Multiprotocol Switched Services (MSS)
Server Module

IBM

Installation and Initial Configuration Guide

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Note

Before using this information and the product it supports, be sure to read the general information under Appendix B, Notices and Trademarks.

Fourth Edition (March 1999)

This edition applies to Version 2.2 of the MSS Server Module.

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Contents

Figures

About This Guide

This guide explains how to set up the MSS Server Module, perform the initial configuration, and identify and correct some problems that might occur during installation.

There are two types of MSS Server Module:

- The IBM MSS 3.0 Server Module (A-MSS 3.0 Server Module), which replaces the IBM MSS 2.5 Server Module (A-MSS 2.5 Server Module)
- The IBM MSS Server Module (A-MSS Server Module)

The A-MSS 3.0 Server Module can be installed as a module in the IBM 8265 Nways ATM Switch (8265). The A-MSS Server Module can be installed as a module in the 8265 (with some restrictions) or the IBM 8260 Nways Multiprotocol Switching Hub (8260). Unless explicitly stated, the term *MSS Server Module* applies to both the A-MSS 3.0 Server Module and the A-MSS Server Module.

Who Should Use This Guide

This guide is intended for the person responsible for installing the MSS Server Module. It is assumed that this person is familiar with installation and cabling charts.

How To Proceed

The following steps describe how to install your MSS Server Module. You should document all of the network information that will be required to install, connect, and configure the MSS Server Module.

Installation

1. Install the MSS Server Module. Chapter 1, Installing the MSS Server Module describes the hardware installation procedure. Alternatively, installation by IBM service personnel is available. Contact your IBM representative for additional information.

2. Contact your network administrator to determine whether you can use the default configuration or whether you need to perform an initial configuration. If the network administrator wants to use the default configuration (see "When to Use the Default Configuration" on page 4-1), then the installation and initial configuration tasks are completed. Otherwise, you need to perform an initial configuration.

Initial Configuration

1. Access the MSS Server Module as described in Chapter 3, Accessing the MSS Server Module.

2. Perform the initial configuration as described in Chapter 4, Performing Initial Configuration of the MSS Server Module.

3. Contact your network administrator to perform a full configuration, and refer to the *MSS Server Interface Configuration and Software User's Guide* and the *MSS Protocol Configuration and Monitoring Reference*s, provided in softcopy with the MSS Server Module.

MSS Server Module Library Overview

Planning and Installation

Introduction and Planning Guide

GC30-3820

Installation and Initial Configuration Guide

GA27-4141

Quick Reference Card

GX27-4018

Configuration

Configuration Program User's Guide

GC30-3830

Configuration Program READ.ME
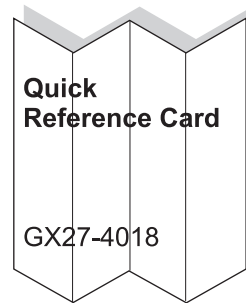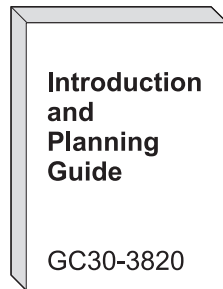
Configuration Help
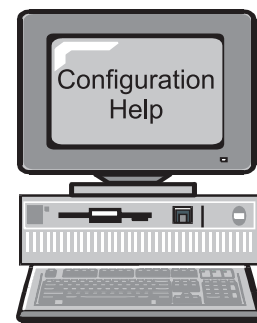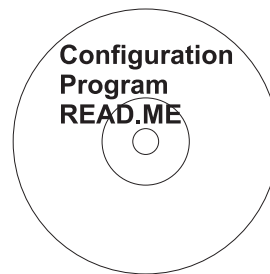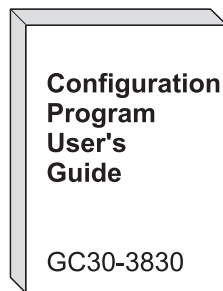
Diagnostics/ Maintenance

Service and Maintenance Manual

GY27-0354
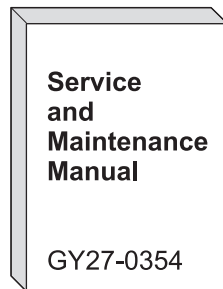
Operations and Network Administration

Interface Configuration User's Guide

SC30-3818

Protocol Configuration and Monitoring Reference
SC30-3819
SC30-3994

Event Logging System Messages Guide

SC30-3682
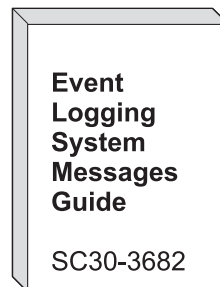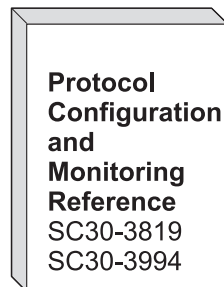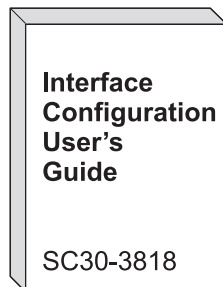
The following IBM hardcopy manuals are shipped with the product. The manuals in this list are also included in displayable softcopy form on the *MSS Configuration Program and Documentation* CD-ROM (LK2T-0378). This CD-ROM is shipped with initial orders for the MSS Server Module.

The reference card and the safety information booklet are shipped in hardcopy only and are not included on the CD-ROM.

- *MSS Server Module Installation and Initial Configuration Guide,* GA27-4141
- *MSS Server Module Quick Reference Card,* GX27-4018
- *Caution: Safety Information - Read This First,* SD21-0030

The following manuals are not shipped in hardcopy, but are provided in softcopy form on the MSS CD-ROM. All of these manuals (with the exception of the *Event Logging System Messages Guide*) can be separately ordered in hardcopy form through your IBM marketing representative.

- *MSS Server Introduction and Planning Guide,* GC30-3820
- *MSS Server Service and Maintenance Manual,* GY27-0354
- *MSS Server Interface Configuration and Software User's Guide,* SC30-3818
- *MSS Protocol Configuration and Monitoring Reference, Volume 1,* SC30-3819
- *MSS Protocol Configuration and Monitoring Reference, Volume 2,* SC30-3994
- *Configuration Program User's Guide for Nways Multiprotocol Access, Routing and Switched Services,* GC30-3830
- *Event Logging System Messages Guide,* SC30-3682

Accessing the MSS Server Softcopy Documentation

Important: Whether you choose to read the softcopy MSS Server Module publications directly from the CD-ROM or to copy the individual books to your hard disk, you first must install the Library Reader program (contained on the CD-ROM) on your workstation to enable you to view the publications. Alternatively, you can view the PDF files using a Web browser.

The *MSS Server Configuration Program and Documentation* booklet (included with the CD-ROM) describes how to install the Library Reader and how to access the softcopy books from a personal computer or PS/2 computer running DOS, Windows, or OS/2.

For more information, see the *Online Reference Library* that is on the CD-ROM.

Visit Our Web Sites

You can obtain the latest information on and support for the MSS Server by visiting our Web sites.

