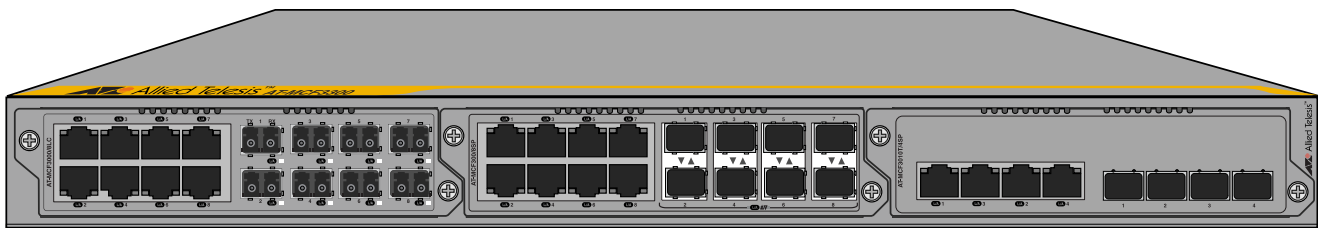


# MCF3000 Series

## Multi-channel Media Converters

- ❑ MCF3300 Chassis
- ❑ MCF3000/8LC Media Converter
- ❑ MCF3000/8SP Media Converter
- ❑ MCF3010T/4SP Media Converter
- ❑ MCF3000M Management Module
- ❑ MCF3300AC Power Supply
- ❑ MCF3300DC Power Supply



# Web Browser Interface User Guide

Version 1.0

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# Preface

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This guide describes the on-board web browser management interface on the MCF3000M management module for the MCF3000 series of multi-channel media converters. The guide contains instructions on how to configure the parameter settings of the media converter and management modules, view traffic statistics, upload new firmware, and more. This preface contains the following sections:

- “Document Conventions” on page 14
- “Contacting Allied Telesis” on page 15

## 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.

---



---

**Warning**

Laser warnings inform you that an eye or skin hazard exists due to the presence of a Class 1 laser device.

---

## Contacting Allied Telesis

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- ❑ Licensing - Register and obtain your License key to activate your product.
- ❑ Product Documents - View the most recent installation guides, user guides, software release notes, white papers and data sheets for your product.
- ❑ Warranty - View a list of products to see if Allied Telesis warranty applies to the product you purchased and register your warranty.
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# Chapter 1

# Overview

---

This chapter contains a hardware overview of the MCF3000 series of multi-channel media converters. For further information, refer to the *MCF3000 Media Converter Installation Guide*. The sections in this chapter are listed here:

- ❑ “Introduction” on page 18
- ❑ “MCF3300 Chassis” on page 20
- ❑ “Media Converter Modules” on page 21
- ❑ “Media Converter Channels” on page 23
- ❑ “MCF3000/8LC and MCF3000/8SP Media Converter Modules” on page 25
- ❑ “MCF3010T/4SP Media Converter Module” on page 27
- ❑ “MissingLink Mode” on page 29
- ❑ “MCF3000M Management Module” on page 31
- ❑ “Power Supplies” on page 32

## Introduction

---

The MCF3000 product family of multi-channel media converters provides a simple and reliable way to consolidate large numbers of geographically separated Fast Ethernet, Gigabit Ethernet, or 10 Gigabit Ethernet networks into a central location with fiber optic cables. The media converter modules feature up to eight channels that function as independent media converters for transferring network traffic between copper and fiber optic cables. Designed for managed or unmanaged network environments, the modules operate with low latency to minimize the impact on network performance along with cyclic redundancy check (CRC) detection to prevent the propagation of incomplete or fragmented packets on your network. The chassis is a standard 1U height and can be installed on a table or in a standard 19-inch equipment rack.

The optional MCF3000M Module adds management capability to the media converter modules. It has both command line and web browser management interfaces for configuring the operating parameters of the modules, media converter channels, and individual ports. Management functions include displaying status information and traffic statistics, and enabling or disabling media converter modules or ports. Management is supported directly through the CONSOLE port, which does not require an IP address, as well as remotely over your network from your management workstations, with the following tools:

- ❑ Telnet protocol (command line interface)
- ❑ Secure Shell (SSH) protocol (command line interface)
- ❑ Web browser (web browser interface)

The chassis can be powered with one or two AC or DC power supplies. Having two power supplies protects against network disruptions from power supply failures. The chassis also supports hot-swapping so that you can install or replace power supplies or media converter modules without powering off the unit.

The components of the product are listed in Table 1 on page 19.

Table 1. MCF3000 Product Family

Component	Description
MCF3300	Chassis with three slots for media converter modules, two slots for AC or DC power supplies, and one slot for the MCF3000M management module.
MCF3000/8LC	Media converter module with eight channels. Each channel has one 10/100/1000Mbps copper port and one 1000Mbps fiber optic port with a duplex LC connector. The fiber optic ports have a maximum operating distance of 500 meters (1640 ft.) with 50/125 $\mu$ m multimode cable or 220 meters (722 ft.) with 62.5/125 $\mu$ m cable.
MCF3000/8SP	Media converter module with eight channels. Each channel has one 10/100/1000Mbps copper port and one port for a 100Mbps or 1000Mbps SFP transceiver.
MCF3010T/4SP	Media converter module with four channels. Each channel has one 10/100M/1G/10Gbps copper port and one port for a 1000Mbps SFP or 10Gbps SFP+ transceiver.
MCF3000M	<p>Optional management module for local or remote management of the chassis. The module has the following ports:</p> <ul style="list-style-type: none"> <li>- One micro-USB CONSOLE port for local management with the command line interface.</li> <li>- One 10M/100M/1000Mbps MGMT port for remote management over your network with the web browser or command line interface.</li> <li>- One USB host port for storing or transferring firmware files on USB storage devices.</li> <li>- One STACK port reserved for future use.</li> </ul>
MCF3300AC	AC power supply for the chassis.
MCF3300DC	DC power supply for the chassis.

# MCF3300 Chassis

The front and rear panels of the MCF3300 Chassis are shown in Figure 1.

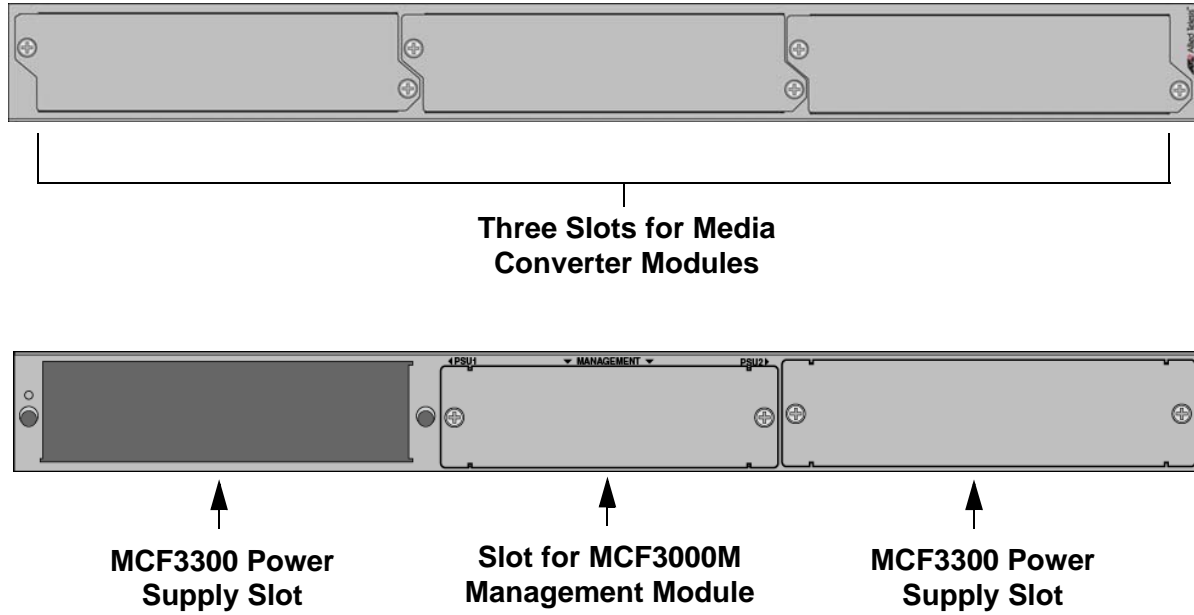
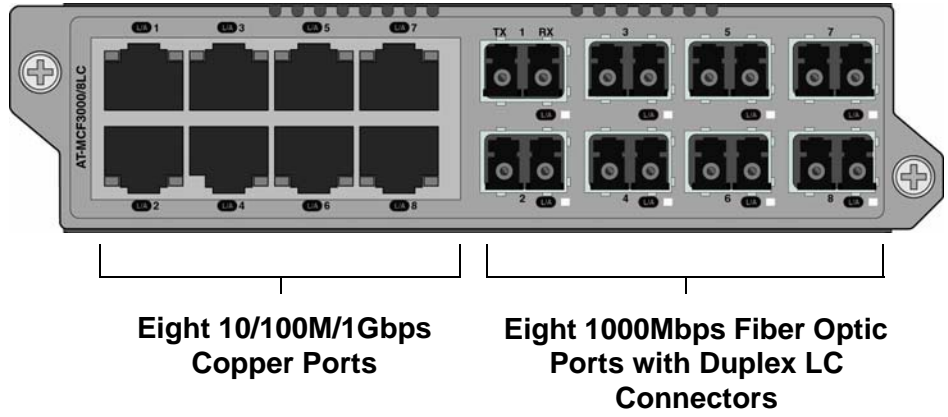


Figure 1. Front and Rear Panels of the MCF3300 Chassis

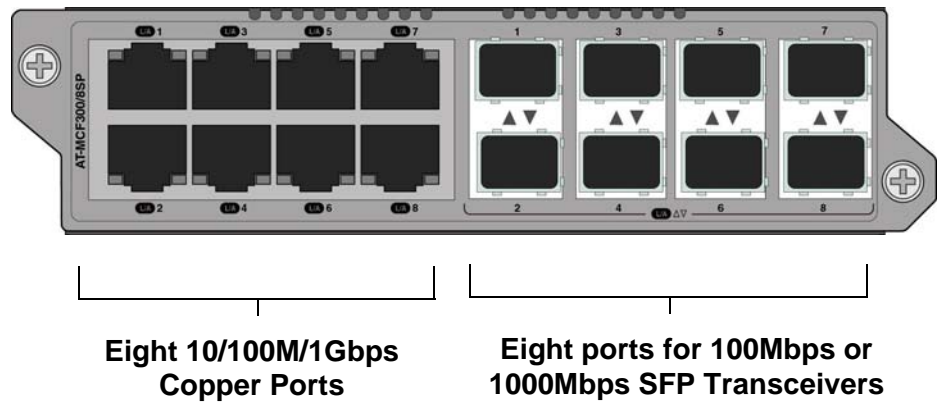
## Media Converter Modules

The media converter modules are shown in Figure 2.

### MCF3000/8LC



### MCF3000/8SP



### MCF3010T/4SP

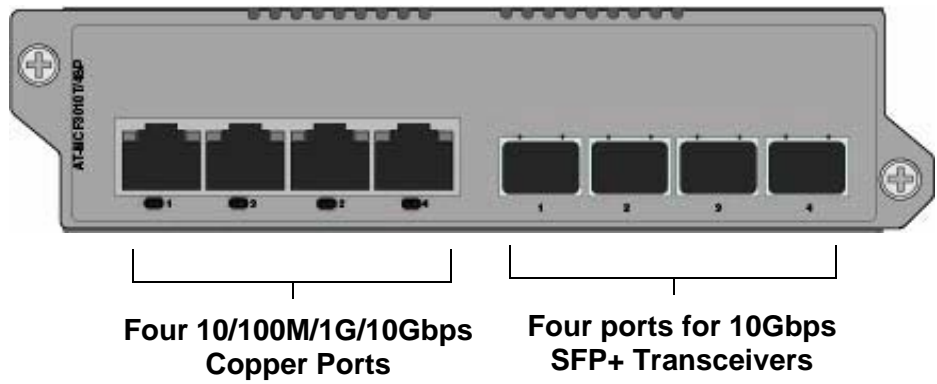


Figure 2. Media Converter Modules

The basic features of the media converter modules are listed in Table 2.

Table 2. MCF3000 Media Converter Modules

Media Converter Module	Number of Channels	Copper Ports	Maximum Distance	Fiber Optic Fixed Ports or Transceivers	Maximum Distance
MCF3000/8LC	8	10/100/1000Mbps	100 meters (328 feet)	1000Mbps (fixed)	220 or 500 meters (722 or 1640 feet.) <sup>1</sup>
MCF3000/8SP	8	10/100/1000Mbps	100 meters (328 feet)	100/1000Mbps	Varies by transceiver
MCF3010T/4SP	4	10/100/1000M/10Gbps	100 meters (328 feet)	1000M/10Gbps	Varies by transceiver

1. Maximum distance of 220 meters with 62.5/125µm multimode cable or 500 meters with 50/125µm multimode cable.

---

**Note**

For a list of supported SFP and SFP+ modules, refer to the product's data sheet.

---

The standards and features of the modules are listed here:

- IEEE 802.3 Ethernet
- IEEE 802.3u 100Base-X
- IEEE 802.3z 1000Base-X
- IEEE 802.3ab 1000Base-T
- IEEE 802.3ae 10 Gigabit Ethernet
- IEEE 802.3an 10GBase-T
- IEEE 802.3u Auto-Negotiation on copper ports
- IEEE 802.3x Flow control - full duplex operation
- Hot-swapping so modules can be installed while a chassis is powered on.
- MissingLink operating mode
- Store and forward packet processing with cyclic redundancy check (CRC)

## Media Converter Channels

The copper and fiber optic ports on the media converter modules are paired together. Each pair contains one copper port and one fiber optic port. The pairs function as independent media converter channels. The MCF3000/8LC and MCF3000/8SP media converter modules have eight independent media converter channels. The MCF3010T/4SP module has four channels. Each channel consists of the following ports:

- ❑ MCF3000/8LC module: one 10/100/1000Mbps copper port and one fixed 1000Mbps fiber optic port.
- ❑ MCF3000/8SP module: one 10/100/1000Mbps copper port and one port for a 100Mbps or 1000Mbps SFP transceiver.
- ❑ MCF3010T/4SP module: one 10/100/1000M/10Gbps copper port and one port for a 1000Mbps SFP or 10Gbps SFP+ transceiver.

The channel ports are predefined. Channel 1 contains copper port 1 and fiber optic port 1, channel 2 has copper port 2 and fiber optic port 2, and so forth. You cannot change the channel port assignments. Refer to Figure 3.

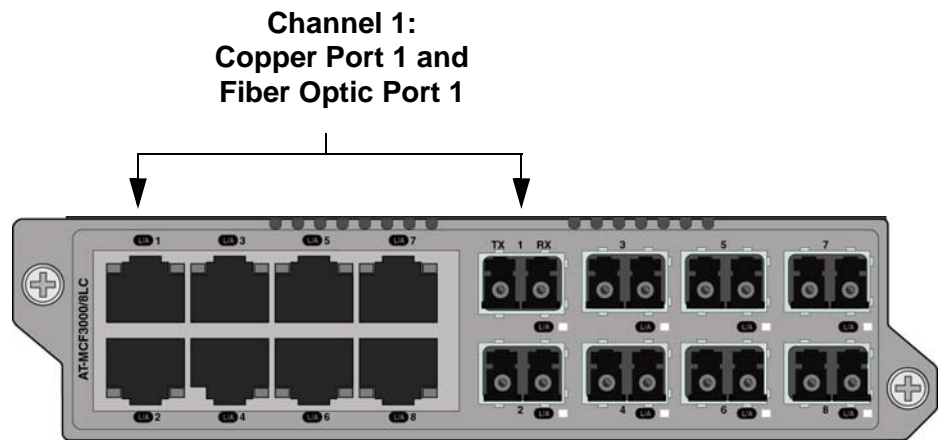


Figure 3. Channel 1 on a Media Converter Module

Each channel functions as an independent media converter. The two channel ports forward traffic to each other, but not to any other ports. Local and remote network devices that need to forward traffic to each other through a media converter module have to be connected to ports of the same channel. For example, for a local Ethernet switch to communicate with a remote switch, the copper cable from the local switch and the fiber optic cable from the remote switch have to be connected to ports in the same channel, such as copper port 4 and fiber optic port 4. Devices that are connected to ports in different channels cannot communicate with each other through the media converter modules.

The ports of a channel use “store and forward” to forward traffic. A packet is forwarded to the egress port of a channel after it has been fully received and buffered on the ingress port and checked for CRC errors. Packets without a CRC error are forwarded to the egress port where CRC is regenerated prior to the transmission of the packet, while packets with CRC errors are discarded to prevent their propagation on the network.

Here are the media converter guidelines:

- ❑ Local and remote devices that need to communicate with each other through the media converter have to be connected to ports in the same channel. That is, the copper cable from the local device and the fiber optic cable from the remote device have to be attached to ports in the same channel. As explained in “Media Converter Channels” on page 23, the ports of the channels are predefined. Channel 1 contains copper port 1 and fiber optic port 1, channel 2 of copper port 2 and fiber optic port 2, and so forth.
- ❑ You cannot change the port assignments of the channels.
- ❑ You can use the media converter channels in any order.
- ❑ The copper and fiber optic ports of a channel on the media converter modules can operate at different speeds.
- ❑ Copper ports at 10/100Mbps support half or full-duplex mode. Full-duplex mode is recommended for best performance.
- ❑ Copper ports at 1000Mbps or 10Gbps support full-duplex mode only.
- ❑ SFP fiber optic ports at 100Mbps, 1000Mbps or 10Gbps support full-duplex mode only.
- ❑ Adjusting the settings of the ports on the media converter modules requires the optional MCF3000M management module.
- ❑ There are no adjustable switches on the media converter modules.



## MCF3000/8LC and MCF3000/8SP Media Converter Modules

---

Here are the properties of the copper and fiber optic ports on the MCF3000/8LC and MCF3000/8SP media converter modules:

### Media Converter Channels

The media converter channels are predefined. Channel 1 contains copper port 1 and fiber optic port 1, channel 2 has copper port 2 and fiber optic port 2, and so on. The port-to-channel assignments cannot be changed. For guidelines, refer to “Media Converter Channels” on page 23.

### Copper Ports

Here are the basic properties of the copper ports:

- ❑ Standard RJ-45 8-pin connectors. For port pin-outs, refer to the *MCF3000 Series Installation Guide*.
- ❑ Speeds of 10/100/1000Mbps.
- ❑ Half or full-duplex mode at 10/100Mbps. Full-duplex mode is recommended for best performance.
- ❑ Full-duplex mode only at 1000Mbps.
- ❑ Maximum operating distance of 100 meters (328 feet) at 10/100/1000Mbps.
- ❑ IEEE 802.3u. Auto-Negotiation that automatically sets speeds and duplex modes. You can manually adjust the ports with the optional management module.
- ❑ Auto-MDI/MDI-X that automatically adjusts the wiring configurations to MDI or MDI-X, depending on the wiring configuration of the local devices. This allows you to use straight-through UTP Ethernet copper cables regardless of the wiring configurations of the ports on network devices.

Auto-MDI/MDI-X does not require Auto-Negotiation. Ports support Auto-MDI/MDI-X even when Auto-Negotiation is disabled.

### Copper Cable

The minimum copper cable requirements for the ports are listed in Table 3.

Table 3. 10/100/1000Mbps Copper Cable Requirements

Speed	Cable
10Mbps	Standard TIA/EIA 568-B unshielded Category 3 cabling or better.
100/1000Mbps	Standard TIA/EIA 568-A/B unshielded Enhanced Category 5 (Cat 5e) cabling or better.

### **MCF3000/8LC Fiber Optic Ports**

The fiber optic ports on the MCF3000/8LC media converter module have the following properties:

- ❑ Fixed speed of 1Gbps.
- ❑ Full-duplex mode.
- ❑ Maximum operating distance of 500 meters (1640 ft.) with 50/125µm multimode fiber optic cable or 220 meters (722 ft.) with 62.5/125µm (core/cladding) multimode cable
- ❑ Duplex LC connectors

### **MCF3000/8SP Fiber Optic Ports**

The fiber optic ports on the MCF3000/8SP media converter module support 100Mbps or 1Gbps SFP transceivers: They do not support 10Mbps or 10Gbps transceivers. Refer to the product's data sheet for a list of supported transceivers.

## MCF3010T/4SP Media Converter Module

---

Here are the properties of the copper and fiber optic ports on the MCF3010T/4SP media converter module:

### Media Converter Channels

The media converter channels are predefined. Channel 1 contains copper port 1 and fiber optic port 1, channel 2 has copper port 2 and fiber optic port 2, and so on. The port-to-channel assignments cannot be changed. For guidelines, refer to “Media Converter Channels” on page 23.

### Copper Ports

The basic properties of the copper ports are listed here:

- ❑ Standard RJ-45 8-pin connectors. For port pin-outs, refer to the *MCF3000 Series Installation Guide*.
- ❑ Speeds of 10/100/1000M/10Gbps.
- ❑ Half or full-duplex mode at 10/100Mbps. Full-duplex mode is recommended for best performance.
- ❑ Full-duplex mode only at 1000M/10Gbps.
- ❑ Maximum operating distance of 100 meters (328 feet). Refer to Table 4 for the cable requirements.
- ❑ IEEE 802.3u. Auto-Negotiation that automatically sets speeds and duplex modes. You can manually adjust the ports with the optional management module.
- ❑ Auto-MDI/MDI-X that automatically adjusts the wiring configurations to MDI or MDI-X, depending on the wiring configuration of the local devices. This allows you to use straight-through UTP Ethernet copper cables regardless of the wiring configurations of the ports on network devices.

