

Management Software

AT-S65

User's Guide

AT-LX3800U Multi-Service Transport System

Version 1.1.0

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Preface

This guide contains instructions on how to configure and manage an AT-LX3800U Multi-Service Transport System using the AT-S65 management software and contains the following sections:

- ❑ “Where to Find Web-based Guides” on page 10
- ❑ “Contacting Allied Telesyn” on page 11

Where to Find Web-based Guides

The installation and user guides for all Allied Telesyn products are available in portable document format (PDF) on our web site at **www.alliedtelesyn.com**. You can view the documents online or download them onto a local workstation or server.

Contacting Allied Telesyn

This section provides Allied Telesyn contact information for technical support as well as sales and corporate information.

Online Support

You can request technical support online by accessing the Allied Telesyn Knowledge Base: <http://kb.alliedtelesyn.com>. You can use the Knowledge Base to submit questions to our technical support staff and review answers to previously asked questions.

Email and Telephone Support

For Technical Support via email or telephone, refer to the Support & Services section of the Allied Telesyn web site: www.alliedtelesyn.com.

Returning Products

Products for return or repair must first be assigned a return materials authorization (RMA) number. A product sent to Allied Telesyn without an RMA number will be returned to the sender at the sender's expense.

To obtain an RMA number, contact Allied Telesyn Technical Support through our web site: www.alliedtelesyn.com.

Sales or Corporate Information

You can contact Allied Telesyn for sales or corporate information through our web site: www.alliedtelesyn.com. To find the contact information for your country, select Contact Us -> Worldwide Contacts.

Management Software Updates

New releases of management software for our managed products are available from either of the following Internet sites:

- Allied Telesyn web site: www.alliedtelesyn.com
- Allied Telesyn FTP server: <ftp://ftp.alliedtelesyn.com>

If you prefer to download new software from the Allied Telesyn FTP server from your workstation's command prompt, you will need FTP client software and you must log in to the server. Enter "anonymous" for the user name and your email address for the password.

Chapter 1

Getting Started

The AT-S65 management software for the AT-LX3800U Multi-Service Transport System allows you to monitor and manage the chassis and the components installed in it. Some of the functions you can perform with the AT-S65 management software are:

- ❑ Review the performance and status of the chassis and line cards
- ❑ Set up traps to send messages to remote management stations
- ❑ Configure temperature thresholds for the chassis, line cards, and SFPs
- ❑ Diagnose problems in the chassis and line cards

The AT-S65 management software is preinstalled on the chassis with default settings for all operating parameters.

There are three ways to access the management software on the chassis. These methods are referred to in this guide as management sessions and are described in this chapter.

This chapter contains the following sections:

- ❑ “Local Management Session” on page 14
- ❑ “Remote Management Session” on page 17
- ❑ “Using the Menus Interface” on page 19
- ❑ “SNMP Management Session” on page 20

Local Management Session

You establish a local management session with the AT-LX3800U chassis when you use the management cable included with the chassis to connect a terminal or PC with a terminal emulation program to the RS-232 port on the chassis. The RS-232 port is located on the front panel of the AT-LX3800U chassis and has a DIN-8 style connector.

This type of management session is referred to as “local” because you must be physically close to the chassis, such as in the wiring closet where the chassis is located.

After the session starts, the menus are displayed from which you can make selections to configure and manage the chassis. You can configure all of the chassis operating parameters from a local management session.

A chassis does not need an Internet Protocol (IP) address for you to manage it locally. You can start a local management session on the chassis at any time and not interfere with the chassis operations.

Starting a Local Management Session

To start a local management session on the chassis, perform the following procedure:

1. Connect the DIN-8 end of the management cable included with the AT-LX3800U chassis to the RS-232 terminal port on the front of the chassis, as shown in Figure 1.

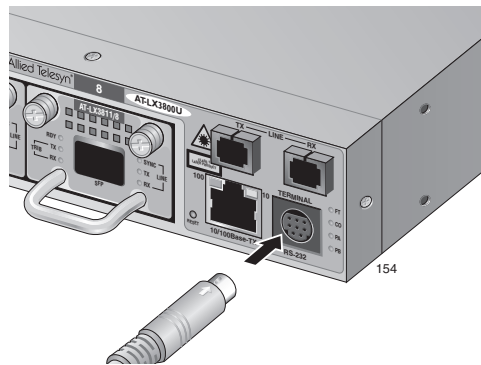


Figure 1. Connecting the Management Cable to the RS-232 Port

2. Connect the other end of the cable to an RS-232 port on a terminal or PC with a terminal emulation program.
3. Configure the terminal or terminal emulation program to the following settings:
 - Baud rate: 115200 (default value)
 - Data bits: 8

- Parity: None
- Stop bits: 1
- Flow control: None

Note

These settings are for a DEC VT100 or ANSI terminal, or an equivalent terminal emulation program.

The software initializes.

4. Press Return.

The Login prompt is displayed.

5. To configure chassis settings, enter “manager” as the user name. To only view the settings, enter “operator” as the user name.

The Password prompt is displayed.

6. To configure chassis settings, enter “friend” as the password for a manager login. To only view the settings, enter “operator” as the password for an operator login.

The Main Menu is displayed, as shown in Figure 2.

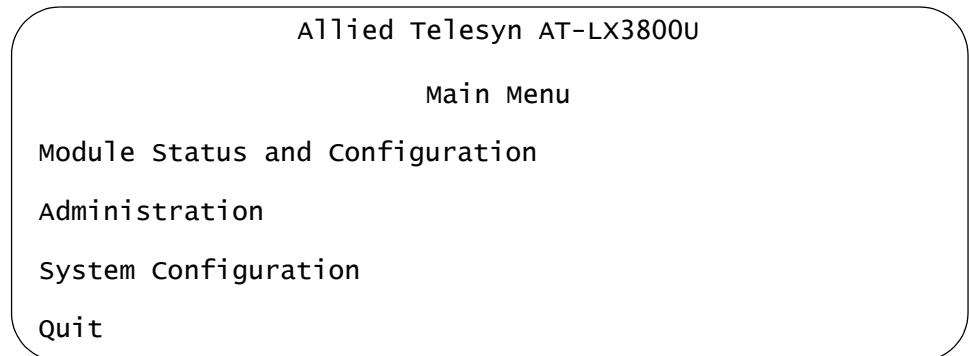


Figure 2. AT-S65 Main Menu

Refer to “Using the Menus Interface” on page 19 for information about how to move through the menus and make menu selections.

Quitting a Local Management Session

To end a local management session, return to the Main Menu and select **Quit**.

Note

The AT-S65 management software supports only one management session at a time. Therefore, it is important to always quit a management session when you are finished managing the chassis. Otherwise, you might block future management sessions or software downloads. You can configure a timeout value so that the chassis automatically disconnects a management session after a defined period of inactivity. The default timeout is 5 minutes. To configure a different timeout value, refer to “Specifying a Timeout Value” on page 49.

Remote Management Session

You can use the Telnet application from any workstation on your network to manage an AT-LX3800U system. This type of management session is referred to as remote management because you do not need to be physically close to the chassis to start the session.

A remote management session allows you to access the same menus and options that you can access with a local management session.

To manage a chassis remotely, you must first assign an IP address to it, as described in “Configuring the IP Address, Subnet Mask, and Default Gateway” on page 24 using a local management session.

Starting a Remote Management Session

To start a remote management session, perform the following procedure:

1. Connect a twisted pair cable to the 10/100Base-T port on the front of the chassis, as shown in Figure 3.

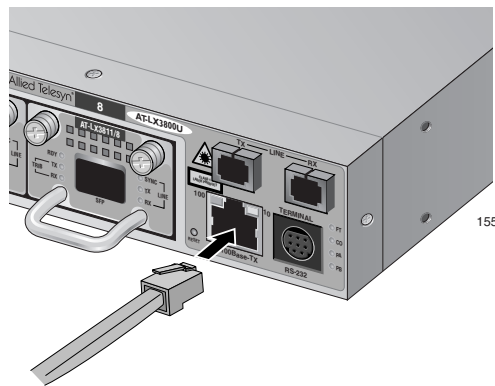


Figure 3. Connecting a Cable to the 10/100Base-T Port

Note

The RJ-45 port runs in MDIX mode. Be sure to use the proper cable. The connector and port pinouts are shown in Appendix A, “Technical Specifications,” the *AT-LX3800U Multi-Service Transport System Installation and Maintenance Guide*.

2. In the Telnet application, specify the IP address of the AT-LX3800U chassis that you want to access.

The software initializes and then the Login prompt is displayed.

3. To configure chassis settings, enter “manager” as the user name. To only view the settings, enter “operator” as the user name.

The Password prompt is displayed.

4. To configure chassis settings, enter “friend” as the password for a manager login. To only view the settings, enter “operator” as the password for the operator login.

The Main Menu is displayed, as shown in Figure 2 on page 15.

Refer to “Using the Menus Interface” on page 19 for information about how to move through the menus and make menu selections.

Quitting a Remote Management Session

To end a remote management session, return to the Main Menu and select **Quit**.

Note

The AT-S65 management software supports only one management session at a time. Therefore, it is important to always quit a management session when you are finished managing the chassis. Otherwise, you might block future management sessions or software downloads. You can configure a timeout value so that the chassis automatically disconnects a management session after a defined period of inactivity. The default timeout is 5 minutes. To configure a different timeout value, refer to “Specifying a Timeout Value” on page 49.

Using the Menu Interface

Refer to Table 1 for information about how to move through the menus and make menu selections.

Table 1. Using the AT-S65 Menu Interface

When directed to	You must
Select an option	Highlight the option by pressing the up (↑) or down (↓) arrow key; then press Enter. or Type the first character of the desired option and press Enter.
Enter information (for example, the IP address of the chassis)	Type the information and press Enter.
Return to the previous menu	Select the "Return" option at the bottom of the menu. or Press Esc.

Activated options are preceded by a > symbol. In the following example, the Start Log option is activated.

```

Activity Monitor
> Start Log
  Stop Log

```

When you press Enter to select a field in which you can enter a value, the -> symbol is displayed. For example:

```
Contact:    ->
```

The -> symbol indicates that you can enter a new value for the option or change the existing value. After you enter a value, press Enter again. To delete an existing value without entering a new value, press the space bar and then press Enter.

All changes are immediately activated on the chassis.

SNMP Management Session

Another way to remotely manage an AT-LX3800U chassis is to use an SNMP management application such as HP OpenView or AT-View Plus. To use an SNMP management application, you should be familiar with management information base (MIB) objects. You must download the AT-LX3800U MIB file from the Allied Telesyn web site and compile the file with your SNMP program. For instructions, refer to your SNMP management documentation.

Chapter 2

Basic Parameters

This chapter describes how to configure basic parameters on the chassis and contains the following procedures:

- ❑ “Configuring Basic Chassis Parameters” on page 22
- ❑ “Setting the System Date and Time” on page 28
- ❑ “Configuring the Trap Parameters” on page 30
- ❑ “Setting the Temperature Thresholds” on page 33
- ❑ “Pinging a Remote System” on page 37
- ❑ “Resetting and Restarting the System” on page 39
- ❑ “Changing the RS-232 Terminal Baud Rate” on page 40
- ❑ “Displaying and Naming the Ethernet Port” on page 42
- ❑ “Returning the AT-S65 Management Software to the Factory Default Values” on page 44

Configuring Basic Chassis Parameters

The AT-S65 management software provides options to configure some basic parameters on the chassis. This section contains the following procedures:

- ❑ “Configuring the Chassis Name, Location, and Contact,” next
- ❑ “Configuring the IP Address, Subnet Mask, and Default Gateway” on page 24
- ❑ “Configuring the Manager IP Addresses” on page 24
- ❑ “Configuring the SNMP Community Strings” on page 25
- ❑ “Enabling or Disabling DHCP” on page 25

Configuring the Chassis Name, Location, and Contact

To configure the chassis name, location, and contact, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4.

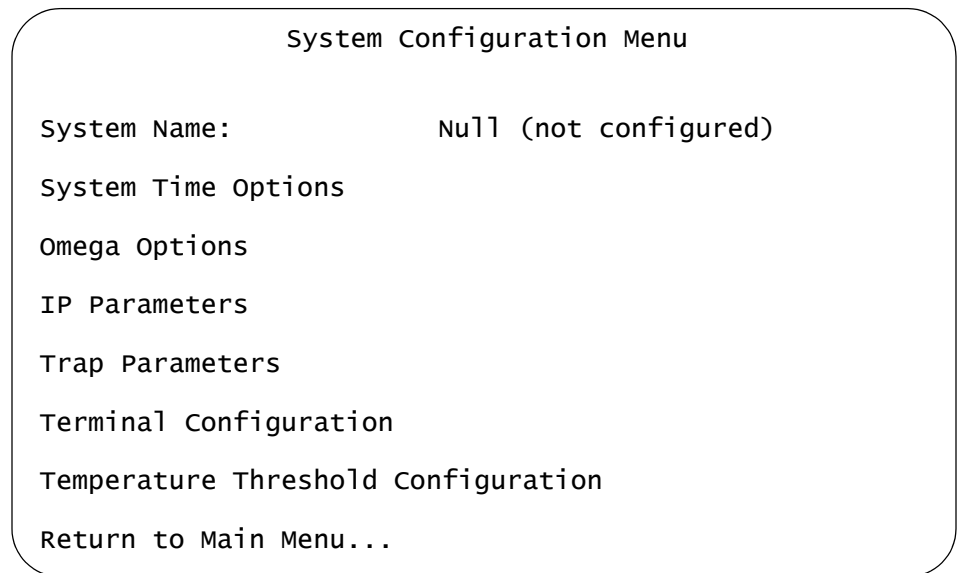


Figure 4. System Configuration Menu

2. From the System Configuration Menu, select **System Name** and press Enter.

The name can be up to 20 alphanumeric characters, including spaces and special characters. To delete a system name without entering a new name, press the space bar. This name is displayed at the top of every AT-S65 menu.

3. Type a name for the system and press Enter.
4. Select **IP Parameters** and press Enter.

The IP Parameters Menu is shown in Figure 5.

```

                                IP Parameters Menu

IP Address:                      Null (not configured)
Subnet Mask:                     255.255.0.0
Gateway Address:                 Null (not configured)

Manager Address1:                Null (not configured)
Manager Address2:                Null (not configured)
Manager Address3:                Null (not configured)
Manager Address4:                Null (not configured)

Get Community String:            public
Set Community String:            private
Trap Community String:           public
Location:                        Null (not configured)
Contact:                         Null (not configured)

> Disable DHCP
  Enable DHCP

Return to System Configuration Menu ...

```

Figure 5. IP Parameters Menu

5. Adjust the following parameters as necessary:

Location

The physical location of the system, for example, Third Floor Network Operations. The location can be up to 20 alphanumeric characters, including spaces and special characters. To delete a location without entering a new name, press the space bar.

Contact

The name, phone number, and other information that identifies the person responsible for managing the system. The contact information can be up to 20 alphanumeric characters, including spaces and special characters. To delete the contact information without entering a new name, press the space bar.

Note

The IP Address, Subnet Mask, and Default Gateway parameters are described in “Configuring the IP Address, Subnet Mask, and Default Gateway,” next. The Manager IP addresses are described in “Configuring the Manager IP Addresses” on page 24. The Disable DHCP and Enable DHCP parameters are described in “Enabling or Disabling DHCP” on page 25.

Configuring the IP Address, Subnet Mask, and Default Gateway

To configure parameters for managing the chassis remotely, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **IP Parameters** and press Enter.

The IP Parameters Menu is shown in Figure 5 on page 23.

3. Adjust the following parameters as necessary:

IP Address

Specifies the IP address of the chassis. You must specify an IP address, subnet mask, and gateway address if you intend to use Telnet or an SNMP management application to manage the chassis remotely. In addition, if the management station is separated from the chassis by a router, you must also provide a gateway address, which is the IP address of a router through which the chassis can communicate with the remote management station.

Subnet Mask

The subnet mask for the chassis. You must assign a subnet mask to manage the chassis remotely.

Gateway Address

The IP address of the default router. You must assign a subnet mask to manage the chassis remotely if a router separates the management station from the chassis.

4. After you have adjusted the parameters, return to the Main Menu.

Configuring the Manager IP Addresses

You can specify up to four network management stations that will receive SNMP traps from the system.