Information Updates and Corrections

To remain informed of engineering changes, clarifications, and fixes that are implemented after the manuals have been printed, refer to the IBM MSS Server home page at:

```
http://www.networking.ibm.com/820/820prod.html
```

Online Support

To obtain support information, including technical tips, current product information, and code updates and fixes for the MSS Server, refer to the IBM Networking Tech Support page at:

```
http://www.networking.ibm.com/netsupt.html
```

Summary of Changes

This manual has been revised to introduce the A-MSS 3.0 Server Module with a 233-MHz 740 PowerPC processor.

The technical changes and additions are indicated by a vertical line (|) to the left of the change.

All packaging and other features remain the same as in the previous release.

Chapter 1. Installing the MSS Server Module

These instructions explain how to install the MSS Server Module in the 8265 Nways ATM Switch (8265) or in the 8260 Nways Multiprotocol Switching Hub (8260). If you have any problems during setup, refer to Chapter 2, Problem Solving.

Before You Begin

| There are two types of MSS Server Module:

| • The IBM MSS 3.0 Server Module (A-MSS 3.0 Server Module), which replaces the IBM MSS 2.5
| Server Module (A-MSS 2.5 Server Module)
| • The IBM MSS Server Module (A-MSS Server Module)

| The A-MSS 3.0 Server Module can be installed as a module in the 8265. The A-MSS Server Module can
| be installed as a module in the 8265 (with some restrictions) or the 8260. Unless explicitly stated, the term
| *MSS Server Module* applies to the A-MSS 3.0 Server Module and the A-MSS Server Module.

| **Important:**   Read the safety information in Appendix C, Safety Information before you begin to install this
| product.

A-CPSW Code Levels and Slot Restrictions

The MSS Server Modules have the following minimum A-CPSW code level requirements and slot restrictions:

Note: To determine whether your 8265 is a Release 4 model, look at the bottom left-hand corner of the front of the 8265. To the left of the leftmost power supply are a number of labels. The second label from the top is the part-number (EC) label. The Release 4 label contains the words "Release 4".

Table   1-1. A-CPSW Code Levels and Slot Restrictions

Module	Minimum A-CPSW Code Level	Pluggable Slots
Release 4 8265		
CP/SW FC 6502		
A-MSS 3.0 Server Module	V4.1	Slots 1–8 or 12–17
A-MSS 2.5 Server Module	V4.0.0	Slots 1–8 or 12–17
A-MSS Server Module	N/A	N/A
CP/SW FC 6501		
A-MSS 3.0 Server Module	V4.1	Slots 1–8 or 12–17
A-MSS 2.5 Server Module	V4.0.0	Slots 1–8 or 12–17
A-MSS Server Module	V3.2.0	Slots 1, 3, 5, 7
8265 (Prior to Release 4)		
CP/SW FC 6502		
A-MSS 3.0 Server Module	V4.1	Slots 1–8 or 13–17 (See Note)
A-MSS 2.5 Server Module	V4.0.0	Slots 1–8 or 13–17 (See Note)
A-MSS Server Module	N/A	N/A
CP/SW FC 6501		
A-MSS 3.0 Server Module	V4.1	Slots 1–8 or 12–17
A-MSS 2.5 Server Module	V4.0.0	Slots 1–8 or 12–17
A-MSS Server Module	V3.2.0	Slots 1, 3, 5, 7
8260		
A-MSS 3.0 Server Module	N/A	N/A
A-MSS 2.5 Server Module	N/A	N/A
A-MSS Server Module	V2.5.2	Slots 1–8 or 12–17

Note: Slot 12 is not available to the A-MSS 3.0 Server Module or the A-MSS 2.5 Server Module in this configuration.

1. Verify contents

Verify that the following items are included with your MSS Server Module:

Hardware

- PCMCIA modem and cable (in many countries)
- PCMCIA 20-MB flash drive (optional)

Documentation

In addition to this document, the package should include:

- *Caution: Safety Information—Read Me First*, SD21-0030

- *IBM MSS Server Module Reference Card*, GX27-4018

- *IBM MSS Configuration Program and Documentation*, LK2T-0378 (CD-ROM)

Software

- Configuration Program package (on CD-ROM)
- See Table 1-1 on page 1-2 for information on the minimum A-CPSW code level that is required to support your MSS Server Module.

2. Carefully remove module from antistatic bag

1. Remove the module, in its antistatic bag, from the shipping carton.

   Electrostatic discharge (ESD) can damage the static-sensitive devices on circuit boards. To avoid this kind of damage, use the following precautions:

   - Do not remove the board from its antistatic shielding bag until you are ready to insert it into the hub.

   - Use correct grounding techniques when inspecting and installing the module: use a foot strap and grounding mat, wear a grounded static discharge wrist strap, or touch a grounded rack or other source of ground before you handle the module.

2. Remove the module from the antistatic bag. Inspect it for damage. Always handle the module by the faceplate; do not touch the components. If the module appears to be damaged, replace it in the antistatic bag and contact your local supplier.

3. Front panel
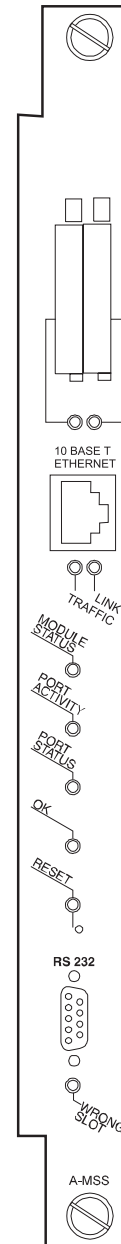
4. Install PCMCIA device
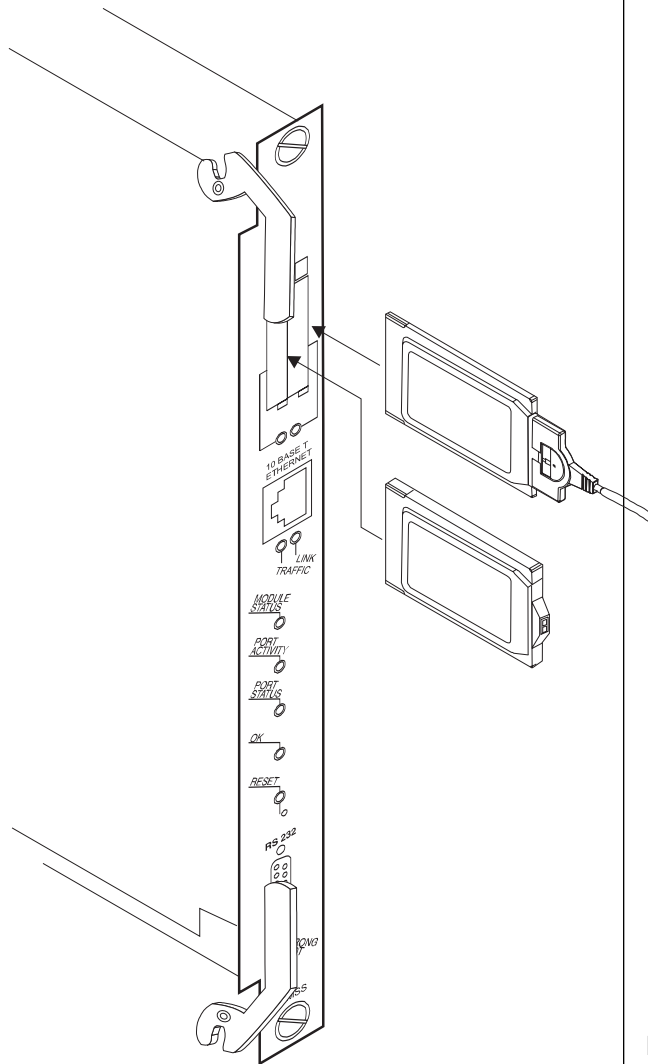
Note: Correct installation according to these instructions is a condition for compliance with the regulations of electromagnetic interference (see "Electronic Emission Notices" on page B-2 for additional information).

