

IntraSwitch™ 5308FL

User's Manual

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

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Note: The warranty card must be filed with Asanté Technologies, Inc. within 30 days after the date of purchase.

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Table of Contents

List of Figures.....	ix
List of Tables.....	xi
About This Manual	xiii
About This Manual.....	xvi
Chapter Contents.....	xvi
Document Conventions.....	xvii
Audience	xviii
Introduction	1-1
IntraSwitch 5308FL.....	1-2
IntraSwitch 5308FL Components	1-3
10/100TX Port.....	1-3
10Base-FL Ports.....	1-3
Management Connections.....	1-3
MII Expansion Slots.....	1-3
Redundant Power Supply Connector.....	1-3
Power Switch	1-3
Power Supply Connector	1-4
Configuration/ Management	1-5
Console/Telnet Management	1-5
Web Browser Management	1-5
SNMP-Based Management	1-5
Switching Capacity	1-6
Features.....	1-7
Package Contents.....	1-8
Tools and Materials	1-9
Factory Defaults	1-11
Resets and Factory Default Settings	1-12

Installation	2-1
Installing the IntraSwitch.....	2-2
Installation Guidelines.....	2-2
Power Requirements.....	2-2
Environmental Requirements.....	2-2
Cooling and Airflow	2-2
Installation Overview	2-3
Rack Mounting/Desktop Placement	2-4
Equipment Rack Installation	2-4
Free-Standing Installation	2-5
Installing MII Modules.....	2-6
Connecting Power	2-8
Connecting to the Network	2-9
10Base-FL Ports.....	2-9
10/100TX Port.....	2-9
MII Ports.....	2-10
10/100TX Module.....	2-10
100Base-FX Module	2-10
10Base-FL Module	2-10
Cabling Scenarios Diagram.....	2-11
Setting up for Management.....	2-12
BootP Configuration.....	2-12
Console Configuration	2-13
LED Indicators	3-1
LED Indicators.....	3-2
Port LEDs.....	3-3
Power LED	3-4
Diagnostic LEDs	3-4
Setting Up For Management	4-1
IntraSwitch 5308FL Management	4-2

Overview.....	4-2
Management Scenarios.....	4-3
Out-of-Band Management.....	4-4
In-Band Management.....	4-6
Console Management	5-1
Console Management.....	5-2
Overview.....	5-2
Configuration and Management Tasks.....	5-3
Local Management Interface	5-5
Main Menu.....	5-5
Accessing a Submenu.....	5-5
Exiting a Submenu	5-5
General Information Menu.....	5-6
Configuration Menu	5-7
Logging into the Configuration Menu.....	5-7
Configure System Administration Information.....	5-10
Current Settings.....	5-10
Changing System Administration Information	5-11
Configure TCP/IP Parameters	5-12
Current Settings.....	5-12
Changing TCP/IP Information.....	5-13
Configure Bootstrap Parameters	5-14
Current Settings.....	5-14
Executing Software Locally	5-16
Loading Software Remotely.....	5-16
Performing a Software Upgrade	5-17
Configure SNMP Parameters	5-18
Current Settings.....	5-18
Setting Community Strings.....	5-20
Enabling Authentication Traps.....	5-20
Adding a Trap Receiver Entry.....	5-21
Deleting a Trap Receiver Entry.....	5-21
Configure Port Parameters	5-22

Current Settings.....	5-23
Enabling/Disabling a Port.....	5-24
Configuring Full Duplex.....	5-24
Configuring Auto-Negotiation	5-25
Configure RMON Parameters.....	5-26
Configure MAC Forwarding Table Parameters.....	5-27
Current Setting	5-27
Displaying the MAC Forwarding Table.....	5-28
Finding an Entry in the MAC Forwarding Table.....	5-29
Setting the Age Out Timer.....	5-29
Configure Spanning Tree Parameters.....	5-30
Current Settings.....	5-30
Enabling/Disabling Spanning Tree on ALL Ports.....	5-32
Enabling/Disabling Spanning Tree on a Single Port.....	5-32
Set Web Server	5-34
Set Telnet Idle Time Out	5-35
Set Console Password.....	5-36
Reset EEPROM to Default.....	5-37
Resetting the IntraSwitch 5308FL	5-38
Statistics Menu	5-39
Status Monitoring and Statistics	6-1
Monitoring the IntraSwitch 5308FL.....	6-2
Viewing the Current Operating Information	6-2
Viewing Statistics	6-5
Selecting a Port.....	6-6
Monitoring Counters	6-6
Resetting Statistics.....	6-7
Stopping Statistics	6-7
Exiting the Statistics Menu	6-7
Counter Descriptions	6-7
Advanced Management	7-1
Advanced Management.....	7-2

RMON Overview	7-2
Benefits of RMON	7-2
Configuring RMON Parameters.....	7-3
RMON History Group.....	7-4
RMON Alarm Group.....	7-9
RMON Event Group	7-15
Troubleshooting	A-1
LED Indicators.....	A-1
Supported MIBs.....	B-1
RMON (RFC 1757)	B-1
Statistics.....	B-1
History Group.....	B-2
Alarm Group.....	B-2
Event Group	B-3
MIB II (RFC 1213)	B-3
System Group	B-3
Interface Group.....	B-3
Address Trans Group.....	B-4
IP Group.....	B-4
IP Address Table.....	B-4
IP Routing Table.....	B-4
IP Address Translation Table	B-4
ICMP Group	B-4
TCP Group	B-5
TCP Connection Table	B-5
UDP Group.....	B-5
UDP Listener Table.....	B-5
SNMP Group.....	B-5
Bridge MIB (1493).....	B-6
Base Port.....	B-6
Technical Specifications	C-1
Network Management Platforms Supported.....	C-1

LEDs	C-1
Connectors.....	C-1
Spanning Tree Support	C-1
MAC Address Table Size.....	C-1
Dimensions	C-1
Weight.....	C-2
Power Specifications.....	C-2
Environmental Specifications.....	C-2
Standards Compliance.....	C-2
Mounting Options	C-2
Redundant Power Supply.....	C-2
Console Management Menu	D-1
Technical Support	E-1
Index.....	Index-i

List of Figures

Figure 1-1	IntraSwitch 5308FL front panel.....	1-2
Figure 1-2	IntraSwitch 5308FL back panel	1-2
Figure 2-1	Mounting rack bracket on the IntraSwitch 5308FL.....	2-4
Figure 2-2	MII expansion slots.....	2-6
Figure 2-3	Installing an MII expansion module	2-7
Figure 2-4	Securing an MII expansion module	2-7
Figure 2-5	Connecting the power cord	2-8
Figure 2-6	IntraSwitch 5308FL cabling scenarios	2-11
Figure 2-7	Connecting to the Console port.....	2-13
Figure 2-8	Local Management Interface Main Menu.....	2-14
Figure 3-1	IntraSwitch 5308FL LED panel	3-2
Figure 4-1	IntraSwitch 5308FL management options.....	4-3
Figure 4-2	Connecting to the Console port.....	4-4
Figure 4-3	Local Management Interface Main Menu.....	4-5
Figure 5-1	Local Management Interface Main Menu.....	5-5
Figure 5-2	General Information Menu	5-6
Figure 5-3	Configuration Menu.....	5-7
Figure 5-4	System Administration Information Menu.....	5-10
Figure 5-5	TCP/IP Parameter Menu	5-12
Figure 5-6	BootStrap Parameter Menu.....	5-14
Figure 5-7	SNMP Parameter Menu	5-18
Figure 5-8	Port Parameter Menu	5-22
Figure 5-9	MAC Forwarding Table Parameters Menu.....	5-27
Figure 5-10	MAC Forwarding Table.....	5-28
Figure 5-11	Spanning Tree Parameters Menu	5-30
Figure 5-12	Spanning Tree Port Parameters Menu	5-32
Figure 5-13	Set Web server command line.....	5-34
Figure 5-14	Set TelNet Idle Time Out command line.....	5-35
Figure 5-15	Set Console Password command line.....	5-36

Figure 5-16	Reset EEPROM to Default command line	5-37
Figure 6-1	General Information Menu.....	6-2
Figure 6-2	Statistics screen (page one of two)	6-5
Figure 7-1	RMON Parameters Menu.....	7-3
Figure 7-2	RMON History Group Menu	7-4
Figure 7-3	Add RMON History Control Group entry.....	7-5
Figure 7-4	Display RMON History Control Group entry	7-6
Figure 7-5	Display RMON History Statistic entry	7-7
Figure 7-6	RMON Alarm Group Menu.....	7-9
Figure 7-7	Add RMON Alarm Group entry	7-10
Figure 7-8	Object ID entry	7-11
Figure 7-9	Display RMON Alarm Group entry	7-13
Figure 7-10	RMON Event Group Menu	7-15
Figure 7-11	Add RMON Event Group entry	7-16
Figure 7-12	Display RMON Event Group entry	7-17
Figure 7-13	Display RMON Event Group entry log	7-18

List of Tables

Table 1-1	Tools and Materials Required	1-9
Table 1-2	Factory Default Configurations	1-11
Table 2-1	Installation Overview	2-3
Table 2-2	10Base-FL Cable Guidelines.....	2-9
Table 2-3	10/100TX Port Cable Guidelines.....	2-9
Table 2-4	10/100TX MII Module Cable Guidelines.....	2-10
Table 2-5	100Base-FX MII Module Cable Guidelines.....	2-10
Table 2-6	10Base-FL MII Module Cable Guidelines	2-10
Table 3-1	Port LEDs.....	3-3
Table 4-1	Management Options	4-2
Table 5-1	Configuration Tasks.....	5-3
Table 5-2	Management Tasks	5-3
Table 5-3	Configuration Menu Items	5-8
Table 5-4	System Administration Information Settings	5-10
Table 5-5	TCP/IP Parameter Settings	5-12
Table 5-6	Bootstrap Parameter Settings	5-15
Table 5-7	SNMP Parameter Settings	5-19
Table 5-8	Port Parameter Settings.....	5-23
Table 5-9	MAC Forwarding Table Parameter Setting.....	5-28
Table 5-10	Spanning Tree Parameter Settings.....	5-31
Table 6-1	General Information Menu Parameters	6-3
Table 6-2	Statistics Counters Descriptions.....	6-7
Table A-1	Troubleshooting Tips	A-1

About This Manual

This section provides an overview of the IntraSwitch 5308FL User's Manual. It describes the manual's chapters, document conventions, and intended audience.

This chapter contains the following sections:

- Chapter contents — page xiv
- Document conventions — page xv
- Audience — page xvi

About This Manual

Chapter Contents

This manual is divided into the following chapters and appendices.

Chapter/Appendix	Description
1 Introduction	Describes the IntraSwitch 5308FL, its package contents, features, switching capacity, and management options.
2 Installation	Describes the steps required to install the IntraSwitch 5308FL, connect it to the network, and configure it for management.
3 LED Indicators	Describes how to monitor the IntraSwitch 5308FL's front panel LEDs.
4 Management	Describes the different management options available with the IntraSwitch 5308FL and how to connect to the IntraSwitch 5308FL using those options.
5 Console Management	Describes how to manage the IntraSwitch 5308FL using the Console or Telnet Local Management Interface.
6 Status and Statistics	Describes how to view the IntraSwitch 5308FL's current operating information and statistics.
7 Advanced Management	Describes how to use RMON to manage the IntraSwitch 5308FL.

Chapter/Appendix	Description
Appendix A, "Troubleshooting"	Provides a list of troubleshooting tips for isolating problems with the IntraSwitch 5308FL or the network .
Appendix B, "Supported MIBs"	Describes the MIBs supported by the IntraSwitch 5308FL.
Appendix C, "Technical Specifications"	Provides a list of the IntraSwitch 5308FL's technical specifications.
Appendix D, "Console Management Menu"	Provides a one-page map of the IntraSwitch 5308FL's Local Management Interface.
Appendix E, "Technical Support"	Describes how to contact Asanté Technical Support.

Document Conventions

This manual uses the following conventions to convey instructions and information:

- **Commands and key words are in boldface font.**
- △ **Note:** Noteworthy information, which contains helpful suggestions or references to other sections in the manual, is in this format.
- ▲ **Important!** Significant information that calls attention to important features or instructions is in this format.

About This Manual

Audience

This manual uses terms and concepts associated with Ethernet networking and switches.

It is recommended that the user of this manual be familiar with the basics of local area networks and Ethernet switches.

1

Introduction

This chapter introduces the IntraSwitch 5308FL Ethernet switch.

It provides an overview of the IntraSwitch 5308FL and describes its features, management and configuration capabilities, switching capacity, and factory default settings.

