Management Software

AT-S85 and AT-S97

Command Line User's Guide

AT-S85 Version 3.0.0 Management Software and AT-MCF2012LC, AT-MCF2012LC/1 and AT-MCF2032SP Media Converter Modules

AT-S97 Version 3.0.0 Management Software and AT-MCF2000M Management Module

613-000789 Rev. D

Allied Telesis™

Contents

Figures

Tables

Preface

The AT-S85 and AT-S97 Management Software programs are the operating systems for the AT-MCF2000 Media Converter Modules and the AT-MCF2000M Management Module, respectively. This guide explains how to use the management programs to control and monitor the operating parameters of the media converter modules in the AT-MCF2000 Series.

This preface contains the following sections:

Caution

The software described in this documentation contains certain cryptographic functionality and its export is restricted by U.S. law. As of this writing, it has been submitted for review as a “retail encryption item” in accordance with the Export Administration Regulations, 15 C.F.R. Part 730-772, promulgated by the U.S. Department of Commerce, and conditionally may be exported in accordance with the pertinent terms of License Exception ENC (described in 15 C.F.R. Part 740.17). In no case may it be exported to Cuba, Iran, Iraq, Libya, North Korea, Sudan, or Syria. If you wish to transfer this software outside the United States or Canada, please contact your local Allied Telesis sales representative for current information on this product’s export status.

Document Conventions

This document uses the following conventions:

Note
Notes provide additional information.

Caution
Cautions inform you that performing or omitting a specific action may result in equipment damage or loss of data.

Warning
Warnings inform you that performing or omitting a specific action may result in bodily injury.

Where to Find Web-based Guides

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

For details about the features and functions of the AT-MCF2000 Media Converter, refer to the *AT-MCF2000 Multi-channel Media Converter Series Installation Guide* (part number 613-001096) on our web site:

Contacting Allied Telesis

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

Online Support

You can request technical support online by accessing the Allied Telesis Knowledge Base: **www.alliedtelesis.com/support/kb.aspx**. 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 section of the Allied Telesis web site: **www.alliedtelesis.com**.

Returning Products

Products for return or repair must first be assigned a return materials authorization (RMA) number. A product sent to Allied Telesis without an RMA number will be returned to the sender at the sender's expense. For instructions on how to obtain an RMA number, go to the Support section on our web site at **www.alliedtelesis.com**.

Sales or Corporate Information

You can contact Allied Telesis for sales or corporate information through our web site at **www.alliedtelesis.com**.

Management Software Updates

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

- Allied Telesis web site: **www.alliedtelesis.com**
- Allied Telesis FTP server: **ftp://ftp.alliedtelesis.com**

If the FTP server prompts you to log on, enter "anonymous" as the user name and your email address as the password.

Chapter 1

Starting a Management Session

This chapter contains the following sections:

Management Overview

The discussions in this section review the basic characteristics of the management software for the AT-MCF2000 Media Converter Series.

AT-S85 and AT-S97 Management Software

The modules in the AT-MCF2000 Series use two different operating systems. The AT-MCF2000M Management Module uses the AT-S97 Management Software and the AT-MCF2012LC, AT-MCF2012LC/1 and AT-MCF2032SP Media Converter Modules use the AT-S85 Management Software.

All of your commands must be entered through the AT-S97 Management Software on the management module. Commands intended for a media converter module are automatically transferred by the management module to the appropriate module in the chassis or stack.

Features of the AT-S97 Management Software

Here are the functions that you can perform using the AT-MCF2000M Management Module and Version 3.0.0 of the AT-S97 Management Software:

- Set the operating parameters on the twisted pair and fiber optic ports of the media converter channels, including:
  - Auto-Negotiation
  - Speed
  - Duplex mode
  - MDI/MDI-X configuration
- Change a channel's operating mode. The operating modes are listed here:
  - MissingLink™
  - Smart MissingLink
  - Link Test
- Implement rate limits on the ingress and egress packets on the ports of the media converter channels.
- Configure the module's Network Time Protocol (NTP) client to set the system's date and time from a NTP server on your network or the Internet.
- Create a stack of enclosures of up to sixteen media converter modules so that you can manage the modules from one management module.
- Manage the modules locally using the RS-232 Terminal Port or remotely using a Telnet or SSH client.
- Manage the modules remotely using Simple Network Management Protocol (SNMP).

- Monitor the operations of the modules from an event log.
- Send the event messages to a Syslog server on your network.

AT-S97 Command Line Interface

The AT-S97 Management Software has a command line interface which can be accessed either locally through the RS-232 Terminal Port on the management module or remotely from your network using the Telnet or Secure Shell application protocol. To access the interface, you must log on to the management module with a valid manager name and password.

Note
The first management session of the chassis must be from a local management session. For instructions, refer to "Starting a Local Management Session" on page 18.

Manager Privilege Levels

The management software has three manager privilege levels:

- administrator
- read-write
- read-only

The privilege level of administrator is restricted to the management module's predefined manager account, which has the user name of "**manager**" and the default password "**friend.**"

The management module can support ten additional manager accounts with the privilege level of read-write and another ten accounts of read-only. The read-write level is nearly identical to the administrator level of the predefined manager account. It provides access to almost all of the same parameters settings, with a few exceptions, detailed in Chapter 13, "Manager Account Commands" on page 215. In contrast, the read-only privilege level restricts a network administrator to just viewing the parameter settings.

The privilege level required to perform a command is included in the descriptions of the commands in this manual.

Note
Only the predefined manager account can have the privilege level of administrator.

Starting a Local Management Session

Note
Local management sessions do not require an IP configuration on the AT-MCF2000M Management Module.

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

1. Connect the DIN-8 connector on the RS-232 Serial Management Cable included with the AT-MCF2000M Management Module to the RS-232 Terminal port on the module, as shown in Figure 1.

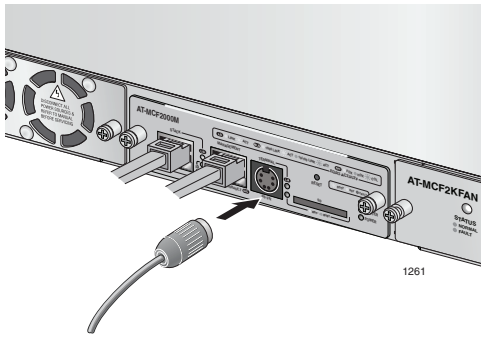


Figure 1. Connecting the RS-232 Serial Management Cable to the RS-232 Terminal Port

2. Connect the other end of the cable to an RS-232 port on a terminal or PC with a terminal emulator program.

3. Configure the terminal or terminal emulation program as follows:

   - Baud rate: 115,200 bps (The RS-232 Terminal port has a baud rate range of 9600 to 115,200 bps. The default is 115,200 bps. To adjust the baud rate, refer to “SYSTEM SET ASYNCHRONOUS” on page 58.)
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: None

Note
The port settings are for a DEC VT100 or ANSI terminal, or an equivalent terminal emulator program.

Note
The prompt "Hit any key to stop autoboot," displayed on the console when the management module is reset or power cycled, is for manufacturing purposes only and should be ignored. If you inadvertently display the manufacturing prompt (=>), type "bootapp" to launch the management software on the management module.

4. Press Enter.

   You are prompted for a user name and password.

5. Enter a user name and password. The management module has a predefined manager account with the privilege level of administrator. The account provides unlimited access to all the parameters on the management and media converter modules. To log in using this account, enter "**manager**" as the user name. The default password for the account is "**friend**." The user name and password are case sensitive.

   After you have logged in, the management software displays the command line interface, shown in Figure 2.

```
     Allied Telesis Media Converter- Version 3.0.0
                    <No System Name>
#
```

Figure 2. Command Line Interface Prompt

The symbol in the command line prompt reflects the access level of your manager account. The predefined manager account has the pound symbol (#) prompt. A read-write or read-only account has a dollar symbol ($) prompt. For information on the three manager privilege levels of the AT-S97 Management Software, refer to "Manager Privilege Levels" on page 17. For instructions on how to change a password or create additional manager accounts, refer to Chapter 13, "Manager Account Commands" on page 215.

You can now begin to manage the chassis. For suggestions on what to configure during the initial configuration, refer to "What to Configure First" on page 30.

Starting a Remote Telnet or Secure Shell Management Session

Review the following guidelines before starting a remote Telnet or Secure Shell (SSH) management session:

- The AT-MCF2000M Management Module must have an IP configuration. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.
- The 10/100/1000Base-T Management port on the management module must be connected to a device on your network, such as a Fast Ethernet or Gigabit Ethernet switch. Remote management sessions with the management module are conducted through this port.
- The Telnet server or SSH server on the management module must be enabled. For instructions, refer to Chapter 10, “Telnet Server Commands” on page 197 or Chapter 12, “Secure Shell Server (SSH) Commands” on page 209.
- The remote Telnet or SSH client must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- If the management module and the remote Telnet or SSH client reside on different networks, the IP configuration on the module must include a default gateway address specifying the IP address of the routing interface of the first hop to reaching the remote client. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.
- The management module can support 20 Telnet and 20 SSH management sessions, simultaneously.

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

1. Enter the IP address of the AT-MCF2000M Management Module in the Telnet or SSH client on the remote workstation.

   The management software prompts you for a user name and password.

2. Enter a user name and password. The management module has a predefined manager account with the privilege level of administrator and unlimited access to all of the parameters on the management and media converter modules. To log in using this account, enter “**manager**” as the user name. The default password for the account is “**friend**.” The user name and password are case sensitive.

   The local management session starts and the command line interface prompt is displayed, as shown in Figure 2 on page 19.

For information on the three manager privilege levels of the AT-S97 Management Software, refer to "Manager Privilege Levels" on page 17. For instructions on how to change a password or create additional manager accounts, refer to Chapter 13, "Manager Account Commands" on page 215.

The section "What to Configure First" on page 30 has suggestions on what you should configure during the initial management session of the chassis.

SNMP Management Session

You can also manage the AT-MCF2000 chassis remotely using an Simple Network Management Protocol (SNMP) management program such as HP Openview. This method, however, does not use the management interface.

To manage the chassis from a management workstation using an SNMP management program, you need to load the Management Information Base (MIB) file, atMCF2000.mib, that was included with the AT-S85 and AT-S97 software onto the management workstation. (The MIB file is available from the Allied Telesis web site.)

This requires that you use a MIB compiler to compile the file. A familiarity with MIB objects is necessary for this type of management. To load the MIB file onto a management workstation, follow the instructions included with your MIB compiler. For instructions on how to compile the MIB file with your SNMP program, refer to your SNMP management documentation.

To establish a SNMP management session for a unit that is remotely managed, the chassis must have a management card and an IP address. Before performing the SNMP management session, note the followings:

- The 10/100Base-TX port on the management card must be connected to the network.
- The remote management workstation must reach the chassis through the subnet of the management card.

Saving Your Configuration Changes

The configuration settings of the management and media converter modules of a chassis or stack are stored in a series of files called configuration files in the modules' file systems. The most important of these files is the active master configuration file on the management module, which, as its name implies, contains all of the settings of a chassis or stack. What the configuration files do is they retain the parameter settings of the modules when a unit is power cycled or reset. Without the files, you would have to reconfigure the modules whenever you reset a device.

The modules do not automatically update their configuration files and the active master configuration file when you change a device's parameter, such as the speed of a port on a media converter module. Instead, you must initiate the update with the CONFIG SAVE command. This command instructs all the modules in a chassis, or stack, to update their configuration files to match their current settings. You should always perform this command after adjusting the parameter settings of the modules. Otherwise, your changes are discarded if you have to reset or power cycle the unit.

Note
Many of the chapters in this guide have a note on the first page reminding you to update the configuration files with the CONFIG SAVE command after entering your parameter changes.

For further information on configuration files and the CONFIG SAVE command, refer to Chapter 8, "Configuration File Commands" on page 145.

Quitting a Management Session

To quit a management session, enter **Exit** at the command prompt. You should always exit from a management session when you are finished managing a media converter. This can prevent unauthorized individuals from making changes to a unit's configuration if you leave your management station unattended. For information about how to use the console timer to automatically disconnect a management session, refer to "SYSTEM SET CONSOLE" on page 62.

Note
Failure to properly exit from a management session may block future management sessions until the console timer times out. For information on the console timer, refer to "SYSTEM SET CONSOLE" on page 62.

Chassis ID Numbers

As explained in the *AT-MCF2000 Multi-channel Media Converter Series Installation Guide*, you can form a management stack of multiple chassis by linking them together with the AT-MCF2000S Stacking Module. A management stack makes managing the devices easier because you can configure the units from the same management session from one AT-MCF2000M Management Module.

When building a management stack you have to assign each of the chassis a unique ID number. This number is set with a jumper on the AT-MCF2000M Management Module and with the DIP switches on the AT-MCF2000S Stacking Module. The AT-MCF2000M Management Module can have a chassis ID number of 0 or 31 and the AT-MCF2000S Stacking Module can have a chassis ID number of 1 to 30.

Chassis ID numbers are required in commands that have the *chassis* parameter. This parameter is used to specify the ID number of the chassis you want to configure with the command. If the chassis has the management module, then its ID number will be either 0 or 31. (In all likelihood, it'll be 0, the default setting.) If the chassis is part of a management stack and therefore has the AT-MCF2000S Stacking Module, its chassis ID number will be in the range of 1 to 30. To determine the ID number of a chassis with the AT-MCF2000S Stacking Module, view the chassis ID LEDs on the front panel of the module or use the SYSTEM SHOW CLUSTER command. For instructions, refer to "SYSTEM SHOW CLUSTER" on page 101.

Slot Numbers and Letters

Some of the commands in the management software programs have a *slot* parameter for specifying a slot in an enclosure. You use this parameter to specify the slot that contains the module you want to configure with a command. The slots for the media converter modules are identified by numbers and the slots for the power supply modules and the management module are identified by letters.

Figure 3 shows the numbers and letters for the slots in the AT-MCF2000 Chassis.

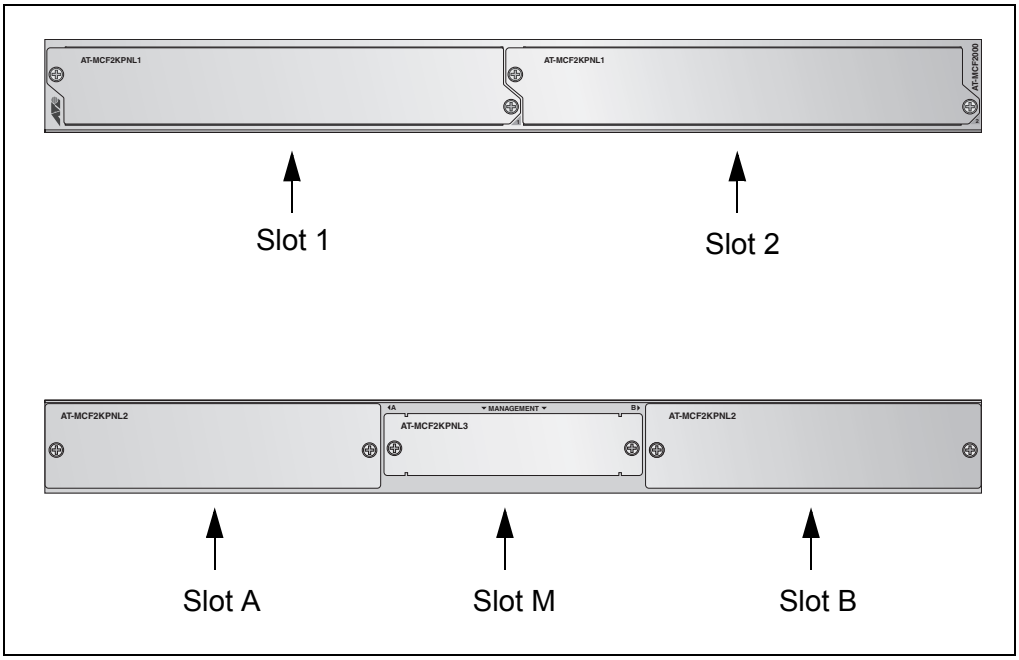


Figure 3. Slot Numbers and Letters for the AT-MCF2000 Chassis

Table 1 lists the purposes of the slots in the unit.

Table 1. AT-MCF2000 Chassis Slots

Slot	Module
1 and 2	These slots are for the multi-channel AT-MCF2012LC, AT-MCF2012LC/1, and AT-MCF2032SP Media Converter Modules.
A and B	These slots are for the AT-MCF2000AC Power Supply Module and the AT-MCF2KFAN Module.
M	This slot is for the AT-MCF2000M Management Module or the AT-MCF2000S Stacking Card.

Figure 4 shows the numbers and letters of the slots in the AT-MCF2300 Chassis.

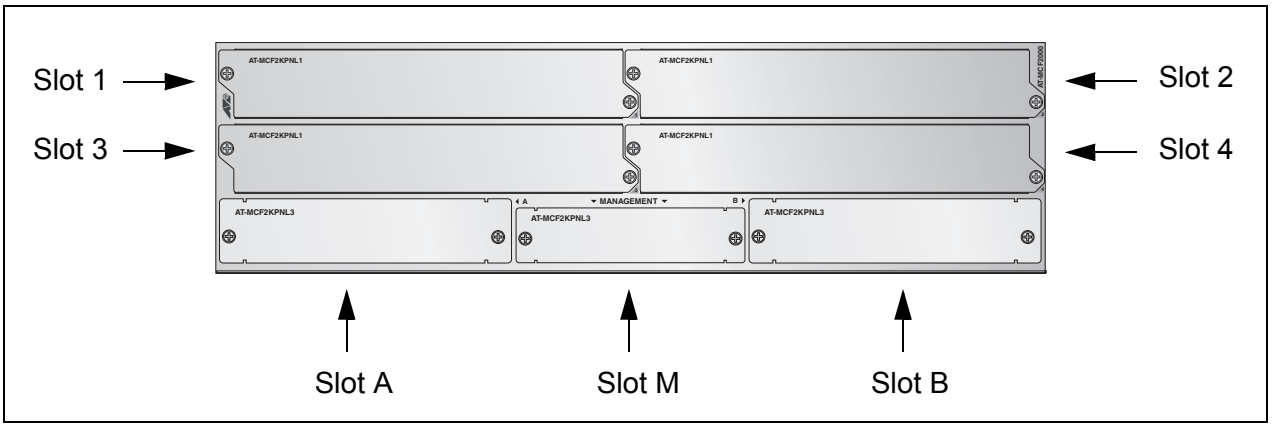


Figure 4. Slot Numbers and Letters for the AT-MCF2300 Chassis

Table 2 lists the numbers and letters of the slots in the chassis.

Table 2. AT-MCF2300 Chassis Slots

Slot/Module	Module
1 to 4	These slots are for the multi-channel AT-MCF2012LC, AT-MCF2012LC/1, and AT-MCF2032SP Media Converter Modules.
A and B	These slots are for the AT-MCF2300AC Power Supply Module.
M	This slot is for the AT-MCF2000M Management Module or the AT-MCF2000S Stacking Card.

Command Line Interface Features

The command line interface supports the following features:

- Command history - You can scroll through a history of your commands with the up and down arrow keys.
- Context-specific help - Typing a question mark against the command line prompt displays a list of the command keywords. Additionally, typing a question mark when entering a command displays a list of legal parameters.
- Keyword abbreviations - Keywords can be recognized by typing an unambiguous prefix, for example, “sy” for “system.”
- Tab key - Pressing the Tab key fills in the rest of the keyword. For example, typing “mo” and pressing the Tab key enters “module.”

Command Formatting

The following formatting conventions are used in this manual:

- `screen text font` - This font illustrates the format of a command and command examples.
- *`screen text font`* - Italicized screen text indicates a variable for you to enter.
- [ ] - Brackets indicate optional parameters.
- | - Vertical line separates parameter options for you to choose from.

What to Configure First

This section has a few suggestions on what to configure during your first management session. The initial management session must be a local session. For instructions on how to start a local management session, refer to “Starting a Local Management Session” on page 18.

> **Note**
> Although the management module comes with the default IP address of 10.0.0.1 and subnet mask of 255.255.252.0, the initial configuration must be a local session because the module’s Telnet and SSH servers are initially disabled.

Displaying the Chassis Modules

After logging on, enter this command:

```
system show cluster
```

The command is used to display and verify the management module and the media converter modules in a chassis. An example is shown in Figure 5.

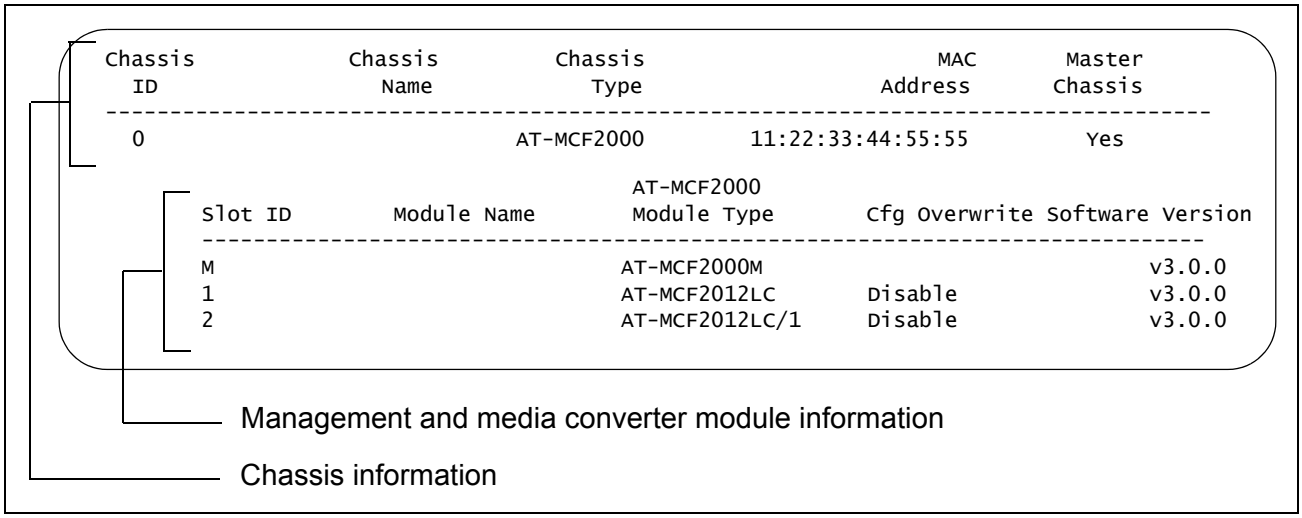


Figure 5. Displaying the Chassis Modules

If multiple chassis are linked together with the AT-MCF2000S Stacking Module to form a stack, this command displays all of the enclosures and the modules in the stack. Here is an example of a stack with three chassis.

```
Chassis        Chassis     Chassis                 MAC     Master
  ID             Name        Type                Address    Chassis
-------------------------------------------------------------------------
  0                      AT-MCF2000    11:22:33:44:55:55      Yes

                               AT-MCF2000
      Slot ID     Module Name    Module Type    Cfg Overwrite Software Version
      ---------------------------------------------------------------------
      M                        AT-MCF2000M                       v3.0.0
      1                        AT-MCF2012LC    Enable            v3.0.0
      2                        AT-MCF2012LC/1  Enable            v3.0.0

  1                                 11:22:33:44:22:22      No

                               AT-MCF2000
      Slot ID     Module Name    Module Type     Cfg Overwrite Software Version
      ---------------------------------------------------------------------
      1                        AT-MCF2012LC   Disable           v3.0.0
      2                        AT-MCF2012LC   Disable           v3.0.0

  2                                 11:22:33:44:66:77      No

                               AT-MCF2300
      Slot ID     Module Name    Module Type    Cfg Overwrite Software Version
      ---------------------------------------------------------------------
      1                        AT-MCF2012LC   Enable            v3.0.0
      2                        AT-MCF2012LC   Enable            v3.0.0
      3                        AT-MCF2012LC   Enable            v3.0.0
      4                        AT-MCF2012LC/1 Enable            v3.0.0
```

Figure 6. Displaying the Chassis Modules of a Stack

For information about this command, refer to "SYSTEM SHOW CLUSTER" on page 101.

Note

To avoid possible compatibility problems between the management module and the media converter modules, Allied Telesis recommends that all of the modules in a chassis or stack use the same version of the AT-S85 and AT-S97 Management Software. If the modules shown in the SYSTEM SHOW CLUSTER command have different versions, you should upgrade the operating software on the modules. For instructions, Chapter 9, "File System Commands" on page 169.

Changing the Manager Password

The default password for the predefined manager account is included in this document, which is available on our web site. To protect the unit from unauthorized access, you should change the password as part of the initial configuration. To change the password, enter this command:

```
user set username=manager password
```

You are prompted to change the password. A password can be up to 16 alphanumeric characters and is case sensitive. Special characters, including spaces, question marks, and quotation marks, are permitted. You are prompted twice to verify the new password.

For information on how to create additional manager accounts, refer to Chapter 13, “Manager Account Commands” on page 215.

Creating a Master Configuration File

This step creates a master configuration file for storing your parameter changes, in the file system on the management module. Without the file, the management card cannot save your parameter settings and you’ll have to reenter them if you reset or power cycle the chassis.

This task has two steps. In the first step you create the file with the CONFIG SAVE FILESYSTEM command. The format of the command is:

```
config save filesystem=system://chassis/slot/filename.cfg
```

The *chassis* variable is the ID number of the chassis. A chassis with a management module installed has a chassis ID of 0 or 31. This value is set with a jumper on the circuit board of the module. The chassis ID of a chassis with a stacking module is 1 through 30. The value is also set manually on the stacking module.To view this number, use the SYSTEM SHOW CLUSTER command.

The *slot* variable specifies the chassis slot that has the management module, signified by the letter “m.”

And, finally, *filename*.cfg is the filename for the new master configuration file. The name can be up to 15 alphanumeric characters, not including the extension. Spaces are allowed, but a name with spaces must be enclosed in double quotes.

This example of the command creates the new master configuration file “mcf_chassis0.cfg”. The chassis with the management module has the ID number 0:

```
config save filesystem=system://0/m/mcf_chassis0.cfg
```

For further information on this command, refer to “CONFIG SAVE FILESYSTEM” on page 162.

Now that you have created the master configuration file, you're ready to perform the second step and designate it as the module's active master configuration file. This directs the management module to the appropriate master configuration file when saving your changes. (In some cases, the management module might have more than one master configuration file, such as a history of past configuration files. But only one of the files can be active at a time.) The command for designating the active master configuration file is the CONFIG SET command. Here is the format:

```
config set filesystem=system://chassis/slot/filename.cfg
```

The definitions of the variables in this command are the same as in the CONFIG SAVE FILESYSTEM command. Here is an example of the command that designates the "mcf_chassis1.cfg" file created in the previous command as the management module's active configuration file:

```
config set filesystem=system://0/m/mcf_chassis1.cfg
```

Configuration filenames in both the CONFIG SAVE FILESYSTEM and CONFIG SET commands are case sensitive. For more information on this command, refer to "CONFIG SET" on page 164.

This completes the procedure for creating and designating a new active master configuration file on the management module. The management module can now save your parameter changes when you issue the CONFIG SAVE command.

Assigning an IP Address Configuration

Will you be remotely managing the chassis with a Telnet or Secure Shell (SSH) client? Or, will the management module be performing any of the following management tasks?

- Uploading or downloading files to its file system from a TFTP server.
- Setting the date and time from a Network Time Protocol (NTP) server
- Sending events to a syslog server
- Sending or receiving TCP/IP ping requests from another network device
- Managing the device with SNMP

If so, then you have to assign the management module an IP address, a subnet mask, and possibly a default gateway address, referred to collectively as a module's IP address configuration.