Install the PCMCIA modem, top side facing left, in the right PCMCIA slot and attach its modem cable. Verify that it is correctly seated in the slot and that the cable is correctly attached.

Install the PCMCIA flash drive in the left PCMCIA slot.

5. Insert module in hub
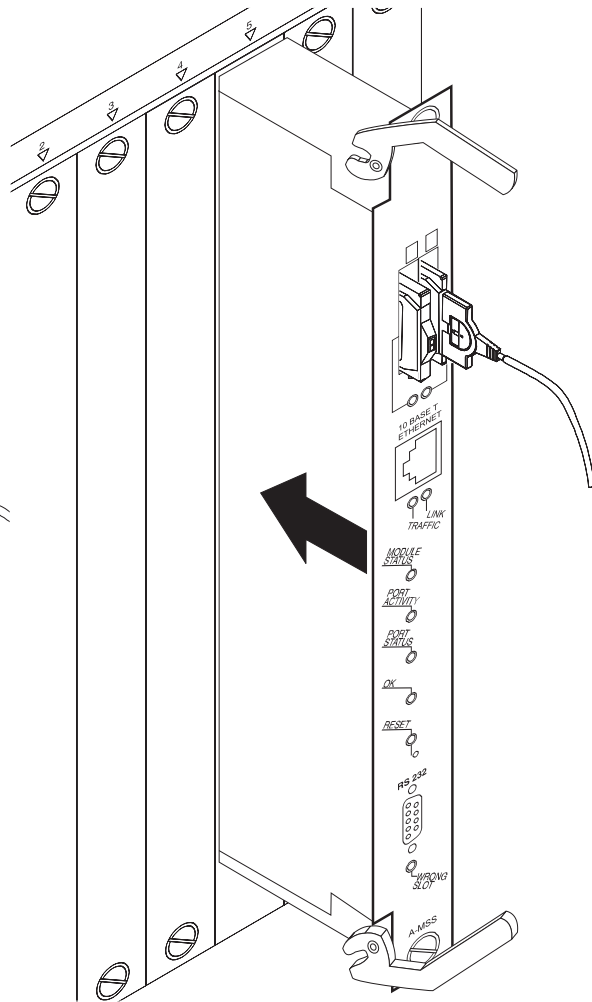
Installing the module does not require you to power down the hub. You can hot-swap the module like other 8265 or 8260 modules, that is, you can insert the module into the appropriate slot and remove it while the hub is operating.

Grasp the module by the top and bottom of the faceplate, carefully insert the module into its slot, and guide it straight while pressing evenly and firmly to correctly seat the module connectors into the hub backplane.

When it is completely seated, close the latches and tighten the thumb-screws to secure the module.

6. Connect and enable the ATM backplane

You must connect and enable the MSS Server Module for the 8265 or 8260 to recognize it. Use the following steps to connect and enable the MSS Server Module. (Refer to *ATM Control Point and Switch Module Installation and User's Guide*, SA33-0326 for details about the commands and problem determination.)

At the A-CPSW console:

1. Set up the SNMP network interface by entering the following command:

   ```
   ►►──SET COMMUNITY──name──┬─ip_address─┬──┬─all────────┬──►◄
                            └─all────────┘  ├─read_only──┤
                                            ├─read_write─┤
                                            ├─read_trap──┤
                                            └─trap───────┘
   ```

   where *name* is the name of a community and *ip_address* is the IP address of the management station.

2. Connect the ATM backplane by entering the following command:

   ```
   ►►──SET MODULE──slot──CONNECTED──►◄
   ```

   where *slot* identifies the slot occupied by the module.

3. Enable the ATM backplane by entering the following command:

   ```
   ►►──SET PORT──slot.1──ENABLE──UNI──►◄
   ```

   where *slot* identifies the slot occupied by the module.

4. Save the backplane connections by entering the following command:

   ```
   ►►──SAVE MODULE_PORT──►◄
   ```

5. If you want to verify the backplane connection, enter the following command:

   ```
   ►►──SHOW MODULE──slot──VERBOSE──►◄
   ```

   where *slot* identifies the slot occupied by the module.

7. Verify module LEDs

Several minutes after reset, verify the following LED conditions:

- If there is traffic flowing across the Ethernet network, the TRAFFIC LED will be ON (green).

- If the Ethernet port is connected, the LINK LED should be ON (green).

- The MODULE STATUS LED should be ON (green).

- The PORT ACTIVITY LED is lit when there is activity on the port. If there is traffic flowing to the MSS Server Module, the PORT ACTIVITY LED will be ON (yellow).

- The PORT STATUS LED should be ON (green).

- The OK LED should be ON (green).

- The RESET LED should be OFF.

- The WRONG SLOT LED should be OFF.

See Chapter 2, Problem Solving if the LEDs are not lit as described.

Hardware installation is complete.

8. Contact Network Administrator

Inform your network administrator that you have installed the module and it is operating correctly. Provide that person with the telephone number of the modem in your module.

After installation, you must configure the MSS Server Module before it is fully operational. The module is shipped with a default configuration that allows it to be configured remotely as described in "When to Use the Default Configuration" on page 4-1.

