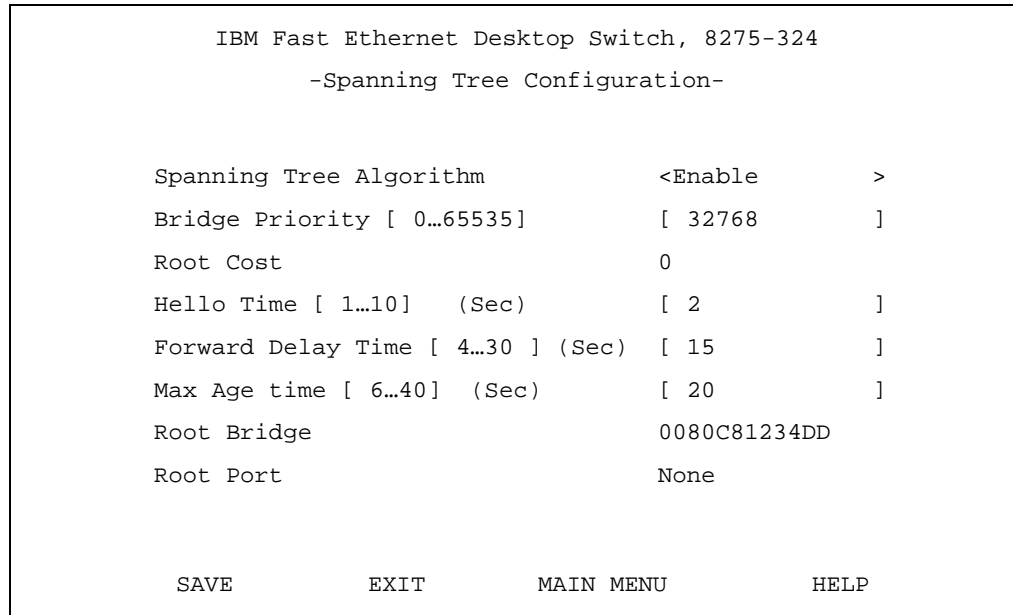Selecting this option displays the Spanning Tree Configuration Panel, shown in Figure 4-13.

```
          IBM Fast Ethernet Desktop Switch, 8275-324

                  -Spanning Tree Configuration-


        Spanning Tree Algorithm          <Enable        >

        Bridge Priority [ 0…65535]       [ 32768        ]

        Root Cost                        0

        Hello Time [ 1…10]   (Sec)       [ 2            ]

        Forward Delay Time [ 4…30 ] (Sec)  [ 15         ]

        Max Age time [ 6…40]  (Sec)      [ 20           ]

        Root Bridge                      0080C81234DD

        Root Port                        None



          SAVE          EXIT        MAIN MENU           HELP
```

Figure 4-13. Spanning Tree Configuration Panel

Follow these steps to change the settings:

Step 1. Set the spanning tree algorithm to **Enable** or **Disable.**

Step 2. Enter a number to change the Bridge Priority.

Step 3. Enter a number to change the Hello Time.

Step 4. Enter a number to change the Forward Delay Time.

Step 5. Enter a number to change the Max Age Time.

Step 6. Select **SAVE** and press **Enter** to save and implement your changes.

Spanning Tree Algorithm	Discovers every node on the network and closes redundant paths to avoid loops. It enables one alternate path in the event that the main path fails. The default is Enable.
Bridge Priority	Determines which bridge on the network is considered first when the Spanning Tree Algorithm is calculated. Bridge Priority can be set between 0 and 65535. Zero is the highest Bridge Priority. The default is 32768.
Root Cost	The Root Cost is calculated automatically. It is the shortest distance from any bridge to the Root Bridge interval for the unit announcing its presence on the network. The default is zero.

Hello Time   The interval for the 8275-324 to announce its presence on the network. The interval can be set between 1 to 10 seconds. The default is 2 seconds.

Forward Delay Time   Specifies the time spent in listening and learning modes before forwarding packets. The value can be set between 4 to 30 seconds. The default is 15 seconds.

Max Age Time   Specifies the time spent in the listening and learning modes before the 8275-324 forwards packets. The value can be set between 6 to 40 seconds. The default is 20 seconds.

Root Bridge   Specifies the MAC address that is the Root Bridge on the network.

Root Port   Specifies the preferred path to the Root Bridge. Only one path per bridge can exist. The default is none.

Serial Port Configuration

Selecting this option displays the Serial Port Configuration Panel, shown in Figure 4-14. Serial Port Configuration refers to the EIA 232 Management Port.

The settings on this panel are supported only when the Operation Mode is set to Out-of-Band. The settings on this panel do not affect your ability to manage the 8275-324 through Local Console management.

This panel specifies the default operation mode for connecting to the 8275-324, as well as the settings for serial communications. The following shows default settings for Serial Port Configuration.

```
             IBM Fast Ethernet Desktop Switch, 8275-324
                     -Serial Port Configuration-



               Operation Mode   <Console >
               Baud Rate        <19200   >
               Character Size   <8       >
               Parity           <None    >
               Stop Bits        <1       >



        SAVE         EXIT        MAIN MENU        HELP
```
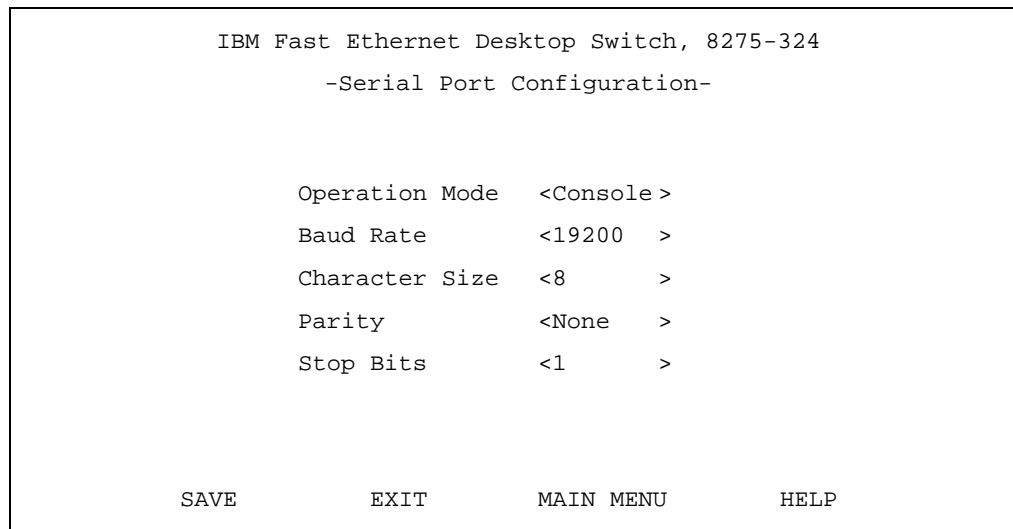
Figure 4-14. Serial Port Configuration Panel

The settings on this menu can be changed for VT100 communication.

Follow these steps to change the settings:

Note: The settings on this panel are only available when the Operation Mode is set to Out-of-Band. They cannot be changed in Console mode. If you elect to change these settings, be sure you have assigned an IP address to the 8275-324 as discussed in "Network Configuration" on page 4-11.

Step 1.   Set the operation mode to **Out-of-Band**.

Step 2.   Select the settings for Baud Rate, Character Size, Parity and Stop Bits.

Step 3.   Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Operation Mode   The console connects the switch to a workstation through null modem cable by running terminal emulation. Communications parameters are fixed. The default is Console mode.

Out-of-Band mode is used when the 8275-324 is managed through the serial port. See "Configuring the EIA 232 Port" on page 4-3 for instructions.

Note: You should select Out-of-Band mode only after you have assigned an IP address to the switch.

Baud Rate   Specifies the communications rate of the modem. This setting can only be changed when you are in Out-of-Band mode. The default is 19200.

The following settings are available:

- 57600
- 38400
- 19200
- 9600
- 4800

Character Size   Character size can be either 7 or 8 data bits. The default is 8 bits.

Parity   Parity can set to:

- none
- even
- odd

The default is none.

Stop Bits   You can set the stop bits for either 1 or 2. The default is 1.

VLAN Port Management

Selecting this option displays the VLAN Port Management Menu, shown in Figure 4-15. This panel allows you to configure VLANs. A VLAN reduces traffic by defining which ports belong to which networked groups. The 8275-324 can be configured to define groups of people and keep their traffic local to their group.

Ports can belong to more than one VLAN simultaneously. The 8275-324 supports up to eight VLANs. See Appendix A, "Introduction to Virtual LANs (VLANs) and Spanning Tree Protocol (STP)" for more information about VLANs. The default is one VLAN covering all 24 ports.

VLANs are optional. You can use them to reduce congestion on high traffic networks. If you elect to create VLANs, record the groups you create for future reference.

VLANs and Trunked ports can be used independently of each other. However, if a port is part of both a port trunking group and a VLAN, then all the ports in the trunking group must be part of that VLAN.

```
         IBM Fast Ethernet Desktop Switch, 8275-324

                    -VLAN Port Management-




                       Create VLAN

                       Delete VLAN

                       Modify/View VLAN




       EXIT              MAIN MENU            HELP
```

Figure 4-15. VLAN Port Management Menu

Create VLAN   Creates VLANs.

Delete VLAN   Deletes VLANs.

Modify/View VLAN   Modifies or views existing VLANs.

Create VLAN

Select this option to displays the Create VLAN Panel, shown in Figure 4-16.

```
            IBM Fast Ethernet Desktop Switch, 8275-324
                          - Create VLAN -


NEW VLAN Name: [          ]

Port #     TrunkGroup Status       Port #      TrunkGroup    Status

Port 1/3  :           <Available>  Port 13/15:               <Available>

Port 2/4  :           <Available>  Port 14/16:               <Available>

Port 5    :           <Available>  Port 17   :               <Available>

Port 6    :           <Available>  Port 18   :               <Available>

Port 7    :           <Available>  Port 19   :               <Available>

Port 8    :           <Available>  Port 20   :               <Available>

Port 9/11 :           <Available>  Port 21/23:               <Available>

Port 10/12:           <Available>  Port 22/24:               <Available>



        SAVE              EXIT        MAIN MENU            HELP
```

Figure 4-16. Create VLAN Panel

Create VLANs

Follow these steps to create VLANs:

Step 1. Enter a name for the VLAN.

Step 2. Set the port status to **Selected** for the ports you want included.

Step 3. Select **SAVE**.

Step 4. Repeat steps 1 to 3 to create up to eight VLANs.

Step 5. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Create VLANs with Overlapping Ports

Follow these steps to create a VLAN with overlapping ports:

Step 1. Create a VLAN.

Step 2. Press **Enter**.

Step 3. Set the port status to **Selected** for the ports you want included.

Step 4.   Set a port from a previously created VLAN to **Selected**.

Step 5.   Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Shared ports are now in the same collision domain of the VLANs.

New VLAN Name	Displays the names of the VLANs you create. You can enter a maximum of eight characters.
Port Number	Identifies the numbers of the ports assigned to a specific VLAN. The Port Number corresponds to the port number on the front console of the 8275-324.
TrunkGroup	Identifies the name of the TrunkGroup to which the port belongs. See "Trunking Port Management" on page 4-34 for more information.
Status	Displays the status of the port. A Port's Status can be Available or Selected. A selected port belongs to a VLAN. An available port is available for inclusion in a VLAN.

Note: Port pairs that must belong to the same VLAN are 1/3, 2/4, 9/11, 10/12, 13/15, 14/16, 21/23, 22/24. For example, if you select ports 1 and 3 for inclusion in a VLAN, then they must be in the same VLAN.

Delete VLAN

Selecting this option displays the Delete VLAN Panel, shown in Figure 4-17.

```
        IBM Fast Ethernet Desktop Switch, 8275-324

                    -Delete VLAN-


                  VLAN          Delete
                  <vlan1>        <no>
                  <vlan2>        <no>
                  <vlan3>        <no>



      SAVE        EXIT       MAIN MENU       HELP
```

Figure 4-17. Delete VLAN Panel

Follow these steps to delete a VLAN:

Step 1. Set the delete option to **yes**.

Step 2. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

VLAN   Lists the VLANs that have been created on the 8275-324.

Delete   When a VLAN has been created, the delete options, yes or no are listed in the column. The default is no.

Modify / View VLAN

Selecting this option displays the Modify / View VLAN menu shown in Figure 4-18.

```
                IBM Fast Ethernet Desktop Switch, 8275-324
                            -Modify / View VLAN-



                                 VLAN
                                 vlan1
                                 vlan2
                                 vlan3




              SAVE           EXIT        MAIN MENU        HELP
```

Figure 4-18. Modify / View VLAN Panel

Select the VLAN you want to modify or view and press **Enter**.

The VLAN Modification Panel, shown in Figure 4-19, is displayed.

VLAN   The VLAN option is used to view or modify the VLANs you
                    have created.

```
            IBM Fast Ethernet Desktop Switch, 8275-324
                        -VLAN Modification-

VLAN Name: vlan1

Port #      TrunkGroup status        port #      TrunkGroup  status

Port 1/3  :           <Selected >  Port 13/15:            <Available>
Port 2/4  :           <Selected >  Port 14/16:            <Available>
Port 5    :           <Selected >  Port 17   :            <Available>
Port 6    :           <Selected >  Port 18   :            <Available>
Port 7    :           <Selected >  Port 19   :            <Available>
Port 8    :           <Selected >  Port 20   :            <Available>
Port 9/11 :           <Selected >  Port 21/23:            <Available>
Port 10/12:           <Selected >  Port 22/24:            <Available>


        SAVE           EXIT         MAIN MENU        HELP
```

Figure 4-19. VLAN Modification Panel

Follow these steps to modify or view VLANs:

Step 1. Set port status to **Available** or **Selected**.

Step 2. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Trunking Port Management

Selecting this option displays the Trunking Port Management Menu, shown in Figure 4-20.

A trunking port combines two or more ports for cascading (connecting) switches. Each port has a maximum of 200 Mbps at Full Duplex (100 Mbps transmitting and 100 Mbps receiving). By grouping a maximum of eight ports into a trunk you can get an effective data exchange rate of 1.6 Gbps (8 x 200 Mbps) through the trunk.

If you are using a VLAN, then all the ports selected for a trunk group must belong to the same VLAN. If you are not using VLAN this restriction does not apply.

```
            IBM Fast Ethernet Desktop Switch, 8275-324

                    -Trunking Port Management-



                    Create/View Trunking Group

                    Delete Trunking Group

                    Modify Trunking Group



        EXIT              MAIN MENU              HELP
```

Figure 4-20. Trunking Port Management Menu

Create/View Trunking Group	Creates and views existing Trunking Groups. The 8275-324 supports up to eight trunking groups.
Delete Trunking Group	Deletes Trunking Groups.
Modify Trunking Group	Modifies the Trunking Groups you have created.

Create/View Trunking Group

Selecting this option displays the Create/View Trunking Group Panel, shown in Figure 4-21.

```
              IBM Fast Ethernet Desktop Switch, 8275-324
                      -Create/View Trunking Group-


New Trunking Group Name: [ trunk1 ]

Port #    name      status           port #    name      status

Port 1:             <Available>      Port 13:            <Available>
Port 2:             <Available>      Port 14:            <Available>
Port 3:             <  N/A  >        Port 15:            <   N/A  >
Port 4:             <  N/A  >        Port 16:            <   N/A  >
Port 5:             <Available>      Port 17:            <Available>
Port 6:             <Available>      Port 18:            <Available>
Port 7:             <Available>      Port 19:            <Available>
Port 8:             <Available>      Port 20:            <Available>
Port 9:             <Available>      Port 21:            <Available>
Port 10:            <Available>      Port 22:            <Available>
Port 11:            <  N/A  >        Port 23:            <   N/A  >
Port 12:            <  N/A  >        Port 24:            <   N/A  >



          SAVE          EXIT        MAIN MENU        HELP
```

Figure 4-21. Create/View Trunking Group Panel

Follow these steps to create a new Trunking Group:

Step 1.   Name the trunking group.

Step 2.   Set the Port Status to **Selected** for the ports you want included.

Step 3.   Select **SAVE** and press **Enter**.

Step 4.   Repeat steps 1 to 3 to create up to eight trunking groups.

Note: You must reset the 8275-324 to implement the changes.

New Trunking Group Name	Enter a new trunking group name. You can enter a maximum of eight characters.
Port #	Displays the port number on the console of the 8275-324. Ports can belong to only one trunking group at a time. Up to eight ports can belong to a trunking group.
	Ports 1, 2, 5, 6, 7, 8, 9, 10, 13, 14, 17, 18, 19, 20, 21, and 22 are available for port trunking.
	Ports 3, 4, 11, 12, 15, 16, 23, and 24 are not available for port trunking. N/A means the port is not available.
Name	Displays the name of the previously defined trunking groups.
Status	Displays the status of the port. Available ports can be selected as part of trunking groups. Selected ports have already been selected as part of a trunking group. Ports can only belong to one trunking group at a time.