This chapter contains the following sections:

- ❑ IntraSwitch 5308FL — page 1-2
- ❑ IntraSwitch 5308FL Components — page 1-3
- ❑ Configuration/Management — page 1-5
- ❑ Switching Capacity — page 1-6
- ❑ Features — page 1-7
- ❑ Package Contents — page 1-8
- ❑ Tools and Materials — page 1-9
- ❑ Factory Defaults — page 1-11

IntraSwitch 5308FL Components

10/100TX Port

The single auto-negotiating 10/100TX port allows for the connection of a 10Base-T or 100Base-T (Fast Ethernet) device. See “10/100TX Port” on page 2-9 for more information.

10Base-FL Ports

The eight 10Base-FL ports with **ST** connectors allow for the connection of 10Base-FL Ethernet devices. See “10Base-FL Ports” on page 2-9 for more information.

Management Connections

The **Console** port can be used for out-of-band management of the IntraSwitch 5308FL. See “Out-of-Band Management” on page 4-4 for information.

MII Expansion Slots

The two Media Independent Interface (MII) expansion slots allow for the addition of various Asanté access modules, including: 10/100TX, 100Base-FX, 10Base-FL, or BNC. See “MII Ports” on page 2-6 for more information.

Redundant Power Supply Connector

The redundant power supply connector can be used to connect to an Asanté external RPSU 6000 redundant power supply (sold separately).

The RPSU 6000 provides the IntraSwitch 5308FL with power in the event that the units’s main power connection fails.

For more information on the RPSU 6000, see the RPSU’s Installation Guide. For part number information, see Appendix C in this manual.

Power Switch

The power switch turns the IntraSwitch 5308FL on or off. See “Connecting Power” on page 2-8 for instructions on powering on the IntraSwitch 5308FL.

Power Supply Connector

The 5-volt power supply connector provides the IntraSwitch 5308FL's power connection. See Appendix C, "Technical Specifications" for more information.

Configuration/ Management

The IntraSwitch 5308FL can be managed through standard out-of-band sessions through the unit's Console port, via in-band Telnet sessions, via any supported World Wide Web browser, or via any SNMP-based management software program (such as IntraSpection™ Web-based network management).

Console/Telnet Management

The SNMP (Simple Network Management Protocol) is used to manage the IntraSwitch 5308FL. The SNMP agent supports database objects that are defined in the following Management Information Bases (MIBs):

- MIB II (RFC 1213)
- Bridge MIB (RFC 1493)
- RMON, 4 groups (RFC 1757)

The SNMP agent can be accessed via an out-of-band Console connection or through in-band Telnet sessions. See Chapter 4, "Setting Up For Management," for information on connecting via one of these two methods.

See Appendix B, "Supported MIBs" for more information on the MIBs supported by the IntraSwitch.

Web Browser Management

The IntraSwitch 5308FL has an HTTP server which allows it to be management via any supported World Wide Web browser.

See the "Manual Addendum: Web Browser Management" included in this package for information on accessing and managing the IntraSwitch 5308FL with a Web browser.

SNMP-Based Management

Any SNMP-based network management application, such as IntraSpection™ Web-based network management software, can be used to manage the IntraSwitch 5308FL. See "In-Band Management" on page 4-7 for more information.

Switching Capacity

Each 10Base-FL port forwards Ethernet minimum-sized 64-byte packets at the maximum attainable rate of 14,880 packets per second (pps).

The 10/100 port can forward 64-byte packets at 148,000pps.

The IntraSwitch 5308FL fully supports the 802.1d transparent Ethernet bridging standard. IEEE 802.1d compliance provides automatic address learning, packet filtering, and the Spanning Tree Protocol.

Features

The IntraSwitch 5308FL has the following features:

- Eight 10Base-FL switched ports with ST connectors
- One fixed 10/100TX port with an RJ-45 connector (supports NWay™ auto-negotiation)
- Two optional MII expansion slots for adding 10/100TX, 100Base-FX, 10Base-FL, or BNC ports
- HTTP server (provides SNMP management via any supported World Wide Web browser)
- Telnet (in-band) and Console (out-of-band) management
- 1024 MAC addresses
- Auto-negotiation on 10/100 port and 10/100 MII expansion ports
- Full duplex support on all ports
- BootP support
- TFTP support for software upgrades
- RMON support (4 groups)
- MIB II, Bridge MIB support
- IEEE 802.1d Spanning Tree support
- Store-and-forward switching mode
- Advanced diagnostic LEDs

Package Contents

The IntraSwitch 5308FL is shipped with the following items:

- (1) IntraSwitch 5308FL Ethernet switch
- (2) rack-mounting brackets
- (12) standard Phillips screws for attaching the brackets to the IntraSwitch 5308FL and mounting it to an equipment rack
- (1) power cord
- (1) User's Manual (this book)
- (1) Quick Installation Guide
- (1) Manual Addendum: Web Browser Management
- (1) registration card

▲ **Important!** If you are missing any of the above items, contact the dealer from whom you purchased your IntraSwitch 5308FL.

Tools and Materials

Some tools and materials that are not supplied with the IntraSwitch 5308FL are needed to connect the unit to an Ethernet network.

Table 1-1 lists the tools and materials required for connecting devices to the IntraSwitch 5308FL's ports, for installing an MII module, and for rack-mounting the unit.

△ **Note:** For specific instructions on connecting network devices, see “Connecting to the Network” on page 2-9.

Table 1-1 Tools and Materials Required

Action	Tool/Material Required
Connecting 10Base-FL ports	Dual 62.5/125 micron graded-index multimode fiber optic cable fitted with an ST connector.
Connecting 10/100TX port	Standard Category 5 UTP straight-through or cross-over cable with RJ-45 connectors.
Connecting 100Base-FX optional MII expansion module	Dual 62.5/125 micron graded-index multimode fiber optic cable fitted with an SC connector.
Connecting 10/100TX optional MII expansion module	Standard Category 5 UTP straight-through or cross-over cable with RJ-45 connectors.
Connecting 10Base-FL port optional MII expansion module with SC or ST connectors	Dual 62.5/125 micron graded-index multimode fiber optic cable fitted with an SC connector. Dual 62.5/125 micron graded-index multimode fiber optic cable fitted with a dual ST connector.
Connecting to the Console port	Straight-through RS-232 cable with 9-pin male D-subminiature connector.

Introduction

Action	Tool/Material Required
Removing MII expansion module's cover	Small Phillips screwdriver.
Rack-mounting the IntraSwitch 5308FL	Phillips screwdriver (#2) for mounting the two rack brackets on the unit.

Factory Defaults

The IntraSwitch 5308FL is shipped with the following factory default settings:

Table 1-2 Factory Default Configurations

Configuration	Default Setting
IP address	0.0.0.0 ▲ Important! The first IP address that is assigned to the IntraSwitch 5308FL becomes the new factory default setting.
Subnet Mask	0.0.0.0 ▲ Important! The first subnet mask that is assigned to the IntraSwitch 5308FL becomes the new factory default setting.
Default Gateway	0.0.0.0 ▲ Important! The first default gateway address that is assigned to the IntraSwitch 5308FL becomes the new factory default setting.
Switching Mode	Store-and-forward
10Base-FL Ports	Half Duplex
10/100TX Port	Auto-Negotiation enabled; auto-negotiates to 10 or 100Mbps half duplex
MII Expansion Ports	100Base-FX module: half duplex 10/100TX module: auto-negotiates to 10 or 100Mbps half duplex 10Base-FL module: half duplex
Spanning Tree	Enabled on ALL ports

Resets and Factory Default Settings

When the IntraSwitch 5308FL is reset (its power is turned off and then on), all settings are returned to the factory defaults listed in Table 1-2 **except** for the IP Address, Subnet Mask, and Default Gateway; these items revert to the first addresses assigned to them.

2

Installation

This chapter explains how to install the IntraSwitch 5308FL in an equipment rack, power it on, and connect it to your network.

It also explains how to configure the IntraSwitch 5308FL for management capabilities and install an MII expansion module.

This chapter contains the following sections:

- Installation Guidelines — page 2-2**
- Installation Overview — page 2-3**
- Rack Mounting/Desktop Placement — page 2-4**
- Installing MII Modules — page 2-6**
- Connecting Power — page 2-8**
- Connecting to the Network — page 2-9**
- Setting up for Management — page 2-12**

Installing the IntraSwitch

Installation Guidelines

Before installing the IntraSwitch 5308FL, carefully review the following guidelines.

Power Requirements

The source electrical outlet should be installed near the IntraSwitch 5308FL, be easily accessible, and be properly grounded.

Make sure the power source adheres to the following guidelines:

- Voltage range: 100 to 240 VAC
- Frequency range: 60/50 Hz
- Maximum current: 1.6 A

Environmental Requirements

The IntraSwitch 5308FL must be installed in a clean, dry, dust-free area with adequate air circulation to maintain the following environmental limits:

- Temperature: 0° to 45° C
- Relative Humidity: 5% to 85% non-condensing

Avoid direct sunlight, heat sources, or areas with high levels of electro-magnetic interference.

Cooling and Airflow

The IntraSwitch 5308FL has two internal fans that cool the interior by drawing air through vents on the sides and forcing heated air out through holes in the rear.

- ▲ Important!** Do not restrict air flow by covering or obstructing air vents on the sides of the case.

Installation Overview

Table 2-1 describes the steps needed to install the IntraSwitch 5308FL.

The steps that are optional are labeled “optional”; the steps that are required are labeled “required.” The sections that follow explain each step in detail.

To install the IntraSwitch 5308FL:

Table 2-1 Installation Overview

Step	Action
1 (required)	Open the box and check the contents. See “Package Contents” on page 1-8 for a complete list of the items included with your IntraSwitch 5308FL.
2 (required)	Install the IntraSwitch 5308FL in an equipment rack or prepare it for desktop placement. See “Rack Mounting/Desktop Placement” on page 2-4.
3 (optional)	Install MII module(s), if any. See “Installing MII Modules” on page 2-6.
4 (required)	Check the power connection. See “Connecting Power” on page 2-8.
5 (required)	Connect the IntraSwitch 5308FL to the network. See “Connecting to the Network” on page 2-9.
6 (optional)	Configure the IntraSwitch 5308FL for management capabilities. See “Setting up for Management” on page 2-12.

Rack Mounting/ Desktop Placement

Equipment Rack Installation

The IntraSwitch 5308FL can be installed in a standard 19-inch equipment racks. It can also be placed on a horizontal surface with support capabilities of 11 pounds (5 kilograms).

To install the IntraSwitch 5308FL in an equipment rack:

- ▲ **Important!** Disconnect all cables from the IntraSwitch 5308FL before continuing.
- 1 Place the IntraSwitch 5308FL on a stable, flat surface.
- 2 Locate a rack-mounting bracket (supplied) and place it over the mounting holes on one side of the unit, as shown in Figure 2-1.

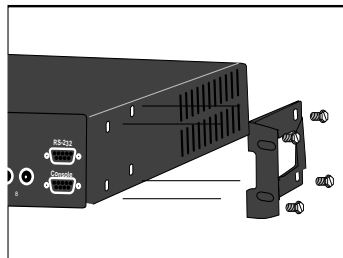


Figure 2-1 Mounting rack bracket on the IntraSwitch 5308FL

- 3 Insert four screws (supplied) into the holes and tighten with a Phillips screwdriver.
- 4 Repeat the two previous steps for the unit's other side.
- 5 Place the IntraSwitch 5308FL in the equipment rack.
 - ▲ **Important!** Make sure the IntraSwitch 5308FL is supported until all four mounting screws for each bracket are secured to the equipment rack.

- 6** Secure the rack brackets to the equipment rack with mounting screws.
The IntraSwitch 5308FL is installed in an equipment rack. Proceed to “Connecting Power” on page 2-8.

Free-Standing Installation

The IntraSwitch 5308FL has four rubber feet applied to the bottom of its chassis that enable desktop/free-standing installation of the unit.

For desktop/free-standing installation:

- Place the IntraSwitch 5308FL on a horizontal surface with a minimum area of 17.1” x 14.5” and support capabilities of 11 pounds.

Proceed to “Connecting Power” on page 2-8.

Installing MII Modules

The IntraSwitch 5308FL has two Media Independent Interface (MII) expansion slots which allow for the addition of various types of media access modules, including:

- 10/100Base-TX
- 100Base-FX
- 10Base-FL (ST connector)

The MII modules are sold separately and comply with IEEE 802.3 and 802.3u (10/100Base-T and 100Base-FX) specifications.

To install an MII module:

▲ **Important!** The MII modules are **not** hot-swappable; you should not install and/or remove a module without turning the IntraSwitch 5308FL's power off.

1 Turn off the IntraSwitch 5308FL's power.

2 Unscrew the metal cover from the front of an MII expansion slot (located on the IntraSwitch 5308FL's back panel) using a small Phillips screwdriver. See Figure 2-2.