In most cases, your network administrator will not want to use this default configuration when performing the (full) configuration. Instead, you would first set up a local configuration console (see Chapter 3, Accessing the MSS Server Module) and then perform an initial (quick) configuration (see Chapter 4, Performing Initial Configuration of the MSS Server Module).
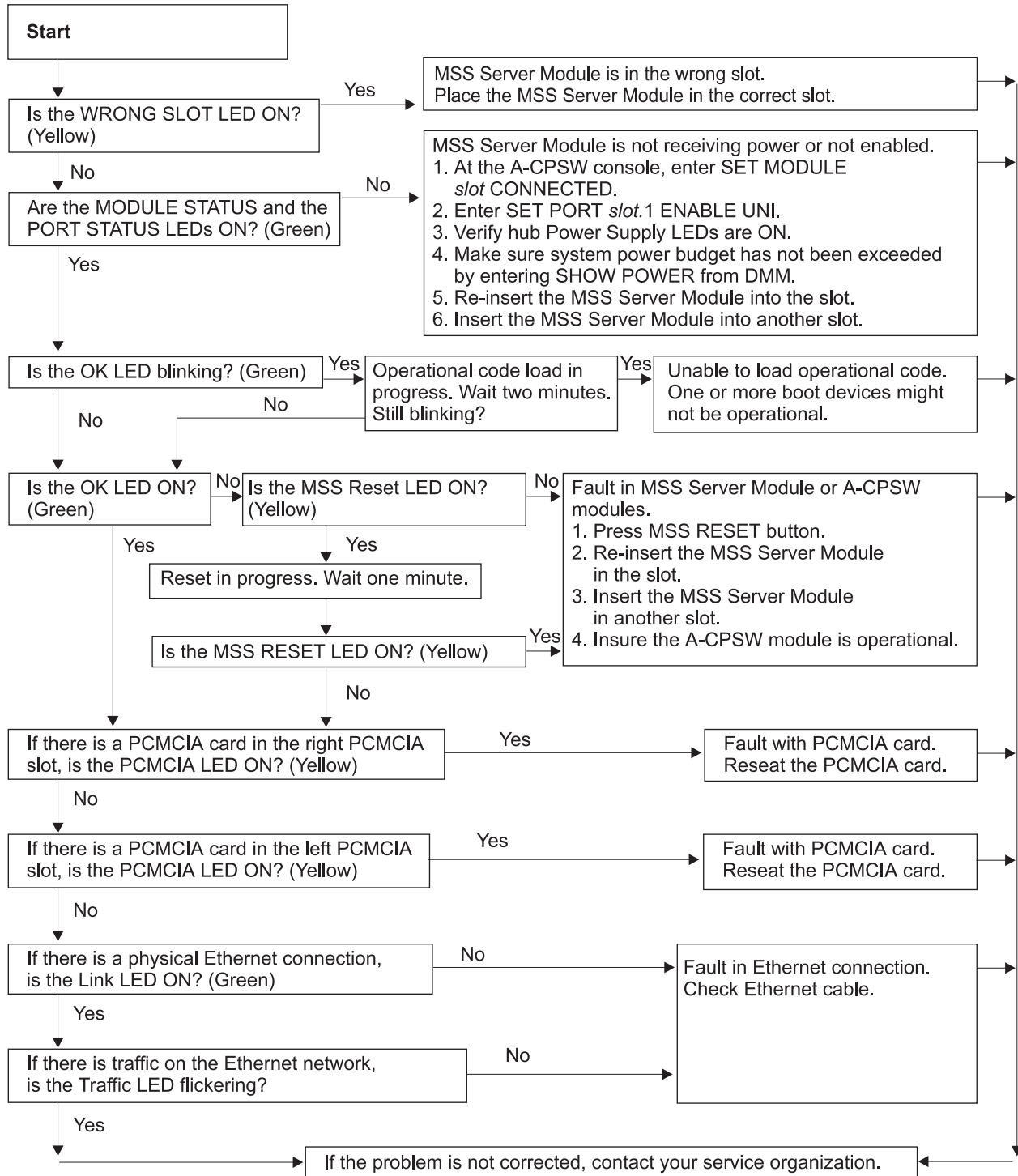
When you are finished inform your network administrator, who can perform the full configuration.

Hardware installation and initial configuration are complete.

Chapter 2. Problem Solving

To identify and correct any problems that occur during setup, see the following chart.

Start

Is the WRONG SLOT LED ON? (Yellow) — **Yes** →
MSS Server Module is in the wrong slot.
Place the MSS Server Module in the correct slot.

No ↓

Are the MODULE STATUS and the PORT STATUS LEDs ON? (Green) — **No** →
MSS Server Module is not receiving power or not enabled.
1. At the A-CPSW console, enter SET MODULE *slot* CONNECTED.
2. Enter SET PORT *slot*.1 ENABLE UNI.
3. Verify hub Power Supply LEDs are ON.
4. Make sure system power budget has not been exceeded by entering SHOW POWER from DMM.
5. Re-insert the MSS Server Module into the slot.
6. Insert the MSS Server Module into another slot.

Yes ↓

Is the OK LED blinking? (Green) — **Yes** →
Operational code load in progress. Wait two minutes. Still blinking? — **Yes** →
Unable to load operational code. One or more boot devices might not be operational.

No ↓ (from OK LED blinking) **No** ↓ (from Still blinking)

Is the OK LED ON? (Green) — **No** →
Is the MSS Reset LED ON? (Yellow) — **No** →
Fault in MSS Server Module or A-CPSW modules.
1. Press MSS RESET button.
2. Re-insert the MSS Server Module in the slot.
3. Insert the MSS Server Module in another slot.
4. Insure the A-CPSW module is operational.

Yes (OK LED ON) ↓   **Yes** (MSS Reset LED ON) ↓

Reset in progress. Wait one minute.
↓
Is the MSS RESET LED ON? (Yellow) — **Yes** → (Fault in MSS Server Module or A-CPSW modules.)

No ↓

If there is a PCMCIA card in the right PCMCIA slot, is the PCMCIA LED ON? (Yellow) — **Yes** →
Fault with PCMCIA card. Reseat the PCMCIA card.

No ↓

If there is a PCMCIA card in the left PCMCIA slot, is the PCMCIA LED ON? (Yellow) — **Yes** →
Fault with PCMCIA card. Reseat the PCMCIA card.

No ↓

If there is a physical Ethernet connection, is the Link LED ON? (Green) — **No** →
Fault in Ethernet connection. Check Ethernet cable.

Yes ↓

If there is traffic on the Ethernet network, is the Traffic LED flickering? — **No** →

Yes ↓

If the problem is not corrected, contact your service organization.

Chapter 3. Accessing the MSS Server Module

This chapter describes the methods supported for accessing the MSS Server Module.

Methods of Connecting

There are four methods of connecting to the MSS Server Module:

- A teletype (TTY) connection
- A serial line IP (SLIP) connection
- An Ethernet connection
- The ATM network

TTY, SLIP, and Ethernet are considered *out-of-band* connections. Out-of-band connectivity is usually employed when the ATM network is not operational or when the MSS Server Module has not been configured yet. Therefore, if you are performing an initial (quick) configuration, you should use an out-of-band method (usually TTY).

The connection via the ATM network is *in-band*. In-band connectivity requires IP connectivity over the MSS Server's ATM network attachment. To enable in-band IP connectivity, you must configure one of the following connectivity methods on your workstation:

- Classical IP client or server
- LAN emulation client to which an IP address has been assigned
- IP host services

Note: The MSS Server Module is shipped with a default configuration that allows in-band access to the MSS Server Module from a workstation running Classical IP. Pay close attention when installing the MSS Server Module in your network with the default configuration. See "When to Use the Default Configuration" on page 4-1 for more information about the default configuration.

In-band and out-band connectivity are discussed in detail in the following sections.

TTY Connection

For this method you have three alternatives:

- A local connection through a null modem cable attached to the EIA-232 service port (see Figure 3-1 on page 3-2)

- A remote connection through a modem attached to the EIA-232 service port (see Figure 3-2 on page 3-2)

- A remote connection through the PCMCIA modem, the Voice/Data/Fax PCMCIA Modem, or the Data/Fax PCMCIA Modem (see Figure 3-3 on page 3-3)

You can set up both remote and local connections, but only one connection can be active at any given time. For example, if a workstation is connected locally to the EIA-232 service port and a call comes in over the Voice/Data/Fax PCMCIA Modem

or the Data/Fax PCMCIA Modem, priority is given to the call. After the call, the workstation will have to log back into the MSS Server Module.