Delete Trunking Group

Selecting this option displays the Delete Trunking Group Panel, shown in Figure 4-22. This panel allows you to delete trunking groups.

```
            IBM Fast Ethernet Desktop Switch, 8275-324

                      - Delete Trunking Group-



              Trunking Group      Delete
              trunk1                <No >
              trunk2                <Yes>



      SAVE            EXIT       MAIN MENU        HELP
```

Figure 4-22. Delete Trunking Group Panel

Follow these steps to delete a trunking group:

Step 1. Set the delete option to **Yes**.

Step 2. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Trunking Group   Lists all the trunking groups on the on the 8275-324. There is no default trunking group.

Delete   Allows you to specify whether to delete the trunking group.

Trunking Group Modification

Selecting this option displays the Trunking Group Modification Panel, shown in
Figure 4-23

```
            IBM Fast Ethernet Desktop Switch, 8275-324
                    -Trunking Group Modification-


Trunking Group Name: trunk1

Port #    name      status          Port #      name      status

Port  1:            <Available>     Port 13:              <Available>
Port  2:            <Available>     Port 14:              <Available>
Port  3:            <   N/A   >     Port 15:              <   N/A   >
Port  4:            <   N/A   >     Port 16:              <   N/A   >
Port  5: trunk1     <Selected >     Port 17:              <Available>
Port  6: trunk1     <Selected >     Port 18:              <Available>
Port  7:            <Available>     Port 19:              <Available>
Port  8:            <Available>     Port 20:              <Available>
Port  9:            <Available>     Port 21:              <Available>
Port 10:            <Available>     Port 22:              <Available>
Port 11:            <   N/A   >     Port 23:              <   N/A   >
Port 12:            <   N/A   >     Port 24:              <   N/A   >



         SAVE           EXIT      MAIN MENU        HELP
```

Figure 4-23. Trunking Group Modification Panel

Follow these steps to modify trunking groups:

Step 1. Set the port status of the group to **Available** or **Selected**.

Step 2. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Trunking Group Name	Lists a column of the trunking group names on the 8275-324.

User Account Management

Selecting this option displays the User Account Management Menu, shown in Figure 4-24. This menu is used to add and delete users, and to change passwords.

The 8275-324 supports two levels of users: Read/Write users and Read Only users.

Read/Write   Users have the full range of switch options. They can change the status of other users, add and delete users, and change passwords.

Read Only   Users have read only access to most information and panels. The network administrator can select the user's status. The 8275-324 supports three user names.

```
          IBM Fast Ethernet Desktop Switch, 8275-324

                   -User Account Management-



                        Create New User

                        Modify Users

                        Change Password




        EXIT              MAIN MENU              HELP
```

Figure 4-24. User Account Management Menu

Create New User   Creates new users, and sets access levels and status.

Modify Users   Modifies the access level and status of users.

Change Password   Changes user passwords.

Create New User

Selecting this option displays the Create New User Panel, shown in Figure 4-25.

```
        IBM Fast Ethernet Desktop Switch, 8275-324
                    -Create New User-


            User Name          [            ]
            Password           [            ]
            Confirm Password   [            ]


            Access Level       <Read/Write >



      SAVE            EXIT        MAIN MENU         HELP
```

Figure 4-25. Create New User Panel

Follow these steps to add new users:

Step 1.   Enter a new user name.

Step 2.   Enter a password.

Step 3.   Enter the password again to confirm.

Step 4.   Set the user's access level to **Read/Write** or **Read Only**.

Step 5.   Repeat steps 1 to 4 to configure up to three users.

Step 6.   Select **SAVE** and press **Enter** to save and implement your changes.

User Name   Enter the user's name in this field. You can enter up to eight characters. User names are not case sensitive.

Password   Set a user's password in this field. You can enter up to eight characters. Passwords are not case sensitive.

Confirm Password   Requires you to reenter the password for confirmation.

Access Level   Set the user's access level. You can select either Read/Write or Read Only.

Modify Users

Select this option to display the Modify Users Panel, shown in Figure 4-26.

```
              IBM Fast Ethernet Desktop Switch, 8275-324
                            -Modify Users-


      User Name       Access Level        Status         Delete
      ADMIN           <Read/Write>       <Active>        <No>
      Stan            <Read Only >       <Active>        <No>
      Joe             <Read/Write>       <Active>        <No>



        SAVE            EXIT         MAIN MENU          HELP
```

Figure 4-26. Modify Users Panel

Follow these steps to modify user accounts:

Step 1. Set the user's access level to **Read/Write** or **Read Only**.

Step 2. Set the user's status to **Active** or **Inactive**.

Step 3. To delete user, set Delete to **Yes**.

Step 4. Select **SAVE** and press **Enter** to save and implement your changes.

User Name	Lists all the users that have access to the 8275-324.
	The 8275-324 has a default user name of admin and default password which is blank (none required).
Access Level	Displays the users' access level.
Status	Displays the status of the users. Active users have access to the 8275-324. Inactive users cannot access the 8275-324.
Delete	Use to delete users.

Change Password

Selecting this option displays the Change Password Panel, shown in Figure 4-27.

```
          IBM Fast Ethernet Desktop Switch, 8275-324

                      -Change Password-



          User Name            [              ]
          Old Password         [              ]

          New Password         [              ]
          Confirm Password     [              ]



       SAVE          EXIT       MAIN MENU          HELP
```

Figure 4-27. Change Password Panel

Follow these steps to change user passwords:

Step 1. Enter the user name to be modified.

Step 2. Enter the user's old password.

Step 3. Enter the user's new password.

Step 4. Reenter the user's new password to confirm it.

Step 5. Select **SAVE** and press **Enter** to implement your changes.

User Name	Enter the user name whose password is to be changed.
Old Password	The user's old password.
New Password	The user's new password. You can enter up to eight characters. Passwords are not case sensitive.
Confirm Password	Requires you to reenter the password for confirmation.

System Utilities

Selecting this option displays the System Utilities Menu, shown in Figure 4-28. This menu allows you to update the run-time software and the boot code. You can also perform a warm boot and restore factory default settings.

```
              IBM Fast Ethernet Desktop Switch, 8275-324

                         -System Utilities-



              Download Code to Switch

              Download Configuration Data to Switch

              Upload Configuration Data from Switch

              System Reset

              Factory Reset to Default Config Values

              BOOTP/TFTP Server Configuration

              Login Timeout Interval



          EXIT               MAIN MENU              HELP
```

Figure 4-28. System Utilities Menu

Download Code to Switch	Updates the switch code on the 8275-324 from a binary file.
Download Configuration Data to Switch	Sets the path of the server to restore configuration data from a saved file.
Upload Configuration Data from Switch	Saves the 8275-324's configuration data to a file on a diskette or hard disk.
System Reset	Resets the system. Use this after you have reconfigured the 8275-324.
Factory Reset to Default Config Values	Restores the factory default settings.
BootP/TFTP Server Configuration	Configures how the 8275-324's boot code is updated.
Login Timeout Interval	Sets the amount of time that the 8275-324 waits before logging users out of a Telnet session.

Download Code to Switch

Selecting this option displays the Download Switch Code panel shown in Figure 4-29. Use this panel to update the 8275-324's boot program and run-time program.

```
          IBM Fast Ethernet Desktop Switch, 8275-324

                   -Download Code to Switch-



        Download Mode            <XMODEM>

        Download File            <RUN_TIME_PROGRAM>

        TFTP Server IP Address [ 0.0.0.0         ]

        File Name                [                ]




        EXECUTE          EXIT        MAIN MENU          HELP
```

Figure 4-29. Download Code to Switch Panel

Follow these steps to download code to the 8275-324:

Notes:

 1. Use terminal emulation on the workstation you will download from. See Chapter 2, "Installing and Powering-On the 8275-324," for the correct parameters and instructions for connecting a workstation and the 8275-324.

 2. Do not power-off the 8275-324 at any time while downloading or uploading information.

Step 1. Set the download mode to **XMODEM** or **TFTP**.

Step 2. Set the download file to **BOOT_PROGRAM** or **RUN_TIME_PROGRAM**.

Step 3. Enter the IP address of the server the file will be downloaded from.

Step 4. Enter the *\path\filename* to be downloaded.

Step 5. Select **EXECUTE** and press **Enter** to begin download.

Download Mode   Switch Code can be downloaded in two modes: TFTP or Xmodem. When using Telnet management, you must use TFTP when downloading switch code. You can use either TFTP or Xmodem when you are downloading in Local Console mode.

Download File   You can download either the boot program or the run-time program.

TFTP Server   Displays the IP address of the server the new file will be
IP Address   downloaded from.

File Name   Displays the file to be downloaded.

Figure 4-30 displays the confirmation panel. Select **Yes** and press **Enter** to begin the
download.

```
┌─────────────────────────────────────────────────────────────────┐
│                                                                   │
│          IBM Fast Ethernet Desktop Switch, 8275-324               │
│                                                                   │
│                   -Download Code to Switch-                       │
│                                                                   │
│                                                                   │
│                                                                   │
│      Do you want to download Switch Code right now?   No    Yes   │
│                                                                   │
│                                                                   │
│                                                                   │
│                                                                   │
│          EXIT                  MAIN MENU                 HELP      │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```

Figure 4-30. Download Code to Switch Confirmation Panel

Download Configuration Data to Switch

Selecting this option displays the Download Configuration Data panel shown in Figure 4-31. Use this panel to select whether the 8275-324 obtains configuration data through the Management Port or from a workstation.

```
        IBM Fast Ethernet Desktop Switch, 8275-324

          -Download Configuration Data to Switch-



    Download Mode              <XMODEM>

    TFTP Server IP Address    [192.152.81.209   ]

    File Name                 [ c:\ibm.cfg      ]




        EXECUTE        EXIT        MAIN MENU        HELP
```

Figure 4-31. Download Configuration Data Panel

```
         IBM Fast Ethernet Desktop Switch, 8275-324

           -Download Configuration Data to Switch-



  Do you want to download the Configuration Data right now? No   Yes




          EXIT              MAIN MENU            HELP
```

Figure 4-32. Download Configuration Data to Switch Confirmation Panel

Download using Xmodem

Follow these steps to download using Xmodem:

Step 1. Configure the terminal session for these settings.

- 19200 baud
- 8 bits
- No parity
- One stop bit
- No Flow Control

Step 2. Set the download mode to **XMODEM**.

Step 3. Select **EXECUTE** and press **Enter**.

Step 4. Select **Yes** and press **Enter** on the confirmation panel shown in Figure 4-32.

Step 5. From the terminal, initiate the file upload and specify the *\path\filename* to be sent.

Download using TFTP

Follow these steps to download using TFTP:

Step 1. Set the download mode to **TFTP**.

Step 2. Enter the server's IP address.

Step 3. Enter the *\path\filename* to be sent.

Step 4. Select **EXECUTE** and press **Enter**.

Step 5. Select **Yes** and press **Enter** on the confirmation panel shown in Figure 4-32.

Download Mode	Displays which method you use to download configuration data. There are two options:
	Xmodem Use Xmodem when the 8275-324 is receiving data over a null modem cable.
	TFTP Use TFTP when the 8275-324 is receiving data from the network.
TFTP Server IP Address	The IP address of the TFTP server from which you want to download the configuration data.
File Name	The *\path\filename* that the 8275-324 will use to download.

Upload Configuration Data

Selecting this option displays the Upload Configuration Data Panel, shown in
Figure 4-33. Use this panel to save configuration data over the EIA 232 port or to a
workstation.

Xmodem   Refers to sending configuration data over the Management
                             Port.

TFTP   Refers to sending configuration data to a workstation.

```
        IBM Fast Ethernet Desktop Switch, 8275-324

                -Upload Configuration Data-



        Upload Mode              <TFTP    >
        TFTP Server IP Address [ 192.152.81.209 ]
        File Name              [ c:\1.cfg        ]



    EXECUTE          EXIT        MAIN MENU          HELP
```

Figure 4-33. Upload Configuration Data Panel

Save Configuration Data Through Management Port

Follow these steps to save configuration data through the Management Port:

Step 1. Set the upload mode to **Xmodem**.

Step 2. Configure the terminal session with the following options:

- 19200 baud
- 8 data bits
- No parity
- One stop bit
- No Flow Control

Step 3. Select **EXECUTE** and press **Enter**.

Step 4. Select **Upload** (or equivalent) from the terminal.

Step 5. Set the *\path\filename* to be sent.

Step 6. Select **EXECUTE** and press **Enter**.

Note: Blinking text appears under the command line to confirm the upload. It reads
"TFTP upload is successful!"

Save Configuration Data to FTP Server

Follow these steps to save configuration data to an FTP server:

Step 1. Set the upload mode to **TFTP**.

Step 2. Enter the server's IP Address.

Step 3. Set the *path**filename* to be sent.

Step 4. Select **EXECUTE** and press **Enter**.

Step 5. Select **Yes** and press **Enter** to begin uploading as shown in Figure 4-34.

Note: Blinking text appears under the command line to confirm the upload. It reads "TFTP upload is successful!"

```
              IBM Fast Ethernet Desktop Switch, 8275-324

                -Upload Configuration Data from Switch-



   Do you want to upload the Configuration Data right now? No    Yes




           EXIT                  MAIN MENU                 HELP
```

Figure 4-34. Upload Configuration Data from Switch Confirmation Panel

Upload Mode	Switch code can be uploaded in two modes: TFTP or Xmodem. You must use TFTP when uploading switch code through Telnet. You can use either TFTP or Xmodem when you are uploading in Local Console mode.
TFTP Server IP Address	The IP address of the TFTP Server receiving the download.
File Name	The *path**filename* for the configuration data.

System Reset

Selecting this option displays the System Reset Panel, shown in Figure 4-35. Use this option to reset the 8275-324 without powering off. It will take approximately 10 seconds for the 8275-324 to reset.

```
         IBM Fast Ethernet Desktop Switch, 8275-324

                        -System Reset-



      Do you want to reset the system?   No   Yes




          EXIT              MAIN MENU            HELP
```
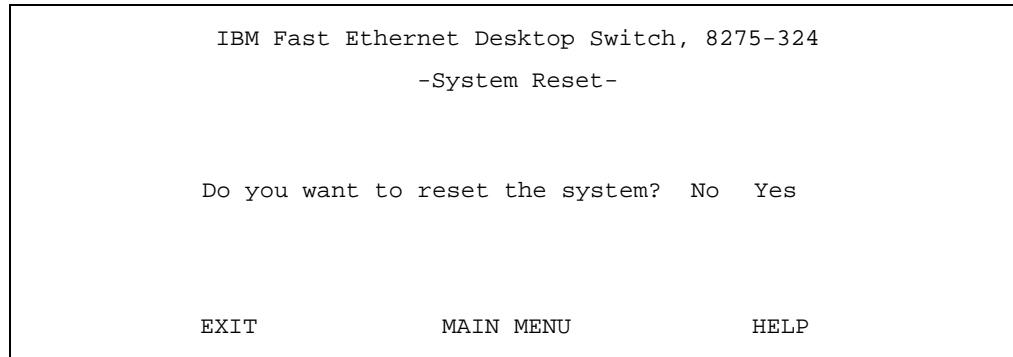
Figure 4-35. System Reset Panel

Follow these steps to reset (warm boot) the 8275-324:

Step 1.   Select **Yes** and press **Enter**.

Step 2.   Select **Yes** and press **Enter** on the confirmation panel shown in Figure 4-36.

```
         IBM Fast Ethernet Desktop Switch, 8275-324

                        -System Reset-



           Are you sure?    No   Yes



              EXIT        MAIN MENU
```
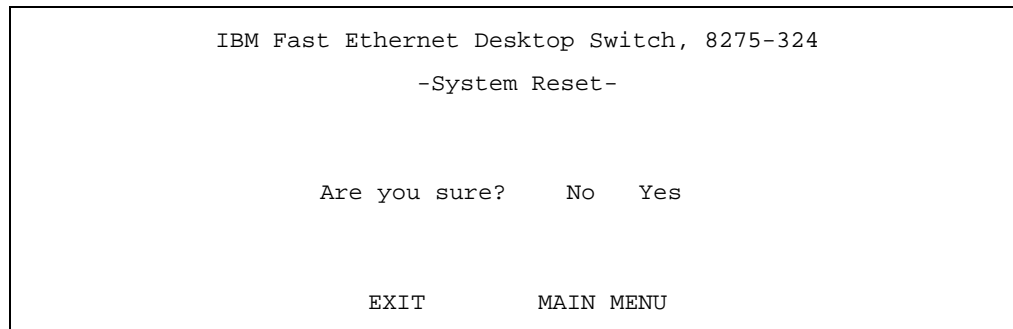
Figure 4-36. System Reset Confirmation Panel

Factory Reset to Default Config Values

Selecting this option displays the Factory Reset to Default Config Values Panel, shown in Figure 4-37. Use this panel to reset the 8275-324 to factory default values. This should only be done as a last resort, because all settings and configurations will be lost, including the IP address.

Note: You should upload configuration data prior to doing a factory reset.

Confirm factory reset by selecting **Yes** and pressing **Enter**.