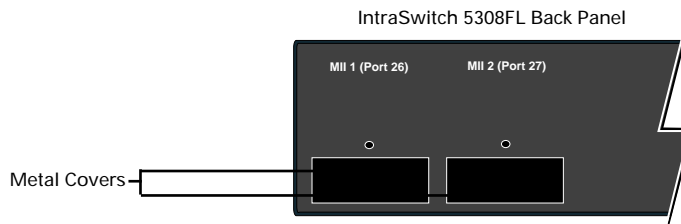


Figure 2-2 MII expansion slots

3 Align the bottom of an MII expansion module with the rails on the inside of the expansion slot.

- 4** Slide the MII module into the expansion slot until it stops, then push the module in until it seats with the connector. See Figure 2-3.

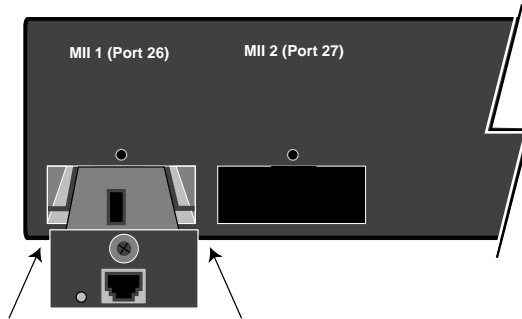


Figure 2-3 Installing an MII expansion module

- 5** Screw the module into place by tightening the thumbscrew on the module's cover.

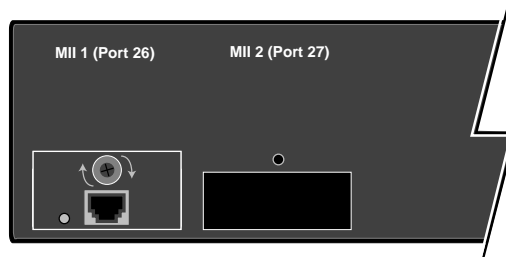


Figure 2-4 Securing an MII expansion module

- 6** Connect the installed MII expansion module to your network, following the cable guidelines outlined in “MII Ports” on page 2-10.

For more information on MII expansion modules, refer to the “MII Expansion Modules Installation Guide” included with your module.

Connecting Power

To connect power to the IntraSwitch 5308FL:

- 1 Plug one end of the supplied power cord into the power connector on the back of the unit.

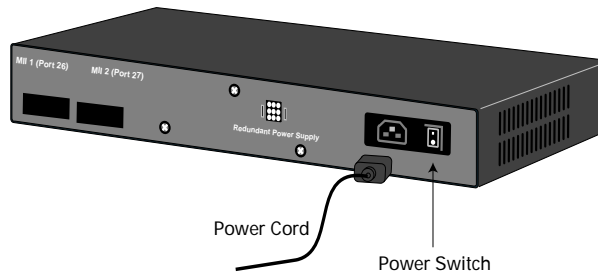


Figure 2-5 Connecting the power cord to the IntraSwitch 5308FL

- 2 Plug the other end of the power cord into a grounded AC outlet.

△ **Note:** For more information about power and environmental requirements, see Appendix C, “Technical Specifications.”
- 3 Turn the IntraSwitch 5308FL’s power switch to the “on” position.
Make sure the IntraSwitch 5308FL’s front panel LEDs blink and the POWER LED lights and remains on.

▲ **Important!** If the power does not come on, refer to Appendix A, “Troubleshooting.”
- 4 Turn the IntraSwitch 5308FL’s power off.
The IntraSwitch 5308FL is ready to be connected to the network. Proceed to “Connecting to the Network” on page 2-9.

Connecting to the Network

To connect the IntraSwitch 5308FL to an Ethernet network:

- 1** Make sure the IntraSwitch 5308FL's power is **off**.
 - 2** Connect network devices to the IntraSwitch 5308FL, following the cable guidelines outlined in the tables below.
 - 3** Power on the IntraSwitch 5308FL.
- After the IntraSwitch 5308FL is connected to the network and is powered on, it can be configured for management capabilities (see "Setting up for Management" on page 2-12).

10Base-FL Ports

Table 2-2 10Base-FL Cable Guidelines

Connecting To	Cable Required
All Network Devices	Dual 62.5/1265 micron graded-index multimode fiber-optic cable with a dual ST connector.

10/100TX Port

Table 2-3 10/100TX Port Cable Guidelines

Connecting To	Cable Required
Network Station	Category 5 UTP straight-through cable (100 meters maximum) with RJ-45 connectors.
Repeater/Hub	Category 5, UTP cross-over cable (100 meters maximum) with RJ-45 connectors.
Repeater/Hub's Uplink port	Category 5, UTP straight-through cable (100 meters maximum) with RJ-45 connectors.

Installation

MII Ports

The MII expansion slots allow for the connection of 10/100TX, 100Base-FX, or 10Base-FL ports.

10/100TX Module

Table 2-4 10/100TX MII Module Cable Guidelines

Connecting To	Cable Required
Network Station	Category 5 UTP cross-over cable (100 meters maximum) with RJ-45 connectors.
Repeater/Hub	Category 5, UTP straight-through cable (100 meters maximum) with RJ-45 connectors.
Repeater/Hub's Uplink port	Category 5, UTP cross-over cable (100 meters maximum) with RJ-45 connectors.

100Base-FX Module

Table 2-5 100Base-FX MII Module Cable Guidelines

Connecting To	Cable Required
All network devices	Dual 62.5/125 micron graded-index multimode fiber-optic cable with an SC connector.

10Base-FL Module

Table 2-6 10Base-FL MII Module Cable Guidelines

Connecting To	Cable Required
ST Connector All network devices	Dual 62.5/125 micron graded-index multimode fiber-optic cable with a dual ST connector.

Cabling Scenarios Diagram

The following diagram illustrates some of the various cabling scenarios available with the IntraSwitch 5308FL.

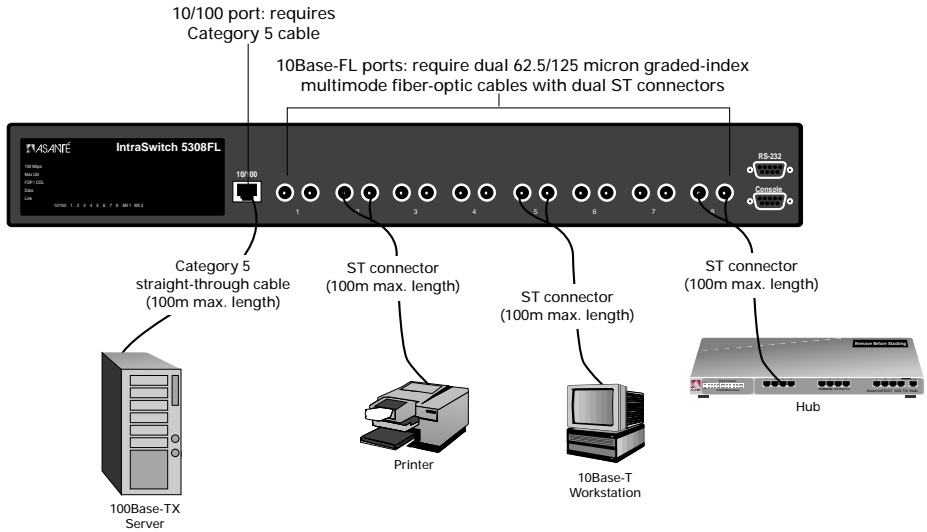


Figure 2-6 IntraSwitch 5308FL cabling scenarios

Setting up for Management

To use the IntraSwitch 5308FL as a managed switch, it must be configured with an IP address. This can be accomplished in one of two ways:

- automatically using BootP (default)
- manually via the Console port

BootP Configuration

The IntraSwitch 5308FL is shipped with BootP/TFTP support. BootP allows the IntraSwitch 5308FL to be automatically configured with an IP address when it is connected to the network and is powered on, if your network contains a BootP server configured with available, valid IP addresses.

▲ **Important!** BootP configuration only works if the IntraSwitch 5308FL does not have an IP address already assigned to it.

1 Make sure your network has a BootP server configured with a valid IP address entry for the IntraSwitch 5308FL.

2 When the IntraSwitch 5308FL is connected to the network and is powered on, it automatically transmits a BootP request across the network (up to 5 times) until it receives a valid IP address from the BootP server.

3 After an IP address is received, the IntraSwitch 5308FL can be managed via in-band access. See Chapter 4 for information on connecting to the IntraSwitch 5308FL for management.

To verify that the IntraSwitch 5308FL received an IP address, use a tool such as Ping¹ to try and access the IntraSwitch 5308FL; if you can access the IntraSwitch 5308FL, it is properly configured with an IP address.

1. Ping (an acronym for packet internet groper) is an application that can be used to test whether a remote device is properly connected to a network.

Console Configuration

To manually configure the IntraSwitch 5308FL with an IP address via the unit's Console port, use a VT100 terminal or a VT100 terminal emulator running on a workstation or personal computer (PC) to connect to the IntraSwitch 5308FL's Local Management Interface.

- 1 Using a straight-through RS-232 cable with a 9-pin male D-subminiature plug at one end, connect a terminal or workstation (PC) running a terminal emulator to the **Console** port on the front of the IntraSwitch 5308FL.

▲ **Important!** If you are using a Macintosh, you need a special cable to connect to the IntraSwitch 5308FL's Console port. Contact Asanté Technical Support (see Appendix E) for assistance.

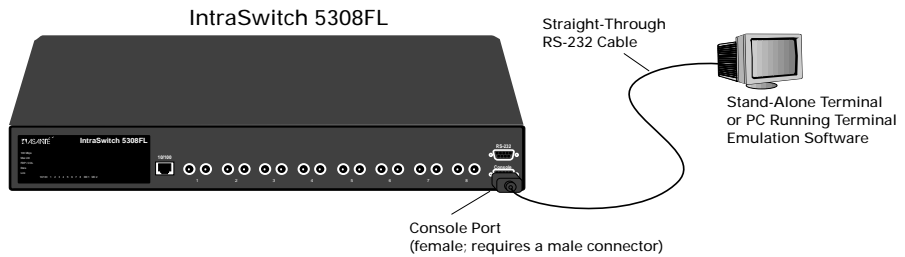


Figure 2-7 Connecting to the Console port

- 2 Make sure both units' power is turned on.
If using a PC with a terminal emulator, make sure it is configured with the following terminal settings:

- Bits Per Second: 9600
- Data Bits: 8
- Parity: None
- Stop Bits: 1
- Flow Control: None

3 Once connected, the IntraSwitch 5308FL's Local Management Interface Main Menu appears on the terminal screen, as shown in Figure 2-8.

```
Asante IntraSwitch Configuration Menu
<Cmd>          <Description>
a              Config System Administration Information
i              Config TCP/IP Parameters
b              Config Bootstrap Parameters
n              Config SNMP Parameters
p              Config Port Parameters
m              Config RMON Parameters
E              Config MAC Forwarding Table Parameters
s              Config Spanning Tree Parameters
w              Set Web server
t              Set Telnet Idle Time-out
c              Set Console Password
e              Reset EEPROM To Default
q              Exit Configuration Menu
Command>
```

Figure 2-8 Local Management Interface Main Menu

4 Type **c** to open the Configuration Menu. The “Enter Password” prompt appears.

5 Type your password at the prompt.

▲ **Important!** The default password is **Asante**. The password is case-sensitive. For information on changing the password, see “Set Console Password” on page 5-36.

6 Type **i** to open the Config TCP/IP Parameters Menu.

7 Type **i** to select the option “Set IP Address.”

8 Type the IP address to be assigned to the IntraSwitch 5308FL at the prompt. This address becomes the new factory default setting.

▲ **Important!** Depending on your network configuration, you may also need to set sub-net mask and default router (gateway) information. See “Configure TCP/IP Parameters” on page 5-12 for instructions.

9 Press **return**.

10 Type **q** to return to the Configuration Menu.
The IntraSwitch 5308FL is configured with an IP address and can now be managed via in-band access. See Chapter 4 for information on management options.

3

LED Indicators

This chapter describes the IntraSwitch 5308FL's front panel layout and explains how to interpret its LEDs.

This chapter contains the following sections:

- ❑ LED Indicators — page 3-2
- ❑ Port LEDs — page 3-3
- ❑ Power LED — page 3-4
- ❑ Diagnostic LEDs — page 3-4

LED Indicators

The IntraSwitch 5308FL has five rows of LEDs on its front panel that convey the status of each 10Base-FL port as well as the status of the 10/100TX port and MII expansion ports (if installed). See Figure 3-1.