Either connection, local or remote, must be made using communications software that enables terminal emulation and file transfer. You can continue to use local or remote access to the MSS Server Module after it has been configured.
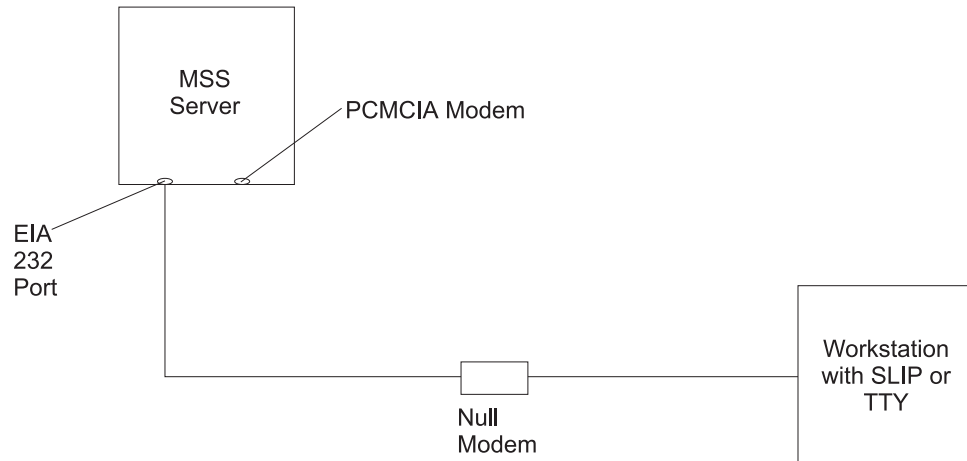

Figure   3-1. Local Serial Connection to the EIA-232 Port

Note: Refer to Chapter 3 of the *MSS Server Introduction and Planning Guide* for pin assignments for the null-modem cable.
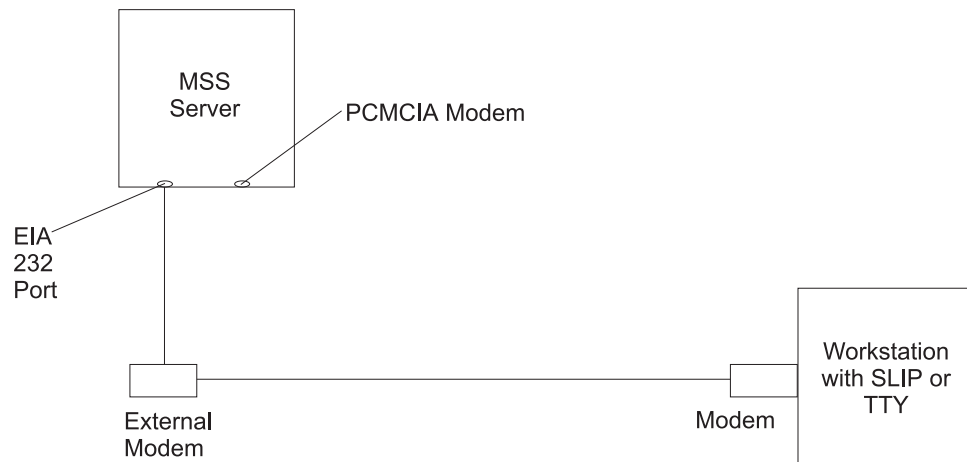
Figure   3-2. Remote Serial Connection to the EIA-232 Port
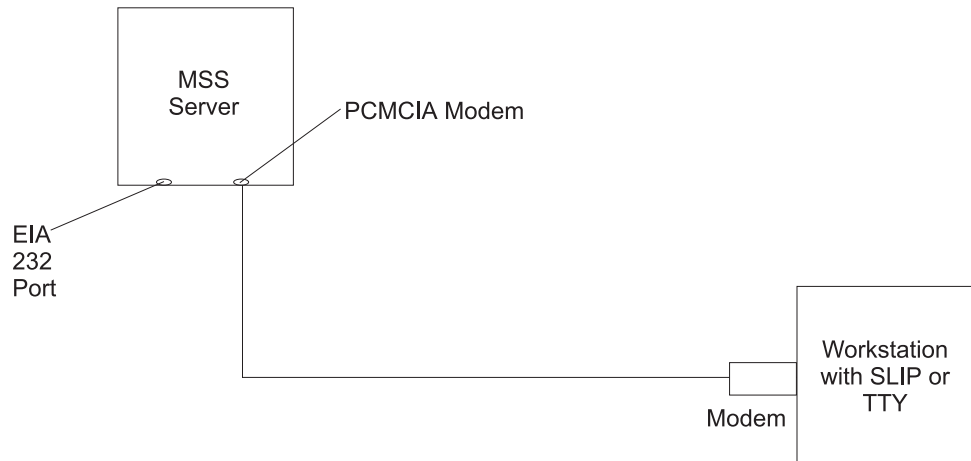
Figure 3-3. Remote Serial Connection to the PCMCIA Modem (Voice/Data/Fax PCMCIA Modem or Data/Fax PCMCIA Modem)

Local and Remote Console Access

When accessing the MSS Server Module locally on a null modem cable attached to the EIA-232 service port or remotely through the PCMCIA modem, use VT220 or VT100 terminal emulation. Because VT100 does not define function keys above F4, when using VT100, edit the keyboard mapping for your terminal emulation as follows:

- For key definition F6, enter the mapping (ESC)OU.
- For key definition F9, enter the mapping (ESC)(Left square bracket)009q.

Note: (ESC) represents the carat symbol followed by the left square bracket.

Default Settings for Serial Port

These are the default settings for the serial port:

Speed 19.2 Kbps
Parity None
Data Bits 8
Stop Bits 1

Once the MSS Server Module operational code has loaded, the line speed for the serial port is automatically set to 19.2 Kbps.

Default Settings for PCMCIA Modem

The PCMCIA modem is either a 28.8-Kbps V.32 or a 56-Kbps V.90 bis modem. It has a default speed of auto-detect.

Note: At the time of this printing, the 28.8-Kbps V.32 bis modem is still being shipped with the MSS Server Module.

These are the default settings for PCMCIA modem:

Speed Auto-detect
Parity None
Data Bits 8
Stop Bits 1

SLIP Connection

Over the local or remote connection described in "TTY Connection" on page 3-1, you can choose to use the SLIP protocol instead of the TTY connection. Using SLIP requires TCP/IP on the workstation that connects to the MSS Server Module.

To configure SLIP, use these addresses:

The default SLIP address of MSS Server Module 10.1.1.2

The default IP address of the workstation 10.1.1.3

For instructions about installing SLIP, refer to the documentation for your version of TCP/IP.