An IP address configuration can be assigned manually or by a DHCP or BOOTP server. The command to manually assign an IP configuration to the management module is:

```
ip set ip-address=ipaddress subnetmask=mask
default-gateway=ipaddress
```

In this example, the management module is assigned the IP address 149.112.44.22, the subnet mask 255.255.255.0, and the default gateway 149.112.44.242:

```
ip set ip-address=149.112.44.22 subnetmask=255.255.255.0
default-gateway=149.112.44.242
```

For more information on this command, refer to “IP SET” on page 52.

If you want the management module to obtain its IP configuration from a DHCP or BOOTP server on your network, activate the DHCP and BOOTP clients with this command:

```
ip dhcp enable
```

(If you want the DHCP or BOOTP server to assign a static IP address based on the module’s MAC address, you need to know that the management module actually uses the chassis’ MAC address to communicate with your network. To learn the chassis’ address, refer to “DIAGNOSTICS SHOW CHASSIS” on page 230 or “SYSTEM SHOW CLUSTER” on page 101.)

For more information on this commands, refer to “IP DHCP ENABLE” on page 51.

Note
Be sure that the 10/100/1000Base-T Management port on the management module is connected to your network before activating the DHCP and BOOTP clients. The management module communicates with your network through that port.

Setting the Date and Time

The date and time are added to the event messages logged in its event log and to SNMP traps. You can set the date and time manually or with a Network Time Protocol (NTP) server on your network or the Internet. The command for manually setting the date and time is:

```
system set clock date=mm/dd/yyyy time=hh:mm:ss
```

This example sets the date to April 11, 2007 and the time to 4:34 pm:

```
system set clock date=4/11/2007 time=16:34:0
```

To have an NTP server supply the date and time, specify the IP address of the server and then activate the NTP client. Here is the command for specifying the NTP server’s IP address:

```
ntp set server=ipaddress
```

The *ipaddress* variable is the IP address of the NTP server. This example specifies the IP address of the NTP server as 149.122.55.77:

```
ntp set server=149.122.55.77
```

After specifying the server's IP address, activate the NTP client with this command:

```
ntp enable
```

> **Note**
> Review the section "NTP Client Guidelines" on page 118 before activating the client.

Enabling the Telnet or Secure Shell Server

Do you want to be able to manage the chassis over your network from a remote workstation with the Telnet or SSH application protocol? If so, activate the appropriate server on the management module. To enable the Telnet server, enter this command:

```
telnet enable
```

To enable the SSH server, enter this command:

```
ssh enable
```

For information of the Telnet server commands, refer to Chapter 10, "Telnet Server Commands" on page 197. For information on the SSH commands, refer to Chapter 12, "Secure Shell Server (SSH) Commands" on page 209

Naming a Chassis

Assigning a name to a chassis will make identifying it in the management software easier. It may also help you avoid the common mistake of performing a command or procedure on the wrong device. The command is SYSTEM SET CHASSIS and the format is:

```
system set chassis id=chassis name=name
```

The *chassis* variable is the ID number of the chassis. If you have a management module installed in the chassis, the chassis id is either 0 (the default) or 31. If you have a stacking module installed in your chassis, you can assign a range of 1 to 30 as the chassis ID. To view this number, use the SYSTEM SHOW CLUSTER command.

The *name* variable specifies a name of up to 20 alphanumeric characters for the chassis. Spaces are allowed, but a name with spaces must be enclosed in double quotes (" ").

This example assigns the name "Region 1 Traffic" to a chassis with an ID number of 1:

```
system set chassis id=1 name="Region 1 Traffic"
```

For more information on the SYSTEM SET CHASSIS command, refer to "SYSTEM SET CHASSIS" on page 59.

Saving Your Changes

This completes the initial configuration of the chassis. To update the configuration files on the modules with your changes, enter this command:

```
config save
```

For more information on the command, refer to “Saving Your Configuration Changes” on page 23 or Chapter 8, “Configuration File Commands” on page 145.

Note
If you do not issue the CONFIG SAVE command and later reset or power cycle the device, your changes will be discarded.

Note
To make identifying the chassis easier, Allied Telesis recommends attaching a label to the front panel of the unit with its chassis ID number, name, and MAC address. To view this information, use the SYSTEM SHOW CLUSTER command.

Replacing a Media Converter Module

To replace a module:

1. Install the new module in the chassis. For instructions, refer to the *AT-MCF2300 Multi-channel Media Converter Series Installation Guide*.
2. Wait one minute for the module to initialize its management software.
3. Start a local or remote management session on the chassis or stack. For instructions, refer to "Starting a Local Management Session" on page 18 or "Starting a Remote Telnet or Secure Shell Management Session" on page 20.
4. Enter this command:

   ```
   system show cluster
   ```

5. Examine in the display the configuration overwrite setting of the media converter module you just installed.

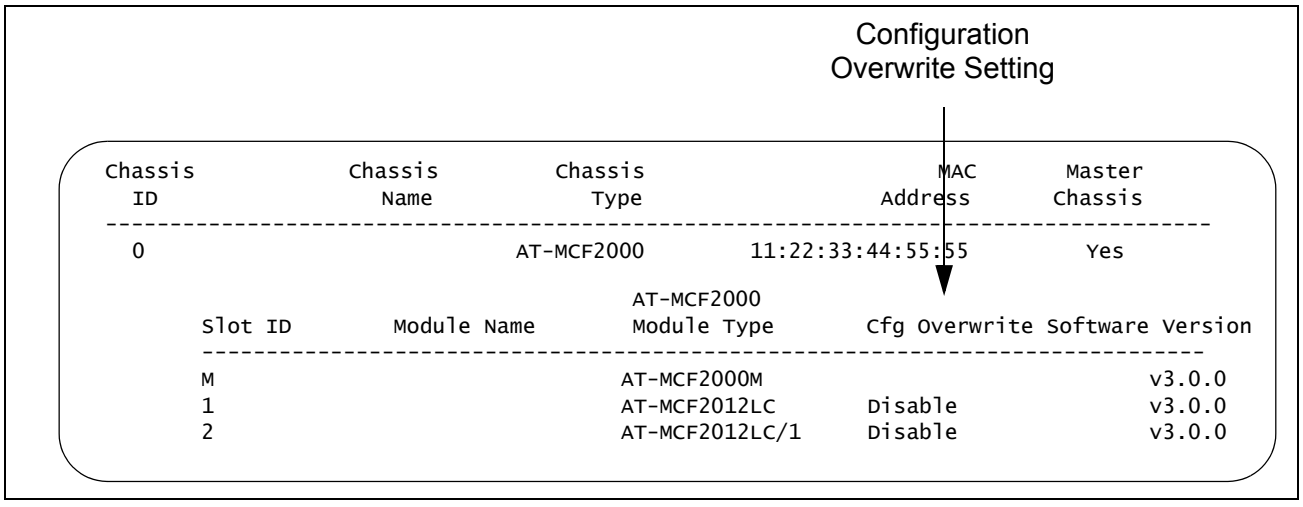


Figure 7. Determining the Configuration Overwrite Setting of a Media Converter Module

- If the overwrite setting is enabled, the module seeks its configuration from the management module and the master configuration file. If the media converter module that previously occupied the slot was the same model, than the new module is assigned the very same configuration settings, automatically. If the slot had not been used before or if the previous module was a different model, the newly installed module uses its own auxiliary configuration file in flash memory to set its parameters, or if it has never been used before, it uses the default values.

- If the overwrite setting for the new module is disabled, the module configures its settings using its own auxiliary configuration file in flash memory. If you want the new module to use the same configuration settings as the module previously installed in the slot, you can use the CONFIG RUN command. For instructions, refer to “CONFIG RUN” on page 160.

For background information about the overwrite setting, refer to “Media Converter Modules and Auxiliary Configuration Files” on page 146.

Chapter 2

Basic Commands

This chapter contains the following commands:

'?' Question Mark Key

Syntax

?

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

Entering a question mark at the command line prompt displays a list and a brief description of the command line keywords. Entering a question mark after a keyword displays the available keyword parameters. Additionally, entering a question mark after a parameter displays the parameter's class (that is, integer, string, etc.).

Examples

This command lists all of the command keywords:

?

This command displays the available parameters for the CONFIG keyword:

```
config ?
```

This command displays the class of the value for the SET parameter in the CONFIG command:

```
config set?
```

CLEAR

Syntax

```
clear
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command clears the screen.

Example

```
clear
```

EXIT

Syntax

```
exit
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command ends a management session.

Example

```
exit
```

HELP

Syntax

```
help
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command displays information about how you can use the "?" and tab keys to simplify the entry of commands.

Example

```
help
```

PING

Syntax

`ping` *ipaddress*

Parameter

ipaddress Specifies the IP address of the device to ping.

Privilege Levels

Administrator and read-write.

Description

This command is used to test for a network connection between the management module and a remote device on your network. If the management module is experiencing a problem communicating with a network device, such as a syslog server or a TFTP server, this command could prove useful in troubleshooting the problem. You could use it to determine whether a valid network link exists between the module and the other device.

The command sends three TCP/IP ping requests and displays the results of the requests on your workstation.

Here are the guidelines to using this command:

- The management module must have an IP configuration. For instructions, see Chapter 3, “IP Configuration Commands” on page 47.
- The 10/100/1000Base-T Management port on the management module must be connected to a device on your network, such as an Ethernet switch. The ping requests are transmitted only from that port and not from the ports on the media converter modules.
- The management module must be a member of the same subnet as the remote device or have access to the device’s subnet through routers or other Layer 3 routing devices.
- If the management module and the remote device are members of different networks, the IP configuration on the module must include a default gateway address that specifies the IP address of the routing interface of the first hop to reaching the device. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.

Example

This command has the management module send three ping requests to a remote device with an IP address of 149.12.55.77:

```
ping 149.12.55.77
```

Chapter 3

IP Configuration Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or Chapter 8, “Configuration File Commands” on page 145.

Overview

The IP commands are used to assign an IP address configuration, consisting of an IP address, subnet mask, and default gateway address, to the AT-MCF2000M Management Module. The management module must have an IP address configuration to perform these functions:

- Supporting remote management using a Telnet or Secure Shell (SSH) client.
- Supporting remote management using the Simple Network Management Protocol (SNMP)
- Uploading or downloading files to its file system from a TFTP server
- Setting the date and time from a Network Time Protocol (NTP) server
- Sending events to a syslog server
- Sending or receiving TCP/IP ping requests from network devices

The address configuration must include a default gateway address if the management module will be communicating with network devices on different subnets or networks than itself. The address, which must be a member of the same network as the management module, must identify the routing interface of the first hop to reaching the remote devices. For example, the module must have a default gateway address if:

- You will be managing the unit remotely from a Telnet client on a different network from the management module.
- If the unit's date and time will be set from an NTP server on another network.

The IP address configuration can be assigned manually or from a DHCP or BOOTP server on your network. To assign the configuration manually, use the IP SET command. To assign the configuration from a DHCP and BOOTP server, use the IP DHCP ENABLE command to activate the DHCP and BOOTP clients.

All communications between the management module and your network are conducted through the 10/100/1000Base-T Management port. Consequently, this port must be connected to a network device, such as a Fast Ethernet or Gigabit Ethernet switch. The AT-MCF2000M Management Module cannot communicate with your network through the ports on the media converter modules in the chassis.

Note
The media converter modules operate independently of the AT-MCF2000M Management Module. As such, their operations are not affected if the management module does not have an IP address configuration.

Command Summary

Table 3 summarizes the IP configuration commands.

Table 3. IP Configuration Commands

Command	Description
IP DHCP DISABLE on page 50	Deactivates the DHCP and BOOTP clients on the management module.
IP DHCP ENABLE on page 51	Activates the DHCP and BOOTP clients on the management module.
IP SET on page 52	Manually sets the IP configuration.
IP SHOW on page 54	Displays the IP address, subnet mask, and default gateway of the management module.

IP DHCP DISABLE

Syntax

```
ip dhcp disable
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to deactivate the DHCP and BOOTP clients on the management module. When the clients are deactivated, which is their default setting, the default values are reinstituted for the module's IP address.

To manually assign an IP address to the management module, refer to "IP SET" on page 52.

Example

```
ip dhcp disable
```

IP DHCP ENABLE

Syntax

```
ip dhcp enable
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to activate the management module's DHCP and BOOTP clients so as to obtain an IP address configuration from a DHCP or BOOTP server on your network. For background information on when to assign the management module an IP address, refer to "Overview" on page 48.

When the clients are activated, the management module queries first for a DHCP server. If it receives a response, it applies the IP address configuration from the server to its IP parameters, and stops querying the network. If there is no response after seven attempts, the management module queries for a BOOTP server. If there is again no response, the management module stops its query efforts.

The default setting for the DHCP and BOOTP clients is disabled.

> **Note**
> If an IP address was manually assigned to the module, it is overwritten by the values from the DHCP or BOOTP server.

The management module must communicate with a DHCP or BOOTP server through its 10/100/1000Base-T Management port. The module cannot communicate with your network through the ports on the media converter modules in the chassis.

Example

```
ip dhcp enable
```

IP SET

Syntax

```
ip set ip-address=ipaddress subnetmask=mask
default-gateway=ipaddress
```

Parameters

ip-address Specifies an IP address for the AT-MCF2000M Management Module. The default value is 10.0.0.1.

subnetmask Specifies a subnet mask for the management module's IP address. The mask can be of variable length. The default value is 255.255.252.0.

default-gateway
Specifies a default gateway for the management module. The default gateway must be a member of the same subnet as the module's IP address. The default value is 0.0.0.0.

Privilege Levels

Administrator and read-write.

Description

This command is used to manually assign an IP address, subnet mask, and default gateway address to the AT-MCF2000M Management Module. For background information on when the module needs an IP address configuration, refer to "Overview" on page 48.

Note
If the DHCP and BOOTP clients on the management module are enabled, you must disable them with the IP DHCP DISABLE command before using this command. For information on the command, refer to "IP DHCP DISABLE" on page 50. To determine the status of the clients, refer to "IP SHOW" on page 54.

Examples

This command assigns the IP address 149.22.67.8, subnet mask 255.255.255.224, and default gateway 149.22.67.247 to the AT-MCF2000M Management Module:

```
ip set ip-address=149.22.67.8 subnetmask=255.255.255.224
default-gateway=149.22.67.247
```

This command assigns the default gateway address 149.44.55.22 to the management module:

```
ip set default-gateway=149.44.55.22
```

This command removes the current IP address and subnet mask values without assigning new values:

```
ip set ip-address=0.0.0.0 subnetmask=0.0.0.0
```

IP SHOW

Syntax

```
ip show
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to view the management module's IP address, subnet mask, and default gateway address. An example is shown in Figure 8.

```
IP Information:
  IP Address.......... 149.25.42.11
  Subnet Mask......... 255.255.255.0
  Gateway............. 149.25.42.27
  DHCP................ Disable
```

Figure 8. IP SHOW Command

For further information, refer to the following sections:

- "Overview" on page 48 for background information on when to assign an IP address configuration to the management module.
- "IP DHCP ENABLE" on page 51 and "IP DHCP DISABLE" on page 50 for instructions on how to activate or deactivate the DHCP and BOOTP clients.
- "IP SET" on page 52 for instructions on how to manually assign these values.

Example

```
ip show
```

Chapter 4

General System Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or Chapter 8, “Configuration File Commands” on page 145.

Overview

The system commands are divided into two groups in this manual. The first set of commands, described in this chapter, control and display the basic parameters on the management module, such as the chassis' name and the date and time.

The commands in the second group control the individual ports and channels on the media converter modules. These functions include setting port parameters, such as speed and duplex mode, resetting media converter modules, and displaying status information on the modules in a chassis or stack. The system commands in this group are described in Chapter 5, "Port and Module Commands" on page 71.

Command Summary

Table 4 summarizes the general system commands described in this chapter.

Table 4. General System Configuration Commands

Command	Description
"SYSTEM SET ASYNCHRONOUS" on page 58	Sets the baud rate of the RS-232 Terminal port on the management module.
"SYSTEM SET CHASSIS" on page 59	Assigns a name to a chassis.
"SYSTEM SET CLOCK" on page 60	Manually sets the date and time.
"SYSTEM SET CONSOLE" on page 62	Sets the console timeout parameter for ending inactive management sessions.
"SYSTEM SET CONTACT" on page 63	Identifies the network administrator responsible for maintaining the chassis or stack.
"SYSTEM SET HOSTNAME" on page 64	Specifies a name for the stack.
"SYSTEM SET LOCATION" on page 65	Specifies the location of the stack.
"SYSTEM SHOW ASYNCHRONOUS" on page 66	Displays the baud rate of the RS-232 Terminal port on the management module.
"SYSTEM SHOW CLOCK" on page 67	Displays the date and time.

Table 4. General System Configuration Commands

Command	Description
"SYSTEM SHOW CONSOLE" on page 68	Displays the console timeout parameter.
"SYSTEM SHOW INFO" on page 69	Displays the stack's name, the name of the network administrator responsible for managing the units, and the location of the stack.

SYSTEM SET ASYNCHRONOUS

Syntax

```
system set asynchronous baudrate=2400|4800|9600|19200|115200
```

Parameters

baudrate — Specifies the new baud rate of the RS-232 Terminal port on the AT-MCF2000M Management Module. The default is 115,200 bits per second (bps).

Privilege Levels

Administrator and read-write.

Description

This command is used to change the baud rate of the RS-232 Terminal port on the AT-MCF2000M Management Module. The port is used to locally manage the chassis. To view the port's current baud rate setting, refer to "SYSTEM SHOW ASYNCHRONOUS" on page 66.

Note
If you change the baud rate of the RS-232 Terminal port on the management module while conducting a local management session, the session is interrupted. To resume managing the module, change the speed of the terminal or the terminal emulator program to the new speed of the RS-232 Terminal port.

The other settings of the RS-232 Terminal port listed here are not adjustable:

- Data bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None

Example

This command sets the baud rate of the RS-232 Terminal port to 2,400 bps:

```
system set asynchronous baudrate=2400
```

SYSTEM SET CHASSIS

Syntax

```
system set chassis id=chassis name=name
```

Parameters

id	Identifies an ID number of a chassis you want to assign a new name. The range is 0 to 31. To view an ID number of a chassis, refer to "SYSTEM SHOW CLUSTER" on page 101. For background information, refer to "Chassis ID Numbers" on page 25.
name	Specifies a new name for a chassis. A name can be up to 20 alphanumeric characters. Spaces are permitted, but names with spaces must be enclosed in double quotes (" "). To remove the current value without specifying a new value, enter "none".

Privilege Levels

Administrator and read-write.

Description

This command is used to assign a name to a chassis. Identifying the different AT-MCF2000 and AT-MCF2300 Chassis in the management software will be easier if you give them names.

The difference between this command and the SYSTEM SET HOSTNAME command is that this command is used to assign names to the individual units in a stack while the latter command is used to assign names to entire stacks.

To view the current name of a chassis, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101.

Examples

This command assigns the name "interconnect51" to the chassis with the ID number 0:

```
system set chassis id=0 name=interconnect51
```

This command assigns the name "wtc connection" to the chassis with the ID number 2:

```
system set chassis id=2 name="wtc connection"
```

SYSTEM SET CLOCK

Syntax

```
system set clock date=mm/dd/yyyy time=hh:mm:ss
```

Parameters

date	Specifies the new date in month/day/year format. The month and day must each be represented by two digits and the year by four digits. For example, the date May 2, 2008 is entered as 05/02/2008.
time	Specifies the new time in 24-hour, hour:minute:second format. Each part must have two digits and you have to include all three parts. For example, 9:05 am is entered as 09:05:00.

Privilege Levels

Administrator and read-write.

Description

This command is used to manually set the date and time, which the management module adds to the event messages and the SNMP traps. With its onboard battery, the module is able to maintain the date and time even when it is reset or powered off.

To view the current date and time, see “SYSTEM SHOW CLOCK” on page 67.

To set the date and time using an Network Time Protocol (NTP) server, refer to Chapter 6, “Network Time Protocol Commands” on page 117.

Note
If you activate the NTP client after setting the date and time manually, the information from the NTP server will overwrite the manually set date and time.

You do not have to enter the CONFIG SAVE command to save the new date and time.

Examples

This command sets the date to April 11, 2007 and time to 4:34 pm:

```
system set clock date=04/11/2007 time=16:34:00
```

This command sets the time to 7:08 am and 25 seconds:

```
system set clock time=07:08:25
```

SYSTEM SET CONSOLE

Syntax

```
system set console timeout=value
```

Parameter

timeout — Specifies the console timer in minutes. The range is 0 to 60 minutes. The default is 10 minutes.

Privilege Levels

Administrator and read-write.

Description

This command is used to set the console timer. This parameter controls the amount of time (in minutes) the management software waits before it automatically ends inactive local and remote management sessions. If there is no management activity for the duration of the timer, the management module automatically logs off the management session. This security feature is used to prevent unauthorized individuals from using your management station to alter the configuration settings of the media converter chassis if you step away from your system during a management session.

A value of 0 (zero) disables the console timer so that inactive management sessions are never timed out. This value should be used with caution. If you disable the console timer, you must remember to always log off after every local and remote management session of the media converter. Otherwise. future management sessions may be blocked.

To view the current console timer setting, refer to “SYSTEM SHOW CONSOLE” on page 68.

Note
The console timer is independent of the management module’s date and time and operates regardless of whether the date and time are set.

Example

This command sets the console timer to 25 minutes:

```
system set console timeout=25
```

SYSTEM SET CONTACT

Syntax

```
system set contact=contact
```

Parameter

contact — Specifies the name of the network administrator who has the responsibility of maintaining the chassis. The contact can be up to 25 alphanumeric characters. Spaces are allowed, but names with spaces must be enclosed in double quotes (“ “). To remove the current value without specifying a new value, enter “none.”

Privilege Levels

Administrator and read-write.

Description

This command is used to set the name of the network administrator who is responsible for managing the chassis. To view this parameter's current value, refer to “SYSTEM SHOW INFO” on page 69.

Example

This command sets the chassis' contact to “Jane Smith:”

```
system set contact="Jane Smith"
```

SYSTEM SET HOSTNAME

Syntax

```
system set hostname=name
```

Parameter

hostname — Specifies a name of up to 25 alphanumeric characters for a stack. A host name is also used as the command line prompt. Spaces are permitted, but a host name with spaces must be enclosed in double quotes (“ “). To remove the current value without specifying a new value, enter “none.”

Privilege Levels

Administrator and read-write.

Description

This command is used to assign a name to a stack. The name is displayed at the top of the console screen during management sessions. The first fourteen characters of the host name are also used as the command line prompt in the management interface.

To view the current value for this parameter, examine the top of the console screen or the command line prompt. Or, refer to “SYSTEM SHOW INFO” on page 69.

To assign individual names to the chassis in a stack, refer to “SYSTEM SET CHASSIS” on page 59.

Examples

This command sets a stack’s name to “MCF2000 12a traffic:”

```
system set hostname="MCF2000 12a traffic"
```

This command removes a stack’s name without assigning a new value:

```
system set hostname=none
```

SYSTEM SET LOCATION

Syntax

```
system set location=location
```

Parameters

location — Specifies a location for a chassis or stack. A location can be of up to 25 alphanumeric characters. Spaces are allowed, but a location with spaces must be enclosed in double quotes (" "). To remove the current value without specifying a new value, enter "none."

Privilege Levels

Administrator and read-write.

Description

This command is used to specify a location of a chassis or stack. This information can be helpful in locating the different media converter units in your network. To view the current value for this parameter, refer to "SYSTEM SHOW INFO" on page 69.

Examples

This command sets a stack's location to "Bldg 3, rm 212:"

```
system set location="Bldg 3, rm 212"
```

This command removes the current location without assigning a new value:

```
system set location=none
```

SYSTEM SHOW ASYNCHRONOUS

Syntax

```
system show asynchronous
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the baud rate setting of the management module's RS-232 Terminal port, which is used to locally manage a media converter chassis or stack. An example of the information displayed by the command is shown in Figure 9.

```
Asynchronous Port (Console) Information:
     Baud Rate ............................ 115200
```

Figure 9. SYSTEM SHOW ASYNCHRONOUS Command

To configure the port's baud rate, refer to "SYSTEM SET ASYNCHRONOUS" on page 58.

Example

```
system show asynchronous
```

SYSTEM SHOW CLOCK

Syntax

```
system show clock
```

Parameters

None

Privilege Levels

Administrator, read-write, and read-only

Description

This command is used to display the current date and time on the management module. An example of the information is shown in Figure 10. The Real Time Clock (RTC) Source field indicates the source of the date and time. The field will be "none" if the date and time were set manually. If they were set by an NTP server, the RTC Source field will be "NTP."

```
System Clock Information
     Date ............. 06/04/2007
     Time ............. 03:35:25
     RTC Source ....... none
```

Figure 10. SYSTEM SHOW CLOCK Command

To manually set the date and time, refer to "SYSTEM SET CLOCK" on page 60. To set the date and time from an Network Time Protocol (NTP) server, refer to Chapter 6, "Network Time Protocol Commands" on page 117.

Example

```
system show clock
```

SYSTEM SHOW CONSOLE

Syntax

```
system show console
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the setting for the console timer. This parameter controls the amount of time (in minutes) that the management software waits before it automatically ends an inactive local or remote management session. The management software automatically logs off the session if the console timer expires without any management activity. This security feature prevents unauthorized individuals from using your management station to change the configuration of the media converter chassis should you step away from your system during a management session.

A value of 0 (zero) disables the console timer. Inactive management sessions are never timed out. This value should be used with caution. If you disable the console timer, you must always remember to log off after every local or remote management session of the media converter, or future management session may be blocked.

To set the console timer setting, refer to “SYSTEM SET CONSOLE” on page 62.

Example

```
system show console
```

SYSTEM SHOW INFO

Syntax

```
system show info
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the stack's name, the name of the network administrator responsible for managing the units, and the location of the stack. An example is shown in Figure 11.