The five rows of port LEDs display:

- 100 Mbps operation
- Max Util (maximum utilization)
- FDP/COL (full duplex or collision)
- Data
- Link

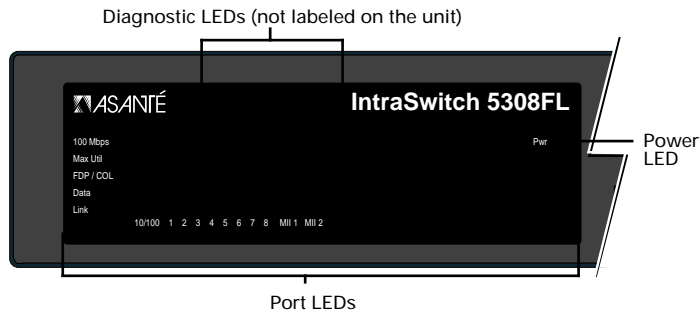


Figure 3-1 IntraSwitch 5308FL LED panel

The IntraSwitch 5308FL also has four diagnostic LEDs. These LEDs are not labeled on the unit's front panel. They light when the IntraSwitch 5308FL is first powered on or is reset.

▲ **Important!** The diagnostic LEDs are **not** labeled on the IntraSwitch 5308FL's front panel.

See "Diagnostic LEDs" on page 3-4 for more information.

When the IntraSwitch 5308FL is first powered on, the port and diagnostic LEDs blink. The green power light illuminates and remains on, indicating electrical power to the unit.

Port LEDs

The IntraSwitch 5308FL has five rows of LEDs. The following table states their color and meaning:

Table 3-1 Port LEDs

LED	Color	Meaning
100Mbps	green	10/100TX port or an installed MII expansion port is operating at 100Mbps speed. Note: These LEDs only function with ports capable of operating at 100Mbps speed (i.e., the 10/100TX port or an installed 10/100 MII module).
Max Util	amber	The corresponding port's receive buffer is full (maximum utilization). Note: It is normal to see these LEDs light when the network is in a state of moderate-to-heavy activity.
FDP/Col	amber	Indicates full duplex mode on the corresponding port. Indicates a collision at the switching port for those ports operating in half duplex mode. Note: Full duplex means that a port can transmit and receive at the same time. Note: Collision is indicated only on those ports operating in half duplex mode.
Data	green	Traffic activity is occurring on the port (transmit [TX] or receive [RX]). Note: During heavy traffic periods, this LED may be lit continuously.
Link	green	A node or other network device is properly connected to the corresponding port and is powered on.

LED Indicators

Power LED

The green POWER light comes on and stays on when the IntraSwitch 5308FL is receiving electrical power.

Diagnostic LEDs

The IntraSwitch 5308FL's four diagnostic LEDs (one orange, three green) blink once when the IntraSwitch 5308FL is first powered on or is reset.

- ▲ **Important!** If the diagnostic LEDs illuminate for any length of time other than during a power cycle, contact Asanté Technical support (see Appendix A, "Technical Support").

4

Setting Up For Management

This chapter describes the different management options available with the IntraSwitch 5308FL. It also explains how to connect to the IntraSwitch 5308FL via those options.

This chapter contains the following sections:

- ❑ **Overview — page 4-2**
 - ❑ **Management Scenarios — page 4-3**
- ❑ **Out-of-Band Management — page 4-4**
- ❑ **In-Band Management — page 4-6**

IntraSwitch 5308FL Management

Overview The IntraSwitch 5308FL can be managed using any of the following methods:

Table 4-1 Management Options

Method	Type	Description
Console	out-of-band management	local connection to the IntraSwitch 5308FL via the unit's Console port
Telnet (one session)	in-band management	remote connection over the network to the IntraSwitch 5308FL via a terminal emulation program
World Wide Web browser	in-band management	remote connection to the IntraSwitch 5308FL via a World Wide Web browser
SNMP-based Network Management Software	in-band management	remote connection to the IntraSwitch 5308FL via any SNMP-based network management application such as IntraSpection

This chapter describes how to connect to the IntraSwitch 5308FL using either out-of-band or in-band management, as illustrated in Figure 4-1.

For information on using each management method, refer to the following:

- ❑ Console or Telnet management — see Chapter 5, “Console Management.”
- ❑ World Wide Web browser — see the “Manual Addendum: Web Browser Management” included in your package.
- ❑ SNMP-based Network Management Software — see “SNMP-based Management Software” on page 4-7.

Management Scenarios

The following diagram illustrates the management options available with the IntraSwitch 5308FL.

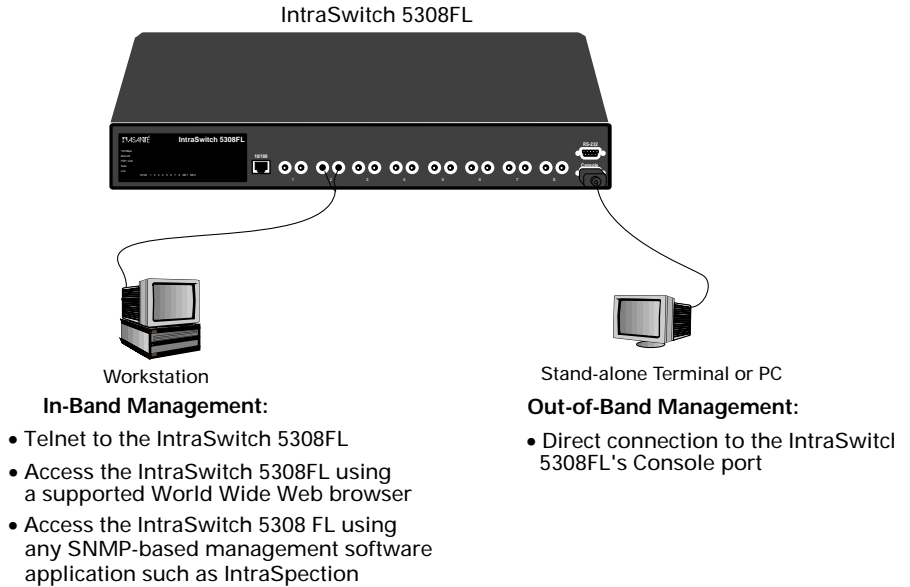


Figure 4-1 IntraSwitch 5308FL management options

Out-of-Band Management

Out-of-band network management allows you to configure, manage, and monitor the IntraSwitch 5308FL and each of its ports. You can perform these functions via the following method:

- ❑ By attaching a terminal (or a terminal emulator) to the IntraSwitch 5308FL's Console port and using the menu-driven **Local Management Interface**.

Out-of-band network management is guaranteed even when the in-band Ethernet network is down.

To access the IntraSwitch 5308FL's Local Management Interface using out-of-band management:

- 1 Connect a stand-alone terminal or a PC running a terminal emulator directly to the IntraSwitch 5308FL's Console port using a **straight-through RS-232 serial cable** with a male connector.
- ▲ **Important!** If you are using a Macintosh, you need a special cable to connect to the IntraSwitch 5308FL's Console port. Contact Asanté Technical Support (Appendix E) for assistance.

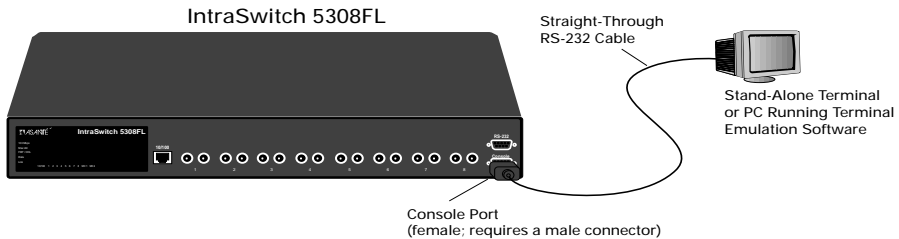


Figure 4-2 Connecting to the Console port

- 2 Make sure both units' power is turned on. If using a PC with a terminal emulator, make sure it is configured with the following terminal settings:

- Bits Per Second: 9600
- Data Bits: 8
- Parity: None
- Stop Bits: 1
- Flow Control: None

3 Once connected, the Local Management Interface Main Menu appears on the screen.

```

Asante IntraSwitch Configuration Menu

<Cmd>          <Description>
a              Config System Administration Information
i              Config TCP/IP Parameters
b              Config Bootstrap Parameters
n              Config SNMP Parameters
p              Config Port Parameters
m              Config RMON Parameters
f              Config MAC Forwarding Table Parameters
s              Config Spanning Tree Parameters
w              Set Web server
t              Set Telnet Idle Time-out
c              Set Console Password
e              Reset EEPROM To Default
q              Exit Configuration Menu

Command>

```

Figure 4-3 Local Management Interface Main Menu

See Chapter 5, “Console Management,” for information on using the Local Management Interface to manage the IntraSwitch 5308FL.

▲ **Important:** A password is needed to access the Configuration Menu. The default password is **Asante**. The password is case-sensitive.

In-Band Management

In-band network management allows you to manage, control, and monitor the IntraSwitch 5308FL and each of its ports over the Ethernet network.

You can perform these functions by accessing the IntraSwitch 5308FL via one of the following methods:

- By connecting with a terminal emulation program such as Telnet¹ and using the Local Management Interface.
- By connecting with a supported World Wide Web browser and using the Web Management Interface.
- By connecting with any SNMP-based network management application and using its interface.

To manage the IntraSwitch 5308FL via in-band management:

- 1** Make sure the network to which the IntraSwitch 5308FL is connected is up and functioning.
- 2** Make sure the IntraSwitch 5308FL is powered on and is configured with valid IP information. See “Setting up for Management” on page 2-12 for instructions.
- 3** Connect to the IntraSwitch 5308FL with a terminal emulator, a supported World Wide Web browser, or any SNMP-based network management application.

Terminal Emulator

See Chapter 5, “Console Management,” for information on managing the IntraSwitch 5308FL with a terminal emulator.

1. Telnet is a common terminal emulation application used in TCP/IP networks for remote terminal access to network devices.

△ **Note:** All management screens using a terminal emulator are identical to those of the out-of-band Console interface.

World Wide Web Browser

See the “Manual Addendum: Web Browser Management” included in your package for information on managing the IntraSwitch 5308FL with a Web browser.

SNMP-based Management Software

Refer to the software’s User’s Manual for information on managing the IntraSwitch 5308FL with SNMP-based management software.

5

Console Management

This chapter describes how to manage the IntraSwitch 5308FL using the out-of-band Console or in-band Telnet interface.

This chapter contains the following sections:

- ❑ Overview — page 5-2
- ❑ Configuration and Management Tasks — page 5-3
- ❑ Local Management Interface — page 5-5
 - ❑ General Information Menu — page 5-6
 - ❑ Configuration Menu — page 5-7
 - ❑ Statistics Menu — page 5-39

Console Management

Overview

The IntraSwitch 5308FL's Local Management Interface is a menu-driven application that provides for management and configuration of the IntraSwitch 5308FL and each of its ports.

The Local Management Interface can be accessed via two methods:

- ❑ Out-of-band connection to the Console port
- ❑ In-band connection via a terminal emulator such as Telnet (**one** session)

△ **Note:** See Chapter 4, "Setting Up For Management" for instructions on how to connect to the Local Management Interface using one of the two methods listed above.

This chapter describes each menu item within the Local Management Interface as well as how to perform the configuration and management tasks outlined in Tables 5-1 and 5-2.

Configuration and Management Tasks

Table 5-1 Configuration Tasks

Configuration Task	Page #
Logging into the Configuration Menu	page 5-7
Changing System Administration Information	page 5-11
Changing TCP/IP Information	page 5-13
Setting Community Strings	page 5-20

Table 5-2 Management Tasks

Management Task	Page #
Performing a Software Upgrade	page 5-17
Enabling Authentication Traps	page 5-20
Adding a Trap Receiver	page 5-21
Deleting a Trap Receiver	page 5-21
Enabling or Disabling a Port	page 5-24
Configuring Full Duplex	page 5-24
Configuring Auto-Negotiation	page 5-25
Displaying the MAC Forwarding Table	page 5-28
Finding an Entry in the MAC Forwarding Table	page 5-29
Setting the Age-Out Timer	page 5-29
Enabling/Disabling Spanning Tree on ALL Ports	page 5-32
Enabling/Disabling Spanning Tree on a Single Port	page 5-32
Set Web Server Management	page 5-34

Console Management

Management Task	Page #
Setting the Telnet Idle Time-Out Period	page 5-35
Changing the Console Password	page 5-36
Resetting the EEPROM	page 5-37
Resetting the IntraSwitch 5308FL	page 5-38

Local Management Interface

After you connect to the IntraSwitch 5308FL's Local Management Interface, the Main Menu appears, as shown in Figure 5-1.

Main Menu

```

Asante IntraSwitch Configuration Menu

<Cmd>          <Description>
a              Config System Administration Information
i              Config TCP/IP Parameters
b              Config Bootstrap Parameters
n              Config SNME Parameters
p              Config Port Parameters
m              Config RMON Parameters
f              Config MAC Forwarding Table Parameters
s              Config Spanning Tree Parameters
w              Set Web server
t              Set Telnet Idle Time-out
c              Set Console Password
e              Reset EEPROM To Default
q              Exit Configuration Menu

Command>

```

Figure 5-1 Local Management Interface Main Menu

From the Main Menu, you can access three submenus:

- General Information — page 5-6
- Configuration — page 5-7
- Statistics — page 5-38

If you are using Telnet, a fourth option will be available — Close Connection. This option closes your remote connection to the IntraSwitch 5308FL's Local Management Interface.