Ethernet Connection

Through a 10BASE-T Ethernet cable attached to the Ethernet service port, you can use Telnet (see Figure 3-4). Using Telnet requires TCP/IP on the workstation that connects to the MSS Server Module.
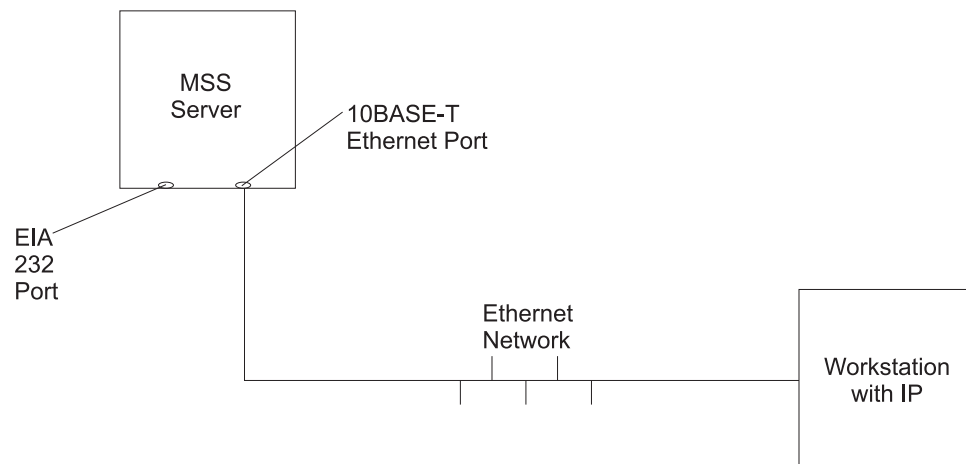
Figure 3-4. Connection Using IP through the Ethernet Port

To use Telnet over the Ethernet connection, use these addresses:

The default IP address of the MSS Server Module 10.1.2.2

The default IP address of the workstation and gateway 10.1.2.3

**The default subnet mask of the MSS Server Module** 255.255.255.0

For instructions about using Telnet over Ethernet, refer to the documentation for your version of TCP/IP.

If you need to change these default IP addresses, refer to the firmware section of the *MSS Server Interface Configuration and Software User's Guide*.

ATM Network Connection

| Figure 3-5 shows an in-band connection over the ATM network. The 8210-003 or
| the module must be operational in the network to use this connection.
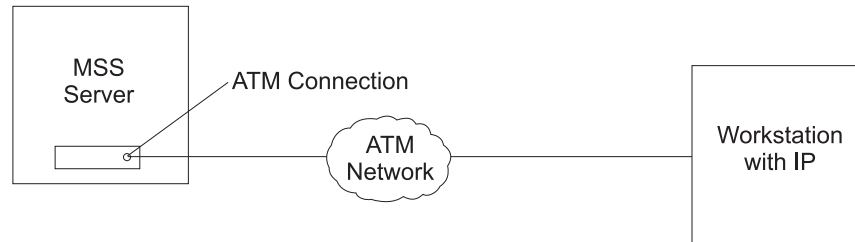
| *Figure 3-5. Connection Using IP Over the ATM Network (shown with the 8210-003)*

| You can access the MSS Server Module via the ATM network only after it has
| been fully configured or by using the default configuration. Therefore, for an initial
| (quick) configuration, you should usually use one of the previous three connection
| methods—TTY, SLIP, or Ethernet—described in this chapter. See Chapter 4,
| Performing Initial Configuration of the MSS Server Module for more information on
| initial configuration.

After you have completed the initial configuration, you must reload the MSS Server
Moduleto activate the configuration. After this reload, the MSS Server Moduleis
operational in the network, and you can access it via a LAN emulation or a
Classical IP client.

Chapter 4. Performing Initial Configuration of the MSS Server Module

This chapter describes the default configuration, explains when and how to perform an initial (quick) configuration to enable the MSS Server Module to communicate with the network, and discusses full configuration of the MSS Server Module.

When to Use the Default Configuration

To configure the MSS Server Module remotely, use the default configuration that is shipped with the MSS Server Module. The goal of the default configuration is to provide the capability to download a configuration to the MSS Server Module that is appropriate for your network. The default configuration enables you to configure the MSS Server Module remotely using the Configuration Program via Telnet, the command line interface via Telnet, or the Web browser interface.

Notes:

1. The default configuration is not intended for normal operation.

2. If you are installing the MSS Server Module with the default configuration and the default configuration conflicts with other devices in your network (for instance, by using the IP or ATM address of another device), you must use one of the out-of-band connection methods described in "Methods of Connecting" on page 3-1.

3. Connect and configure MSS Server Modules using the default configuration one at a time. Conflicts arise if more than one MSS Server Module, using the default configuration, is connected to the network at the same time.

You can achieve connectivity through LAN switches connected to the appropriate ELAN, the serial port using a SLIP connection, using Classical IP over the native ATM attachment, or, after connection, using the Ethernet adapter.

Default Configuration Parameters

The following sections list the default configuration parameters.

LECS - General Parameters

Parameter	Value
ATM Device	0
ESI	4000 8210 0001
Selector	00

LECS - Assignment Policies

Parameter	Value
Priority	10 or 20
Policy (priority 10)	By ELAN name
Policy (priority 20)	By LAN type

4-1

Signaling Protocol

Parameter	Value
ATM	Auto detect

IP Configuration - Classical IP

Parameter	Value
Interface	0
Type	ATM
Slot	1
Port	1
IP Address	10.1.0.1
IP Subnet Mask Address	255.255.255.0
ARP Server	Enabled
Refresh	5 minutes
Auto-refresh	Enabled
ESI	4000 8210 0001
Selector	00
Maximum SDU Size	9188

Note: The ESI and selector parameters are for both a Classical IP server and client that are enabled in the default MSS Server Module configuration. These values are required when configuring a Classical IP workstation to use the MSS Server Module as its ARP server.

Emulated LAN Configuration - Token Ring

Parameter	Value
Name	TRelan1
Device	0
LES/BUS ESI	4000 8210 0001
LES/BUS Selector	04
Policies (Name)	TRelan1
Policies (Type)	Token Ring

LEC Interfaces - Token Ring

Parameter	Value
Interface	1
MAC Address	4000 8210 0001
Name	TRelan1
Type	Token Ring
Device	0
ESI	4000 8210 0001
Selector	02

IP Configuration - Token-Ring LAN Emulation

Parameter	Value
Interface	1
LEC	TRelan1
IP Address	10.1.1.1
IP Subnet Mask	255.255.255.0

Emulated LAN Configuration - Ethernet

Parameter	Value
Name	ETHelan1
Device	0
LES/BUS ESI	4000 8210 0002
LES/BUS Selector	04
Policies (Name)	ETHelan1
Policies (Type)	Ethernet

LEC Interfaces - Ethernet

Parameter	Value
Interface	2
MAC Address	4000 8210 0002
Name	ETHelan1
Type	Ethernet
Device	0
ESI	4000 8210 0002
Selector	02

IP Configuration - Ethernet LAN Emulation

Parameter	Value
Interface	2
LEC	ETHelan1
IP Address	10.1.2.1
IP Subnet Mask	255.255.255.0

SNMP Communities

Parameter	Value
Name	Public
Access Type	Read/write

When to Perform an Initial Configuration

If you have a new MSS Server Module and do not want to use the default configuration, if you have cleared the MSS Server Module's configuration, or if you have encountered a problem that cleared the configuration, you must perform the steps in "Performing an Initial (Quick) Configuration" on page 4-4 before the MSS Server Module can be operational in the network.