Auto-MDI/MDI-X does not require Auto-Negotiation. Ports support Auto-MDI/MDI-X even when Auto-Negotiation is disabled.

### Copper Cable

The minimum copper cable requirements for the ports are listed in Table 4.

Table 4. Copper Cable Requirements for the MCF3010T/4SP Module

Speed	Distance	Cable
10Mbps	100 meters (328 feet)	Standard TIA/EIA 568-B unshielded Category 3 cabling or better.

Table 4. Copper Cable Requirements for the MCF3010T/4SP Module

Speed	Distance	Cable
100/1000Mbps	100 meters (328 feet)	Standard TIA/EIA 568-A/B unshielded Enhanced Category 5 (Cat 5e) cabling or better.
10Gbps	55 meters (189 feet)	Standard ANSI/TIA 568 unshielded Category 6 cable or better.
	100 meters (328 feet)	Standard ANSI/TIA 568-2-D unshielded Category 6a cable or better.

### Fiber Optic Port Transceivers

The fiber optic ports on the MCF3010T/4SP module have the following properties:

- Support 1000Mbps and 10Gbps fiber optic transceivers
- Full-duplex mode only.

---

**Note**

The ports do not support 10/100Mbps transceivers.

---

## MissingLink Mode

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The MissingLink mode is a feature of the copper and fiber optic ports in the channels on the media converter modules. It has two functions.

- ❑ It forces the two channel ports to always operate in the same link state. They can both be linked up to network devices or linked down. As explained in this section, this is to take advantage of network devices that can respond to changes in port link states by notifying you of network problems or possibly resolving them, autonomously.
- ❑ Another feature of the mode is that it flashes the port Link LEDs to assist you identifying channels that do not have network connectivity.

The MissingLink mode makes it possible for the two ports of a channel to always operate in the same link state, They do this by sharing their “link” states with each other. A change to the state of a link on a port is automatically replicated on the other port. In this way, both channel ports, and the network devices connected to them, are made aware of changes to the link states on ports.

When the MissingLink mode detects that a channel port cannot establish a link to its network device or has lost its link, the module copies the loss on the other channel port by disabling its transmitter. This action is to notify the network device connected to the port that there is no link on the other channel port. To explain it another way, the MissingLink mode does not allow a channel port to establish or maintain a link to a network device unless its companion channel port also has a link to a network device.

When a link is reestablished on a port, the MissingLink mode automatically reactivates the transmitter on the other port so that the two channel ports can again forward traffic to each other from their network devices.

This fault notification is to take advantage of network devices, such as managed Ethernet switches, that can react to ports without links by performing specific actions. For example, they might send traps to network management stations, and so alert network administrators of the existing problems. Or, if the devices are running spanning tree protocols, they might seek redundant paths around the disconnected or inactive links.

Here is an example. Assume that the two ports of a channel on a media converter module are connected to two Ethernet switches, one local and one remote. The fiber optic channel port is connected to remote Switch A, while the copper channel port is connected to local Switch B. If the fiber optic port cannot establish or loses its link to Switch A, the mode disables the transmitter on the copper port to signal Switch B of the lack of a 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 be unaware of the problem because it would still have a link to the media converter.

In the example the initial loss occurred on the fiber optic port. But the operating mode operates the same if the initial loss of the link is on the copper port. Here, a loss of the link on the copper port causes the mode to disable the transmitter on the companion fiber optic port in the channel.

Another feature of the MissingLink mode relates to the port Link LEDs. It slowly flashes them to help you identify lost links. When a port in a channel cannot establish a link or loses its link to a network device, the mode slowly flashes the Link LED on the other channel port. This can be helpful in troubleshooting network problems because you can readily identify the channel port where network connection was initially lost.

Here is an example. If both channel ports have links to network devices when the copper port suddenly loses its link, the mode turns off the Link LED for the copper port and slowly flashes the Link LED on the fiber optic port. This signals that the loss of channel connectivity initially occurred on the copper port.

The feature works the same if the fiber optic port is without a link. If the copper port in a channel has a link to a network device when the fiber optic port loses its link, the mode slowly flashes the Link LED on the copper port to signal that the loss of channel connectivity initially occurred on the fiber optic port.

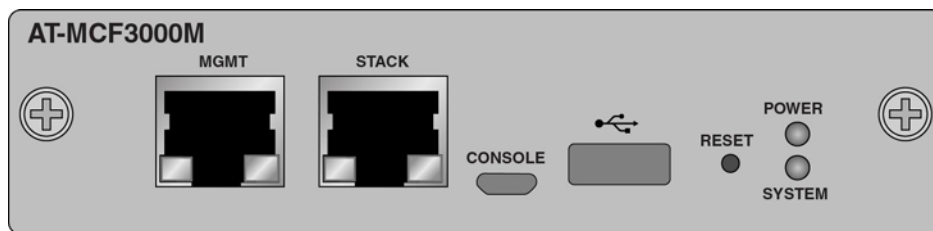
## **Guidelines**

Here are the MissingLink guidelines:

- The default MissingLink setting is enabled.
- Disabling the MissingLink mode requires the MCF3000M management module.
- You can enable or disable the MissingLink mode on the individual media converter channels.
- The mode does not block or interfere with the flow of traffic between the ports of a channel during normal network operations.
- When the MissingLink mode is disabled on a channel, the Link LEDs reflect the link states of the ports. They are on when ports are linked to network devices and off when they are not linked.

## MCF3000M Management Module

Figure 4 illustrates the front panel of the MCF3000M management module.



Front Panel of the MCF3000M Management Module

Figure 4. Front Panel of the MCF3000M Management Module

The front panel components are briefly described here:

- ❑ MGMT port - Use this copper 10/100/1000Mbps Ethernet port to connect the management module to your network. The management module uses the port to communicate with your network for selected management functions, such as performing remote Telnet or web browser management sessions or obtaining the date and time from an NTP server.

---

### Note

The management module cannot communicate with your network through the ports and channels on the media converter modules.

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- ❑ STACK port - Reserved for future development.
- ❑ CONSOLE port - This micro-USB port is used for local management of the chassis with the command line interface. The management module does not require an IP address for local management.
- ❑ Reset button - Use this button to return all system parameters to their default settings.
- ❑ USB host port - Use this port to store or transfer firmware files on USB storage devices.
- ❑ Power and System LEDs - Use the LEDs to view chassis status information.

Refer to the *MCF3000 Series Installation Guide* for more information on the hardware components.

## Power Supplies

---

The power supplies for the chassis are the MCF3300AC and MCF3300DC modules. Refer to Figure 5.

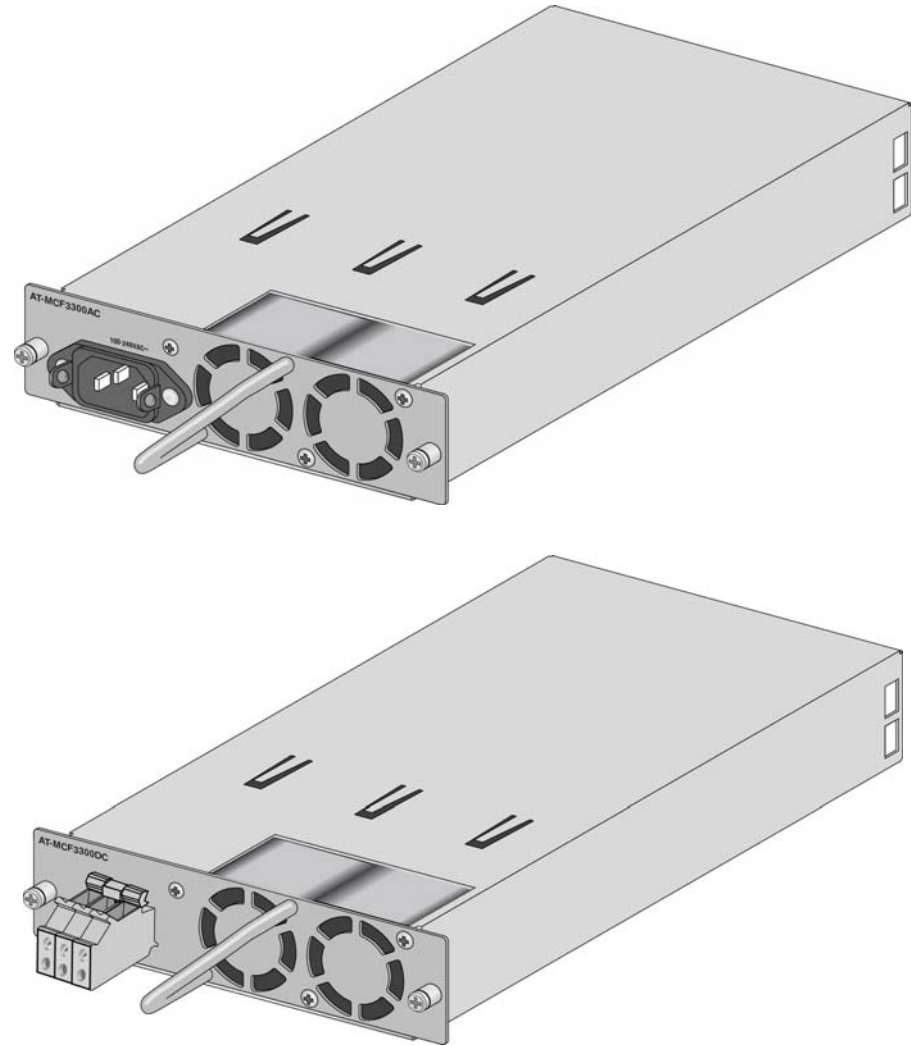


Figure 5. MCF3300AC and MCF3300DC Power Supplies

Power supplies are installed in the two slots on the rear panel. Refer to Figure 1 on page 20. You can power the media converter with one or two power supply modules. A single power supply module can power a full chassis with three media converter modules. Adding a second power supply adds power redundancy. The power specifications are found in the *MCF3000 Media Converter Installation Guide*.

---

**Note**

Power supplies are ordered separately.

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## Chapter 2

# Getting Started

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This chapter contains the following sections:

- ❑ “Management Interfaces” on page 34
- ❑ “Manager and User1 Accounts” on page 35
- ❑ “Starting a Remote Web Browser Management Session” on page 36
- ❑ “Saving and Activating Your Configuration Changes” on page 39
- ❑ “Menus and Tabs” on page 40
- ❑ “Verifying the Hardware” on page 42
- ❑ “Quitting a Management Session” on page 43
- ❑ “What to Configure First” on page 44

## Management Interfaces

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The MCF3000M management module has two management interfaces:

- ❑ Command line interface
- ❑ Web browser interface

### Command Line Interface

This interface has a command prompt and a series of commands for displaying and adjusting the parameter settings of the management and media converter modules. This management interface is supported as follows:

- ❑ Micro-USB CONSOLE port. You can access the command line interface by connecting a computer with a terminal emulator program to the CONSOLE port on the management module, with the micro-USB management cable included with the module. The CONSOLE port is not a networking port, but rather a serial port to the processor on the module, hence the need for the terminal emulator. The management module does not need an IP address configuration for this type of management.
- ❑ Remote Telnet or Secure Shell (SSH): You can also use the command line interface over your network from your workstations, with the Telnet or SSH protocol. This requires connecting the MGMT port on the management module to a device on your network, such as an Ethernet switch or router. Remote management sessions have to be conducted through the MGMT port.

For further instructions, refer to the *MCF3000 Media Converter Command Line Interface User Guide*.

### Web Browser Interface

This interface consists of a series of web browser windows for viewing and adjusting the parameter settings of the device. The web browser interface is accessed remotely over your network from your workstation, through the MGMT port on the management module. The web browser interface is not supported on the CONSOLE port. For instructions on starting a management session, refer to “Starting a Remote Web Browser Management Session” on page 36.

## Manager and User1 Accounts

---

The MCF3000M management module has two on-board accounts:

- ❑ **Manager:** You can use this account to view and change all the parameter settings in the media converter modules and management module. The login name is “manager” and the default password is “friend”.
- ❑ **User1:** This account lets you view but not change the parameter settings. You can also view traffic statistics. The login name is “user1” and the default password is “user1”.

You cannot add more on-board accounts or change the user names of the default accounts. But you can change their passwords, as explained in “Changing the Passwords to the On-Board Manager and User1 Accounts” on page 69.

## Starting a Remote Web Browser Management Session

---

Review the following guidelines before starting a remote web browser management session:

- ❑ The MCF3000M management module needs to have an IP address. For instructions, refer to “Assigning a Dynamic IP Address to the MCF3000M Management Module” on page 47 or “Assigning a Static IP Address to the MCF3000M Management Module” on page 50.
- ❑ The module comes with the default IP address 192.168.1.1.
- ❑ The management module has a DHCP client for setting its IP address from a DHCP server on your network. The default setting for the client is disabled.
- ❑ The 10/100/1000Base-T MGMT port on the management module has to 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.
- ❑ Your workstation must be a member of the same network as the management module or have access to it through Layer 3 routing devices.
- ❑ If your remote workstation and the management module reside on different networks, the IP address on the management module has to include a default gateway address. This specifies the IP address of the routing interface of the first hop to reaching your workstation.

Please review the following guidelines before starting a web browser management session on a management module that still has the default IP address 192.168.1.1:

- ❑ You need to change the IP address of your computer to 192.168.1.*n*, where “*n*” is a value between 2 and 253.
- ❑ You need to set the subnet mask on your computer to 255.255.255.0.
- ❑ If your network has virtual LANs (VLANs), you need to connect the LAN port on your computer and the MGMT port on the management module to ports on an Ethernet switch that are members of the same VLAN.

To start a remote web browser management session:

1. Enter the IP address of the management module in the URL field of your web browser, as shown in Figure 6 on page 37.

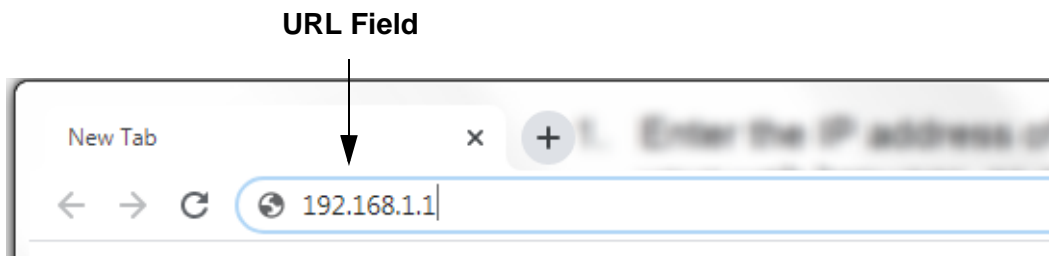


Figure 6. URL Field in a Web Browser

The management module displays the logon window in Figure 7.

A screenshot of the logon window for the Allied Telesis MCF3300 Media Converter Chassis. The window has a light gray background. At the top, there is the Allied Telesis logo, which consists of a stylized 'A' with a red and white striped circle to its right, followed by the text "Allied Telesis™". Below the logo, the text "MCF3300 Media Converter Chassis" is displayed in a large, bold, black font. Underneath, there are two input fields: "User:" followed by a text box containing "Enter Username", and "Password:" followed by a text box containing "Enter Password". Below these fields is a blue button with the text "Login" in white.

Figure 7. Logon Window

2. Enter the user name and password of an on-board account. The module comes with two accounts. One account has the login name “manager” and default password “friend”. This account lets you view and change all the system parameters, as well as view traffic statistics. The second account has the login name “user1” and the default password “user1”. You can use this account to view the parameter settings and traffic statistics. Refer to “Manager and User1 Accounts” on page 35.

After you log on, the management software displays the Slot 1: Module Summary window, shown in Figure 8 on page 38. This window is described in “Displaying General Status of Media Converter Ports” on page 76.

MC #	Missing Link	Copper Port	Link	Speed	Fiber Port	Link	Speed
1	Disabled	Enabled	Up	1000 Mb/s	Enabled	Up	1000 Mb/s
2	Disabled	Enabled	Up	1000 Mb/s	Enabled	Up	1000 Mb/s
3	Disabled	Enabled	Up	1000 Mb/s	Enabled	Up	1000 Mb/s
4	Disabled	Enabled	Up	1000 Mb/s	Enabled	Up	1000 Mb/s

Figure 8. Module Summary Window

- To end a management session, click **Logout** in the main menu at the top of the window.

---

**Note**

To protect the security of the media converter, you should always log out at the completion of your management sessions. If you leave your computer unattended without logging out, someone could use it to make unauthorized changes to the network device.

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The sections “Verifying the Hardware” on page 42 and “What to Configure First” on page 44 offer suggestions on what to do during your first management session of the media converter.

## Saving and Activating Your Configuration Changes

---

The configuration settings of the management and media converter modules in the chassis are stored in a configuration file on the MCF3000M management module. You can download this file to your computer to maintain a history of the configuration settings of the device, or restore settings by uploading it to the same device or replacement media converters. Refer to “Saving Backup Configuration Files from the MCF3000M Management Module” on page 96 and “Restoring Backup Configuration Files to the MCF3000M Management Module” on page 98.

Most of the management windows have a Save button at the bottom. You have to click this button to save and implement your changes to the parameter settings in the management windows. Clicking the button displays the window in Figure 9.

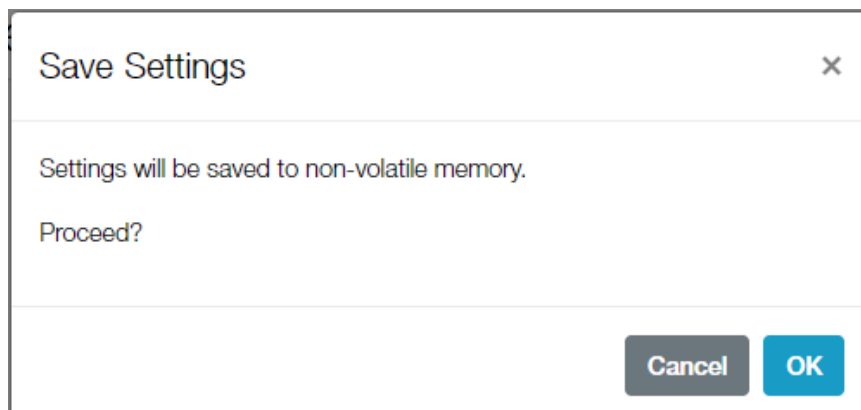


Figure 9. Save Network Settings Window

When you click OK, the management module implements your change, stores it in its configuration file, and displays the prompt in Figure 10.

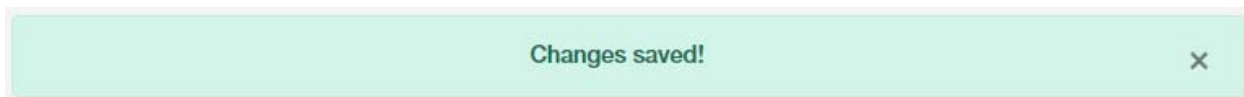


Figure 10. Changes Saved Prompt

If you click Cancel, your change is discarded.

---

**Note**

Changes to some parameters require booting the chassis. The instructions in this guide indicate when booting the device is required.

---

## Menus and Tabs

At the top of the web browser management windows is the main menu. The selections in the main menu do not change. Just below the menu are a line of tabs that change depending on the main menu selection. The tabs in the example in Figure 11 are from the Configuration selection in the main menu. To perform a management function, you first select the appropriate main menu option and then the tab that leads to the appropriate window.

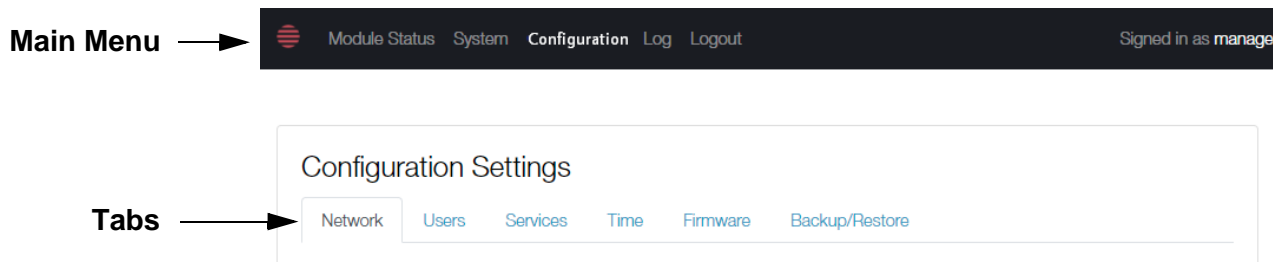


Figure 11. Main Menu and Tabs

The Module Status selection in the main menu displays an additional menu called the Modules menu, shown in Figure 12. You use the menu to perform management tasks on individual modules, channels, or ports.