Accessing a Submenu

To access a submenu, type the command letter of the corresponding option (e.g., type **g** for General Information).

Exiting a Submenu

To exit a submenu, type **q**. To exit a command line (e.g., Set Console Password in the Configuration Menu), press **ctrl-c**.

- △ **Note:** For a one-page map of the Main Menu and its submenus, refer to Appendix D, “Console Management Menu.”

General Information Menu

The General Information Menu displays the IntraSwitch 5308FL's current operating information. This includes items such as the IntraSwitch 5308FL's software version, name, IP address, and boot information.

- △ **Note:** The information displayed on this screen is read-only.

Accessing the General Information Menu

- Type **g** from the Main Menu. A screen similar to Figure 5-2 appears.

```
Asante IntraSwitch with SNMP Agent and TELNET Software V1.0
Compiled Date: Mar 03 1997, Time: 11:03:00

System Administration
  Switch Name:      IntraSwitch
  Switch Location:  eng lab
  Switch Contact:   <none>
Switch ID/MAC, IP Address, Subnet Mask and Default Router
  ID/MAC Address:  00:00:94:75:94:ED
  IP Address:      000.000.00.000
  Subnet Mask:     255.255.255.0
  Default Router:  0.0.0.0
Switch Boot Information
  Boot Load Mode:  LOCAL
  Boot Mode:       TFTP
  Boot Server:     0.0.0.0
  Boot File Name:  <none>
Type <sp> to continue...
```

Figure 5-2 General Information Menu

- △ **Note:** For a description of each parameter on the General Information Menu, see “General Information Menu Parameters” on page 6-3.

To exit the General Information Menu, press the **space bar** on your keyboard.

Configuration Menu

The Configuration Menu allows you to configure settings for the IntraSwitch 5308FL. These settings include system administration information, TCP/IP parameters, RMON parameters, port parameters, and bootstrap parameters.

Logging into the Configuration Menu

1 From the Local Management Interface Main Menu, type **c**.

2 Type your password at the “Enter Password” prompt.

▲ **Important!** The default password is **Asante**. The password is case-sensitive. For information on changing passwords, see “Set Console Password” on page 5-36.

The following Configuration Menu appears:

```

Asante IntraSwitch Configuration Menu

<Cmd>          <Description>
a              Config System Administration Information
i              Config TCP/IP Parameters
b              Config Bootstrap Parameters
n              Config SNMP Parameters
p              Config Port Parameters
m              Config RMON Parameters
f              Config MAC Forwarding Table Parameters
s              Config Spanning Tree Parameters
w              Set Web server
t              Set Telnet Idle Time-out
c              Set Console Password
e              Reset EEPROM To Default
q              Exit Configuration Menu

Command>
    
```

Figure 5-3 Configuration Menu

3 From this menu you can access configuration sub-menus by typing the command letter of the corresponding menu option (e.g., type **a** for the Configure System Administration Information Menu).

Table 5-4 provides a brief overview of each menu item.

Console Management

Table 5-4 Configuration Menu Items

Menu Item	Description
Config System Administration Information	<p>Displays and allows you to change the name, location, and contact information for the IntraSwitch 5308FL.</p> <p>See "Configure System Administration Information" on page 5-10.</p>
Config TCP/IP Parameters	<p>Displays and allows you to change the information needed to access the IntraSwitch 5308FL over the network (via in-band management).</p> <p>See "Configure TCP/IP Parameters" on page 5-12.</p>
Config Bootstrap Parameters	<p>Displays and allows you to change the parameters used for downloading a new version of software for the IntraSwitch 5308FL.</p> <p>See "Configure BootStrap Parameters" on page 5-14.</p>
Config SNMP Parameters	<p>Displays and allows you to change the IntraSwitch 5308FL's SNMP (Simple Network Management Protocol) parameters; such as, read/write settings, trap authentication, and trap receivers.</p> <p>See "Configure SNMP Parameters" on page 5-18.</p>
Config Port Parameters	<p>Allows you to manually configure each of the IntraSwitch 5308FL's ports for speed, connection, link mode, and auto-negotiation.</p> <p>See "Configure Port Parameters" on page 5-22.</p>
Config RMON Parameters	<p>Displays and allows you to change the IntraSwitch 5308FL's RMON parameters.</p> <p>See "Configure RMON Parameters" on page 5-26.</p>

Menu Item	Description
Config MAC Forwarding Table Parameters	<p>Displays the entries in the IntraSwitch 5308FL's MAC Forwarding Table.</p> <p>See "Configure MAC Forwarding Table Parameters" on page 5-27.</p>
Config Spanning Tree Parameters	<p>Displays the IntraSwitch 5308FL's Spanning Tree parameters and allows you to enable or disable the Spanning Tree Protocol.</p> <p>See "Configure Spanning Tree Parameters" on page 5-30.</p>
Set Web Server	<p>Allows you to enable or disable management via a World Wide Web server.</p> <p>See "Set Web Server" on page 5-34.</p>
Set Telnet Idle Time-out	<p>Allows you to set the amount of time a Telnet connection can remain idle and still connected to the IntraSwitch 5308FL.</p> <p>See "Set Telnet Idle Time-out" on page 5-35.</p>
Set Console Password	<p>Allows you to change the password needed to access the Local Management Interface Configuration Menu.</p> <p>See "Set Console Password" on page 5-36.</p>
Reset EEPROM To Default	<p>Allows you to reset the IntraSwitch 5308FL's EEPROM to its factory default settings.</p> <p>See "Reset EEPROM" on page 5-37.</p>
Exit Configuration Menu	<p>Exits the Configuration Menu and returns you to the Local Management Interface Main Menu.</p>

Configure System Administration Information

This menu displays and allows you to change the IntraSwitch 5308FL's name, location, and contact information.

To access the System Administration Information Menu, type **a** from the Configuration Menu.

The following menu appears:

```
Asante IntraSwitch System Administration Information Menu
Switch Name: <none>
Switch Location: <none>
Switch Contact: <none>

<Cmd>      <Description>
n          Set Switch Name
l          Set Switch Location
c          Set Switch Contact Information
q          Return to Previous Menu

Command>
```

Current Settings

Figure 5-4 System Administration Information Menu

Current Settings

Table 5-5 explains each setting on the System Administration Information Menu.

For information on using this menu, see:

- ❑ “Changing System Administration Information” — page 5-11

Table 5-5 System Administration Information Settings

Setting	Description
Switch Name	The name of the IntraSwitch 5308FL (up to 24 characters, including spaces).
Switch Location	The location where the IntraSwitch 5308FL is physically located (up to 24 characters, including spaces).
Switch Contact	The name of the person responsible for the IntraSwitch 5308FL (up to 24 characters, including spaces).

Configure System Administration Information

Changing System Administration Information

To change the IntraSwitch 5308FL's name, location, or contact information:

- 1** Open the System Administration Information Menu by typing **a** in the Configuration Menu.
- 2** Type the command letter of the option you want to change.
For example, type **n** to set the switch name.
- 3** Type the information at the prompt.
See Table 5-5 for a description of each parameter.
 - ▲ **Important!** Each parameter is limited to 64 characters (including spaces).
To cancel a selected option, press **ctrl-c** at the command prompt.
- 4** Press return.
The IntraSwitch 5308FL's system administration information is configured.
To quit and return to the Configuration Menu, type **q**.

Configure TCP/IP Parameters

This menu displays and allows you to change the information needed to access the IntraSwitch 5308FL over the network (for in-band management).

To access the TCP/IP Parameter Menu, type **i** from the Configuration Menu. The following menu appears:

```
Current Settings — Asante IntraSwitch TCP/IP Parameter Menu
                    Switch IP Address:      0.0.0.0
                    Switch Subnet Mask:    0.0.0.0
                    Switch Default Router: 0.0.0.0

                    <Cmd>      <Description>
                    i        Set IP Address
                    m        Set Subnet Mask
                    r        Set Default Router Address
                    q        Return to Previous Menu

                    Command>
```

Figure 5-5 TCP/IP Parameter Menu

Δ **Note:** By default, each parameter is set to 0.0.0.0.

Current Settings

Table 5-6 explains each setting on the TCP/IP Parameter Menu.

For information on using the menu, see:

- ❑ “Changing TCP/IP Information” — page 5-13

Table 5-6 TCP/IP Parameter Settings

Setting	Description
Switch IP Address	The IntraSwitch 5308FL's IP (Internet Protocol) address.
Switch Subnet Mask	The address of the subnet mask on which the IntraSwitch 5308FL is located.
Switch Default Gateway	The address of the IntraSwitch 5308FL's default gateway.

Changing TCP/IP Information

To change the IntraSwitch 5308FL's IP address, subnet mask, or default gateway information:

- 1** Open the TPC/IP Parameter Menu by typing **i** in the Configuration Menu.
- 2** Type the command letter of the option you want to change.
- 3** Type the new address at the prompt.
See Table 5-6 for a description of each parameter.
 - ▲ **Important!** Follow the format: *number.number.number.number*.To cancel a selected option, press **ctrl-c** at the command prompt.
- 4** Press return.
The IntraSwitch 5308FL's TCP/IP information is configured.
To quit and return to the Configuration Menu, type **q**.

Configure Bootstrap Parameters

This menu displays and allows you to change the bootstrap parameters used for loading the IntraSwitch 5308FL's software at startup and for downloading a new version of software when one is issued.

To access the Bootstrap Parameters Menu, type **b** from the Configuration Menu. The following menu appears:

```
Asante IntraSwitch BootStrap Parameter Menu
Boot Load Mode:          LOCAL
Boot Mode:               TFTP
Boot Server IP Address:  0.0.0.0
Boot File Name:          <none>

<Cmd>          <Description>
 l             Set Load Mode to Local
 r             Set Load Mode to Remote
 b             Set Boot Mode to Bootp-tftp
 t             Set Boot Mode to Tftp
 s             Set Boot Server IP Address
 f             Set Boot File Name
 q             Return to Previous Menu

Command> _
```

Current Settings —

Figure 5-6 Bootstrap Parameter Menu

▲ **Important!** The IntraSwitch 5308FL's default Load Mode setting is **Local**.

Normally, the bootstrap settings never need to be changed except when downloading a new version of the IntraSwitch 5308FL's software.

Current Settings

Table 5-7 explains each setting on the Bootstrap Parameter Menu.

For information on using the menu, see:

- ❑ “Executing Software Locally” — page 5-16
- ❑ “Loading Software Remotely” — page 5-16
- ❑ “Performing a Software Upgrade” — page 5-17

Configure Bootstrap Parameters

Table 5-7 Bootstrap Parameter Settings

Setting	Description
Set Load Mode to Local	Executes the software image file from the IntraSwitch 5308FL's internal flash memory. Important! This is the IntraSwitch 5308FL's default setting.
Set Load Mode to Remote	Loads a new software image file from a server on the network. Important! To use this option, you must select BootP-TFTP or TFTP as the Boot Mode.
Set Boot Mode to Bootp-tftp	Sets the IntraSwitch 5308FL to request an IP address from a BootP server and download the software image file through TFTP. Important! To use this option, the IntraSwitch 5308FL's IP address must be set to 0.0.0.0 and the Load Mode must be set to Remote .
Set Boot Mode to TFTP	Sets the IntraSwitch 5308FL to only download the software image file through TFTP (an IP address is not requested). Important! To use this option, the IntraSwitch 5308FL must already have an assigned IP address and the Load Mode must be set to Remote .
Set Boot Server IP Address	Sets the IP address of the remote server providing BootP/TFTP capabilities on your network.
Set Boot File Name	Sets the software image file name and network path.

Executing Software Locally

To set the IntraSwitch 5308FL to boot (execute its software) locally from its internal flash memory:

- 1** Make sure the IntraSwitch 5308FL is configured with a valid IP address.
- 2** Open the Bootstrap Parameter Menu by typing **b** in the Configuration Menu.
- 3** Type **l** to set the Load Mode to **Local**.
The IntraSwitch 5308FL is set to load its software locally from its internal flash memory. This occurs each time the IntraSwitch 5308FL is powered on or is reset.

Loading Software Remotely

To set the IntraSwitch 5308FL to boot (load its software) over the network from a remote server:

- 1** Open the Bootstrap Parameter menu by typing **b** in the Configuration Menu.
- 2** Type **s** to select the option **Set Boot Server IP Address**.
- 3** Type the IP address of the remote boot server containing the software image file for the IntraSwitch 5308FL at the prompt, then press return.
- 4** Type **r** to set the Load Mode to **Remote**.
- 5** Type **f** to select the option **Set File Name**.
- 6** Type the software image file's name and network path at the prompt, then press return.
The IntraSwitch 5308FL is set to download its software remotely from the network.