To configure the manager IP addresses, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **IP Parameters** and press Enter.

The IP Parameters Menu is shown in Figure 5 on page 23.

3. Adjust the following parameters as necessary:

Manager Address1 through Manager Address 4

Specifies up to four IP addresses of network management stations that will receive SNMP traps from the chassis. This is optional.

4. After you have adjusted the parameters, return to the Main Menu.

Configuring the SNMP Community Strings

To configure the SNMP community strings, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **IP Parameters** and press Enter.

The IP Parameters Menu is shown in Figure 5 on page 23.

3. Adjust the following parameters as necessary: A community string can be a maximum of 20 characters.

Get Community String

The default setting for this string is "public."

Set Community String

A default setting for this string is "private."

Trap Community String

The default setting for this string is "public."

4. After you have adjusted the parameters, return to the Main Menu.

Enabling or Disabling DHCP

The Dynamic Host Control Protocol (DHCP) client software is included with the AT-S65 management software. When you enable DHCP, the system obtains its IP address, subnet mask, and default gateway address from the DHCP server. In order for this feature to work, there must be a DHCP server that resides on your network.

Note

Enabling DHCP overrides any IP configuration settings that you manually assigned.

Note

Boot Protocol (BOOTP), another protocol that performs an identical function, is not available on the AT-LX3800U system.

To enable or disable DHCP, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **IP Parameters** and press Enter.

The IP Parameters Menu is shown in Figure 5 on page 23.

3. Select one of the following parameters:

Disable DHCP

Disables DHCP on the chassis.

Enable DHCP

Enables DHCP. If you enable DHCP, you must reset the chassis in order for the internal management module to start issuing DHCP requests to obtain its IP configuration.

The chassis issues up to three requests for its IP configuration from the DHCP server. If the DHCP server does not respond, the chassis uses the assigned IP address, if one was manually assigned.

When you choose Enable DHCP, the IP Parameters Menu is refreshed to show the settings, as shown in Figure 6.

```
IP Parameters Menu

IP Address:           [using 145.39.8.189 from DHCP]
Subnet Mask:         [using 255.255.255.0 from DHCP]
Gateway Address:     [using 149.39.8.1 from DHCP]

Manager Address1:    Null (not configured)
Manager Address2:    Null (not configured)
Manager Address3:    Null (not configured)
Manager Address4:    Null (not configured)

Get Community String: public
Set Community String: private
Trap Community String: public
Location:            Null (not configured)
Contact:             Null (not configured)

Disable DHCP
> Enable DHCP

Return to System Configuration Menu ...
```

Figure 6. IP Parameters Menu with DHCP Values

4. After you have adjusted the parameters, return to the Main Menu.

Setting the System Date and Time

Setting the system time is important if you configured the chassis to send traps to your management stations. If the time is not set, traps do not contain the correct date and time. Therefore, it becomes difficult for you to determine when the events represented by the traps occurred.

There are two ways to set the time: manually and using Simple Network Time Protocol (SNTP). When you set the time manually, the chassis loses the values when it is reset or power cycled. When you use this method, you must reset the values whenever you reset the chassis.

When you set up SNTP, the chassis obtains the current date and time from an SNTP or Network Time Protocol (NTP) server located on your network or on the Internet. The AT-S65 management software contains the client version of SNTP. SNTP is a reduced version of NTP. However, the SNTP client software in the AT-S65 management software is interoperable with NTP servers.

To set the system's date and time, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **System Time Options** and press Enter.

The System Time Configuration Menu is shown in Figure 7.

```

                                System Time Configuration Menu

System Date (mm/dd/yyyy):      01/01/1980
System Time (hh:mm:ss):        00:00:00
SNTP Status:                   Disabled
SNTP Server:                   Null (not configured)
UTC offset (-12 to 12):        0
Daylight savings Time:         Disabled
Poll Interval (Seconds):       0
Last Delta (Seconds):          0
Return to System Configuration Menu ...

```

Figure 7. System Time Configuration Menu

3. Adjust the following parameters as necessary:

System Date (mm/dd/yyyy)

Enter a date for the system. Use two numbers for the day and month. Use four numbers to specify the year. Separate the values with slashes. For example, December 5, 2004 is specified as 12/05/2004. Note that if you then enable SNTP, the date you set is superseded by information obtained from the SNTP server.

System Time (hh:mm:ss)

Enter a time for the system in the following format: hours, minutes, and seconds, separated by colons. Note that if you then enable SNTP, the system time is superseded by information obtained from the SNTP server.

SNTP Status

This option either enables or disables the SNTP client on the chassis. The default is Disabled. After SNTP is enabled, the chassis immediately polls the SNTP or NTP server for the current date and time.

SNTP Server

If you set SNTP Status to Enabled, you must specify the IP address of an SNTP server.

UTC Offset (-12 to 12)

Coordinated Universal Time (UTC), the international time standard, formerly referred to as Greenwich Mean Time (GMT). The offset is the number of hours from -12 to 12 that the time for the chassis differs from UTC. The default is 0.

Daylight Savings Time

Select Enabled to enable daylight savings time, and allow the chassis to adjust its system time to daylight savings time. Or, select Disabled to disable daylight savings time. The default is disabled.

Poll Interval (seconds)

Specifies the time interval between queries to the SNTP server. The default is 0.

Last Delta (seconds)

This read-only field displays the last adjustment that was applied to the system time due to a drift in the system clock between two successive queries to the SNTP server.

4. After you have adjusted the parameters, return to the Main Menu.

Configuring the Trap Parameters

The trap parameters specify which traps are sent to the SNMP management stations specified in “Configuring the Manager IP Addresses” on page 24.

To set the trap parameters, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **Trap Parameters** and press Enter.

The Trap Parameters Menu is shown in Figure 8.

Trap Parameters Menu	
Chassis Over-Temperature:	1
Module Over-Temperature:	1
SFP Over-Temperature:	1
SFP Loss of Signal:	1
Module Loss of Signal:	0
Module Out of Sync:	0
SFP Insert/Removal:	3
Module Insertion/Removal:	2
RPS Failure:	0
RPS Insertion/Removal:	2
Port Active/Shutdown:	2
Fan Failure:	2
Module Mode Change	1,3,4
Cold Start:	0
Authentication:	2
Return to System Configuration Menu ...	

Figure 8. Trap Parameters Menu

The numbers following each trap relate to the list of IP addresses of management stations as shown in Figure 6 on page 27.

The number “1” following a trap represents “Manager Address1” in the IP Parameters Menu, number “2” represents “Manager Address2,” and so forth. You use this numbering to control which management stations receive which traps. For example, if you want “Manager Address1” and “Manager Address3” to receive the RPS traps, then you would change the RPS trap items to show the number “1,3.” The default is 0 (zero); no management stations receive traps.

3. Enter or change the parameters as desired.

Changes to the parameters take effect immediately on the chassis.

The traps are described in Table 2.

Table 2. SNMP Traps

Trap	Description
Chassis Over-Temperature	The chassis temperature has exceeded the set threshold. For information about setting the chassis temperature threshold, refer to "Configuring the Chassis Temperature Threshold" on page 33.
Module Over-Temperature	The temperature of a line card has exceeded the set threshold. For information about setting the line card temperature threshold, refer to "Configuring the Line Card Temperature Threshold" on page 34.
SFP Over-Temperature	The SFP transceiver's temperature has exceeded the set threshold. For information about setting the SFP temperature threshold, refer to "Configuring the SFP Temperature Threshold" on page 35.
SFP Loss of Signal	The SFP has been disconnected from the client port fiber.
Module Loss of Signal	The line port has been disconnected from the line port fiber.
Module Out of Sync	The line card is out of synch.
SFP Insertion/Removal	An SFP has been inserted into or removed from a line card.
Module Insertion/Removal	A line card has been inserted into or removed from the system.
RPS Failure	A redundant power supply (RPS) has failed.
RPS Insertion/Removal	An RPS has been inserted into or removed from its slot.
Port Active/Shutdown	The port is active or has been shut down.
Fan Failure	A failure has occurred in one of the fan modules.

Table 2. SNMP Traps (Continued)

Trap	Description
Module Mode Change	The operating mode of the line card has changed. See “Setting the Line Card’s Mode of Operation” on page 76 for more information.
Cold Start	The chassis has been power cycled.
Authentication	An SNMP management application has attempted to perform a Set function, and the Set community string on an SNMP management application is different from the same community string on the chassis.

Setting the Temperature Thresholds

You can set a maximum temperature threshold for the chassis, line cards, and the SFPs in line cards. Whenever a temperature threshold is exceeded, the chassis sends a trap to the management stations defined in the Trap Parameters Menu, as described in “Configuring the Trap Parameters” on page 30. This section contains the following procedures:

- ❑ “Configuring the Chassis Temperature Threshold,” next
- ❑ “Configuring the Line Card Temperature Threshold” on page 34
- ❑ “Configuring the SFP Temperature Threshold” on page 35

Configuring the Chassis Temperature Threshold

To set the chassis temperature threshold, perform the following procedure.

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **Temperature Threshold Configuration** and press Enter.

The Temperature Threshold Configuration Menu is shown in Figure 9.

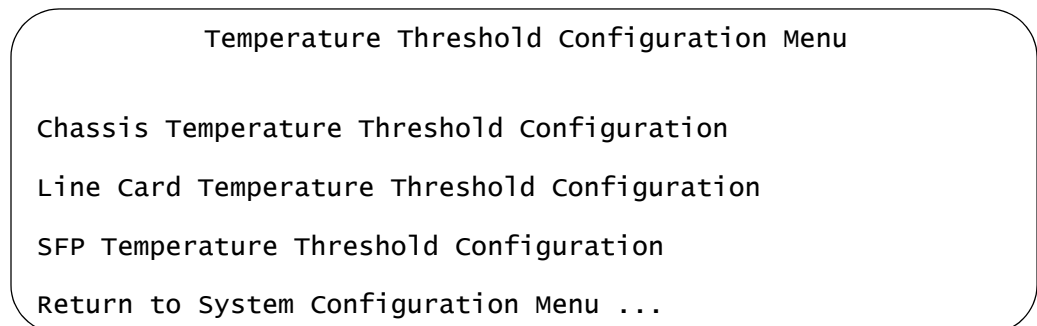


Figure 9. Temperature Threshold Configuration Menu

3. From the Temperature Threshold Configuration Menu, select **Chassis Temperature Threshold Configuration** and press Enter.

The Chassis Temperature Threshold Configuration Menu is shown in Figure 10.

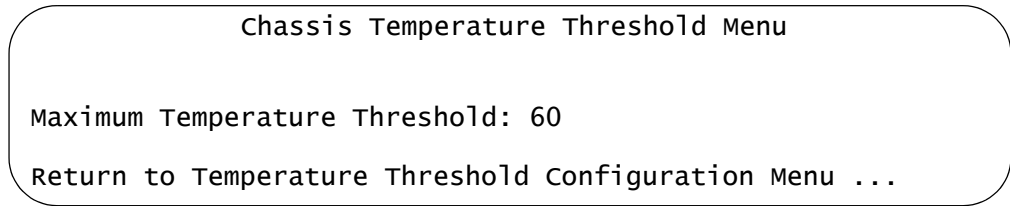


Figure 10. Chassis Temperature Threshold Menu

4. From the Chassis Temperature Threshold Menu, select **Maximum Temperature Threshold**.
5. Enter a number for the Maximum Temperature Threshold and press Enter.

The highest possible maximum temperature is 75° C.

6. After you have adjusted the parameters, return to the Main Menu.

Configuring the Line Card Temperature Threshold

To set the line card temperature threshold, perform the following procedure.

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **Temperature Threshold Configuration**.

The Temperature Threshold Configuration Menu is shown in Figure 9 on page 33.

3. From the Temperature Threshold Configuration Menu, select **Line Card Temperature Threshold Configuration** and press Enter.

The Line Card Temperature Threshold Configuration Menu is shown in Figure 11.

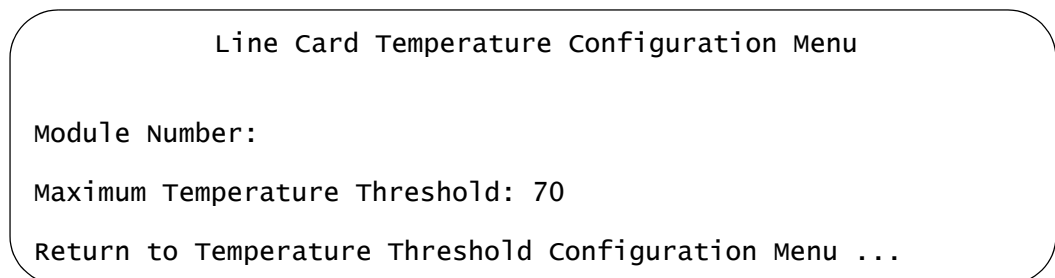


Figure 11. Line Card Temperature Configuration Menu

4. From the Line Card Temperature Configuration Menu, select **Module Number**.
5. Type the number of the line card where the SFP is located and press Enter.
6. Select **Maximum Temperature Threshold**.
7. Enter a number for the Maximum Temperature Threshold and press Enter.

The highest possible maximum temperature is 120° C. The default is 75°C.

8. After you have adjusted the parameters, return to the Main Menu.

Configuring the SFP Temperature Threshold

To set the temperature threshold for an SFP in a line card, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **Temperature Threshold Configuration** and press Enter.

The Temperature Threshold Configuration Menu is shown in Figure 9 on page 33.

3. From the Temperature Threshold Configuration Menu, select **SFP Temperature Threshold Configuration** and press Enter.

The SFP Temperature Threshold Configuration Menu is shown in Figure 12.

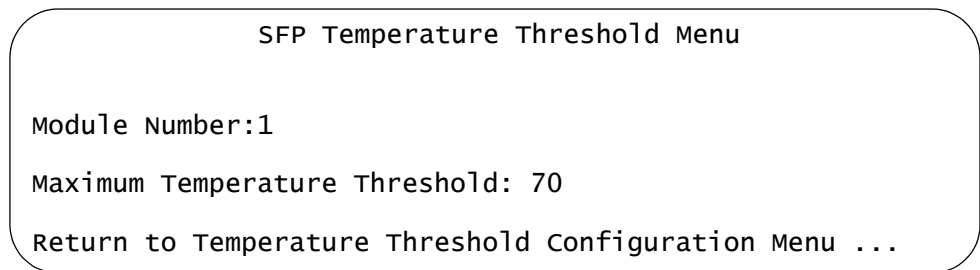


Figure 12. SFP Temperature Threshold Configuration Menu

4. From the SFP Temperature Threshold Menu, select **Module Number**.
5. Type the number of the line card where the SFP is installed.
6. Select **Maximum Temperature Threshold**.

7. Enter a number for the Maximum Temperature Threshold and press Enter.

The highest possible maximum temperature is 100° C. The default is 75°C.

8. After you have adjusted the parameters, return to the Main Menu.

Note

The option to set the temperature threshold for an SFP is only available on SFPs that support this feature.

Pinging a Remote System

You can instruct the chassis to ping a remote device on your network. This procedure is useful in determining whether a valid link exists between the chassis and another device. The chassis sends an Internet Control Message Protocol (ICMP) echo request to the end node. If the node is operating and receives the request, it sends a reply to the chassis.

Note

You can only ping a remote device when you are connected remotely.

To instruct the chassis to ping a network device, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration Menu is shown in Figure 13.