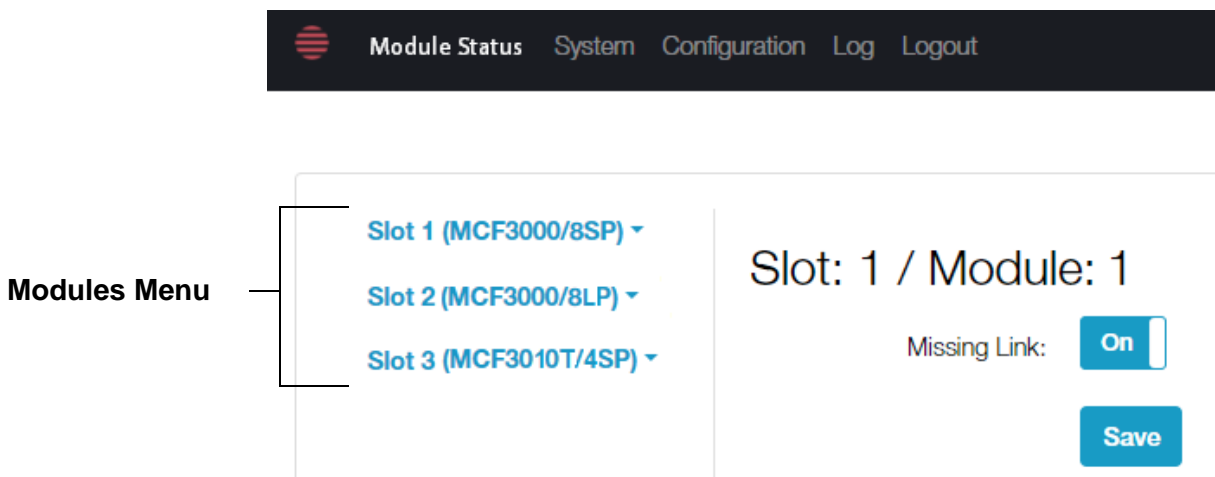


Figure 12. Modules Menu

Each menu option represents a physical slot in the chassis for a media converter module. The slots are numbered 1 to 3 from left to right, as you face the front of the device. They include the module names of the installed media converter modules. Selecting a slot displays a sub-menu listing the individual media converters in the module. Refer to Figure 13 on page 41.



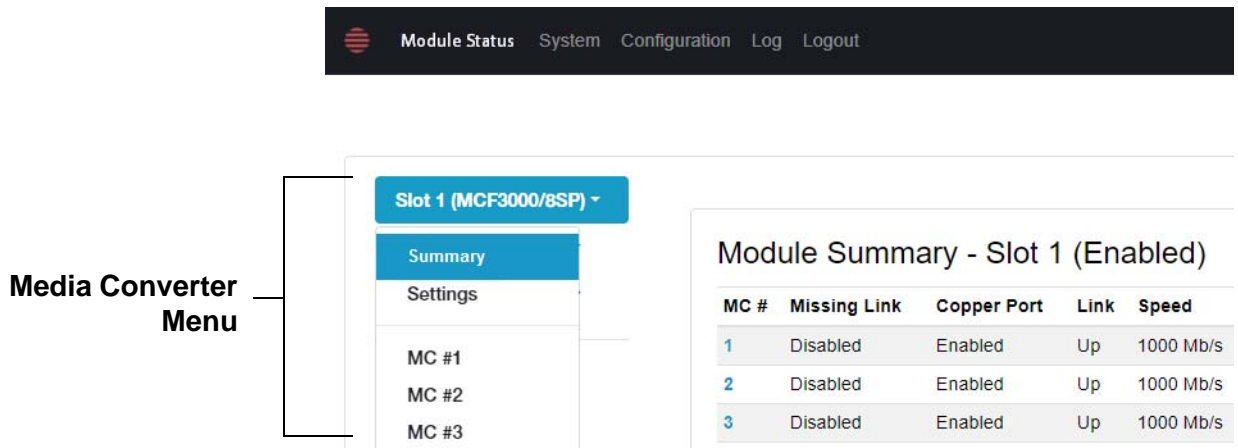


Figure 13. Media Converter Menu

To help you navigate through the menus and tabs, the procedures include illustrations that show the steps to accessing the appropriate windows. The example in Figure 14 illustrates the steps to adding a name to a media converter module.

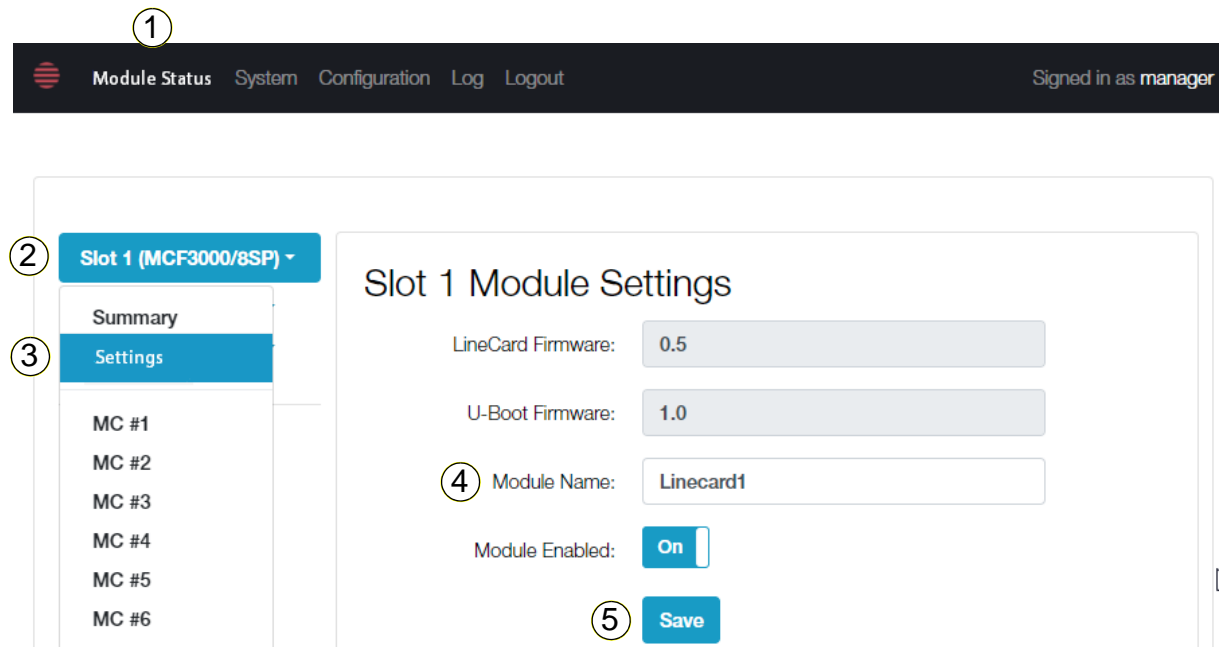


Figure 14. Example of a Navigational Illustration

## Verifying the Hardware

---

Here are suggestions on how to verify the hardware of the media converter chassis.

1. To verify the media converter modules, click **Module Status** in the main menu and examine the Modules menu. It should display the correct number of media converter modules in the chassis. The chassis in Figure 12 on page 40 has three modules. Empty module slots display the Not Present message in Figure 15.

Slot 3 (Not Present) ▾

Figure 15. Empty Chassis Slot Message

2. To verify the power supplies, select **System** from the main menu and scroll down to the Power Supply section in the window. An example is shown in Figure 16.

Power Supply #1		Power Supply #2	
Installed:	Present	Installed:	Present
Fan 1 Speed:	4747 RPM	Fan 1 Speed:	4574 RPM
Fan 2 Speed:	4607 RPM	Fan 2 Speed:	4560 RPM
Voltage:	12.025 V	Voltage:	12.025 V
Current:	948 mA	Current:	948 mA

Figure 16. Power Supplies Section

3. To verify the link status on individual ports on media converter modules, click **Module Status** in the main menu and change modules with the selections in the **Modules** menu. Refer to “Displaying General Status of Media Converter Ports” on page 76.

## Quitting a Management Session

---

To end a management session, select **Logout** from the main menu. You should always log off from a management session when you are finished managing a media converter. This will protect the device from unauthorized individuals using your computer to make changes to its configuration.

You should remember to click the **Save** button to save your changes before logging off. Otherwise, the management module discards your changes.

## What to Configure First

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Here are suggestions on what to configure during your first management session.

1. Change the manager and user 1 passwords. Refer to “Changing the Passwords to the On-Board Manager and User1 Accounts” on page 69.
2. Set the date and time. Refer to “Manually Setting the Date and Time” on page 62 or “Setting the Date and Time with Network Time Protocol Servers” on page 67.
3. If the management module is still using its default IP address 192.168.1.1 and you want to change it, refer to “Assigning a Dynamic IP Address to the MCF3000M Management Module” on page 47 or “Assigning a Static IP Address to the MCF3000M Management Module” on page 50.

## Chapter 3

# IP Address Management

---

This chapter contains the following procedures:

- ❑ “Overview to IP Address Configuration” on page 46
- ❑ “Assigning a Dynamic IP Address to the MCF3000M Management Module” on page 47
- ❑ “Assigning a Static IP Address to the MCF3000M Management Module” on page 50
- ❑ “Setting the Host Name” on page 55

## Overview to IP Address Configuration

---

You can assign an IPv4 address and support values, such as subnet mask and default gateway, to the MCF3000M management module. The IP address configuration can be assigned manually or with a DHCP server on your network. The management module has to have an IP address to support the following features:

- ❑ HTTP - Lets you remotely manage the media converter with a web browser.
- ❑ Network Time Protocol (NTP) client - Lets the module set its date and time from an NTP server on your network or the Internet.
- ❑ Secure Shell (SSH) server - Lets you remotely manage the media converter using SSH.
- ❑ Telnet server - Lets you remotely manage the media converter using a Telnet client.

Here are the default values:

- ❑ Host name: MCF3000
- ❑ IP address: 192.168.1.1
- ❑ Subnet mask: 255.255.255.0
- ❑ Gateway address: 192.168.1.1
- ❑ IP address of Domain Name System Server: 8.8.8.8
- ❑ Broadcast address: 192.168.1.255

Here are the IP address guidelines:

- ❑ To view the current IP address of the management module, refer to “Assigning a Dynamic IP Address to the MCF3000M Management Module” on page 47.
- ❑ The MGMT port on the management module has to be connected to a network device, such as a router or switch. All communications between the management module and the network are conducted through this port. The management module cannot communicate with the network through the channel ports on the media converter modules.
- ❑ The management module can have only one IPv4 address.
- ❑ You can assign the address manually or with a DHCP server.
- ❑ The IP address is used only by the management module for management functions. The media converter modules do not use the address.

## Assigning a Dynamic IP Address to the MCF3000M Management Module

---

Many networks use Dynamic Host Control Protocol (DHCP) servers to assign IP addresses to network devices. If this is true for your network, then you might want the MCF3000M management module to receive its IP address from the server, as well. This is accomplished with its DHCP client. When the client is enabled, the management module queries your network for its IP address assignment from a DHCP server, whenever it is powered on or booted.

Here are the guidelines to using the DHCP client on the management module:

- ❑ The default setting for the client is disabled.
- ❑ The MGMT port on the management module has to be connected to a network device, such as an Ethernet switch or router. The module queries your network on this port for the DHCP server whenever it is powered on or booted.
- ❑ The management module can have only one IP address.
- ❑ The IP address has to be IPv4 format. (The module does not support IPv6 addresses.)
- ❑ To learn the MAC address of the management module to enter on the DHCP server, refer to “Displaying System Information” on page 58.
- ❑ The management module uses the IP address to perform management functions on the MGMT port, such as communicating with NTP servers and supporting remote web, Telnet, and SSH management sessions.
- ❑ The media converter modules do not use the IP address.
- ❑ Enabling or disabling the client requires booting the management and media converter modules. This will interrupt your management session and the network operations of the modules.
- ❑ The DHCP client issues two requests to the DHCP server. If there is no response, the management module operates without an IP address. If this happens, verify that the management module has a network pathway from its MGMT port to the server and then boot the module. Refer to “Booting the Media Converter Chassis” on page 74.
- ❑ If the management module already has a static IP address and you enable the DHCP client, the address from the DHCP server overwrites the static address.

The steps for enabling or disabling the DHCP client are illustrated in Figure 17 and explained in the following procedure.

The screenshot shows the 'Configuration Settings' interface. At the top, there is a navigation bar with 'Configuration' selected. Below it, the 'Network' tab is active. The 'Network' configuration section includes the following fields:

- Host Name: MCF3000
- Use DHCP: Off (indicated by a circled 3)
- IP Address: 192.168.1.1
- Broadcast: 192.168.1.255
- Subnet Mask: 255.255.255.0
- Gateway: 192.168.1.1
- DNS: 8.8.8.8

A 'Save' button (indicated by a circled 4) is located at the bottom of the configuration section.

Figure 17. Network Window - Enabling or Disabling the DHCP Client

To enable or disable the DHCP client on the management module:

1. Select **Configuration** from the main menu.
2. Select the **Network** tab. This is the default tab.
3. Set **Use DHCP** to one of the following options:
  - On**. Enables the DHCP client. The management module queries the network on the MGMT port twice for its IP address assignment from a DHCP server whenever it is booted or powered on.
  - Off**. Disables the DHCP client. The management module uses a static IP address or its default address 192.168.1.1. This is the default setting.



---

**Note**

Allied Telesis does not recommend enabling the DHCP client if the DHCP server on your network is not available or the MGMT port is not connected to the network. If the management module does not receive a response from the server, it operates without an address and has to be booted when the server becomes available.

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4. Click the **Save** button to save your changes.
5. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

---

**Note**

Booting or power cycling the chassis is required to activate changes to the DHCP client.

---

6. To activate your change now, go to “Booting the Media Converter Chassis” on page 74.

## Assigning a Static IP Address to the MCF3000M Management Module

---

This section contains the procedure for assigning the management module a static IP address. You might perform this procedure if your network does not have a DHCP server or if you want to assign the module a temporary address, different from the default address. Here are the guidelines:

- ❑ The management module can have only one IP address.
- ❑ The address has to be IPv4 format.
- ❑ The management module uses the IP address to perform management functions on the MGMT port, such as remote web browser, Telnet, and SSH management.
- ❑ The media converter modules do not use the address.
- ❑ Changing the IP address requires booting the management and media converter modules. This will interrupt the network operations of the media converter modules and your management session.
- ❑ Changing the IP address configuration requires booting the management and media converter modules. This will interrupt your management session and the network operations of the modules. Refer to “Booting the Media Converter Chassis” on page 74.

The steps to assigning a static IP address are illustrated in Figure 18 on page 51 and explained in the following procedure.

To assign an static IP address to the management module:

1. Select **Configuration** from the main menu.
2. Select the **Network** tab. This is the default tab.
3. Set **Use DHCP** to **Off**: This is the default setting.

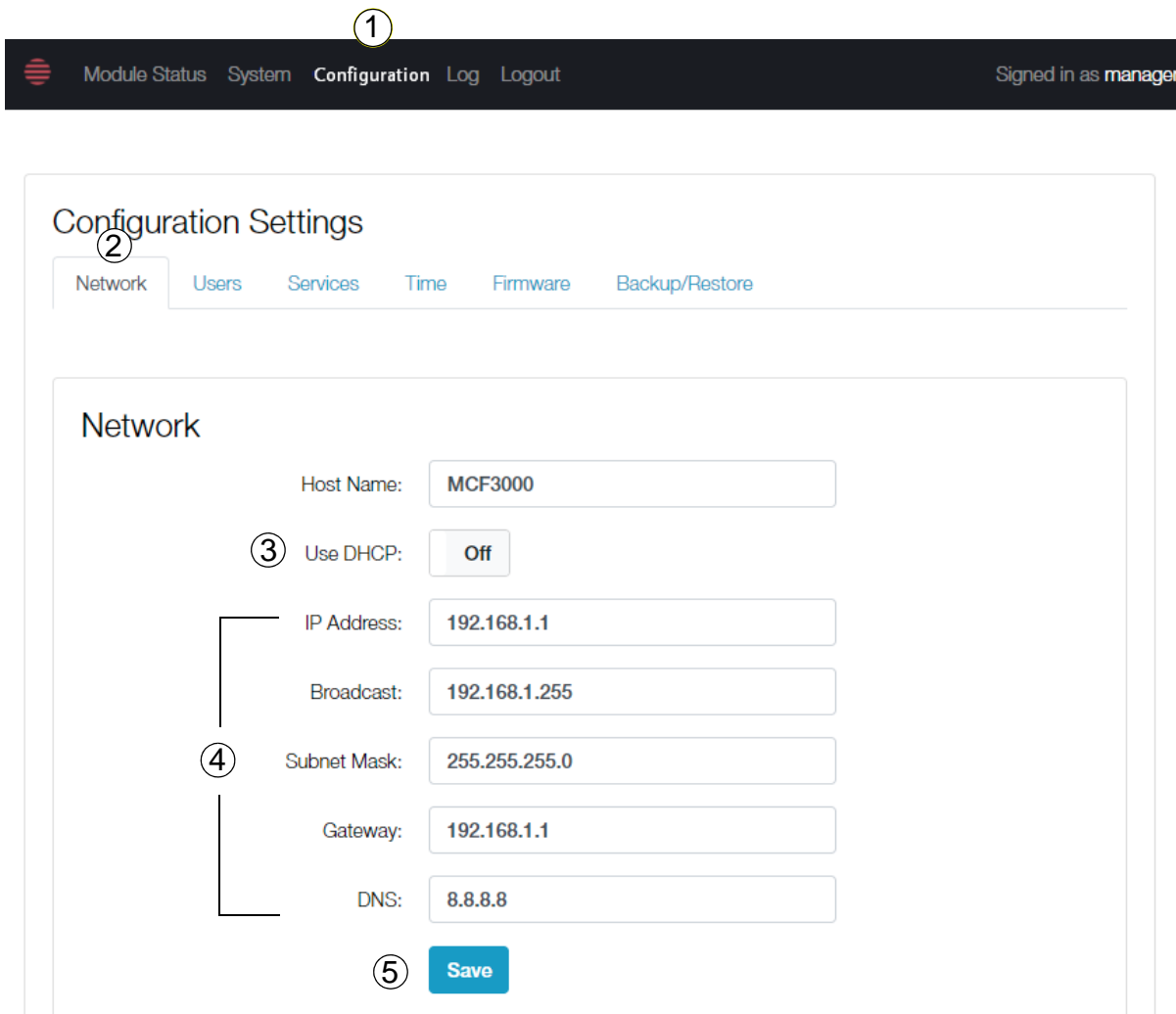


Figure 18. Network Window - Adding a Static IP Address

4. Configure the parameters in Table 5 on page 52.

Table 5. Adding a Static IP Address

Parameter	Description
IP Address	<p>Displays the current static or dynamic IP address of the management module. Here are the guidelines:</p> <ul style="list-style-type: none"> <li>- The default address is 192.168.1.1.</li> <li>- The Use DHCP option has to be set to Off to set a static IP address.</li> <li>- The address has to be IPv4.</li> <li>- The IP address has to be entered in this format: xxx.xxx.xxx.xxx.</li> <li>- To delete the current static address without assigning a new address, enter 0.0.0.0.</li> </ul>
Broadcast	<p>Displays the broadcast address of the management module. Here are the guidelines:</p> <ul style="list-style-type: none"> <li>- The module can have only one broadcast address.</li> <li>- The default address is 192.168.1.255.</li> <li>- The address has to be entered in this IPv4 format: xxx.xxx.xxx.xxx.</li> <li>- To delete the address without assigning a new address, enter 0.0.0.0.</li> </ul>
Subnet Mask	<p>Displays the current static or dynamic subnet mask of the IP address. Here are the guidelines:</p> <ul style="list-style-type: none"> <li>- The mask has to be entered in this format: xxx.xxx.xxx.xxx.</li> <li>- The default is 255.255.255.0.</li> <li>- To delete the current mask without assigning a new value, enter 0.0.0.0.</li> </ul>

Table 5. Adding a Static IP Address (Continued)

Parameter	Description
Gateway	<p>Displays the current default gateway address. This is the IP address of an interface on a router or other Layer 3 routing device that specifies the first hop to reaching the subnets or networks where your management devices, such as management workstations and NTP servers, reside. Here are the guidelines:</p> <ul style="list-style-type: none"> <li>- The gateway to be entered in this format: xxx.xxx.xxx.xxx.</li> <li>- To delete the current gateway without assigning a new value, enter 0.0.0.0.</li> <li>- The default gateway address is 192.168.1.1.</li> <li>- The management module can have only one default gateway.</li> <li>- The network portion of the gateway address must be the same as the network portion of the IP address of the management module.</li> </ul>
DNS	<p>Enter the IP address of a domain name system (DNS) server on your network. If your network has a DNS server, you might find managing the media converter easier if you assign it a host name and then enter its IP address and host name on the DNS server. This will allow you to identify the management module by its host name rather than its IP address when performing management functions, such as remote web browser or SSH management sessions. Here are the guidelines:</p> <ul style="list-style-type: none"> <li>- The IP address has to be entered in this format: xxx.xxx.xxx.xxx.</li> <li>- The address has to be IPv4.</li> <li>- You can specify only one DNS server.</li> <li>- The default value is 8.8.8.8.</li> <li>- This parameter is optional.</li> </ul>

5. Click the **Save** button to save your changes.
6. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

---

**Note**

Booting or power cycling the chassis is required to activate changes to the IP address configuration.

---

7. To activate your changes now, go to “Booting the Media Converter Chassis” on page 74.

## Setting the Host Name

The management module has the default host name MCF3000. The name is displayed in the login prompt and SHOW NETWORK command in the command line interface. The name is also displayed in the System window shown in Figure 20 on page 58 and the Network window shown in Figure 18 on page 51 in the web browser interface.

Perform the following procedure to change the host name of the management module:

1. Select **Configuration** from the main menu.
2. Select the **Network** tab. This is the default tab.
3. Enter a new host name in the **Host Name** field. Refer to Figure 19. The name can be from 1 to 15 alphanumeric characters. Special characters are allowed, except for spaces and the percent (%) symbol.