```
        IBM Fast Ethernet Desktop Switch, 8275-324

          -Factory Reset to Default Config Values-



   Do you want to load factory default parameters?  No   Yes




        EXIT              MAIN MENU            HELP
```

Figure 4-37. Factory Reset to Default Config Values Panel

The confirmation panel is shown in Figure 4-38. If you do not want to reset to factory defaults, select **EXIT** or **MAIN MENU** and press **Enter** to exit the panel.

```
        IBM Fast Ethernet Desktop Switch, 8275-324

          -Factory Reset to Default Config Values-



   System will automatically reset. Are you sure?  No   Yes



        EXIT              MAIN MENU            HELP
```

Figure 4-38. Factory Reset to Default Config Values Confirmation Panel

Confirm factory reset by selecting **Yes** and pressing **Enter**.

The 8275-324 is reset to the factory default parameters.

BootP/TFTP Server Configuration Menu

Selecting this option displays the BootP/TFTP Server Configuration Panel, shown in Figure 4-39. Use this panel to determine whether the 8275-324 updates switch code and what method is used.

```
        IBM Fast Ethernet Desktop Switch, 8275-324

          -BOOTP/TFTP Server Configuration Menu-



        Software Update Control   <Disable    >


        Boot Protocol             <TFTP Only >
        Boot Server IP Address    [0.0.0.0    ]
        Boot File Name            [           ]



     SAVE            EXIT         MAIN MENU          HELP
```

Figure 4-39. BootP/TFTP Server Configuration Panel

Follow these steps to update the switch code to BootP&TFTP or TFTP Only:

Step 1. Set the software update control to **Enable**.

Step 2. Set the boot protocol to **BOOTP&TFTP** or **TFTP Only**.

Step 3. Enter an IP address and a boot file name (not necessary with BootP&TFTP protocol).

Step 4. Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Software Update Control	Sets the update status of the run-time program. It can be enabled or disabled. The default is disable. If Software Update Control is set to enable, the software is updated after every reset.
Boot Protocol	Choose between: BOOTP&TFTP or TFTP Only. You can use either option to update the run-time program.

TFTP Boot Server
IP Address
The server's IP address you will be updating the run-time code from. If you have a BootP server then no file name or IP address is necessary. If you have a BootP and TFTP server then you can enter an IP address and filename.

Boot File Name
The *path**filename* used to update the run-time program. This information is not required when using the BootP/TFTP protocol.

Login Timeout Interval

Selecting this option displays the Login Timeout Interval Panel, shown in Figure 4-40.

```
         IBM Fast Ethernet Desktop Switch, 8275-324

                  -Login Timeout Interval-



  Telnet Session Auto Logout Interval [ 0..100 ] (Min):  [ 5]