```
System Information
     Hostname ............ Engineering MCF
     Contact ............. Jane Smith
     Location ............ Bldg 3, Fl 1, Closet 122
```

Figure 11. SYSTEM SHOW INFO Command

To configure these parameters, see the following commands:

- "SYSTEM SET HOSTNAME" on page 64
- "SYSTEM SET CONTACT" on page 63
- "SYSTEM SET LOCATION" on page 65.

Example

```
system show info
```

Chapter 5

Port and Module Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, see “Saving Your Configuration Changes” on page 23 or Chapter 8, “Configuration File Commands” on page 145.

Overview

The system commands are divided into two groups in this manual. The first group of commands, described in Chapter 4, “General System Commands” on page 55, are used to display and control the basic parameters on the management module, such as the chassis’ name and the date and time.

The system commands that are described in this chapter control the parameters on the ports and channels on the media converter modules. These functions include setting port speed and duplex mode, resetting media converter modules, and displaying status information about the modules of a chassis.

Command Summary

Table 5 summarizes the port and module configuration commands.

Table 5. Port and Module Commands

Command	Description
“SYSTEM RESET CHASSIS” on page 74	Performs a soft reset on the management module and media converter modules in a chassis by initializing their management software.
“SYSTEM RESET CLUSTER” on page 76	Restores the default settings to the parameter settings on the management module and the media converter modules in a chassis or stack.
“SYSTEM RESET MODULE” on page 78	Performs a soft reset on individual modules in a chassis by initializing the module’s management software.
“SYSTEM SET INTERFACE” on page 81	Sets the operating mode of the channels on a media converter module.
“SYSTEM SET MODULE” on page 89	Assigns a name and temperature threshold to a module.
“SYSTEM SET PORT” on page 92	Configures the parameter settings of the ports in a media converter channel.

Table 5. Port and Module Commands (Continued)

Command	Description
"SYSTEM SHOW CHASSIS" on page 99	Displays the model names and slot assignments of the management and media converter modules in a chassis, as well as the chassis' module name and MAC address.
"SYSTEM SHOW CLUSTER" on page 101	Displays the model names and slot assignments of the management and media converter modules in the chassis of a stack, as well as the chassis' module names and MAC addresses.
"SYSTEM SHOW INTERFACE" on page 103	Displays the parameter settings of the ports of the channels on a media converter module.
"SYSTEM SHOW MODULE" on page 111	Displays status information about the media converter, power supply, fan, and management modules in the chassis.

Note
The SYSTEM RESET CHASSIS, SYSTEM RESET CLUSTER and SYSTEM RESET MODULE commands may interrupt the flow of network traffic through the ports and channels of the media converter modules in a chassis or stack. Review the information in the command descriptions before performing these commands.

SYSTEM RESET CHASSIS

Syntax

```
system reset chassis id=chassis
```

Parameters

id — Specifies an ID number of a chassis to reset. The range is 0 to 31. To view the ID number of a chassis, refer to “SYSTEM SHOW CLUSTER” on page 101. For background information, refer to “Chassis ID Numbers” on page 25.

Privilege Levels

Administrator and read-write.

Description

This command is used to reset and initialize all of the media converter modules in a chassis. If the chassis contains the AT-MCF2000M Management Module, the command also resets and initializes that module as well. You might reset a chassis if you are experiencing problems with its modules.

Note
This command does not display a confirmation prompt. The modules are reset as soon as you enter the command.

Note
Resetting the media converter modules may result in the loss of some network traffic.

Note
A media converter module will immediately resume forwarding network traffic through its ports and channels when it is reset. It uses the default settings for its parameter settings as it initializes its management software, which takes approximately one minute. During the initialization process, it will be unresponsive to management commands. Afterwards, the module will configure its ports and channels according to the settings in either its own configuration file or the active master configuration file on the management module, depending on the configuration overwrite setting for the slot.

Note
When the AT-MCF2000M Management Module is reset, it will be unresponsive to commands for approximately one minute while it initializes its AT-S97 Management Software.

Review the following before performing this command:

- The command does not affect the power supply and fan modules.
- If the chassis you're resetting has the management module, you'll have to reestablish your management session after the module has initialized its AT-S97 Management Software, if you want to continue to manage the unit. The initialization process takes approximately one minute to complete.

Note
Any parameter settings that you have not saved in the active master configuration file on the management module are discarded during the reset. To save your changes, use the CONFIG SAVE command. For instructions, refer to "CONFIG SAVE" on page 161.

- To reset individual modules, refer to "SYSTEM RESET MODULE" on page 78.

Examples

This command resets the chassis with the ID number 0:

```
system reset chassis id=0
```

This command resets the chassis with the ID number 2:

```
system reset chassis id=2
```

SYSTEM RESET CLUSTER

Syntax

```
system reset cluster
```

Parameters

None.

Privilege Level

Administrator.

Description

This command is used to restore the default values to the parameter settings on the management module and all of the media converter modules in the chassis or stack.

Note
This command should be used with caution. It deletes all of the master and auxiliary configuration files in the file systems of the modules. To retain a master configuration file on the management module, upload it to a TFTP server before issuing this command. For instructions, refer to “FILE UPLOAD” on page 194.

Note
The command resets all of the media converter modules in the chassis or stack. Some network traffic may be discarded by the modules.

Note
The management module will be unresponsive to commands for approximately one minute while it initializes the AT-S97 Management Software.

Note
The media converter modules in the chassis will immediately resume forwarding network traffic through their ports and channels using the default settings for their parameter settings. However, they will be unresponsive to management commands for approximately one minute while they initialize their AT-S85 Management Software.

After you've performed this command, you must do the following before you can save new parameter changes:

1. Create a new master configuration file on the management module or download a previously saved file to the module from a TFTP server. To create a new file, refer to "Creating a Master Configuration File" on page 32 or "CONFIG SAVE FILESYSTEM" on page 162. To download a configuration file from a TFTP server, refer to "FILE DOWNLOAD" on page 179.

2. Designate the file as the management module's active master configuration file. For instructions, refer to "CONFIG SET" on page 164.

3. If you downloaded a new master configuration file onto the management module from a TFTP server and want to configure the modules using the parameter settings in the file, issue the CONFIG RUN command. For instructions, refer to "CONFIG RUN" on page 160.

Review the following before performing this command:

- The current date and time are retained.
- The command does not affect the power supply or fan modules.
- This command ends your management session. To continue managing the unit, start a new session after the management module initializes its AT-S97 Management Software. The initialization process takes approximately one minute.

Example

This command restores the default settings to all of the management and media converter modules in the chassis or stack by deleting all of the master and auxiliary configuration files on the modules:

```
system reset cluster
```

SYSTEM RESET MODULE

Syntax

```
system reset module id=chassis/slot
```

Parameters

id — Identifies a media converter module or management module to be reset. An ID number has the following parts:

- chassis — Identifies an ID number of a chassis. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
- slot — Identifies the module to be reset by its slot number or letter. For background information, refer to “Slot Numbers and Letters” on page 26. Possible values are:
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
  - m — Identifies the AT-MCF2000M Management Module.

To view the ID and slot numbers of a chassis, refer to “SYSTEM SHOW CHASSIS” on page 99 or “SYSTEM SHOW CLUSTER” on page 101.

Privilege Levels

Administrator and read-write.

Description

This command is used to perform a soft reset on a media converter module or management module in a chassis. The module initializes its management software. You might reset a module if it is experiencing a problem.

Note
Resetting a media converter module may result in the loss of some network traffic.

Note
When a management module is reset, it will be unresponsive to commands for approximately one minute as it initializes the AT-S97 Management Software.

Note
A media converter module will immediately resume forwarding network traffic through its ports and channels when it is reset. It uses the default settings for its parameter settings as it initializes its management software, which takes approximately one minute. During the initialization process, it will be unresponsive to management commands. Afterwards, the module will configure its ports and channels according to the settings in either its own configuration file or the active master configuration file on the management module, depending on the configuration overwrite setting for the slot.

Here are the guidelines to using this command:

- You can reset only one module at a time.
- You can use this command to reset a management module or a media converter module. However, you cannot use this command to reset a power supply module, a fan module, or the AT-MCF2000S Stacking Module.
- If you reset the AT-MCF2000M Management Module, your management session ends. To continue managing the chassis, start a new session after the module has initialized its software, which takes about one minute.
- Resetting the AT-MCF2000M Management Module does not affect the network operations of the media converter modules in the chassis.
- If you reset a media converter module, you can use the SYSTEM SHOW CLUSTER command or the SYSTEM SHOW CHASSIS command to determine when a module has finished initializing its management software.
- To reset all of the media converter modules in a chassis with just one command, refer to "SYSTEM RESET CHASSIS" on page 74.

Examples

This command resets the media converter module in slot 2 in the chassis with the ID number 0:

```
system reset module id=0/2
```

This command resets the media converter module in slot 4 in the chassis with the ID number 2:

```
system reset module id=2/4
```

This command resets the AT-MCF2000M Management Module installed:

```
system reset module id=0/m
```

This command resets the media converter module in slot 1 in the chassis with the ID number 5:

```
system reset module id=5/1
```

SYSTEM SET INTERFACE

Syntax

```
system set interface id=chassis/slot[/channel]
opmode=link-test|ml|sml
```

Parameters

id — Specifies a media converter module or a channel. An ID consists of the following parts:

- chassis — Identifies an ID number of a chassis. The range is 0 to 31. For background information, refer to "Chassis ID Numbers" on page 25.
- slot — Specifies the module you want to configure by its slot number. Slot numbers are explained in "Slot Numbers and Letters" on page 26. The possible values are:
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
- channel — Specifies the channel you want to configure by its channel number. You can specify only one channel. The range is 1 to 12. Channel 1 consists of twisted pair port 1 and fiber topic port 1, channel 2 of twisted pair port 2 and fiber topic port 2, and so on. You can specify only one channel at a time. Or, omit this parameter to set all of the channels on a media converter module to the same operating mode.

To view the ID and slot numbers of a chassis, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101. To view the channels, refer to "SYSTEM SHOW INTERFACE" on page 103.

opmode — Specifies an operating mode for a channel. Available settings are:

link-test	Specifies the Link Test mode. This is the default setting.
ml	Specifies the MissingLink™ mode.
sml	Specifies the Smart MissingLink mode.

Privilege Levels

Administrator and read-write.

General Description

This command is used to set the operating modes of the channels on the media converter modules. Different channels on the same media converter module can be set to different operating modes. The operating modes do not interfere with the flow of network traffic through the ports of a channel. To view a channel's current operating mode, refer to "SYSTEM SHOW INTERFACE" on page 103.

Description of the Link Test Mode

Contrary to its name, the Link Test operating mode is not a diagnostic utility. Rather, it simply reflects the link status of a port on the port's Link LED and in the SYSTEM SHOW INTERFACE command. For example, when a port in a media converter channel running in this mode has a valid link to a network device, its Link LED is on and its status in the SYSTEM SHOW INTERFACE command is online. Conversely, when a channel port operating in this mode does not have a link, its Link LED is off and its status in the SYSTEM SHOW INTERFACE command is offline.

This mode is typically used when the network devices connected to the ports of a channel cannot take advantage of the features of the MissingLink mode, or when you want to use the Link LEDs or the SYSTEM SHOW INTERFACE command to troubleshoot a network problem with a channel. This operating mode is also useful after the installation of a media converter module to verify whether the ports of a channel have established a link with a network device.

Description of the MissingLink Mode

In the MissingLink mode, the two ports of a channel share their "link" status with each other so that both ports of a channel and, consequently, the network devices connected to the ports, are always aware of a change to the status of the link of the companion port in a channel. When a channel in the MissingLink mode detects the loss of a link on one of its ports, it replicates the loss on the companion port in the same channel by

disabling the transmitter on the companion port. This notifies the network device connected to the port of the loss of the link on the other channel port. Without the MissingLink mode, a network device connected to a channel port is unaware of a loss of a link on its companion port in the channel, because its link to the media converter is otherwise unaffected. In other words, the MissingLink mode does not allow a port in a channel to form a link with its network device unless the companion port can also establish a link with its device.

When the link is reestablished on a channel port, the MissingLink mode automatically reactivates the transmitter on the companion port so that both network devices can again forward traffic to each other through the two ports of the media converter channel.

The value to this type of fault notification is that some network devices, such as managed Fast Ethernet switches, can respond to the loss of a link on a port by performing a specific action. For example, the network device might send a trap to a network management station, and so alert the network administrator of the problem. Or, if the device is running a spanning tree protocol, it might seek a redundant path to a disconnected node.

Here is an example of how the MissingLink mode works. Assume that two ports of a channel are connected to two Fast Ethernet switches, one local and the other remote. Switch A, the local switch, is connected to the twisted pair port of the channel, while Switch B, the remote device, is connected to the fiber optic port. If the link to Switch A is lost on the twisted pair cable, the media converter disables the transmitter on the fiber optic port in the same channel to signal Switch B of the loss of the link to Switch A. This notifies Switch B of the problem so it too, along with Switch A, can take remedial action, such as activating a redundant path if it is running a spanning tree protocol or sending an SNMP trap to a management workstation. Without the MissingLink mode, Switch B would continue to assume it still has a valid link to the remote device on the other side of the media converter channel since its link to the port on the channel is still valid, though no remote traffic is received.

In the example, the initial loss occurred on the twisted pair port. But the mode operates the same when the initial loss of the link is on the fiber optic port of a channel. Here, the transmitter on the twisted pair port is disabled to notify the node connected to that port of the loss of the link on the fiber optic port.

The states of the ports in a channel running in this mode operate in tandem. Either both ports have a link or neither port does. This is reflected on the Link LEDs and in the SYSTEM SHOW INTERFACE command. If both ports can form a link with their respective network device, then their Link LEDs will both be on and their status in the SYSTEM SHOW INTERFACE command will be Online. If one or both ports cannot establish a link, then their Link LEDs will both be off and their status in the SYSTEM SHOW INTERFACE command will be Offline.

This operating mode is useful when the network devices connected to the ports of a channel can react to a loss of a link on a port, such as managed Fast Ethernet switches running SNMP or a spanning tree protocol. Conversely, the MissingLink mode is of little value if the network devices of a channel cannot react to a lost link. In the latter scenario, the Link Test mode would probably be a better operating mode for a channel during normal network operations.

Furthermore, Allied Telesis does not recommend using the MissingLink mode when troubleshooting a network problem that may have its roots with a link problem. The MissingLink mode does not allow you to use the port's Link LEDs or the SYSTEM SHOW INTERFACE command to diagnose the problem, since neither port will show a link. Rather, the Link Test and the Smart MissingLink modes are more useful when troubleshooting a link problem.

Description of the Smart MissingLink Mode

The Smart MissingLink mode, the third operating mode of the media converter channels, is nearly identical in terms of functionality to the MissingLink mode. It, too, enables the two ports of a channel to share the "Link" status of their connections.

The difference is rather than completely shutting off the transmitter of a port when its companion port in a channel loses its link, this operating mode pulses the port's transmitter once a second. This signals the port's ability to still establish a link to its network device and that the loss of the link originated on the companion port in the channel.

The advantage of this operating mode over the MissingLink mode is that you can use the Link LEDs and the SYSTEM SHOW INTERFACE command to troubleshoot a link failure with the ports of a channel. A port's Link LED starts to flash when its companion port cannot establish a link with its network device and the port's status changes to TX SML in the SYSTEM SHOW INTERFACE command.

Here is an example of how the Smart MissingLink mode works. Assume that the fiber optic port in a media converter channel lost its link to its network device while the channel was in the Smart MissingLink operating mode. The mode would respond by pulsing the transmitter on the twisted pair port of the channel about once a second. The port's Link LED would flash and its status would change to TX SML in the SYSTEM SHOW INTERFACE command as a signal that the failure originated on the fiber optic port of the channel. When the connection is reestablished on the fiber optic port, the twisted pair port resumes normal operations so that the two ports can again forward traffic to each other.

The operating mode functions the same if the failure starts on the twisted pair port. Here, the mode pulses the transmitter on the fiber optic port.

As with the other two channel operating modes, this mode does not interfere with the flow of network traffic through the ports of a channel and so can be used during normal network operations of a media converter channel. However, you might want to limit its use to diagnosing a link failure, particularly if the network devices connected to the ports are managed devices. This is because the pulsing of the transmitter on a port and the constantly changing status of a link could prove problematic for some managed devices. For example, the device might send a constant stream of SNMP traps or, if the device is running a spanning tree protocol, the protocol may become confused as the status of the device's link to the media converter constantly changes.

Mode Select Button

On the front panel of the media converter module is a Mode Select button that you can use to manually set the operating mode of a channel. Turning the button up or down toggles through the channels on the module and pressing it selects a channel's operating mode. The selected channel is identified by the CH LEDs on the module and the operating mode by the LT (Link Test), ML (MissingLink), and SML (Smart MissingLink) LEDs. For further information, refer to the *AT-MCF2000 Multi-channel Media Converter Series Installation Guide*.

A media converter module automatically updates its auxiliary configuration file in its file system whenever you set a channel's operating mode with the Mode Select button. This enables a module in an unmanaged chassis to retain its channel operating mode settings even when it is moved to another slot or when a chassis is power cycled.

However, if a chassis has the AT-MCF2000M Management Module or is part of a stack, the master configuration file on the management module is not automatically updated when a channel's operating mode is set with the Mode Select button. Rather, you must initiate the update with the CONFIG SAVE command from a local or remote management session. Otherwise, the settings in the auxiliary configuration file on the module are overwritten by the master configuration file on the management module the next time the module or chassis is reset.

For further information on configuration files, refer to Chapter 8, "Configuration File Commands" on page 145.

Operating Mode Guidelines

The following guidelines apply to using the channel operating modes:

- The channels on a media converter module can be set to different operating modes.
- The operating modes do not block or interfere with the flow of traffic between the two ports of a channel during normal network operations.

- The MissingLink mode is intended for situations where the ports of a channel are connected to managed devices, such as managed Fast Ethernet switches, that can react to the loss of a link and perform a specific action, such as send out an SNMP trap or seek a redundant path using a spanning tree protocol.
- Allied Telesis does not recommend using the Smart MissingLink mode on a channel connected to managed devices during normal operations of the channel. As explained earlier, this mode pulses the transmitter of a channel port when the link is lost on the companion port, which might cause problems for a managed device.
- The Link Test and Smart MissingLink modes are particularly useful when troubleshooting a link failure on a channel port. These modes allow you to use the Link LEDs on the ports and the SYSTEM SHOW INTERFACE command to identify the port in the channel that cannot establish a link with its network device.

Examples

This command sets all the channels on a media converter module in slot 1 to the Smart MissingLink mode. The chassis has the ID number 0:

```
system set interface id=0/1 opmode=sml
```

This command sets channel 6 (twisted pair port 6 and fiber optic port 6) on a media converter module in slot 2 to the MissingLink mode. The chassis has the ID number 0:

```
system set interface id=0/2/6 opmode=ml
```

This command sets channel 8 (twisted pair port 8 and fiber optic port 8) on a media converter module in slot 1 to the Link Test operating mode. The chassis has an ID number 0:

```
system set interface id=0/1/8 opmode=link-test
```

SYSTEM SET INTERFACE PORTNAME

Syntax

```
system set interface id=chassis/slot/channel portname=name
```

Parameters

id — Specifies the ID of the channel you want to assign a name. The ID consists of the following parts:

- chassis — Identifies a chassis ID number. The range is 0 to 31. For background information, refer to "Chassis ID Numbers" on page 25.
- slot — Specifies a slot number of a media converter module. Slot numbers are explained in "Slot Numbers and Letters" on page 26. The ranges are:
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
- channel — Specifies a channel number on a media converter module. You can specify only one channel. The range is 1 to 12. Channel 1 consists of twisted pair port 1 and fiber topic port 1, channel 2 of twisted pair port 2 and fiber topic port 2, and so on. You can specify only one channel at a time. Or, omit this parameter to set all of the channels on a media converter module to the same operating mode.

portname — Specifies a name of up to 20 alphanumeric characters for a channel.

Privilege Levels

Administrator and read-write.

Description

This command is used to assign names to the channels on a media converter module. Naming the channels makes them easier to identify. Channel names can be viewed with “SYSTEM SHOW INTERFACE” on page 103.

Examples

This command assigns the name “Region2” to channel 7 (twisted pair port 7 and fiber optic port 7) on a module in slot 2 in a chassis with the ID 0:

```
system set interface id=0/2/7 portname=Region2
```

This command assigns the name “NW_traffic” to channel 2 (twisted pair port 2 and fiber optic port 2) on a module in slot 4 in a chassis with the ID 1:

```
system set interface id=1/4/2 portname=NW_traffic
```

SYSTEM SET MODULE

Syntax

```
system set module id=chassis/slot name=name
temperature-threshold=value
```

Parameters

id — Specifies a module in a chassis. The command can configure only one module at a time. The ID consists of the following parts:

- chassis — Identifies a chassis ID number. The range is 0 to 31. For background information, refer to "Chassis ID Numbers" on page 25.
- slot — Specifies a slot number or letter. For background information, refer to "Slot Numbers and Letters" on page 26. The values and ranges are:
  - m — Identifies the AT-MCF2000M Management Module or the AT-MCF2000S Stacking Module.
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
  - a or b — Specifies a slot letter of a power supply or a fan module.

To view the ID and slot numbers of a chassis, refer to "SYSTEM SHOW CLUSTER" on page 101 or "SYSTEM SHOW CHASSIS" on page 99. For more information, refer to "Slot Numbers and Letters" on page 26

name — Assigns a name of up to 20 alphanumeric characters to the module. Spaces are permitted, but a name with spaces must be enclosed in double quotes (" "). To remove the current value without specifying a new value, enter "none".

To view the current name of a module, refer to “SYSTEM SHOW INTERFACE” on page 103, “SYSTEM SHOW CHASSIS” on page 99 or “SYSTEM SHOW CLUSTER” on page 101.

temperature-threshold

Specifies a temperature threshold in the range of 0° C to 75° C (32° F to 167° F) for a module. The default value is 60° C. The management module logs an event in the event log if a module’s temperature exceeds the threshold or if, after exceeding it, falls below it. Different modules in the same chassis can have different temperature thresholds. To view a module’s current temperature threshold value, refer to “SYSTEM SHOW MODULE” on page 111.

Privilege Levels

Administrator and read-write.

Description

This command is used to assign a name and a temperature threshold to a module. Names can make identifying the modules easier. Only the management and media converter modules support names. All of the modules, including the power supply and fan modules, support temperature thresholds. To view the module names, refer to “SYSTEM SHOW INTERFACE” on page 103, “SYSTEM SHOW CHASSIS” on page 99 or “SYSTEM SHOW CLUSTER” on page 101.

The operating temperature of the modules in a chassis can be monitored with the temperature threshold parameter. The management module logs an event in the event log if a module’s temperature exceeds or falls below the threshold. All of the modules, with the exception of the AT-MCF2000S Stacking Module, support a temperature threshold. To view a module’s current temperature threshold value, refer to “SYSTEM SHOW MODULE” on page 111.

The operating temperatures in a chassis can vary widely depending on the proximity of the modules to the cooling fans and the areas on the modules where the temperatures are measured. This should be taken into consideration when setting a temperature threshold for a module. For a power supply or fan module, the temperature is measured where the outside air enters the cooling vents on the module. Consequently, these modules tend to measure the ambient temperature of the room or wiring closet where the chassis is installed. In contrast, the temperatures for the management and media converter modules are measured on the circuit board away from the cooling vents, and so typically reflect the internal temperature of the chassis.

Examples

This command assigns the name "mm vata" to a management module in a chassis with the ID 0:

```
system set module id=0/m name="mm vata"
```

This command sets the temperature threshold to 55° C for a media converter module in slot 2 in a chassis with the ID 0:

```
system set module id=0/2 temperature-threshold=55
```

This command assigns the name "124 mod-ab" and a temperature threshold of 70° C to the media converter module in slot 2 of a chassis with the ID 1:

```
system set module id=1/2 name="124 mod-ab"
temperature-threshold=70
```

This command assigns a temperature threshold of 70° C to the power supply module or fan module in slot A. The chassis has the ID 1:

```
system set module id=1/a temperature-threshold=70
```

SYSTEM SET PORT

Syntax

```
system set port id=chassis/slot[/channel][/port]
port-state=disable|enable auto-neg=disable|enable
speed=10|100|1000 duplex=half|full
crossover=mdi|mdix
ingress-rate-limit=none|value
egress-rate-limit=none|value
```

Parameters

id — Specifies a port in a channel on a media converter module. You can configure one port, both ports of a channel, all of the twisted pair ports on a module, all of the fiber optic ports, or all of the twisted pair and fiber optic ports. The ID consists of the following parts:

- chassis — Identifies a chassis ID number. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
- slot — Specifies a slot number. For background information, refer to “Slot Numbers and Letters” on page 26. The values and ranges are:
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
  - m — Specifies the 10/100/1000Base-T port on the management module.
- channel — Specifies a number of a channel with a port you want to configure. The range is 1 to 12. Channel 1 consists of twisted pair port 1 and fiber topic port 1, channel 2 of twisted pair port 2 and fiber topic port 2, and so on. You can specify only one channel. To configure all the twisted pair ports or the fiber optic ports on a module, omit this parameter.

port — Specifies a port. You can specify only one port. The possible values are:

- a — Specifies the twisted pair port of a channel.
- b — Specifies the fiber optic port of a channel.

To view the ID and slot numbers of a chassis, refer to "SYSTEM SHOW CLUSTER" on page 101 or "SYSTEM SHOW CHASSIS" on page 99. To view the ports of a channel, refer to "SYSTEM SHOW INTERFACE" on page 103.

port-state — Enables or disables a port. The available settings are:

- enable — Activates the transmitter and receiver on a port. This is the default setting.
- disable — Deactivates the transmitter and receiver on a port.

auto-neg — Activates and deactivates IEEE 802.3u Auto-Negotiation and auto-MDI/MDIX on a port. When Auto-Negotiation is activated, a port's speed, duplex mode, and wiring configuration are set automatically. The settings are:

- enable — Activates IEEE 802.3u Auto-Negotiation and auto-MDI/MDIX on the port. This is the default setting for twisted pair ports. It is also the default setting for fiber optic ports that support Auto-Negotiation, such as 100Base-SX ports. This setting is not appropriate for fiber optic ports that do not support Auto-Negotiation, such as 100Base-FX and 1000Base-F ports.
- disable — Deactivates IEEE 802.3u Auto-Negotiation and auto-MDI/MDIX on a port.

speed — Sets the speed of a twisted pair port. The available settings are:

- 10 — Sets the speed of a port to 10 Mbps.
- 100 — Sets the speed of a port to 100 Mbps.
- 1000 — Sets the speed of a port to 1000 Mbps. This setting is applicable to the 10/100/1000Base-T ports on the AT-MCF2032SP Module and on the 10/100/1000Base-T port on the management

module. This setting is not supported on the twisted pair ports on the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules.

duplex — Sets the duplex mode of a port. The available settings are:

- full — Sets the duplex mode of the port to full-duplex. This is the default setting for a fiber optic port that does not support Auto-Negotiation.
- half — Sets the duplex mode of the port to half-duplex.

crossover — Sets the wiring configuration of a twisted pair port. Auto-Negotiation must be disabled on the port to set this parameter. The available settings are:

- mdi — Sets the wiring configuration to MDI.
- mdix — Sets the wiring configuration to MDI-X.

ingress-rate-limit
Defines the maximum number of bits per second a port will accept from the network device connected to it. The ranges are 62 to 256000 kbps for the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules, and 59 to 1000000 kbps for the AT-MCF2032SP Media Converter Module.

egress-rate-limit
Defines the maximum number of bits per second a port will transmit to the network device connected to it. The ranges are 62 to 256000 kbps for the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules, and 59 to 1000000 kbps for the AT-MCF2032SP Media Converter Module.

Privilege Levels

Administrator and read-write.

Description

This command is used to configure the following parameter settings on a twisted pair port or a fiber optic port in a channel on a media converter module:

- Port status
- Auto-Negotiation
- Speed and duplex mode
- MDI/MDI-X wiring configuration
- Ingress and egress filtering

This command is also used to set the operating parameters of the 10/100/1000Base-T Management port on the management module. To view the current settings of a port, refer to "SYSTEM SHOW INTERFACE" on page 103.

Note
You should refer to the media converter module's documentation for operating specifications before configuring the port parameters. This is to avoid the possibility of applying an inappropriate setting to a port. For example, the twisted pair ports on the AT-MCF2012LC media converter module support speeds of 10 and 100 Mbps, but not 1000 Mbps.

The PORT-STATE parameter is used to enable and disable ports. A disabled port does not forward ingress or egress packet traffic. You might disable a port to secure it from unauthorized use or when troubleshooting a network problem. The default setting for a port is enabled.

The AUTO-NEG parameter is used to enable and disable IEEE 802.3u Auto-Negotiation and auto-MDI/MDIX on a twisted pair port in a media converter channel. (Auto-Negotiation is not applicable to the fiber optic ports on the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules.) When Auto-Negotiation is enabled, the speed, duplex mode, and MDI/MDIX settings of a port are set automatically. When Auto-Negotiation is disabled, the port's operating parameters can be set manually.

Auto-Negotiation should only be used on a twisted pair port when the device connected to the port is also using Auto-Negotiation. Otherwise, a duplex mode mismatch may occur, resulting in reduced network performance. A port using Auto-Negotiation defaults to half-duplex if it detects that the port on the other network device is not using Auto-Negotiation. The result would be a duplex mode mismatch if the port on the other network device is operating at a fixed duplex mode of full-duplex.

To avoid this issue, you should disable Auto-Negotiation on a media converter port and set the speed and duplex mode manually when the network device connected to the port can only operate in full-duplex mode. Alternatively, you can reconfigure the port on the network device to Auto-Negotiation or, if it does not support that feature, to half-duplex mode.

The SPEED, DUPLEX, and CROSSOVER parameters are used to set the speed, duplex mode, and MDI/MDIX settings, respectively, on a twisted pair port when Auto-Negotiation is disabled.

You cannot set the speed of the fiber optic ports on the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules because they have a fixed speed of 100 Mbps. Additionally, you cannot set the speed of an SFP module in the AT-MCF2032SP Media Converter Module. The speed of an SFP module is detected automatically by the media converter module.

The DUPLEX parameter can also be used to set the duplex mode on a fiber optic port in a media converter channel.

For best network performance, all the elements of a media converter channel, meaning the two ports of a channel and the two network devices connected to the ports, should be using the same duplex mode. A media converter channel may have to discard packets if its two ports are operating in different modes, one half-duplex and the other full-duplex. This could result in a decrease of network performance if the network devices have to frequently retransmit packets.

For example, if the network device connected to the twisted pair port of a media converter channel is only capable of half-duplex mode, then both ports of the channel and the network device connected to the fiber optic port in the channel should be configured to operate in half-duplex mode as well.

Also featured on the twisted pair ports of a media converter module is auto-MDI/MDI-X, which automatically adjusts the wiring configuration of a twisted pair port to either MDI or MDI-X, depending on the wiring configuration of the end node. This feature allows the use of a straight-through twisted pair cable regardless of the wiring configuration of the port on the network device.

The auto-MDI/MDI-X feature is only available when a twisted pair port is using Auto-Negotiation, the default setting. Disabling Auto-Negotiation and manually configuring a port's speed and duplex mode also disables this feature. The wiring configuration of a port defaults to the MDI-X setting. Disabling Auto-Negotiation may require the manual configuration of the MDI/MDI-X setting on a port or the use a crossover cable, depending on the wiring configuration of the network device connected to the port on the module.

The INGRESS-RATE-LIMIT and EGRESS-RATE-LIMIT parameters control the flow of network traffic to and from a port in a channel to its network device. The rate limits, which are in kilobits and megabits per second, can be applied separately to the two ports of a channel. The rate limits can be used for storm prevention and to protect against the formation of bottlenecks in a network topology,

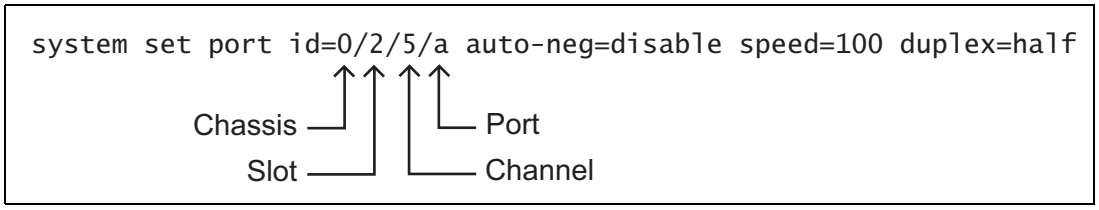
The INGRESS-RATE-LIMIT feature controls the number of bits per second a port will accept from the device connected to it. The port discards frames after the limit is exceeded. For example, an ingress rate limit of 128 limits a port to no more than 128 kilobits per second in traffic flow from its network device.

The EGRESS-RATE-LIMIT controls the number of bits per second a port will transmit to the network device connected to it.

The 10/100/100Base-T Management port on the management module does not support ingress or egress rate limits.

Examples

This command disables Auto-Negotiation of the twisted pair port in channel 5 of a media converter module and sets the port's speed and duplex mode to 100 Mbps, half-duplex. The module is in slot 2 of a chassis with the ID number of 1. Call-outs in the example identify the parts of the ID number:



This command enables twisted port 5. The module is in slot 1 of a chassis with an ID number of 3:

```
system set port id=3/1/5/a port-state=enable
```

This command disables Auto-Negotiation of the twisted pair port in channel 2 of a media converter module and sets the port's speed and duplex mode to 10 Mbps, full-duplex, and the MDI/MDI-X setting to MDI. The module is in slot 1 of a chassis with an ID number of 1:

```
system set port id=1/1/2/a auto-neg=disable speed=10
duplex=full crossover=mdi
```

This command activates Auto-Negotiation on the twisted pair port in channel 4. The module is in slot 1 of a chassis with an ID of 2:

```
system set port id=2/1/4/a auto-neg=enable
```

This command sets the duplex mode to half-duplex for the fiber optic port in channel 11 on a module in slot 2 of a chassis with an ID of 2:

```
system set port id=2/2/11/b duplex=half
```

This command disables the fiber optic port in channel 6 of the module in slot 1. The chassis has the ID number 3:

```
system set port id=3/1/6/b port-state=disable
```

The previous examples illustrate how to configure a single port on a media converter module. By omitting the PORT PAIR parameter, you can configure all of the ports of the same type (that is, twisted pair or fiber optic ports) with just one command. This is illustrated in the following two examples.

This command disables all of the twisted pair ports in the media converter module in slot 1. The chassis has the ID number of 1:

```
system set port id=1/1/a port-state=disable
```

This command sets the duplex mode to half-duplex for all the fiber optic ports in the media converter module in slot 2. The chassis has the ID number of 1:

```
system set port id=1/2/b duplex=half
```

The SYSTEM SET PORT command can also be used to configure the 10/100/1000Base-T Management port on the management module. This example disables Auto-Negotiation on the port and sets it to 100 Mbps, full-duplex. The chassis has the ID number of 0:

```
system set port id=0/m auto-neg=disable speed=100
duplex=full
```

SYSTEM SHOW CHASSIS

Syntax

```
system show chassis id=chassis
```

Parameters

chassis — Identifies a chassis ID number. The range is 0 to 31. For background information, refer to "Chassis ID Numbers" on page 25.

To view the ID number of a unit, use the SYSTEM SHOW CLUSTER command. For instructions, refer to "SYSTEM SHOW CLUSTER" on page 101.

Privilege Levels

Administrator, read-write and read-only.

Description

This command is used to display the model names and slot assignments of the management module and the media converter modules in a chassis. It is also used to view a chassis' module name and MAC address.

You can view just one chassis at a time with this command. To view all of the chassis of a stack with one command, use the SYSTEM SHOW CLUSTER command, as explained in "SYSTEM SHOW CLUSTER" on page 101.

An example of the information is shown in Figure 12.

```
Chassis      Chassis       Chassis                 MAC     Master
    ID         Name          Type               Address    Chassis
-------------------------------------------------------------------
 0                      AT-MCF2000    11:22:33:44:55:55       Yes

  Slot ID    Module Name    Module Type   Cfg Overwrite  Software Version
  ---------------------------------------------------------------------
       M                   AT-MCF2000M                   v3.0.0
       1                   AT-MCF2012LC      Disable     v3.0.0
       2                   AT-MCF2012LC      Disable     v3.0.0
       A                   AT-MCF2KFAN       -           -
       B                   AT-MCF2000AC      -           -
```

Figure 12. SYSTEM SHOW CHASSIS Command

The fields are defined here:

Table 6. SYSTEM SHOW CHASSIS Command

Parameter	Description
Chassis ID	Displays the ID number of a chassis. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
Chassis Name	Displays the name of a chassis. To set a chassis name, refer to “SYSTEM SET CHASSIS” on page 59.
Chassis Type	Displays the model name of a chassis.
MAC Address	Displays the MAC address of a chassis. The AT-MCF2000M Management Module uses its chassis’ MAC address as its own address when communicating with a network.
Master Chassis	Indicates whether the chassis contains the AT-MCF2000M Management Module or the AT-MCF2000S Stacking Module. A chassis with the management card will have a status of Yes, and a unit with the stacking module will have a status of No.
Slot ID	Lists the slots in the chassis. Slots that are empty are not included. The slots are: ❒ M: Indicates the management slot containing the AT-MCF2000M Management Module. ❒ *number*: Indicates a slot for a media converter module number (for example, 1, 2, etc.). Empty slots are not included in the tables. This command does not display the AT-MCF2000S Stacking Module.
Module Name	Displays the names of the modules. To assign names, refer to “SYSTEM SET MODULE” on page 89.
Module Type	Displays the model names of the modules.
Software Version	Displays the version numbers of the AT-S85 and AT-S97 Management Software programs on the modules.

Example

The following command displays information about a chassis with the ID number 0:

```
system show chassis id=0
```

SYSTEM SHOW CLUSTER

Syntax

```
system show cluster
```

Parameters

None.

Privilege Levels

Administrator, read-write and read-only.

Description

This command is used to display the model names and slot assignments of the management and media converter modules in a chassis or stack, as well as the chassis' module name and MAC address. This command does not display any information about the stacking, power supply, or fan modules.

This command is similar to the SYSTEM SHOW CHASSIS command in that both commands display the same information about a chassis. Where they differ is that the SYSTEM SHOW COMMAND can display only one chassis at a time and requires a chassis ID number. In contrast, this command displays all of the chassis of a stack and does not require an ID number.

The SYSTEM SHOW CLUSTER command is typically used to view the basic information above on a single chassis that is not part of a stack or for all of the chassis of a stack. The SYSTEM SHOW CHASSIS command is intended for situations where there is a stack and, rather than viewing all of the devices, you want to focus on just one of the units.

Figure 13 on page 102 illustrates this command on a stack of three chassis. For an explanation of the information, refer to "SYSTEM SHOW CHASSIS" on page 99.

```
Chassis        Chassis     Chassis                  MAC     Master
  ID             Name        Type                Address    Chassis
-------------------------------------------------------------------
  0         AQ Traffic  AT-MCF2000    11:22:33:44:55:55       Yes

                                AT-MCF2000
      Slot ID     Module Name    Module Type    Cfg Overwrite Software Version
      ------------------------------------------------------------------------
      M                          AT-MCF2000M                        v3.0.0
      1           Reg 1 traf     AT-MCF2012LC    Enable             v3.0.0
      2           Reg 2 traf     AT-MCF2012LC/1  Enable             v3.0.0

  1         ACT Traffic               11:22:33:44:22:22       No

                                AT-MCF2000
      Slot ID     Module Name    Module Type     Cfg Overwrite Software Version
      ------------------------------------------------------------------------
      1           Reg 7 traf     AT-MCF2012LC   Disable            v3.0.0
      2           Reg 12 traf    AT-MCF2012LC   Disable            v3.0.0

  2         UJ Traffic                11:22:33:44:66:77       No

                                AT-MCF2300
      Slot ID     Module Name    Module Type    Cfg Overwrite Software Version
      ------------------------------------------------------------------------
      1           District 1     AT-MCF2012LC   Enable             v3.0.0
      2           District 2     AT-MCF2012LC   Enable             v3.0.0
      3           District 3     AT-MCF2012LC   Enable             v3.0.0
      4           District 4     AT-MCF2012LC/1 Enable             v3.0.0
```

Figure 13. SYSTEM SHOW CLUSTER Command

Example

```
system show cluster
```

SYSTEM SHOW INTERFACE

Syntax - Chassis Only

```
system show interface id=chassis
```

Syntax - Chassis and Slot

```
system show interface id=chassis/slot
```

Syntax - Chassis, Slot and Channel

```
system show interface id=chassis/slot/channel
```

Parameters

id — Specifies a chassis, slot or channel. The command can display only one device at a time. The ID consists of the following parts:

- chassis — Identifies the ID number of the chassis. The range is chassis ID number depends on which module is installed in the management slot of the chassis. When a management module is installed in this slot, the chassis ID number is either 0 or 31. When a stacking module is installed in this slot, the range of the chassis ID is from 1 to 30.
- slot — Specifies a slot number of a media converter module with a port to be configured. The possible values are:
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
- channel — Specifies a number of a channel on a media converter module. You can specify only one channel at a time. The range is 1 to 12. Channel 1 consists of twisted pair port 1 and fiber topic

port 1, channel 2 of twisted pair port 2 and fiber topic port 2, and so on.

To view the ID and slot numbers of a chassis, refer to "SYSTEM SHOW CLUSTER" on page 101 or "SYSTEM SHOW CHASSIS" on page 99.

Privilege Levels

Administrator, read-write, and read-only.

General Description

This command can display a variety of status information about a media converter chassis and the media converter modules. You can limit the information to just the model names of the media converter modules in a chassis or view more detailed information about the devices, such as the current operating parameters of the two ports of a media converter channel.

Note
To view the parameter settings of the 10/100/1000Base-T port on the AT-MCF2000M Management Module, use the SYSTEM SHOW MODULE command. For information, refer to "SYSTEM SHOW MODULE" on page 111.)

Description of the Chassis Only Command

Specifying just a chassis ID number in the command displays the names of the media converter models in a chassis and their respective slot numbers. This is useful in determining the types of media converter modules in a chassis. An example of the information is shown in Figure 14.

```
Interface 0 Information:
Chassis ID    Slot ID    Module Name    Module Type
-------------------------------------------------
   1             1       Traffic 12     AT-MCF2012LC
   1             2       Traffic 7      AT-MCF2012LC
```

Figure 14. SYSTEM SHOW INTERFACE Command - Chassis ID Only

The table does not include empty media converter slots. The columns are defined here:

Table 7. SYSTEM SHOW INTERFACE Command - Chassis ID Only

Column	Description
Chassis ID	Displays the ID number of the selected chassis.
Slot ID	Displays the slot numbers in the chassis
Module Name	Displays the names of the modules.
Module Type	Displays the model names of the modules.

Description of the Chassis and Slot Command

To view the current status of the channel ports on a media converter module, including the status of the links between the channel ports and the network devices, specify in the command both a chassis ID number and the slot number of the module. Figure 15 is an example.

```
Interface 0/2 Information:
Chassis ID .......... 0
Slot ID ............. 2
Module Name ......... User Module
Module Type ......... AT-MCF2012LC
Port ID    Port Name     Copper         Fiber         OpMode
-------------------------------------------------------------
1                        Online/100     Online/100    Link Test
2                        Online/100     Online/100    Link Test
3                        Online/100     Online/100    Link Test
4                        Online/100     Online/100    Link Test
5                        Online/100     Online/100    Link Test
```

Figure 15. Chassis ID and Slot Number

The information in the table is arranged according to the media converter channels in a module. The "Port ID" column lists the channels and the "Port Name" column lists the channel names. Neither can be changed. For example, "Port ID 1" refers to channel 1 which, on the AT-MCF2012LC and AT-MCF2012LC/1 Modules, consists of twisted pair port 1 and fiber optic port 1, "Port ID 2" refers to channel 2 with twisted pair port 2 and fiber optic port 1, and so on.

The columns are defined here:

Table 8. SYSTEM SHOW INTERFACE Command - Chassis ID and Slot Number

Column	Description
Port ID	Displays the channel numbers.
Port Name	Displays the channel names.
Copper - Fiber	Displays the current states of the twisted pair ports and the fiber optic ports of the channels
OpMode	Displays the current operating modes of the channels. For information, refer to “SYSTEM SET INTERFACE” on page 81.

The meanings of the states of the two ports in a channel can differ depending on a channel’s operating mode of Link Test, MissingLink, or Smart MissingLink. The easiest way to decipher the states is to consider a channel’s two ports as a unit. Table 9 lists the possible combinations of port states when a channel is in the Link Test mode.

Table 9. Port Status in the Link Test Mode

Channel Port	Status	Description
Copper	Offline	Neither port in the channel has established a link with a network device.
Fiber	Offline	
Copper	Online	Both ports in the channel have established a link with a network device.
Fiber	Online	
Copper	Online	The twisted pair port in the channel has established a link with a network device, but the fiber optic port has not established a link.
Fiber	Offline	
Copper	Offline	The fiber optic port of the channel has established a link with a network device, but the twisted pair port has not established a link.
Fiber	Online	

Table 10 lists the possible combinations of the port states for a channel in the Missing Link mode.

Table 10. Port Status in the Missing Link Mode

Channel Port	Status	Description
Copper	Offline	One or both ports in the channel cannot establish a link with a network device.
Fiber	Offline	
Copper	Online	Both ports in the channel have established a link with a network device.
Fiber	Online	

The states for the ports of a channel in the Smart MissingLink mode are explained in Table 11.

Table 11. Port Status in the Smart Missing Link Mode

Channel Port	Status	Description
Copper	Offline	Neither port in the channel has established a link with a network device.
Fiber	Offline	
Copper	Online	Both ports in the channel have established a link with a network device.
Fiber	Online	
Copper	TX SML	The twisted pair port of the channel can establish a link with its network device, but the fiber optic port is unable to establish a link with its remote device.
Fiber	Offline	
Copper	Offline	The fiber optic port of a channel can establish a link with its network device, but the twisted pair port is unable to establish a link with its local device.
Fiber	TX SML	
Twisted Pair Port	TX or RX SML	Both ports in the channel can establish a link to a network device, but one of the ports is connected to another media converter that also supports the Smart MissingLink feature, forming a chain of converters. A link has been lost on one of the ports in the chain, causing a ripple affect through the chain of converters.
Fiber Optic Port	TX or RX SML	

Description of the Chassis, Slot, and Channel Command

To view the operating parameters of the channel's two ports, including the speeds and duplex modes, specify a channel number in the command. You can view only one channel at a time. Figure 16 is an example of the information.

```
Interface 0/2/7 Information
Chassis ID ............... 0
Slot ID .................. 2
Module Name .............. User Module
Module Type .............. AT-MCF2012LC
Port Name ................ User Port
OpMode ................... Link Test
Port Copper Link
     Port State .......... Enabled
     Link Status ......... Online
     Auto Negotiation .... Enabled
     Speed ............... 100 Mbps
     Duplex .............. Full
     MDI Crossover ....... MDI
     Ingress Rate Limit .. No Limit
     Egress Rate Limit ... No Limit
     Maximum Frame Size .. 1632 bytes
Port Fiber Link ....
     Port State .......... Enabled
     Link Status ......... Online
     Speed ............... 100 Mbps
     Duplex .............. Full
     Ingress Rate Limit .. No Limit
     Egress Rate Limit ... No Limit
     Maximum Frame Size .. 1632 bytes
```

Figure 16. SYSTEM SHOW INTERFACE Command - Chassis ID, Slot Number and Channel Number

The fields are defined here.

Table 12. SYSTEM SHOW INTERFACE Command - Chassis ID, Slot Number and Channel Number

Parameter	Description
Interface Information	Displays the identity number of a channel. The information is given as chassis number, slot number, and channel number.
Chassis ID	Displays the ID number of a chassis.
Slot ID	Displays the slot number of a media converter module.
Module Name	Displays the name of a module. To assign a name, refer to "SYSTEM SET MODULE" on page 89.

Table 12. SYSTEM SHOW INTERFACE Command - Chassis ID, Slot Number and Channel Number

Parameter	Description
Module Type	Displays the model name of a module.
Port Name	Displays a channel's name.
OpMode	Displays the operating mode of a channel. The possible operating modes are MissingLink, Smart MissingLink, and Link Test. The operating modes are described in "SYSTEM SET INTERFACE" on page 81.
Port State	Displays the status of a port. The possible states are: Enabled - A port is able to forward network traffic. Disabled - A port was disabled with SYSTEM SET PORT command to prevent it from forwarding network traffic. For information, refer to "SYSTEM SET PORT" on page 92.
Link Status	Displays the status of the link of a port to its network device. The possible states are described in Table 9, "Port Status in the Link Test Mode" on page 106, Table 10, "Port Status in the Missing Link Mode" on page 107, and Table 11, "Port Status in the Smart Missing Link Mode" on page 107.
Auto Negotiation	Displays the status of Auto-Negotiation on a twisted pair port. The status of Enabled is an indication that the twisted pair port's speed, duplex mode, and MDI/MDI-X wiring configuration are set automatically with Auto-Negotiation and the auto-MDI/MDI-X feature. A status of Disabled means the port's speed, duplex mode, and MDI/MDI-X wiring configuration are set manually.
Speed	Displays the speed of a port when the parameter is set manually. This parameter does not reflect the current speed of a port whose speed is set with Auto-Negotiation.
Duplex	Displays the duplex mode of a port when the parameter is set manually. This parameter does not reflect the current duplex mode of a port whose duplex mode is set with Auto-Negotiation.
MDI Crossover	Displays the wiring configuration of a twisted pair port.
Ingress and Egress Rate Limits	Displays the packet rate limits of a port. Packets exceeding the limit are discarded by a port. Packet rate limiting is described in "SYSTEM SET PORT" on page 92.

Table 12. SYSTEM SHOW INTERFACE Command - Chassis ID, Slot Number and Channel Number

Parameter	Description
Maximum Frame Size	Displays the maximum frame size of a port. This value cannot be changed and is the same for all of the ports on a module. The maximum frame sizes are 1632 bytes for the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules and 10240 bytes for the AT-MCF2032SP Media Converter Module.

To configure the channels and ports of a media converter module, refer to “SYSTEM SET INTERFACE” on page 81 and “SYSTEM SET PORT” on page 92.

Examples

This command displays a list of the media converter modules in a chassis with the ID number 0:

```
system show interface id=0
```

This command displays the status of all the channel ports on a media converter module in slot 2 of a chassis with the ID number 1:

```
system show interface id=1/2
```

This command displays the parameter settings for the two ports of channel 11 of a media converter module in slot 1 of a chassis with the ID number 1:

```
system show interface id=1/1/11
```

SYSTEM SHOW MODULE

Syntax

```
system show module id=chassis/slot
```

Parameters

id — Identifies the ID number of a module. You can specify only one module at a time. The ID number consists of the following parts:

- chassis — Specifies a chassis ID number. The range is 0 to 31. For background information, refer to "Chassis ID Numbers" on page 25.
- slot — Specifies a slot number or letter. The possible values are:
  - m — Specifies the management module slot. This slot is used for the management module or the stacking module.
  - a or b — Specifies a slot letter of a power supply or fan module. The left slot is A and the right slot is B.
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.

To view the ID number and the slot numbers of a chassis, refer to "SYSTEM SHOW CLUSTER" on page 101 or "SYSTEM SHOW CHASSIS" on page 99.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display status information about the media converter, power supply, fan, and management modules in a chassis. The information varies depending on the module. Figure 17 is an example of the information for the AT-MCF2000AC Power Supply Module or the AT-MCF2KFAN Fan Module.

```
RPSA Information:
     Module Name ..............
     Module Type ............... AT-MCF2000AC
     Power OK .................. Yes
     Module Present ............ Present
     3.3V ...................... Good = 3.415V
     12.0V ..................... Good = 12.125V
     Temperature ............... 25.821 C
     Temperature Threshold ..... 60 C
     Fan A Speed ............... 7105 RPM
     Fan B Speed ............... 7033 RPM
```

Figure 17. SYSTEM SHOW MODULE Command for a Power Supply or Fan Module

The acronym “RPS” for “Redundant Power Supply” in the top line should be ignored. It is a misnomer for a fan module as well as for a power supply module in a chassis with one power supply. The letter following “RPS” is the chassis slot location of the power supply or fan module.

Figure 18 illustrates the information for the management module.

```
CPU Information:
     Name .......................
     Module Type ................ AT-MCF2000M
     Module Status .............. Active
     Module Present ............. Present
     1.2V ....................... Good = 1.212V
     1.8V ....................... Good = 1.818V
     2.5V ....................... Good = 2.535
     3.3V ....................... Good = 3.336V
     12.0V ...................... Good = 12.187
     Temperature ................ 29.2500 C
     Temperature Threshold ...... 60 C
     Management Port:
           Link State ........... Up
           Auto Negotiation...... Enabled
           Speed ................ 100 Mbps
           Duplex ............... Full
           MDI Crossover ........ MDI
     Stacking Port:
           Link State ............ Up
```

Figure 18. SYSTEM SHOW MODULE Command for the Management Module

The information for a media converter module is shown in Figure 19.

```
CPU Information:
     Name .......................
     Module Type ................ AT-MCF2012LC
     Module Status .............. Active
     Module Present ............. Present
     1.2V ....................... Good = 1.198
     1.8V ....................... Good = 1.804V
     2.5V ....................... Good = 2.509
     3.3V ....................... Good = 3.302V
     12.0V ...................... Good = 12.6224
     Temperature ................ 38.15 C
     Temperature Threshold ...... 60 C
```

Figure 19. SYSTEM SHOW MODULE Command for a Media Converter Module

The fields are defined here:

Table 13. SYSTEM SHOW MODULE Command

Parameter	Description
Module Name	Displays the name of the module. Refer to “SYSTEM SET MODULE” on page 89 for instructions on how to assign a name to a module.
Module Type	Displays the model name.
Power OK	Displays the status of the input power of a power supply module or a fan module A status of Yes signifies the input power is within the module’s operating range. A status of No signals that the input power is less or greater than the permitted range.
Voltages	Displays the operating output voltages for the AT-MCF2000AC Power Supply Module and input voltages for all other modules.
Temperature	Displays the current temperature of a module. On the AT-MCF2000AC Power Supply Module and the AT-MCF2KFAN Fan Module the temperature is measured at the point where the outside air enters the chassis from the cooling vents. The temperature for all the other modules is measured on the circuit boards.
Temperature Threshold	Displays the temperature threshold of a module. The management module logs an event in the event log if the threshold is exceeded, to warn of possible excessive temperature in the wiring closet or chassis. Refer to “SYSTEM SET MODULE” on page 89 for instructions on setting a module’s temperature threshold.
Management Port	Displays the status of the link of the 10/100/1000Base-T Management port on the AT-MCF2000M Management Module and, if the port has a link to a network device, the current settings. Refer to “SYSTEM SET PORT” on page 92 for instructions on setting the parameters of the port.
Stacking Port	Displays the status of the Stack port connection on the AT-MCF2000M Management Module. A status of Up indicates the port has established a link with a Stack port in another chassis.

Examples

This command displays information about the AT-MCF2000M Management Module in a chassis with an ID number of 0:

```
system show module id=0/m
```

This command displays information about the media converter module in slot 2 in a chassis with an ID number of 0:

```
system show module id=0/2
```

Chapter 6

Network Time Protocol Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or Chapter 8, “Configuration File Commands” on page 145.

Overview

The AT-S97 Management Software has a Network Time Protocol (NTP) client so that it can set its internal clock and calender from an NTP server on your network or the Internet. It adds the date and time to the events stored in the event log and to SNMP traps.

The commands described in this chapter control the NTP client. The client is activated and deactivated with the NTP ENABLE command and the NTP DISABLE command, and the IP address of the NTP server is specified with the NTP SET command.

To manually set the date and time, refer to “SYSTEM SET CLOCK” on page 60.

NTP Client Guidelines

The guidelines to using the NTP client are:

- The AT-MCF2000M Management Module must have an IP configuration, as explained in Chapter 3, “IP Configuration Commands” on page 47.
- The 10/100/1000Base-T Management port on the management module must be connected to a device on your network, such as a Fast Ethernet or Gigabit Ethernet switch. The module communicates with the NTP server through this port.
- The NTP server must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- If the management module and the NTP server are on different networks, the IP configuration on the module must include a default gateway address specifying the IP address of the routing interface of the first hop to reaching the remote server. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.
- Before you enable the NTP server with the NTP ENABLE command, connect the chassis to an NTP server.

Command Summary

Table 14 summarizes the NTP client commands.

Table 14. NTP Client Commands

Command	Description
NTP DISABLE on page 120	Deactivates the NTP client.
NTP ENABLE on page 121	Activates the NTP client.

Table 14. NTP Client Commands (Continued)

Command	Description
NTP SET on page 122	Specifies the IP address of the NTP server on the network or the Internet.
NTP SHOW on page 123	Displays the current settings of the NTP client.

NTP DISABLE

Syntax

```
ntp disable
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to disable the NTP client on the management module. This is the client's default setting.