The screenshot shows the web browser interface for the MCF3000 Series. At the top, there is a navigation bar with a hamburger menu icon, the text "Module Status System Configuration Log Logout", and "Signed in as manager". Below this is the "Configuration Settings" section, which has several tabs: "Network" (selected), "Users", "Services", "Time", "Firmware", and "Backup/Restore". The "Network" tab is active, and the "Host Name" field is highlighted with a circled "3". The "Host Name" field contains the text "MCF3000". Other fields include "Use DHCP" (Off), "IP Address" (192.168.1.1), "Broadcast" (192.168.1.255), "Subnet Mask" (255.255.255.0), "Gateway" (192.168.1.1), and "DNS" (8.8.8.8). A "Save" button is highlighted with a circled "4".

Figure 19. Network Window - Changing the Host Name

4. Click the **Save** button to save your changes.
5. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.



## Chapter 4

# Basic Management

---

This chapter contains the following procedures:

- ❑ “Displaying System Information” on page 58
- ❑ “Manually Setting the Date and Time” on page 62
- ❑ “Setting the Date and Time with Network Time Protocol Servers” on page 67
- ❑ “Changing the Passwords to the On-Board Manager and User1 Accounts” on page 69
- ❑ “Enabling or Disabling the Telnet and Secure Shell Servers” on page 71
- ❑ “Viewing the Management Log” on page 73
- ❑ “Booting the Media Converter Chassis” on page 74

## Displaying System Information

The System option in the main menu displays a window that has the following three sections:

- ❑ System Information: Displays the serial number and MAC address of the MCF3000M management module, the current and running time, and the internal temperature of the media converter.
- ❑ Power Supplies: Displays the operating status of the power supplies.
- ❑ Network Statistics: Displays traffic statistics on the ports of the media converter modules. To view the port statistics for the media converter modules, refer to “Displaying Port Statistics” on page 90.

The System Information section is shown in Figure 20.

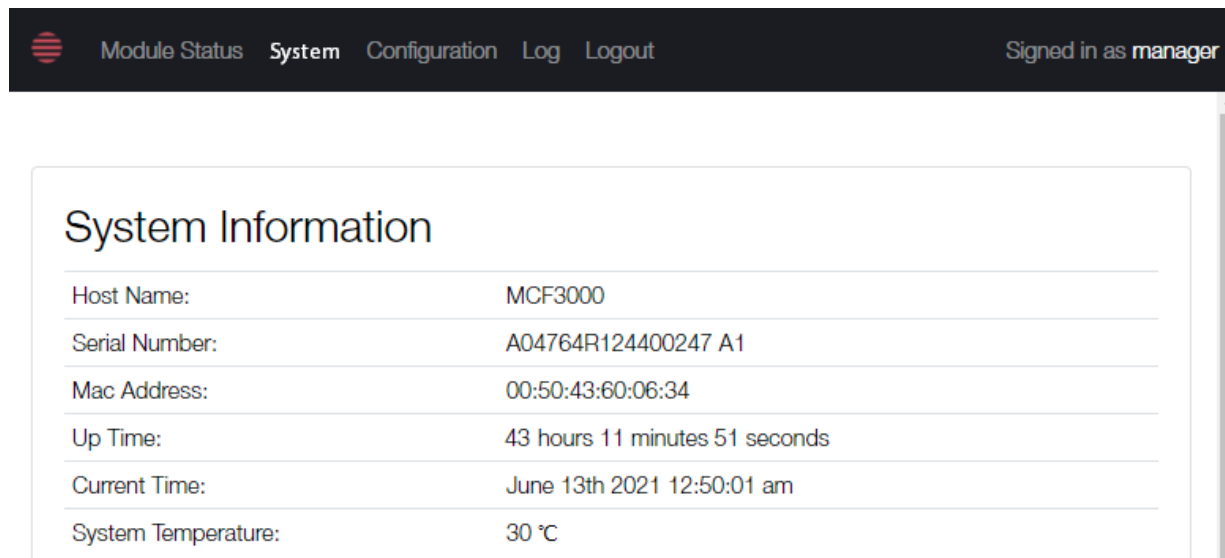


Figure 20. System Information Window - Displaying System Information

The fields are described in Table 6.

Table 6. System Information Section

Field	Description
Host Name	Displays the host name of the management module. Refer to “Setting the Host Name” on page 55.
Serial Number	Displays the serial number of the MCF3000M management module.

Table 6. System Information Section (Continued)

Field	Description
Mac Address	Displays the MAC address of the MCF3000M management module.
Up Time	Displays the hours, minutes, and seconds that the management card has been operating since it was last powered on or booted.
Current Time	Displays the date and time of the management module. Refer to “Manually Setting the Date and Time” on page 62 or “Setting the Date and Time with Network Time Protocol Servers” on page 67.
System Temperature	Displays the internal temperature of the chassis.

The Power Supplies section is shown in Figure 21.

Power Supply #1		Power Supply #2	
Installed:	Present	Installed:	Present
Fan 1 Speed:	4747 RPM	Fan 1 Speed:	4574 RPM
Fan 2 Speed:	4607 RPM	Fan 2 Speed:	4560 RPM
Voltage:	12.025 V	Voltage:	12.025 V
Current:	948 mA	Current:	948 mA

Figure 21. System Information Window - Displaying Power Supplies

The fields are described in Table 7.

Table 7. Power Supplies Section

Field	Description
Installed	Displays whether the chassis slot contains a power supply. The states are listed here: <ul style="list-style-type: none"> <li>- Present: The slot contains a power supply.</li> <li>- Not Present: The slot is empty.</li> </ul>
Fan 1/2 Speed	Displays fan speed.
Voltage	Displays the output voltage from the power supply to the media converter chassis.

Table 7. Power Supplies Section (Continued)

Field	Description
Current	Displays the output current from the power supply to the media converter chassis.

The Network Statistics section, shown in Figure 22, displays the traffic statistics for the MGMT port on the management module. To view the port statistics for individual ports on the media converter modules, refer to “Displaying Port Statistics” on page 90.

### Network Statistics

Bytes Rx:	117906	Bytes Tx:	28803
Packets Rx:	1086	Packets Tx:	114
In Discards:	0	Out Discards:	0
In Errors:	0	Out Errors:	0

**System Restart**

Figure 22. Network Statistics Section for the MGMT Port

The fields are described in Table 8.

Table 8. Network Statistics Section for the MGMT Port

Field	Description
Bytes Rx	Displays the number of bytes received on the MGMT port on the management module.
Bytes Tx	Displays the number of bytes transmitted on the MGMT port.
Packets Rx	Displays the number of ingress packets on the MGMT port.
Packets Tx	Displays the number of transmitted packets from the MGMT port.
In Discards	Displays the number of packets that were discarded from ingress queues on the MGMT port because of errors or lack of sufficient memory resources.

Table 8. Network Statistics Section for the MGMT Port (Continued)

<b>Field</b>	<b>Description</b>
Out Discards	Displays the number of packets with errors that were discarded on egress queues on the MGMT port before transmission.
In Errors	Displays the number of packets with errors that could not be forwarded from the MGMT port to higher-layer protocols.
Out Errors	Displays the number of packets with errors that could not be transmitted from the MGMT port.

## Manually Setting the Date and Time

---

This section contains the procedures for manually setting the date and time on the MCF3000M management module. The module adds the date and time to event messages in the event log.

To use network time protocol (NTP) servers to set the date and time, refer to “Setting the Date and Time with Network Time Protocol Servers” on page 67.

There are two procedure to manually setting the date and time:

- “Setting the Time Zone,” next
- “Setting the Date and Time” on page 64

---

### Note

You must set the time zone first and boot the media converter chassis before setting the date and time.

---

### Setting the Time Zone

The steps to setting the time zone are illustrated in Figure 23 on page 63 and described in the following procedure.

---

### Note

This procedure involves booting the media converter chassis. Some network traffic will be lost if the media converter modules are connected to active networks.

---

To manually set the date and time on the management module:

1. Select **Configuration** from the main menu.
2. Select the **Time** tab.
3. Use the **Time Zone** pull-down menu to select the time zone of the location where the media converter is installed. You can select only one time zone.
4. Click the **Save** button to save your changes.
5. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.
6. Boot the media converter chassis. Refer to “Booting the Media Converter Chassis” on page 74.
7. Go to “Setting the Date and Time” on page 64.

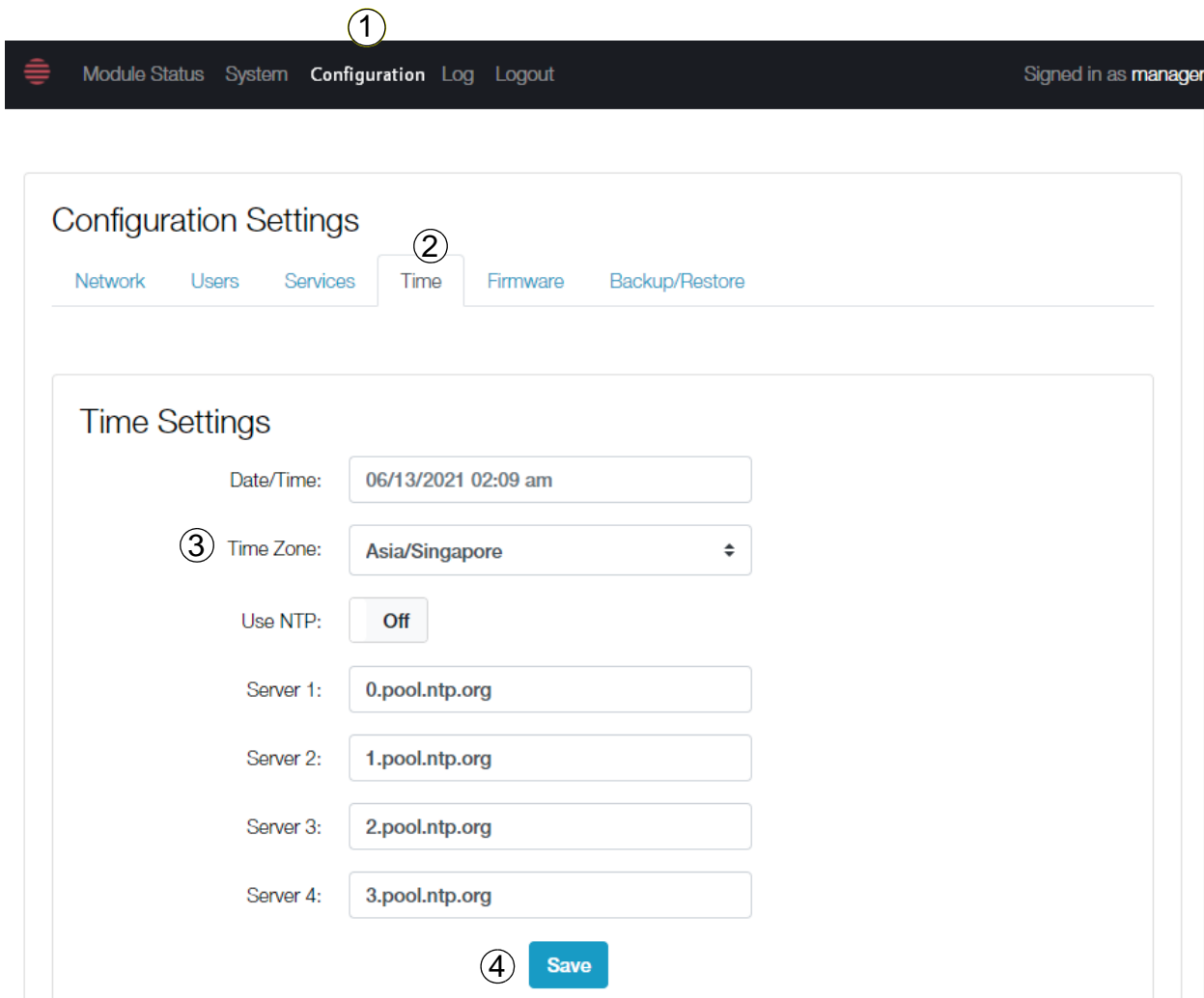


Figure 23. Time Settings Window - Setting the Time Zone

## Setting the Date and Time

The steps to manually setting the date and time are illustrated in Figure 24 and described in the following procedure.

The screenshot shows the 'Configuration Settings' interface. At the top, there is a dark navigation bar with a hamburger menu icon, 'Module Status', 'System', 'Configuration', 'Log', and 'Logout'. On the right, it says 'Signed in as manager'. Below this is the 'Configuration Settings' section with tabs for 'Network', 'Users', 'Services', 'Time', 'Firmware', and 'Backup/Restore'. The 'Time' tab is active. Underneath, the 'Time Settings' section contains:
 

- Date/Time:** A text input field containing '06/13/2021 02:09 am'.
- Time Zone:** A dropdown menu showing 'Asia/Singapore'.
- Use NTP:** A toggle switch set to 'Off'.
- Server 1:** A text input field containing '0.pool.ntp.org'.
- Server 2:** A text input field containing '1.pool.ntp.org'.
- Server 3:** A text input field containing '2.pool.ntp.org'.
- Server 4:** A text input field containing '3.pool.ntp.org'.

 At the bottom center, there is a blue 'Save' button.

Figure 24. Time Settings Window - Setting the Date and Time Manually

To manually set the date and time on the management module:

1. Select **Configuration** from the main menu.
2. Select the **Time** tab.
3. Click the **Date/Time** field.

The management module displays the calendar. Refer to Figure 25 on page 65.



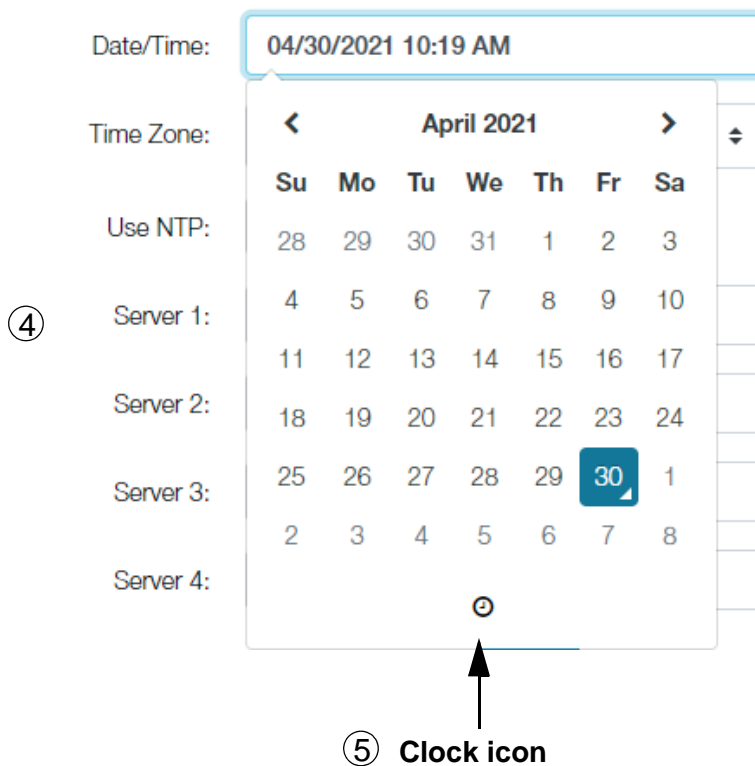


Figure 25. Calendar

4. Click the current day and month. Use the left (<) and right (>) arrows to move through the months.
5. Click the **Clock** icon in the calendar to display the time. Refer to Figure 26 on page 66.
6. Use the up and down arrows to set the hours and minutes. You cannot set seconds.
7. Click the **AM/PM** switch to toggle **AM** or **PM**.
8. Set **Use NTP** to **Off**. This is the default setting.
9. Click the **Save** button to save your changes.
10. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

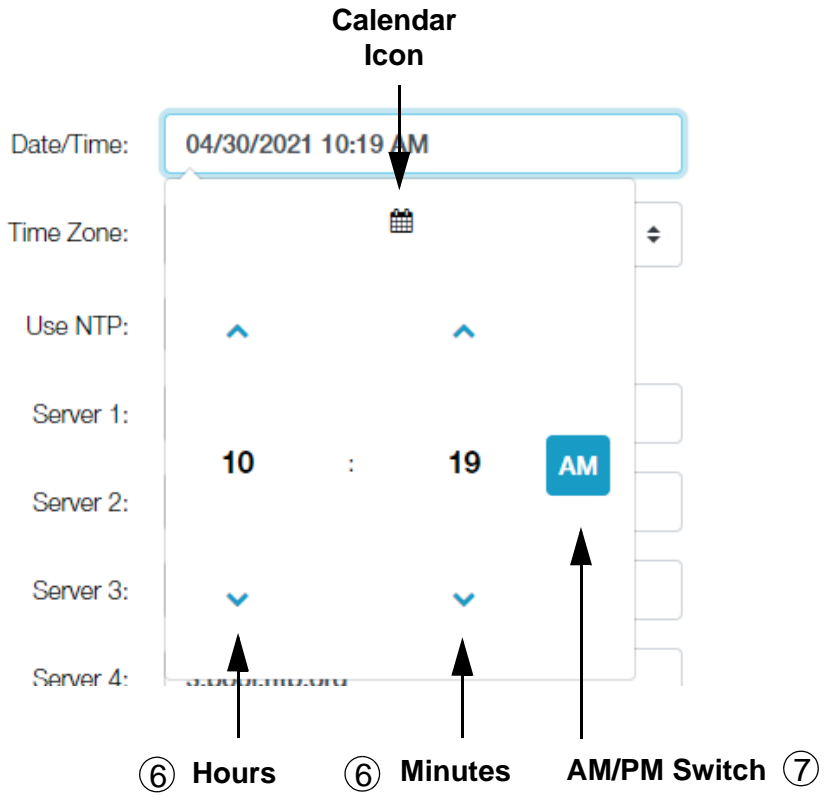


Figure 26. Time

## Setting the Date and Time with Network Time Protocol Servers

---

The MCF3000M management module has a Network Time Protocol (NTP) client. It enables the module to automatically set the date and time from NTP servers on your network or the Internet. Here are the client guidelines:

- ❑ You can enter up to four NTP servers.
- ❑ You can specify the servers by their IP addresses or host names.
- ❑ The management module polls the server when powered on or booted.
- ❑ The management module polls one server at a time. If there is no response, it polls the next server in the list.
- ❑ The management module must have an IP address. For instructions, refer to “Assigning a Dynamic IP Address to the MCF3000M Management Module” on page 47 or “Assigning a Static IP Address to the MCF3000M Management Module” on page 50.
- ❑ The MGMT management port has to be connected to a network device, such as a Fast Ethernet or Gigabit switch. The management module communicates with the NTP servers through this port.
- ❑ The NTP servers have to be members of the same network as the management module or have access to it through Layer 3 routing devices.
- ❑ If the management module and NTP servers are on different networks, the IP address configuration on the management module has to include a default gateway that specifies the IP address of the first hop to reaching the workstation.

---

### Note

You have to boot the management module to activate your changes to the NTP client. Refer to “Booting the Media Converter Chassis” on page 74.

---

The steps to configuring the NTP client are illustrated in Figure 27 on page 68 and described in the following procedure.

To configure the NTP client:

1. Select **Configuration** from the main menu.
2. Select the **Time** tab.
3. Set **Use NTP** to **On** to enable the NTP client.

4. Enter the IPv4 addresses or host names of up to four NTP servers in the **Server 1** to **Server 4** fields. To remove an IP address without assigning a new value, enter 0.0.0.0.
5. Click the **Save** button to save your changes.

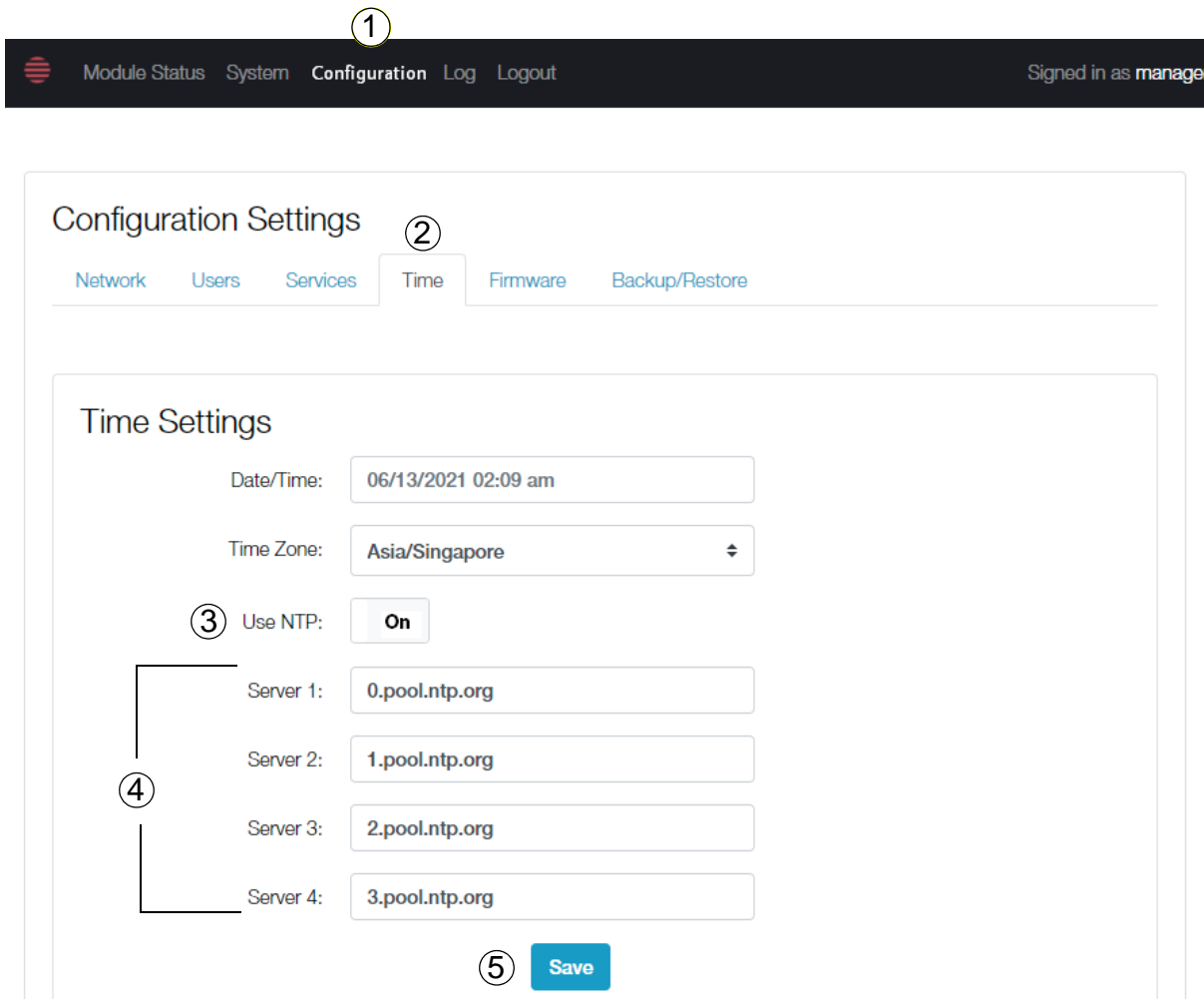


Figure 27. Time Settings Window - Configuring the NTP Client

6. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

**Note**

Your changes to the NTP client are activated the next time you boot the media converter. To activate your changes now, go to “Booting the Media Converter Chassis” on page 74.