Performing a Software Upgrade

When Asanté issues a new version of the software image for the IntraSwitch 5308FL, you can obtain it from Asanté's World Wide Web site or by contacting Asanté's Technical Support (see Appendix A, "Technical Support").

The software file must be downloaded from a management station on your network, such as AsantéView. These instructions explain how to perform a software upgrade on the IntraSwitch 5308FL from AsantéView.

To upgrade the IntraSwitch 5308FL's software from AsantéView:

- 1** Make sure the IntraSwitch 5308FL is configured with an IP address.
- 2** Open the BootStrap Parameter Menu by typing **b** in the Configuration Menu.
- 3** Type **r** to set the Boot Load Mode to **Remote**.
- 4** Type **t** to set the Boot Mode to **TFTP**.
- 5** Type **s** and set the **Boot Server IP address**.
- 6** Type **f** and set the name and network path for the new software image file; for example:

```
c:\AV\ISwitch.cfg
```
- 7** Make sure the following two files are in the Boot server's directory:

```
ISwitch.cfg  
5324.10x
```
- 8** Type **q** to return to the Configuration Menu.
- 9** Reset the IntraSwitch 5308FL by powering it off and then on.

Configure SNMP Parameters

This menu controls the IntraSwitch 5308FL's SNMP (Simple Network Management Protocol) parameters.

With these parameters, you can configure the IntraSwitch 5308FL's read and write community strings, set the IntraSwitch 5308FL to generate authentication traps, and determine which management stations on your network can receive traps.

To access the SNMP Parameter Menu, type **n** from the Configuration Menu. The following menu appears:

```
Asante IntraSwitch SNMP Parameter Menu

SNMP Read Community:    public
SNMP Write Community:   private

Trap Authentication:    DISABLED
SNMP Trap Receivers:
  IP Address            Community
  0.0.0.0               <Not Used>
  0.0.0.0               <Not Used>
  0.0.0.0               <Not Used>
  0.0.0.0               <Not Used>

<Cmd>      <Description>
r          Set SNMP Read Community
w          Set SNMP Write Community
t          Toggle Trap Authentication Traps
a          Add SNMP Trap Receiver Entry
d          Delete SNMP Trap Receiver Entry
q          Return to Previous Menu

Command>
```

Current Settings

Figure 5-7 SNMP Parameter Menu

Current Settings

Table 5-8 explains each setting on the SNMP Parameter Menu.

For information on using the menu, see:

- ❑ “Setting Community Strings” — page 5-20
- ❑ “Enabling Trap Authentication” — page 5-20
- ❑ “Adding a Trap Receiver” — page 5-21
- ❑ “Deleting a Trap Receiver” — page 5-21

Configure SNMP Parameters

Table 5-8 SNMP Parameter Settings

Setting	Description
SNMP Read Community	<p>The IntraSwitch 5308FL's SNMP read community string.</p> <p>The read community string is a single word that defines access rights for reading SNMP data objects.</p> <p>The default setting is public.</p>
SNMP Write Community	<p>The IntraSwitch 5308FL's SNMP write community string.</p> <p>The write community string is a single word that defines access rights for writing SNMP data objects.</p> <p>The default setting is private.</p>
Trap Authentication	<p>The status of the SNMP agent to generate authentication traps.</p> <p>Note: An authentication trap occurs when a network station with an invalid community string attempts to access the IntraSwitch 5308FL.</p> <p>The default setting is disabled.</p>
SNMP Trap Receivers	<p>The IP addresses of the network management stations that can receive traps. Normally, these addresses are the same as your network management software systems' IP address(es).</p> <p>Important! A maximum of four traps receivers is allowed.</p>

Setting Community Strings

To change the IntraSwitch 5308FL's community strings:

- 1** Open the SNMP Parameter Menu by typing **n** in the Configuration Menu.
- 2** Type **r** to change the read community string or **w** to change the write community string.
- 3** Type a new community string at the prompt. To cancel a selected option, press **ctrl-c** at the command prompt.
- 4** Press return.
The IntraSwitch 5308FL's community strings are configured.

Enabling Authentication Traps

The IntraSwitch 5308FL can be set to generate authentication traps.

Authentication traps are messages sent across the network to an SNMP network management application (such as AsantéView or IntraSpection). They occur when a network management station with an invalid community string attempts to access the IntraSwitch 5308FL.

To set the IntraSwitch 5308FL to generate authentication traps:

- 1** Open the SNMP Parameter Menu by typing **n** on the Configuration Menu.
- 2** Type **t** on the SNMP Parameter Menu to toggle trap authentication from disabled to **enabled**.
- 3** Make sure there is a least one trap receiver entry. (See "Adding a Trap Receiver Entry" on page 5-21.)

Adding a Trap Receiver Entry

Trap receivers are the management stations designated to receive traps from the IntraSwitch 5308FL when they occur.

△ **Note:** The maximum number of trap receivers that can be added is **four**.

To add a trap receiver entry:

- 1** Open the SNMP Parameter Menu by typing **n** in the Configuration Menu.
- 2** Type **a** to **Add SNMP Trap Receiver Entry**.
- 3** Type the IP address of the network management station you want to receive traps.
 - ▲ **Important!** Do **not** type an address of 0.0.0.0 or 255.255.255.255.To cancel a selected option, press **ctrl-c** at the command prompt.
- 4** Press return.
The trap receiver's entry is added.

Deleting a Trap Receiver Entry

To delete a trap receiver entry:

- 1** Open the SNMP Parameter Menu by typing **n** on the Configuration Menu.
- 2** Type **d**.
- 3** Type the IP address of the receiving network station entry to be deleted.
- 4** Press return.
The trap receiver's entry is deleted.

Configure Port Parameters

This menu allows you to manually configure each of the IntraSwitch 5308FL's ports for speed, connection, link mode, and auto-negotiation.

The default parameters for each 10Base-FL port are:

- auto-negotiation — disabled
- port speed — 10Mbps
- link mode — half duplex

The default parameter for the 10/100TX port and the 10/100 MII expansion ports is:

- auto-negotiation — enabled (auto-negotiates to 10 or 100 **half duplex**)

To access the Port Parameter Menu, type **p** from the Configuration Menu. The following menu appears:

```
Asante IntraSwitch Port Parameter Menu
Port Number : 1                Port Type : ST
Port Connection:                Enabled
Link Status:                    Off
Port Auto-Negotiation Ability : NO
Port Speed:                     10
Link Mode:                      Half Duplex
<Cmd>          <Description>
c              Toggle Port Connection
a              Toggle Port Auto-Negotiation
f              Toggle Port Full/Half Duplex
e              Toggle Port Speed
l              Select the Port
n              Next Port
p              Previous Port
q              Return to Previous Menu
Command>
```

Current Settings

Figure 5-8 Port Parameter Menu

The Port Management menu displays statistics for one port at a time. The current port for which statistics are displayed is shown at the top of the screen (next to “**Port Number:**”).

- Ports 1 – 8** — each 10Base-FL port.
- Port 9** — the 10/100TX port.
- Ports 10 and 11** — the MII expansion ports (MII 1 and MII 2, respectively).

Current Settings

Table 5-9 explains each setting on the Port Parameter Menu. For information on using the Port Parameter Menu, see:

- “Enabling/Disabling a Port” — page 5-24
- “Configuring Full Duplex” — page 5-24
- “Configuring Auto-Negotiation” — page 5-25

Table 5-9 Port Parameter Settings

Setting	Description
Port Number	The number of the port for which information is displayed.
Port Connection	<p>The administrative status of the port's connection.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Enabled — the port is enabled and can receive and forward packets. <input type="checkbox"/> Disabled — the port is disabled and cannot receive any packets (even if the port's Link Status is ON).
Link Status	<p>The status of the port.</p> <ul style="list-style-type: none"> <input type="checkbox"/> On — a network device is properly connected to the selected port and is powered on. <input type="checkbox"/> Off — no network device is connected to the port.
Port Auto-Negotiation Ability	The auto-negotiation ability of the selected port.
Port Speed	<p>Manually determines the speed of the selected port.</p> <p>The 10Base-FL ports are only capable of transmitting at 10Mbps; the 10/100TX port and installed MII modules (except 10Base-FL) can be set to transmit at 100Mbps.</p> <p>▲ Important! If you manually change the speed on a port, auto-negotiation for that port is automatically disabled.</p>
Link Mode	The port's link mode (half or full duplex).

Enabling/Disabling a Port

The enabling or disabling of a port is a manual operation that can be used to isolate network devices possibly causing problems on the network or to prevent unauthorized use of a port or station.

To enable or disable a port:

- 1** Open the Port Parameter Menu by typing **p** on the Configuration Menu.
- 2** Select the port to be enabled or disabled by typing **l** and entering the port's number.
 - △ **Note:** The 10/100TX port is port number 9, the MII ports (MII 1 and MII 2) are port numbers 10 and 11, respectively.
- 3** Type **c** to toggle the port's connection to **enabled** or **disabled**, as desired.

Configuring Full Duplex

Full duplex mode allows a port to transmit and receive at the same time. You can set every port on the IntraSwitch 5308FL for full duplex operation.

- ▲ **Important!** To operate in full duplex mode, the device to which the port is connected must support and be configured for full duplex operation.

To configure a port for full duplex mode:

- 1** Open the Port Parameter Menu by typing **p** on the Configuration Menu.
- 2** Select the port to be configured for full duplex mode by typing **l** and entering the port's number.
 - △ **Note:** The 10/100TX port is port number 9, the MII ports (MII 1 and MII 2) are port numbers 10 and 11, respectively.

3 Type **f** to toggle the port's mode to **half** or **full duplex**, as desired.

The port's mode is displayed at the top of the screen.

Configuring Auto-Negotiation

Auto-negotiation allows two devices on a common segment to communicate their capabilities, allowing the devices to determine their highest common speed and best communication parameters.

Options Negotiated

- Ethernet type (100Base-TX Fast Ethernet or 10Base-T Ethernet)
- Duplex mode (half or full)

To configure the 10/100TX port or an installed 10/100 MII module for auto-negotiation:

▲ **Important!** To configure a port for auto-negotiation, both devices on either end must support the auto-negotiation feature.

1 Open the Port Parameter Menu by typing **p** on the Configuration Menu.

2 Select the port to be configured for full duplex mode by typing **l** and entering the port's number.

△ **Note:** The 10/100TX port is port number 9, the MII ports (MII 1 and MII 2) are port numbers 10 and 11, respectively.

3 Type **a** to toggle the port's auto-negotiation status to **enabled** or **disabled**, as desired.

The auto-negotiation status is displayed at the top of the screen.

Configure RMON Parameters

This menu allows you to view and configure RMON (remote monitoring) information.

- △ **Note:** RMON is a standard for monitoring and reporting network activity using remote monitors. It allows a management system to remotely monitor the switch for diagnostic purposes.

See Appendix B, “Supported MIBs” for a detailed description of each group of RMON that is supported by the IntraSwitch 5308FL.

- ▲ **Important!** See Chapter 8, “Advanced Management,” for information on using RMON with the IntraSwitch 5308FL.

Configure MAC Forwarding Table Parameters

This menu allows you to view and search for addresses in the IntraSwitch 5308FL's MAC Forwarding Table.

The MAC Forwarding Table is a table of node addresses that the IntraSwitch 5308FL automatically builds by listening to and learning the information that is broadcast when a new node logs on.

The IntraSwitch 5308FL checks the source and destination addresses as packets pass through the unit and records the information in the table. The IntraSwitch 5308FL uses the information in this table to decide whether a frame should be forwarded or filtered.

△ **Note:** The IntraSwitch 5308FL's MAC address table holds a maximum of **1024** entries.

To access the MAC Forwarding Table Parameters Menu, type **f** from the Configuration Menu. The following menu appears:

```
Asante IntraSwitch MAC Forwarding Table Parameter Menu
The Age Out Timer : 300 sec

<Cmd>      <Description>
s          Set MAC Forwarding Table Age Out Timer.
f          Find Entry in Forwarding Table.
n          Display Forwarding Table.
q          Return to Previous Menu

Command>
```

Current Setting

Figure 5-9 MAC Forwarding Table Parameters Menu

Current Setting

Table 5-10 explains the setting on the MAC Forwarding Table Parameter Menu.

For information on using the MAC Forwarding Table Parameter Menu, see:

- ❑ “Displaying the Forwarding Table” — page 5-28
- ❑ “Finding an Entry in the MAC Forwarding Table” — page 5-29
- ❑ “Setting the Age Out Timer” — page 5-29

Table 5-10 MAC Forwarding Table Parameter Setting

Setting	Description
Age Out Timer	The number of seconds an address remains in the table after it is learned by the IntraSwitch 5308FL.