          SAVE          EXIT        MAIN MENU          HELP
```

Figure 4-40. Login Timeout Interval Panel

Follow these steps to set the Login Timeout Interval:

Step 1.   Enter a number to change the timeout interval.

Step 2.   Select **SAVE** and press **Enter**.

Note: You must reset the 8275-324 to implement the changes.

Login Timeout Interval	Displays the amount of time that the 8275-324 waits before logging you out of a Telnet session. You can set the timeout interval to between 0 and 100 minutes. Setting it to zero means there is no timeout. The default is 5 minutes.

Chapter 5. Web-Based Management

You can manage the 8275-324 through your Web browser and Internet connection. This type of management is referred to as Web-Based Management. The panels appear different from the Console-based panels, but their function is the same.

Most changes will require you to reset the 8275-324 in order to take effect. The 8275-324 takes approximately one minute to power on after it powers off. It is not operational during the power-on period.

Powering off, resetting, or performing a factory reset while the 8275-324 is connected to the network can have an adverse effect on the network. Always disconnect the 8275-324 from the network before powering off, resetting, or performing a factory reset on the 8275-324 to prevent packets from being lost.

Using Web-Based Management

You can use your Web browser to configure the 8275-324. Follow these steps to configure the 8275-324 for Web-Based Management:

Step 1. Enter the IP address of the 8275-324 in the address field of your Web browser and press **Enter**.

Step 2. Log in with your user name and password.

Commands

The following commands are used throughout the Web-based panels of the 8275-324.

Apply   Implements and saves the changes you have just made. Some settings may require you to reset the system in order to take effect.

Refresh   The Refresh button that appears next to the Apply button in Web-based panels refreshes the panel after you have made changes. It also allows you to view the progress of download/upload of information.

Another Refresh button is located in the lower left corner of the graphical representation of the 8275-324 front panel. The graphical representation of the front panel is located in the top right half of the Web-based management screens.

This monitoring console reflects the configuration information of the ports and the LED status lights located on the front panel of the 8275-324. Select the refresh button to report the updated status of the 8275-324's port configurations.

Log In

Login Panel 1, shown in Figure 5-1, appears when you begin a management session using any of the methods described in the preceding section. The default user name is `admin`. No password is required with the default login method.
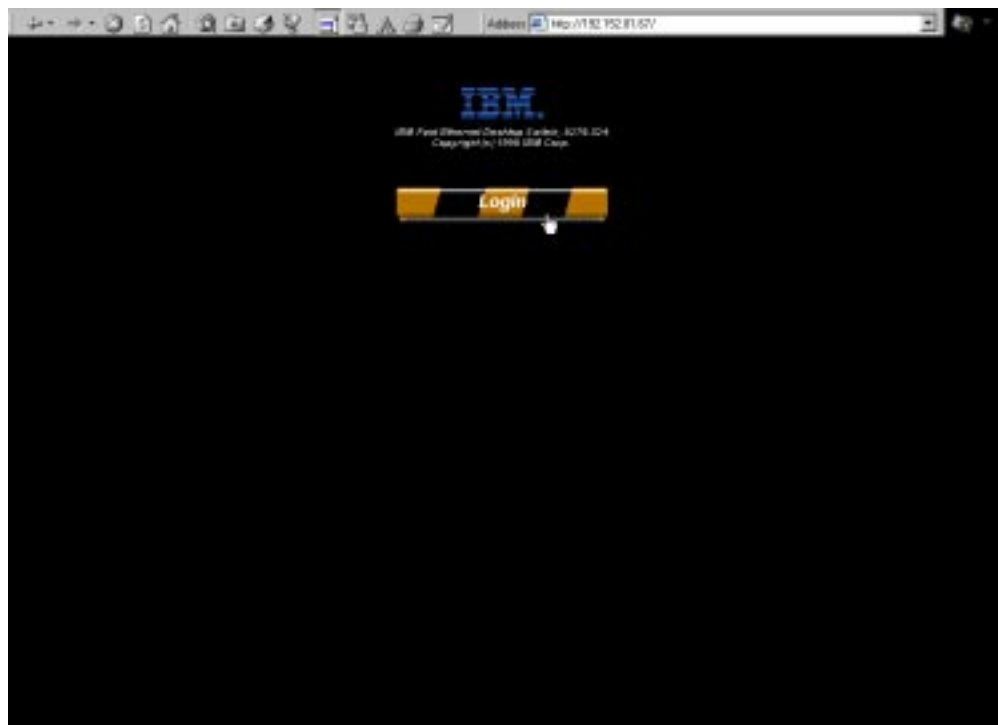
Figure 5-1.   Login Panel 1

Step 1.   Select **Login** to display the login panel.

Step 2.   Login Panel 2, shown in Figure 5-2 on page 5-3, now appears.
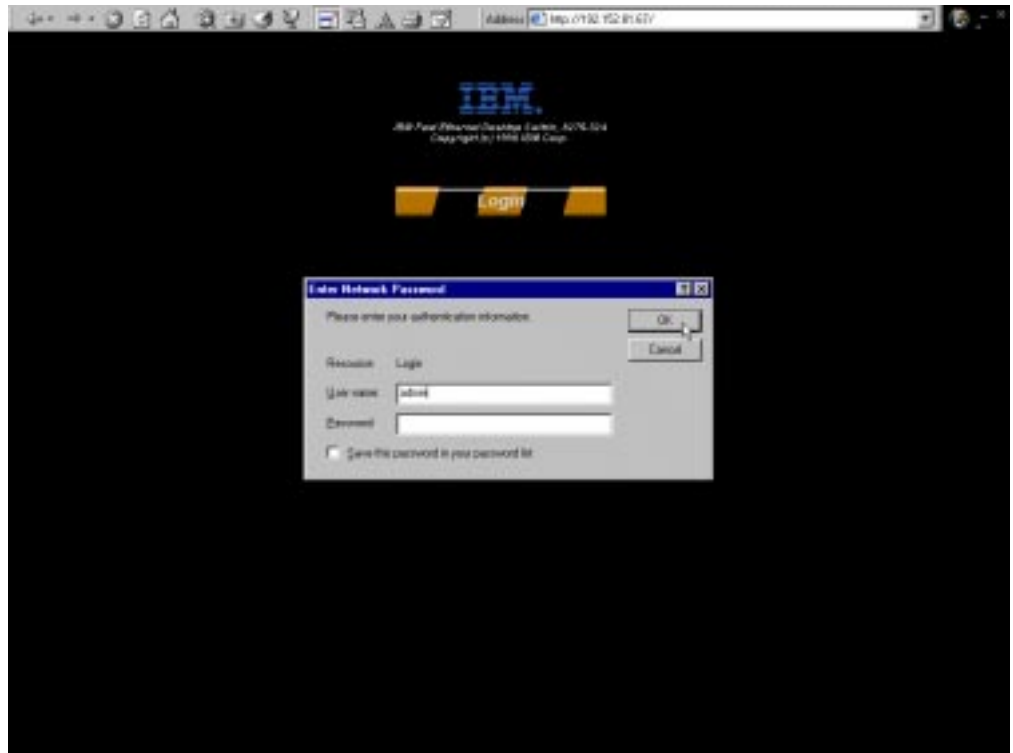
Figure 5-2.   Login Panel 2

Follow these steps to log in:

Step 1.   Enter your user name, if one is configured. If no user name is configured, enter the default user name admin.

Step 2.   Enter your password, if one is already configured. If no password is configured and you are logging in as admin then leave the password field empty.

> **Note:**   You can select the check box to save your password to the password list.

Step 3.   Select **OK**.

System Information

The System Information Panel, shown in Figure 5-3, is the first panel you see when logging in through the Web. You can access other menus by selecting one of the menu options to the left of the panel.

The System Information Panel, shown in Figure 5-3, provides information about the hardware and software versions installed on the 8275-324. There are three fields that you can specify: System Name, System Location and System Contact.
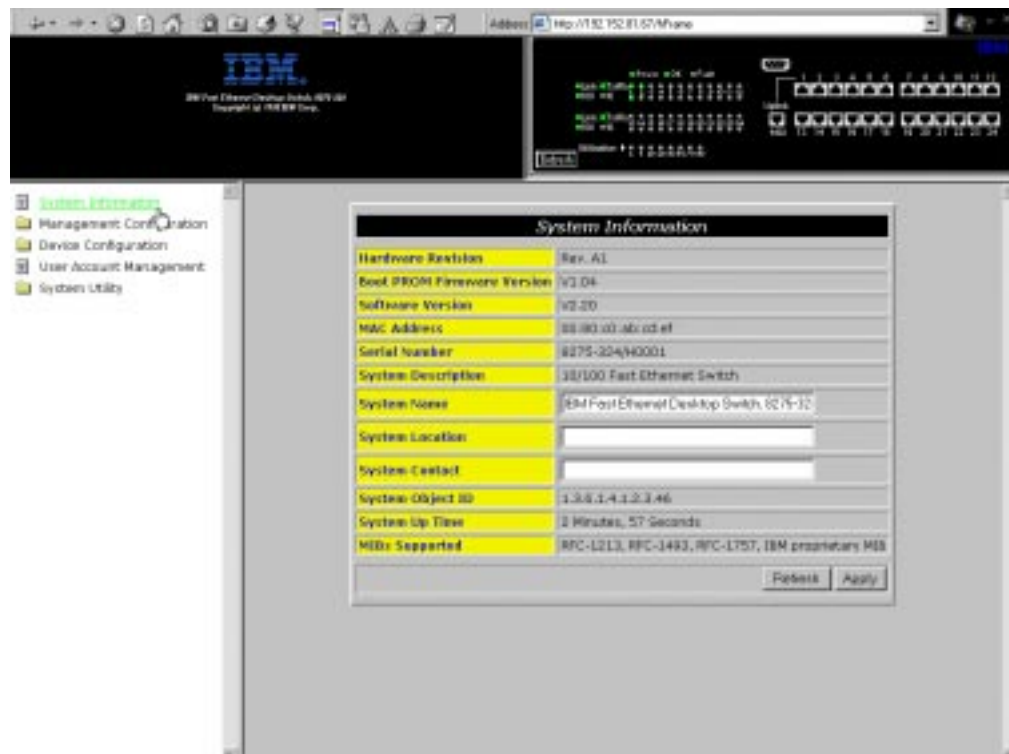
Figure 5-3.   System Information Panel

Follow these steps to set the System Name, System Location and System Contact. You can enter a maximum of 64 characters in each field.

Step 1.   Enter the system name.

Step 2.   Enter the system location.

Step 3.   Enter the system contact.

Step 4.   Select **Apply** to save and implement your changes.

Hardware Revision	Displays the hardware revision for the 8275-324 release level. Revision numbers refer to the product generation.
Boot PROM Firmware Version	Displays the version of the boot code.

Software Version	The run-time software version being used. Software can be updated to enhance functions or add new features.
MAC Address	The unique address that differentiates the 8275-324 from any other nodes on the network. The MAC address cannot be changed.
Serial Number	The serial number of the 8275-324.
System Description	A brief, predefined description of the 8275-324.
System Name	The assigned name of the 8275-324.
System Location	The physical location of the 8275-324. You can enter a building number or street address.
System Contact	The system administrator's name and other contact information.
System Object ID	The vendor identification of the network management subsystem contained in the 8275-324. This value provides an easy way of determining what kind of device is being managed.
System Up Time	The duration of time the 8275-324 has been running.
MIBs Supported	Lists the SNMP MIBs that are supported by the 8275-324.

Management Configuration

This selection is a folder that branches into the three sub-menus used for management configuration. Select Management Configuration to access the three sub-menus: Network Configuration, Trap Receiver Configuration and SNMP Community.

Network Configuration	Specifies the 8275-324's IP address, Subnet Mask and Default Gateway.
Trap Receiver Configuration	Assigns who will receive trap information.
SNMP Community Configuration	Configures unique community names, access rights and status.

Network Configuration

Selecting this option displays the Network Configuration Panel, shown in Figure 5-4. Use this panel to assign an IP address to the 8275-324. You must assign a unique IP address to manage the 8275-324 through the Web. You must assign different IP addresses for Ethernet and SLIP.

The Ethernet column on the panel relates to management over the LAN.
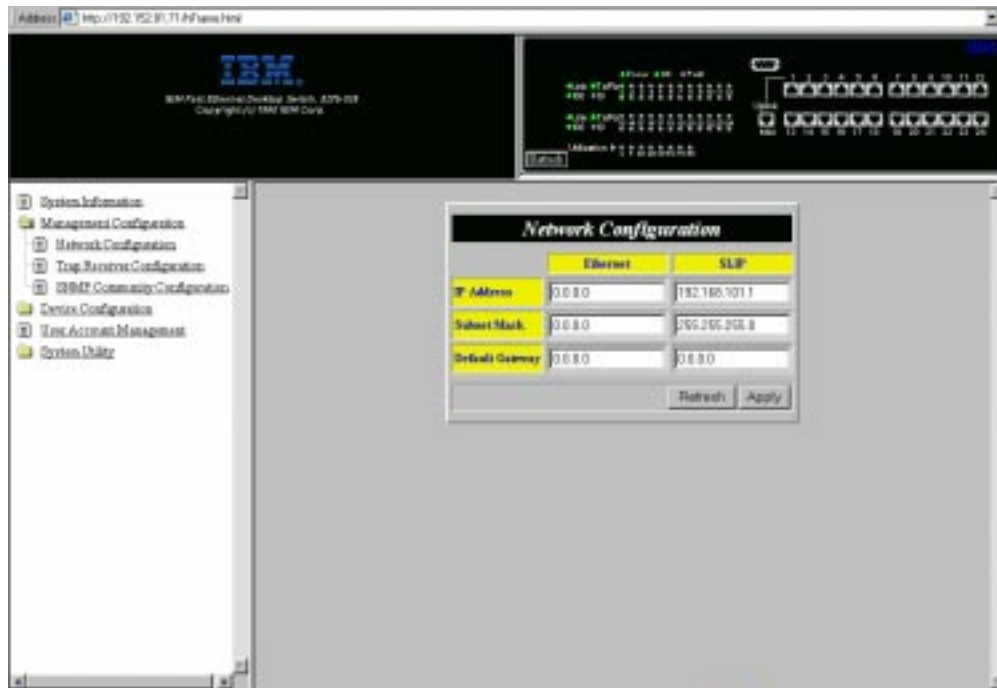
Figure 5-4.   Network Configuration Panel

Follow these steps to set the IP Address, Subnet Mask and Default Gateway:

Step 1.   Enter the IP address.

Step 2.   Enter the subnet mask.

Step 3.   Enter the default gateway.

Step 4.   Select **Apply**.

Note: You should reset the 8275-324 to implement the changes.

Ethernet	IP Address	The IP address of the 8275-324.
	Subnet Mask	Specify your LAN's subnet mask.
	Default Gateway	Specify a default gateway. This is necessary only if you are attempting to reach a node outside of your LAN's IP range.

SLIP	IP Address	You must use a separate IP address to create a SLIP connection.
	Subnet Mask	The Subnet Mask must match the IP address used in the Ethernet setting.
	Default Gateway	The Default Gateway is used to reach a node outside your LAN. This is usually the IP address of a router.

Trap Receiver Configuration

Traps are messages sent across a network to an SNMP Network Manager. These messages alert the manager to changes in the 8275-324.

Selecting this option displays the Trap Receiver Configuration Panel, shown in Figure 5-5. This menu allows you to set the IP Address and SNMP Community Name of the Trap Receivers.
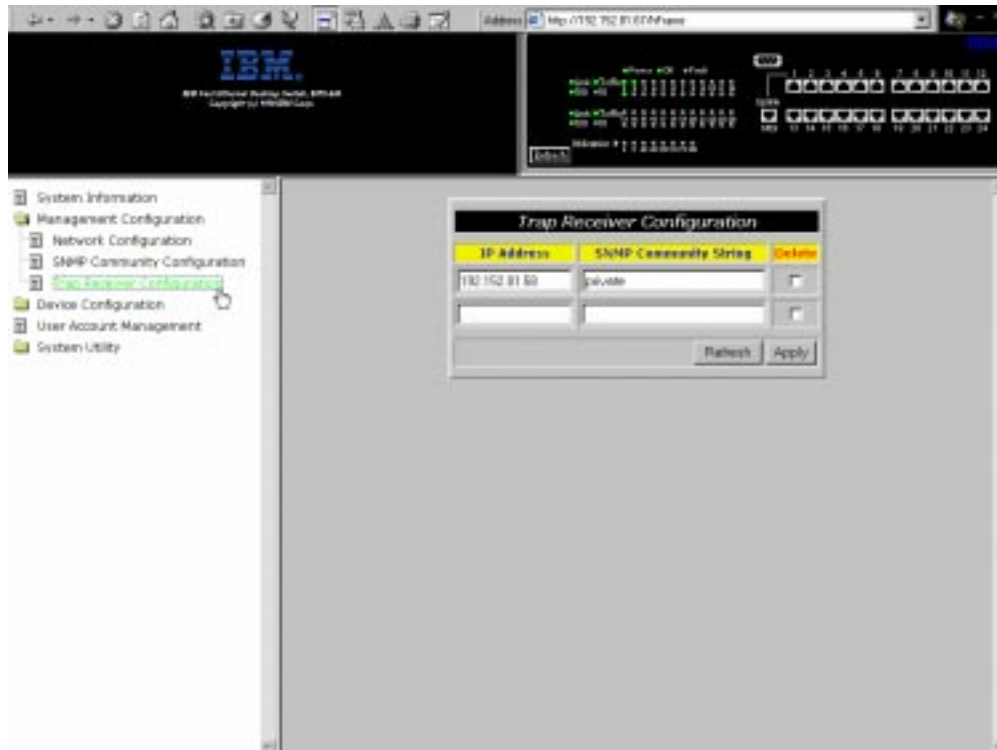
Figure 5-5.   Trap Receiver Configuration Panel

Trap Receiver Configuration

Follow these steps to configure the trap receiver:

Step 1.   Enter the IP address of the trap receiver.

Step 2.   Enter the SNMP community string of the trap receiver.

Step 3.   Select **Apply** to save and implement your changes.

Deleting the Trap Receiver Configuration

Follow these steps to delete a trap receiver configuration:

Step 1.   Select the Delete check box of the SNMP community string of the trap receiver.

Step 2.   Select **Apply** to save and implement your changes.

IP Address	The IP address of the remote network manager station to which traps should be sent.
SNMP Community String	The SNMP community string of the remote network manager. You can enter up to 32 characters in the field. Public and private are defaults and can be replaced with unique identifiers for each community.

Table 5-1.   Trap Conditions

Warm Boot	Indicates that a system reset has occurred.
Cold Boot	Indicates the 8275-324 has been powered up, completed its self-initialization phase, and is working correctly.
Authentication Failure	Indicates a failed access attempt.
IBM Proprietary Trap	This trap enables the SNMP application to auto-negotiate the 8275-324 on the network. It sends out a trap specifying its name and location.
Link Up	Indicates that the port is active.
Link Down	Indicates that the port is inactive.

SNMP Community Configuration

Selecting this option displays the SNMP Community Configuration Panel, shown in Figure 5-6. Use this panel to define community names and access rights. The 8275-324 supports up to four communities simultaneously. Members within a community have the same access rights.
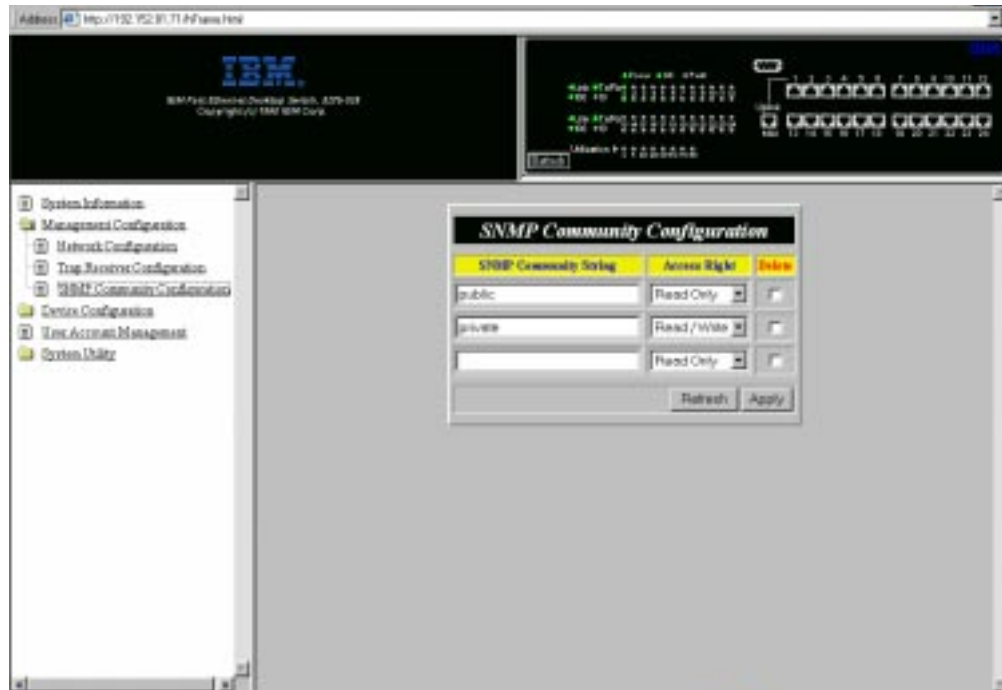
Figure 5-6.   SNMP Community Configuration Panel

Follow these steps to create or edit an SNMP Community String. You can enter up to 32 characters in each field.

Step 1.   Enter a community name.

Step 2.   Set the access right to **Read/Write** or **Read Only**.

Step 3.   Press **Enter**.

Step 4.   Repeat steps 1 to 3 to create up to four community names.

Step 5.   Select **Apply** to save and implement your changes.

SNMP Community Configuration String	Allows you to assign a name that identifies each SNMP community. A public community means users have read-only access. A private community is for users who have read/write access. Public and private are defaults and can be replaced with unique identifiers for each community.
Access Right	Users with read-only access can view information on the panel and gather SNMP statistics. Users with read/write access can view the panel settings, gather information and make changes.

Device Configuration

This selection is a folder that branches into the seven sub-menus used to access device configuration.

Switch Configuration	Changes switch modes and address aging.
Port Configuration	Configures individual ports.
Port Statistics	Displays the configuration statistics for each port.
Spanning Tree Configuration	Allows you to disable Spanning Tree Configuration. Spanning Tree is used to prevent Bridge Looping as specified in the IEEE 802.1d standard.
Serial Port Configuration	Changes the default settings of the serial port.
VLAN Port Management	Creates and configures port-based VLANs.
Trunking Port Management	Configures ports for trunking between switches.

Switch Configuration

Selecting this option displays the Switch Configuration Panel, shown in Figure 5-7. Use this panel to set the rate control, assign address aging and enable or disable RMON statistics.
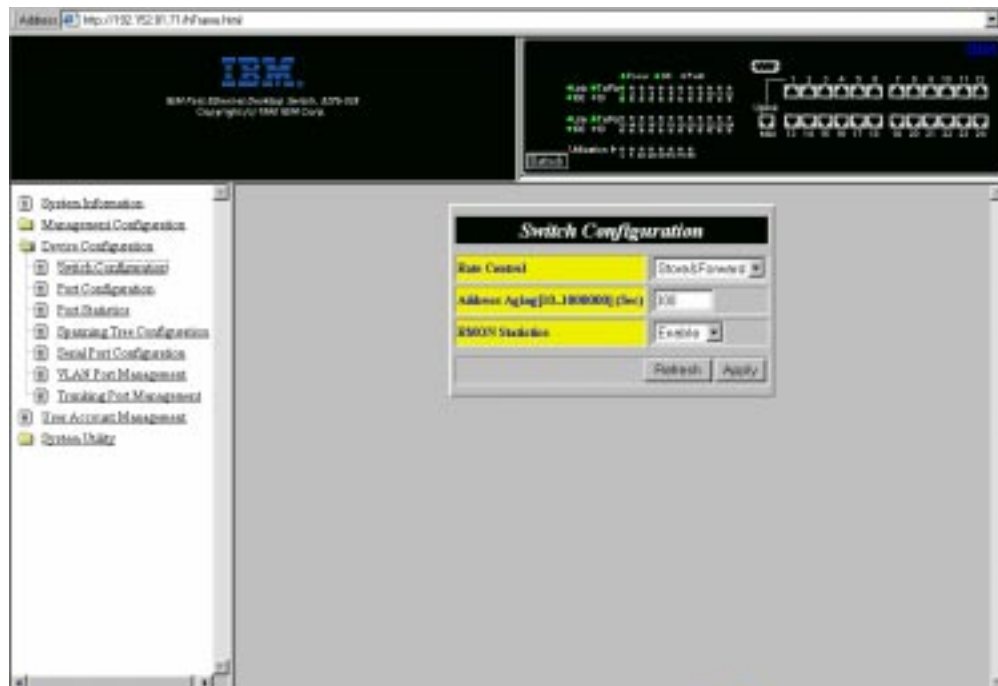
Figure 5-7.   Switch Configuration Panel

Follow these steps to set the Rate Control, Address Aging and RMON Statistics:

Step 1.   Set the rate control to **Store & Forward** or **Cut-Through**.

Step 2.   Enter a number to set the address aging.

Step 3.   Set the RMON statistics to **Enable** or **Disable**.

Step 4.   Select **Apply** to save and implement your changes.

Rate Control	You can set the 8275-324 for Store & Forward or Cut-Through and change the address aging to better meet the needs of your network. The default is Store & Forward.
	Note: The Store & Forward and Address Aging settings are global. They are set for the 8275-324 as a whole, not for individual ports.
	Store & Forward In Store & Forward mode, packets are stored until they are complete before being sent to their destinations. Runts and damaged packets are discarded.

Cut-Through	In Cut-Through mode, packets are sent as soon as the destination address is received. Cut-Through is faster than Store & Forward but it can perpetuate problems because runts and other bad packets are not filtered out. Do not use this mode unless you understand the effect it will have on the network.
Address Aging	Checks the status of each MAC address. It determines inclusion into the MAC address table. If the time interval for the MAC address expires, the MAC address is removed from the MAC address table. The aging can be set from 10 to 1 000 000 seconds. The default is 300 seconds.
RMON Statistics	RMON Statistics can be enabled or disabled.The default is enabled. When RMON is enabled, the you will be able to gather statistics from the statistics counter.

Port Configuration

Selecting this option displays the Port Configuration Panel, shown in Figure 5-8. This panel allows you to configure individual ports.
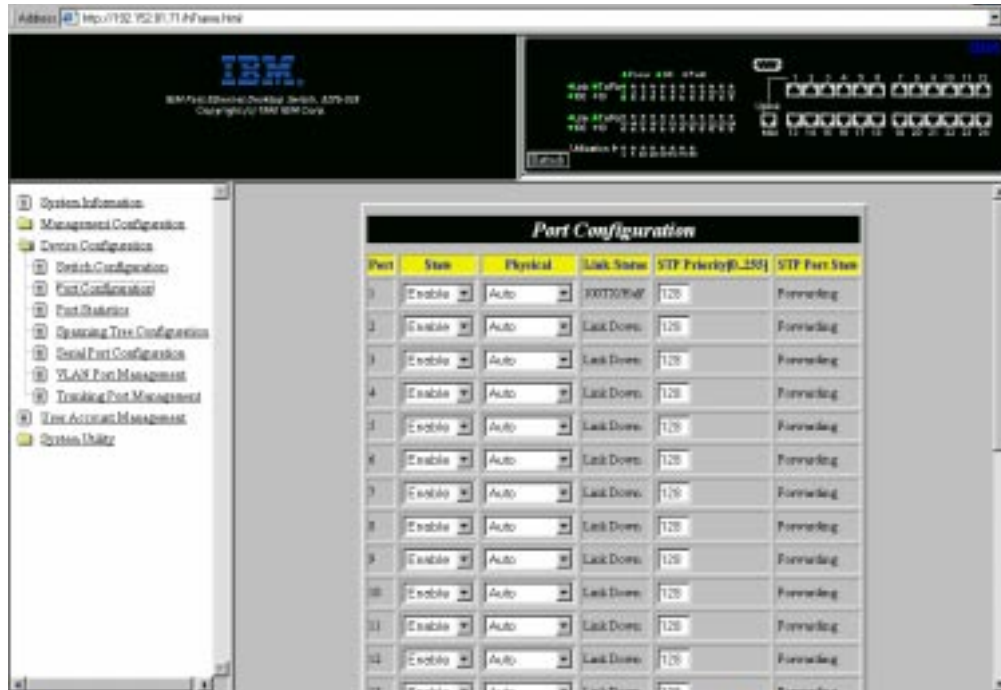
Figure 5-8.   Port Configuration Panel

Follow these steps to change the port settings:

Note: Use the scroll bar to view ports not on screen.

Step 1.   Set the port number's state to **Enable** or **Disable**.

Step 2.   Set the port number's physical setting.

Step 3.   Enter a number to set the STP priority.

Step 4.   Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Port   Indicates the number of the port you are configuring.

State   Indicates the state of the port. Each port can be enabled or disabled. An enabled port is active. A disabled port is partitioned and inactive, and cannot send or receive data. The default is Enable.

Physical	Indicates the speed and the duplex mode of the port. Auto means that the port will auto-negotiate the fastest compatible speed and duplex mode. The other settings are 100 Mbps Full-Duplex, 100 Mbps Half-Duplex, 10 Mbps Full-Duplex, 10 Mbps Half-Duplex. The default is Auto, indicating that the port will auto-negotiate the correct speed and duplex mode.
Link Status	Reports the speed and duplex mode of current active port.

	Link Down	Displays that the port connection is not active.
	10T/Half	Link is connected at 10T/Half duplex.
	10T/Full	Link is connected at 10T/Full duplex.
	100TX/Half	Link is connected at 100TX/Half duplex.
	100TX/Full	Link is connected at 100TX/Full duplex.

STP Priority	Spanning Tree Priority (STP) determines the likelihood of the 8275-324 becoming the root. The smaller the value, the higher the bridge priority. It can be set from 0 to 255. The default is 128.
STP Port State	The port can be in four states: forwarding, listening, learning and blocking:

	Forwarding	The packets can pass through a port.
	Listening	The port is available and waiting for packets.
	Learning	The port is learning the MAC address of the nodes available to it.
	Blocking	The port is blocking all traffic, no packets can pass through a port.

Port Statistics

Selecting this option displays the Port Statistics Panel, shown in Figure 5-9. This displays the configuration and statistical information about each port.
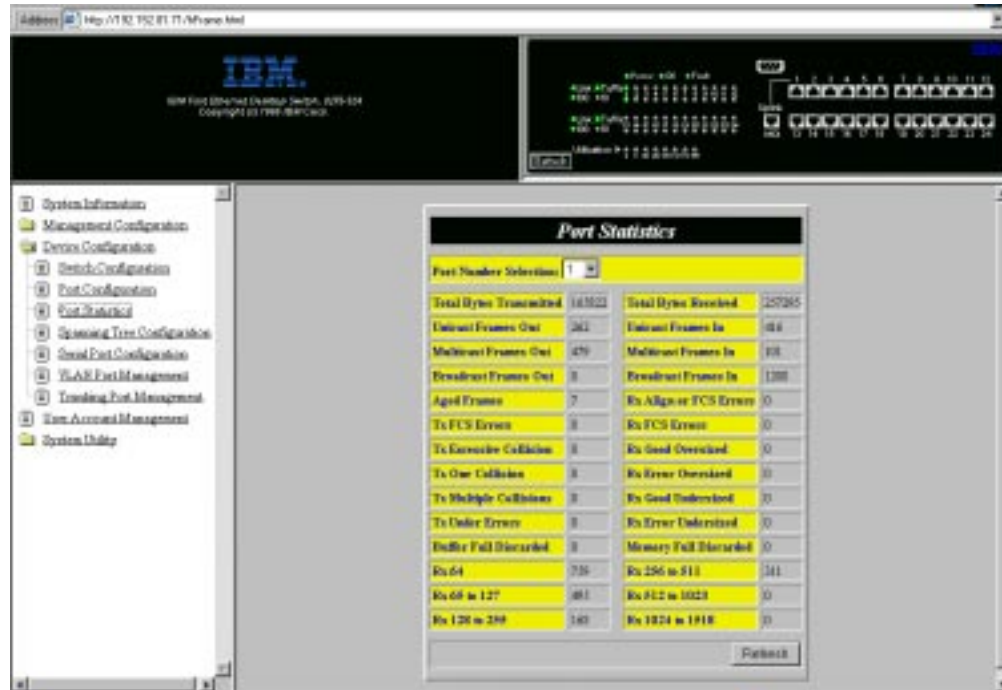
Figure 5-9.   Port Statistics Panel

To view statistics about a port, select the port number, then press **Enter**.

Total Bytes Transmitted	Total number of bytes transmitted to the port.
Unicast Frames Out	Number of unicast frames transmitted.
Multicast Frames Out	Number of multicast frames transmitted.
Broadcast Frames Out	Number of broadcast frames transmitted.
Aged Frames	Number of frames that were dropped because they were in transit too long.
Tx FCS Errors	Number of frames that were discarded on the transmit side because of FCS error.
Tx Excessive Collision	Number of frames that were dropped because of excessive collision.
Tx One Collision	Number of frames that were transmitted after one collision.

Tx Multiple Collisions	Number of frames that were transmitted after more than one collision.
Tx Run Errors	Number of frames that were discarded on the transmit side because of an underrun.
Total Bytes Received	Total number of bytes received on a port.
Disc Buff Full	Number of good frames that were discarded because the Rx Buffer was full.
Rx Align or Errors	Number of well-aligned frames that were received with FCS error.
Unicast Frames In	Number of unicast frames received.
Multicast Frames In	Number multicast frames received.
Broadcast Frames In	Number of broadcast frames received.
Rx Good Oversized	Number of good over-sized frames received.
Rx Error Oversized	Number of good over-sized frames with errors (FCS, Alignment).
Rx Good Undersized	Number of good under-sized frames received.
Rx Error Undersized	Number of under-sized frames received with errors.
Rx64	Number of frames (including frames with errors) that were 64 bytes long.
Rx65 to 127	Number of frames (including frames with errors) 65 to 127 bytes long.
Rx128 to 255	Number of frames (including frames with errors) 128 to 255 bytes long.
Rx256 to 511	Number of frames (including frames with errors) 256 to 511 bytes long.
Rx512 to 1023	Number of frames (including frames with errors) 512 to 1023 bytes long.
Rx 1024 to 1518	Number of frames (including frames with errors) 1024 to 1518 bytes long.
Disc Mem Full	Number of good frames that were discarded because the memory was full.

Spanning Tree Configuration

Selecting this option displays the Spanning Tree Configuration Panel, shown in Figure 5-10.

Figure 5-10. Spanning Tree Configuration Panel

Follow these steps to change the settings:

Step 1. Set the spanning tree algorithm to **Enable** or **Disable.**

Step 2. Enter a number to change the Bridge Priority.

Step 3. Enter a number to change the Hello Time.

Step 4. Enter a number to change the Forward Delay Time.

Step 5. Enter a number to change the Max Age Time.

Step 6. Select **Apply** to save and implement your changes.

Spanning Tree Algorithm	Discovers every node on the network and closes redundant paths to avoid loops. It enables one alternate path in the event that the main path fails. The default is Enable.
Bridge Priority	Determines which bridge on the network is considered first when the Spanning Tree Algorithm is being calculated. Bridge Priority can be set between 0 and 65535. Zero is the highest Bridge Priority. The default is 32768.

Root Cost   The Root Cost is calculated automatically. It is the shortest distance from any bridge to the Root Bridge interval for the unit announcing its presence on the network. The default is zero.

Hello Time   The interval time for the 8275-324 to announce its presence on the network. The interval can be set between 1 and 10 seconds. The default is 2 seconds.

Forward Delay Time   Specifies the time spent in listening and learning modes before forwarding packets. The value can be set between 4 and 30 seconds. The default is 15 seconds.

Max Age Time   Specifies the time spent in the listening and learning modes before the 8275-324 forwards packets. The value can be set between 6 and 40 seconds. The default is 20 seconds.

Root Bridge   Specifies the MAC address that is the Root Bridge on the network.

Root Port   Specifies the preferred path to the Root Bridge. Only one path per bridge can exist. The default is none.

Serial Port Configuration

Selecting this option displays the Serial Port Configuration Panel, shown in Figure 5-11.

The settings on this panel are only supported when the Operation Mode is set to Out-of-Band. The settings on this panel do not affect your ability to manage the 8275-324 through Local Console management.