Example

```
ntp disable
```

NTP ENABLE

Syntax

```
ntp enable
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to activate the NTP client on the management module. When the client is activated, it immediately begins polling for the NTP server, up to fifteen times over twenty seconds. The default setting for the client is disabled.

To set the IP address of the NTP server, use "NTP SET" on page 122.

Note
Review "NTP Client Guidelines" on page 118 before activating the client.

Note
Your management session is suspended while the NTP client polls for the server.

Example

```
ntp enable
```

NTP SET

Syntax

```
ntp set server=ipaddress utcoffset=integer
```

Parameters

server	Specifies an IP address of an NTP server. To delete the current value without specifying a new value, enter “0.0.0.0”.
utcoffset	Specifies a time difference, in hours, between the Universal Time Coordinated (UTC) and the local time zone. The range is from -12 to +12 hours. The default is 0 hours.

Privilege Levels

Administrator and read-write.

Description

This command is used to specify an IP address of a NTP server on your network or the Internet, and a time offset between the UTC and the local time zone.

Examples

This command specifies the IP address of the NTP server as 149.122.55.77:

```
ntp set server=149.122.55.77
```

This command specifies the IP address of the NTP server as 149.122.55.79 and a UTC offset of 3 hours:

```
ntp set server=149.122.55.79 utcoffset=3
```

This command specifies the IP address of the NTP server as 149.122.55.81 and the UTC offset of -6 hours:

```
ntp set server=149.122.55.81 utcoffset=-6
```

NTP SHOW

Syntax

```
ntp show
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display information about the NTP client on the management module. The information includes the status of the client, the IP address of the NTP server, and the UTC offset. An example is shown in Figure 20.

```
NTP Information:
     Status ............. Disable
     Server ............. 0.0.0.0
     UTC Offset .......... 0
```

Figure 20. NTP SHOW Command

Example

```
ntp show
```

Chapter 7

Event Log and Syslog Client Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or Chapter 8, “Configuration File Commands” on page 145.

Overview

The management, media converter, power supply, and fan modules generate event messages with vital information about system activity. If a network problem occurs, the messages can help you determine the sequence of events that led to the problem as well as identify and resolve it. An event message contains the following information:

- The time and date of the event
- The severity level of the event
- A description of the event

The events are stored in the event log, an area of non-volatile memory separate from the file system where the messages are retained even when the chassis is powered off. The log's maximum capacity is 1,024 events. When the log reaches maximum capacity, the module deletes the oldest events as it adds new events.

The event log is controlled and viewed with the LOGGING commands. The LOGGING ENABLE command activates the log, the default setting, and the LOGGING DISABLE command deactivates the log, stopping the log from storing any further event messages. The LOGGING SHOW command displays the status of the log and the events messages, and the LOGGING CLEAR command deletes all the events messages from the log.

The management module also has a syslog client for sending the event messages to a syslog server on your network. A server can act as the central storage device for the event messages from many different devices on your network. To use the syslog client, you must specify the IP address of the syslog server on the network with the LOGGING SET command and enable the client with the LOGGING ENABLE SYSLOG command. You can specify only one syslog server. Before using the syslog client, you should review the guidelines in the next section.

Syslog Client Guidelines

The guidelines to using the syslog client are:

- The AT-MCF2000M Management Module must have an IP configuration. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.
- The 10/100/1000Base-T Management port on the management module must be connected to a network device on your network, such as a Fast Ethernet or Gigabit Ethernet switch. The management module communicates with the syslog server through this port.
- The syslog server must be a member of the same network as the management module or have access to it through Layer 3 routing devices.

- If the management module and syslog server are on different networks, the IP configuration on the management module must include a default gateway specifying the IP address of the first hop to reaching the server. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.

Command Summary

Table 15 summarizes the event log and syslog client commands.

Table 15. Event Log and Syslog Client Commands

Command	Description
LOGGING CLEAR EVENTLOG on page 128	Clears all the events from the log.
LOGGING DISABLE EVENTLOG on page 129	Disables the event log. No further events are stored in the log.
LOGGING DISABLE SYSLOG on page 130	Disables the syslog client. No further events are sent to a syslog server.
LOGGING ENABLE EVENTLOG on page 131	Activates the event log which begins to store event messages.
LOGGING ENABLE SYSLOG on page 132	Activates the syslog client.
LOGGING SET EVENTLOG on page 133	Specifies the severity level of the event messages viewed in the log and sent to a syslog server.
LOGGING SET SYSLOG on page 135	Specifies the IP address of a syslog server and a facility code for the messages.
LOGGING SHOW on page 136	Displays the status of the event log and syslog client.
"LOGGING SHOW EVENTLOG" on page 138	Displays the event messages in the event log.

LOGGING CLEAR EVENTLOG

Syntax

```
logging clear eventlog
```

Parameters

None.

Privilege Level

Administrator

Description

This command is used to delete all of the messages in the event log. If the log is activated, the management module immediately begins to store new events.

Example

```
logging clear eventlog
```

LOGGING DISABLE EVENTLOG

Syntax

```
logging disable eventlog
```

Parameters

None.

Privilege Levels

Administrator and read-write

Description

This command is used to disable the event log to stop it from storing any further events. Any events already stored in the log are retained.

To display the current state of the event log or the event messages, refer to "LOGGING SHOW" on page 136. The default setting for the event log is enabled.

Example

```
logging disable eventlog
```

LOGGING DISABLE SYSLOG

Syntax

```
logging disable syslog
```

Parameters

None.

Privilege Levels

Administrator and read-write

Description

This command is used to disable the syslog client to stop the management module from transmitting any further event messages to a syslog server. This is the default state of the client. To display the current state of the syslog client, refer to “LOGGING SHOW” on page 136.

Example

```
logging disable syslog
```

LOGGING ENABLE EVENTLOG

Syntax

```
logging enable eventlog
```

Parameters

None.

Privilege Levels

Administrator and read-write

Description

This command is used to activate the event log. After you enter this command, the management module immediately begins to store the events as they occur. This is the log's default setting. To display the log's current state, refer to "LOGGING SHOW" on page 136.

Example

```
logging enable eventlog
```

LOGGING ENABLE SYSLOG

Syntax

```
logging enable syslog
```

Parameters

None.

Privilege Levels

Administrator and read-write

Description

This command is used to activate the syslog client on the management module. After you enter this command, the module immediately begins to send the event messages as they occur to the syslog server. The default setting for the syslog client is disabled.

The IP address of the syslog server is specified with “LOGGING SET EVENTLOG” on page 133. To display the current status of the syslog client, refer to “LOGGING SHOW” on page 136.

> **Note**
> For the requirements of the syslog client, refer to “Syslog Client Guidelines” on page 126,

Example

```
logging enable syslog
```

LOGGING SET EVENTLOG

Syntax

```
logging set eventlog severity-level=critical|major|minor|
event
```

Parameters

severity-level Specifies the severity level of the event messages displayed in the event log and sent to a syslog server. The same level applies to both the event log and the syslog client. The levels from highest to lowest severity are:

- critical — Critical events signal the loss of power to or the failure of a power module. Messages of this level can also reflect a physical change to the stacking feature, such as the removal of a stacking cable or the introduction of a new chassis to a stack.
- major — Major events announce a component failure to a fan or media converter module. Resets of and powering on a module or chassis are also categorized as major events.
- minor — Minor events encompass physical changes to a chassis, such as the installation or removal of a module. Connecting and disconnecting cables to the ports of the media converter channels are also listed as minor events.
- event — Event messages typically signal a change in the status of a management component, such as the Telnet or SSH server. The start and end points of remote Telnet and Secure Shell management sessions and TFTP functions are also members of this category.

Selecting a level designates the messages of that level and all levels above it. For example, selecting the Critical level selects only Critical event messages, while selecting the Event level, the default setting, spans all levels and, therefore, all event messages.

Privilege Levels

Administrator and read-write.

Description

This command is used to set a severity level for the event log and the syslog client. The severity level is used to control the messages that are displayed by the event log with the LOGGING SHOW command and that are sent to a syslog server. The same severity level applies to both the event log and the syslog client.

The severity level is inclusive of the designated severity level and all levels above it. For example, at the default setting of Event for the severity level, the LOGGING SHOW command displays all of the messages in the event log, because the Event severity is the lowest level. But if you were to set the management module's severity level to Major, the LOGGING SHOW command would display just the Critical and Major messages.

This command also controls the messages sent by the management module's syslog client to a syslog server. At the default value of Event, all messages are sent to a syslog server. But if you set the module's severity to Major, then only Critical and Major messages would be sent.

Examples

This command sets the severity level to critical:

```
logging set eventlog severity-level=critical
```

This command sets the severity level to major:

```
logging set eventlog severity-level=major
```

LOGGING SET SYSLOG

Syntax

```
logging set syslog [host=ipaddress] [facility-code=value]
```

Parameters

host	Specifies the IP address of a syslog server. To remove an IP address without assigning a new address, specify the default value of 0.0.0.0.
facility-code	Specifies a facility level to add to the event messages as they are sent to a syslog server. The range is 0 to 23. The default value is 0.

Privilege Levels

Administrator and read-write.

Description

This command is used to specify an IP address of a syslog server and a facility code for the events.

The HOST parameter specifies an IP address of a syslog server. You can enter only one IP address.

The FACILITY-CODE parameter adds a facility level to the events as they are sent to a syslog server. A facility level is a numerical code commonly used to group entries on the syslog server according to the source network device. You can specify only one facility level. Refer to RFC 3164 for the facility code definitions.

Examples

This command specifies the IP address of the syslog server as 149.22.22.44 and sets the facility code to 16 (local0):

```
logging set syslog host=149.22.22.44 facility-code=16
```

This command designates the IP address of the syslog server as 149.55.66.7:

```
logging set syslog host=149.55.66.7
```

This command sets the facility code for the messages to 21 (local5):

```
logging set syslog facility-code=21
```

LOGGING SHOW

Syntax

```
logging show
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the status of the event log and the syslog client. An example of the information is shown in Figure 21.

```
EventLog Information
        Status .................. Enable
        Severity Level .......... Event

Syslog Information
        Status .................. Enable
        Server .................. 149.22.122.8
        Facility Code ........... 1
```

Figure 21. LOGGING SHOW Command

The fields in the EventLog Information section are:

- Status - The status of the event log. A status of Enable signifies that the event log is storing event messages while a status of Disable indicates that it is not storing messages. To set this value, refer to “LOGGING ENABLE EVENTLOG” on page 131 and “LOGGING DISABLE EVENTLOG” on page 129.
- Severity Level - The severity level of the messages displayed by the event log and sent to a syslog server. The severity levels from highest to lowest are Critical, Major, Minor, and Event. The affected messages are inclusive of the selected severity level and all levels above it. For example, the Event severity level, the default setting, encompasses all of the levels and so all of the event messages, while a setting of Major selects just the Critical and Major messages. To set this value, refer to “LOGGING SET EVENTLOG” on page 133.

The fields in the Syslog Information section are:

- Status - The status of the syslog client. When the status of the client is Enable, the management module can send events to a syslog server.

When the status is Disable, the management module cannot send events to a syslog server. To set this parameter, refer to "LOGGING ENABLE SYSLOG" on page 132 and "LOGGING DISABLE SYSLOG" on page 130.

- Server - The IP address of the syslog server. To set this value, refer to "LOGGING SET EVENTLOG" on page 133.
- Facility Code - The facility level added to the event messages as they are sent to a syslog server. To set this value, refer to "LOGGING SET EVENTLOG" on page 133.

Example

This command displays the status of the event log and the syslog client:

```
logging show
```

LOGGING SHOW EVENTLOG

Syntax

```
logging show eventlog
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only

Description

This command is used to view the event messages in the event log. An example of the log is shown in Figure 22. The events are displayed in reverse-chronology, with the newest entries listed first. The event log, at its default setting, displays all of its messages. To view the event messages to particular severity levels, refer to “LOGGING SET EVENTLOG” on page 133.

```
Date        Time    Status     Message
-------------------------------------------------------------
04/21/2007  2:12:28::MN::RP::002/1::Port 7 Set to Missing Link
04/21/2007  2:12:26::MN::RP::001/1::Fiber Port 7 Online
04/21/2007  2:12:25::MN::RP::001/1::Copper Port 7 Online
04/21/2007  2:12:24::MN::RP::000/2::Fiber Port 5 Online
04/21/2007  2:12:24::MN::RP::000/2::Copper Port 5 Online
04/21/2007  2:12:22::EV::RP::000/M::SSH Server Enabled
```

Figure 22. LOGGING SHOW EVENT-LOG Command

The fields are defined here:

- Date - The date of the event.
- Time - The time of the event.
- Status - The event status, consisting of the severity level and the message’s classification. The possible severity levels are listed in Table 16.

Table 16. Severity Level Definitions

Severity Level	Definition
CR	Critical - Indicates critical events signal the loss of power to or the failure of a power module. Messages of this level can also reflect a physical change to the stacking feature, such as the removal of a stacking cable or the introduction of new chassis to a stack.
MJ	Major - Indicates major events announce a component failure to a fan or media converter module. Resets of and powering on a module or chassis are also categorized as major events.
MN	Minor - Indicates minor events encompass physical changes to a chassis, such as the installation or removal of a module. Connecting and disconnecting cables to the ports of the media converter channels are also listed as minor events.
EV	Event - Indicates event messages typically signal a change in the status of a management component, such as the Telnet or SSH server. The start and end points of remote Telnet and Secure Shell management sessions and TFTP functions are also members of this category.

The second part of an event's status is its classification of report (RP) or clear (CL). A report signals an event's occurrence while a clear signifies the resolution of a prior event. As an example, if a module's operating temperate were to exceed the temperate threshold, the management module would log a "High Temperature Threshold" event in the log with a classification of report, marking the occurrence of the event. And when the temperature dips below the threshold, the module logs the same event message, but with a clear classification signaling the prior event's resolution.

Only a few of the event messages can be both report and clear. For a list of the messages, refer to Table 18 on page 140.

- Message - The chassis and slot numbers of the source module of the event message.

  Chassis and Slot IDs - The chassis ID and slot identifier of the source module of the message. The first number is the chassis ID number and the second is the slot number or letter, as shown in Figure 23.

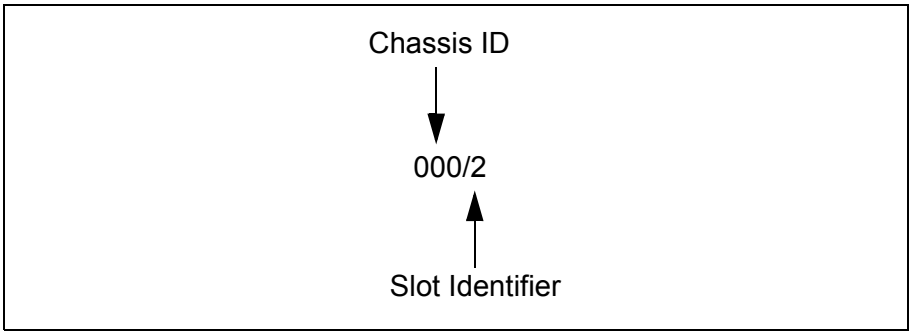


Figure 23. Chassis and Slot IDs

For background information on chassis ID numbers, refer to “Chassis ID Numbers” on page 25. For the slot identifiers, refer to Table 17.

Table 17. Slot Identifiers

Identifier	Slot
1, 2, 3 or 4	Media converter slot.
A or B	Power supply or fan module slot.
M	Management module slot.

The event messages are listed in Table 18.

Table 18. Event Messages

Message	Definition	Classification
Critical Level Messages		
Battery Low	The power charge in a module’s battery is low. The battery may need replacing.	Report
	The charge in the module’s battery returned to normal or the battery was replaced.	Clear
Power Failure	The input voltage of a power supply module dropped below or exceeded the permitted operating range.	Report
	The input voltage of a power supply module returned to the proper operating range.	Clear

Table 18. Event Messages (Continued)

Message	Definition	Classification
Stacking Port Link	A Stack port on the management module or the AT-MCF2000S Stacking Module established or lost its link to another Stack port.	Report
Major Level Messages		
Chassis Managership Acquire	A media converter module assumed control of the backplane in the chassis to determine system information, as it was initializing its management software.	Report
Chassis Managership Release	A media converter module released control of the backplane.	Report
Chassis Reset	The chassis was reset with the SYSTEM RESET CHASSIS command.	Report
Cold Boot	A media converter module loaded its boot loader and management software after receiving power. It generates this message when the chassis is powered on or if it is installed while a unit is powered on.	Report
Fan # Failure	A cooling fan in a power supply or fan module stopped.	Report
	A cooling fan resumed operating after having stopped.	Clear
High Temperature Threshold	A module's operating temperature exceeded the temperature threshold set with the SYSTEM SET MODULE command.	Report
	A module's operating temperature returned below its temperature threshold.	Clear
Module Reset	A media converter module started the process of initializing its boot loader and AT-S85 Management Software after it was reset with the SYSTEM RESET MODULE command. The completion of the initialization process is signaled with the Warm Boot message.	Report
Warm Boot	A media converter module completed the initialization of its management software after being reset with the SYSTEM RESET MODULE command.	Report

Table 18. Event Messages (Continued)

Message	Definition	Classification
Minor Level Messages		
Authentication Failure	The management software denied access to an individual who attempted to locally or remotely log on to the management module with an invalid user name or password.	Report
Copper|Fiber Port # Offline	A port in a media converter channel lost its link to the network device.	Report
Copper|Fiber Port # Online	A port in a media converter channel established a link to a network device.	Report
Copper|Fiber Port # RX SML	A port in a media converter channel is receiving the Smart MissingLink signal. This is an indication that the port is connected to another media converter that supports the Smart MissingLink mode, forming a chain of media converters. Media converters that support the Smart MissingLink mode pass the loss of a link on a port to all the media converters in the chain.	Report
Copper|Fiber Port # TX SML	A port in a media converter channel is sending the Smart MissingLink signal by pulsing its transmitter once a second to indicate that its companion port in the channel cannot establish a link with a network device.	Report
Module Inserted	The management module detected a media converter, power, or fan module while initializing its management software after a power cycle or reset. Alternatively, a module was installed in a slot in the chassis while the chassis was powered on.	Report
Module Removed	The management module stopped detecting a media converter, power, or fan module during a power cycle or reset. Alternatively, a module was removed from a slot in the chassis while the chassis was powered on.	Report
Port # Mode Set to <operating mode>	A channel's operating mode was changed to Link Test, Missing Link, or Smart Missing Link. "Port #" refers to the channel number. For example, the message "Port 1 Mode Set to Smart MissingLink" signals that channel 1 on a media converter module was set to the Smart MissingLink mode.	Report

Table 18. Event Messages (Continued)

Message	Definition	Classification
Event Level Messages		
BM update its BM.cfg in MM	The media converter module upgraded its configuration in the management module.	Report
MM overwrite BM cfg	The management module configuration overwrote the media module configuration.	Report
SSH Server Disabled	The SSH server, used for remote management of the chassis or stack with an SSH client, was disabled with the SSH DISABLE command.	Report
SSH Server Enabled	The SSH server was enabled with the SSH ENABLE command.	Report
SSH Session Close	A remote SSH client ended a management session with the management module.	Report
SSH Session Open	A remote SSH client established a management session with the management module.	Report
Telnet Server Disabled	The Telnet server, used for remote management of the chassis or stack from a Telnet client, was disabled with the TELNET DISABLE command.	Report
Telnet Server Enabled	The Telnet server was enabled with the TELNET ENABLE command.	Report
Telnet Session Open	A remote Telnet client established a management session with the management module.	Report
Telnet Session Close	A remote Telnet client ended a management session with the management module.	Report
TFTP Session Open	The management module uploaded or downloaded a file during a local or remote management session using TFTP. For example, you would see this message if you downloaded new management software onto the modules using TFTP.	Report
TFTP Session Close	The management module completed uploading or downloading a file to a TFTP server.	Report
Xmodem Session Open	The management module started to download a file using XMODEM.	Report
Xmodem Session Close	The management module completed downloading a file using XMODEM.	Report

Example

This command displays the events in the event log:

```
logging show eventlog
```

Chapter 8

Configuration File Commands

This chapter contains the following sections:

Overview

The parameter settings of the management module and the media converter modules are stored in a series of files called *configuration files*. These files enable the modules to retain their settings even when they are moved to a different slot or chassis or when a chassis is reset or power cycled. This saves you from having to constantly reconfigure the units.

Management Module and the Master Configuration File

In the file system of the management module is the *master configuration file*. Stored in this file are the parameter settings for the management module itself and the settings of all the media converter modules in a chassis.

The management module does not come with a predefined-master configuration file. Creating it is a required step in the initial configuration of a chassis. For instructions, refer to “Creating a Master Configuration File” on page 32 or “Creating a New Master Configuration File” on page 148.

Media Converter Modules and Auxiliary Configuration Files

The parameter settings of the media converter modules are stored in two locations. One of the locations is on the management module in the master configuration file.

The other location is on the media converter modules themselves in what are referred to as the *auxiliary configuration files*. These files are stored in flash memory and, thus, they retain their contents even when the modules are powered off or even when they are removed from a chassis. Because of these files, modules can be moved from chassis to chassis and still retain their configuration settings.

When a media converter module is powered on or reset, it looks to either its auxiliary configuration file or to the management module and the master configuration file for the parameter settings it should use. The choice is based on its *configuration overwrite* setting. If this setting is disabled, the module uses its auxiliary configuration file. And if it is enabled, the module uses the master configuration file.

The value of the overwrite setting is that it can save you time if you have to replace a module. If a new module’s overwrite setting is enabled, it is automatically configure with the same settings as the module it replaced.

Here is the process that a media converter module goes through to set its configuration settings when powered on:

1. It initializes its management software. That takes about one minute.
2. It examines its overwrite setting.

3. If the overwrite setting is disabled, the module configures its parameters using its auxiliary configuration file and, afterwards, begins normal network operations.

4. If the overwrite setting is enabled, the module queries for a management module over the backplane in the chassis.

5. If there is no response to the query, meaning that the chassis does not have a management module, the media converter module again uses its auxiliary configuration file to configure its parameters.

6. If the chassis has a management module, the module responds to the query by extracting from the master configuration file the parameter settings for that slot in the chassis and sending them over the backplane to the media converter module.

7. The media converter examines the settings. If the slot had never been used before or if the settings are for a different media converter model, the module discards the settings and instead uses its auxiliary configuration file.

8. If the settings are from the same model of media converter module, the module implements the parameter settings.

Note
You should never need to rename, copy, delete, or upload an auxiliary configuration file from the file system of a media converter module. Make any parameter changes directly to the master configuration file in the file system on the management module, either through the command line interface or by editing the file.

Note
The AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules are considered different models by the management software.

Saving Your Parameter Changes

When you change a parameter setting on a management module or a media converter module, the device immediately implements your change. The master and auxiliary configuration files, however, are not updated automatically. Instead, you must initiate the update yourself. This is accomplished with this command:

```
config save
```

When you issue this command, all the modules in the chassis or stack update their configuration files to match their current operating parameters.

When you issue the CONFIG SAVE command to save your parameter changes, the management module updates the master configuration file using the auxiliary configuration files from the media converter modules. Here is an outline of the process:

1. When the CONFIG SAVE command is issued, all the modules in the chassis or stack update their auxiliary configuration files to reflect their current parameter settings. The filenames are “BM.CFG” for a media converter’s file and “MM.CFG” for the management module’s file. These file naming conventions cannot be changed.

2. The media converter modules transmit a copy of their updated auxiliary configuration files to the management module through the backplane in the chassis.

3. When the management module stores an auxiliary configuration file in its file system, it adds the chassis ID number and the slot number of the source module to the filename in order to distinguish between the various files. An example is “BM_0_1.CFG.” The first number is the chassis ID and the second is the slot number of the module. This file naming convention cannot be changed.

4. After the management module has received the updated auxiliary configuration files from all of the media converter modules, it forms a new, updated master configuration file for the entire chassis or stack by concatenating the files.

The entire process is usually completed in a of couple seconds, but it can vary depending on the number of media converter modules in the chassis or stack and the number of parameter settings.

Creating a New Master Configuration File

There are several ways to create a new master configuration file on a management module. One method is with the CONFIG SAVE FILESYSTEM command. What this command does is it creates a new master configuration file with all of the current settings of the modules in the chassis or stack.

Here is an example of the command. It creates the new master configuration file “mcf_ai_traffic.cfg” on a management module in a chassis with the ID 0:

```
config save filesystem=system://0/m/mcf_ai_traffic.cfg
```

Another way to create a new master configuration file is to edit an existing file with a text editor by uploading it from the file system on the management module to your management workstation, editing it with a text editor, and downloading it again to the management module. The instructions for uploading or downloading a file to a module’s file system are found in Chapter 9, “File System Commands” on page 169. For information about editing the file, refer to “Editing a Master Configuration File” on page 150.

You can also create a new master configuration file by copying an existing file in the management module's file system with the FILE COPY command. This example creates a copy of the source file "mcf_ai_traffic.cfg." The new file is "mcf_24a_traffic.cfg."

```
file copy srcfile=system://0/m/mcf_ai_traffic.cfg
dstfile=system://0/m/mcf_24a_traffic.cfg
```

This command is described in Chapter 9, "File System Commands" on page 169.

Specifying the Active Master Configuration File

A management module can have more that one master configuration file in its file system, but only one of the files can be active at a time. This file is referred to as the *active master configuration file*. It is this file that the management software updates in response to the CONFIG SAVE command and refers to when configuring the parameter settings of the modules.

The command for specifying the active master configuration file on the management module is the CONFIG SET command. After you have designated a new active master configuration file on a management module, you should do one of the following:

- If you want the management module to configure the modules in the chassis with the settings in the new active file, issue the CONFIG RUN command.

  Note
  Issuing the CONFIG RUN command may momentarily disrupt the flow of traffic through the media converter channels as the modules reconfigure their settings.

- If you want to overwrite the settings in the file with the current settings of the modules, issue the CONFIG SAVE command, instead. This might be appropriate in situations where you did not want to use the settings in the new active master configuration file, and instead want to overwrite the settings in the file with the current configuration. Naturally, this does not result in a disruption of network traffic through the media converter channels.

To view the name of the active master configuration file, use the CONFIG SHOW command.

Editing a Master Configuration File

You can edit the master configuration file on the management module with a text editor at your management station by uploading the file from the management module using a TFTP server. You cannot edit it directly on the management module. After you have edited the file, you can download it to the management module and designate it as the active master configuration file on the module.

For instructions on how to upload and download a master configuration file to a management module, refer to “FILE UPLOAD” on page 194 and “FILE DOWNLOAD” on page 179. To designate the active master configuration file of the management module, refer to “CONFIG SET” on page 164.

The following sections describe the various parts of a master configuration file and the supported commands for each of the sections.

File Header Lines

At the top of the file are three lines of header information, shown in Figure 24. These lines should never be modified or deleted.

```
## Filename: MM.cfg
## Model Type: AT-MCF2000M
## MAC Address: 00:15:77:70:7A:25
```

Figure 24. Management Module Configuration Header

System Configuration

The commands in this section define general information about the management module.

```
### System Configuration
system set asynchronous baudrate = 115200
system set console timeout=10
system set contact "none"
system set hostname "none"
system set location "none"
system set mymodule id=1/0 name="none"
system set mymodule id=1/0 temperature-threshold=60
system set mymodule id=1/a temperature-threshold=60
system set mymodule id=1/b temperature-threshold=60
system set rtc source=none
```

Figure 25. System Configuration Section

The section accepts the following AT-S97 Management Software commands:

- "SYSTEM SET ASYNCHRONOUS" on page 58
- "SYSTEM SET CONSOLE" on page 62
- "SYSTEM SET CONTACT" on page 63
- "SYSTEM SET HOSTNAME" on page 64
- "SYSTEM SET LOCATION" on page 65
- "SYSTEM SET MODULE" on page 89

The module's name is set with a modified version of the SYSTEM SET MODULE command, where the MODULE keyword is replaced with MYMODULE and the management module slot is indicated in the ID parameter with "0" (zero) rather than "M". This modified command also sets the temperature thresholds of the management module and the power supply and fan modules. The command with the slot ID of "0" (zero) sets the temperature threshold for the management module while the commands with the slot IDs of "A" and "B" (for example, "1/A" and "1/B") set this parameter for the power supply and fan modules. For further information on this command, refer to "SYSTEM SET MODULE" on page 89.