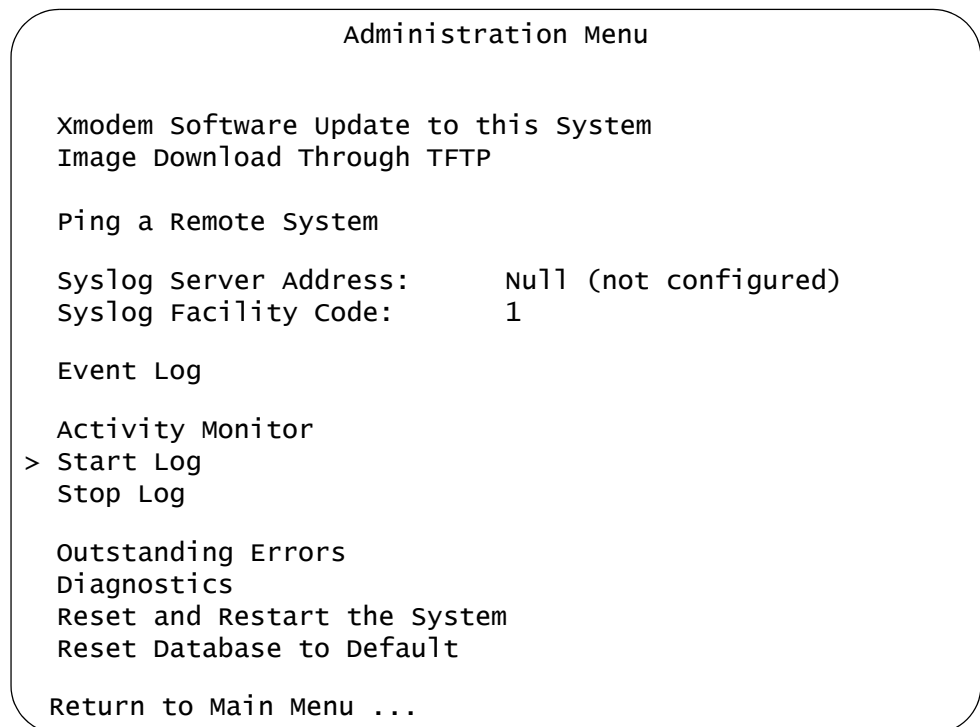


Figure 13. Administration Menu

Note

The first two options on this menu are described in Chapter 6, "Downloading AT-S65 Management Software Updates" on page 83. The Reset and Restart the System option is described in "Resetting and Restarting the System" on page 39. The remaining options are described in Chapter 4, "Monitoring System Performance" on page 51.

2. From the Administration Menu, select **Ping a Remote System** and press Enter.

The Ping menu is shown in Figure 14.

Please enter station IP address to ping:

Note: Ping will repeat until a key is pressed.

->

Figure 14. Ping Menu

3. Enter the IP address of the device you want the chassis to ping and press Enter.

The display, as shown in Figure 15, reports the results of the Ping command.

Ping a Remote System
Ping Request: 3, Ping Reply: 3, Ping Lost: 0

Figure 15. Ping Results Example

A Ping command continues until you stop it by pressing any key.

4. Return to the Main Menu.

Resetting and Restarting the System

When you reset a system, the system is also restarted. Resetting and restarting the system is a way to refresh all the statistics displays or overcome system errors. This process does not affect any system settings, return the system to its default values, or affect traffic entering or leaving the line card's physical line. However, it does terminate your management session and you must log in again after the reset is complete.

To reset and restart the system, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration Menu is shown in Figure 13 on page 37.

2. From the Administration Menu, select **Reset and Restart the System** and press Enter.

The Reset and Restart the System Menu is shown in Figure 16.

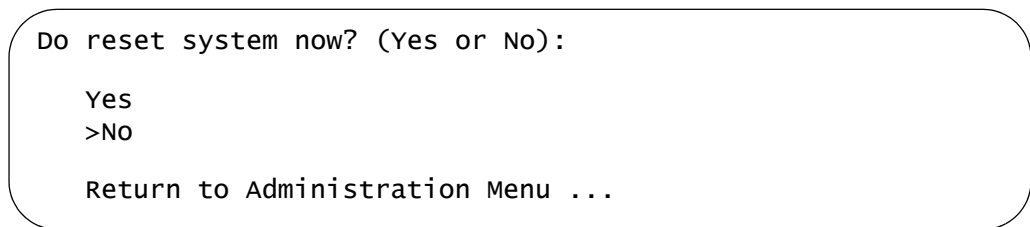


Figure 16. Reset and Restart the System Menu

3. Select **Yes** to reset the system or **No** to cancel the command.

The reset process usually takes less than a minute.

4. Log in again to manage the system.

Changing the RS-232 Terminal Baud Rate

The default settings for the RS-232 terminal port are:

- Baud rate: 115200
- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

To set the RS-232 port to a different baud rate, perform the following procedure:

1. From the Main Menu, select **System Configuration**.

The System Configuration Menu is shown in Figure 4 on page 22.

2. From the System Configuration Menu, select **Terminal Configuration** and press Enter.

The Terminal Configuration menu is shown in Figure 17.

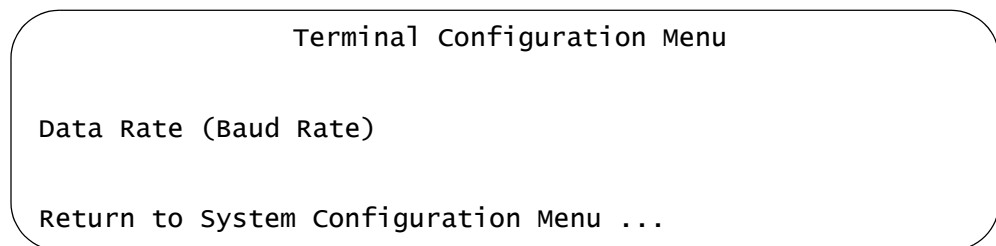


Figure 17. Terminal Configuration Menu

3. From the Terminal Configuration Menu, select **Data Rate** and press Enter.

The Terminal Data Rate menu is shown in Figure 18.

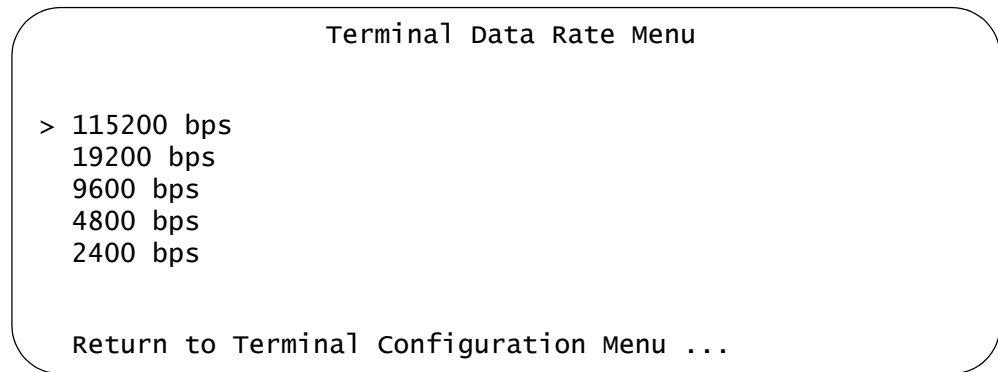


Figure 18. Terminal Data Rate Menu

4. Select the baud rate you want and press Enter.

The default is 115200. To avoid connection problems, always set the terminal data rate and the baud rate in your terminal emulation program to the same setting.

5. Return to the Main Menu.

Changes to the baud rate take effect the next time you start a local management session.

Displaying and Naming the Ethernet Port

To display information about the 10/100Base-T Ethernet port and give it a name, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 19.

Module Status and Configuration Menu										
Module	-----WDM Side-----						-----Port Side-----			
	Status	Tx	Rx	T_SYN	R_SYN	MaxRate	TX	Rx	SFP	
1: Not Present	Unknown									
2: Not Present	Unknown									
3: AT-LX3811/2	MISMATCH									
4: Not Present	Unknown									
5: Not Present	Unknown									
6: Not Present	Unknown									
7: AT-LX3811/7	On	offline	offline	off	off	OM	offline	offline	out	
8: Not Present	Unknown									
9: MGMT BOARD	Off									
10: AT-RPSA										
11: Not Present	Unknown									
12: AT-CPU FAN1	On									
13: AT-CPU FAN2	On									
14: AT-CPU FAN	On									
Return to Main Menu ...										

Figure 19. Module Status and Configuration Menu

The MGMT BOARD module reflects the status of the 10/100 Ethernet port.

2. Select item 9 and press Enter.

The MGMT BOARD menu is shown in Figure 20.

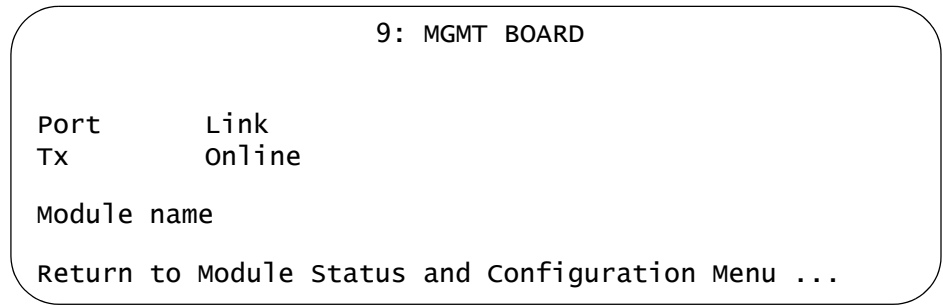


Figure 20. MGMT BOARD (Ethernet Port) Menu

The MGMT BOARD menu shows the current status of the Ethernet port:

Port

This item always displays “Tx.”

Link

The status of the connection, which can be one of the following:

Offline - The port does not have an active connection.

Online - The port has an active connection.

3. To give the port a name, select **Module name** and press Enter.

The name can contain up to 20 alphanumeric characters, including spaces and special characters.

4. Type a name for the module and press Enter.
5. Return to the Main Menu.

Returning the AT-S65 Management Software to the Factory Default Values

To return the AT-S65 management software to the factory default values, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration Menu is shown in Figure 13 on page 37.

2. From the Administration Menu, select **Reset Database to Default** and press Enter.

The message in Figure 21 is displayed.

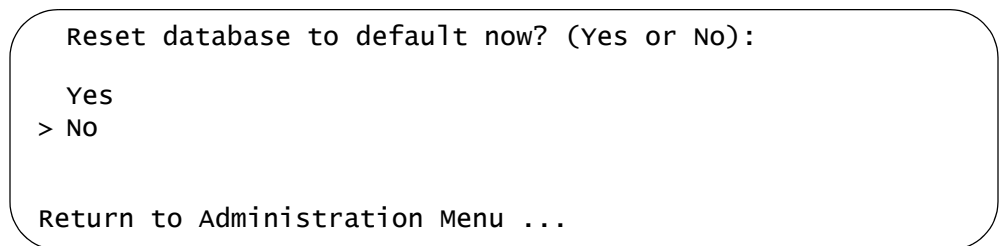


Figure 21. Reset Management Software Menu

3. Select **Yes** and press Return.

The following message is displayed:

```
Database has been set to default, now rebooting the  
system . . .
```

The software is reset to the default values (see Appendix A, “AT-S65 Management Software Default Settings” on page 99), the system is rebooted, and you must log in again.

Note

The system time and date are not reset to the default values.

Chapter 3

Menus Interface Security

The AT-S65 management software includes features that allow you to configure the interface to prevent unauthorized individuals from accessing the software and making changes to the AT-LX3800U configuration settings. This chapter contains the following procedures:

- ❑ “Setting Up Manager and Operator Passwords” on page 46
- ❑ “Enabling or Disabling Access Methods” on page 48
- ❑ “Specifying a Timeout Value” on page 49

Setting Up Manager and Operator Passwords

To prevent unauthorized individuals from accessing the AT-S65 management software, you can specify a password a user is required to enter in order to access the software. Any person who starts the AT-S65 management software, either as a manager or as an operator, is required to enter the password. The password is required whether they access the software locally or remotely.

To specify a new password, perform the following procedure:

1. From the Main Menu, choose **System Configuration**.

The System Configuration Menu is shown in Figure 22.

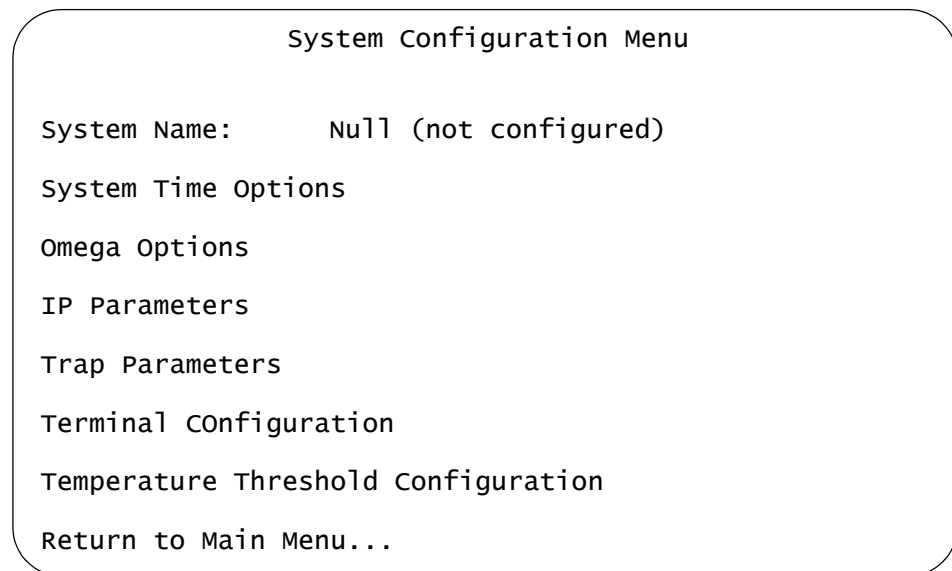


Figure 22. System Configuration Menu

2. From the System Configuration menu, select **Omega Options** and press Enter.

The Omega Options Menu is shown in Figure 23.

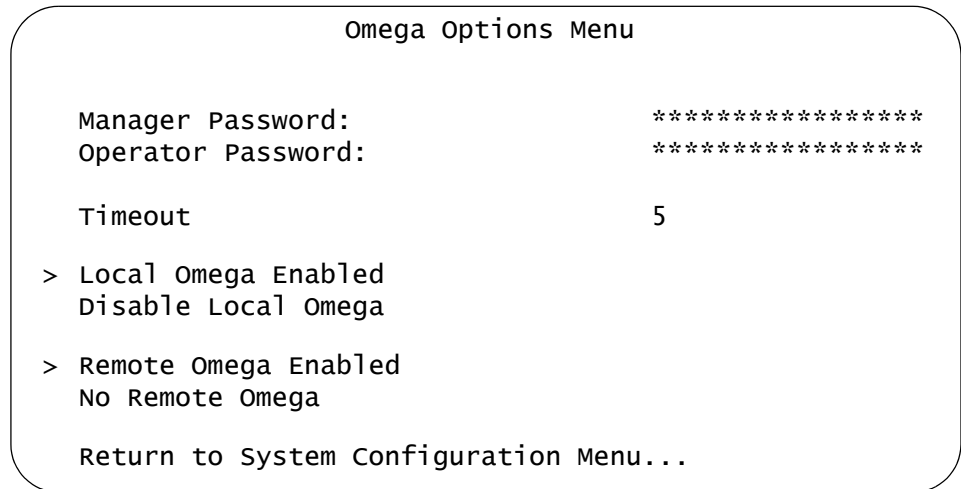


Figure 23. Omega Options Menu

- From the Omega Options menu, select **Manager Password** or **Operator Password**.

Note

When you change these passwords, you change the default system passwords for the Manager and Operator logins. The default Manager password is “friend” and the default Operator password is “Operator.”

- The password can be up to 20 alphanumeric characters in length. Avoid using special characters such as a spaces, asterisks, and exclamation points. The password is case sensitive.
 - When you type the password, it is displayed as a series of asterisks.
 - To delete the current password but not assign a new password, enter a space in the password field.
- Enter a new password and then press Enter.

The new password for the manager or operator login is now activated on the system.
 - Return to the Main Menu.

Enabling or Disabling Access Methods

As explained in Chapter 1, you can access the AT-LX3800U system locally through the RS-232 terminal port or remotely using the Telnet application. You can disable either method to enhance security by preventing unauthorized individuals from making changes to the system's configuration settings.

To enable or disable an access method, perform the following procedure:

1. From the Main Menu, choose **System Configuration**.

The System Configuration menu is shown in Figure 22 on page 46.

2. From the System Configuration menu, select **Omega Options** and press Enter.

The Omega Options menu is shown in Figure 23 on page 47.

3. To enable or disable local access, select **Local Omega Enabled** or **Disable Local Omega**.

These options control local access to the AT-S65 management software on the AT-LX3800U system. The default is enabled.

4. To enable or disable remote access, select **Remote Omega Enabled** or **No Remote Omega**.

These options control remote access to the AT-S65 management software on the AT-LX3800U system. The default is enabled.