This panel specifies the default operation mode for connecting to the 8275-324, as well as the settings for serial communications. The panel displays the default settings for Serial Port Configuration (also referred to as the EIA 232 Management Port).
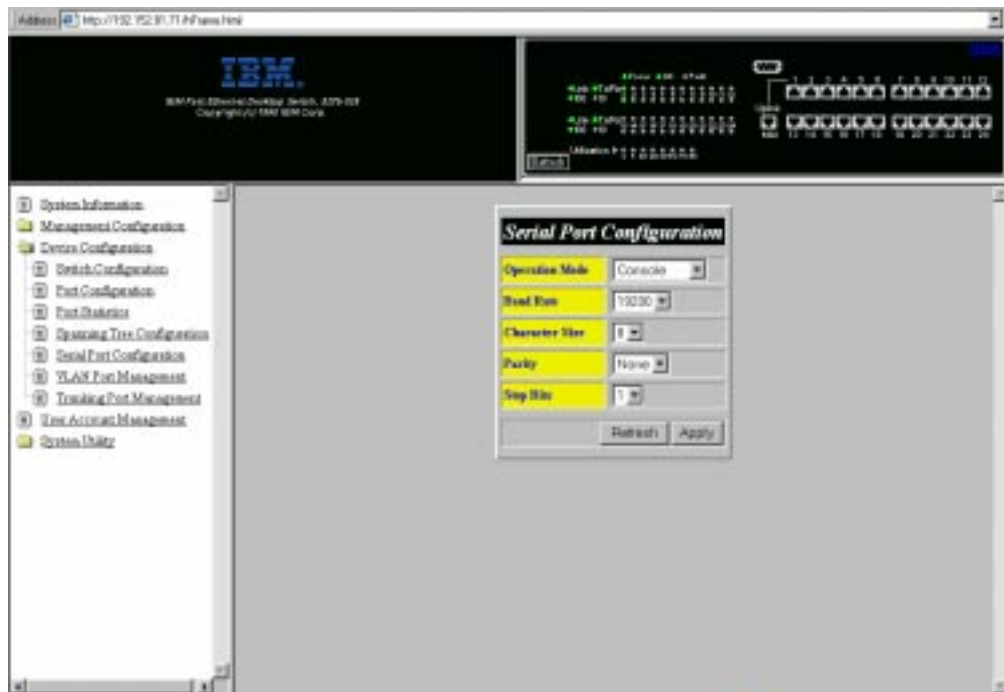
Figure 5-11. Serial Port Configuration Panel

The settings on this panel can be changed for VT100 communication. Follow these steps to change the settings:

Note: The settings on this panel are only available when the Operation Mode is set to Out-of-Band. They cannot be changed in Console mode. If you elect to change these settings, be sure you have assigned an IP address to the 8275-324 as discussed in "Network Configuration" on page 5-6.

Step 1.   Set the operation mode to **Out-of-Band**.

Step 2.   Select the settings for Baud Rate, Character Size, Parity and Stop Bits.

Step 3.   Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Operation Mode   The console connects the switch to a workstation through a null modem cable by running terminal emulation. Communications parameters are fixed. The default is Console mode.

Out-of-Band mode is used when the 8275-324 is managed through the serial port.

Note: You should select Out-of-Band mode only after you have assigned an IP address to the switch.

Baud Rate   Specifies the communications rate of the modem. This setting can only be changed when you are in Out-of-Band mode. The default is 19200.

The following settings are available:

- 57600
- 38400
- 19200
- 9600
- 4800

Character Size   Character size can be either 7 or 8 data bits. The default is 8 data bits.

Parity   Parity can be set to:

- none
- even
- odd

The default is none.

Stop Bits   You can set the stop bits for either 1 or 2. The default is 1.

VLAN Port Management

Selecting this option displays the VLAN Port Management Panel, shown in Figure 5-12. This panel allows you to configure VLANs. A VLAN reduces traffic by defining which ports belong to which networked groups. The 8275-324 can be configured to define groups of people and keep their traffic local to their group.

Ports can belong to more than one VLAN simultaneously. The 8275-324 supports up to eight VLANs. See Appendix A, "Introduction to Virtual LANs (VLANs) and Spanning Tree Protocol (STP)" for more information about VLANs. The default is one VLAN covering all 24 ports.

VLANs are optional. You can use them to reduce congestion on high traffic networks. If you elect to create VLANs, record the groups you create for future reference.

VLANs and Trunked ports can be used independently of each other. However, if a port is part of both a port trunking group and a VLAN, then all the ports in the trunking group must be part of that VLAN.

Figure 5-12. VLAN Port Management Panel

Create VLANs

Follow these steps to create VLANs:

Step 1.   Enter a name for the VLAN.

Step 2.   Select the check boxes below the port numbers you want in the VLAN. Scroll to view ports that are not on the screen.

Step 3.   Press **Enter**.

Step 4. Repeat steps 1 to 3 to create up to eight VLANs.

Step 5. Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Create VLANs with Overlapping Ports

Follow these steps to create a VLAN with overlapping ports:

Step 1. Create a VLAN. See "Create VLANs" on page 5-22.

Step 2. Select the check boxes below the port numbers you want in the VLAN.

Step 3. Select the ports you want to include from a previously created VLAN.

Step 4. Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Both VLANs are now in the same collision domain.

Delete VLAN

Follow these steps to delete a VLAN:

Step 1. Scroll to view the delete check box of the VLAN.

Step 2. Select the delete check box.

Step 3. Select **Apply.**

Note: You must reset the 8275-324 to implement the changes.

Modify VLAN

Follow these steps to modify a VLAN:

Step 1. Select or clear the port number check boxes for the VLAN(s).

Step 2. Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

VLAN Name	Displays the name of the VLANs you create. You can enter up to eight characters.
Port Number	Identifies the numbers of the ports assigned to a specific VLANs. Port Number corresponds to the port number on the front console of the 8275-324.

TrunkGroup   Identifies the name of the trunk group to which the port belongs. See the section on "Trunking Port Management" for more information.

A port's status can be available or selected. If the port check box is selected the port is part of a VLAN. An empty port check box indicates that is available for inclusion in a VLAN.

Note: Port pairs that must belong to the same VLAN are 1/3, 2/4, 9/11, 10/12, 13/15, 14/16, 21/23, 22/24. For example, if you select ports 1 and 3 for inclusion in a VLAN, then they must be in the same VLAN.

Trunking Port Management

Selecting this option displays the Trunking Port Management Panel, shown in Figure 5-13. Use this panel to Create/View Trunking Groups, Delete Trunking Groups, and Modify Trunking Groups.

A trunking port combines two or more ports for cascading (connecting) switches. Each port has a maximum of 200 Mbps at Full Duplex (100 Mbps transmitting and 100 Mbps receiving). By grouping a maximum of eight ports into a trunk you can get an effective data exchange rate of 1.6 Gbps (8 x 200 Mbps) through the trunk.

If you are using a VLAN, then all the ports selected for a trunk group must belong to the same VLAN. If you are not using VLAN this restriction does not apply.
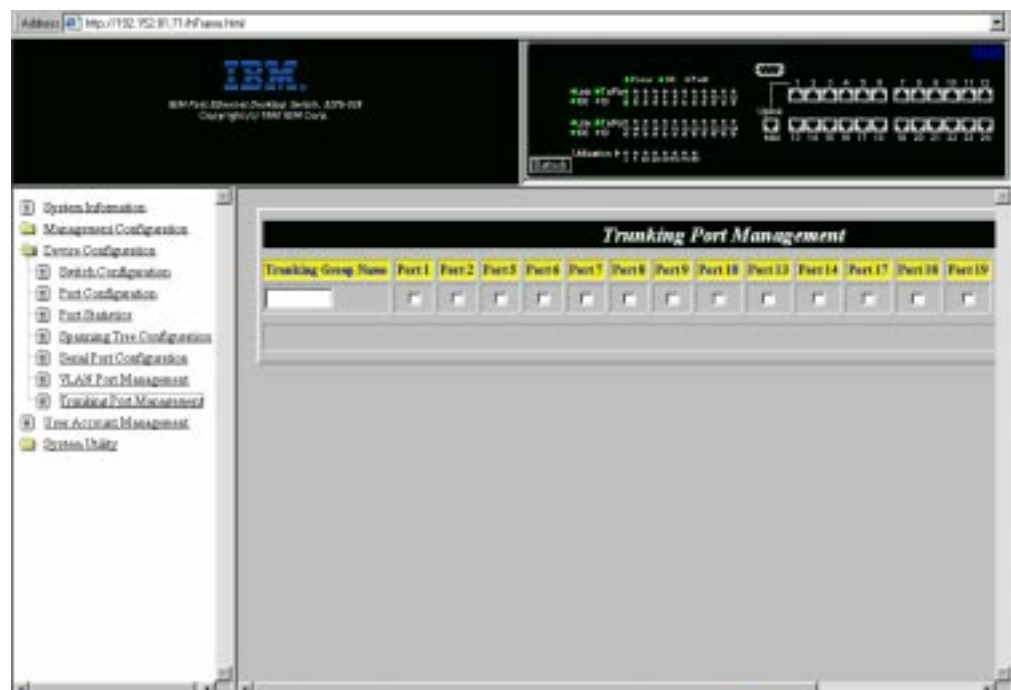
Figure 5-13. Trunking Port Management Panel

Create Trunking Groups

Follow these steps to create a trunking group:

Step 1.   Enter a name for the trunking group.

Step 2.   Select the check boxes of the ports you want to include.

Step 3.   Select **Apply**.

Step 4.   Repeat steps 1 to 3 to create up to eight trunking groups.

Note: You must reset the 8275-324 to implement the changes.

Delete Trunking Groups

Follow these steps to delete a trunking group:

Step 1. Scroll to view the delete check box of the trunking group.

Step 2. Select the delete check box.

Step 3. Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Modify Trunking Groups

Follow these steps to modify trunking groups:

Step 1. Select or clear the port number check boxes for the trunking group you want to modify.

Step 2. Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Trunking Group Name	Displays the names of the trunking groups. You can enter up to eight characters. The 8275-324 supports up to eight trunking groups.
Port #	Indicates the port number on the console of the 8275-324. Ports can belong to only one trunking group at a time. Up to eight ports can belong to a trunking group.
	Ports 1, 2, 5, 6, 7, 8, 9, 10, 13, 14, 17, 18, 19, 20, 21, and 22 are available for port trunking.
	Ports 3, 4, 11, 12, 15, 16, 23, and 24 are not available for port trunking. Unavailable ports do not appear on the panel.

User Account Management

Selecting this option displays the User Account Management Panel, shown in Figure 5-14. Use this panel to add and delete users, and to change passwords. The 8275-324 supports up to three user names.

The 8275-324 supports two levels of users: Read/Write users and Read Only users.

Read/Write   Users have the full range of switch options. They can change the status of other users, add and delete users, and change passwords.

Read Only   Users have read only access to most information and panels. The network administrator can select the user's status.
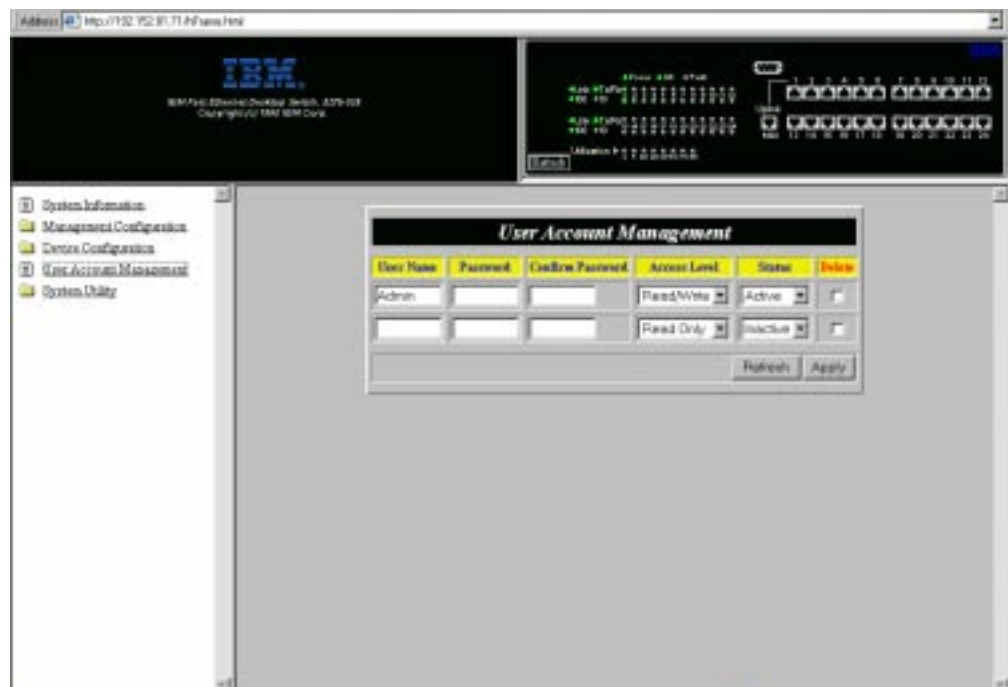
Figure 5-14. User Account Management Panel

Create New Users

Follow these steps to create new users:

Step 1.   Enter a user name.

Step 2.   Enter a password.

Step 3.   Enter the password again to confirm.

Step 4.   Set the access level to **Read/Write** or **Read Only**.

Step 5.   Set the status to **Active** or **Inactive**.

Step 6. Select **Apply** to save and implement your changes.

Step 7. Repeat steps 1 to 6 to configure up to three users.

Delete Users

Follow these steps to delete a user:

Step 1. Select the delete check box for the user name you want to delete.

Step 2. Select **Apply** to save and implement your changes.

Change Passwords

Follow these steps to change passwords:

Step 1. Enter a new password to replace the user's old password.

Step 2. Enter the password again to confirm.

Step 3. Select **Apply** to save and implement your changes.

User Name	Displays the name of the user. User names are not case sensitive.
Password	Displays the password of the user. You can enter up to eight characters. Passwords are not case sensitive.
Confirm Password	Requires you to reenter the password for confirmation.
Access Level	Displays the access level of the user, either Read/Write or Read Only.
Status	Displays the status of the users. Active users have access to the 8275-324. Inactive users cannot access the 8275-324.
Delete	This check box is used to delete users.

System Utility

Selecting this option allows you to access the System Utility sub-menus. Use the sub-menus to update the run-time software and the boot code. You can also perform a warm boot to the 8275-324 and restore the default factory settings.

Download Code to Switch
Updates the switch code on the 8275-324 from a binary file.

Download Configuration Data to Switch
Sets the path of the server to restore configuration data from a saved file.

Upload Configuration Data from Switch
Saves the 8275-324's configuration data to a file on a diskette or hard disk.

System Reset
Resets the system. Use this after you have reconfigured the 8275-324.

Factory Reset to Default Config Values
Restores the factory default settings.

BootP/TFTP Server Configuration
Configures how the 8275-324's boot code is updated.

Login Timeout Interval
Sets the amount of time that the 8275-324 waits before logging users out of a Telnet session.

Download Code to Switch

Selecting this option displays the Download Code to Switch Panel, shown in Figure 5-15. Use this panel to update the 8275-324's boot program and run-time program.
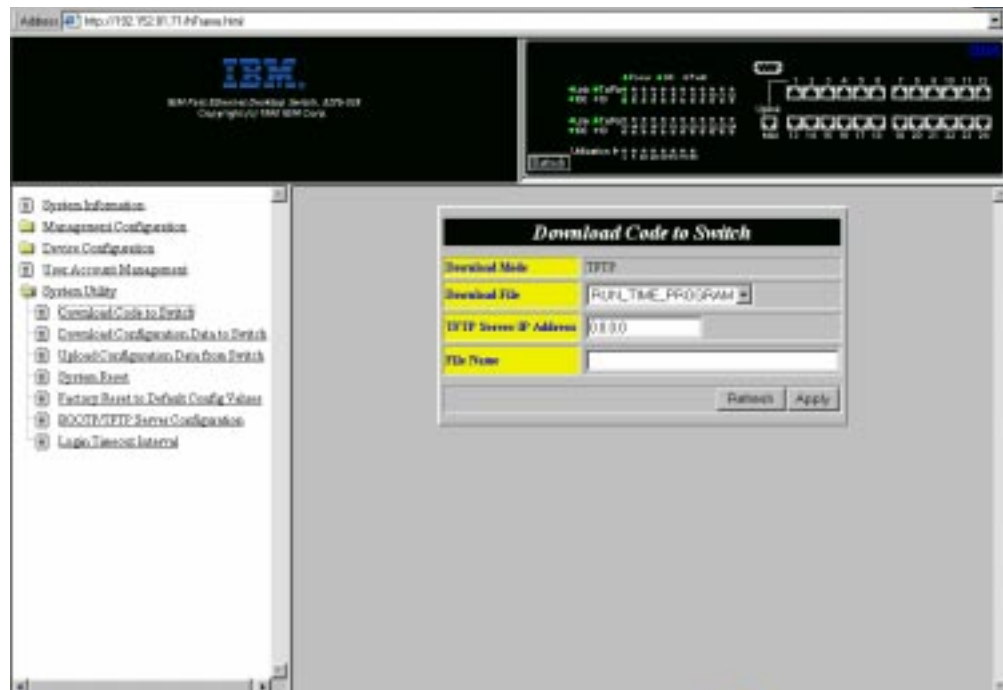
Figure 5-15. Download Code to Switch Panel

Follow these steps to update the 8275-324 run-time program or boot program:

Note: Do not power-off the 8275-324 at any time while downloading or uploading information.

Step 1. Set Download File to **BOOT_PROGRAM** or **RUN_TIME_PROGRAM**.

Step 2. Enter the IP address of the server the file will be downloaded from.

Step 3. Enter the \path\filename of the file to be downloaded.

Step 4. Select **Apply**.

Step 5. Select **Apply** again to confirm, as shown in Figure 5-16, and press **Enter** to begin the download.

Note: You must reset the 8275-324 to implement the changes to the code.
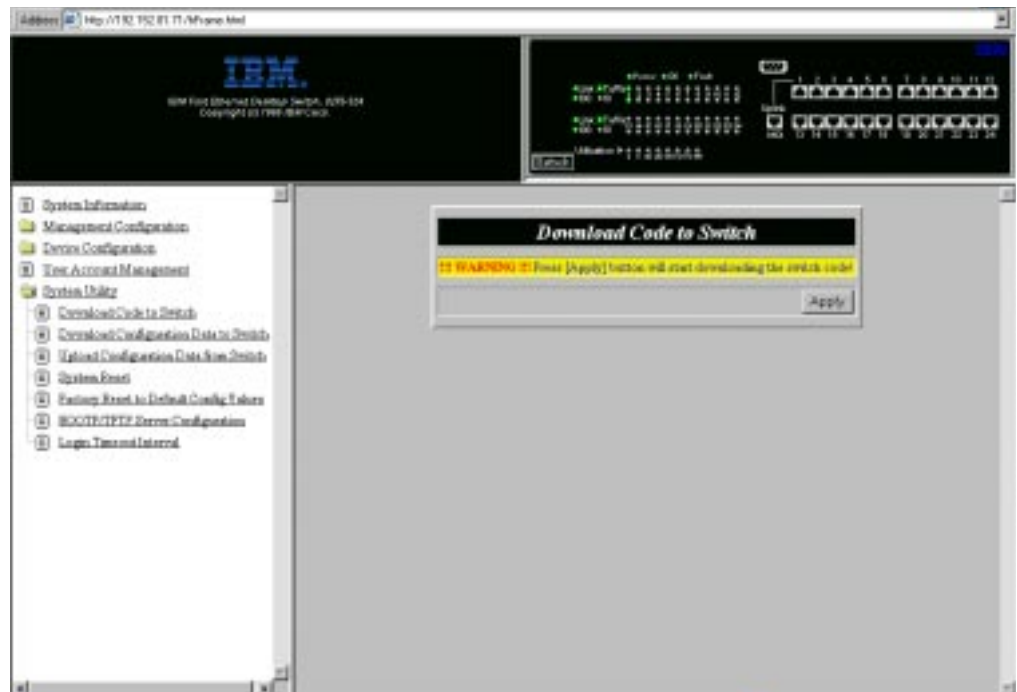
Figure 5-16. Download Code to Switch Confirmation Panel.

Download Mode   Switch Code can be downloaded in two modes: TFTP or
                           Xmodem. The 8275-324 automatically assigns the
                           download mode that corresponds with the management
                           method you are using. TFTP is used when downloading
                           switch code when you use Telnet management. Either
                           TFTP or Xmodem is used when you are downloading in
                           Local Console mode.

Download File   You can download either the boot program or the run-time
                           program.

TFTP Server   Identifies the IP address of the server the new file will be
IP Address   downloaded from.

File Name   Identifies the file that will be downloaded.

Download Configuration Data to Switch

Selecting this options displays the Download Configuration Data to Switch Panel, shown in Figure 5-17. Use this panel to specify whether the 8275-324 obtains configuration data through the Management Port or from a workstation.
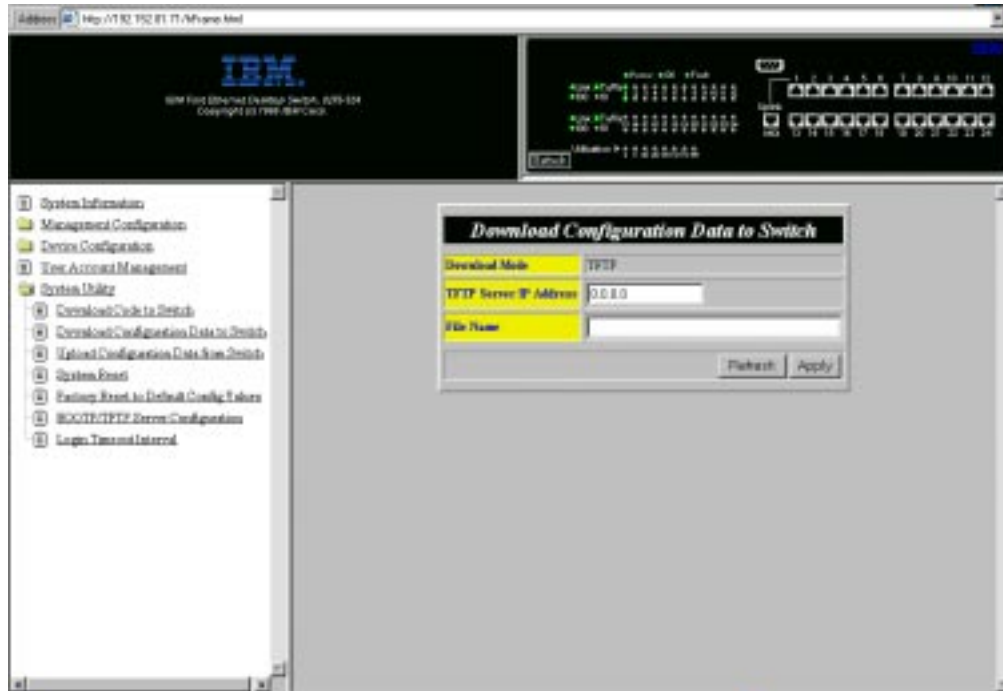
Figure 5-17. Download Configuration Data to Switch Panel

Follow these steps to download the 8275-324's Configuration Data to Switch:

Step 1.   Enter the IP address of the server the file will be downloaded from.

Step 2.   Enter the \path\filename of the file to be downloaded.

Step 3.   Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Download Mode	Indicates the download method used by the 8275-324. Xmodem is the default when the 8275-324 is receiving data over a null modem cable. TFTP is the default when the 8275-324 is receiving data from the network.
TFTP Server IP Address	Specifies the IP address of the TFTP server from which you want to download the configuration data.
File Name	The \path\filename that the 8275-324 will use to download.

Upload Configuration Data from Switch

Selecting this option displays the Upload Configuration Data from Switch Panel, shown in Figure 5-18. Use this panel to specify whether the 8275-324 saves configuration data over the EIA 232 port or to a workstation.

Xmodem   Refers to sending configuration data over the Management Port.

TFTP   Refers to sending configuration data to a workstation.

Figure 5-18. Upload Configuration Data from Switch Panel

Follow these steps to upload configuration data from the 8275-324:

Step 1.   Enter the IP address of the server the file will be uploaded from.

Step 2.   Enter the *\path\filename* of the file to be uploaded.

Step 3.   Select **Apply**.

Figure 5-19. Upload Configuration Data from Switch Confirmation Panel

Step 4.   Select **Apply** again to confirm upload as shown in Figure 5-19.

Note: You must reset the 8275-324 to implement the changes.

Upload Mode	Displays the upload method used by the 8275-324. Xmodem is the default when the 8275-324 is receiving data over a null modem cable. TFTP is the default when the 8275-324 is receiving data from the network.
TFTP Server IP Address	The IP address of the server the configuration data will be uploaded to.
File Name	Specifies the *path**filename* for the configuration data.

System Reset

Selecting this option displays the System Reset Panel, shown in Figure 5-20. Use this option to reset the 8275-324 without powering off. It will take approximately 10 seconds for the 8275-324 to reset.
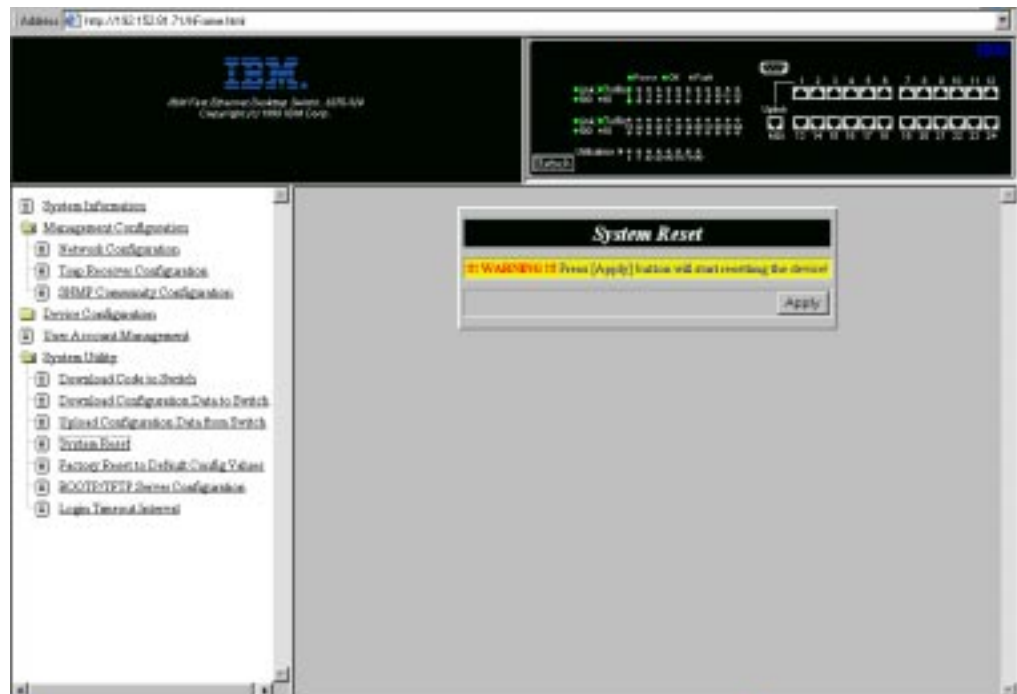
Figure 5-20. System Reset Panel

Follow these steps to reset (warm boot) the 8275-324:

Step 1. Select **Apply**.

Step 2. Select **Apply** again when the warning panel displays, as shown in Figure 5-20.

Factory Reset to Default Config Values

Selecting this option displays the Factory Reset to Default Config Values Panel, shown in Figure 5-21. Use this panel to reset the 8275-324 to factory default values. This should only be done as a last resort, because all current settings and configurations will be lost, including the IP address.

Figure 5-21. Factory Reset to Default Config Values Panel

Follow these steps to reset to factory default configuration values:

Note: You should upload configuration data prior to doing a factory reset.

Step 1. Select **Apply**

Step 2. Press **Enter**.

> **Note:** A warning displays to confirm that you want to reset to factory default values.

Step 3. Select **Apply** again to confirm.

BootP/TFTP Server Configuration

Selecting this option displays the BootP/TFTP Server Configuration Panel, shown in Figure 5-22. Use this panel to determine whether the 8275-324 updates switch code and what method is used.
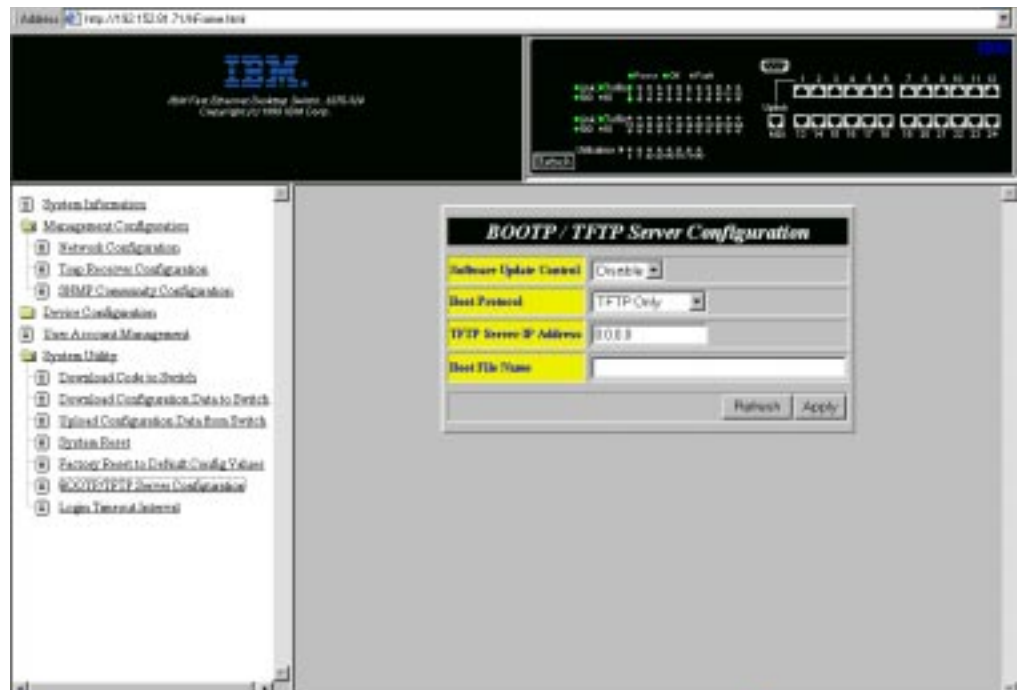
Figure 5-22. BootP/TFTP Server Configuration Panel

Set Update Switch Code to BootP&TFTP

Follow these steps to set the update switch code to BootP&TFTP:

Step 1. Set the software update control to **Enable**.

Step 2. Set the boot protocol to **BOOTP&TFTP**.

Step 3. Enter an IP address and a boot file name (not necessary with BootP&TFTP protocol).

Step 4. Select **Apply** to save and implement your changes.

Set Update Switch Code to TFTP Only

Follow these steps to set the update switch code to TFTP Only:

Step 1. Set the software update control to **Enable**.

Step 2. Set the boot protocol to **TFTP Only**.

Step 3. Enter an IP address.

Step 4. Enter a boot file name.

Step 5. Select **Apply** to save and implement your changes.

Software Update Control	Sets the update status of the run-time program. It can be enabled or disabled. The default is disable. If Software Update Control is set to enable, the software is updated after every reset.
Boot Protocol	Choose between: BOOTP&TFTP or TFTP Only. You can use either option to update the run-time program.
TFTP Boot Server IP Address	The server's IP address you will be updating the run-time code from. If you have a BootP server then no file name or IP address is necessary. If you have a BootP and TFTP server then you can enter an IP address and filename.
Boot File Name	The *path\filename* used to update the run-time program. This information is not required when using the BootP/TFTP protocol.

Login Timeout Interval

Selecting this option displays the Login Timeout Interval Panel, shown in Figure 5-23.

Figure 5-23. Login Timeout Interval Panel

Follow these steps to set the Login Timeout Interval:

Step 1. Enter a number to change the timeout interval.

Step 2. Select **Apply**.

Note: You must reset the 8275-324 to implement the changes.

Login Timeout Interval	Displays the amount of time that the 8275-324 waits before logging you out of a Telnet session. You can set the timeout interval to between 0 and 100 minutes. Setting it to zero means there is no timeout. The default is 5 minutes.

Chapter 6. Troubleshooting and Service

This chapter is intended to help you troubleshoot problems with the 8275-324 and its connections to other devices.

Be sure to read "Safety Information" on page xiv before proceeding.

Diagnosing Problems

The following sections have lists of symptoms and actions to assist in problem resolution prior to contacting IBM Support.

Power-On Self-Test Failures

Every time the 8275-324 is powered-on it performs a power-on self-test (POST). If the 8275-324 is connected to a PC with a null modem cable and terminal emulation is running then results of the POST are displayed on the console.

If any component fails during POST an error displays on the console. At that point, you have the option to continue or abort the POST. Results from the POST also display on the LED panel as shown in Figure 6-1 on page 6-2.

If the LED panel fails during POST, the result will be displayed on the console but not on the LED panel. The console displays error messages with more detail.

If the COM port does not pass the Serial Communications Controller Test, no results will be shown on the console screen.

If the 8275-324 fails during the POST, an error code is displayed in the eight utilization LEDs as shown in Figure 6-1.

System Status Error LED Indicators								Error Status
On ● Off ○								
1	5	10	20	30	50	70	90+	
○	○	●	○	○	○	○	●	Boot Program Flash Damaged
○	○	●	○	○	○	●	○	Run-Time Program Flash Damaged
○	○	●	○	○	○	●	●	CPU Memory Failure
○	○	●	○	○	●	○	○	Peripheral Controller Failure
○	○	●	○	○	●	○	●	COM Port Failure
○	●	○	○	○	○	○	●	NPB Failure
○	●	○	○	○	○	●	○	PSP Memory Failure
○	●	○	○	○	○	●	●	PSP Failure
○	●	○	○	○	●	○	○	FEIU Failure
○	●	○	○	○	●	○	●	PHY Failure
○	●	○	○	○	●	●	○	ARL Failure
○	●	○	○	○	●	●	●	ARL Memory Failure

Figure 6-1. LED Error Chart

POST Error Display

The scrolling text, shown in Figure 6-2 appears on the console when the POST is running. Figure 6-2 is only an example.