## Changing the Passwords to the On-Board Manager and User1 Accounts

---

The MCF3000M management module has two on-board accounts:

- Manager:** With this account you can view and change all the parameter settings in the media converter, and display traffic statistics. The login name is “manager” and the default password is “friend”.
- User1:** With this account you can only view the settings and traffic statistics. You cannot change any settings. The login name is “user1” and the default password is “user1”.

---

### Note

You cannot add more on-board accounts.

---

You cannot change the user names of the on-board accounts, but you can change their passwords. The steps are illustrated in Figure 28 on page 70 and explained in the following procedure.

To change the passwords of the on-board accounts:

1. Select **Configuration** from the menu bar.
2. Select the **Users** tab.
3. Select the **Password** field of the on-board account to change and enter a new password. Here are the guidelines:
  - An account can have only one password.
  - A password can have a maximum of 16 characters.
  - Passwords are case sensitive.
  - Special characters, such as asterisks, questions marks, and quotation marks are supported.
  - Spaces and the percent character (%) are not allowed.
  - The icons to the right of the fields are used to toggle how passwords are displayed. You can display the password as asterisks or in clear text.
4. Select the **Confirm Password** field and reenter the password.
5. Click the **Save** button that corresponds to the account you changed.
6. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

You have to use the new passwords the next time you log on using the accounts.

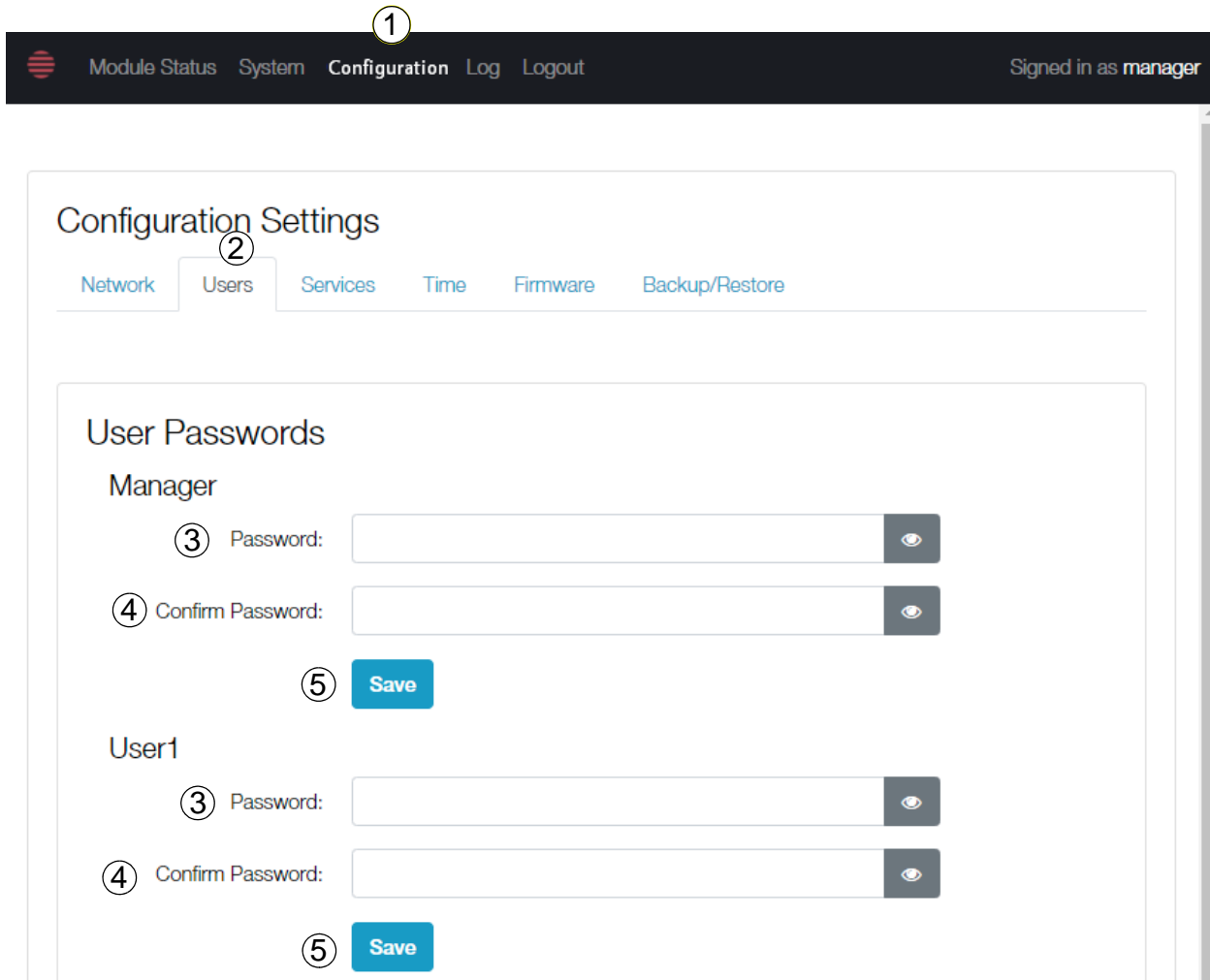


Figure 28. User Passwords Window - Changing the Passwords to the On-board Accounts

## Enabling or Disabling the Telnet and Secure Shell Servers

---

The management module has Telnet and Secure Shell servers. You can use the servers to remotely manage the unit with the command line interface from management workstations that have Telnet or SSH clients. For instructions, refer to the *MCF3000 Series Command Line Interface User Guide*.

Allied Telesis does not recommend using the Telnet protocol to manage the media converter. It is not a secure communications tool. Telnet communications are sent in “clear text,” leaving them vulnerable to snooping from network intruders. For remote management with the command line interface, Allied Telesis recommends the SSH protocol, which encrypts communications to protect against snooping.

You can enable or disable the servers. The default setting is enabled. You should disable the servers if you will not be using them to manage the media converter chassis. This can help prevent unauthorized manager access.

---

### Note

Enabling to disabling the Telnet and SSH servers requires booting the media converter chassis. Some network traffic will be lost if the media converter modules are connected to active networks.

---

The steps are illustrated in Figure 29 on page 72 and explained in the following procedure.

To enable or disable the servers:

1. Select **Configuration** from the menu bar.
2. Select the **Services** tab.
3. To enable or disable the Telnet server, select one of the following from the **Telnet** option:
  - On**: Enables the server, permitting remote Telnet management. This is the default setting.
  - Off**: Disables the server.
4. To enable or disable the SSH server, select one of the following from the **Secure Shell** option:
  - On**: Enables the server, permitting remote SSH management. This is the default setting.
  - Off**: Disables the server.

5. Click the **Save** button to save and activate your changes.
6. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

---

**Note**

Your changes to the Telnet and SSH clients are activated the next time you boot the media converter. To activate your changes now, go to “Booting the Media Converter Chassis” on page 74.

---

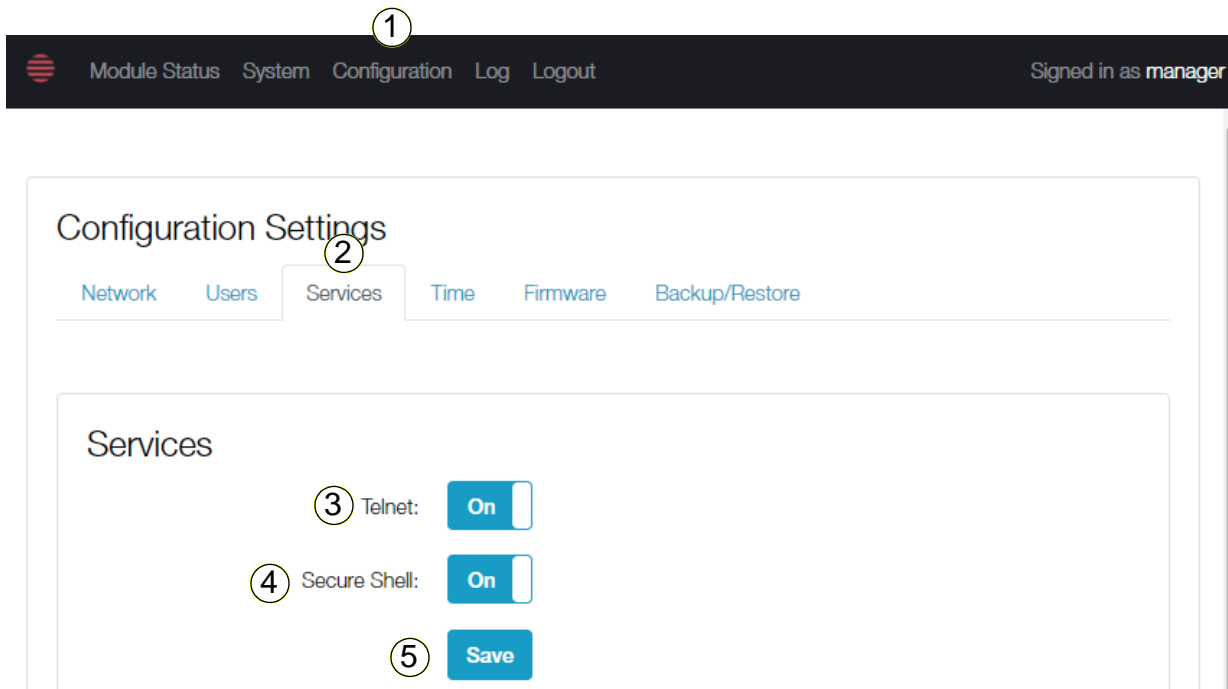


Figure 29. Services Window - Enabling or Disabling the Telnet and SSH Servers



## Viewing the Management Log

---

The management module maintains a log of the dates and times that managers log on the manager and user1 accounts. To display the log, select **Log** from the main menu. An example is shown in Figure 30.

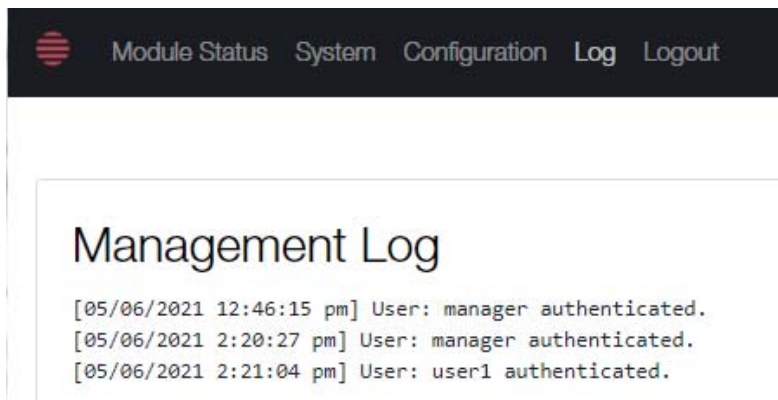


Figure 30. Management Log Window

## Booting the Media Converter Chassis

---

This section contains the procedure for booting the MCF3000M management module and media converter modules in the chassis. You might boot the system to activate configuration changes, to reapply the settings in the configuration file, or to discard configuration changes that are not saved.



---

### Warning

Booting the management and media converter modules is disruptive to network operations. The media converter modules stop forwarding traffic on their ports while they initialize their management software. *see* E132

---

Review the following information before performing the procedure:

- Any changes you have made to the parameter settings of the modules but not saved in the configuration file are discarded when the system is booted.
- Booting the system ends your management session. To continue managing the chassis, wait one minute for the modules to initialize their management software and then start a new management session.

To boot the management and media converter modules:

1. Select **System** from the menu bar.
2. Scroll to the bottom of the window.
3. Click the **System Restart** button.

The management module displays a confirmation prompt.

4. Click the **OK** button to boot the management module or the **Cancel** button to stop the procedure.

If you click OK, the management module boots and your management session stops.

5. To resume managing the media converter, wait one minute for the modules to initialize their software, and then start a new management session.

## Chapter 5

# Basic Management of Media Converter Modules

---

This chapter contains the following sections:

- “Displaying General Status of Media Converter Ports” on page 76
- “Naming Media Converter Module Slots” on page 79
- “Powering On or Off Media Converter Module Slots” on page 81

## Displaying General Status of Media Converter Ports

This procedure explains how to display status summaries of the copper and fiber optic ports on the media converter modules. The information includes the status of port links and port speeds. The steps are illustrated in Figure 31 and provided in the following procedure:

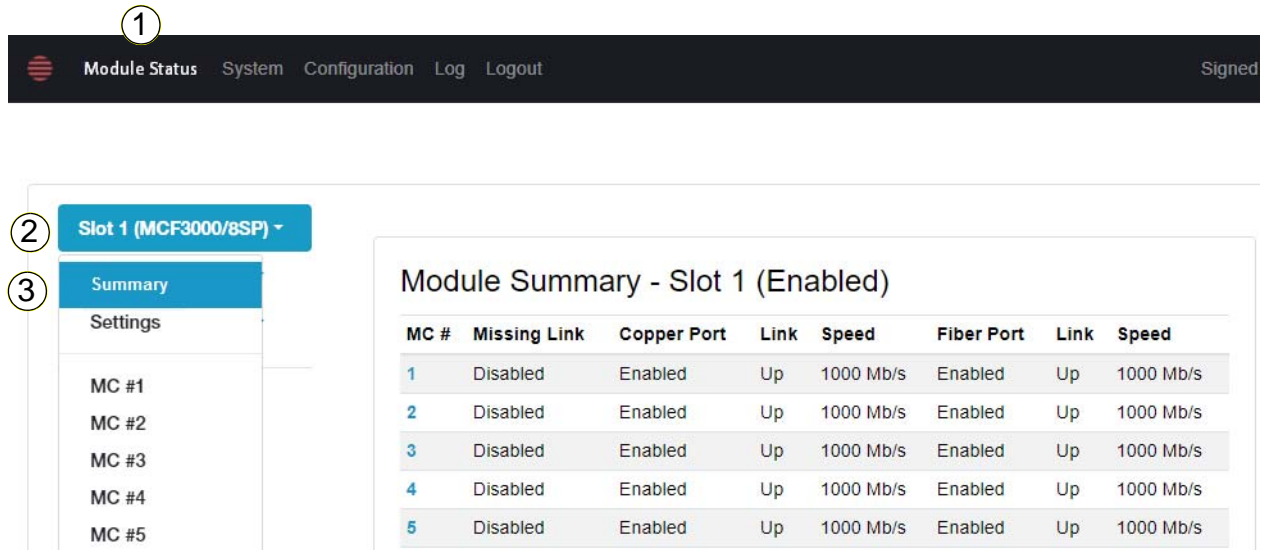


Figure 31. Slot Module Summary Window - Displaying Port Status Summary

To display port status summary:

1. Select **Module Status** from the main menu. This is the default selection.
2. In the **Slot # (Module)** menu, select the chassis slot that has the media converter module with the ports you want to view. In Figure 31, the media converter module in slot 1 is selected. You can view only one module at a time.
3. From the pull-down menu, select **Summary**. The columns in the table are defined in Table 9.

Table 9. Module Summary - Slot

Column	Description
MC #	Identifies the media converter channel. Media converter channel 1 has copper port 1 and fiber optic port 1, channel 2 has copper port 2 and fiber optic port 2, and so on.

Table 9. Module Summary - Slot (Continued)

Column	Description
Missing Link	<p>Displays MissingLink mode status. The states are:</p> <ul style="list-style-type: none"> <li>- Enabled: MissingLink mode is enabled on the media converter channel.</li> <li>- Disabled: MissingLink mode is disabled.</li> </ul> <p>Refer to “MissingLink Mode” on page 29 for background information or “Enabling or Disabling the MissingLink Mode” on page 93.</p>
Copper Port	<p>Displays the state of the copper port in the media converter channel: The states are:</p> <ul style="list-style-type: none"> <li>- Enabled: The port is enabled. It can forward ingress and egress traffic.</li> <li>- Disabled: The port is disabled. It is blocked from forwarding ingress and egress traffic.</li> </ul> <p>Refer to “Configuring Copper and Fiber Optic Ports” on page 87.</p>
Link	<p>Displays the link state of the copper port. The states are listed here:</p> <ul style="list-style-type: none"> <li>- Up: The port has established a link to a network device.</li> <li>- Down: The port has not established a link to a network device.</li> </ul> <p>Possible causes of the Link Down state include:</p> <ul style="list-style-type: none"> <li>- The port is not connected to a network device.</li> <li>- The network device is not powered on.</li> <li>- The port or media converter module is disabled.</li> </ul>
Speed	<p>Displays the speed of the copper port. Possible speeds are listed here:</p> <ul style="list-style-type: none"> <li>- 10 Mb/s</li> <li>- 100 Mb/s</li> <li>- 1000 Mb/s</li> <li>- 10 Gb/s (MCF3010T/4SP module only)</li> </ul>

Table 9. Module Summary - Slot (Continued)

Column	Description
Fiber Port	<p>Displays the state of the fiber port of the media converter channel: The states are:</p> <ul style="list-style-type: none"> <li>- Enabled: The port is enabled. It can forward ingress and egress traffic.</li> <li>- Disabled: The port is disabled. It is blocked from forwarding ingress and egress traffic.</li> </ul> <p>Refer to “Configuring Copper and Fiber Optic Ports” on page 87.</p>
Link	<p>Displays the link state of the fiber optic port. The states are:</p> <ul style="list-style-type: none"> <li>- Up: The port has established a link to a network device.</li> <li>- Down: The port has not established a link to a network device.</li> </ul> <p>Possible causes of the Link Down state include:</p> <ul style="list-style-type: none"> <li>- The port is not connected to a network device.</li> <li>- The network device is not powered on.</li> <li>- The port or media converter module is disabled.</li> </ul>
Speed	<p>Displays the speed of the fiber optic port. Possible speeds are listed here:</p> <p>MCF3000/8SP module:</p> <ul style="list-style-type: none"> <li>- 100 Mb/s</li> <li>- 1000 Mb/s</li> </ul> <p>MCF3000/8LC module:</p> <ul style="list-style-type: none"> <li>- 1000 Mb/s</li> </ul> <p>MCF3010T/4SP module:</p> <ul style="list-style-type: none"> <li>- 10 Gb/s</li> </ul>

## Naming Media Converter Module Slots

This procedure explains how to assign names to the media converter module slots in the chassis. Names are displayed only in the window described in this section.

### Note

Names are applied to media converter module slots and not to the modules. Names remain with the slots when you remove or replace modules.

The steps are illustrated in Figure 32 and explained in the following procedure.