If you currently have a configuration (for example, the default configuration), you can clear it by performing the following steps:

1. From the prompt for OPCON, which is an asterisk (*), type **talk 6**. The prompt Config> appears.

2. Enter **boot**. The prompt Boot config> appears.

3. Enter the following commands in sequential order:

   a. **clear all**
   b. **clear device**
   c. **exit**
   d. **write**

4. Reboot the MSS Server Module.

Note: The Quick Configuration program assumes many defaults, some of which may not be appropriate for your installation. It is therefore advisable to take the following steps:

1. Use Quick Configuration to create only a partial configuration.
2. Restart the 8210-003 by entering the **restart** command.
3. Configure the 8210-003 fully from a TCP/IP station using one of the other configuration methods (the command line interface, the Configuration Program, or the Web browser).

Performing an Initial (Quick) Configuration

Before starting the Quick Configuration process, read these notes:

- Information shown in brackets, [ ], is the default. To use the default, press **Enter**. To use a value other than the default, choose from the values in the parentheses. If no value appears in the brackets, there is no default and you must type a value.

- To start or restart Quick Configuration from the `Config>` or `Config (only)>` prompt, type **qc** and press **Enter**.

- To return to the beginning of the current Quick Configuration section at any time, type **r**. For example, if you are in the Bridging Configuration section, type **r** and press **Enter** to return to the beginning of that section.

- To exit from Quick Configuration, type **q** and press **Enter**. The `Config>` prompt will appear. Type **qc** and press **Enter**.

- When you have completed your configuration, you must restart the MSS Server Modulefor the configuration to take effect. At the end of the Quick Configuration program, you are given that option.

To start the Quick Configuration process:

1. Access the MSS Server Module as described in Chapter 3, Accessing the MSS Server Module. The MSS Server Module responds with the operator console (OPCON) prompt (*).

2. Configure the MSS Server Module's interface number:

   - Enter **talk 6** at the * prompt.

   - Enter **add dev atm** at the `Config >` prompt.

   ```
   * talk 6
   Config>
   Config (only)> add dev atm
   Device Slot #(1-2) [1]?
   Adding ATM device in slot 1 port 1 as interface #0
   Use "net 0" to configure ATM parameters
   ```

3. Configure the End System Identifier (ESI) address by entering the **net** command. The ESI address should be provided by your network administrator.

```
Config (only)> net 0
ATM user configuration
ATM Config > int
ATM interface configuration
ATM Interface Config> add esi 400082100001
ATM Interface Config> exit
ATM Config> exit
Config (only)>
```

4. Start the Quick Configuration program to configure interfaces and bridging and
   routing protocols by entering **qconfig** or simply **qc** from the `Config>` prompt.

   `Config>` **qc**

   The Quick Configuration program presents a series of panels.

5. **Configure LAN Emulation:**

   If your configuration program platform:

   a. Uses LAN Emulation to reach the MSS Server Module, answer **Yes** to the
      Configure LAN Emulation question, supply the LAN Emulation information,
      and press **Enter** to accept the defaults.

   b. Uses Classical IP to reach the MSS Server Module, answer **No** to the
      Configure LAN Emulation question.

6. **Configure Bridging:**

   Answer **No** to the Configure Bridging question.

7. **Configure Protocols:**

   Answer **Yes** to the Configure Protocols question.

8. **Configure IP:**

   a. Answer **Yes** to the Configure IP question.

   b. If your configuration platform uses Classical IP to reach the MSS Server
      Module, answer **Yes** to the Configure IP on this interface question for
      interface 0, then enter the IP address at the *IP Address* prompt, enter the
      IP mask at the *Address Mask* prompt, and answer the ARP Server
      questions as appropriate.

   c. If your configuration program platform uses LAN Emulation to reach the
      MSS Server Module, answer **Yes** to the Configure IP on this interface
      question for any LAN Emulation interface that will communicate with the
      configuration program, answer **No** to the Configure IP on this interface
      question for any LAN Emulation interface that will not communicate with the
      configuration program, enter the IP address at the *IP Address* prompt, and
      then enter the IP mask at the *Address Mask* prompt.

   d. Answer **No** to the Enable Dynamic Routing question.

   e. Answer **Yes** to the Define Community question.

   f. Answer **Yes** to the read_write_trap question.

   g. Enter the community name used by the configuration program.

   h. Answer **Yes** to the Save this configuration question.

9. **Configure IPX**

   Answer **No** to the Configure IPX question.

10. **Write Configuration:**

    Answer **Yes** to the Write Configuration question.

11. **Restart the MSS Server Module:**

    Answer **Yes** to the Restart the MSS Server Module question.

12. Save the configuration.

    Attention: After you have configured the MSS Server Module and it is operational, *always* back up the active configuration file. Keeping this file enables you to re-establish the MSS Server Module on the network should the active configuration become corrupted.

    You can back up the active configuration file by retrieving it and storing it in the workstation.

13. Notify the network administrator that the initial configuration has been completed.

Full Configuration

The initial configuration procedure you have just performed will enable you to access the MSS Server Module over the network. The network administrator can now perform a full configuration of the module using any of these methods:

- Configuration Program
- Web browser HTML interface
- Command line interface (OPCON)

The Configuration Program is the preferred configuration method for these reasons:

- It can enable you to keep a number of copies of configuration files on a server for uploading to the appropriate MSS Server Modules.

- It does not alter any configuration parameters dynamically. This feature helps you control changes to the MSS Server Module configurations.

- It performs more input validation and cross-checking of the configuration parameters than the other methods.

The command line interface and the Web browser interface cause certain parameters to be altered dynamically. The binary files that they create are saved on the MSS Server Module, not in the workstation. These characteristics make them more difficult to use for managing the configuration of the MSS Server Module. However, they can be used to monitor the operations of the MSS Server Module, whereas the Configuration Program cannot. They are also useful when you want to change one of the parameters that can be dynamically altered.

For the information needed to complete the configuration, refer to the *Configuration Program User's Guide*, the *MSS Server Interface Configuration and Software User's Guide*, and the *MSS Protocol Configuration and Monitoring References*.

Appendix A. Common Tasks

This appendix provides a series of questions and answers dealing with common MSS Server installation, operation, and maintenance tasks, with suggestions as to where to find further help in performing them.

Command Line Interface

Question: How do I access the command line interface (the operating code)?

Answer: From within the firmware menu system (the System Management Services panel):
press **F9**. The * prompt is displayed after the system boots.

The command line interface is described in the *MSS Server Interface Configuration and Software User's Guide*.

Displaying a List of Active Hardware Interfaces

Question: How do I display a list of active hardware interfaces?

Answer:

1. Access the command line interface (the * prompt).

2. Type **talk 6** and press **Enter** twice to reach the `Config>` prompt.

3. Enter **list dev**.

4. Press **Ctrl-p** to return to the command line interface.

Displaying the Operational State of the Interfaces

Question: How do I see the state (for example, up, down, disabled) of an interface?

Answer:

1. Access the command line interface (the * prompt).

2. Type **talk 5** and press **Enter** twice to reach the + (monitoring) prompt.

3. Enter **configuration**.

4. Press **Ctrl-p** to return to the command line interface.

Verifying Connectivity

Question: How do I verify that a given IP address is online?

Answer:

1. Access the command line interface (the * prompt).

2. Type **talk 5** and press **Enter** twice to reach the + prompt.

3. Enter **protocol**.

4. Enter **ip**. The prompt changes to `IP>`.

5. Enter **ping** *IP address value*. Press **Enter** to stop the ping process.

6. Enter **exit** at the IP> prompt. The prompt changes to +.

7. Press **Ctrl-p** to return to the command line interface.

Viewing Vital Software Data

Question: How do I view vital software data?