Displaying the MAC Forwarding Table

- 1** Open the MAC Forwarding Table Menu by typing **f** on the Configuration Menu.
- 2** Type **n** to display the Forwarding Table. A screen similar to Figure 5-10 appears.

SRC MAC Address	SRC Port Number
00:00:0C:02:F1:ED	5
00:00:94:10:89:74	21
00:00:94:38:00:66	14
00:00:94:39:02:FD	1
00:00:94:40:1A:3F	6
00:00:94:40:1C:30	27
00:00:94:44:4B:1A	8
00:00:94:44:57:51	19
00:00:94:75:29:02	12
00:00:94:75:2B:D0	20
00:00:94:75:60:85	16
00:00:94:75:62:1D	18
00:00:94:75:6C:C0	22
00:00:94:75:A7:46	11
00:00:94:76:37:B2	4

Hit any key to continue for next 15 entries!!.....
Type q to exit....

Figure 5-10 MAC Forwarding Table

The table displays 15 entries at a time.

Configure MAC Forwarding Table Parameters

- 3** Press any key on your keyboard to display the next 15 entries.
- 4** Type **q** to exit the MAC Forwarding Table.

Finding an Entry in the MAC Forwarding Table

To find an entry in the table:

- 1** Open the MAC Forwarding Table Menu by typing **f** on the Configuration Menu.
- 2** Type **f** to find an entry.
- 3** Enter the MAC address you want to locate at the prompt.
- 4** Press return.
If the address is found within the table, it is displayed along with the port number.
If the address is not found, the message "No Such Entry" is displayed.

Setting the Age Out Timer

To set the MAC forwarding table's age out timer:

- 1** Open the MAC Forwarding Table Menu by typing **f** on the Configuration Menu.
- 2** Type **s** to set the timer.
- 3** Enter the number of seconds you want the addresses to remain in the table.

 Δ **Note:** The default is 300 seconds.
- 4** Press return.
The age out timer is set.

Configure Spanning Tree Parameters

This menu allows you to view the IntraSwitch 5308FL's SpanningTree parameters. It also allows you to enable or disable SpanningTree on all of the IntraSwitch 5308FL's ports or on a single port.

By default, the IntraSwitch 5308FL is shipped with Spanning Tree **enabled** on all ports.

▲ **Important!** Do not change these parameters unless you have experience and knowledge of the IEEE 802.1d specification.

To access the SpanningTree Parameter Menu, type **s** from the Configuration Menu. The following menu appears:

```
Asante IntraSwitch Spanning Tree Parameter Menu
Switch ID:      8000094759820
Bridge_Max_Age: 20 (sec)
Bridge_Hello_Time: 2 (sec)
Bridge_Forward_Delay: 15 (sec)

<Cmd>          <Description>
a              Apply
d              Set STP Setting to DISABLED on ALL Ports
e              Set STP Setting to ENABLED on ALL Ports
c              Config STP Port Attributes
q              Return to Previous Menu

Command>
```

Current Settings: these values cannot be changed

Figure 5-11 SpanningTree Parameters Menu

Current Settings

Table 5-12 explains each setting on the SpanningTree Parameter Menu.

For information on using the menu, see:

- ❑ “Enabling/Disabling Spanning Tree on ALL Ports” — page 5-32
- ❑ “Enabling/Disabling Spanning Tree on a Port” — page 5-32

Configure Spanning Tree Parameters

Table 5-12 Spanning Tree Parameter Settings

Setting	Description
Switch ID	The identification number of the IntraSwitch 5308FL. This value cannot be changed.
Bridge Max Age	<p>The Maximum Age timer; determines how long the IntraSwitch 5308FL retains information received from BPDU (bridging Protocol Data Unit) packets.</p> <p>The default value is 20 seconds. This value cannot be changed.</p>
Bridge Hello Time	<p>The Hello timer; controls the frequency at which the IntraSwitch 5308FL sends a BPDU or "hello" packet.</p> <p>BPDU packets provide information to the Spanning Tree bridges about the configuration of the Spanning Tree network.</p> <p>The default value is 2 seconds. (This causes the switch to broadcast a BPDU packet every two seconds.) This value cannot be changed.</p>
Bridge Forward Delay	<p>The number of seconds a bridge must wait before it changes a link from a listening state to a learning state and before it changes the link from a learning state to a forwarding state.</p> <p>The default value is 15 seconds. (This means that after a link [or the entire switch] goes down and connectivity is re-established, the switch waits approximately 30 seconds [twice the default value] before it begins to forward traffic again. This value cannot be changed.</p>

Enabling/Disabling Spanning Tree on ALL Ports

To enable or disable Spanning Tree on all ports:

- 1** Open the Spanning Tree Parameter Menu by typing **s** on the Configuration Menu.
- 2** Type **d** to disable Spanning Tree on all ports; type **e** to enable Spanning Tree on all ports.
To cancel the request, type **ctrl-c**.
- 3** Type **a** on the Spanning Tree Parameters Menu to apply the configuration.

The Spanning Tree status is displayed at the top of the menu next to STP Status

Enabling/Disabling Spanning Tree on a Single Port

To enable or disable Spanning Tree on an individual port:

- 1** Open the Spanning Tree Parameter Menu by typing **s** on the Configuration Menu.
- 2** Type **c** to open the Config STP Port Attributes Menu.

Figure 5-12 is an example of the Spanning Tree Port Parameter Menu.

```
Asante IntraSwitch Spanning Tree Port Parameter Menu
Current Port:      1
STP Port State:   Disabled
Port MAC Address: 00:00:94:75:98:05
Port Spanning Tree Status in Process: Enabled
Port Spanning Tree Setting : Enabled

<Cmd>      <Description>
e          Set Port STP Setting to Enabled
d          Set Port STP Setting to Disabled
l          Select Port Number
n          Next Port Number
p          Prev Port Number
q          Return to Previous Menu

Command>
```

Figure 5-12 Spanning Tree Port Parameters Menu

Configure Spanning Tree Parameters

- 3** Select the port number you want to enable or disable Spanning Tree on by typing **l** on the Port Parameter Menu and entering the port number at the prompt.
 - △ **Note:** The 10/100TX port is port number 9, the MII ports (MII 1 and MII 2) are port numbers 10 and 11, respectively.
- 4** Press return.
- 5** Type **e** to enable Spanning Tree on the port; type **d** to disable Spanning Tree on the port.
- 6** Type **q** to exit this menu and return to the Spanning Tree Parameter Menu.
- 7** Type **a** to apply the changes.
 - ▲ **Important!** The change will not take effect until **Apply** is selected from the Spanning Tree Parameter Menu.

Set Web Server

This option allows you to enable or disable management of the IntraSwitch 5308FL via a World Wide Web browser.

If this option is disabled, you cannot manage the IntraSwitch 5308FL via a World Wide Web browser.

△ **Note:** This option's default setting is **enabled**.

To set Web server management:

1 Type **w** from the Configuration Menu.

The following two lines appear at the bottom of the screen:

```
Current Web Server is ON
Are you sure you want to Set Web server to OFF? (y/N) _
```

Figure 5-13 Set Web server command line

The IntraSwitch 5308FL's current Web server management status is displayed.

2 Type **y** to disable Web server management; type **n** to enable Web server management.

The IntraSwitch 5308FL's Web server management is set.

Set Telnet Idle Time Out

This option sets the Telnet idle time-out period.

If a Telnet connection to the IntraSwitch 5308FL remains idle for the number of specified time-out minutes, the remote Telnet connection is automatically disabled.

To set the Telnet Idle Time Out period:

- 1** Type **t** from the Configuration Menu.
The following two lines appear at the bottom of the screen:

```
Current idle time = 20 minute(s)
Enter Idle Time in Minutes (0 means no time-out):
```

Figure 5-14 Set TelNet Idle Time Out command line

The current idle time is displayed in minutes.

- 2** Enter the number of minutes for the time-out period at the prompt.
 - △ **Note:** The default and recommended time-out period is **20** minutes.
To exit this option without making any changes to the current idle time-out period, press **ctrl-c**.

- 3** Press return.
The Telnet idle time out is configured.

Set Console Password

This option sets the IntraSwitch 5308FL's Console password. The Console password is the password needed to access the Configuration Menu.

△ **Note:** The default password is **Asante**.

To change the Console password:

- 1 Type **c** from the Configuration Menu.
The following command line appears at the bottom of the screen:

```
Enter New Password (Max length is 20) >
```

Figure 5-15 Set Console Password command line

- 2 Type a new password at the "Enter New Password" prompt.
 - ▲ **Important!** The password is case-sensitive.
The password must be a minimum of one character and a maximum of 20 characters in length. The password takes any ASCII code.
- 3 Press return.
- 4 Type the new password again at the confirmation password prompt.
- 5 Press return.
The Console password is changed.

Reset EEPROM to Default

This option resets the IntraSwitch 5308FL's values to the factory default.

- ▲ **Important!** This procedure reverts all information to the factory default settings **except** for the IntraSwitch 5308FL's IP address, subnet mask, and default gateway.

See "Factory Defaults" on page 1-11 for a list of all the IntraSwitch 5308FL's factory default settings.

To reset the EEPROM:

- 1** Type **e** from the Configuration Menu.
The following command line appears at the bottom of the Configuration Menu:

```
Are you sure you want to reset EEPROM to default?(y/N)
```

Figure 5-16 Reset EEPROM to Default command line

- 2** Type **y** to reset the EEPROM to default or **N** to cancel the reset.
- 3** Reset the IntraSwitch 5308FL by manually turning it off and then on again.
The IntraSwitch 5308FL's EEPROM is reset.

Resetting the IntraSwitch 5308FL

To reset the IntraSwitch 5308FL:

- 1** Turn the IntraSwitch 5308FL's power switch to the off position.
- 2** Turn the IntraSwitch 5308FL's power switch to the on position.

The IntraSwitch 5308FL is reset.

Statistics Menu

The Statistics Menu displays current statistics for the IntraSwitch 5308FL on a per-port basis.

Accessing the Statistics Menu

To access the Statistics Menu:

- ❑ Type **s** from the Local Management Interface Main Menu.
- ▲ **Important!** See Chapter 7, “Status Monitoring and Statistics” for information on using the Statistics Menu.

6

Status Monitoring and Statistics

This chapter describes how to view the IntraSwitch 5308FL's current operating information and statistics via the out-of-band Console or in-band Telnet interface.

This chapter contains the following sections:

- ❑ **Viewing the Current Operating Information — page 6-2**
- ❑ **Viewing Statistics — page 6-5**

Monitoring the IntraSwitch 5308FL

Viewing the Current Operating Information

The IntraSwitch 5308FL's current operating information can be viewed by accessing the General Information Menu within the Local Management Interface.

To view the IntraSwitch 5308FL's current operating information:

- 1** Access the IntraSwitch 5308FL's Local Management Interface.
 - △ **Note:** See Chapter 4, "Setting Up For Management" for instructions on how to connect to the Local Management Interface.
- 2** Type **g** in the Main Menu. A screen similar to Figure 6-1 appears.

```
Asante IntraSwitch with SNMP Agent and TELNET Software V1.0
Compiled Date: Mar 03 1997, Time: 11:03:00

System Administration
Switch Name:      IntraSwitch
Switch Location:  eng lab
Switch Contact:   <none>
Switch ID/MAC, IP Address, Subnet Mask and Default Router
ID/MAC Address:  00:00:94:75:94:ED
IP Address:      000.000.00.000
Subnet Mask:     255.255.255.0
Default Router:  0.0.0.0
Switch Boot Information
Boot Load Mode:  LOCAL
Boot Mode:       TFTP
Boot Server:     0.0.0.0
Boot File Name:  <none>
Type <sp> to continue...
```

Figure 6-1 General Information Menu

Table 6-1 describes each parameter.

To exit the General Information Menu, press the **space bar** on your keyboard.

Viewing the Current Operating Information

Table 6-1 General Information Menu Parameters

Setting	Description
Switch Name	The name of the IntraSwitch 5308FL.
Switch Location	The location of where the IntraSwitch 5308FL is physically located.
Switch Contact	The name of the person responsible for the IntraSwitch 5308FL.
ID/MAC Address	The IntraSwitch 5308FL's hardware address.
IP Address	The IntraSwitch 5308FL's IP (Internet Protocol) address.
Subnet Mask	The address of the subnet to which the IntraSwitch 5308FL belongs.
Default Router	The IP address of the IntraSwitch 5308FL's default gateway router.
Boot Load Mode	<p>The origin of the device boot image file (a software file residing on hardware required by the IntraSwitch 5308FL to operate on the network).</p> <p>Local — indicates the IntraSwitch 5308FL is set to load the image file from its internal flash memory (default setting).</p> <p>Remote — indicates the IntraSwitch 5308FL is set to download the image file from a remote boot server on the network.</p>

Status Monitoring and Statistics

Setting	Description
Boot Mode	<p>The boot mode used for downloading a new version of software for the IntraSwitch 5308FL.</p> <p>BootP-TFTP — sets the IntraSwitch 5308FL to request an IP address from a BootP server and download the image file through TFTP.</p> <p>TFTP — sets the IntraSwitch 5308FL to only download the image file through TFTP (does not request an IP address; the IntraSwitch 5308FL must already be configured with an IP address to use this option).</p>
Boot Server	The remote boot server's IP address.
Boot File Name	The image file name and network path.