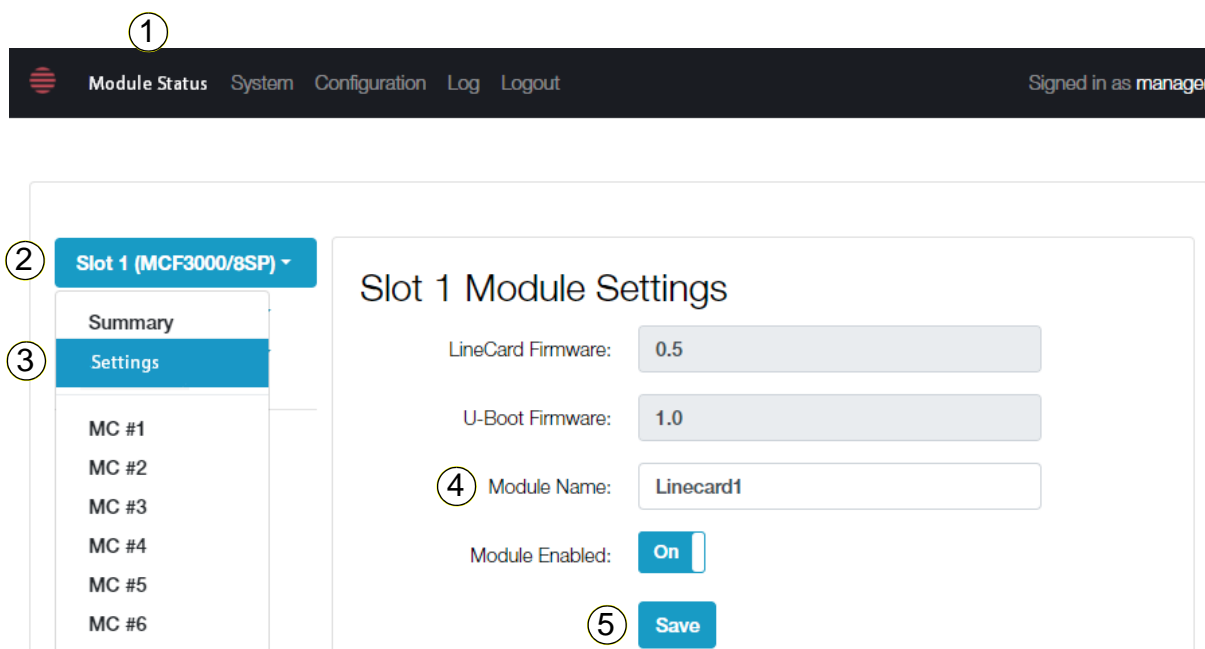


Figure 32. Slot Module Settings Window - Naming Media Converter Module Slots

To assign a name to a media converter module:

1. Select **Module Status** from the main menu. This is the default selection.
2. From the **Slot # (Module)** menu, click the chassis slot containing the media converter module you want to assign a name. The example in Figure 32 selects the media converter module in slot 1.
3. From the pull-down menu, select **Settings**.

---

**Note**

The Module Enabled feature in the Module Settings window is explained in “Powering On or Off Media Converter Module Slots” on page 81.

---

4. Click the **Module Name** field and enter a new name. Here are the guidelines:
  - A name can have up to 16 characters. Spaces and special characters are allowed.
  - A media converter module can have only one name.
  - The default name is “Linecard#”.
5. Click the **Save** button to save your change.
6. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.



## Powering On or Off Media Converter Module Slots

You can power on or off the individual chassis slots with the media converter modules. Powering off a chassis slots shuts down the media converter module, thus preventing it from forwarding traffic on its ports and channels. You might power off a slot if its media converter module is experiencing a problem or to protect against a network attack.

---

### Note

Powering off a module slot immediately stops its media converter module from forwarding network traffic.

---



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### Note

A module slot remains powered off until you power it on again, even if you remove or replace the media converter module.

---

The steps are illustrated in Figure 33 and explained in the following procedure.

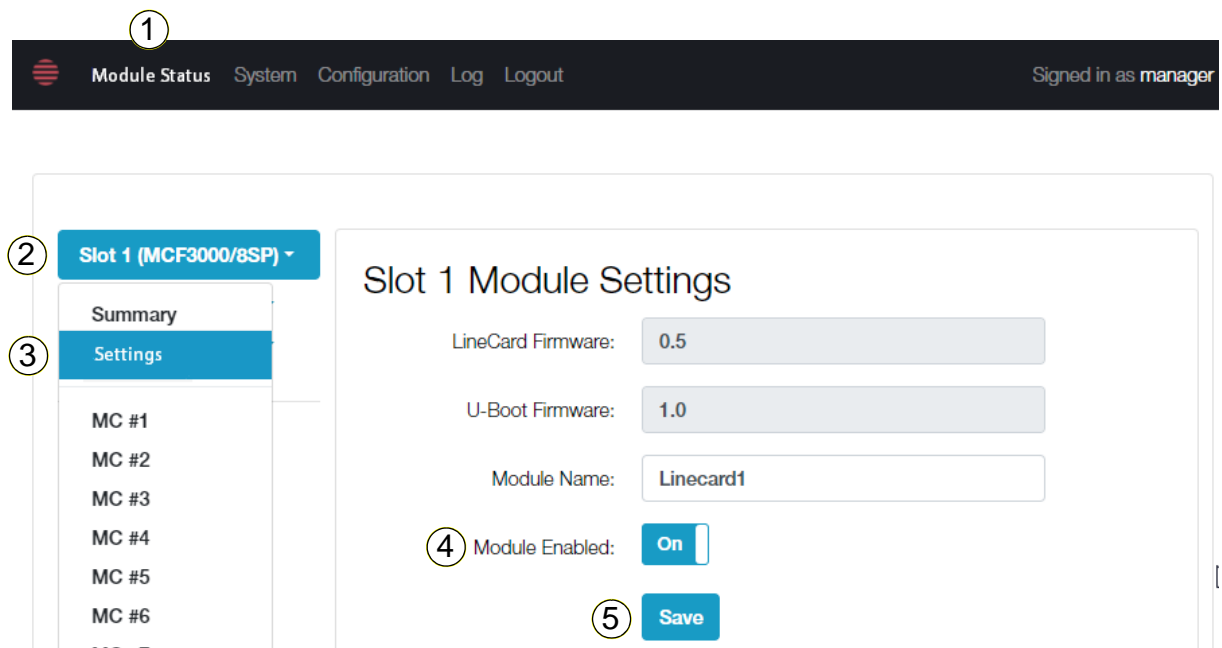


Figure 33. Slot Module Settings Window - Powering Off or On Chassis Slots

To power on or off a module slot of a media converter module:

1. Select **Module Status** from the menu bar. This is the default selection.
2. From the **Slot # (Module)** menu, click the module slot to be powered off or on. The example in Figure 33 shows the selection of slot 1. You can select only one slot.
3. From the pull-down menu, select **Settings**.
4. Toggle the **Module Enabled** option. Your choices are listed here:
  - On:** The module slot is powered on. The chassis provides power to the slot and its media converter module. This is the default.
  - Off:** The module slot is powered off. The chassis shuts off electrical power to the slot.
5. Click the **Save** button to save and activate your change.
6. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

## Chapter 6

# Copper and Fiber Optic Ports

---

This chapter contains the following sections:

- ❑ “Displaying Port Status” on page 84
- ❑ “Configuring Copper and Fiber Optic Ports” on page 87
- ❑ “Displaying Port Statistics” on page 90
- ❑ “Enabling or Disabling the MissingLink Mode” on page 93

## Displaying Port Status

This section contains the procedure for viewing the current status and settings of the individual copper and fiber optic ports in the media converter channels. (To view the general status of all ports in media converter modules, refer to “Displaying General Status of Media Converter Ports” on page 76.) The steps are illustrated in Figure 34 and explained in the following procedure.

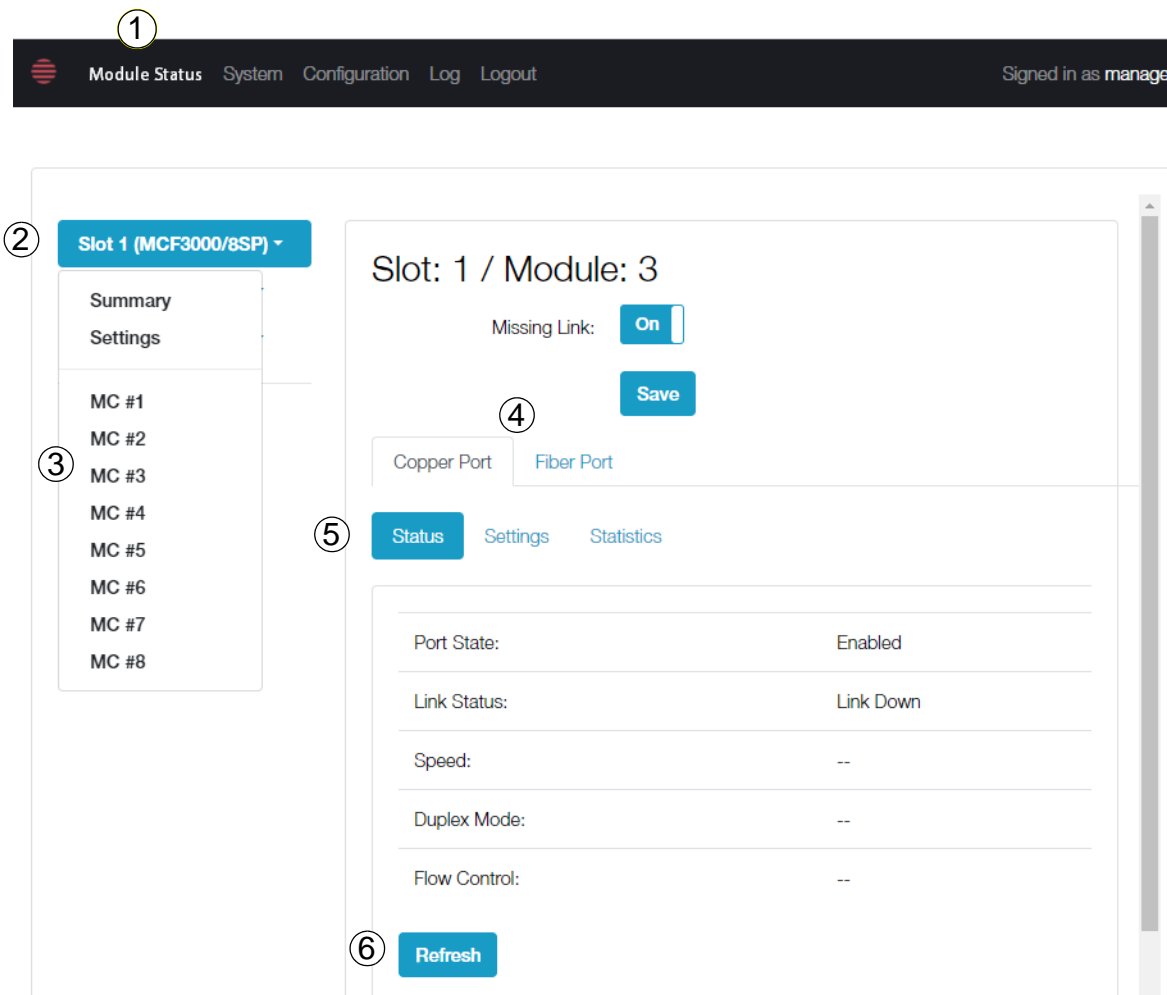


Figure 34. Slot / Module Window - Viewing Status and Settings of Copper or Fiber Optic Ports

To view the status of copper or fiber optic ports:

1. Select **Module Status** from the menu bar. This is the default selection.
2. In the **Slot # (Module)** menu, click a chassis slot with a media converter module to view the status of the ports. You can view only one module at a time.

3. From the pull-down menu, select a media converter. MC #1 has copper port 1 and fiber optic port 1, MC #2 has copper port 2 and fiber optic port 2, and so on. You can select only one media converter.
4. Select either the **Copper Port** or **Fiber Port** tab. The default is the Copper Port tab. You can select only one port.
5. Select the **Status** tab. This is the default tab.

The fields in Port Status are defined in Table 10.

Table 10. Status Tab for Copper and Fiber Optic Ports

Parameter	Description
Port State	Displays one of the following: <ul style="list-style-type: none"> <li>- Enabled: The port forwards ingress and egress traffic.</li> <li>- Disabled: The port blocks ingress and egress traffic.</li> </ul> To enable or disable ports, refer to “Configuring Copper and Fiber Optic Ports” on page 87.
Link State	Displays the status of the port link to a network device. The possible states are listed here: <ul style="list-style-type: none"> <li>- Link Up: The port has established a network link to a network device,</li> <li>- Link Down: The port has not established a link to a network device,</li> </ul> Possible causes of the Link Down state include: <ul style="list-style-type: none"> <li>- The port is not connected to a network device.</li> <li>- The network device is not powered on.</li> <li>- The port or media converter module is disabled.</li> </ul>
Speed -Copper Port	Displays the operational speed of the port. The possible speeds of the copper ports are listed here: <ul style="list-style-type: none"> <li>- 10 Mb/s</li> <li>- 100 Mb/s</li> <li>- 1000 Mb/s</li> <li>- 10 Gb/s (MCF3010T/4SP module only)</li> </ul>

Table 10. Status Tab for Copper and Fiber Optic Ports (Continued)

Parameter	Description
Speed -Fiber Optic Port	Displays the operational speed of the port. The possible speeds of the fiber optic port are listed here: MCF3000/8SP module: - 100Mb/s - 1000Mb/s MCF3000/8LC module: - 1000Mb/s MCF3010T/4SP module: - 10Gb/s
Duplex Mode	Displays the operational duplex mode of the port, which can be one of the following: - Half Duplex - Full Duplex
Flow Control	Displays the status of flow control: - Enabled: Flow control is enabled on the port. - Disabled: Flow control is disabled.

6. To update the status information, click the **Refresh** button.

## Configuring Copper and Fiber Optic Ports

This section contains the procedure for configuring the individual copper and fiber optic ports in the channels on the media converter modules. Here are the management functions:

- Enabling or disabling ports
- Setting port speeds and duplex modes
- Enabling or disabling flow control

The steps are illustrated in Figure 35 and explained in the following procedure.

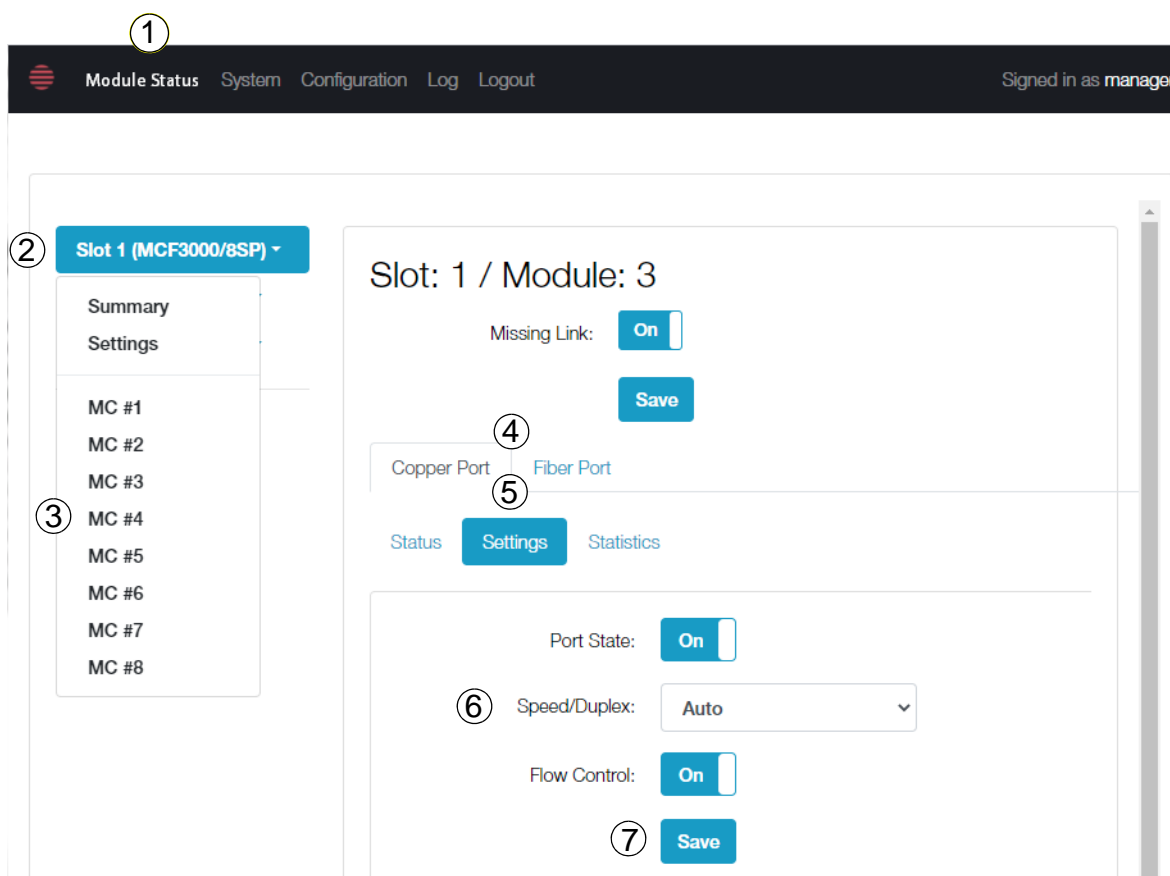


Figure 35. Slot / Module Window - Configuring Copper and Fiber Optic Ports

To configure copper and fiber optic ports:

1. Select **Module Status** from the menu bar. This is the default selection.
2. From the **Slot # (Module)** menu, click the chassis slot and media converter module with the copper or fiber optic ports you want to configure. You can configure only one media converter module at a time.
3. From the pull-down menu, select the media converter channel with the ports to be configured. MC #1 contains copper port 1 and fiber optic port 1, MC #2 has copper port 2 and fiber optic port 2, and so on. You can configure only one media converter channel at a time.
4. Select either the **Copper Port** or **Fiber Port** tab. The default is the Copper Port tab.
5. Select the **Settings** tab to display the port settings.
6. Configure the port settings by referring to Table 11.

Table 11. Copper and Fiber Optic Port Settings

Parameter	Description
Port State	<p>Enables or disables ports. Disabling ports stops them from forwarding all ingress and egress network traffic. You might disable a port to isolate it from your network if it is experiencing a problem or because of a network attack. Options are listed here:</p> <ul style="list-style-type: none"> <li>- <b>On</b>: The port is enabled. It forwards all ingress and egress network traffic. This is the default.</li> <li>- <b>Off</b>: The port is disabled. It blocks all ingress and egress network traffic, and blocks its link to the network device.</li> </ul>
Speed Duplex - Copper Port	<p>Specifies the speed and duplex mode of a copper port. Available settings are listed here:</p> <ul style="list-style-type: none"> <li>- <b>10Mb/Half Duplex</b></li> <li>- <b>10Mb/Full Duplex</b></li> <li>- <b>100Mb/Half Duplex</b></li> <li>- <b>100Mb/Full Duplex</b></li> <li>- <b>1000Mb/Full Duplex</b></li> <li>- <b>10Gb/Full Duplex</b> (MCF3010T/4SP only)</li> <li>- <b>Auto</b> for Auto-Negotiation. This is the default setting.</li> </ul>



Table 11. Copper and Fiber Optic Port Settings (Continued)

Parameter	Description
Speed Duplex - Fiber Port	<p>Specifies the speed and duplex mode of a fiber optic port. You can select only one setting. Available settings are listed here:</p> <p>MCF3000/8LC module:</p> <ul style="list-style-type: none"> <li>- <b>1000Mb/Full Duplex</b></li> <li>- <b>Auto</b> for Auto-Negotiation. This is the default setting.</li> </ul> <p>MCF3000/8SP module:</p> <ul style="list-style-type: none"> <li>- <b>100Mb/Full Duplex</b></li> <li>- <b>1000Mb/Full Duplex</b></li> <li>- <b>Auto</b> (1000Mb/Full Duplex)</li> </ul> <p>MCF3010T/4SP module:</p> <ul style="list-style-type: none"> <li>- <b>1000Mb/Full Duplex</b></li> <li>- <b>10Gb/Full Duplex</b></li> <li>- <b>Auto</b> for Auto-Negotiation. This is the default setting.</li> </ul>
Flow Control	<p>Enables or disables flow control. The selections are listed here:</p> <ul style="list-style-type: none"> <li>- <b>On</b>: Flow control on the port is enabled. This is the default.</li> <li>- <b>Off</b>: Flow control is disabled.</li> </ul>

Here are guidelines to configuring channel ports:

- The copper and fiber optic ports of a channel can be set to different speeds and flow control settings.
  - The copper and fiber optic ports of a channel, and the network devices connected to the ports, should use the same duplex mode. Full duplex mode is recommended for best performance. A media converter channel may experience reduced performance if its copper and fiber optic ports are set to different duplex modes.
7. Click the **Save** button to save and activate your changes.
  8. In the Save Network Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

## Displaying Port Statistics

This section contains the procedure for viewing traffic statistics on the copper and fiber optic ports in the media converters. The steps are illustrated in Figure 36 and explained in the following procedure.