5. Return to the Main Menu.

Specifying a Timeout Value

Specifying a timeout value is a way to prevent unauthorized individuals from using the management software in the event that you forget to exit the software and leave your management station unattended. When you specify a timeout value, the AT-S65 management software ends the session when it detects that there has been no activity in the amount of time you specify as the timeout value. The default timeout value is 5 minutes.

To enter a new timeout value, perform the following procedure:

1. From the Main Menu, choose **System Configuration**.

The System Configuration Menu is shown in Figure 22 on page 46.

2. From the System Configuration menu, select **Omega Options** and press Enter.

The Omega Options menu is shown in Figure 23 on page 47.

3. Select **Timeout** and press Enter.
4. Enter a value from 0 (zero) to 65,535 (minutes) and press Enter.

When you enter a value of 0 (zero), there is no timeout and the session remains active until you end the session. If you enter a value of 0, you must always quit the management software in order not to block future sessions and software downloads to the system. The default is 5 minutes.

The new timeout value is immediately activated on the system.

5. Return to the Main Menu.

Chapter 4

Monitoring System Performance

This chapter describes the features in the AT-S65 management software for monitoring the performance of the AT-LX3800U Multi-Service Transport System and contains the following sections:

- ❑ “Displaying System Status Information” on page 52
- ❑ “Using the System Activity Monitor” on page 54
- ❑ “Using the Event Log” on page 57
- ❑ “Displaying Outstanding Errors” on page 60
- ❑ “Specifying a SysLog Server” on page 62
- ❑ “Using the System Diagnostics” on page 63

Displaying System Status Information

The AT-S65 management software provides comprehensive status information about the operation of the chassis and its components, including detailed information about the line cards.

To view chassis status information, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24.

Module Status and Configuration Menu									
Module	-----WDM Side-----					-----Port Side-----			
	Status	Tx	Rx	T_SYN	R_SYN	MaxRate	TX	Rx	SFP
1: Not Present	Unknown								
2: Not Present	Unknown								
3: AT-LX3811/2	MISMATCH								
4: Not Present	Unknown								
5: Not Present	Unknown								
6: Not Present	Unknown								
7: AT-LX3811/7	On	Offline	Offline	Off	Off	OM	Offline	Offline	Out
8: Not Present	Unknown								
9: MGMT BOARD	Off								
10: AT-RPSA									
11: Not Present	Unknown								
12: AT-CPU FAN1	On								
13: AT-CPU FAN2	On								
14: AT-CPU FAN3	On								
Return to Main Menu ...									

Figure 24. Module Status and Configuration Menu

The Module Status and Configuration Menu displays basic information about all the components currently installed in the chassis, including:

- Line cards (items 1 through 8)
- Management board (Ethernet port) (Item 9)
- Main and redundant power supplies (items 10 and 11)
- Chassis fans (items 12 through 14)

The “WDM Side” information coordinates with the Line LEDs, and the “Port Side” coordinates with the Trib LEDs on the line cards.

For details about the line card information on this menu and how to display detailed information, refer to Chapter 5, “Working With Line

Cards” on page 67. For information about the Ethernet port, refer to “Displaying and Naming the Ethernet Port” on page 42.

Using the System Activity Monitor

The AT-S65 management software keeps a list of AT-LX3800U system events such as the removal of an SFP or the loss of a data link. This list is called the activity log and you use the activity monitor to display the log. The activity log contains only those events that have occurred since you started the management session. Ending the session purges the log. The activity log can contain up to 256 events. When the maximum number of events is reached, new events are added to the beginning of the file and old ones are deleted.

In contrast, the event log contains all system events since the AT-LX3800U system was last rebooted. For information about the event log, refer to “Using the Event Log” on page 57.

This section contains the following procedures:

- “Starting and Stopping the Activity Log,” next
- “Displaying the Activity Log” on page 54

Starting and Stopping the Activity Log

To start or stop the activity log, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, under Activity Monitor, select **Start Log** to start the activity log or **Stop Log** to stop the activity log. The default is Start Log.

Displaying the Activity Log

To view the activity log, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, select **Activity Monitor** and press Enter.

The Activity Monitor is shown in Figure 25.

```

Activity Monitor

(Press Return to resume the previous menu)

04:26:17  0:04:42:01:CLEAR:Line Card 3 wavelength Mismatch
04:26:17  0:04:42:01:REPORT:Line Card 3 Missing
04:26:17  0:04:42:01:REPORT:Line Card 3 wavelength Mismatch
04:26:17  0:04:42:01:CLEAR:Line Card 3 Missing
04:26:17  0:04:42:01:REPORT:Line Card 3 SFP Link Down
04:26:17  0:04:42:01:REPORT:Line Card 3 RX Synchronization Failed
04:26:17  0:04:42:01:REPORT:Line Card 3 SFP Transceiver is Disabled

```

Figure 25. Activity Monitor

The activity monitor continues to display system activities until you press Enter to return to the previous menu and select **Stop Log**.

The activity log messages are described in Table 3. The messages shown in the activity log are the same as those shown in the event log described in “Using the Event Log” on page 57. Each message is preceded either by “REPORT” or “CLEAR.” REPORT indicates that an error is being reported, and CLEAR indicates that the error has been cleared. The “*n*” in the message indicates the number of the line card, fan module, and so forth where the event occurred.

Table 3. Activity and Event Log Events

Event	Description
Chassis Temperature Exceed High Limit	The chassis temperature has exceeded the set maximum limit.
Fan Module <i>n</i> Failed	A chassis fan has failed.
Line Card <i>n</i> Missing	The line card is missing from the slot.
Line Card <i>n</i> RX Synchronization Failed	The line card's receive port synchronization has failed.
Line Card <i>n</i> SFP Link Down	The receive port on the SFP has a loss of signal.
Line Card <i>n</i> SFP Port Shutdown	The SFP port has been shut down.
Line Card <i>n</i> SFP Rate Changed	The line card rate has changed.
Line Card <i>n</i> SFP Temperature Exceed High Limit	The temperature of the SFP has exceeded the set maximum temperature.

Table 3. Activity and Event Log Events (Continued)

Event	Description
Line Card <i>n</i> SFP Transceiver is Disabled	The transmit port of an SFP has been disabled.
Line Card <i>n</i> SFP Unplugged	The SFP in a line card has been unplugged and/or removed.
Line Card <i>n</i> Temperature Exceed High Limit	The temperature of the line card has exceed the set maximum temperature.
Line Card <i>n</i> TX Synchronization Failed	The line card's transmit port synchronization has failed.
Line Card <i>n</i> Wavelength Mismatch	The line card inserted in the slot does not match the wavelength for that slot.
Line Card <i>n</i> WDM Channel Down	The line card's receive port has lost the signal.
Line Card <i>n</i> WDM Port Shutdown	The line card's transmit port has been shut down.
Line Card <i>n</i> WDM Transmitter is Disabled	The line card's transmitter has been disabled.
Power Module <i>n</i> Failed	A power supply has failed.
Power Module <i>n</i> Inserted	A power supply has been inserted into the chassis.
Power Module <i>n</i> Removed	A power supply has been removed from the chassis.
System Cold Reboot	The system has been rebooted by turning the power switch off and then on.

Using the Event Log

The event log provides vital information about chassis activity that helps you identify and solve system problems. The event log permanently stores system event information in a file saved in flash memory on the system. The file can contain up to 511 events. When the maximum number of events is reached, new events are added to the beginning of the file and old ones are deleted.

In contrast, the activity log as described in “Using the System Activity Monitor” on page 54 contains only those events that occurred since you started the latest management session.

Displaying the Event Log

To display the event log, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, select **Event Log** and press Enter.

The Event Log menu is shown in Figure 26.

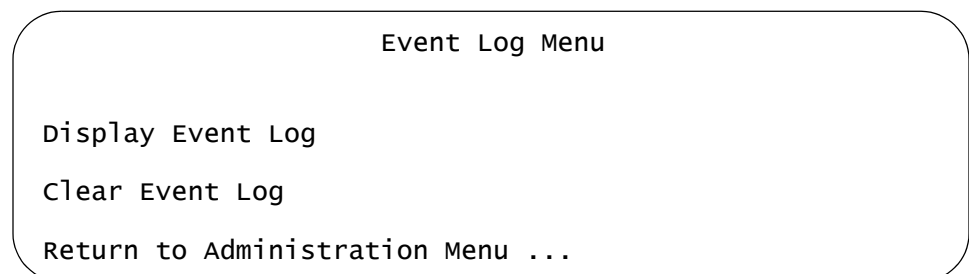


Figure 26. Event Log Menu

3. From the Event Log menu, select **Display Event Log** and press Enter.

The event log is displayed, as shown in Figure 27.

Event Log		
Total Events: 511		Displaying: 505 to 511
Date	Time	Message
01/11/04	04:26:17	0:04:42:01: CLEAR:Line Card 1 WDM Channel Down
01/11/04	04:26:17	0:04:42:01: REPORT:Line Card 3 Missing
01/11/04	04:26:17	0:04:42:01: REPORT:Line Card 3 Wavelength Mismatch
01/11/04	04:26:17	0:04:42:01: CLEAR:Line Card 3 Missing
01/11/04	04:26:17	0:04:42:01: REPORT:Line Card 3 SFP Link Down
01/11/04	04:26:17	0:04:42:01: REPORT:Line Card 3 RX Synchronization Failed
01/11/04	04:26:17	0:04:42:01: REPORT:Line Card 3 SFP Transceiver is Disabled

N - Next Page, P - Previous Page, F - First Page, L - Last Page, R - Return

Figure 27. Event Log

The Event Log menu provides the following information:

Total Events

The total number of events currently stored in the event log.

Displaying

Of the total number of events in the event log, the range of events currently displayed.

Date and Time

The date and time that the event occurred.

Message

This information starts with the number of hours, minutes, and seconds that the chassis has been running since it was last powered on. The messages reported in the event log are identical to those reported in the activity log. For a list of these messages, refer to Table 3, “Activity and Event Log Events” on page 55.

- 4. Return to the Main Menu.

Clearing the Event Log

To clear the event log, perform the following procedure:

- 1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

- 2. From the Administration menu, select **Event Log** and press Enter.

The Event Log menu is shown in Figure 26 on page 57.

3. From the Event Log menu, select **Clear Event Log**.

The following message is displayed while the event log is being cleared:

Please wait while the event log is cleared.

Followed by:

Done!

4. Return to the Main Menu.

Displaying Outstanding Errors

Outstanding errors are hardware errors that require immediate attention. The most recent outstanding error is displayed at the bottom of every menu you view, and all the current outstanding errors are shown on the Outstanding Errors menu. Most outstanding errors report line cards that are inserted in the wrong slot (mismatched).

To display the outstanding errors, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, select **Outstanding Errors** and press Enter.

An example of the Outstanding Errors menu is shown in Figure 28.

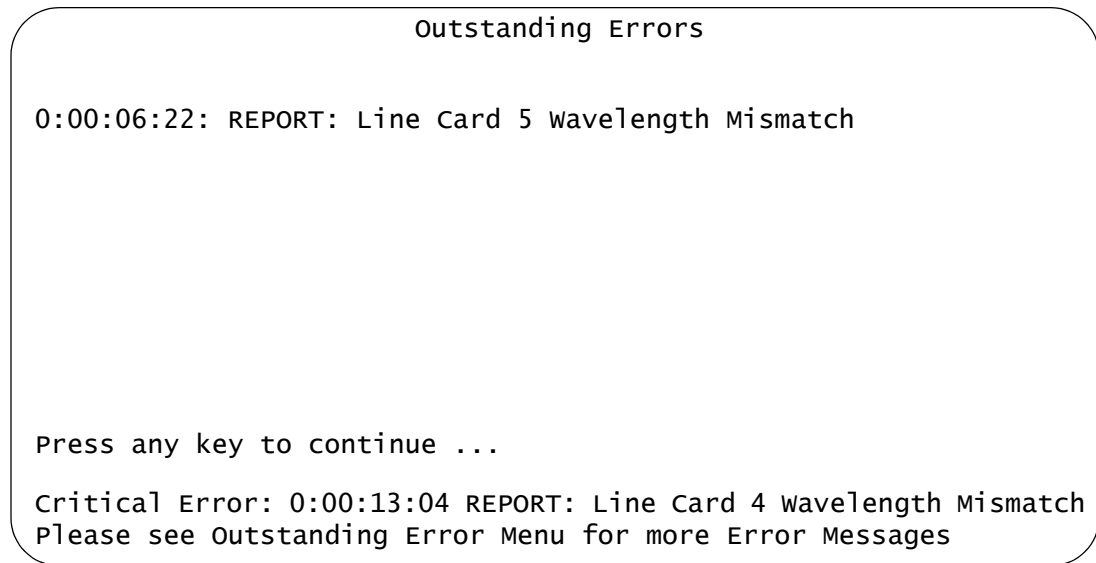


Figure 28. Outstanding Errors Menu

The most recent error is shown at the bottom of this and all S65 menus. Any older errors are shown above.

The error in the example above shows that wavelength mismatch error indicates that line cards 4 and 5 are inserted in the wrong slots.

Note

A line card inserted in the wrong slot (mismatched) cannot pass data (traffic).

These errors are the same as those shown in the activity and event logs. For more information, refer to Table 3, "Activity and Event Log Events" on page 55.

Specifying a SysLog Server

The syslog protocol allows you to collect messages and events produced by a wide variety of network equipment in a single place. For instance, instead of viewing the event logs of several separate AT-LX3800U systems, you can have those events sent to a single syslog server on your network. The destination for the events is referred to as a facility code.

To transmit the system events to a syslog server, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, select **Syslog Server Address** and press Enter.
3. Enter the IP address of a syslog server on the network.
4. Select **SysLog Facility Code**.

Assign a facility code to the chassis log messages. The range is 0 to 23 and the default is 1. The facility code generally used for system events is 23, or you can use whatever facility number you have already set up on your network.

5. Type the facility code and press Enter.
6. Return to the Main Menu.

Using the System Diagnostics

The AT-S65 management software provides an option to run diagnostic self-tests on the chassis and line cards. The following section describes how to run chassis diagnostics. Using this information helps you diagnose performance problems with the chassis. For information about the line card diagnostics, refer to “Displaying the Line Card Diagnostics” on page 86.

To run chassis diagnostics, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, select **Diagnostics** and press Enter.

The Diagnostics Menu is shown in Figure 29.

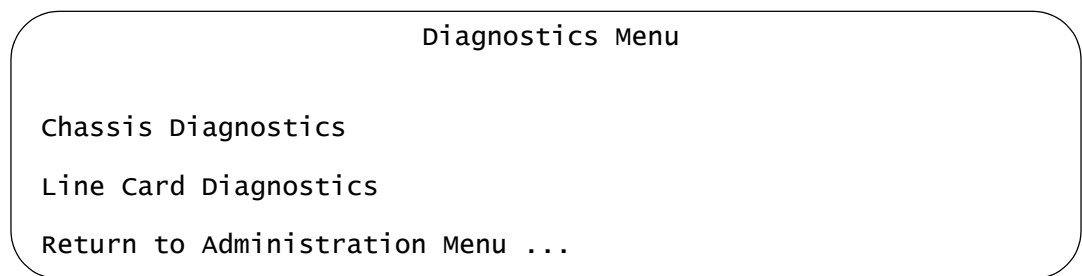


Figure 29. Diagnostics Menu

3. From the Diagnostics Menu, select **Chassis Diagnostics** and press Enter.

The AT-S65 management software runs the diagnostics on the chassis and displays the Chassis Diagnostics menu, as shown in Figure 30.