```
OK
  0x10000  -- 0xfffff  ... OK
  0x100000 -- 0x140000 ... OK
  0x140000 -- 0x180000 ... OK
  0x180000 -- 0x1c0000 ... OK
  0x1c0000 -- 0x1fffff ... OK
 * PSP initial ...................... OK
 * Fast Ethernet Interface Unit detect.
  PSP 0 :FEIU 0 test .............. OK   REV=9 DeviceNo=1 PSPNo=0 Type=1
        :FEIU 1 test .............. OK   REV=9 DeviceNo=3 PSPNo=0 Type=1
  PSP 1 :FEIU 0 test .............. OK   REV=9 DeviceNo=1 PSPNo=1 Type=1
  PSP 2 :FEIU 0 test .............. OK   REV=9 DeviceNo=1 PSPNo=2 Type=1
  PSP 3 :FEIU 0 test .............. OK   REV=9 DeviceNo=1 PSPNo=3 Type=1
         FEIU 1 test .............. OK   REV=9 DeviceNo=3 PSPNo=3 Type=1

 * PHY Register test ................. OK
 * FEIU initialize  ................. OK
 * ARL number detect ................
       PSP 0 .......... Found   Rev= 7  DeviceType = 4
       PSP 1 .......... Found   Rev= 7  DeviceType = 4
       PSP 2 .......... Found   Rev= 7  DeviceType = 4
       PSP 3 .......... Found   Rev= 7  DeviceType = 4