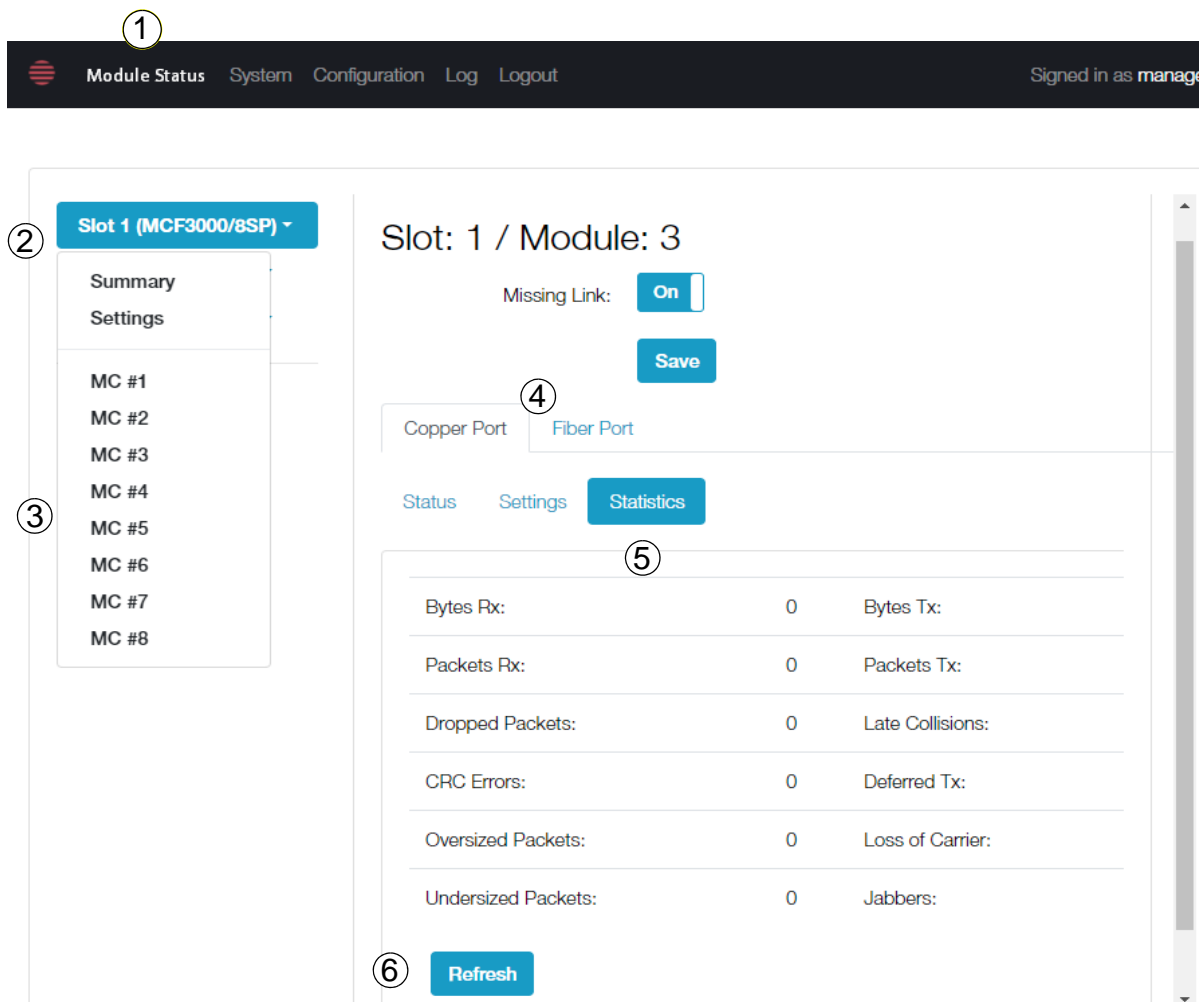


Figure 36. Slot / Module Window - Displaying Copper and Fiber Optic Ports Statistics

To display port statistics:

1. Select **Module Status** from the menu bar. This is the default selection.
2. From the **Slot # (Module)** menu, click the chassis slot and media converter module with the port that has statistics you want to view. You can view only one module.

3. From the pull-down menu, select the media converter with the port to view. MC #1 contains copper port 1 and fiber optic port 1, MC #2 has copper port 2 and fiber optic port 2, and so on. You can select only one media converter.
4. Click either the **Copper Port** or **Fiber Optic** tab. The Copper Port is the default tab.
5. Click the **Statistics** tab.

The statistics are defined in Table 12.

6. To refresh the statistics, click the **Refresh** button.

Table 12. Statistics Tab for Copper or Fiber Optic Ports

Statistic	Description
Bytes Rx	Displays the number of received bytes.
Bytes Tx	Displays the number of transmitted bytes.
Packets Rx	Displays the number of received packets.
Packets Tx	Displays the number of transmitted packets.
Dropped Packets	Displays the number of frames successfully received and buffered by the port, but discarded and not forwarded.
Late Collisions	Displays the number of late collisions.
CRC Errors	Displays the number of ingress frames with cyclic redundancy check (CRC) errors but with the proper length (64-1518 bytes) received by the port.
Deferred Tx	Displays the number of egress packets that were delayed due to other traffic on the cable. This counter applies to ports operating at half-duplex mode and to packets that were successfully transmitted without collision after delay. Packets that are delayed and never successfully transmitted are counted as dropped packets.
Oversized Packets	Displays the number of received packets that exceeded the maximum size as specified by IEEE 802.3 (1518 bytes including the CRC).

Table 12. Statistics Tab for Copper or Fiber Optic Ports (Continued)

<b>Statistic</b>	<b>Description</b>
Loss of Carrier	Displays the number of loss of carrier events, where a media converter module detects no carrier signal on a port at the conclusion of frame transmissions, indicating an idle condition.
Undersized Packets	Displays the number of frames that were less than the minimum length as specified in the IEEE 802.3 standard (64 bytes including the CRC).
Jabbers	Displays the number of times the port has encountered corrupted packets or useless signals.

## Enabling or Disabling the MissingLink Mode

This section contains the procedure for enabling or disabling the MissingLink mode on individual channels on the media converter modules. For background information, refer to “MissingLink Mode” on page 29. The steps are illustrated in Figure 37 and explained in the following procedure.

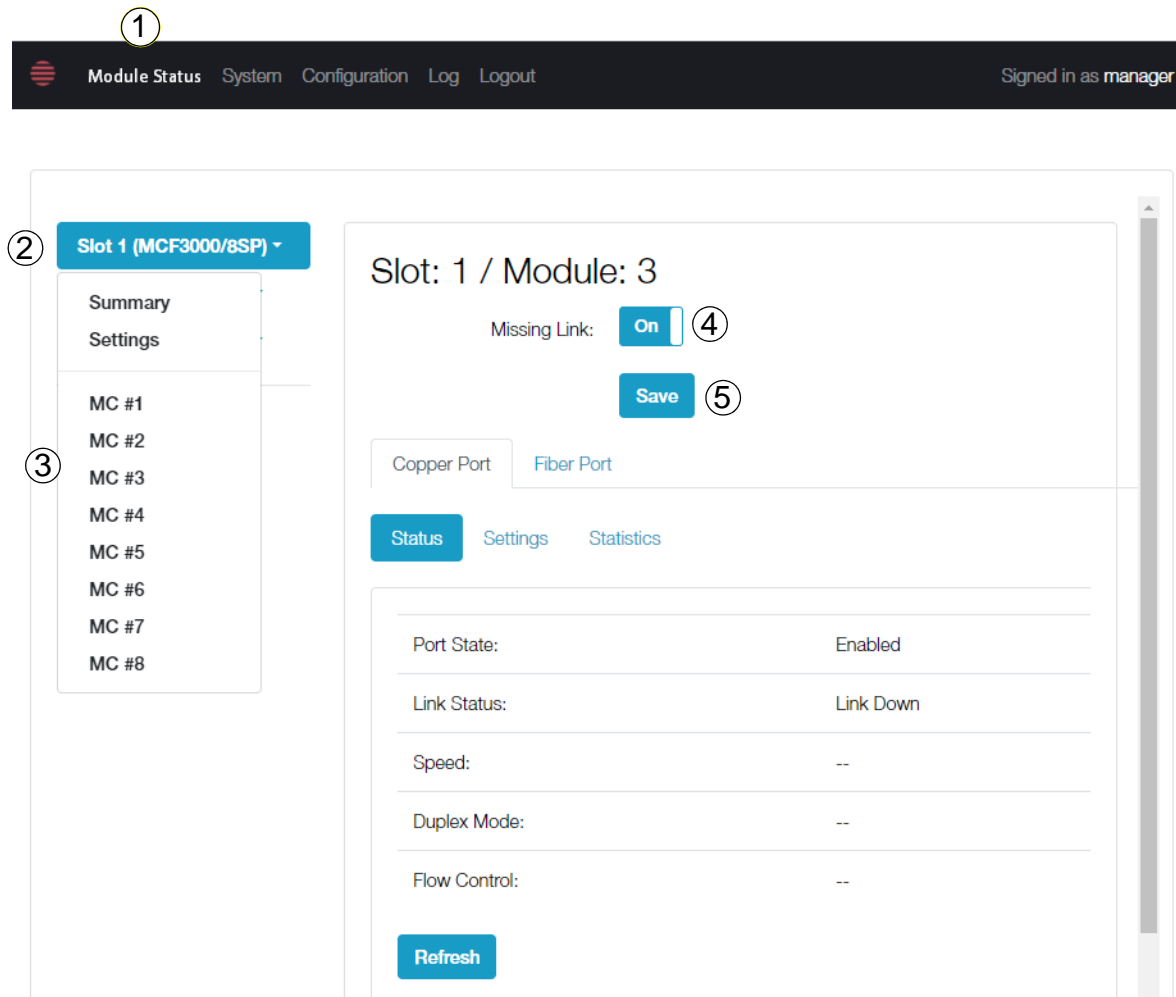


Figure 37. Slot / Module Window - Enabling or Disabling the MissingLink Mode

To enable or disable the MissingLink mode on individual media converter channels:

1. Select **Module Status** from the menu bar. This is the default selection.
2. From the **Slot # (Module)** menu, click the chassis slot and media converter module with the media converter channels where you want to enable or disable the MissingLink mode.

3. From the pull-down menu, select the media converter module with the channel to configure. MC #1 contains copper port 1 and fiber optic port 1, MC #2 has copper port 2 and fiber optic port 2, and so on. You can select only one media converter.
4. For **MissingLink**, select one of the following:
  - On**: Enables the MissingLink mode. This is the default.
  - Off**: Disables the MissingLink mode.
5. Click the **Save** button to save and activate your changes.
6. In the Save Settings pop-up window, click **OK** to permanently save your changes in the configuration file or **Cancel** to cancel the procedure.

## Chapter 7

# Configuration Files

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This chapter has the following sections:

- ❑ “Saving Backup Configuration Files from the MCF3000M Management Module” on page 96
- ❑ “Restoring Backup Configuration Files to the MCF3000M Management Module” on page 98
- ❑ “Restoring the Factory Default Values” on page 101

## Saving Backup Configuration Files from the MCF3000M Management Module

This section contains instructions for saving a backup file of the configuration settings of the media converter, on your computer. You can use the file to restore the settings to the media converter, configure a replacement media converter, or assign the same settings to multiple media converters. Here are the guidelines:

- ❑ Saving a backup configuration file does not interrupt the network operations of the media converters.
- ❑ You cannot edit the backup file.
- ❑ The backup file contains the settings that you saved in the media converter's configuration file. Changes that you make but not save are not saved in the backup file.
- ❑ The backup filename is mcf3000\_backup.bin. Do not change the filename of the backup file.
- ❑ The default destination for the file is the download folder on your computer. Refer to your computer's documentation for instructions on downloading the file to a different folder.

The steps are illustrated in Figure 38 and explained in the following procedure.

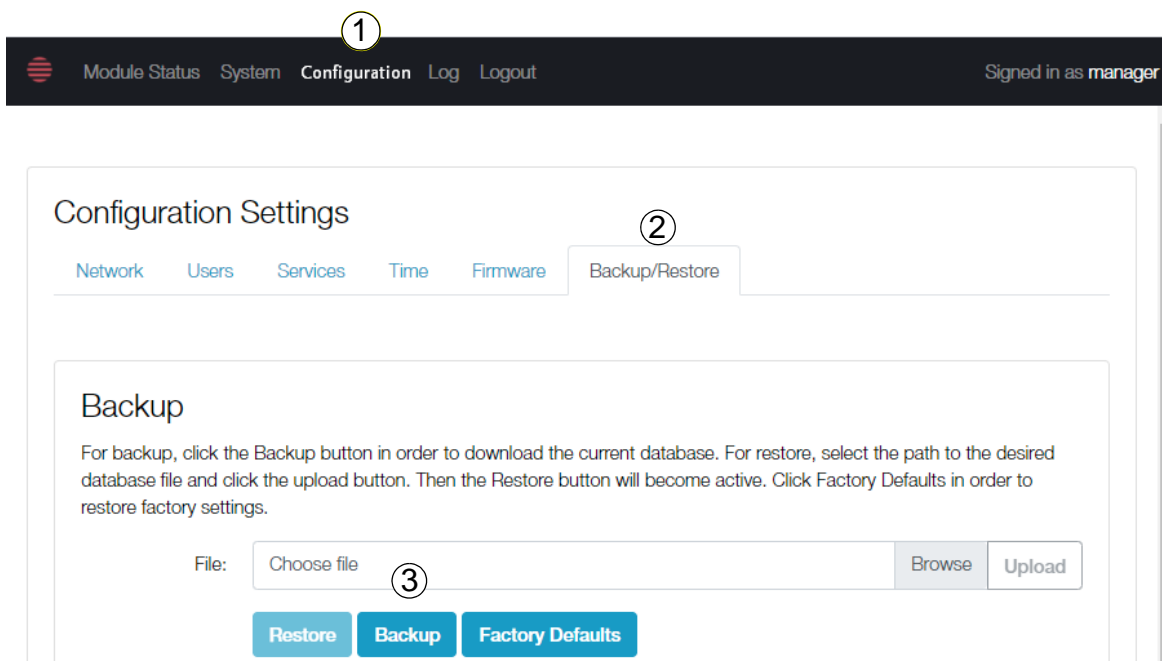


Figure 38. Backup Window - Saving a Backup Copy of the Configuration File



To save a backup file of the configuration settings of the media converter on your computer:

1. Select **Configuration** from the main menu.
2. Select the **Backup/Restore** tab.
3. Click the **Backup** button.

The media converter displays the Backup System Configuration window. Refer to Figure 39.

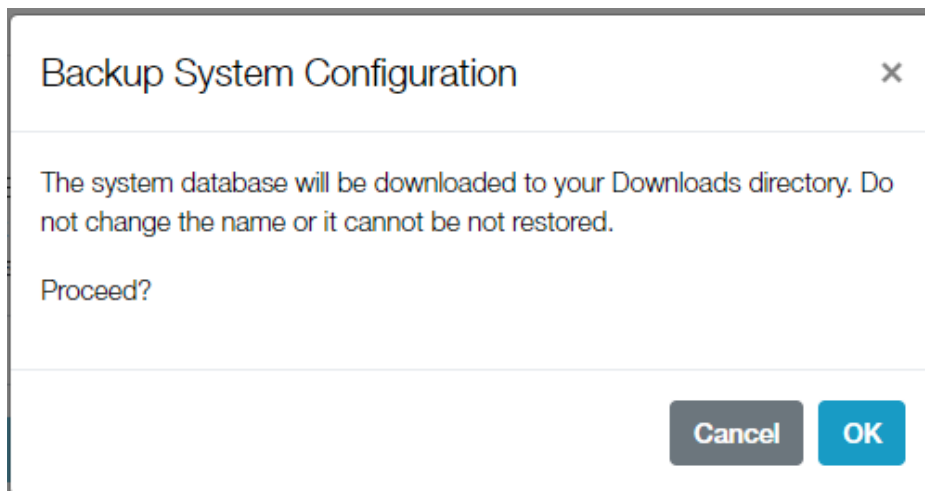


Figure 39. Backup System Configuration Window

4. Click the **OK** button to continue or the **Cancel** button to cancel the procedure.

If you click OK, the configuration file is downloaded to your computer. The default destination is the Download folder. Its filename is mcf3000\_backup.bin. For instructions on how to download files to a different folder, refer to your computer's documentation.

## Restoring Backup Configuration Files to the MCF3000M Management Module

This section contains the procedure for restoring a backup configuration file to the management module. You might perform this procedure to restore a configuration to a media converter, configure a replacement media converter, or configure several media converters with the same settings. Here are the guidelines:

- ❑ The filename of the backup file has to be mcf3000\_backup.bin.
- ❑ You have to boot the media converter after restoring a configuration. Some network traffic may be lost. Allied Telesis recommends performing the procedure during non-business hours to minimize the disruption to network operations.
- ❑ You can restore a configuration file to multiple media converters. However, if it assigns a static IP address to the management module, be sure to change the IP addresses of the modules immediately after restoring the configuration. Otherwise, multiple devices will have the same IP address.

The steps are illustrated in Figure 40 and explained in the following procedure.

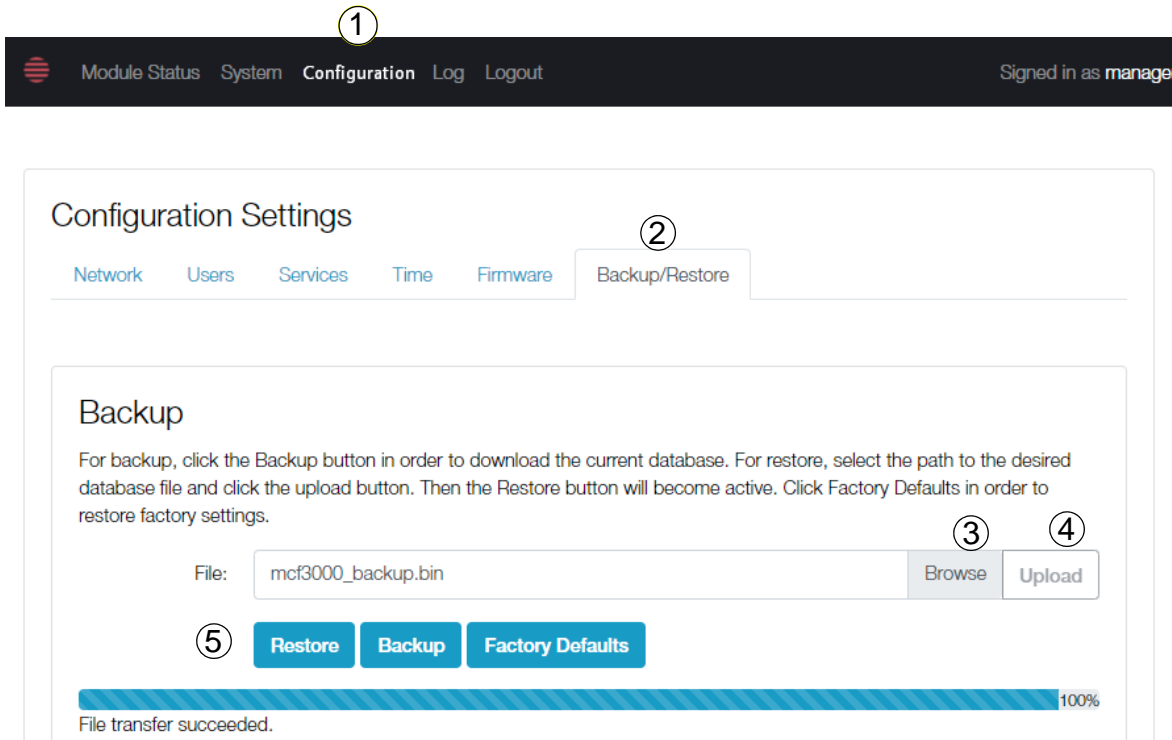


Figure 40. Backup Window - Restoring a Backup File to the Management Module

To restore a backup configuration file to the management module:

1. Select **Configuration** from the main menu.
2. Select the **Backup/Restore** tab.
3. Click the **Browse** button and locate the backup configuration file on your computer. Its filename must be mcf3000\_backup.bin.
4. Click the **Upload** button.

The management module uploads the file from your computer to its flash memory and changes the Restore button to active.

The management module displays the error message in Figure 41 if the filename of the selected configuration file is not mcf3000\_backup.bin. If you see this error message, click OK and select a correctly named configuration file.

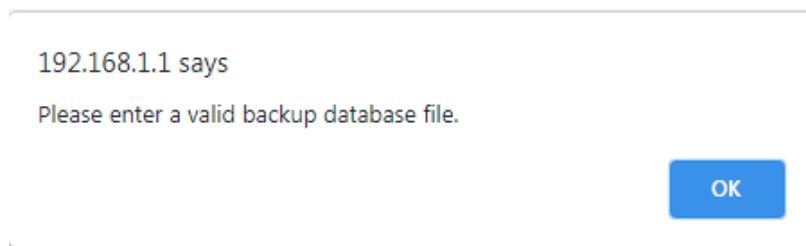


Figure 41. Error Message from Restoring a Backup Configuration File

5. Click the **Restore** button.

The management module displays the confirmation prompt in Figure 42.

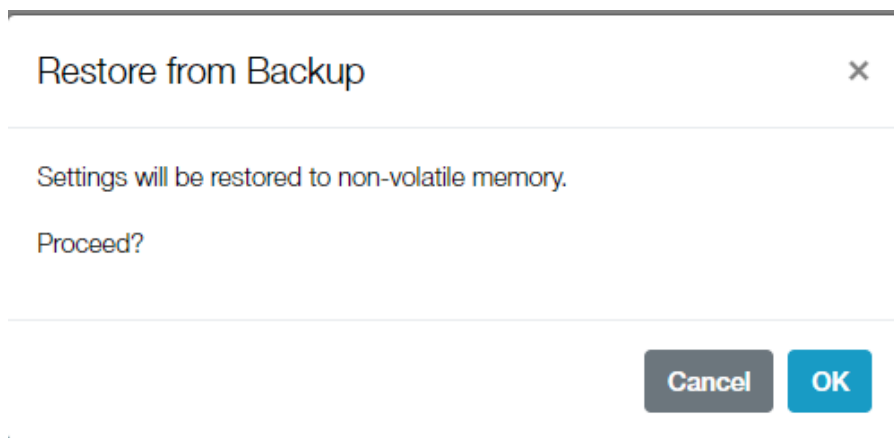


Figure 42. Restore from Backup Confirmation Prompt

6. Click the **OK** button to continue or the **Cancel** button to cancel the procedure.

If you select OK, the media converter designates the uploaded configuration file as its new active file and displays the prompt in Figure 43.



Settings restored. Reboot required.

Figure 43. Restoring a Configuration File Prompt

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**Note**

Do not save the current configuration settings of the media converter. If you do, they will overwrite the settings in the configuration file that you just restored to the management module.

---

7. Boot the media converter, This step configures the media converter with the settings in the restored configuration file. Refer to “Booting the Media Converter Chassis” on page 74.