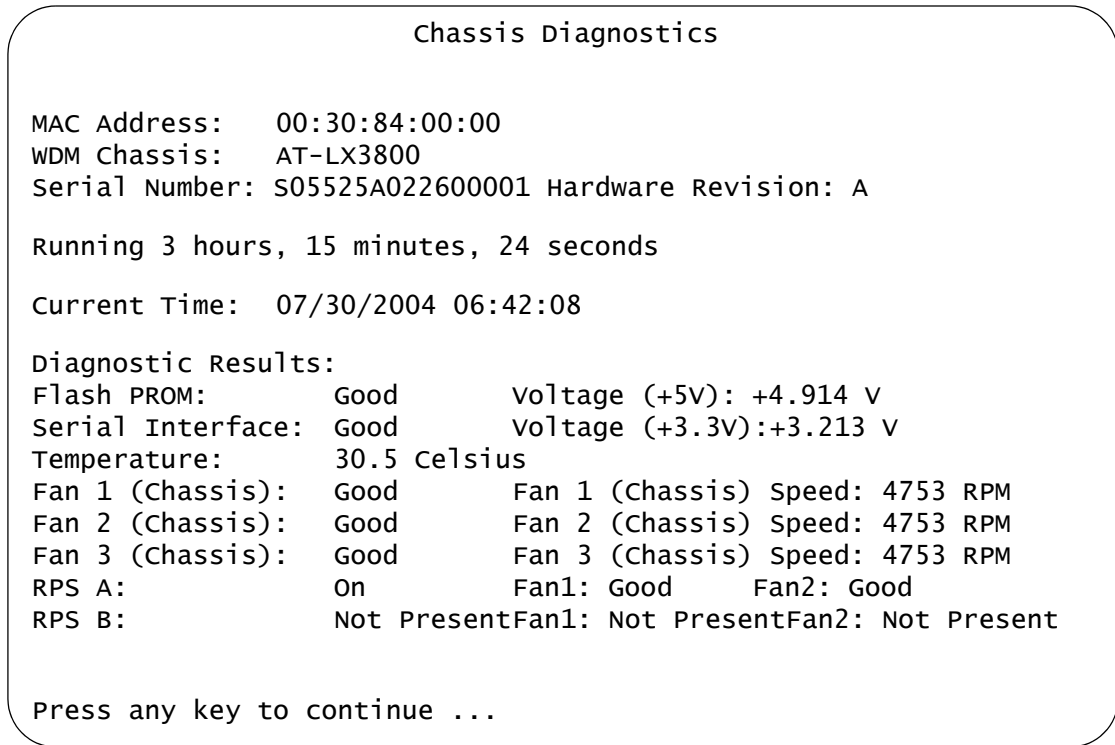


Figure 30. Chassis Diagnostics Menu

The top portion of the Chassis Diagnostics menu contains the following items of information:

MAC Address

The MAC address of the chassis.

WDM Chassis

The AT-LX3800U chassis revision number.

Serial Number/Hardware Revision

The serial number and hardware revision level of the system.

Running

The number of hours, minutes, and seconds that the chassis has been running since it was last powered on.

Current Time

The current time set on the chassis.

The lower portion of the Chassis Diagnostics menu contains diagnostic information about the following:

Flash PROM

The status of the Flash PROM and its current voltage.

Serial Interface

The status of the RS-232 terminal port and its current voltage.

Fan 1 through Fan 3

The status of the chassis fans and their current speed.

RPSA and RPSB

The status of the power supplies including whether or not the power supply is turned on and the status of the two fans it contains. The chassis can function with only one power supply, referred to as RPSA or RPSB in this menu.

4. Return to the Main Menu.

Chapter 5

Working With Line Cards

The AT-S65 management software provides several ways that you can view information about the line cards and run diagnostics on a line card. For diagnostic information about the overall system, refer to Chapter 4, “Monitoring System Performance” on page 51.

This chapter contains the following sections:

- ❑ “Displaying Basic Line Card Information” on page 68
- ❑ “Displaying Detailed Line Card Information” on page 70
- ❑ “Changing Basic Line Card Settings” on page 74
- ❑ “Setting the Line Card’s Mode of Operation” on page 76
- ❑ “Displaying the Line Card Diagnostics” on page 86

Displaying Basic Line Card Information

The AT-S65 software provides a menu that displays an overview of the status of all the components in the system.

To view the system status and configuration, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24 on page 52.

Items 1 through 8 in the Module Status and Configuration Menu display two groups of information about the line cards:

WDM Side

The status of the WDM (line) side of the line card, that coordinates with the Line group of LEDs. The columns of information in this section are:

Status

The current status of the line card, which can be one of the following:

Unknown - No line card inserted.

MISMATCH - The line card in this slot is not the correct line card designated for the slot.

On - The correct line card is inserted in this slot and the power is on.

Tx

The status of the transmit WDM port, which can be one of the following:

Offline - The transmitter is disabled.

Online - The transmitter is enabled.

Rx

The status of the receive WDM port, which can be one of the following:

Offline - The receiver input power is less than $-38 \text{ dBm} \pm 2 \text{ dB}$.

Online - The receiver input power is greater than $-38 \text{ dBm} \pm 2 \text{ dB}$.

T_SYN

The status of the synchronization of the TX path, which can be one of the following:

Off - The data is not synchronized (locked) on a transmit path.

On - The data is synchronized (locked) on a transmit path.

R_SYN

The status of the synchronization of the RX path, which can be one of the following:

Off - The data is not synchronized (locked) on a receive path.

On - The data is synchronized (locked) on a receive path.

Port Side

The status of the port (SFP) side of the line card, that coordinates with the Trib group of LEDs. The columns of information in this section are:

Max Rate

The maximum rate for the SFP installed in the line card. This information is only available when an SFP is installed.

Tx

The status of the transmit (SFP) port, which can be one of the following:

Offline - The SFP transmitter is disabled.

Online - The SFP transmitter is enabled.

Rx

The status of the receive (SFP) port, which can be one of the following:

Offline - The SFP input power is less than the threshold value for Rx loss specified by the vendor.

Online - The SFP input power is higher than or equal to the threshold value for Rx loss specified by the vendor.

SFP

The status of the SFP in the line card, which can be one of the following:

In - An SFP is inserted in the SFP slot.

Out - No SFP is inserted in the SFP slot.

Displaying Detailed Line Card Information

The AT-S65 management software provides detailed information about the line cards including items such as temperature, data rate, wavelength, and vendor information for the SFP. The procedures in this section include:

- ❑ “Displaying Line Card Status Information,” next
- ❑ “Changing the Line Card Name and Location” on page 74
- ❑ “Enabling or Disabling a Line Card” on page 74
- ❑ “Displaying SFP Vendor Information” on page 73

Displaying Line Card Status Information

To display detailed line card status information, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24 on page 52.

2. Select the line card whose information you want to display and press Enter.

An example of the Module Status Menu for an AT-LX3811/1 line card is shown in Figure 31.

```

1: AT-LX3811/1

Module Name:

Port                               Link
TX                                 Offline
RX                                 Offline

Wavelength                         1470
Temperature                         41.8 Celsius
Current Data Rate                   0.0 Mbps

Module Location:
Module Information
Vendor Information
Module Status                       Enabled
Port Status                         Enabled
Line Card Mode of Operation

Return to Line Card Status and Configuration Menu ...
    
```

Figure 31. Sample Line Card Information

The Module Status Menu provides the following information:

Name

The name can be up to 20 alphanumeric characters including spaces and special characters. You may want to choose a name that reflects the organization or group that is connected through this line card.

Port/Link

Indicates whether there is an active connection between the SFP port and the device connected to it, which is one of the following:

Tx - The status of the transmit port, which can be one of the following:

Offline: The SFP transmitter is disabled.

Online: The SFP transmitter is enabled.

Rx - The status of the receive port, which can be one of the following:

Offline: The SFP input power is less than the threshold value for Rx loss specified by the vendor.

Online: The SFP input power is higher than or equal to the threshold value for Rx loss specified by the vendor.

Wavelength

The wavelength of the line transmitter's laser.

Temperature

The current temperature of the line card.

Current Data Rate

The current data rate of the line card \pm 10%.

Module Location

For information about setting up this information, refer to "Changing the Line Card Name and Location" on page 74.

Module Information

For information about displaying this detailed information, go to step 3.

Vendor Information

For information about displaying this information, refer to "Displaying SFP Vendor Information" on page 73.

Module Status

The status of the line card. The options are:

Enabled - Enables the lasers on the port (SFP) and WDM (line) sides. This is the default.

Disabled - Disables the lasers on the port and WDM sides but does not terminate traffic.

Port Status

The status of the SFP port. The options are:

Enabled - Enables the laser on the SFP transceiver. This is the default.

Disabled - Disables the laser on the SFP transceiver but does not terminate traffic.

Line Card Mode of Operation

Opens a menu where you set the line card's mode of operation.

For more information about the line card's mode of operation, refer to "Setting the Line Card's Mode of Operation" on page 76.

3. To display more detailed information about the SFP transceiver, select **Module Information** and press Enter.

The detailed SFP transceiver information is displayed, as shown in Figure 32. The information varies depending upon the SFP transceiver whose information you are displaying.

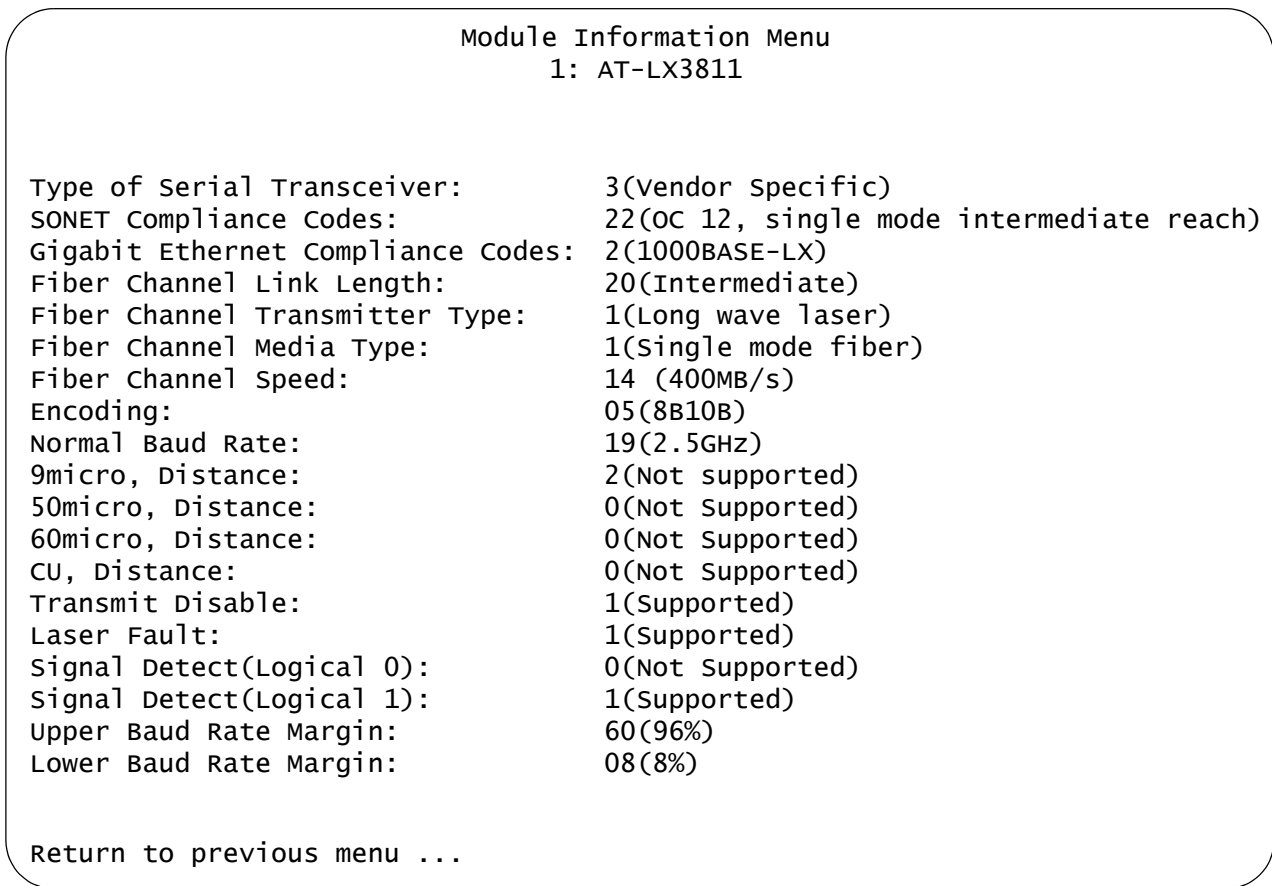


Figure 32. Detailed SFP Transceiver Information Menu

4. Return to the Main Menu.

Displaying SFP Vendor Information

To display SFP vendor information, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24 on page 52.

2. Select the line card whose information you want to display and press Enter.

The Module Status Menu for that line card is displayed. An example of that menu is shown in Figure 31 on page 70.

3. Select **Vendor Information** and press Enter.

Details about the SFP inserted in that line card are displayed. An example of that display is shown in Figure 33. The information varies depending upon what the vendor has programmed into the SFP.

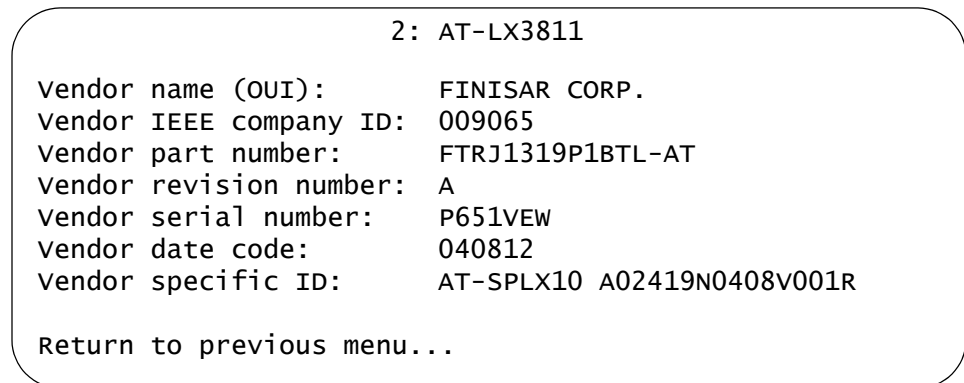


Figure 33. SFP Vendor Information

4. Return to the Main Menu.

Changing Basic Line Card Settings

You can change the following settings to fit your network needs:

- “Changing the Line Card Name and Location,” next
- “Enabling or Disabling a Line Card” on page 74

Changing the Line Card Name and Location

To change the name and location of the line card, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24 on page 52.

2. Select the line card whose information you want to change and press Enter.

The Module Status Menu for that line card is displayed. An example of that menu is shown in Figure 31 on page 70.

3. Select **Name** and press Enter.

Enter a name for the line card and press Enter. You may want to choose a name that reflects the group connected to that line card, such as Engineering. The name can contain up to 20 alphanumeric characters, spaces, and special characters.

4. Select **Module Location** and press Enter.

Enter a name for the location and press Enter. For instance, the name of a city to which the line card is sending traffic. The location contain up to 20 alphanumeric characters, spaces, and special characters.

5. Return to the Main Menu.

Enabling or Disabling a Line Card

When you enable a line card, you make it available to send and receive network traffic. If a line card TX or RX LED for the LINE side of the card are flashing green or off, the card may be disabled. The default is enabled.

To verify if a line card is enabled or disabled, or to change that setting, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24 on page 52.

2. Select the line card whose information you want to change and press Enter.

The Module Status Menu for that line card is displayed. An example of that menu is shown in Figure 31 on page 70.

3. Select **Module Status** and press Enter.

The options are:

Enabled - Enables the line card. This is the default.

Disabled - Disables the line card.

4. Press Enter to change the selection.
5. Return to the Main Menu.

Setting the Line Card's Mode of Operation

You can choose one of seven modes of operation for the ports on a line card. The modes determine what response the line card makes when an optical signal is present or interrupted. The modes include a default mode and six other modes divided into two groups: three missing link disabled modes and three fixed loopback modes, as shown in Table 4.

Table 4. Line Card Modes of Operation

Group	Mode No.	Description
	1	Port and line card missing link enabled. (Default)
Missing Link Disabled	2	Port missing link disabled, line missing link enabled.
	3	Port missing link enabled, line missing link disabled.
	4	Port and line missing link disabled.
Fixed Loopback	5	Port loopback enabled.
	6	Port and line loopback enabled.
	7	Line loopback enabled.

In the missing link modes, the data path automatically changes depending upon the presence or absence of an optical signal. The default and all the fixed loopback modes provide only fixed data paths.

The value of these operation modes is that you can configure some switches to take a specific action when a connection is lost. In some cases, you can configure the unit to seek a redundant path to the disconnected node and send out a trap to a network management station, alerting the network administrator of the problem.

You can use the loopback modes for troubleshooting and mode 3 or mode 7 in a regeneration application.