The SYSTEM SET RTC command is found only in the master configuration file and dictates the source of the time and date of the management module. The two possible settings are NONE, indicating that the date and time are set manually, and NTP, signifying that the date and time are set from an NTP server.

IP Configuration

The commands in this section define the IP configuration of the management module.

```
### Ip Configuration
ip dhcp disable
ip set ip-address=192.168.1.2
ip set subnetmask=255.255.255.0
ip set default-gateway=0.0.0.0
```

Figure 26. IP Configuration Section

This section accepts the following commands:

- "IP DHCP DISABLE" on page 50
- "IP DHCP ENABLE" on page 51
- "IP SET" on page 52

Log Configuration

This section controls the event log and the syslog client.

```
### Log Configuration
logging enable eventLog
logging enable sysLog
logging set sysLog host=0.0.0.0
logging set sysLog facility-code=0
logging set eventLog severity-level=event
```

Figure 27. Log Configuration Section

The section accepts the following commands:

- “LOGGING DISABLE EVENTLOG” on page 129
- “LOGGING DISABLE SYSLOG” on page 130
- “LOGGING ENABLE EVENTLOG” on page 131
- “LOGGING ENABLE SYSLOG” on page 132
- “LOGGING SET EVENTLOG” on page 133
- “LOGGING SET SYSLOG” on page 135

NTP Configuration

This section controls the NTP client for setting the modules date and time from an NTP server on your network or the Internet.

```
### Ntp Configuration
ntp set server=0.0.0.0
ntp set utcoffset=0
ntp disable
```

Figure 28. NTP Configuration Section

This section accepts the following commands:

- “NTP DISABLE” on page 120
- “NTP ENABLE” on page 121
- “NTP SET” on page 122

Telnet and SSH Configuration

This section controls the Telnet and SSH servers for remote management of the chassis from a Telnet or SSH client.

```
### Telnet & SSH Configuration
telnet disable
ssh disable
```

Figure 29. Telnet and SSH Configuration Section

This section accepts the following commands:

- "TELNET DISABLE" on page 200
- "TELNET ENABLE" on page 201
- "SSH DISABLE" on page 212
- "SSH ENABLE" on page 213

User Configuration

This section controls the manager accounts.

```
### User Configuration
user config name=manager priv=admin pwd=3af00c6cad11f7ab5db4467b66ce503eff
```

Figure 30. User Configuration Section

Note
Do not modify the existing manager accounts or add new accounts by editing the master configuration file. Instead, use the command line interface in the management software. You can delete accounts by deleting the corresponding line in the file, but do not delete the predefined manager account (that is, NAME=MANAGER). For further information, refer to Chapter 13, "Manager Account Commands" on page 215.

SNMP Configuration

This section, shown in Figure 31, controls the SNMPv1 and v2c parameters, used to set the community strings for remote SNMP management and to identify the IP addresses of the trap receivers on your network.

```
### SNMP Configuration
snmp set mgrip1=0.0.0.0
snmp set mgrip2=0.0.0.0
snmp set mgrip3=0.0.0.0
snmp set mgrip4=0.0.0.0
snmp set get-community=public
snmp set set-community=private
snmp set trap-community=public
```

Figure 31. SNMP Configuration Section

This section accepts the SNMP SET command. For information on the command, refer to “SNMP SET” on page 206

Blade Configuration

This section controls the operating parameters of the channels and ports on a media converter module. A master configuration file has a separate Blade Configuration section for each of the media converter modules in a chassis or stack.

The section is prefaced with three header lines that identify the media converter module controlled by the commands in the section. An example is shown in Figure 32.

```
## Filename: BM_0_2.cfg
## Model Type: AT-MCF2012LC
## MAC Address: 00:15:77:70:7A:2C
```

Figure 32. Blade Configuration Header

The Filename line identifies the name of the auxiliary configuration file used to create that portion of the master file as well as the media converter module controlled by the commands. The numbers in the filename identify the module. The first number represents the chassis ID and the second number the slot number. For example, the auxiliary configuration filename “BM_0_2.cfg” in Figure 32 identifies the media converter module in slot 2 of the chassis with an ID number of 0.

The Model Type field specifies the model name of the media converter module and the MAC Address specifies its MAC address.

Note
The header lines of a Blade Configuration section should not be modified or deleted.

The first subsection in a Blade Configuration is illustrated in Figure 33. It sets the operating modes of the media converter channels on the module with a modified version of the SYSTEM SET INTERFACE command. The ID parameter of the command is replaced with a PORTID parameter, which specifies the channel number. For example, PORTID=1 designates channel 1, which on the AT-MCF2012LC and AT-MCF2012LC/1 Media Converter Modules represents twisted pair port 1 and fiber optic port 1, PORTID=2 designates channel 2 of twisted pair port 2 and fiber optic port 2, and so on.

```
### Blade Configuration

system set interface portId=1 OpMode=link-test
system set interface portId=2 OpMode=link-test
system set interface portId=3 OpMode=link-test
system set interface portId=4 OpMode=link-test
system set interface portId=5 OpMode=link-test
```

Figure 33. Blade Configuration - Operating Mode Section

Review the following guidelines before modifying the commands in this section:

- Each channel must have its own command line.
- If you delete a command, the corresponding channel's operating mode will be Link Test, the default value.
- As previously mentioned, the PORTID parameter must specify just the channel number. Do not include a chassis ID number or slot number. The latter are defined in the header lines of the Blade Configuration section.

The next subsection in a Blade Configuration, shown in Figure 34, configures the operating parameters of the ports on the media converter module, both twisted pair and fiber optic. The port operating parameters are set with a modified version of the SYSTEM SET PORT command, where the values in the ID parameter are truncated to the channel number and port letter. For a description of this command, refer to "SYSTEM SET PORT" on page 92.

```
system set port id=1/a ingress-rate-limit=none egress-rate-limit=none
system set port id=1/b duplex=full ingress-rate-limit=none egress-rate-
limit=none
system set port id=2/a speed=100 duplex=full crossover=mdi
system set port id=2/a ingress-rate-limit=128k egress-rate-limit=none
system set port id=2/b duplex=full ingress-rate-limit=none egress-rate-
limit=none
system set port id=3/a ingress-rate-limit=none egress-rate-limit=none
system set port id=3/b duplex=full ingress-rate-limit=none egress-rate-
limit=none
system set port id=4/a speed=10 duplex=full crossover=mdi
system set port id=4/a ingress-rate-limit=none egress-rate-limit=none
system set port id=4/b duplex=full ingress-rate-limit=none egress-rate-
limit=none
```

Figure 34. Blade Configuration - Port Operating Parameters

Here are the guidelines for modifying the commands in this section:

- Each port must have its own command line.
- A port can have more than one command line.
- A command line cannot exceed eighty characters.
- If you delete a port's configuration command from the file, the port operates with the default settings.
- The ID parameter specifies just the channel number and the port letter.

The name of a media converter module and the temperature threshold are controlled with the commands in the final part of a Blade Configuration section, shown in Figure 35.

```
system set mymodule id=1/0 name="none"
system set mymodule id=1/0 temperature-threshold=60
system set mymodule id=1/a temperature-threshold=60
system set mymodule id=1/b temperature-threshold=60
system set mymodule id=1/c temperature-threshold=60
configuration overwrite disable
```

Figure 35. Blade Configuration - Module Name and Temperature Threshold Section

The first two lines control the module's name and temperature threshold. The commands are a modified version of the SYSTEM SET MODULE command, with the MYMODULE keyword substituting for the MODULE keyword, as explained earlier in the System Configuration section. Do not change the ID values. Though in all other cases a slot "0" designation indicates the management module, this is not true for these lines in the

Blade Configuration section. Here, the "0" slot designation signifies the module itself, in this case a media converter module.

The lines with the IDs 1/A, 1/B and 1/c can be ignored.

The final line controls the overwrite setting of the module. For instructions, refer to "CONFIG OVERWRITE" on page 158.

Guidelines to Editing a Master Configuration File

The following guidelines apply to editing a configuration file:

- The text editor must be able to store the file as ASCII text. Do not use special formatting codes, such as boldface or italics.
- A command cannot exceed eighty characters.
- Each command must start flush left against the margin.
- To comment out a command so that the media converter does not perform it, precede the command with three pound symbols (#).

Command Summary

Table 19 summarizes the configuration file commands.

Table 19. Configuration File Commands

Command	Description
"CONFIG OVERWRITE" on page 158	Overrides the automatic overwriting of a media converter module configuration file.
"CONFIG RUN" on page 160	Configures the parameter settings on all the modules using the active master configuration file on the management module
CONFIG SAVE on page 161	Updates the active configuration file with the latest changes to the parameter settings. Also creates new master configuration files.
"CONFIG SAVE FILESYSTEM" on page 162	Creates a new master configuration file.
CONFIG SET on page 164	Selects a new active master configuration file.
CONFIG SHOW on page 166	Displays the name of the active and current master configuration files on the management module.

CONFIG OVERWRITE

Syntax

```
config overwrite enable|disable id=chassis/slot
```

Parameters

enable — Activates configuration overwrite on a media converter module. At this setting, a module, when it is powered on or reset, seeks its configuration settings from a management card and a master configuration file. This is the default value.

disable — Deactivates configuration overwrite on a media converter module. At this setting, a module uses the configuration settings in its auxiliary configuration file in flash memory to set its parameter settings whenever it is powered on or reset.

id — Identifies a media converter module. You can configure only one module at a time. An ID number has the following parts:

- chassis — Identifies an ID number of a chassis. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
- slot — Identifies a slot number of a module to be configured. For background information, refer to “Slot Numbers and Letters” on page 26. The possible values are:
  - 1 or 2 — Specifies a media converter slot in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a media converter slot in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.

Privilege Levels

Administrator and read-write.

Description

As explained in "Overview" on page 146, the configuration settings of the media converter modules are stored in two locations. One of the locations is the master configuration file on the AT-MCF2000M Management Module and the other is the auxiliary configuration files on the media converter module themselves. When a media converter module is reset or powered on, it configures its settings from one of those sources. The source that it goes to is based on the configuration overwrite setting on the module, which this command controls.

When the overwrite setting is disabled, a media converter uses its own auxiliary configuration file in flash memory for its configuration settings.

When the overwrite setting is enabled, a media converter queries the management card and the master configuration file for its settings. This happens to be the default setting.

Example

This command disables configuration overwrite on a media converter module in slot 2 in a chassis with the ID 0:

```
config overwrite disable id=0/2
```

This command enables configuration overwrite on a media converter module in slot 3 in a chassis with the ID 2:

```
config overwrite enable id=2/3
```

CONFIG RUN

Syntax

```
config run
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to configure the parameters settings of the modules in the chassis or stack from the active master configuration file on the management module. In some ways, this command is analogous to resetting the chassis or stack, but with two important differences. The first is that with this command the modules return to their normal network operations quicker because they do not have to initialize their management software. The second is that this command ignores the configuration overwrite settings on the media converter modules, so that modules with an overwrite setting of disabled still receive their settings from the master configuration file.

There are two situations where you might use this command. The first is after designating a new active master configuration file. To configure the modules according to the settings in the new file, you could either reset the chassis or stack, or you could issue this command.

The other situation where you might use this command is if you want to return the modules to their previous configurations after making changes that you did not save. For example, you might modify but not save the settings of the ports on a media converter module, and later decide to discard your changes.

Example

```
config run
```

CONFIG SAVE

Syntax

```
config save
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to update the active master configuration file on the management module and the auxiliary configuration files on the media converter modules with the current parameter settings of all of the devices. Parameter settings that are saved in the configuration files are retained even when the chassis or stack is reset or powered off. You should enter this command when you are finished managing the devices and want to save your changes. For background information, refer to "Overview" on page 146.

Example

```
config save
```

CONFIG SAVE FILESYSTEM

Syntax

```
config save filesystem=system://chassis/slot/filename.cfg
```

Parameter

filesystem — Specifies a location and a name for a new master configuration file. The parameter consists of the following parts:

- chassis — Specifies an ID number of a chassis with a management module. The ID number is either 0 or 31.
- slot — Identifies a slot with a management module. The only supported value for the slot is:
  - m — Identifies the management module slot and the AT-MCF2000M Management Module.
- filename.cfg — Specifies a name for a new master configuration file. The name can be up to 15 alphanumeric characters, not including the extension. Spaces are allowed, but a name with spaces must be enclosed in double quotes. The filename must include the ".CFG" extension. Configuration filenames are case sensitive.

To view the ID number and the slot numbers of a chassis, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101. To view the filenames of the current configuration files in a file system on a module, refer to "FILE SHOW" on page 191.

Privilege Levels

Administrator and read-write.

Description

This command is used to create a new master configuration file containing the current parameter settings of all the modules in a chassis or stack. The file is stored in the file system on the management module. For background information, refer to "Overview" on page 146.

If, after creating a new master configuration file, you want to designate it as the active file on the management module, perform the CONFIG SET command. For instructions, refer to "CONFIG SET" on page 164.

Example

This command creates the new master configuration file "mcf pat traffic.cfg" with the current settings of all the modules in the chassis or stack. The chassis with the management module has the ID number 0:

```
config save filesystem=system://0/m/"mcf pat traffic.cfg"
```

CONFIG SET

Syntax

```
config set filesystem=system://chassis/slot/filename.cfg
```

Parameter

filesystem — Specifies a location and a name of a master configuration file. This parameter consists of the following parts:

- chassis — Specifies an ID number of a chassis with a management module. The ID number is either 0 or 31.
- slot — Identifies a slot with a management module. The only supported value for the slot is:
  - m — Identifies the management module slot and the AT-MCF2000M Management Module.
- filename.cfg — Specifies the name of a active master configuration file. The filename must include the ".CFG" extension and is case sensitive. To view the filenames of the configuration files in a file system on a management module, refer to "FILE SHOW" on page 191. If the filename has spaces, enclose it in double quotes (" ").

To view the ID and slot numbers of a chassis, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101.

Privilege Levels

Administrator and read-write.

Description

This command designates the active master configuration file on the management module. For an explanation of the master configuration file, refer to "Overview" on page 146.

After designating an active master configuration file, do one of the following:

- To configure the modules in the chassis or stack according to the settings in the newly designated active master configuration file, issue the CONFIG RUN command. For instructions, refer to "CONFIG RUN" on page 160. Do not issue the CONFIG SAVE command.
- To overwrite the settings in the active master configuration file with the current settings of the modules, issue the CONFIG SAVE command. For instructions, refer to "CONFIG SAVE" on page 161.

Note the following before using this command:

- To view the name of an active master configuration file, see "CONFIG SHOW" on page 166.
- The designated file must already exist. To view the configuration files in the management module's file system, see "FILE SHOW" on page 191. Configuration files have a ".cfg" extension. To create a new configuration file, refer to "CONFIG SAVE" on page 161.

For further information, refer to "Specifying the Active Master Configuration File" on page 149.

Examples

This command designates the file "mc22.cfg" in the file system on the management module as the active master configuration file. The chassis has the ID number 0:

```
config set filesystem=system://0/m/mc22.cfg
```

This command designates the file "mcf2000 b12.cfg" as the active master configuration file for the chassis with the ID number 0:

```
config set filesystem=system://0/m/"mcf2000 b12.cfg"
```

CONFIG SHOW

Syntax

```
config show
```

Parameters

None

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the names of the current and active master configuration files on the management module. An example is shown in Figure 36.

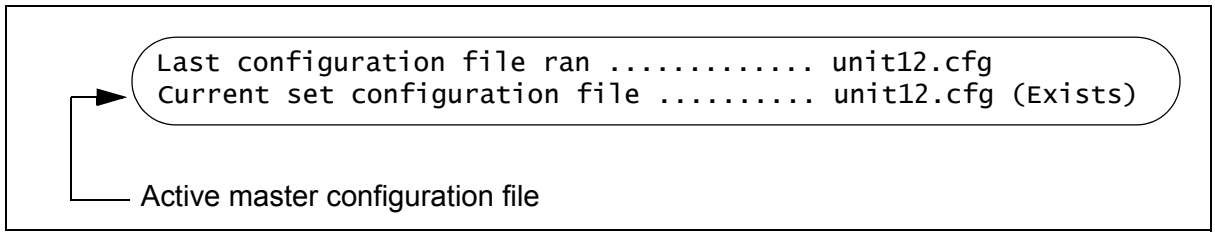


Figure 36. CONFIG SHOW Command

The “Last configuration file ran” field displays the name of the master configuration file used by the management module to configure the chassis during the last reset or power cycle.

The “Current set configuration file” field displays the name of the active master configuration file. It is this file that the management module updates when the CONFIG SAVE command is issued. This is also the file that is used to configure the chassis during the next reset or power cycle.

Here is an example of how the process works. Assume the chassis is currently using a master configuration file called “unit12.cfg,” as illustrated in Figure 36.

Now assume you decide to configure the settings on the chassis modules using a different master file called “mcf24.cfg.” If, after specifying the file as the new active configuration file with the CONFIG SET command, you issue the CONFIG SHOW command, the information in Figure 37 on page 167 is displayed.

```
Last configuration file ran ............. unit12.cfg
Current set configuration file .......... mcf24.cfg (Exists)
```

Figure 37. CONFIG SHOW Command with a New Active Master File

If you were to issue the CONFIG SAVE command at this point, the settings in the "mcf24.cfg" file would be overwritten by the current settings of the modules. Basically, the settings in the active configuration file would be replaced by the settings of the master configuration file used during the last reset, in this case "unit12.cfg," in addition to any changes that were make since the last reset or power cycle. And, in some situations, this might be the goal.

But if the goal is to configure the modules with the settings in "mcf24.cfg," you issue the CONFIG RUN command so that the management module configures the modules with the settings in the file. If, after issuing the CONFIG RUN command, you again entered the CONFIG SHOW command, the information in Figure 38 is displayed.

```
Last configuration file ran ............. mcf24.cfg
Current set configuration file .......... mcf24.cfg (Exists)
```

Figure 38. CONFIG SHOW Command with a New Current and Active Master File

Example

```
config show
```

Chapter 9

File System Commands

This chapter contains the following sections:

Overview

The following sections describe the functions of the commands in this chapter.

Managing a Module's File System

You can use the commands in this chapter to display the configuration files in the file system on a management module, as well as copy, rename, and delete files. For example, you might create a copy of a master configuration file to maintain a history of the configuration settings of a chassis, or delete old master configuration files to keep the file system from becoming cluttered with obsolete files.

You can also use these commands to view the file system on a media converter module. However, this is unlikely ever to be necessary.

For more information on configuration files, refer to Chapter 8, "Configuration File Commands" on page 145.

Updating the AT-S85 and AT-S97 Management Software

Allied Telesis may periodically release and post on our web site new versions of the boot loaders and management software for the management and media converter modules in the AT-MCF2000 Series. You can update the software on your products by obtaining the newest files from the Allied Telesis web site.

New management software is downloaded onto the modules with the FILE DOWNLOAD command using the TFTP client in the AT-S97 Management Software together with a TFTP server on your network. For instructions, refer to "FILE DOWNLOAD" on page 179

Note

To avoid possible compatibility problems between the management and media converter modules, Allied Telesis recommends that all modules in a chassis or stack use the same version of the AT-S85 and AT-S97 Management Software. If the modules are running different versions, you must upgrade the operating software on all modules. To determine the version numbers of the modules' software, use the SYSTEM SHOW CLUSTER command. For instructions, refer to "SYSTEM SHOW CLUSTER" on page 101.

Uploading or Downloading a Master Configuration File

The master configuration file on the management module can be modified with a text editor at your management workstation by uploading the file from the file system on the management module to a TFTP server. After you have edited the file, you can download it to the management module. Uploading and downloading the configuration file is achieved with the commands in this chapter. The full sequence of commands is:

1. Upload a master configuration file from the management module to a TFTP server using the FILE UPLOAD command. For instructions, refer to "FILE UPLOAD" on page 194.
2. Edit the file at your workstation. For instructions, refer to "Editing a Master Configuration File" on page 150.
3. Download the file to the management module using the FILE DOWNLOAD command. For instructions, refer to "FILE DOWNLOAD" on page 179.
4. Designate the file as the active master configuration file on the module with the CONFIG SET command. For instructions, refer to "CONFIG SET" on page 164.
5. Configure the modules using the CONFIG RUN command. For instructions, refer to "CONFIG RUN" on page 160.

Guidelines to Using the TFTP Client

The following guidelines apply to the TFTP client on the management module when uploading or downloading files to the management module with the FILE UPLOAD, FILE DOWNLOAD, and DILE FASTDOWNLOAD commands:

- Your network must have a node with TFTP server software.
- To download a file, you must store the file on the TFTP server.
- Start the TFTP server software before performing the upload or download command.
- The 10/100/1000Base-T Management port on the AT-MCF2000M Management Module must be connected to the network. The management module communicates with the TFTP server through this port.
- The AT-MCF2000M Management Module must have an IP configuration. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.
- The TFTP server must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- If the management module and TFTP server are on different networks, the IP configuration on the management module must include a default gateway specifying the IP address of the first hop to reaching the

server. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.

Command Summary

Table 20 summarizes the file system commands.

Table 20. File System Commands

Command	Description
“FILE COPY” on page 173	Creates copies of the configuration files in the file systems of the management and media converter modules.
“FILE DELETE” on page 176	Deletes the configuration files from the file systems on the modules.
“FILE DOWNLOAD” on page 179	Downloads new versions of the AT-S85 and AT-S97 Management Software from a TFTP or Xmodem server to the management and media converter modules. You can also download a modified master configuration file to the management module.
“FILE RENAME” on page 188	Renames the configuration files in the modules’ file systems.
“FILE SHOW” on page 191	Displays the names of the files stored in the file systems.
“FILE UPLOAD” on page 194	Primarily used to upload the master configuration file from the management module to a TFTP server for editing at a management workstation. Can also be used to upload configuration files between modules.

FILE COPY

Syntax

```
file copy srcfile=system://chassis/slot/filename.cfg
dstfile=system://chassis/slot/filename.cfg
```

Parameter

srcfile=system

Specifies a location and name of a master configuration file to copy. This parameter has the following parts:

chassis — Specifies an ID number of a chassis. The range is 0 to 31. For background information, refer to "Chassis ID Numbers" on page 25.

slot — Identifies a slot with a module containing the file. For background information, refer to "Slot Numbers and Letters" on page 26. Possible values are:

- m — Identifies the AT-MCF2000M Management Module.
- 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
- 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.

filename.cfg — Specifies a name of a master configuration file to be copied. Filenames with spaces must be enclosed in double quotes. Filenames are case sensitive and must include the ".CFG" extension.

To view the ID number and slot numbers of a chassis, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101. To view the filenames in a file system on a module, refer to "FILE SHOW" on page 191.

dstfile=system

Specifies the name of the new copy of the master configuration file. The destination must have the same chassis and slot location as the source. The name can be up to 15 alphanumeric characters, not including the extension. Spaces are allowed, but a name with spaces must be enclosed in double quotes. The filename must be unique from all other files in the file system of the module and it must include the ".CFG" extension. The filename cannot start with the letters "mm" or "bm" because these are restricted by the management software.

Privilege Levels

Administrator and read-write.

Description

This command is used to create a copy of a master configuration file in the file system of the management module. You might create a copy of a file to maintain a history of the settings of the modules in the chassis or to create a backup copy. For background information on the master configuration files, refer to Chapter 8, "Configuration File Commands" on page 145.

Review the following before copying a master configuration file:

- This command is primarily intended for creating copies of master configuration files on management modules. This command can also be used to create copies of auxiliary configuration files, but that should never be necessary.
- The copy of the file must be stored in the file system of the same module with the original file. To copy files between modules, refer to "FILE UPLOAD" on page 194.
- The filename of the source file is case sensitive. To verify the spelling and case of a file, use the FILE SHOW command. For instructions, refer to "FILE SHOW" on page 191.
- You do not have to perform the CONFIG SAVE command after copying a file.

Examples

This command creates a copy of the master configuration file "master2a.cfg" on a management module in a chassis with the ID number 0. The copy is called "master2a_backup.cfg:"

```
file copy srcfile=system://0/m/master2a.cfg
dstfile=system://0/m/master2a_backup.cfg
```

This command creates a copy of the master configuration file "mc 11a.cfg" on a management module in a chassis assigned the ID 0. The copy will be titled "mc 22 traffic.cfg:"

```
file copy srcfile=system://0/m/"mc 11a.cfg"
dstfile=system://0/m/"mc 22 traffic.cfg"
```

Note
The next example copies an auxiliary configuration file on a media converter module. This function should never be necessary.

This command creates a copy of the "BM.cfg" auxiliary configuration file on a media converter module in slot 2 in a chassis with the ID number 0. The copy is named "BM_backup.cfg:"

```
file copy srcfile=system://0/2/BM.cfg
dstfile=system://0/2/"BM_backup.cfg"
```

FILE DELETE

Syntax

```
file delete filesystem=system://chassis/slot/filename.cfg
```

Parameter

system — Specifies the location of the file to delete. This parameter has the following parts:

- chassis — Specifies an ID number of a chassis. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
- slot — Identifies a slot with a module containing the file. For background information, refer to “Slot Numbers and Letters” on page 26. Possible values are:
  - m — Identifies the AT-MCF2000M Management Module.
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
- filename.cfg — Specifies the name of the configuration file to delete. The filename is case sensitive and must be enclosed in double quotes if it contains a space. The asterisk (*) can be used as a wildcard to delete files with similar names.

To view the ID and slot numbers of a chassis, refer to “SYSTEM SHOW CHASSIS” on page 99 or “SYSTEM SHOW CLUSTER” on page 101. To view the filenames in the file system on a module, refer to “FILE SHOW” on page 191.

Privilege Levels

Administrator and read-write.

Description

This command is used to delete unnecessary or obsolete files from the file systems of the management module and the media converter modules. For background information on configuration files, refer to Chapter 8, "Configuration File Commands" on page 145.

Here are the guidelines to using this command:

- Allied Telesis does not recommend deleting the management module's active master configuration file. If you do delete the file, you should afterwards specify a new active master configuration file with the CONFIG SET command. For further information, refer to "CONFIG SET" on page 164.
- Deleting a media converter's configuration file (for example, BM_00_01.cfg) from the file system of the management module does not affect the operation of the media converter module or the management module.
- Deleting a configuration file (for example, BM.cfg) from a media converter's file system is not recommended. Deleting the file does not affect the operation of the module, except if you remove the module and install it into a different slot. In the latter scenario, the module uses its default values or the values provided by the management module.
- The filename is case sensitive. To verify the spelling and case of a filename, use the FILE SHOW command. For instructions, refer to "FILE SHOW" on page 191.
- You do not have to perform the CONFIG SAVE command after deleting a file.