## Restoring the Factory Default Values

This section contains the procedure for returning all settings on the MCF3000M management and media converter modules to their default values. Here are the guidelines:

- ❑ This procedure requires booting the management and media converter modules. Some network traffic may be lost. To minimize the disruption to your network, Allied Telesis recommends performing the procedure during non-business hours.
- ❑ The IP address of the management module is returned to the default address 192.168.1.1.
- ❑ The default setting of the DHCP client is disabled.
- ❑ Your web browser management session is interrupted. To resume managing the device, establish a new local or remote management session.

The steps are illustrated in Figure 44 and explained in the following procedure.

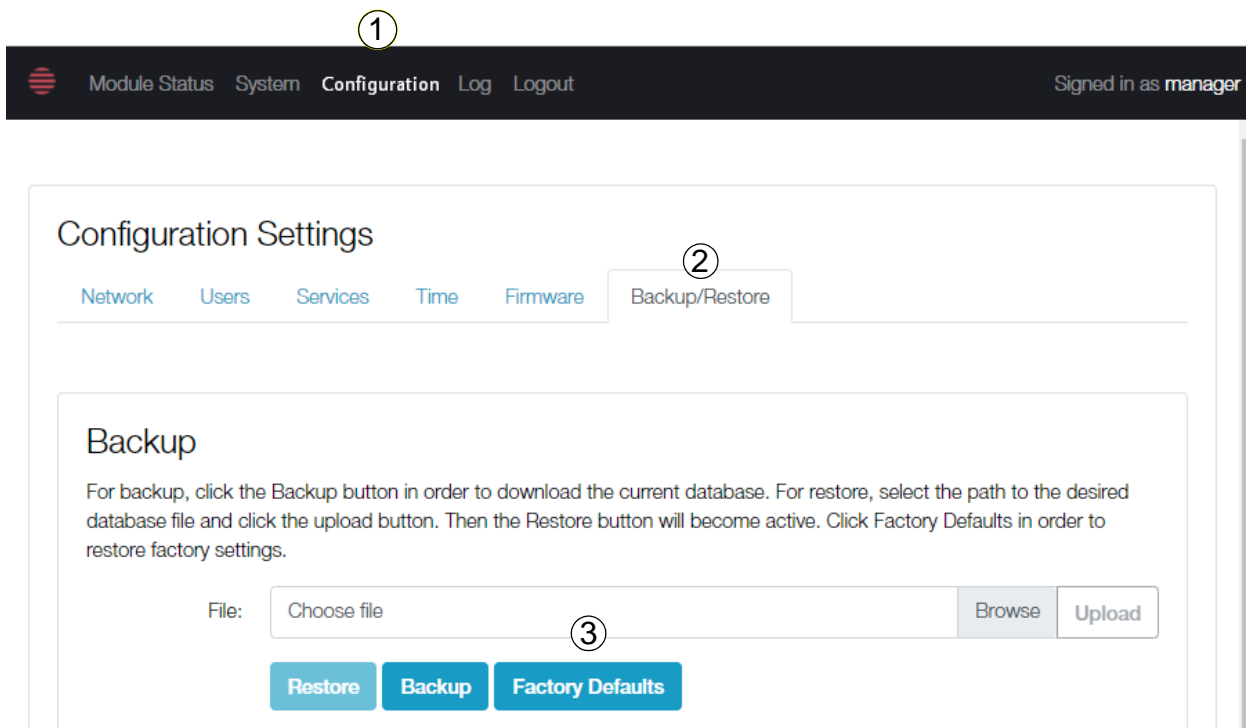


Figure 44. Backup Window - Restoring the Default Values to the MCF3000 Media Converter

To restore the default values to all settings on the MCF3000M management and media converters modules:

1. Select **Configuration** from the main menu.
2. Select the **Backup/Restore** tab.
3. Click the **Factory Defaults** button.

The media converter displays the prompt in Figure 45.

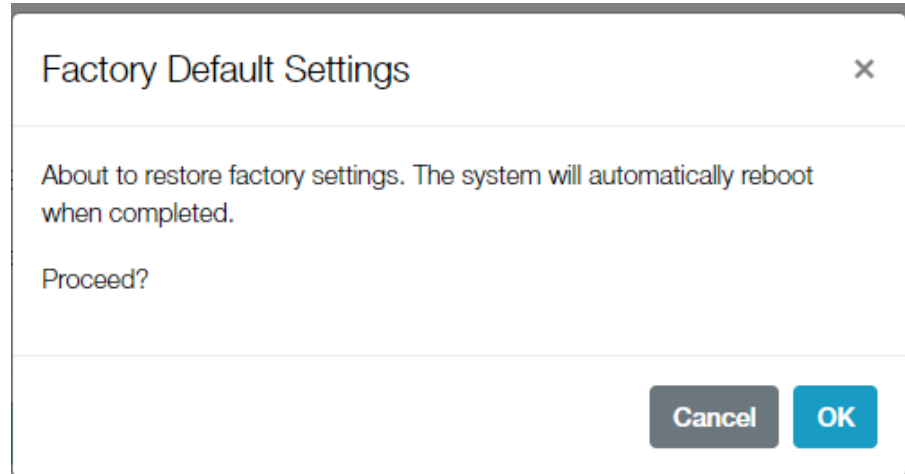


Figure 45. Factory Default Settings Prompt

4. Click the **OK** button to continue or the **Cancel** button to cancel the procedure.

If you click OK, the management module restores the default settings to all settings and boots.

5. To resume managing the media converter, wait thirty seconds and start a new local or remote management session.

## Chapter 8

# Management Firmware

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Allied Telesis may periodically release updates to the management firmware for this product and make them available on the company's web site for customers to upload onto their media converters. This chapter contains the procedures for uploading new firmware for the MCF3000M management module and media converter modules. The chapter has the following sections:

- ❑ "Uploading New Firmware to the MCF3000M Management Module" on page 104
- ❑ "Viewing the Firmware Versions on the Media Converter Modules" on page 107
- ❑ "Uploading New Firmware to the Media Converter Modules" on page 108

## Uploading New Firmware to the MCF3000M Management Module

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This section contains instructions for uploading new versions of the firmware for the MCF3000M management module. Please review the following information:

- ❑ The version numbers of the current firmware on the management module are displayed in the Firmware Update window, explained in this procedure.
- ❑ The management module firmware consists of two parts: software and bootloader (U-Boot).
- ❑ The update file for the software has this filename:  
mcf3000m-rootfs.ubifs-*n.n*.rel
- ❑ The update file for the bootloader has this filename:  
mcf3000m-u-boot-a38x-*n.n*.rel.
- ❑ Do not change the filenames.
- ❑ You have to upload the software and bootloader separately. You can upload either one first.
- ❑ The procedure requires the MD5 checksum value that comes with the firmware files.
- ❑ The procedure assumes you have already obtained the new firmware files for the management module from the Allied Telesis web site and stored them on your computer or accessible network drive.
- ❑ If you have new firmware for both the management module and media converter modules, you can update either one first.
- ❑ You cannot use the USB port on the management module for this procedure.

---

### Note

The management module automatically boots after receiving new firmware. It boots once after installing a new bootloader or twice for new management software. Some network traffic may be lost. Allied Telesis recommends performing the procedure during non-business hours to minimize the disruption to your network.

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### Note

For instructions on how to upload new firmware for the media converter modules, refer to “Uploading New Firmware to the Media Converter Modules” on page 108.

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The steps are illustrated in Figure 46 and described in the following procedure.

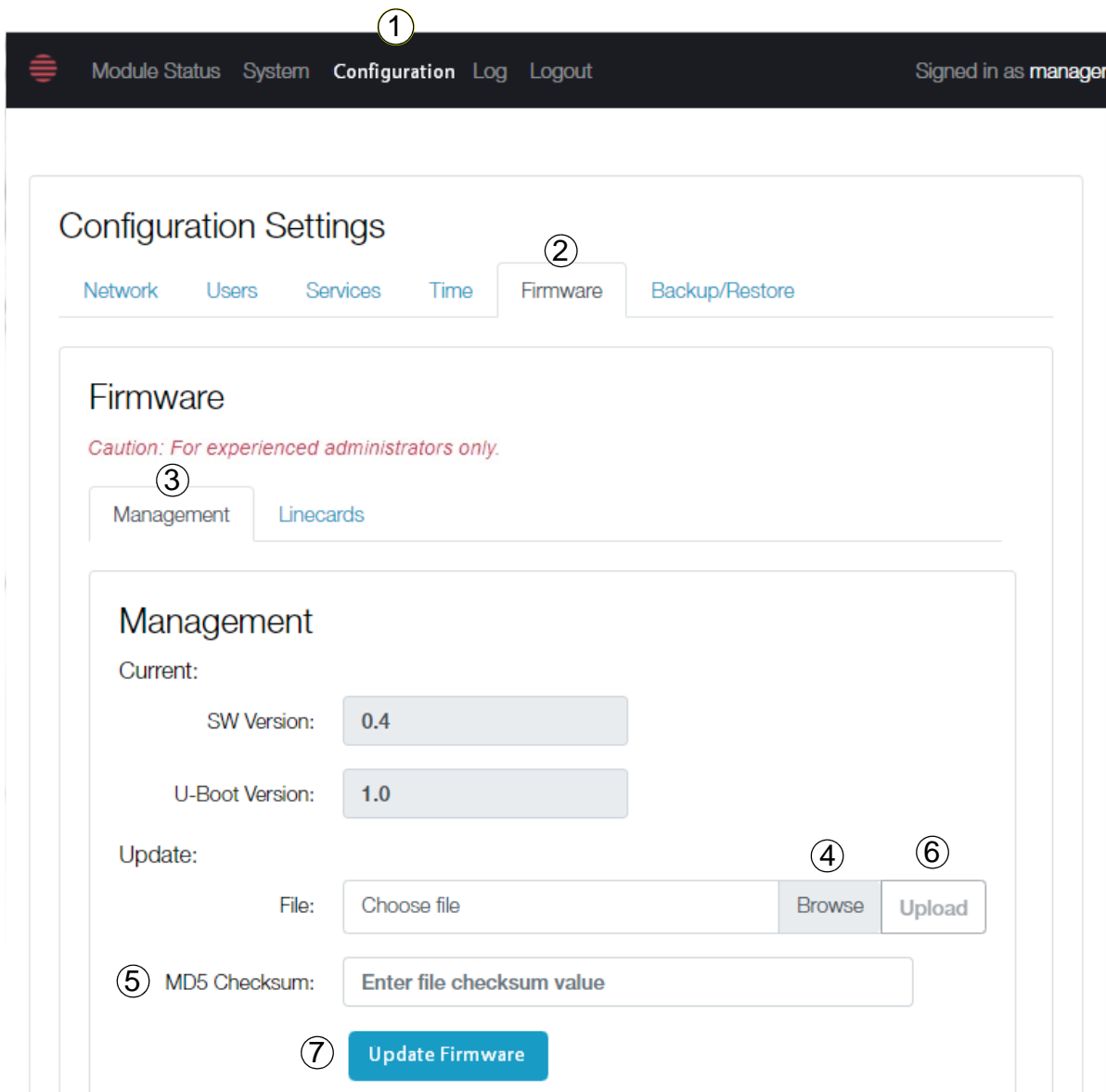


Figure 46. Firmware Window - Uploading New Firmware to the MCF3000M Management Module

To upload new firmware to the MCF3000M management module:

1. Select **Configuration** from the main menu.
2. Select the **Firmware** tab.
3. Select the **Management** tab. This is the default.

The Current: SW Version and U-Boot Version fields display the version numbers of the current firmware on the management module.

4. Click the **Browse** button to locate and select the new firmware file on your computer or network drive. The name is displayed in the **File** field.

Review the following if you have update files for both software and bootloader.

- You have to update them separately.
  - You can update either one first.
  - You do not specify whether the file is software or bootloader. The management module determines that from their filenames.
5. Select the **MD5 Checksum** field and enter the checksum value included with the firmware file.
  6. Click the **Upload** button.

The management module uploads the new firmware from your network and stores it in temporary memory. This should take only a few seconds.

---

**Note**

Performing the next step causes the media converter to boot. Some network traffic may be lost.

---

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**Note**

If you boot or power cycle the management module without performing the next step, the management module discards the new firmware and you will have to repeat this procedure.

---

7. Click the **Update Firmware** button.

The module saves the new firmware to permanent memory. Afterwards, it boots either once or twice depending on the firmware. It boots once for a new bootloader or twice for new management software. The process may take up to two minutes.

8. Start a new management session.
9. To confirm the update, repeat steps 1 to 3 to display the Firmware - Management tab. Verify the version number of the updated firmware in the SW Version or U-Boot Version field.
10. If you have new files for both software and bootloader, repeat this procedure to install the second file.

## Viewing the Firmware Versions on the Media Converter Modules

This section contains the procedure for viewing the version numbers of the firmware on the media converter modules. The steps are illustrated in Figure 47 and explained in the following procedure.

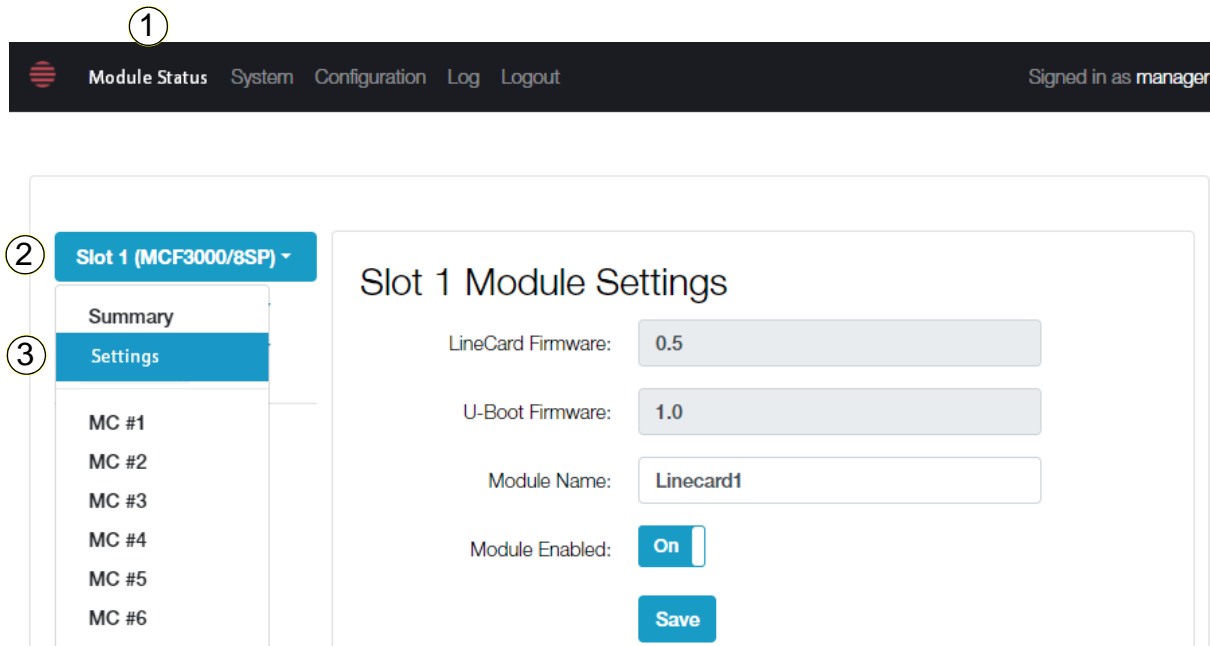


Figure 47. Slot Module Settings Window - Viewing the Firmware Version Numbers on the Media Converter Modules

To view the firmware version numbers:

1. Select **Module Status** from the main menu. This is the default selection.
2. From the **Slot # (Module)** menu, click any media converter module. The modules all use the same firmware.
3. Select **Settings**.

The firmware consists of two parts: LineCard Firmware (software) and U-Boot Firmware (bootloader). The firmware version numbers are displayed in the LineCard Firmware and U-Boot Firmware fields.

The Module Name and Module Enabled window options are explained in “Naming Media Converter Module Slots” on page 79 and “Powering On or Off Media Converter Module Slots” on page 81, respectively.

## Uploading New Firmware to the Media Converter Modules

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This section contains the procedure for uploading new versions of the firmware to the media converter modules. The guidelines are listed here:

- ❑ To view the version numbers of the current firmware on the media converter modules, refer to “Viewing the Firmware Versions on the Media Converter Modules” on page 107.
- ❑ The firmware for the media converter modules has two parts: software and bootloader (U-Boot).
- ❑ The software update file has this filename:  
mcf3000x-zimage.msys-ac3-db-*n.n*.rel
- ❑ The bootloader update file has this filename:  
mcf3000x-u-boot-msys-ac3-*n.n*.rel.
- ❑ Do not change the filenames.
- ❑ You have to upload the software and bootloader files separately. You can upload either one first.
- ❑ The procedure requires the MD5 checksum value that comes with the files.
- ❑ All media converter modules use the same firmware.
- ❑ The procedure assumes you already obtained the new firmware files from the Allied Telesis web site and stored them on your computer or accessible network drive.
- ❑ If you have new firmware files for both the management module and media converter modules, you can update either one first.
- ❑ You cannot use the USB port on the management module.

There are two phases to updating the media converter module firmware:

- ❑ The first phase involves uploading the new firmware to the MCF3000M management module from your management workstation or an accessible network drive. The module initially stores the file in temporary memory. You have to instruct it to save the file to flash memory, for permanent storage.
- ❑ The second phase lets you control when media converter modules retrieve new firmware from the management module. This is called setting the Allowed Update status. Media converter modules retrieve new firmware from the management module over the backplane in the chassis when the unit is booted. You can permit or block the transfer. In most cases you will probably want the modules to start using new firmware immediately after you upload it to the management module. For this, you enable the Allow Update status. This permits the transfer the next time you boot the unit.

In situations where you want to block modules from retrieving new firmware, you can disable the Allow Update status. This prevents them from retrieving it from the management module when the device is booted.

Both phases are performed from the same window. The steps are illustrated in Figure 48.

The screenshot shows the web browser interface for the MCF3000 Series. The top navigation bar includes links for Module Status, System, Configuration, Log, and Logout, with the user signed in as manager. The main content area is titled "Configuration Settings" and has tabs for Network, Users, Services, Time, Firmware, and Backup/Restore. The "Firmware" tab is selected, and within it, the "Linecards" sub-tab is active. A caution message reads: "Caution: For experienced administrators only." The "Linecards" section contains the following fields and controls:

- Available:**
  - SW Version: 1.00
  - U-Boot Version: 1.1
- Update:**
  - File: Choose file (with "Browse" and "Upload" buttons)
  - MD5 Checksum: Enter file checksum value
  - Allow Update: On (toggle switch)
- Buttons: "Save" and "Update Firmware"

Numbered callouts (1-10) indicate the following steps:

- 1: Configuration menu
- 2: Firmware tab
- 3: Linecards sub-tab
- 4: File input field
- 5: Upload button
- 6: MD5 Checksum input field
- 7: Update Firmware button
- 8: Browse button
- 9: Allow Update toggle
- 10: Save button

Figure 48. Firmware Window - Uploading New Firmware to the Media Converter Modules

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**Note**

This procedure requires booting the system. Some network traffic may be lost. Allied Telesis recommends performing it during non-business hours to minimize the disruption to your network.

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To upload new firmware to the media converter modules:

1. Select **Configuration** from the main menu.
2. Select the **Firmware** tab.
3. Select the **Linecards** tab.

The Available: SW Version and U-Boot Version fields in the window display the version numbers of the firmware currently stored in flash memory on the management module for the media converter modules. To view the version numbers of the active firmware on the media converter modules themselves, refer to “Viewing the Firmware Versions on the Media Converter Modules” on page 107.

4. Click the **Browse** button to locate and select the new firmware file on your computer or network drive. The name is displayed in the File field.

Review the following if you have update files for both software and bootloader.

- You have to update them separately.
- You can update either one first.
- You do not specify whether the file is the software or bootloader. The management module determines that from their filenames.

5. Click the **Upload** button.

The management module uploads and stores the new firmware in its temporary memory. The process should take only a few seconds.

6. Select the **MD5 Checksum** field and enter the checksum value included with the firmware file.
7. Click the **Update Firmware** button. The management module saves the firmware in flash memory for permanent storage, provided that the checksum value is correct.

The Available SW Version or U-boot Version field in the window should now reflect the version number of the new firmware.

8. if you have update files for both software and bootloader, repeat this procedure starting with step 4 to install the second file.

This step completes the first phase of uploading new firmware to the media converter modules. The firmware is now stored in permanent memory on the management module, ready to be transferred to the modules over the backplane of the chassis.

9. Toggle the **Allow Update** option in the window as described here:

Use this option to control whether or not the media converter modules are to retrieve the bootloader and software from the management module when the system is booted. In most cases you will probably want the modules to retrieve the new firmware as soon as possible. For that, you set the option to On. But there might be situations where you want the modules to continue using their current firmware instead, in which case you set the option to Off. The settings are:

- On:** The media converter modules retrieve the bootloader and software from the management module when the system is booted. This is the default setting.
- Off:** The media converter modules are blocked from retrieving the bootloader and software from the management module when the system is booted. Instead, they continue using their current files.

10. Click the **Save** button. This saves the Allow Update option setting.

If you set the Allow Update option to On and want the media converter modules to begin using the new firmware, continue with the next step:

11. Boot the system. Refer to “Booting the Media Converter Chassis” on page 74.
12. Wait one minute for the modules to retrieve and initialize the firmware.
13. Start a new management session.
14. To confirm the update, perform “Viewing the Firmware Versions on the Media Converter Modules” on page 107. The LineCard Firmware and U-Boot Firmware fields in the Slot Module Settings window should now display the version numbers of the new firmware.

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**Note**

If, after two minutes, the Slot Module Settings window indicates that the media converter modules have not completed the update, try booting the system again.

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