Figure 34 shows four AT-LX3800U systems in a regeneration configuration. The line cards in the regeneration units (site B) are configured in either mode 7 (line loopback enabled) or mode 3 (port missing link enabled, line missing link disabled). If you choose mode 3, the line card automatically switches from line loopback configuration to a passthrough configuration as soon as the SFP port receives an optical signal. If no signal is received on the SFP port, then mode 3 operates in the same way as mode 7.

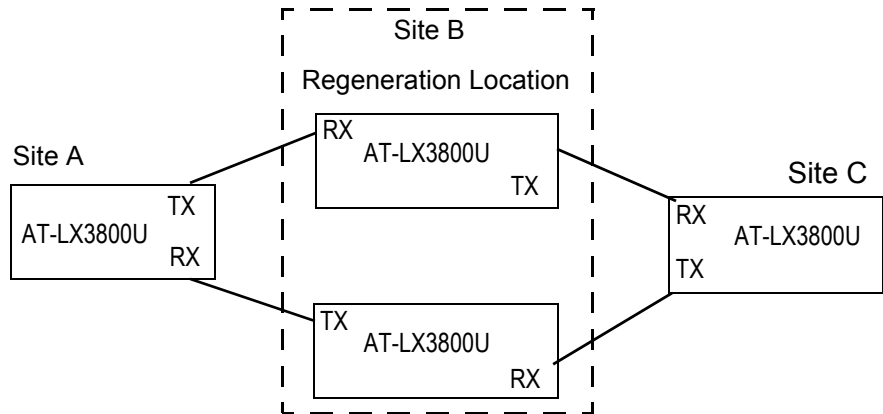


Figure 34. Regeneration Configuration Using Mode 7

All of the modes are described in detail in the following sections.

Default Mode

In the default mode (mode 1 shown in Figure 35), missing link is enabled for both the port (SFP) and line (WDM) sides. This mode allows the system to pass the status of its connections to the next stage in the data path.

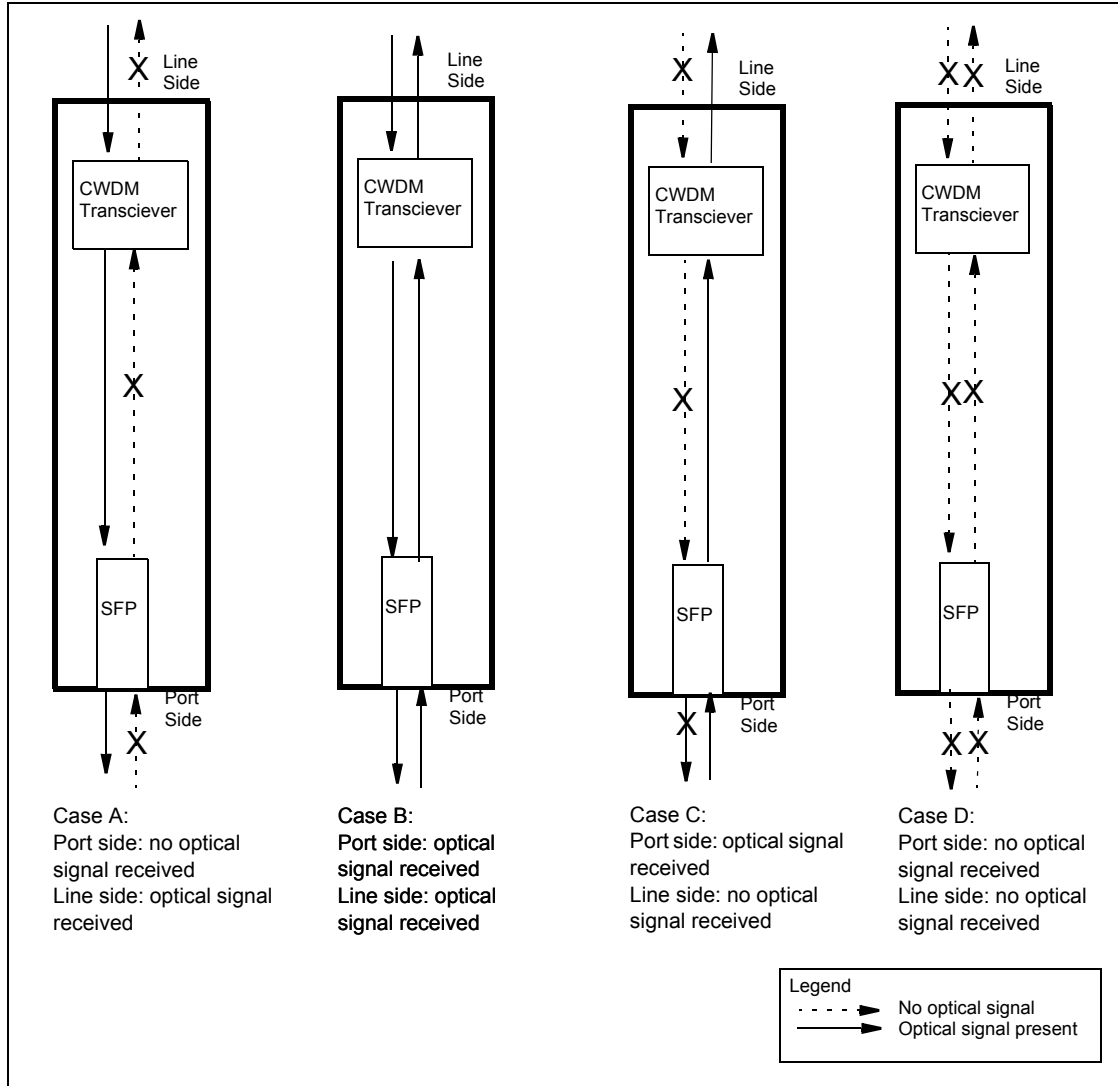


Figure 35. Mode 1: Missing Link Enabled for Port Side and Line Side (Default Mode)

For example, if the port (SFP) side of a local AT-LX3800U system in default mode does not receive a signal (Figure 35, case A), then the corresponding line (WDM) side is shut down and the remote AT-LX3800U does not get a signal. If the remote system is also in default mode, then the corresponding port (SFP) side is shut down. (See Case C in Figure 35.) Therefore, the status of the port side of a local system propagates to the remote system's port side.

Missing Link Disabled Modes

To prevent a link from shutting down when a failure occurs somewhere in the signal path, use one of the missing link disabled modes.

In the first missing link mode (#2) shown in Figure 36, in case C, when there is no optical signal received on the line side, the port (SFP) side output is activated and the port (SFP) side input is looped back to the SFP output. As soon as an optical signal reaches the line side, the line card reconfigures itself to pass-through operation (case B in Figure 36).

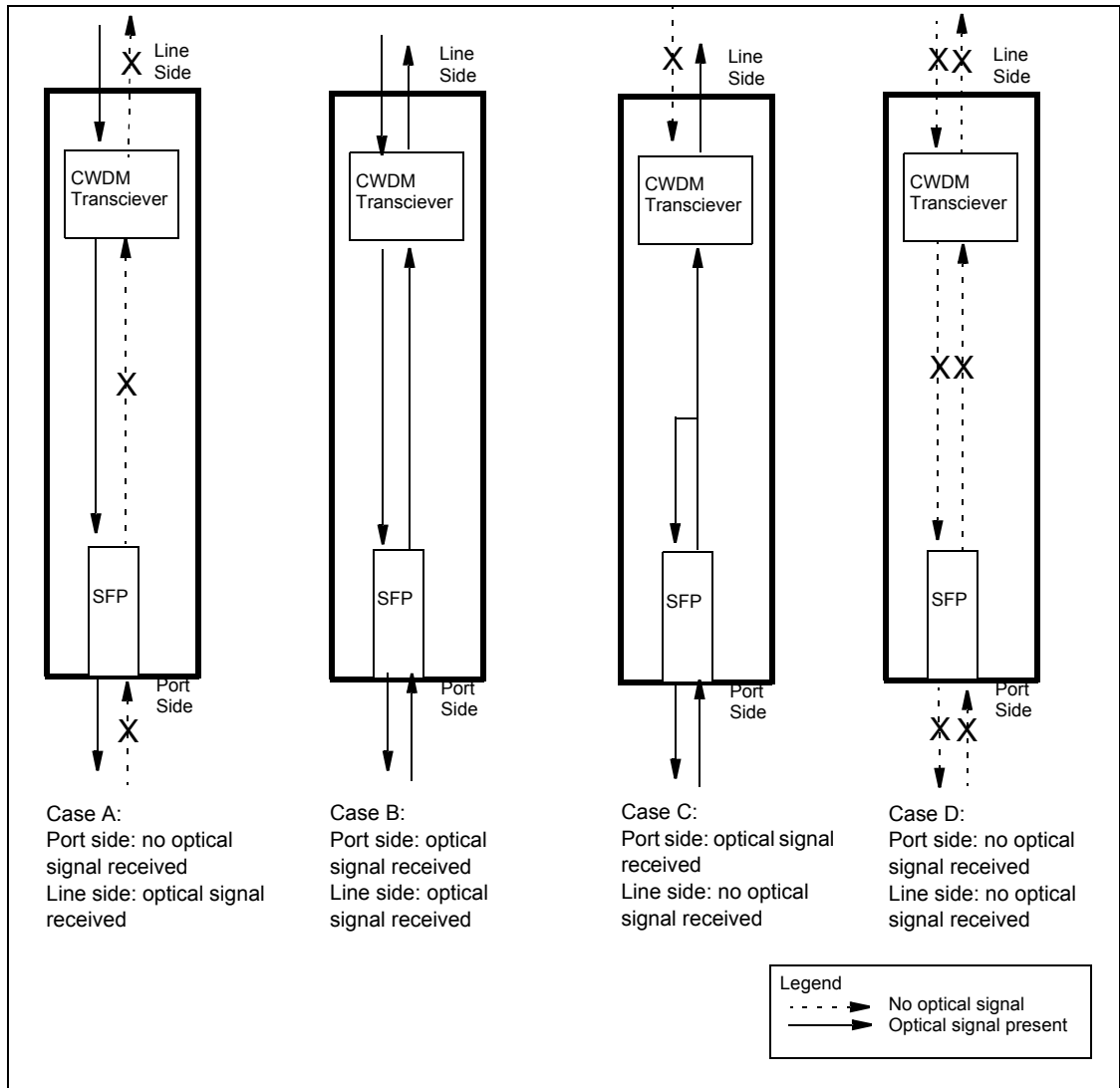


Figure 36. Mode 2: Missing Link Disabled for Port Side and Enabled for Line Side

Figure 37 describes mode #3. When missing link is enabled for the port (SFP) side and disabled for the WDM (line side). When the port side does not receive an optical signal (Case A), the WDM (line side) signal loops back to the line side.

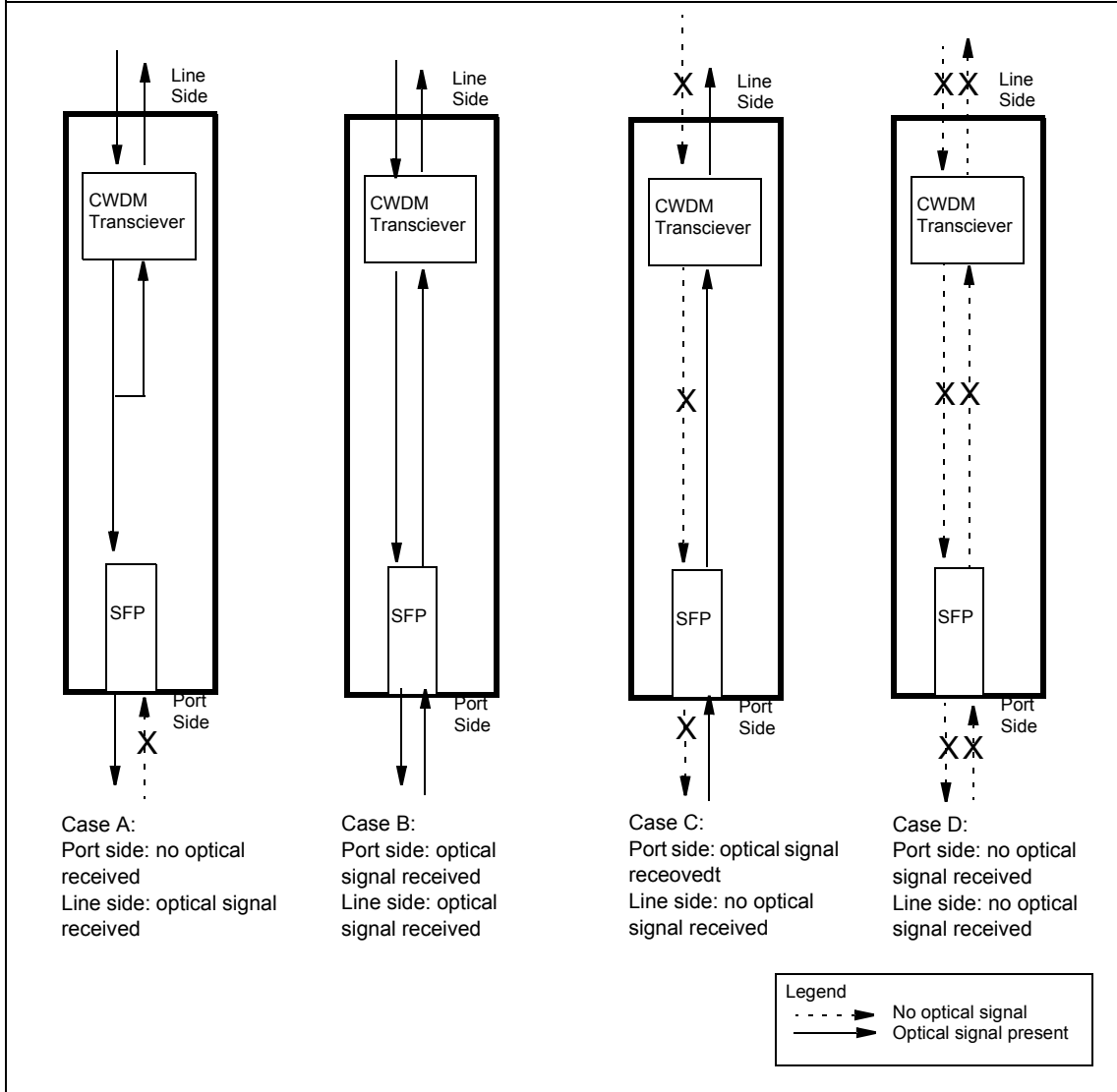


Figure 37. Mode 3: Missing Link Enabled for Port Side and Disabled for Line Side

In mode 4, the third missing link mode (Figure 38), missing link is disabled on both the port and line sides. Case A shows that if there is no received signal at the port (SFP) side then the line side loops back to itself. Case C shows that if there is no received signal on the WDM (line) side then the port (SFP) side loops back to itself.