 * Module type : 486CPU 24Ports
 * Total port number : 0x18
 * Total PSP number  : 0x4
 * Total FEIU number : 0x6
 * Total ARL number  : 0x4
 * Total PSP memory size: 0x2
 *************************************

 * ARL memory read/write test .........
   ARL 0 mem read/write test     0x0 -- 0x8000 ....OK
   ARL 0 mem read/write test 0x80000 -- 0x801ff....OK
   ARL 0 mem read/write test 0x80200 -- 0x88000....OK
   ARL 1 mem read/write test     0x0 -- 0x8000 ....OK
   ARL 1 mem read/write test 0x80000 -- 0x801ff....OK
   ARL 1 mem read/write test 0x80200 -- 0x88000....OK
   ARL 2 mem read/write test     0x0 -- 0x8000 ....OK
   ARL 2 mem read/write test 0x80000 -- 0x801ff....OK
   ARL 2 mem read/write test 0x80200 -- 0x88000....OK
   ARL 3 mem read/write test     0x0 -- 0x8000 ....OK
   ARL 3 mem read/write test 0x80000 -- 0x801ff....OK
   ARL 3 mem read/write test 0x80200 -- 0x88000....OK

 * ARL initial ......................... OK
```

Figure 6-2.   POST

Symptom	Action
Power LED does not light	Check the power cable to ensure that it is firmly connected to both the 8275-324 and the power outlet.
	Verify there is power at the power outlet.
Fault LED is on or OK LED is Off	Connect the 8275-324 and a PC so that you can observe the POST and then reboot. See Chapter 4, "Console Based Management," for information on Terminal Emulation. If any part of the POST fails or the problem continues, contact IBM Support.

EIA 232 Port

Symptom	Action
Menu panels incorrectly displayed	Check that the EIA 232 Port passed the POST.
	Check that the terminal emulator is correctly configured: 19 200 bps, 8 data bits, 1 stop bit, no parity, no flow control, and VT100 emulation.
Login menu does not display	Check that the terminal emulator is correctly configured: 19 200 bps, 8 data bits, 1 stop bit, no parity, no flow control, and VT100 emulation.
	Verify that the 8275-324 is in Local Console mode.
	Perform the command line "wake up" procedure by pressing **Enter** two or three times or press **Cntrl-r** to refresh the screen.
	Verify that you are using a null-modem cable or a serial cable with a null-modem adapter.

Telnet Session

Symptom	Action
Cannot Telnet into the 8275-324	Check to make sure the IP Address, subnet mask and default gateway are configured correctly. Ensure that you have entered the IP address correctly. Ensure that you are not attempting more than one telnet session at a time.

Password

Symptom	Action
User has lost password	Contact a user who has read/write access to reset the password. If this fails, contact IBM Support.

Web-Based Management through a Modem

Symptom	Action
Unable to make a dial-up connection	Check to make sure that the modem is configured correctly. The baud rate must be the same for both the modem and the EIA 232 port. Check to make sure the IP address, Subnet and Default Gateway are correct.

Web Browser

Symptom	Action
Web browser cannot access the 8275-324	Check that the 8275-324's IP address, Subnet Mask, and Default Gateway are correctly configured.
	Ensure that you entered the IP address of the 8275-324 correctly on your web browser.
	If you are using Microsoft Internet Explorer, see "Help for Using Internet Explorer."

Help for Using Internet Explorer

In Microsoft Internet Explorer, using an IP address instead of a host name can cause problems related to Java classes. You can use either of the following methods to enable the Java communication in the 8275-324's panel.

Method One:

Step 1. Construct a host entry in the host table of your local machine. Place the host table in file in WINDOWS\hosts.

For example, if the IP address of the 8275-324 is 255.67.16.98 and you select a unique host name, "switch8275," then you can edit the file as follows:

- 127.0.0.1 localhost
- 255.67.16.98 switch8275

Step 2. Type switch8275 in the URL text field of IE 3.0 or IE 4.0 to get the HTML document and download the Java class.

Method Two:

Create the host entry in the host table of the one Domain Name Server and set up the Domain Name Server of your local machine.

Note: Method one is the recommended method.

Obtaining Software

You can obtain the latest level of code, MIBs, tips, and publications about the 8275-324 through the Internet.

```
http://www.networking.ibm.com/support
```

Step 1. Access the IBM Networking Technical Support over the web:

You can access product announcements, publications, technical tips, and code downloads. You can also subscribe to receive e-mail notifications of code updates, tips, and FAQs for the 8275-324.

Step 2. FTP Site:

```
ftp.networking.ibm.com/pub/products/lanprods/switch
```

A. Access the IBM Networking Environment anonymous FTP site:

```
ftp.networking.ibm.com/pub/products/lanprods/switch
```

B. Login as anonymous.

C. Enter you entire e-mail address as your password.

D. Locate and download the file 8275Vxxx.EXE. This file includes Boot ROM, Web Pages Database information, system software code, and readme file. In this file name, xxx is the version number.

Obtaining Service

If you need assistance in troubleshooting or if you need service for your 8275-324, call IBM at **1-800-772-2227** in the United States and **1-800-426-7378 (1-800-IBM-SERV)** in Canada. See "Warranty Service" on page B-3 for information concerning service for the product.

Appendix A. Introduction to Virtual LANs (VLANs) and Spanning Tree Protocol (STP)

Virtual LANs

The purpose of a VLAN is to increase the efficiency of your network by subdividing it. The following sections explain how VLANs work and how they can be implemented.

What are VLANs?

A VLAN is defined as a group of location and topology-independent devices that communicate as if they were on the same physical LAN. This means that LAN segments are not restricted by the hardware that physically connects them; the segments are defined by flexible user groups that you create using software.

With VLANs, you can define your network according to:

- Departmental groups—for example, you can have one VLAN for the Marketing department, another for the Finance department, and another for the Development department.

- Hierarchical groups—for example, you can have one VLAN for directors, another for managers, and another for general staff.

- Usage groups—for example, you can have one VLAN for users of e-mail and another VLAN for users of multimedia.

Benefits of VLANs

Implementing VLANs has the following three main advantages:

- It eases the change and movement of devices on IP networks.
- It helps to control broadcast traffic.
- It provides security.

How VLANs Ease Change and Movement

In traditional IP networks, network administrators spend much of their time dealing with moves and changes. If you move to a different IP subnet, the IP addresses of each device must be updated manually.

Using a VLAN setup, if a device in VLAN 1 is moved to a port in another part of the network, you only need to specify that the new port is in VLAN 1.

How VLANs Control Broadcast Traffic

In traditional networks, congestion can be caused by broadcast traffic that is directed to all network devices whether they require it or not. VLANs increase the efficiency of your network because each VLAN can be set up to contain only those devices that need to communicate with each other.

How VLANs Provide Security

When using VLANs with the 8275-324, packets received on a port configured in a given VLAN will normally only be sent to other ports within that VLAN. This prevents traffic within a VLAN workgroup from being seen by other VLAN workgroups. An exception to this is if the MAC address that a packet is sent to has been learned by a port on another VLAN (for example, a PC was attached to a port in one VLAN and then moved to a port in another VLAN). In this case, the packets will also be forwarded to the port in the other VLAN that has learned the MAC address. However, in normal operation, the MAC addresses are learned only by ports within a given VLAN and the traffic stays local to that VLAN.

VLANs and the 8275-324

The 8275-324 supports eight VLANs. Each port can belong to more than one VLAN. The default is all ports belong to one VLAN.

Spanning Tree Protocol

Using the Spanning Tree Protocol (STP) function makes your network more fault tolerant. The following sections explain more about STP and the STP features supported by the 8275-324.

What is STP?

STP is part of the 802.1d bridge specification defined by the IEEE Computer Society. To explain STP more effectively, the 8275-324 is shown as a bridge in Figure A-1 on page A-3.

STP is a bridge-based system for providing fault tolerance on networks. STP allows you to implement parallel paths for network traffic and ensure that:

- Redundant paths are disabled when the main paths are operational.
- Redundant paths are enabled if the main paths fail.

For example, Figure A-1 and Figure A-2 on page A-3 show a network containing three LAN segments separated by three bridges. Each segment can communicate with the others using two paths. The configuration creates loops that cause the network to overload; however, STP allows you to have this configuration because it detects duplicate paths and disables them. If the primary path goes down, STP will reactivate the redundant path.
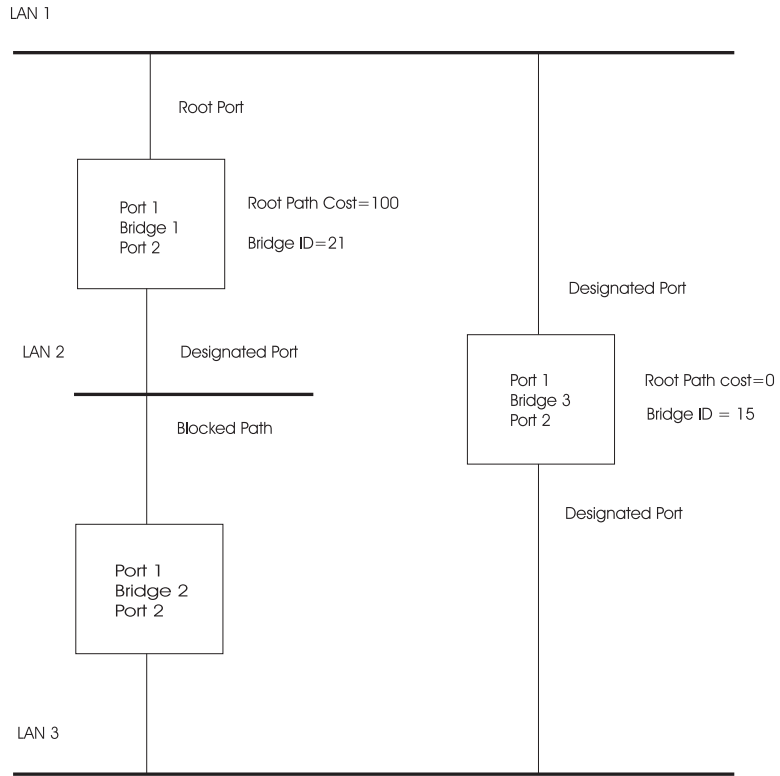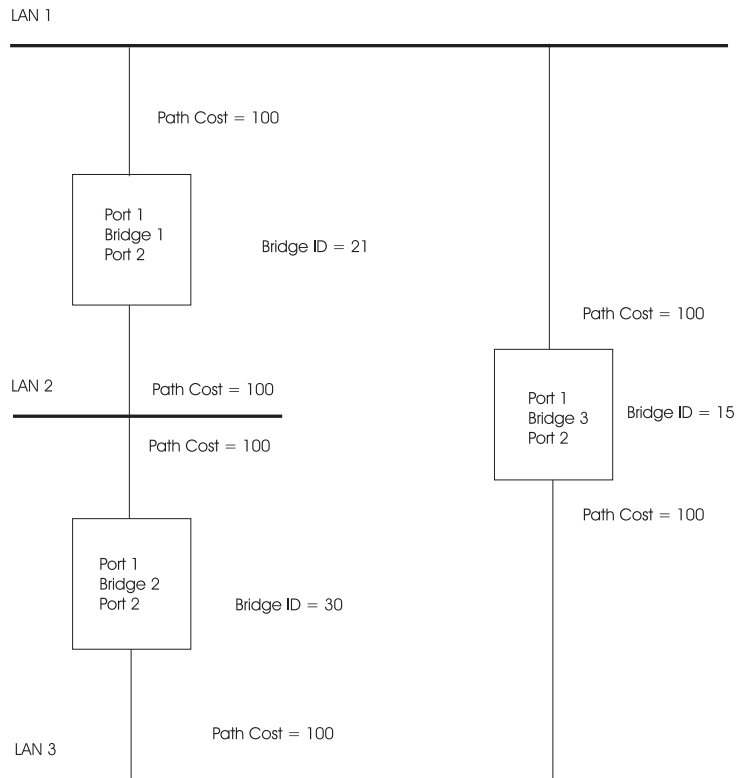
LAN 1

Root Port

Port 1
Bridge 1   Root Path Cost=100
Port 2
            Bridge ID=21

                                        Designated Port

LAN 2   Designated Port
                                Port 1   Root Path cost=0
                                Bridge 3
            Blocked Path   Port 2   Bridge ID = 15

                                        Designated Port

Port 1
Bridge 2
Port 2

LAN 3

Figure A-1. Before Applying the STA Rules

LAN 1

Path Cost = 100

Port 1
Bridge 1
Port 2   Bridge ID = 21

                                        Path Cost = 100

LAN 2   Path Cost = 100
                                Port 1
            Path Cost = 100   Bridge 3   Bridge ID = 15
                                Port 2

                                        Path Cost = 100

Port 1
Bridge 2
Port 2   Bridge ID = 30

            Path Cost = 100
LAN 3

Figure A-2. After Applying the STA Rules

How STP Works

Initially, the STP system has the following requirements before it can configure the network.

The network must be able to communicate between all bridges. This communication is carried using Bridge Protocol Data Units (BPDU), which are transmitted in packets with a known multicast address.

One of the bridges must be the root bridge, a central point from which the network is configured.

The root bridge is selected because of its having the lowest bridge identifier value. All other bridges in the network have a root port. This is the port nearest to the root bridge, and it is used for receiving the BPDUs initiated by the root bridge.

STP Reconfiguration

In the even of a network failure, such as a segment going down, the STP system reconfigures the network to adjust for the changes. If the topology of your network changes, the first bridge to detect the change sends out an SNMP Trap.

Appendix B. Notices

References in this publication to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service in this publication is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, programs, or services, except those expressly designated by IBM, are the user's responsibility.

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Statement of Limited Warranty

The warranties provided by IBM in this Statement of Limited Warranty apply only to Machines you originally purchase for your use, and not for resale, from IBM or an IBM authorized reseller. The term "Machine" means an IBM machine, its features, conversions, upgrades, elements, or accessories, or any combination of them. Machines are subject to these terms only if purchased in the United States or Puerto Rico, or Canada, and located in the country of purchase. If you have any questions, contact IBM or your reseller.

Machine: IBM Fast Ethernet Desktop Switch
         Model 8275-324

Warranty Period* One year

*Elements and accessories are warranted for three months. Contact your place of purchase for warranty service information.

Production Status

Each Machine is manufactured from new parts, or new and serviceable used parts (which perform like new parts). In some cases, the Machine may not be new and may have been previously installed. Regardless of the Machine's production status, IBM's warranty terms apply.

The IBM Warranty

IBM warrants that each Machine 1) is free from defects in materials and workmanship and 2) conforms to IBM's Official Published Specifications. IBM calculates the expiration of the warranty period from the Machine's Date of Installation. The date on your receipt is the Date of Installation, unless IBM or your reseller informs you otherwise.

During the warranty period, IBM or your reseller will provide warranty service under the type of service designated for the Machine and will manage and install engineering changes that apply to the Machine. IBM or your reseller will specify the type of service.

For a feature, conversion, or upgrade, IBM or your reseller may require that the Machine on which it is installed be 1) the designated, serial-numbered Machine and 2) at an engineering-change level compatible with the feature, conversion, or

upgrade. Some of these transactions (called "Net-Priced" transactions) may include additional parts and associated replacement parts that are provided on an exchange basis. All removed parts become the property of IBM and must be returned to IBM.

Replacement parts assume the remaining warranty of the parts they replace.

If a Machine does not function as warranted during the warranty period, IBM in its sole discretion will repair, replace it (with a Machine that is at least functionally equivalent), or refund the purchase price. To obtain coverage under the warranty you may be required to present proof of purchase.This warranty is non-transferable by the end-user customer.

This warranty is non-transferable by the end-user customer.

Warranty Service

To obtain warranty service for the Machine, you should contact your reseller or call IBM. In the United States, call IBM at **1-800-772-2227**. In Canada, call IBM at **1-800-426-7378**. You may be required to present proof of purchase.

Depending on the Machine, the service may be 1) a "Repair" service at your location (called "On-site") or at one of IBM's or a reseller's service locations (called "Carry-in") or 2) an "Exchange" service, either On-site or Carry-in.

When a type of service involves the exchange of a Machine or part, the item IBM or your reseller replaces becomes its property and the replacement becomes yours. The replacement may not be new, but will be in good working order and at least functionally equivalent to the item replaced.

It is your responsibility to:

1. obtain authorization from the owner (for example, your lessor) to have IBM or your reseller service a Machine that you do not own;

2. where applicable, before service is provided—

    a. follow the problem determination, problem analysis, and service request procedures that IBM or your reseller provide,

    b. secure all programs, data, and funds contained in a Machine,

    c. inform IBM or your reseller of changes in a Machine's location, and

    d. for a Machine with exchange service, remove all features, parts, options, alterations, and attachments not under warranty service. Also, the Machine must be free of any legal obligations or restrictions that prevent its exchange; and

3. be responsible for loss of, or damage to, a Machine in transit when you are responsible for the transportation charges.

Extent of Warranty

IBM does not warrant uninterrupted or error-free operation of a Machine.

Misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which IBM is not responsible may void the warranties.

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Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Limitation of Liability

Circumstances may arise where, because of a default on IBM's part (including fundamental breach) or other liability (including negligence and misrepresentation), you are entitled to recover damages from IBM. In each such instance, regardless of the basis on which you are entitled to claim damages, IBM is liable only for:

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2. the amount of any other actual loss or damage, up to the greater of $100,000 or the charge for the Machine that is the subject of the claim.

Under no circumstances is IBM liable for any of the following:

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2. loss of, or damage to, your records or data; or

3. economic consequential damages (including lost profits or savings) or incidental damages, even if IBM is informed of their possibility.

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This warranty gives you specific legal rights and you may also have other rights which vary from jurisdiction to jurisdiction.

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504
Telephone 1-919-543-2193

Industry Canada Class A Emission Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformite aux normes du ministries des Communications du Canada

Cet appareil numérique de la classe A est conform à la norme NMB-003 du Canada.

European Norm (EN) Statement for Unshielded Cables

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

Warning!
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Gerãten (EMVG) vom 30, August 1995 (bzw. der EMC EG Richlinie 89/336).

Dieses Gerät ist berechtigt in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die IBM Corporation. Deutschland Informationssysteme GmbH, 70547 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse A.

EN 55022 Klasse A Geräte müssen mit folgendem Warhinweis versehen werden:

"Warnung: dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich funkstorungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßbnahmen durchzufuhren und dafur aufzukommen."

EN 50082-1 Hinweis

"Wird dieses Gerät in eine Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu verößern."

Anmerkung

Um die Einhaltung des EMVG sicherzusellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

European Norm (EN) Statement for Shielded Cables

This product is in conformity with the protection requirements of EU Council Directive 89/336. EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Zulassungsbescheinigung Laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) vom 30. August 1995 (bzw. der EMC EG Richlinie 89/336)950.

Dieses Gerät ist berechtigt in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach Paragraph 5 des EMVG ist die IBM Deutschland Informationssysteme GmbH, 70548 Stuttgart.

Informationen in Hinsicht EMVG Paragraph 3 Abs. (2) 2:

Das Gerät erfüllt die Schutzanforderungen nach EN 50082-1 und EN 55022 Klasse B.

EN 50082-1 Hinweis:

"Wird dieses Gerät in einer industriellen Umgebung betrieben (wie in EN 50082-2 festgelegt), dann kann es dabei eventuell gestört werden. In solch einem Fall ist der Abstand bzw. die Abschirmung zu der industriellen Störquelle zu vergrößern."

Anmerkung:

Um die Einhaltung des EMVG sicherzustellen sind die Geräte, wie in den IBM Handbüchern angegeben, zu installieren und zu betreiben.

Properly shielded and grounded cables and connectors must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorised dealers. IBM cannot accept responsibility for any interference caused by using other than recommended cables and connectors.

Japanese Voluntary Control Council for Interference (VCCI) Statement

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Technology Equipment (VCCI). In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

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Taiwanese Class A Warning Statement

警告使用者:
這是甲類的資訊產品，在
居住的環境中使用時，可
能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策•

Korean Communications Statement

Please note that this device has been approved for business purpose with regard to electromagnetic interference. If you find this is not suitable for your use, you may exchange it for non-business purpose one.

Appendix C. Cable Pinout Diagrams

Straight-Through 10BASE-T/100BASE-TX Cables

10BASE-T/100BASE-TX connections to devices such as workstations and servers require straight-through cables, as shown in Figure C-1 and Figure C-2 for UTP and Figure C-3 on page C-2 for STP.

Two standards are shown for wiring UTP connectors, T568-A and T568-B. The only difference between them is in the color of the insulation around the wires.
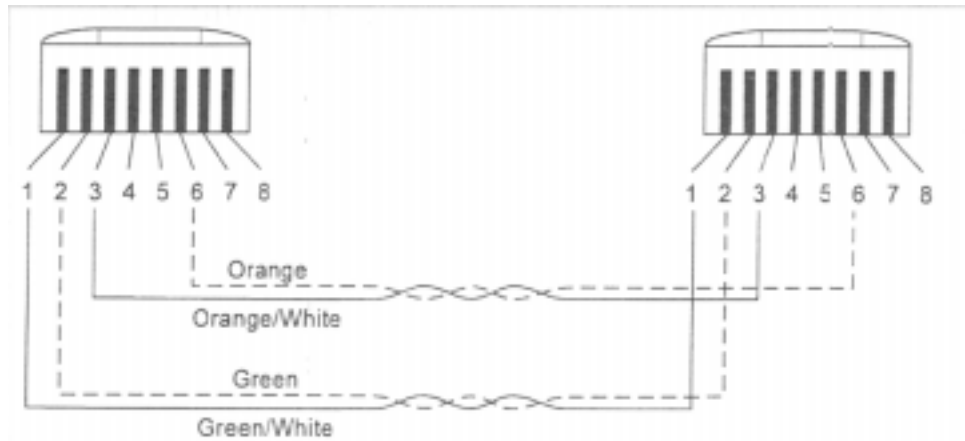
Figure C-1. Straight-Through UTP Cable (RJ-45 to RJ-45), T568A

Figure C-2. Straight-Through UTP Cable (RJ-45 to RJ-45), T568B

Straight-Through 10BASE-T/100BASE-TX Cables for STP

Figure C-3. Straight-Through STP Cable (RJ-45 to IBM Data Connector)

Crossover 10BASE-T/100BASE-TX Cables

Crossover cables are typically required when making 10BASE-T/100BASE-TX connections to other hubs. The 8275-324 does not require crossover cables, but if you need them, Figure C-4 and Figure C-5 show you how to wire the connectors for UTP and Figure C-6 on page C-3 shows you how to wire the connectors for UTP.

Two standards are shown for wiring UTP connectors, T568-A and T568-B. The only difference between them is in the color of the insulation around the wires.

Figure C-4. Crossover UTP Cable (RJ-45 to RJ-45), T568-A
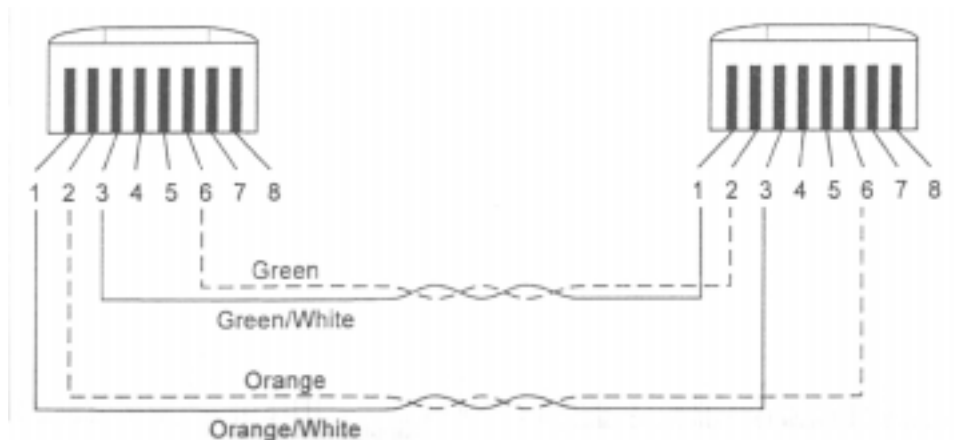
Figure C-5. Crossover UTP Cable (RJ-45 to RJ-45), T568-B

Crossover 10BASE-T/100BASE-TX Cables for STP
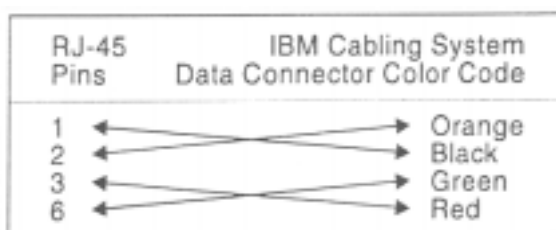
Figure C-6. Crossover STP Cable (RJ-45 to IBM Data Connector)

Null Modem Cable

A null modem cable should be used for a direct connection from a PC serial port to the 8275-324 Management Port.
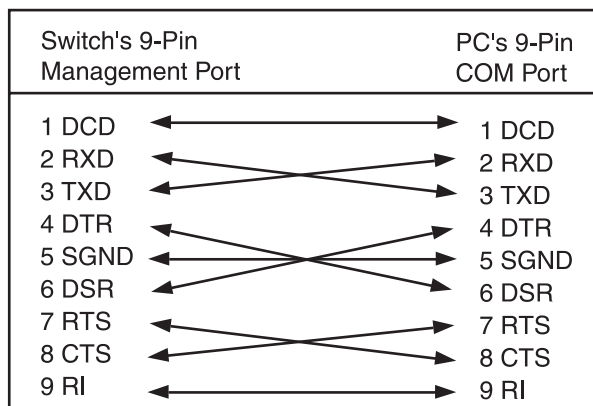
Figure C-7. Null Modem Cable Connection

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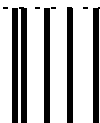
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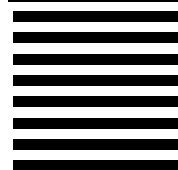**30L6596**

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