Examples

This command deletes the master configuration file "unit2a.cfg" from a management module in a chassis with an ID number of 0:

```
file delete filesystem=system://0/m/unit2a.cfg
```

This command deletes the master configuration file "unit14ab.cfg" from a management module in a chassis with an ID number of 0:

```
file delete filesystem=system://0/m/unit14ab.cfg
```

This command deletes all the configuration files starting with "BM" from management module in a chassis with an ID number of 0:

```
file delete filesystem=system://0/m/BM*.cfg
```

This command deletes the configuration file “BM.cfg” from the media converter module in slot 2 in a chassis with an ID number of 0:

```
file delete filesystem=system://0/2/BM.cfg”
```

This command deletes all the configuration files starting with “BM” from a media converter module in slot 2 in a chassis with an ID number of 0:

```
file delete filesystem=system://0/2/BM*.cfg
```

FILE DOWNLOAD

Syntax 1: Downloading the AT-S85 and AT-S97 Boot Loaders

```
file download srcfile=tftp://ipaddress/filename.bin
dstfile=system://chassis/slot/bootblock
```

Syntax 2: Downloading the AT-S85 and AT-S97 Management Software (Image Files)

```
file download srcfile=tftp://ipaddress/filename.img
dstfile=system://chassis/slot/appblock
```

Syntax 3: Downloading Master Configuration Files

```
file download srcfile=tftp://ipaddress/filename.cfg
dstfile=system://chassis/slot/filename.cfg
```

Syntax 4: Downloading Configuration Files from a Management Module to a Media Converter Module

```
file download srcfile=system://chassis/m/filename.cfg
dstfile=system://chassis/slot/filename.cfg
```

Parameters

srcfile=tftp — Specifies the IP address of the TFTP server and the name of the file to download to a module. This parameter has the following parts:

- ipaddress — Specifies an IP address of a TFTP server.
- filename — Specifies the name of the file on the TFTP server to download onto the management module or the media converter module. Filenames with spaces must be enclosed in double quotes. The filename extension must be ".BIN" for the boot loader, ".IMG" for the management software, and ".CFG" for a configuration file.

dstfile=system — Specifies the destination chassis and module for the file. This parameter has the following parts:

- chassis — Specifies an ID number of a chassis. The range is 0 to 31. To indicate all of the chassis in a stack, enter an asterisk (*). For background information, refer to "Chassis ID Numbers" on page 25.

slot	Identifies the slot number of a module. The possible values are: * (asterisk) Indicates all of the slots in a chassis. m Identifies the management module slot. 1 or 2 Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2. 1 to 4 Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
bootblock	Designates the area of flash memory reserved for the AT-S85 and AT-S97 boot loader files.
appblock	Designates the area of flash memory reserved for the AT-S85 and AT-S97 Management Software.
filename.cfg	Specifies a name for a master configuration file. The file is assigned this name when it is stored in the file system in a management module after being downloaded from a TFTP server. The name can be up to 15 alphanumeric characters, not including the extension. Names with spaces are permitted, but must be enclosed in double quotes. The filename must include the ".CFG" extension.

To view the ID and slot numbers of a chassis, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101.

Privilege Levels

Administrator and read-write.

General Description

This command is used to download new versions of the AT-S85 and AT-S97 boot loaders and management software to the management and media converter modules in a chassis from a TFTP server. Allied Telesis may post new versions of these files on our web site so our customers can update their equipment with the latest files.

You can also use this command to download master configuration files that you edited at your management workstation to the management module.

To download a bootloader or image file onto all of the media converter modules in a system, use the FILE FASTDOWNLOAD command. See "FILE FASTDOWNLOAD" on page 186.

Description of Syntax 1

This command is used to download new versions of the boot loader files to the management modules and the media converter modules from a TFTP server. The boot loader is part of the operating system of a module.

There are different boot loaders for the different types of modules. The AT-MCF2000M Management Module uses the AT-S97 boot loader and the media converter modules the AT-S85 boot loader. The boot loader files are identified by their ".BIN" filename extension and the "S85" and "S97" in the filenames.

A boot loader must be stored on a module in an area of memory referred to as BOOTBLOCK. This section of memory is separate from the file system and it cannot be displayed with the FILE SHOW command. When you enter the FILE DOWNLOAD command, you must specify BOOTBLOCK as the destination. If you specify a filename as the destination, the command stores the file in the file system of the module. This is an inappropriate destination for a boot loader. (If you do inadvertently download a boot loader file into the file system of a module, you can delete it with the FILE DELETE command. For instructions, refer to "FILE DELETE" on page 176.)

After receiving a new boot loader, a module tests the file before writing it to the BOOTBLOCK area of flash memory to determine whether the file is appropriate for its module type. If the file type is correct, it writes the file to the BOOTAPP section. If it is not, it discards the file. This protects the module from installing the wrong boot loader.

This command has the following guidelines:

- The filename extension of the source file must be ".BIN" and the destination must be BOOTBLOCK.
- When upgrading both the boot loader and the management software on the modules, you should download the new boot loader file first.

Since this command uses the TFTP client on the management module, Allied Telesis recommends reviewing the information in “Guidelines to Using the TFTP Client” on page 171 prior to using the command.

Note
A management module resets after receiving a new bootloader. The module is unresponsive to commands for approximately one minute while it initializes its AT-S97 Management Software.

Note
After a media converter module receives a new bootloader, it resets and immediately resumes forwarding network traffic through its ports and channels using the default settings while it initializes the AT-S85 Management Software, a process that takes approximately one minute to complete. The module is unresponsive to management commands during the initialization process. At the completion of the process, the module configures its ports and channels according to the settings in the active master configuration file on the management module.

Description of Syntax 2

This command performs much the same function as syntax 1. But rather than downloading a boot loader file, it downloads a new version of the management software to a module. The management software comes in two versions, one for the management module, the AT-S97 Management Software, and another for the media converter modules, the AT-S85 Management Software. A management program file can be identified by the extension “.IMG” and the “S85” or S97” in its filename.

The management software is stored on a module in a special area of memory referred to as APPBLOCK. This must be the destination of the command when downloading the software.

Just as it does with a boot loader file, a module tests the file before it writes it to the APPBLOCK section of flash memory. Only after the module has verified that it is the correct file for its type of module does it write the file to memory. This protects the module from installing the wrong management software.

Note
A management module resets after receiving a new version of the AT-S97 Management Software. It is unresponsive to commands for approximately one minute while it initializes the new management software.

Note
A media converter module resets after receiving a new version of the AT-S85 Management Software. It immediately resumes forwarding network traffic through its ports and channels using its default settings while it initializes the new software. This process takes approximately one minute to complete. The module is unresponsive to management commands during the initialization process. At the completion of the process, the module configures its ports and channels according to the settings in either its own auxiliary configuration file or the active master configuration file on the management module, depending on the module's overwrite setting.

Description of Syntax 3

This command syntax is used to download a master configuration file from a TFTP server to the file system of a management module. You might use this command after editing a configuration file at your workstation or when transferring a master configuration file from another chassis.

If, after downloading a new or edited master configuration file onto a management module, you want to configure the modules using the file, there are several additional commands you have to perform. First, you must designate the file as the active configuration file for the management module with the CONFIG SET command. Second, you must issue the CONFIG RUN command so that the modules configure themselves according to the commands in the file. For information, refer to Chapter 8, "Configuration File Commands" on page 145.

Description of Syntax 4

This syntax is reserved for future versions of the management software.

Examples of Downloading the AT-S85 and AT-S97 Boot Loaders

This command downloads a new version of the AT-S85 boot loader onto all of the media converter modules in a chassis. The IP address of the TFTP server is 150.24.44.65 and the name of the file on the TFTP server is "ats85.bin":

```
file download srcfile=tftp://150.24.44.65/ats85.bin
dstfile=system://*/*/bootblock
```

Note
The above example is the preferred command for upgrading the boot loader on the media converter modules in a chassis. Downloading a new boot loader onto some but not all of the media converter modules may result in compatibility problems.

Since the slots are indicated with the wildcard “*”, all of the modules, including the management module, receive the file. However, since the AT-S85 boot loader is intended for the media converter modules, the management module will discard the file and generate an error message, which can be ignored.

This command downloads a new version of the AT-S97 boot loader onto a management module. The IP address of the TFTP server is 162.101.11.12 and the name of the file is “ats97.bin”:

```
file download srcfile=tftp://162.101.1.12/ats97.bin
dstfile=system://*/m/bootblock
```

Note
The above example is the preferred command for upgrading the boot loader on the management module.

This command downloads a new version of the AT-S85 boot loader onto the media converter module in slot 1 in the chassis with an ID of 0. The IP address of the TFTP server is 149.72.23.5 and the name of the file is “ats85.bin”:

```
file download srcfile=tftp://149.72.23.5/ats85.bin
dstfile=system://0/1/bootblock
```

Examples of Downloading the AT-S85 and AT-S97 Management Software

This command downloads a new version of the AT-S85 Management Software onto all of the media converter modules in a chassis. The IP address of the TFTP server is 150.24.44.65 and the name of the file is “ats85.img”:

```
file download srcfile=tftp://150.24.44.65/ats85.img
dstfile=system://*/*/appblock
```

The asterisk is used to indicate all slots in the chassis which means the management module receives the file as well. Since the AT-S85 Management Software is intended for media converter modules, it will discard the file and generate an error message. You can ignore the message.

Note
The above example is the preferred command for upgrading the management software on the media converter modules in a chassis. Downloading management software onto some but not all of the modules of a chassis may cause compatibility problems.

This command downloads a new version of the AT-S97 Management Software onto the AT-MCF2000M Management Module in a chassis. The name of the file is "ats97.img:"

```
file download srcfile=tftp://149.72.23.5/ats97.img
dstfile=system://*/m/appblock
```

This command downloads a new version of the AT-S85 Management Software onto the media converter module in slot 1 of a chassis with ID of 0. The IP address of the TFTP server is 150.24.44.65 and the name of the file is "ats85.img:"

```
file download srcfile=tftp://150.24.44.65/ats85.img
dstfile=system://0/1/appblock
```

Example of Downloading a Master Configuration File

This command downloads the master configuration file "mc2000_22a.cfg" onto a management module from a TFTP server. The file is renamed "mcf2000 unit5a.cfg" in the file system of the module. The ID number of the chassis is 0:

```
file download srcfile=tftp://150.76.8.124/mc2000_22a.cfg
dstfile=system://0/m/"mcf2000 unit5a.cfg"
```

FILE FASTDOWNLOAD

Syntax 1 - AT-S85 Management Software

```
file fastdownload appblock srcfile=tftp://ipaddress/
filename.img

file fastdownload appblock srcfile=xmodem://filename.img
```

Syntax 2 - Bootloader

```
file fastdownload bootblock srcfile=tftp://ipaddress/
filename.bin

file fastdownload bootblock srcfile=xmodem://filename.bin
```

Parameters

bootblock	Designates the area of flash memory reserved for the AT-S85 boot loader files on the media converter modules.
appblock	Designates the area of flash memory reserved for the AT-S85 Management Software on the media converter modules.
ipaddress	Specifies an IP address of a TFTP server.
filename	Specifies a name of a bootloader file or the AT-S85 Management Software to download to the media converter modules using TFTP or XMODEM. Filenames with spaces must be enclosed in double quotes. The filename extensions must be ".BIN" for bootloader files and ".IMG" for the management software.

Privilege Levels

Administrator and read-write.

General Description

If you need to update the bootloader files or the management software image files on all of the media converter modules in a chassis or stack, you can use this command instead of the FILE DOWNLOAD command. One of the advantages of this command is speed, just as its name implies. With this command, all of the media converter modules are updated simultaneously by the management module, rather than sequentially, as with the FILE DOWNLOAD command.

Another advantage of this command is that you can use either TFTP or XMODEM to download the files. In contrast, the FILE DOWNLOAD command supports just TFTP.

There are two command syntaxes for the two types of files you're likely to download to the media converter modules. Syntax 1 is used to download new versions of the AT-S85 Management Software and Syntax 2 is for new versions of the bootloader files.

Obviously, if you're only interested in updating the files on selected media converter modules, you should use the FILE DOWNLOAD command instead, because it lets you specify the modules you want to update.

You cannot use this command to update the files on the management module or to download configuration files to a module. For these functions, use the FILE DOWNLOAD command.

Examples

This command downloads a new version of the AT-S85 Management Software from a TFTP server with the IP address 192.100.10.1 to all of the media converter modules. The name of the file is "ATS85_MCF2000.IMG:"

```
file fastdownload appblock srcfile=tftp://192.100.10.1/
ats85_mcf2000.img
```

This command uses XMODEM to download a new version of the AT-S85 Management Software to the media converter modules. The name of the file is "ATS85.IMG:"

```
file fastdownload appblock srcfile=xmodem:ats85.img
```

This command downloads to all of the media converter modules the new bootloader file "ATS85_BOOTLOADER.BIN" from a TFTP server with the IP address 192.100.10.1:

```
file fastdownload bootblock srcfile=tftp://192.100.10.1/
ats85_bootloader.bin
```

This command downloads the new bootloader file "ATS85_BLDR.BIN" using XMODEM:

```
file fastdownload bootblock srcfile=xmodem://ats85_bldr.bin
```

FILE RENAME

Syntax

```
file rename srcfile=system://chassis/slot/filename
dstfile=system://chassis/slot/filename
```

Parameters

srcfile=system

Specifies the location and name of the master configuration file to rename. This parameter has the following parts:

- chassis — Specifies an ID number of a chassis. The range is 0 or 31.
- slot — Specifies a slot number of a module that has the file you want to rename. Possible values are:
  - m — Identifies the management module slot.
  - 1 or 2 — Specifies a slot number of a media converter module. In the AT-MCF2000 Chassis, the left slot is 1 and the right slot is 2.
- filename — Specifies the name of the file to rename. The filename must include the ".CFG extension. The name is case sensitive and must be enclosed in double quotes if it has spaces. To verify the spelling and case of a file in a modules file system, use the FILE SHOW command. For instructions, refer to "FILE SHOW" on page 191.

dstfile=system

Specifies a new name for the master configuration file. The destination must be the same chassis and slot location as the source. The name can be up to 15 alphanumeric characters, not including the extension. Spaces are allowed, but a name with spaces must be enclosed in double quotes. The filename must be unique in the file system of the module and include the ".CFG" extension. The filename cannot start with the letters "mm" or "bm" because these letters are reserved by the management software.

Privilege Levels

Administrator and read-write.

Description

This command is used to rename the master configuration files on a management module. Observe the following guidelines when using this command:

- If you rename the active master configuration file, the management software recreates it the next time you issue the CONFIG SAVE command. To view the name of the active master configuration file, refer to "CONFIG SHOW" on page 166.
- Although you can use the command to rename auxiliary configuration files (for example, BM.cfg or MM.cfg) in the file systems of the management and media converter modules, Allied Telesis does not recommend it. You should limit the use of this command to renaming the master configuration file.
- A filename cannot start with the letters "MM" or "BM."
- You do not have to perform the CONFIG SAVE command after renaming a file.

For information on configuration files, refer to Chapter 8, "Configuration File Commands" on page 145.

Examples

This command renames the master configuration file "unit12a.cfg" on the management module to "u2 a7.cfg." The chassis ID number is 0:

```
file rename srcfile=system://0/m/unit12a.cfg
dstfile=system://0/m/"u2 a7.cfg"
```

This command renames the master configuration file "mcf 2a.cfg" on the management module to "mcf aba traffic.cfg." The chassis ID number is 0:

```
file rename srcfile=system://0/m/"mcf 2a.cfg"
dstfile=system://0/m/"mcf aba traffic.cfg"
```

> **Note**
> The following examples illustrate how to rename an auxiliary configuration file. This function should never be necessary.

This command renames the media converter configuration file "BM_0_1.cfg" to "BM_0_1 backup.cfg" in the file system on the management module which has a chassis ID number of 0:

```
file rename srcfile=system://0/m/BM_0_1.cfg
dstfile=system://0/m/"BM_0_1 backup.cfg"
```

This command renames the configuration file “BM.cfg” to “BM_2.cfg” in the file system of a media converter module in slot 1 of a chassis with an ID
of 0:

```
file rename srcfile=system://0/1/BM.cfg
dstfile=system://0/1/BM_2.cfg
```

FILE SHOW

Syntax

```
file show filesystem=system://chassis/slot/filename
```

Parameters

system — Specifies the chassis and module with the file system to display. This parameter has the following parts:

- chassis — Specifies the ID number of the chassis with the file. The value of the ID number is 0 or 31.
- slot — Specifies the ID number or letter of the slot with the module. Possible values are:
  - m — Identifies the slot with the AT-MCF2000M Management Module.
  - 1 or 2 — Specifies a slot with a media converter module. In the AT-MCF2000 Chassis, the left slot is 1 and the right slot is 2.
- filename — Specifies the filenames to view. The filename is case sensitive. You can use the asterisk (*) as a wildcard.

To view the ID and slot numbers of the devices in a chassis or stack, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command displays the names of the files in the file system on a management module. An example is shown in Figure 39. You might view the file system to verify the spelling and case of the filename of a master configuration file prior to designating it as the active master configuration file or uploading it to a TFTP server.

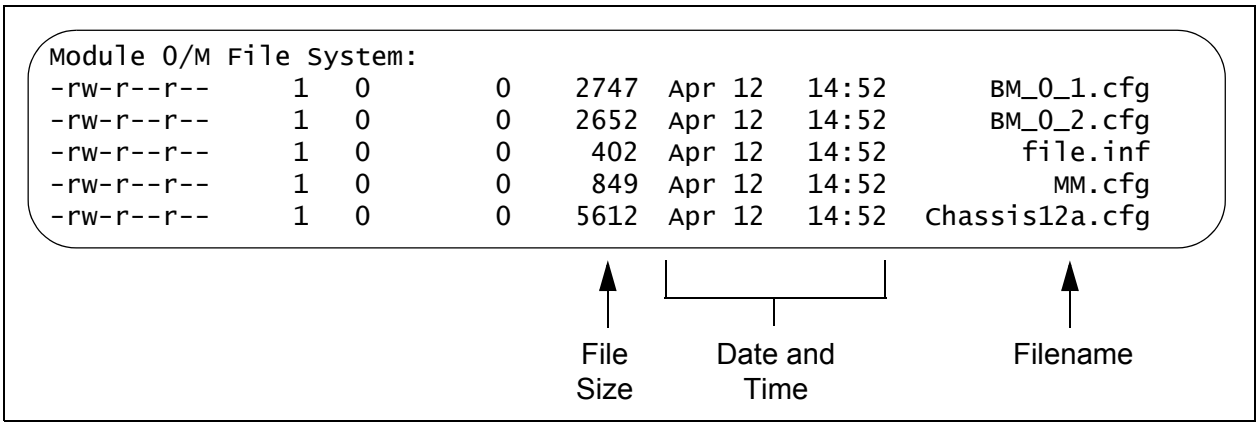


Figure 39. FILE SHOW Command

The first four columns can be ignored. The remaining columns are defined here:

- File size - The size of the file in bytes.
- Date and Time - The date and time when the file was created or last modified.
- Filename - The name of the file.

This command can also display the contents of a file system on a media converter module, but you should never need to do that. For information on configuration files, refer to “Overview” on page 146.

Examples

This command displays all the filenames in the file system on the management module in a chassis with an ID number of 0:

```
file show filesystem=system://0/m/*.*
```

This command displays the names of just the configuration files on a management module in a chassis with an ID number of 0:

```
file show filesystem=system://0/m/*.cfg
```

This command displays the names of the configuration files starting with “Ch” on a management module in chassis with an ID number of 0:

```
file show filesystem=system://0/m/Ch*.cfg
```

This command displays the names of the configuration files on the management module in a chassis with an ID number of 0:

```
file show filesystem=system://0/m/*.cfg
```

Note
The following examples illustrate how to display the files in the file system on a media converter module. This function should never be necessary.

This command displays all the filenames on a media converter module in slot 2 in a chassis with an ID number of 0:

```
file show filesystem=system://0/2/*.*
```

This command displays the filenames of just the configuration files on a media converter module in slot 1 in a chassis with an ID number of 0:

```
file show filesystem=system://0/1/*.cfg
```

FILE UPLOAD

Syntax 1: Uploading a Configuration File to a TFTP Server

```
file upload srcfile=system://chassis/slot/filename.cfg
dstfile=tftp://ipaddress/filename.cfg
```

Syntax 2: Uploading a Configuration File from a Media Converter Module to a Management Module

```
file upload srcfile=system://chassis/slot/filename.cfg
dstfile=system://chassis/m/filename.cfg
```

Parameters

srcfile=system

Specifies the location and the name of the file to upload. This parameter has the following parts:

chassis — Specifies the ID number of the chassis with the file. The value of the ID number is 0 or 31. For background information, refer to “Chassis ID Numbers” on page 25.

slot — Identifies a chassis slot. The possible values are:

- m — Identifies the slot with the AT-MCF2000M Management Module.
- 1 or 2 — Specifies a media converter slot in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
- 1 to 4 — Specifies a media converter slot in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.

filename — Specifies the name of the file to upload. A filename with a space must be enclosed in double quotes. The filename extension must be “.CFG.” The filename is case sensitive.

To view the ID and slot numbers of the devices in a chassis or stack, refer to "SYSTEM SHOW CHASSIS" on page 99 or "SYSTEM SHOW CLUSTER" on page 101. To view the files in a file system, refer to "FILE SHOW" on page 191.

dstfile=tftp Specifies the TFTP server to receive the file. This parameter is used to upload a configuration file from a management or media converter module to a TFTP server. This parameter has the following parts:

- ipaddress — Specifies an IP address of a TFTP server.
- filename.cfg — Specifies a name for the file when stored to the FTP server. Enclose the filename in double quotes if it contains a space. The filename extension must be ".CFG."

dstfile=system

Specifies the module to receive the file when transferring a configuration file between modules in a chassis. This parameter has the following parts:

- chassis — Specifies the ID number of the chassis with the file. The value of the ID number is 0 or 31. For background information, refer to "Chassis ID Numbers" on page 25.
- slot — Identifies the slot with the management module to receive the file. The only accepted value for this parameter is:
  - m — Identifies the management slot with the AT-MCF2000M Management Module.

Privilege Levels

Administrator and read-write.

Description of Syntax 1

This command is used to upload configuration files from a management module or media converter module to an TFTP server. Typically, this command is used to upload a master configuration file from a management module prior to editing it at your workstation or transferring it to another management module in another chassis.

Although this command can also be used to upload a media converter's auxiliary configuration file from the file system of a management module or media converter module, Allied Telesis recommends against this. Editing or transferring auxiliary configuration files serves no purpose since the

settings are overwritten by the master configuration file on the management module after the file is installed on a media converter module. For further information on configuration files, refer to “Overview” on page 146.

Description of Syntax 2

This command syntax is reserved for future versions of the management software.

Examples of Uploading a Configuration File to a TFTP Server

This command uploads the master configuration file “traffic_n2.cfg” from a management module to a TFTP server with the IP address of 150.24.44.65. The chassis has the ID number 0:

```
file upload srcfile=system://0/m/traffic_n2.cfg
dstfile=tftp://150.24.44.65/traffic_n2.cfg
```

This command uploads the master configuration file “mic traf ata.cfg” from the management module of a chassis with an ID number of 0. The IP address of the server is 149.72.23.5 and the name of the file is changed to “mic traf bc.cfg on the TFTP server:

```
file upload srcfile=system://0/m/"mic traf ata.cfg"
dstfile=tftp://149.72.23.5/”mic traf bc.cfg”
```

Note
The following example shows how to upload an auxiliary configuration file from a media converter module. This function should never be necessary.

This command uploads the auxiliary configuration file “BM.cfg” from a media converter module in slot 1 of a chassis with an ID number of 0:

```
file upload srcfile=system://0/1/BM.cfg
dstfile=tftp://150.24.44.65/BM.cfg
```

Chapter 10

Telnet Server Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or “CONFIG SAVE” on page 161.

Overview

The commands in this chapter are used to control the management module's Telnet application protocol server, used for remote management of the chassis from a Telnet client on your network. The commands TELNET ENABLE and TELNET DISABLE are used to enable and disable the server, while the TELNET SHOW command is used to display the current status of the server. The server's default setting is disabled.

To start a remote Telnet management session on the management module, enter the IP address of the management module in the Telnet client at your remote management workstation. For further instructions, refer to "Starting a Remote Telnet or Secure Shell Management Session" on page 20.

The Telnet server uses protocol port 23. You cannot change this value.

Telnet Server Guidelines

Here are the guidelines to managing a chassis remotely with a Telnet client:

- The management module must have an IP configuration. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.
- The 10/100/1000Base-T Management port on the management module must be connected to a network device, such as a Fast Ethernet or Gigabit switch. Remote Telnet management sessions are conducted through this port.
- The remote Telnet client must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- If the management module and remote Telnet client are on different networks, the IP configuration on the management module must include a default gateway that specifies the IP address of the first hop to reaching the workstation. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.
- The management module can support up to 20 Telnet and 20 SSH concurrent remote management sessions.

Command Summary

Table 21 summarizes the Telnet server commands.

Table 21. Telnet Server Commands

Command	Description
TELNET DISABLE on page 200	Deactivates the Telnet application protocol server.

Table 21. Telnet Server Commands (Continued)

Command	Description
TELNET ENABLE on page 201	Activates the Telnet application protocol server.
TELNET SHOW on page 202	Displays the status of the Telnet server.

TELNET DISABLE

Syntax

```
telnet disable
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to disable the Telnet server on the management module. This is the server's default setting. When the server is disabled, you can not manage the unit remotely with a Telnet client. You should leave the server disabled if you will not be managing the unit with a Telnet client, to protect the management module from unauthorized access.

Note
If you disable the server during a remote Telnet management session, the session is automatically logged out. To continue managing the unit, start a local management session on the unit.

Example

```
telnet disable
```

TELNET ENABLE

Syntax

```
telnet enable
```

Parameters

None.

Privilege Levels

Administrator and read-write.

Description

This command is used to activate the Telnet server on the management module for remote Telnet management of the chassis. The default setting for the server is disabled.

> **Note**
> Review "Telnet Server Guidelines" on page 198 for the preconditions for remote Telnet management. For instructions on starting a remote session, refer to "Starting a Remote Telnet or Secure Shell Management Session" on page 20.

Example

```
telnet enable
```

TELNET SHOW

Syntax

```
telnet show
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the status of the Telnet server on the management module. The status of the server can be either Enable or Disable. If the status is Enable, the management module can be managed remotely with a Telnet client on your network. If the status is Disable, the management module cannot be remotely managed. An example is shown in Figure 40.

```
Telnet Status ........ Enable
```

Figure 40. TELNET SHOW Command

Example

```
telnet show
```

Chapter 11

Simple Network Management Protocol (SNMP) Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or “CONFIG SAVE” on page 161.

Overview

The commands in this chapter are used to set the three Get, Set and Trap community strings for Simple Network Management Protocol (SNMP). These strings can be used to manage the media converter with an SNMPv1 or SNMPv2c application and for trap verification.

The commands here are also used to set the IP addresses of up to four trap receivers. Traps are signals sent to management workstations by the unit to indicate the occurrences of specific operating events on the device, and are commonly used to monitor the activities of the unit.

SNMP Guidelines

Here are the guidelines for remote SNMPv1 and SNMPv2c management:

- The management module must have an IP configuration. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.
- The 10/100/1000Base-T Management port on the management module must be connected to a network device, such as a Fast Ethernet or Gigabit switch. Remote SNMP management sessions are conducted through that port.
- The remote workstation with the SNMP program must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- If the management module and remote workstation are on different networks, the IP configuration on the management module must include a default gateway that specifies the IP address of the first hop to reaching the workstation. For instructions, refer to Chapter 3, “IP Configuration Commands” on page 47.
- You must load the Allied Telesis private MIBs into your SNMP program on your workstation. The MIBs are available from the Allied Telesis web site at www.alliedtelesis.com.

Trap Events

Activities that generate SNMP traps are listed below:

- Module has been installed or removed
- Port link status is offline or online
- Port link status is RX (receive) SML or TX (transmit) SML
- Port operational mode is changed to Missing Link or SML
- Port operational mode is changed to OAM Bypass, OAM visible, or link test
- TFTP session is opened or closed
- XMODEM session is opened or closed
- Telnet session is opened or closed

- Telnet server is enabled or disabled
- SSH session is opened or closed
- SSH session is enabled or disabled
- Warm or cold boot of a media converter module
- Management stacking port is up or down
- A module was acquired by or released by the chassis management
- Login authentication failure
- Fan A failure or recovery on either power module or AT-MCF2KFAN fan
- Fan B failure or recovery on either power module or AT-MCF2KFAN fan
- Power failure or recovery on a power module
- Chassis has been reset
- Module has been reset
- Low battery or recovery from low battery
- Management module has overwritten media converter module configuration
- Media converter module has overwritten management module configuration

Trap receivers are the devices, typically management workstations or servers, that you want to receive the traps sent by the unit. You specify the trap receivers by their IP addresses.