Answer:

1. At the * prompt, type **talk 6** and press **Enter** twice. The Config> prompt appears.

2. Enter **boot**.

3. Enter **describe**. The vital software data is displayed.

4. Press **Ctrl-p** to return to the command line interface.

Viewing Vital Hardware Data

Question: How do I view vital hardware data?

Answer:

1. Access the firmware main menu: During boot-up, press **F1** at the Prematurely terminate boot sequence prompt.

2. Select **Utilities**.

3. Select **View or Set Vital Product Data**.

4. Select **Hardware Vital Product Data**. The vital hardware data is displayed.

5. Return to the firmware main menu.

6. Press **F9** to load the operating software.

Running Quick Configuration

Question: How do I run the Quick Configuration program?

Answer: At the Config (only) prompt, enter **qc**.

Disabling the ATM Port

Question: How do I disable a configured ATM port?

Answer:

1. Access the command line interface (* prompt).

2. Type **talk 6** and press **Enter** twice to reach the Config> prompt.

3. Enter **list device**.

4. Make a note of the interface number of the port that you want to disable.

5. Enter **disable interface** *interface number*.

6. Enter **write** to save your changes.

7. Reboot the MSS Server to make the configuration changes active.

For details of this procedure, refer to the *MSS Server Interface Configuration and Software User's Guide*.

Enabling the ATM Port

Question: How do I enable a configured ATM port that was disabled using **disable interface** (in "Disabling the ATM Port" on page A-2)?

Answer:

1. Access the command line interface (∗ prompt).

2. Type **talk 6** and press **Enter** twice to reach the `Config>` prompt.

3. Enter **list device**.

4. Make a note of the interface number of the port that you want to enable.

5. Enter **enable interface** *interface number*.

6. Enter **write** to save your changes.

7. Reboot the MSS Server to make the configuration changes active.

For details of this procedure, refer to the *MSS Server Interface Configuration and Software User's Guide*.

Disabling the ATM Port to Suspend Traffic

Question: How do I disable a configured ATM port to suspend traffic?

Answer:

1. Access the command line interface (∗ prompt).

2. Type **talk 5** and press **Enter** twice to reach the + prompt.

3. Enter **configuration**.

4. Make a note of the interface number of the port that you want to disable.

5. Enter **disable** *interface number*.

Enabling the ATM Port to Resume Traffic

Question: How do I enable a configured ATM port (that was disabled using the **talk 5 disable** command in "Disabling the ATM Port to Suspend Traffic") to resume traffic?

Answer:

1. Access the command line interface (∗ prompt).

2. Type **talk 5** and press **Enter** twice to reach the + prompt.

3. Enter **configuration**.

4. Make a note of the interface number of the port that you want to enable.

5. Enter **test** *interface number*.

> **Note:** If you use the **test** command to enable an interface that has been configured (in **talk 6**) as disabled, the next time that you reboot the MSS Server the interface will be disabled again. Therefore, you should also use the **talk 6 enable interface** command to ensure that the interface is enabled the next time a reboot does occur.

For details of this procedure, refer to the *MSS Server Interface Configuration and Software User's Guide*.

Up-to-Date MSS Server Information

Question: How can I find out the most current information about the MSS Server?

Answer: Point your Web browser to:

```
http://www.networking.ibm.com/820/820prod.html
```

Appendix B. Notices and Trademarks

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B-1

Electronic Emission Notices

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Note: 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 the 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 (IBM part number 55H8694 or its equivalent for the data/fax/voice modem, or IBM part number 72H4447 or equivalent for the data/fax modem) must be used in order to meet the FCC emissions limits. IBM is not responsible for any radio or television interference caused by using other that recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications to this equipment may cause interference which could void the user's authority to operate this 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.

Industry Canada Class A Emission Compliance Statement

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

Avis de conformité aux normes d'Industrie Canada

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

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This product is in conformity with the protection requirements of EC 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.

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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 Geräten (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 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 A.

| EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden: "Warnung: dies ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen."

| 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.

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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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Please note that this device has been certified for business purpose with regard to electromagnetic interference. If you find this is not suitable for your use, you may exchange it for one of residential use.

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居住的環境中使用時,可
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Appendix C. Safety Information

Safety Pointers

⚠ **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.

⚠ **Gevaar:** Voordat 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 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 équipements électriques en toute sécurité.

⚠ **Perigo:** Antes de começar a instalar este produto, leia as informações de segurança contidas em *Cuidado: Informações Sobre Segurança—Leia Isto 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 počnete 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 priključrivanje kabela i priključivanje na električno napajanje.

⚠

Upozornění: než zahájíte instalaci tohoto produktu, přečtěte si nejprve bezpečnostní informace v pokynech „Bezpečnostní informace" č. 21-0030. 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.

⚠ **Gevaar** 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.

⚠ **VAARA:** Ennen kuin aloitat tämän tuotteen asennuksen, lue julkaisussa *Varoitus: Turvaohjeet—Lue tämä ensin*, SD21-0030, olevat turvaohjeet. Tässä kirjasessa on ohjeet siitä, miten sähkölaitteet kaapeloidaan ja kytketään turvallisesti.

⚠ **Vorsicht:** Bevor mit der Installation des Produktes begonnen wird, die Sicherheitshinweise in *Achtung: Sicherheitsinformationen—Bitte zuerst lesen,* IBM Form SD21-0030. Diese Veröffentlichung beschreibt die Sicherheitsvorkehrungen für das Verkabeln 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, milyen biztonsági intézkedéseket kell megtenni az elektromos berendezés huzalozásakor illetve csatlakoztatásakor.

⚠ **Pericolo:** prima di iniziare l'installazione di questo prodotto, leggere le informazioni relative 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 først*, 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 безо-
пасности в документе "Внимание: Инструкция по
технике безопасности -- Прочесть в первую очередь",
SD21-0030. В этой брошюре описаны безопас-
ные способы каблирования и подключения элект-
рического 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: Säkerhetsföreskrifter— Läs detta först,* SD21-0030. Där beskrivs hur du på ett säkert sätt 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。

LED and Laser Statements

Class 1 LED Statement

Class 1 LED Product
LED Klasse 1
LED Klass 1
Luokan 1 Ledlaite
Appareil À LED de Classe 1

To IEC 825-1:1993

Class 1 Laser Statement

Class 1 Laser Product
Laser Klasse 1
Laser Klass 1
Luokan 1 Laserlaite
Appareil À Laser de Classe 1

To IEC 825-1:1993

Lithium Battery Statement

The MSS Server processor card contains a clock module that has an embedded lithium battery that is not replaceable. Please dispose of this module in accordance with local ordinances.

Index

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Multiprotocol Switched Services (MSS)
Server Module
Installation and Initial Configuration
Guide

Publication No. GA27-4141-03

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Easy to understand	□	□	□	□	□
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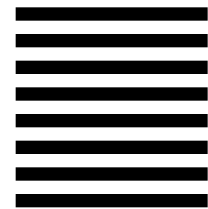Phone No.

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