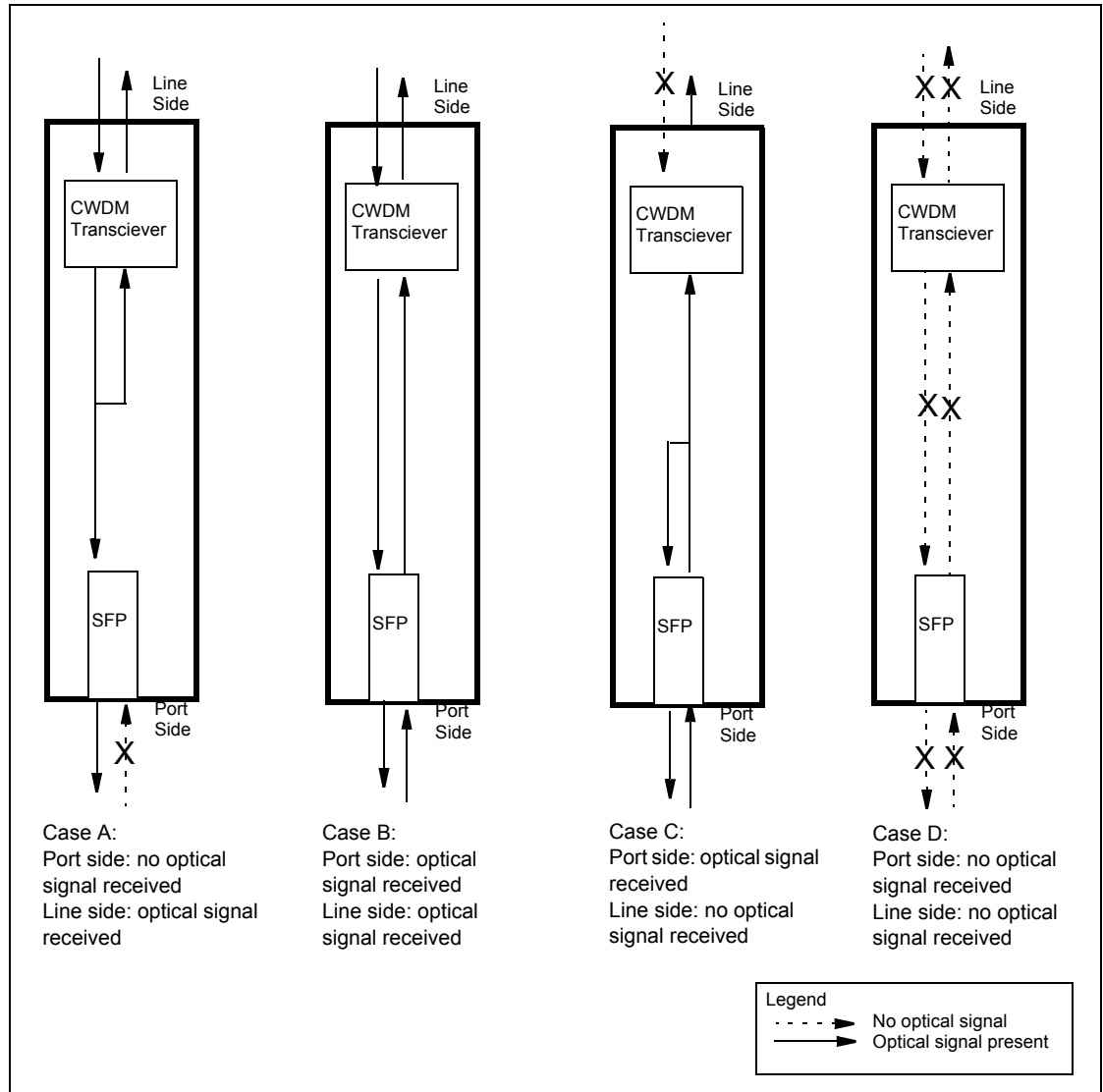


Figure 38. Mode 4: Missing Link Disabled for Port and Line Sides

Fixed Loopback Mode

In fixed loopback mode, the data paths are fixed. Fixed loopback operates in one of three ways: loopback on the port (SFP) side only (Figure 39), loopback on both the port and line sides (Figure 40), or loopback on the line side only (Figure 41).

In mode 5 (Figure 39), loopback on the port side only, input to the port (SFP) side loops back and also propagates to the WDM (line) side as shown in cases B and C..

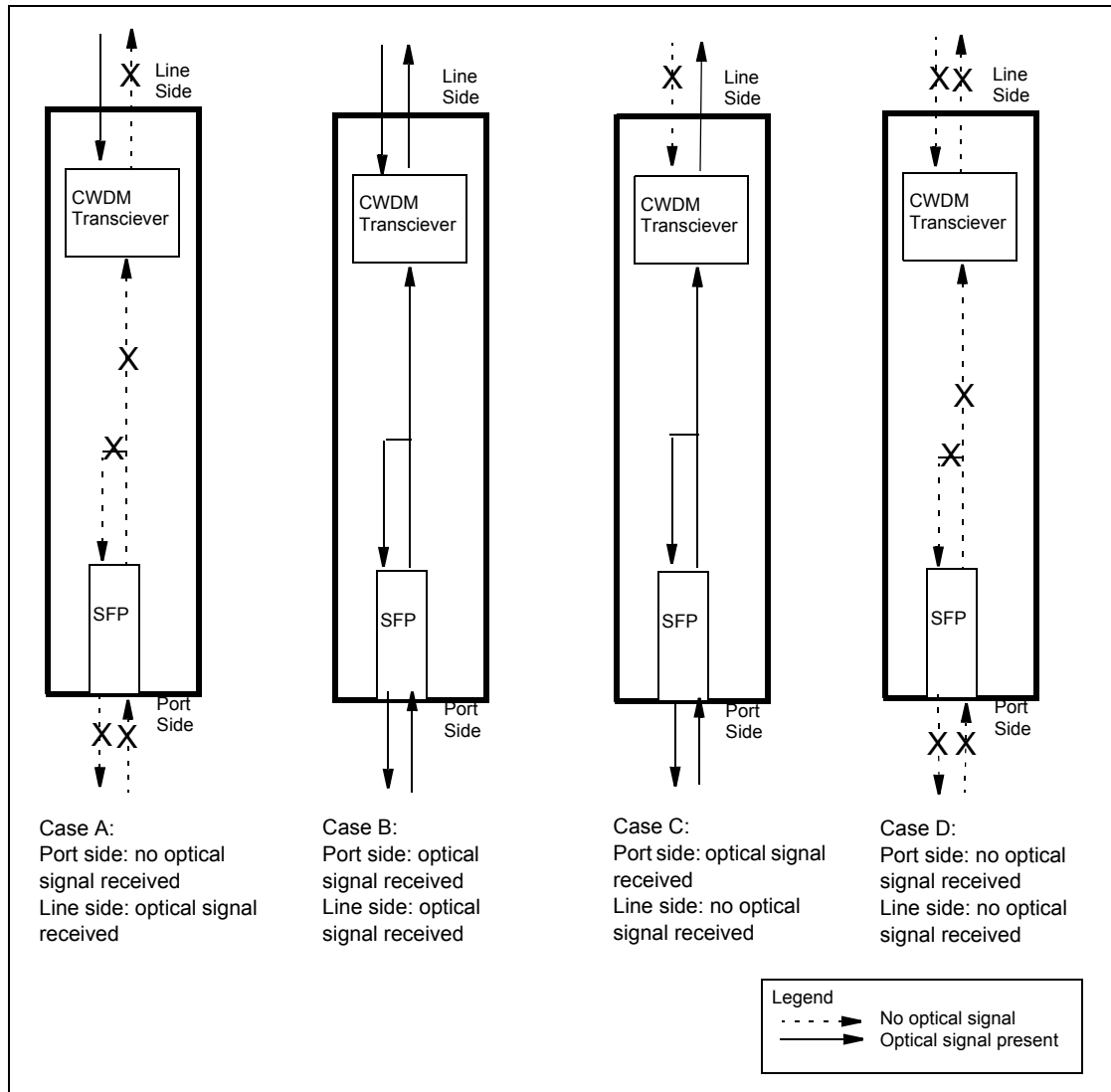


Figure 39. Mode 5: Loopback on the Port Side Only

When loopback is set for both the port and line sides as in mode 6 (Figure 40), the received optical signal on either side loops back.

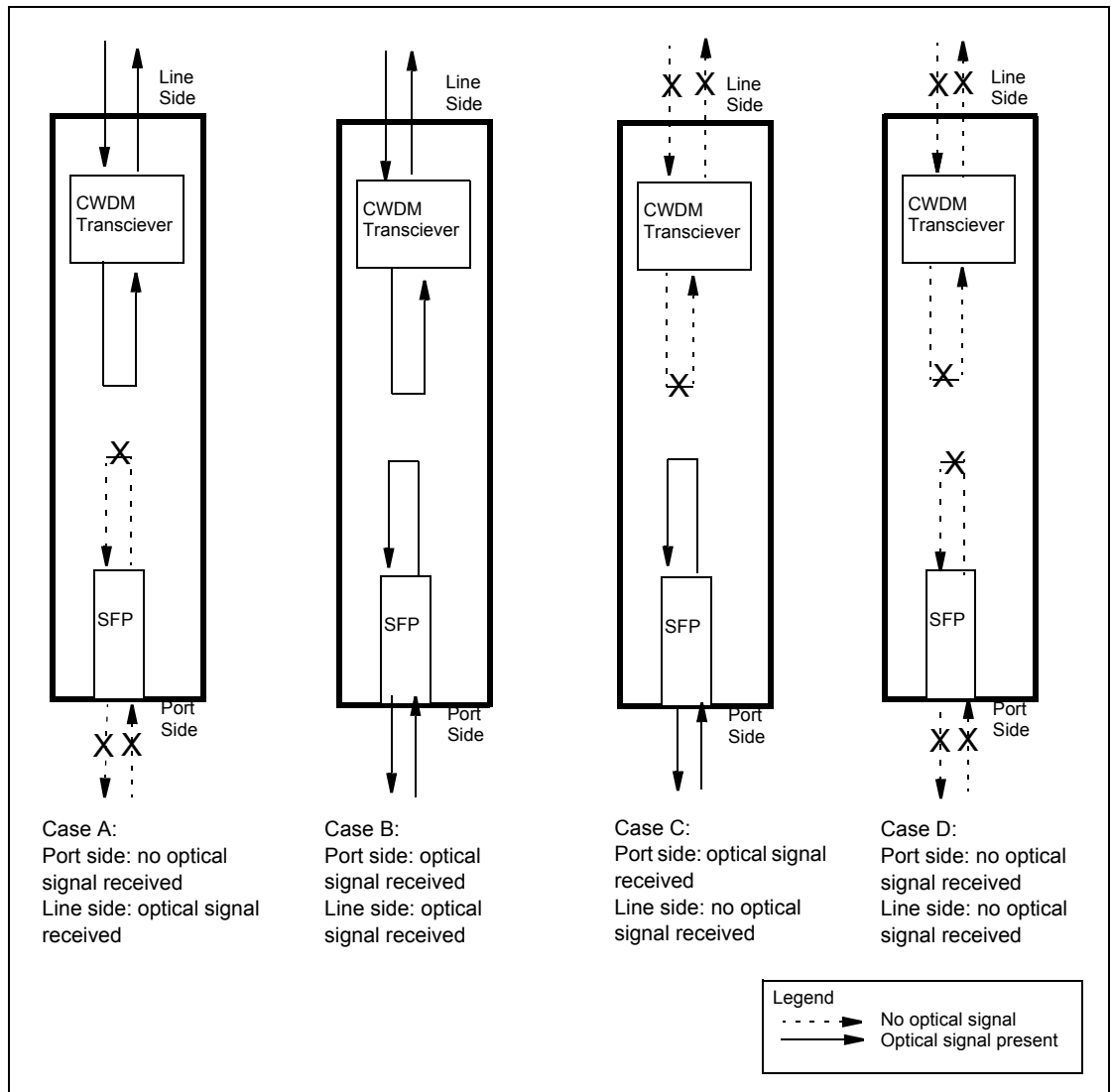


Figure 40. Mode 6: Loopback on Port and Line Sides

Figure 41 shows loopback set for the line side only (mode 7). Optical signal input at the WDM (line) side is looped back and also propagated to the port (SFP) side.

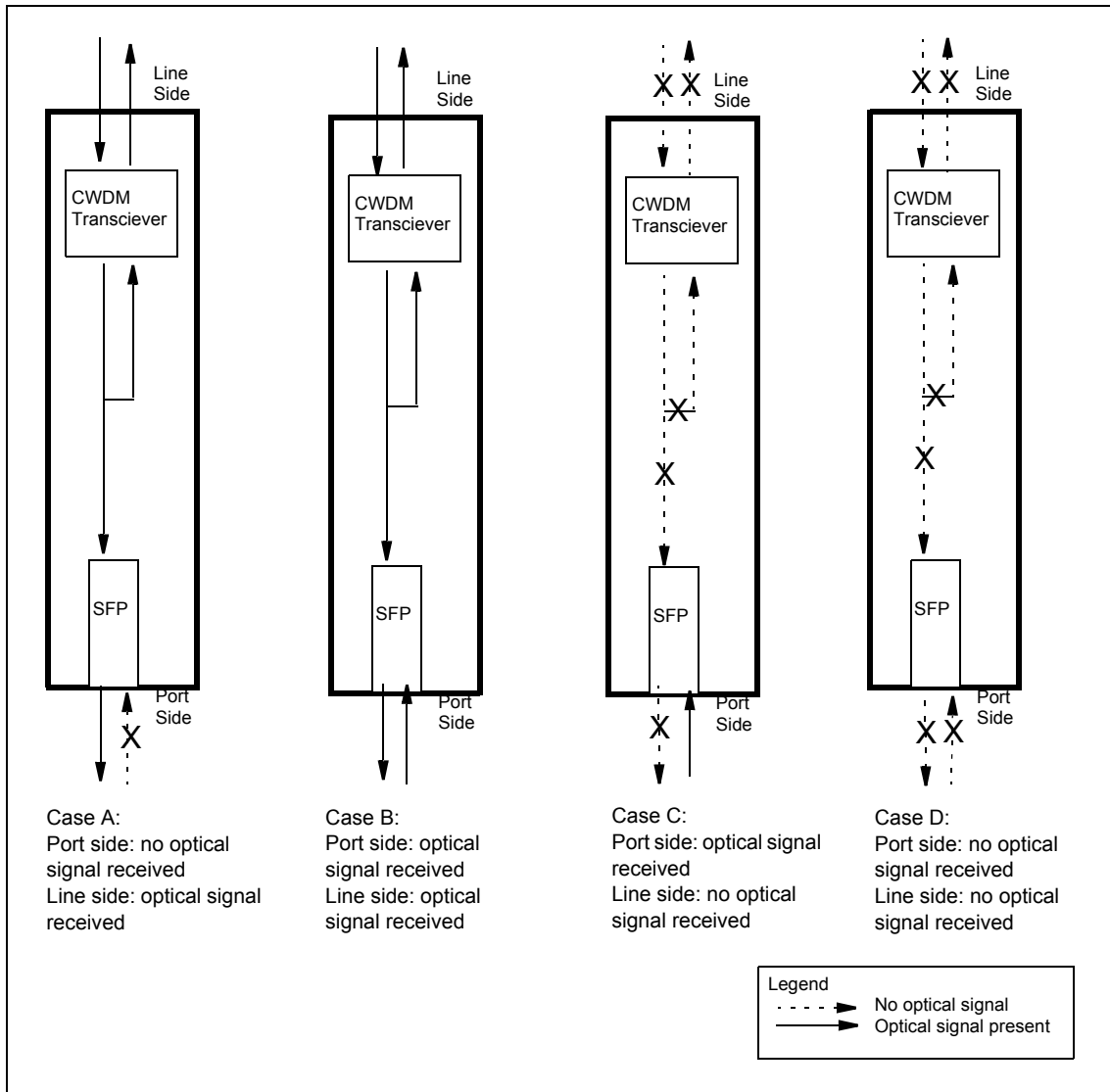


Figure 41. Mode 7: Loopback on the Line Side Only

Setting or Changing the Line Card's Mode of Operation

To set the line card's mode of operation, perform the following procedure:

1. From the Main Menu, select **Module Status and Configuration**.

The Module Status and Configuration Menu is shown in Figure 24 on page 52.

2. Select the line card whose mode you want to set or change and press Enter.

The Module Status Menu for that line card is displayed. An example of that menu is shown in Figure 31 on page 70.

3. Select **Line Card Mode of Operation** and press Enter.

The Line Card Mode of Operation menu is shown in Figure 42.

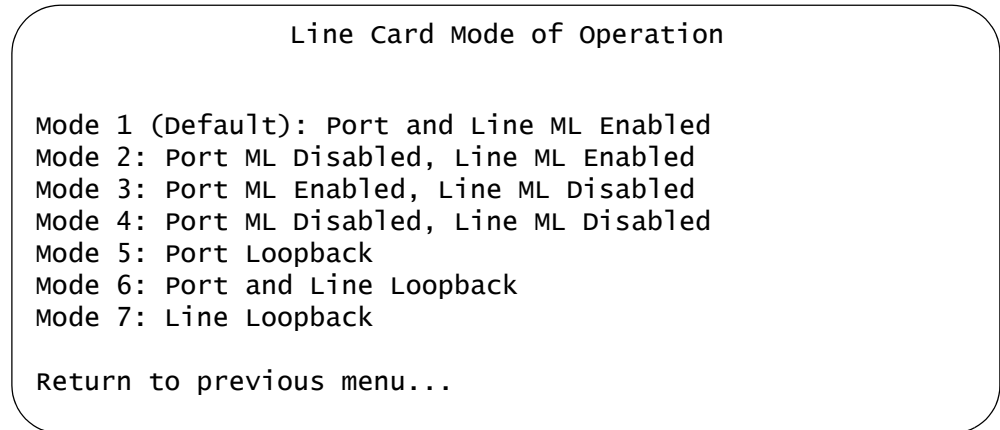


Figure 42. Line Card Mode of Operation Menu

4. Select one of the following:

Mode 1 (Default): Port and Line ML Enabled

Missing Link is enabled on both the port and line sides.