Command Summary

Table 22 summarizes the SNMP commands.

Table 22. SNMP Commands

Command	Description
"SNMP SET" on page 206	Sets the SNMPv1 and SNMPv2c community strings and the IP addresses of the trap receivers.
SNMP SHOW on page 208	Displays the SNMPv1 and SNMPv2c community strings and the IP addresses of the trap receivers.

SNMP SET

Syntax

```
snmp set mgrip1=ipaddress mgrip2=ipaddress mgrip3=ipaddress
mgrip4=ipaddress Get-community=string Set-community=string
Trap-community=string
```

Parameters

mgrip1 - mrip4	Sets the IP addresses of up to four trap receivers. The IP addresses have to be entered in the following format: xxx.xxx.xxx.xxx To replace a current value without entering a new value, enter the default value, 0.0.0.0. This parameter is optional.
Get-community	Sets the get community string. The string can be up to 14 alphanumeric characters. The string is case sensitive and can contain special characters, including spaces. However, a community string with spaces must be enclosed in double quotes (“ “). The default value is “public.”
Set-community	Sets the set community string. The string can be up to 14 alphanumeric characters. The string is case sensitive and can contain special characters, including spaces. However, a community string with spaces must be enclosed in double quotes (“ “). The default value is “private.”
Trap-community	Sets the trap community string. The string can be up to 14 alphanumeric characters. The string is case sensitive and can contain special characters, including spaces. However, a community string with spaces must be enclosed in double quotes (“ “). The default value is “public.”

Privilege Levels

Administrator and read-write

Description

This command is used to set the SNMPv1 and SNMPv2c community strings and to specify the IP addresses of up to four trap receivers.

Examples

This command changes the set community string to "snmpsecret1."

```
snmp set set-community=snmpsecret1
```

This command changes the get and trap community strings to "mod1get" and "mod1trap," respectively:

```
snmp set get-community=mod1get trap-community=mod1trap
```

This command designates as trap receivers the IP addresses 168.12.1.1 and 168.12.1.12, assigning them to MGRIP1 and MGRIP2:

```
snmp set mgrip1=168.12.1.1 mgrip2=168.12.1.12
```

This command removes an IP address of a trap receiver from MGRIP4 without assigning a new value:

```
snmp set mgrip4=0.0.0.0
```

SNMP SHOW

Syntax

```
snmp show
```

Parameters

None.

Privilege Levels

Administrator, read-write and read-only

Description

This command is used to display the SNMPv1 and v2c community strings and the IP addresses of the trap receivers. An example is shown in Figure 41.

```
SNMP Information:
        Get Community..............public
        Set Community..............private
        TrapCommunity..............public

        Manager 1 IP address........0.0.0.0
        Manager 2 IP address........0.0.0.0
        Manager 3 IP address........0.0.0.0
        Manager 4 IP address........0.0.0.0
```

Figure 41. SNMP SHOW Command

Example

```
snmp show
```

Chapter 12

Secure Shell Server (SSH) Commands

This chapter describes the Secure Shell Server (SSH) feature and commands. This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or “CONFIG SAVE” on page 161.

Overview

The AT-S97 Management Software has a Secure Shell (SSH) application protocol server for remote management of the chassis with an SSH client. Compared to remote Telnet management, this form of management is more secure because it uses encryption during the management sessions. During a remote Telnet management session, the payloads in the packets exchanged between the management workstation and the management module are sent in clear text, including the login user name and password. This can leave the management module open to unauthorized access if someone captures the management packets during a remote Telnet management session. But with SSH, the payloads in the packets are encrypted.

The SSH server uses protocol port 22. You cannot change this value.

The server supports SSH protocols 1 and 2. Supported Protocol 1 ciphers include:

- Blowfish
- Triple Data Encryption Standard (3DES)

Supported Protocol 2 ciphers include:

- Blowfish
- Triple Data Encryption Standard (3DES)
- ARCFOUR
- 128, 192, and 256-bit Advanced Encryption Standard (AES)

The two commands SSH ENABLE and SSH DISABLE enable and disable the SSH server in the management software. The default setting for the SSH server on the management module is disabled.

To start a remote SSH management session with the management module, enter the IP address of the management module in the SSH client at your remote management workstation. For further instructions, refer to “Starting a Remote Telnet or Secure Shell Management Session” on page 20.

SSH Server Guidelines

Here are the guidelines for managing a chassis remotely with an SSH client:

- The 10/100/1000Base-T Management port on the management module must be connected to a network device, such as a Fast Ethernet or Gigabit Ethernet switch. Remote SSH management sessions are conducted through this port.

- The management module must have an IP configuration. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.
- The remote SSH management workstation must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- If the management module and the remote SSH management workstation are on different networks, the IP configuration on the module must include a default gateway address specifying the IP address of the routing interface of the first hop to reaching the workstation. For instructions, refer to Chapter 3, "IP Configuration Commands" on page 47.
- The management module can support up to 20 Telnet and 20 SSH concurrent management sessions.

Command Summary

Table 23 summarizes the SSH server commands.

Table 23. Secure Shell Server Commands

Command	Description
SSH DISABLE on page 212	Deactivates the SSH application protocol server.
SSH ENABLE on page 213	Activates the SSH application protocol server.
SSH SHOW on page 214	Displays the current settings of the SSH server.

SSH DISABLE

Syntax

```
ssh disable
```

Parameters

None.

Privilege Levels

Administrator and read-write

Description

This command is used to disable the SSH server on the management module. This is the default setting for the server. When the server is disabled, you can not manage the unit remotely from an SSH client. You should leave the server disabled if you will not be managing the unit with an SSH client, to protect the management module from unauthorized access.

Note
If you disable the server during a remote SSH management session, the session is automatically logged out. To continue managing the unit, start a local management session on the unit or a remote Telnet session.

Example

```
ssh disable
```

SSH ENABLE

Syntax

```
ssh enable
```

Parameters

None.

Privilege Levels

Administrator and read-write

Description

This command is used to activate the SSH server on the management module for remote management with the SSH application protocol. The default setting for the SSH server is disabled.

Note
Refer to "SSH Server Guidelines" on page 210 for the requirements of remote SSH management. For instructions on how to start a management session, refer to "Starting a Remote Telnet or Secure Shell Management Session" on page 20.

Example

```
ssh enable
```

SSH SHOW

Syntax

```
ssh show
```

Parameters

None.

Privilege Levels

Administrator, read-write and read-only

Description

This command is used to display the current status of the SSH server on the management module. An example is shown in Figure 42. The status of the server can be either Enable or Disable. If the status is Enable, the management module can be managed remotely with an SSH client on your network. If the status is Disable, the management module can not be remotely managed.

```
SSH Status ........ Enable
```

Figure 42. SSH SHOW Command

Example

```
ssh show
```

Chapter 13

Manager Account Commands

This chapter contains the following sections:

Note
Remember to save your parameter changes in the active master configuration file with the CONFIG SAVE command. For information, refer to “Saving Your Configuration Changes” on page 23 or “CONFIG SAVE” on page 161.

Overview

The AT-S97 Management Software has one predefined manager account with a privilege level of administrator. This account, with its login name of “manager” and default password of “friend,” provides a network manager with complete access to all of the commands.

The management module can support additional manager accounts, a useful feature when more than one administrator manages a device. Rather than having to share a login account, each administrator can be given a separate account. The additional manager accounts can have a privilege level of read, which allows a manager to view but not change the settings, or read-write, which is nearly equivalent to the administrator privilege level in the predefined account. The differences between the predefined manager account and a privilege level of read-write are that only the former can add, delete, and modify additional manager accounts, clear the messages in the event log, and return the chassis to the default settings.

Accounts are created with the USER ADD command, deleted and modified with the USER DELETE and USER SET commands, and displayed with the USER SHOW command.

Manager Account Guidelines

Here are the guidelines for adding manager accounts to the AT-MCF2000M Management Module:

- The AT-MCF2000M Management Module supports up to ten read accounts and ten read-write accounts in addition to the predefined manager account.
- Only the predefined manager account can have the privilege level of administrator.
- Only the predefined manager account with its privilege level of administrator can add, delete, and modify user accounts, clear the messages in the event log, and return the chassis to the default settings.
- The manager accounts are self-contained on the management module and do not use the RADIUS or TACACS+ authentication protocol.

Command Summary

Table 24 summarizes the manager account commands.

Table 24. Manager Account Commands

Command	Description
USER ADD on page 218	Adds a new manager account.
USER DELETE on page 220	Deletes a manager account.

Table 24. Manager Account Commands (Continued)

Command	Description
USER SET on page 221	Modifies the password and privilege level of a manager account.
USER SHOW on page 223	Displays the current manager accounts.

USER ADD

Syntax

```
user add username=name privilege=read|readwrite
```

Parameters

username — Specifies a name between 1 and 16 alphanumeric characters in length. The name is case sensitive. Special characters are permitted with the exception of the question mark (?) and quotation marks (“). However, to specify spaces in a user name, you must enclose the name in quotation marks.

privilege — Specifies the privilege level of the account. Options are:

- read — Allows the account user to view but not change the parameter settings of the modules.
- readwrite — Allows the account user to view and change the parameter settings of the modules.

Privilege Level

Administrator

Description

This command is used to create new manager accounts on the management module. For background information, refer to “Overview” on page 216.

After you enter the command, you are prompted for the password for the new account. A password can be from 1 to 16 alphanumeric characters and is case sensitive. Spaces and special characters in a password are not recommended. The management software prompts twice for the password for verification. The password is stored in the active master configuration file using MD5 encryption.

Examples

This command creates the new manager account “Smith” with the privilege level of read-write. Prompts for the password for the new account are displayed after the command is entered:

```
user add username=Smith privilege=readwrite
```

This command creates the new manager account “Eric Jones” with the privilege level of read:

```
user add username="Eric Jones" privilege=read
```

This command creates the new manager account “** Marker” with the privilege level of read-write:

```
user add username="** Marker" privilege=readwrite
```

USER DELETE

Syntax

```
user delete username=name
```

Parameters

username	Specifies the name of the manager account to be deleted from the management module. Usernames are case sensitive. Names with spaces must be enclosed in quotation marks.

Privilege Levels

Administrator

Description

This command is used to delete manager accounts from the management module. To view the manager accounts, use the USER SHOW command. You cannot delete the predefined manager account.

Examples

This command deletes the manager account “Smith:”

```
user delete username=Smith
```

This command deletes the manager account “John Smith:”

```
user delete username="John Smith"
```

USER SET

Syntax

```
user set username=name password privilege=read|readwrite
```

Parameters

username — Specifies the name of the manager account to be modified. Usernames are case sensitive. Names with spaces must be enclosed in quotation marks.

password — Changes the password of the account. A prompt for the new password is displayed after the command is entered. A password can be up to 16 alphanumeric characters and is case sensitive. Special characters, including spaces, question marks, and quotation marks, are permitted.

privilege — Specifies the new privilege level for the manager account. Options are:

- read — Allows the account user to view but not change the parameter settings of the modules.
- readwrite — Allows the account user to view and change the parameter settings of the modules.

Privilege Levels

Administrator

Description

This command is used to modify the passwords or privilege levels of the manager accounts. To view the manager accounts, use the USER SHOW command. You can change the password but not the privilege level of the predefined manager account.

Examples

This command changes the password of the predefined manager account:

```
user set username=manager password
```

This command changes the privilege level of the manager account "Smith" to read-write:

```
user set username=Smith priviledge=readwrite
```

This command changes the password and privilege level of the “Tom Adams” account:

```
user set username="Tom Adams" password priviledge=read
```

This command changes the password of the “Owen” account:

```
user set username=Owen password
```

USER SHOW

Syntax

```
user show
```

Parameters

None.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the manager accounts on the AT-MCF2000M Management Module. An example of the information is shown in Figure 43. The first entry in the table, "manager," is the predefined manager account. For background information, refer to "Overview" on page 216.

```
Username        Privilege
-------------------------
manager         administrator
Smith           read/write
Adams           read/write
Tim Johnson     read
Rob Johnson     read
```

Figure 43. USER SHOW Command

Example

```
user show
```

Chapter 14

Diagnostics Commands

This chapter contains the following sections:

Overview

The diagnostics commands are used to display manufacturing information which you may be asked to provide if you contact Allied Telesis Technical Support for assistance. They do not test any of the components on the modules in a chassis.

Command Summary

Table 25 summarizes the diagnostics commands.

Table 25. Diagnostics Commands

Command	Description
“DIAGNOSTICS SHOW BOOTLOADER” on page 227	Displays the version number of the software bootloader.
DIAGNOSTICS SHOW CHASSIS on page 230	Displays manufacturing information about a module.
“DIAGNOSTICS SHOW MODULE” on page 232	Displays manufacturing and operating information about a module.
“DIAGNOSTICS SHOW SOFTWARE” on page 235	Displays the version number of the software.

DIAGNOSTICS SHOW BOOTLOADER

Syntax

```
diagnostics show bootloader
```

Parameters

none

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display the version numbers of the bootloaders on the management modules and the media converter modules. You may need to provide this information if you contact Allied Telesis Technical Support for assistance,. Figure 45 is an example of the DIAGNOSTIC SHOW BOOTLOADER command.

```
Chassis        Chassis     Chassis                  MAC     Master
  ID             Name        Type                 Address    Chassis
=========================================================================
  0                      AT-MCF2000    11:22:33:44:55:55       Yes

      Slot ID     Module Name    Module Type      Bootloader Version
      ---------------------------------------------------------------
      M                          AT-MCF2000M              v3.0.0
      1           Reg 1 traf     AT-MCF2012LC             v3.0.0
      2           Reg 2 traf     AT-MCF2012LC/1           v3.0.0
=========================================================================
  1         ACT Traffic               11:22:33:44:22:22       No

                                AT-MCF2300
      Slot ID     Module Name    Module Type      Bootloader Version
      ---------------------------------------------------------------
      1           Reg 7 traf     AT-MCF2012LC             v3.0.0
      2           Reg 8 traf     AT-MCF2012LC             v3.0.0
      3           Reg 9 traf     AT-MCF2012LC             v3.0.0
      4           Reg 10 traf    AT-MCF2012LC             v3.0.0

=========================================================================
  2         UJ Traffic                11:22:33:44:66:77       No

                                AT-MCF2000
      Slot ID     Module Name    Module Type     Bootloader Version
      ---------------------------------------------------------------
      1           District 1     AT-MCF2012LC             v3.0.0
      2           District 2     AT-MCF2012LC             v3.0.0
```

Figure 44. DIAGNOSTICS SHOW BOOTLOADER Command

The fields are defined here:

Table 26. DIAGNOSTICS SHOW BOOTLOADER Command

Parameter	Description
Chassis ID	Displays the ID number of a chassis. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
Chassis Name	Displays the name of a chassis. To set the chassis name, refer to “SYSTEM SET CHASSIS” on page 59.
Chassis Type	Displays the model name of a chassis.
MAC Address	Displays the MAC address of a chassis. When communicating with a network, the AT-MCF2000M Management Module uses this address as its own address.

Table 26. DIAGNOSTICS SHOW BOOTLOADER Command

Parameter	Description
Master Chassis	Indicates whether the chassis contains the AT-MCF2000M Management Module or the AT-MCF2000S Stacking Module. A chassis with the management card will have a status of Yes, and a unit with the stacking module will have a status of No.
Slot ID	Lists the slots in the chassis. Slots that are empty are not included in the window. The slots are: ❒ M: Indicates the management slot and the AT-MCF2000M Management Module. ❒ *number*: Indicates a slot for a media converter module number (for example, 1, 2, etc.). This command does not display the AT-MCF2000S Stacking Module.
Module Name	Displays a module's name. To assign a name, refer to "SYSTEM SET MODULE" on page 89.
Module Type	Displays the model names of the modules.
Bootloader Version	Displays the version numbers of the bootloader files on the modules.

Example

```
diagnostics show bootloader
```

DIAGNOSTICS SHOW CHASSIS

Syntax

```
diagnostics show chassis id=chassis eeprom
```

Parameters

id — Identifies the ID number of a chassis. You can specify only one chassis at a time. The range is 0 to 31. To view a unit's ID number, see "SYSTEM SHOW CLUSTER" on page 101. For background information, refer to "Chassis ID Numbers" on page 25.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display hardware information about the modules in a chassis. You may need to provide this information if you contact Allied Telesis Technical Support for assistance.

```
Slot    Module         Module             Serial   HW                MAC
ID        Name           Type             Number  Rev             Address
-------------------------------------------------------------------------
C                   AT-MCF2000  A03678L072000004    A  00:15:77:70:7A:2A
M                  AT-MCF2000M                5A    A  00:15:77:70:7A:2B
1   Reg 1 Traf   AT-MCF2012LC                20    A  00:15:77:70:7A:2C
2   Reg 2 Traf   AT-MCF2012LC                14    A  00:15:77:70:7A:2D
A                  AT-MCF2KFAN                 8    A
B                 AT-MCF2000AC                68    A
```

Figure 45. DIAGNOSTICS SHOW CHASSIS EEPROM Command

The columns are defined here:

Table 27. DIAGNOSTICS SHOW CHASSIS EEPROM Command

Column	Description
Slot ID	Lists the slots in the chassis. Empty slots and the AT-MCF2000S Stacking Module are not included. The slots are: ❒ C: Indicates the chassis. ❒ M: Indicates the management slot containing the AT-MCF2000M Management Module. ❒ *number*: Indicates a slot for a media converter module number (for example, 1, 2, etc.).
Module Name	Displays a module's name. To assign a name to a module, refer to "SYSTEM SET MODULE" on page 89.
Module Type	Displays the model names of the modules.
Serial Number	Displays the serial numbers of the modules.
HW Rev	Displays the hardware revision levels of the components.
MAC Addresses	Displays the MAC addresses of the chassis, the management module, and the media converter modules. Only the MAC address that belongs to the chassis is actually assigned at the factory. The management module and the media converter modules derive their MAC addresses from the chassis' MAC address and their slot assignments. (Each module is actually assigned two MAC addresses, one displayed and one hidden.) When the management module communicates with a network through its 10/100/1000Base-T port, it always uses the chassis' address. So if you want a DHCP or BOOTP server to assign the module a static IP address, enter the chassis' address on the server.

Examples

This command displays the serial numbers, hardware version numbers, and MAC addresses of the modules in a chassis with the ID 0:

```
diagnostics show chassis id=0 eeprom
```

DIAGNOSTICS SHOW MODULE

Syntax

```
diagnostics show module id=chassis/slot
```

Parameters

id — Specifies a module. You can view only one module at a time. The ID consists of the following parts:

- chassis — Identifies an ID number of a chassis. The range is 0 to 31. The ID number of a chassis with a management module is either 0 or 31. The range of the ID number for a chassis with a stacking module is 1 to 30. For background information, refer to “Chassis ID Numbers” on page 25.
- slot — Specifies a letter or an ID number of a slot with a module you want to reset. Slot numbers are explained in “Slot Numbers and Letters” on page 26. The possible values are:
  - 1 or 2 — Specifies a slot number of a media converter module in the AT-MCF2000 Chassis. The left slot is 1 and the right slot is 2.
  - 1 to 4 — Specifies a slot number of a media converter module in the AT-MCF2300 Chassis. The slots are number 1 (left) and 2 (right) in the top row, and 3 (left) and 4 (right) in the bottom row.
  - m — Identifies the management slot with the AT-MCF2000M Management Module.

To view the ID and slot numbers of a chassis, refer to “SYSTEM SHOW CHASSIS” on page 99 or “SYSTEM SHOW CLUSTER” on page 101.

Privilege Levels

Administrator, read-write, and read-only.

Description

This command is used to display manufacturing and operational information about the modules in a chassis. You might need to provide this information in the event you contact Allied Telesis Technical Support for assistance. Figure 46 on page 233 is an example of the information.

```
Eeprom Information
     Name ......................
     Model ..................... AT-MCF2012LC
     MAC ....................... 00:15:77:70:7A:22
     SN ........................ 14
     HW Rev .................... 1
CPU Software Information:
     Software Version .......... v2.0.0
     CPU Information:
     Name ......................
     Module Type ............... AT-MCF2012LC
     Module Status ............. Active
     Module Present ............ Present
     1.2V ...................... Good = 1.198
     1.8V ...................... Good = 1.804V
     2.5V ...................... Good = 2.509
     3.3V ...................... Good = 3.302V
     12.0V ..................... Good = 12.6224
     Temperature ............... 38.15 C
     Temperature Threshold ..... 60 C
```

Figure 46. DIAGNOSTICS SHOW MODULE Command

The fields in the display are defined here:

Table 28. DIAGNOSTICS SHOW CHASSIS EEPROM Command

Parameter	Description
Name	Displays a module's name. To assign a name to a module, refer to "SYSTEM SET MODULE" on page 89.
Model	Displays the model name of a module.
MAC Addresses	Displays the MAC address of a module. The management module and the media converter modules derive their MAC addresses from the chassis' MAC address and their slot assignments. (Each module is actually assigned two MAC addresses, one displayed and one hidden.) The MAC address of the management module is always the MAC address of the chassis plus 1. For example, if the chassis' MAC address is 00:15:88:95:FC:A4, the management module will assign itself the address 00:15:88:95:FC:A5.

Table 28. DIAGNOSTICS SHOW CHASSIS EEPROM Command

Parameter	Description
SN	Displays the serial number of a module.
HW Rev	Displays the hardware revision levels of the component.
Software Version	The version number of the AT-S85 or AT-S97 Management Software.
Voltages	Displays the module's input voltages.
Temperature	Displays the current temperature of the module.
Temperature Threshold	Displays the temperature threshold of a module. The management module logs an event in the event log if the threshold is exceeded, to warn of possible excessive temperature in the wiring closet or chassis. Refer to "SYSTEM SET MODULE" on page 89 for instructions on setting a module's temperature threshold.

Examples

This command displays information about the management module in a chassis with the ID 0:

```
diagnostics show module id=0/m
```

This command displays information about the media converter module in slot 2 of a chassis with the ID 1:

```
diagnostics show module id=1/2
```

DIAGNOSTICS SHOW SOFTWARE

Syntax

```
diagnostics show software
```

Parameters

none

Privilege Levels

Administrator, read-write, and read-only.

Description

This command displays the version number of the AT-S85 and AT-S97 software. If you contact Allied Telesis Technical Support for assistance, you need to provide this information. Figure 45 is an example of the DIAGNOSTIC SHOW SOFTWARE command.

```
Chassis        Chassis     Chassis                  MAC     Master
  ID             Name        Type                 Address    Chassis
=============================================================================
  0                      AT-MCF2000    11:22:33:44:55:55       Yes

      Slot ID     Module Name    Module Type      Software Version
      ---------------------------------------------------------------
      M                          AT-MCF2000M              v3.0.0
      1           Reg 1 traf     AT-MCF2012LC             v3.0.0
      2           Reg 2 traf     AT-MCF2012LC/1           v3.0.0
=============================================================================
  1         ACT Traffic               11:22:33:44:22:22       No

                                AT-MCF2300
      Slot ID     Module Name    Module Type      Software Version
      ---------------------------------------------------------------
      1           Reg 7 traf     AT-MCF2012LC             v3.0.0
      2           Reg 8 traf     AT-MCF2012LC             v3.0.0
      3           Reg 9 traf     AT-MCF2012LC             v3.0.0
      4           Reg 10 traf    AT-MCF2012LC             v3.0.0

=============================================================================
  2         UJ Traffic                11:22:33:44:66:77       No

                                AT-MCF2000
      Slot ID     Module Name    Module Type    Software Version
      ---------------------------------------------------------------
      1           District 1     AT-MCF2012LC             v3.0.0
      2           District 2     AT-MCF2012LC             v3.0.0
```

Figure 47. DIAGNOSTICS SHOW BOOTLOADER Command

The fields are defined here:

Table 29. DIAGNOSTICS SHOW BOOTLOADER Command

Parameter	Description
Chassis ID	Displays the ID number of the chassis. The range is 0 to 31. For background information, refer to “Chassis ID Numbers” on page 25.
Chassis Name	Displays the name of the chassis. To set the chassis name, refer to “SYSTEM SET CHASSIS” on page 59.
Chassis Type	Displays the model name of the chassis.
MAC Address	Displays the MAC address of the chassis.

Table 29. DIAGNOSTICS SHOW BOOTLOADER Command

Parameter	Description
Master Chassis	Indicates whether the chassis contains the AT-MCF2000M Management Module or the AT-MCF2000S Stacking Module. A chassis with the management card will have a status of Yes, and a unit with the stacking module will have a status of No.
Slot ID	Lists the slots in the chassis. Slots that are empty are not included. The slots are: ❒ M: Indicates the management slot containing the AT-MCF2000M Management Module. ❒ *number*: Indicates a slot for a media converter module number (for example, 1, 2, etc.). Empty slots are not included in the tables. This command does not display the AT-MCF2000S Stacking Module.
Module Name	Displays a module's name. To assign a name, refer to "SYSTEM SET MODULE" on page 89.
Module Type	Displays the model names of the modules.
Software Version	Displays the version numbers of the AT-S85 and AT-S97 Software on the modules.

Example

```
diagnostics show software
```

Appendix A

AT-S85 and AT-S97 Management Software Default Settings

This appendix lists the factory default settings for the features in the AT-S85 and AT-S97 Management Software. The sections are:

AT-S85 Management Software

The following table lists the default settings for the AT-S85 Management Software and the AT-MCF2012LC, AT-MCF2012LC/1 and AT-MCF2032SP Media Converter Modules.

Table 1. Default Settings for the AT-S85 Management Software

Parameter	Default Setting
Auto-Negotiation	Enabled
Channel Name	None
Egress Rate Limiting	None
Ingress Rate Limiting	None
Module Name	None
Operating Mode	Link Test
Port Status	Enabled
Temperature Threshold	60° C (140° F)

AT-S97 Management Software

The following table lists the default settings for the AT-S97 Management Software and the AT-MCF2000M Management Module.

Table 2. Default Settings for the AT-S97 Management Software

Parameter	Default Setting
Event Log	
Status	Enabled
Severity Level	Event
IP Address	
IP Address	10.0.0.1
Subnet Mask	255.255.252.0
Default Gateway	0.0.0.0
Manager Account[1]	
Manager Login Name	manager
Manager Password	friend
Console Timer	10 minutes
Master Configuration File	
Default Master Configuration File	none
Overwrite	Enabled
Network Time Protocol Client	
Client Status	Disabled
NTP Server IP Address	0.0.0.0
Universal Time Coordinated (UTC) Offset	0 hours
RS-232 Terminal Port	
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None
Baud Rate[2]	115200 bps

Table 2. Default Settings for the AT-S97 Management Software

Parameter	Default Setting
Secure Shell Server	
SSH Server	Disabled
Protocol Port Number[3]	22
Simple Network Management Protocol	
get community	public
set community	private
trap community	public
Manager 1 IP address	0.0.0.0
Manager 2 IP address	0.0.0.0
Manager 3 IP address	0.0.0.0
Manager 4 IP address	0.0.0.0
Syslog Client	
Syslog Server IP Address	0.0.0.0
Facility Code	0
Severity Level	Event
Telnet Server	
Telnet Server	Disabled
Protocol Port Number[4]	23

1. Login names and passwords are case sensitive.
2. The baud rate is the only adjustable parameter on the port.
3. The protocol port number is not adjustable.
4. The protocol port number is not adjustable.

Index

D