Mode 2: Port ML Disabled, Line ML Enabled

Missing Link is disabled on the port side but enabled on the line side.

Mode 3: Port ML Enabled, Line ML Disabled

Missing Link is enabled on the port side but disabled on the line side.

Mode 4: Port ML Disabled, Line ML Disabled

Missing Link is disabled on both the port and line sides.

Mode 5: Port Loopback

Loopback is enabled only on the port side.

Mode 6: Port and Line Loopback

Loopback is enabled on both the port and line sides.

Mode 7: Line Loopback

Loopback is enabled only on the line side.

5. Return to the Main Menu.

Displaying the Line Card Diagnostics

The line card diagnostics provide important information about how the line card is functioning.

To display the line card diagnostics, perform the following procedure:

1. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

2. From the Administration menu, select **Diagnostics** and press Enter.

The Diagnostics Menu is shown in Figure 29 on page 63.

3. From the Diagnostics Menu, select **Line Card Diagnostics** and press Enter.

A sample Line Card Diagnostics Menu is shown in Figure 43.

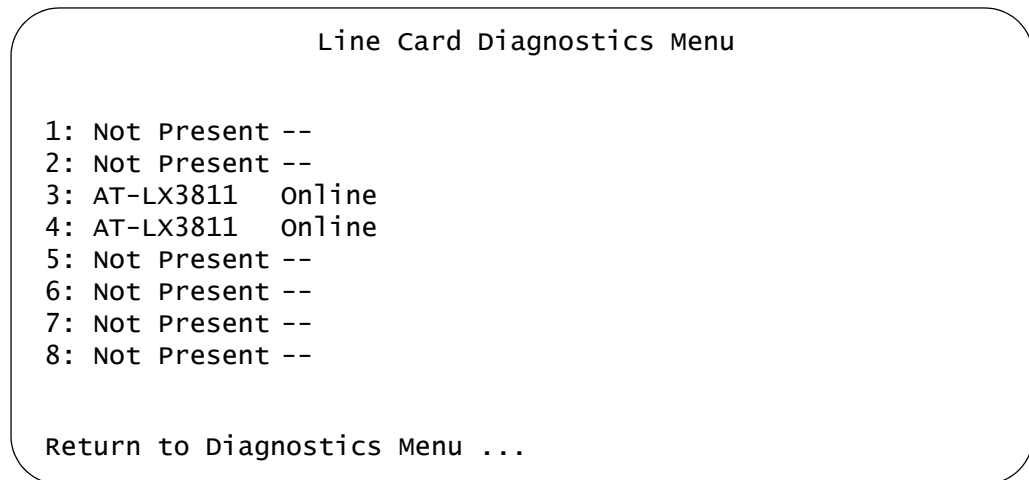


Figure 43. Line Card Diagnostics Menu

4. Select the line card whose diagnostics you want to display and press Enter.

Note

Diagnostics are not available for a line card with the status of “Not Present.”

The Module Diagnostics Menu is shown in Figure 44.

Module Diagnostics Menu	
Hardware Revision	REV A
Firmware Revision	REV A
Line Card Part Number	AT-LX3811/1
Line Card Serial Number	A02007A040400002
Line Card Voltage	3.306 V
Line Card Temperature	46.0 Celsius
Line Card Bias	11.82416 mA
Line Card Transmit Power	2.95589089 dBm
Line Card Receive Power	-24 dBm
Current Data Rate	623.770 Mbps
SFP Status	online
Return to Line Card Diagnostics Menu ...	

Figure 44. Module Diagnostics Menu

The Module Diagnostics Menu contains the following information about the line card as a whole:

Hardware Revision/Firmware Revision

The revision level of the line card hardware and firmware.

Line Card Part Number

The line card part number.

Line Card Serial Number

The line card serial number.

Line Card Voltage

The current line card voltage $\pm 1\%$.

Line Card Temperature

The current temperature of the line card $\pm 3^\circ$ C. To set the maximum line card temperature, refer to "Configuring the Line Card Temperature Threshold" on page 34.

Line Card Bias

The bias current of the line card transmitter's laser $\pm 10\%$.

Line Card Transmit Power

The line transmitter's output power ± 2 dB.

Line Card Receive Power

The line receiver's input power. (Only values less than -24 dBm are monitored with ± 2 dB accuracy.)

Current Data Rate

The current rate at which the line card is passing data \pm 10%.

SFP Status

The status of the SFP in the line card. If no SFP is inserted, the status is “Unplugged” and no other information is displayed.

When an SFP is inserted in the line card, the menu looks similar to Figure 45.

Module Diagnostics Menu	
Hardware Revision	REV A
Firmware Revision	REV A
Line Card Part Number	AT-LX3811/1
Line Card Serial Number	A02007A040400002
Line Card Voltage	3.306 V
Line Card Temperature	46.0 Celsius
Line Card Bias	11.82416 mA
Line Card Transmit Power	2.95589089 dBm
Line Card Receive Power	-24 dBm
Current Data Rate	623.770 Mbps
SFP Voltage	3.260 V
SFP Temperature	42.6 Celsius
SFP Bias	16.230 mA
SFP Transmit Power	-4.71597562 dBm
SFP Receive Power	-13.00162275 dBm
Max Data Rate	1500 Mbps
Return to Line Card Diagnostics Menu ...	

Figure 45. Line Card Diagnostics Menu with SFP Information

The following SFP information is displayed:

SFP Voltage

The current voltage of the SFP.

SFP Temperature

The current temperature of the SFP.

SFP Bias

The bias current of the SFP transmitter’s laser.

SFP Transmit Power

The transmitted power of the SFP transmitter.

SFP Receive Power

The received power of the SFP receiver.

Max Data Rate

The maximum data rate of the SFP.

Note

The accuracy of the above information depends upon the SFP vendor's specification. This information is available only for SFPs approved by Allied Telesyn.

5. Return to the Main Menu.

Chapter 6

Downloading AT-S65 Management Software Updates

This chapter describes how to download AT-S65 software updates and contains the following sections:

- ❑ “Using Xmodem to Update the AT-S65 Management Software” on page 93
- ❑ “Using TFTP to Update the AT-S65 Management Software” on page 96

Note

For instructions on obtaining the latest software updates, refer to “Management Software Updates” on page 11.

Note the following before you begin either procedure:

- ❑ You can download a new AT-S65 image file onto the chassis from either a local or Telnet management session.
- ❑ You can use Xmodem or TFTP to download the image file from a local management session.
- ❑ You must use TFTP to download the image file from a Telnet management session.
- ❑ To use TFTP, there must be a node on your network that contains the TFTP server software, and the new AT-S65 image file must be stored on that node.
- ❑ If you are using TFTP, you should start the TFTP server before you begin the download procedure.
- ❑ Installing a new AT-S65 software image onto the chassis does not change the current configuration, for example its IP address, subnet mask, and name (if already assigned).

Note

The chassis stops forwarding Ethernet traffic after it has downloaded the image file and begun to initialize the software. Some network traffic may be lost.

The following procedures assume that you have already obtained the new software from Allied Telesyn and stored it on the management station from

which you will be performing the procedure, or on the TFTP server.

Using Xmodem to Update the AT-S65 Management Software

To download a new AT-S65 software image onto a chassis from a local management session using Xmodem, perform the following procedure:

1. Establish a local management session on the chassis where you intend to download the new management software.
2. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

3. From the Administration menu, select **Xmodem Software Update to this System** and press Enter.

A message is displayed, as shown in Figure 46.

```
Ready to receive software update via Xmodem.  
  
Warning: During software updates, management activity is disabled.  
Do Xmodem update now? (Yes or No):
```

Figure 46. Xmodem Software Update Message

4. Enter **Y** to start the download process or **N** to cancel.

If you enter Y, another message is displayed, as shown in Figure 47.

```
The system is now ready for download. Please start your XMODEM transfer.  
  
Use Hyper Terminal's "Transfer/Send File" option to select Filename &  
Protocol.  
  
Note: Please select '1K Xmodem' protocol for faster download . . .
```

Figure 47. Xmodem Message

5. Begin the file transfer.

The following steps show how to perform the transfer using Hilgraeve HyperTerminal.

6. From the HyperTerminal main window, select **Send File** from the Transfer menu, as shown in Figure 48.

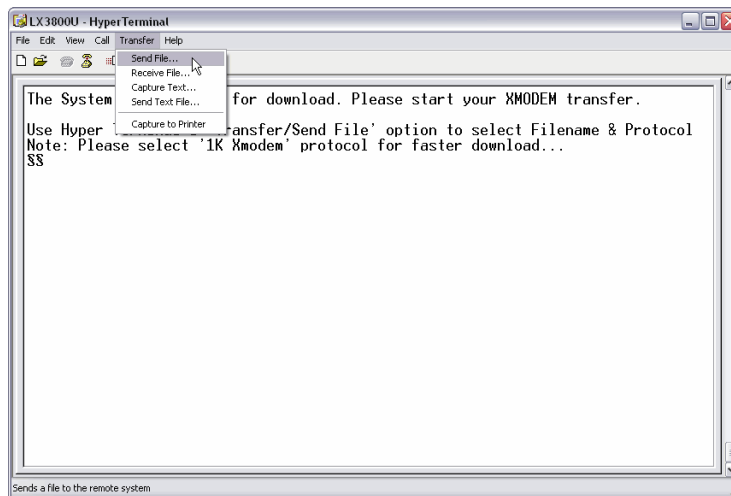


Figure 48. HyperTerminal Window

The Send File window is shown in Figure 49.

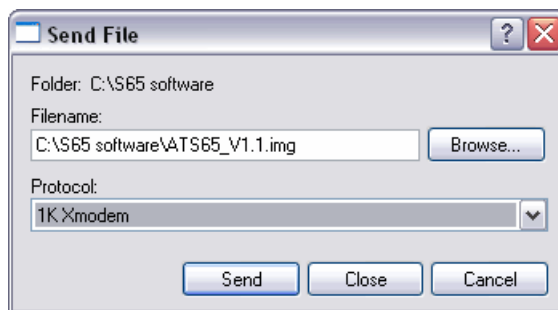


Figure 49. Send File Window

7. Click **Browse** and specify the location and file name of the image file to be downloaded onto the chassis.
8. Click in the Protocol field and select as the transfer protocol either Xmodem or, for a faster download, 1K Xmodem.
9. Click **Send**.

The software immediately begins downloading onto the chassis. The Xmodem File Send window shown in Figure 50 on page 95 displays

the current status of the software download. The download process takes several minutes to complete.

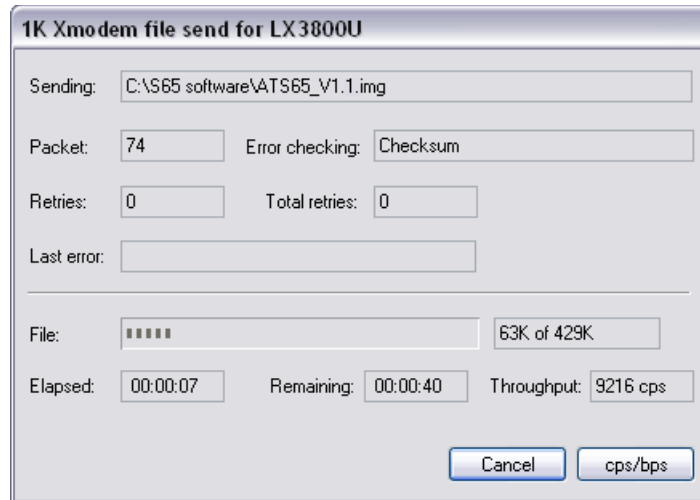


Figure 50. Xmodem File Send Window

After the chassis has downloaded the new image, it begins to initialize the software, a process that takes approximately one minute to complete. The chassis does not forward any network traffic during the initialization process. After the management software is initialized, the chassis automatically resets.

Note

Wait until the software is initialized before you attempt to reestablish your management session.

Using TFTP to Update the AT-S65 Management Software

If your network uses the TCP/IP protocol, you can use any station on the network and TFTP software to download a copy of the current AT-S65 management software onto the chassis. The chassis contains the client portion of the TFTP protocol. The management station you are using must contain the server portion of the TFTP protocol. Start the TFTP server before you begin the download procedure.

To download a new software image onto the chassis using TFTP, perform the following procedure:

1. Establish a local management session on the chassis where you intend to download the new management software.
2. From the Main Menu, select **Administration**.

The Administration menu is shown in Figure 13 on page 37.

3. From the Administration menu, select **Image Download Through TFTP** and press Enter.

The TFTP Image Download menu is displayed, as shown in Figure 51.

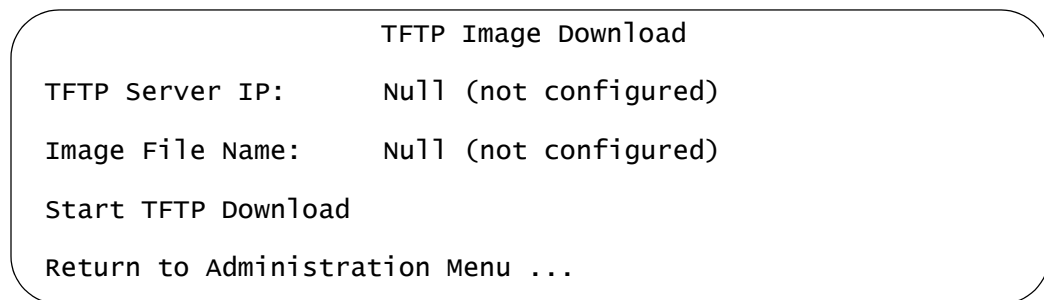


Figure 51. TFTP Image Download Menu

4. Select **TFTP Server IP** and press Enter.
5. Enter the IP address of the TFTP server.
6. Select **Image File Name** and press Enter.
7. Enter the file name of the AT-S65 image file stored on the TFTP server.
8. Select **Start TFTP Download**.

A screen similar to Figure 52 is displayed.

```
TFTP Download in progress... Please wait!  
Performing CRC check on Boot Loader. Please wait...  
Boot Loader CRC check PASSED.  
  
The Downloading Boot Loader version is same as current version v1.1.0  
Skipping this download...  
Performing CRC check on Application Image. Please wait...  
Application Image CRC check Passed.  
writing ATS65 to Flash, please wait...  
written          65536 bytes,27% completed  
written          131072 bytes,54% completed  
written          196608 bytes,81% completed  
written          241669 bytes,100% completed  
Download Summary:  
Boot Loader Download:    NO  
Image Download:         YES  
  
Load completed.  
Rebooting...
```

Figure 52. TFTP Download

After the system has downloaded the new image, it reboots the system and begins to initialize the software, a process that takes approximately one minute to complete. The system does not forward any network traffic during the initialization process.

Note

Wait until the software is initialized before you attempt to reestablish your management session.

Appendix A

AT-S65 Management Software Default Settings

This appendix lists the default settings for the AT-S65 management software.

IP Parameters

Setting	Default
IP Address	0.0.0.0
Subnet Mask	255.255.0.0
Gateway Address	0.0.0.0
Manager Address 1 through 4	Null
Get community string	public
Set community string	private
Trap community string	public
Location	Null
Contact	Null
DHCP	Disabled

System Time

Setting	Default
System Date	01/01/1980
System Time	00.00.00
SNTP Status	Disabled
SNTP Server	97.108.82.88
UTC Offset	0
Daylight Savings Time	Disabled

Setting	Default
Poll Interval (seconds)	0
Last Delta (seconds)	0

RS-232 Port

Setting	Default
Terminal mode	VT-100 compatible/ANSI
Data bits	8
Stop bits	1
Parity	None
Duplex mode	Full-duplex
Data rate	115200

Omega Options

Setting	Default
Manager Password	Null
Operator Password	Null
Timeout	5 minutes
Local Omega	Enabled
Remote Omega	Enabled
Remote Omega (Telnet) Port Number	23

Temperature Thresholds

Setting	Default
Chassis Temperature (Maximum)	60
Line Card Temperature (Maximum)	70
SFP Temperature (Maximum)	70

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