Viewing Statistics

Viewing statistics on a regular basis allows you to evaluate your network's performance.

You can view current port-level statistics for the IntraSwitch 5308FL by accessing the Statistics Menu in the Local Management Interface.

To view statistics:

- 1 Access the IntraSwitch 5308FL's Local Management Interface.
 - △ **Note:** See Chapter 4, "Setting Up For Management" for instructions on how to connect to the Local Management Interface.
- 2 Type **s** from the Main Menu. A screen similar to Figure 6-2 appears:

```

Asante IntraSwitch Port Statistic Counters
Port: 1      Page : 1      Elapse Time: 00:00:00

<Counter Name>  <Curr/s>  <Peak/s>  <Avg/s>  <Total>
GoodRXOctets    0          0          0         0
GoodRXFrames    0          0          0         0
RXBcasts        0          0          0         0
RXMcasts        0          0          0         0
RXCRCErrors     0          0          0         0
RXAlignErrors   0          0          0         0
RXOversize      0          0          0         0
RXJabbers       0          0          0         0
RXUndersize     0          0          0         0
RXFragments     0          0          0         0
Pkt64           0          0          0         0

r>eset, s>top, sl>ect port, n>ext port, p>rev port, next page, q>uit

```

Figure 6-2 Statistics screen (page one of two)

The Statistics screen displays one page of statistics at a time. To view the second page of statistics, type **a** for **next page**.

- △ **Note:** For a description of each counter, see Table 6-2 on page 6-7.

Selecting a Port

The current port for which statistics are displayed is shown at the top of the screen (next to **Port:**).

- Ports 1 – 8** — displays information for each 10Base-FL port.
- Port 9** — displays information for the 10/100TX port.
- Ports 10 and 11** — displays information for the MII expansion ports (MII 1 and MII 2, respectively).

To monitor another port:

- Type **n** to monitor the next port.
- Type **p** to monitor the previous port.
- Type **I** to select a port by entering the port's number.

Monitoring Counters

Each port is monitored in four columns:

- Current/per second**
Displays the number of counter occurrences each second.
- Peak/per second**
Displays the largest number of counter occurrences since opening or resetting the screen.
- Average/per second**
Displays the average number of counter occurrences since opening or resetting the screen.
- Total**
Displays the total number of counter occurrences since opening or resetting the screen.

Resetting Statistics

- Type **r** to reset the counters to zero.

Stopping Statistics

- Type **s** to stop polling for statistics.

Exiting the Statistics Menu

- Type **q** to exit and return to the Local Management Interface Main Menu.

Counter Descriptions

Table 4-1 describes each counter that is monitored by the IntraSwitch.

Table 6-2 Statistics Counters Descriptions

Counter	Description
GoodRXOctets	The count of data and padding octets in frames that are successfully received.
GoodRXFrames	The total number of good packets (including unicast, broadcast packets, and multicast packets) received.
RXBcasts	The total number of good packets received that were directed to the broadcast address.
RXMcasts	The total number of good packets received that were directed to a multicast address (does not include packets directed to the broadcast address).
RXCRC Errors	A count of frames received on a particular interface that are an integral number of octets in length but do not pass the FCS (Frame Check Sequence) check.

Status Monitoring and Statistics

Counter	Description
RXAlignErrors	<p>For the 10Mbps ports, the counter records alignment errors.</p> <p>For the 100Mbps ports, the counter records the sum of alignment errors and code errors (frames received with rxerror signal).</p>
RXOversize	<p>The total number of packets received that were longer than 1518 octets in length (excluding framing bits, but including FCS octets) and were otherwise normal.</p>
RXJabbers	<p>The total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either an FCS error or an alignment error.</p>
RXUndersize	<p>The total number of packets received with less than 64 octets (excluding framing bits, but including FCS octets) and were otherwise normal.</p>
RXFragments	<p>The total number of packets received that were not an integral number of octets in length or that had a bad FCS, and were less than 64 octets in length (excluding framing bits but including FCS octets).</p>
Pkt64	<p>The total number of packets (including error packets) received with 64 octets (excluding framing bits, but including FCS octets).</p>
Pkt65-127	<p>The total number of packets (including error packets) received that were between 65 and 127 octets in length (excluding framing bits, but including FCS octets).</p>

Counter	Description
Pkt128-255	The total number of packets (including error packets) received that were between 128 and 255 octets in length (excluding framing bits, but including FCS octets).
Pkt256-511	The total number of packets (including error packets) received that were between 256 and 511 octets in length (excluding framing bits, but including FCS octets).
Pkt512-1023	The total number of packets (including error packets) received that were between 512 and 1023 octets in length (excluding framing bits, but including FCS octets).
Pkt1024-1518	The total number of packets (including error packets) received that were between 1024 and 1518 octets in length (excluding framing bits, but including FCS octets).
NetOctets	The total number of octets of data (including those in bad packets) received on the network (excluding framing bits but including FCS octets). This object can be used as a reasonable indication of Ethernet utilization.
SQEErrors	A count of times that the SQE TEST ERROR message is generated by the PLS sublayer for a particular interface. The SQE TEST ERROR is defined in section 7.2.2.4 of ANSI/IEEE 802.3 - 1985 and its generation in 7.2.4.6 of the same.
GoodTXOctets	A count of data and padding octets of frames that were successfully transmitted.

Status Monitoring and Statistics

Counter	Description
GoodTXFrames	The total number of packets (including bad packets, broadcast packets and multicast packets) transmitted successfully.
STXCollision	(Single Collision TX Frames) A count of the successfully transmitted frames on a particular interface for which transmission is inhibited by exactly one collision.
MTXCollision	(Multiple Collision TX Frames) A count of the successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision.

7

Advanced Management

This chapter describes how to manage the IntraSwitch 5308FL using RMON via the out-of-band Console or in-band Telnet interface.

This chapter contains the following sections:

- ❑ **RMON Overview— page 7-2**
- ❑ **Benefits of RMON — page 7-2**
- ❑ **Configuring RMON Parameters — page 7-3**
 - ❑ **RMON History Group — page 7-4**
 - ❑ **RMON Alarm Group — page 7-9**
 - ❑ **RMON Event Group — page 7-15**

Advanced Management

RMON Overview

RMON stands for remote monitoring. It is a standard for monitoring and reporting network activity using remote monitors.

You can use RMON via the IntraSwitch 5308FL's Local Management Interface or via any SNMP-based network management software that supports RMON.

This chapter explains how to use RMON via the IntraSwitch 5308FL's Local Management Interface.

A typical RMON setup consists of two components:

- ❑ **The RMON probe** — a device or software agent that continually collects statistics about a LAN segment and transfers the information to a management workstation (either on request or when a pre-defined threshold is crossed).
- ❑ **The management workstation** — a network station that communicates with the RMON probe and collects statistics from it. The workstation does not have to be on the same network as the probe and can manage the probe by in-band or out-of-band connections.

Benefits of RMON

Some of the benefits of using RMON are:

- ❑ **Improved efficiency** — you can remain at one workstation and collect information from widely dispersed LAN segments.
- ❑ **Productive management** — if configured correctly, RMON probes can deliver information before problems occur.
- ❑ **Reduces network load** — an RMON probe looks at the network on behalf of the network management station without affecting the characteristics and performance of the network.

Configuring RMON Parameters

- ▲ **Important!** A knowledge of RMON is strongly recommended to configure these parameters.

To view and configure RMON parameters via the IntraSwitch 5308FL's Local Management Interface:

- 1 Access the IntraSwitch 5308FL's Local Management Interface.
 - △ **Note:** See Chapter 4, "Setting Up For Management" for instructions on how to connect to the Local Management Interface.
- 2 Type **c** from the Main Menu. The "Enter Password" prompt appears.
- 3 Type your password at the prompt, then press return.
- 4 Type **m** to open the RMON Parameters menu. The following menu appears:

```

Asante IntraSwitch RMON Parameter Menu

<Cmd>          <Description>
h              RMON History Group.
a              RMON Alarm Group.
e              RMON Event Group
q              Return to Previous Menu

Command> _
    
```

Figure 7-1 RMON Parameters Menu

From this menu you can access three submenus:

- RMON History Group — page 7-4
- RMON Alarm Group — page 7-9
- RMON Event Group — page 7-15

RMON History Group

The History Group records periodic statistical samples from a network and stores them for later retrieval.

History provides segment statistics shown over time, with user-definable sampling rates and time intervals. This feature allows you to perform accurate trend analysis by displaying, adding, and/or deleting RMON History Group entries.

To access the RMON History Group menu, type **h** from the RMON Parameter Menu. The following menu appears.

```
Asante IntraSwitch 5324 RMON History Group Menu

<Cmd>           <Description>
p               Display RMON History Control Group Entry.
a               Add RMON History Control Group Entry.
d               Delete RMON History Control Group Entry.
s               Display RMON History Statistic Entry.
q               Return to Previous Menu

Command>
```

Figure 7-2 RMON History Group Menu

Adding an RMON History Control Group Entry

To add a History Control Group entry:

- ▲ **Important!** The maximum number of entries that can be added is 27.

You can add multiple entries (up to 27) on the same interface.

- 1 Type **a** from the RMON History Group menu. Command prompts, similar to those shown in Figure 7-3, appear one at a time on the screen.

Adding an RMON History Control Group Entry

```
Command Prompts { Please Enter Data Source (interface # 1 - 27) : 1
                   Please Enter Requested Buckets (1 - 10) : 5
                   Please Enter Sampling Interval (1 - 3600) (sec) : 10
                   Please Enter Owner String : Asante

                   The parameter of this RMON History Control entry is :

                   Interface Number : 1
                   Requested Buckets (1 - 10) : 5
                   Granted Buckets : 5
                   Sampling Interval (1 - 3600) (sec) : 10
                   Owner String : Asante

                   Are you sure you want to set these parameters?(y/N) _
```

Figure 7-3 Add RMON History Control Group entry

2 Enter the information requested for each prompt, following the guidelines below.

Data Source (Interface Number)

Enter the number of the port for which statistics are to be gathered.

Requested Buckets

Enter the number of discrete time intervals over which data is to be saved. This number can be between 1 and 10.

Sampling Interval

Enter the interval (in seconds) over which the data is to be sampled for each bucket. This interval can be set to any number of seconds between 1 and 3600 (1 hour).

Owner String

Enter the name of the person who configured this entry. This value is used for tracking purposes; it can be any text or integer.

3 Type **y** at the prompt to set the parameters, or type **n** to cancel.

Displaying an RMON History Control Group Entry

To display an RMON History Control Group entry:

▲ **Important!** There must be at least one History Control Group entry in the system in order to display information for an entry. To add a History Control Group entry, see “Adding an RMON History Control Group Entry” on page 7-4.

- 1 Type **p** from the RMON History Group menu.
- 2 Enter the number of the RMON History Group entry to be displayed.
- 3 Press return.
A screen similar to Figure 7-4 appears.

```
There are 1 entries in the History Control Group
Which History Control Entry : 1
The parameter of this RMON History Control entry is :
Interface Number : 1
Requested Buckets (1 - 10 ) : 5
Granted Buckets : 5
Sampling Interval (1 - 3600) (sec) : 10
Owner String : Asante
Hit any key to continue...
-
```

Figure 7-4 Display RMON History Control Group entry

Interface

The number of the port for which statistics are displayed.

Requested Buckets

The requested number of discrete time intervals over which data is to be saved. This number can be between 1 and 10.

Granted Buckets

The number of discrete sampling intervals over which data shall be saved in the part of the media-specific table associated with this entry.

Displaying an RMON History Statistic Entry

Sampling Interval

The interval (in seconds) over which the data is sampled for each bucket.

Owner String

The person or entity who configured this entry.

Displaying an RMON History Statistic Entry

To display statistics for a History Control Group entry:

- 1** Type `s` from the RMON History Group menu.
- 2** Type the number of the History Control Group entry you want to display statistics for at command prompt.

A screen similar to Figure 7-5 appears.

```
Which History Control Entry : 1

Asante IntraSwitch 5324 Port RMON History Counters
History Control Entry : 1
Interface : 1
Sampling Interval: 10 sec

<Counter Name>  <Bucket 5>  <Bucket 4>  <Bucket 3>  <Bucket 2>
TimeStamp      1541      1531      1521      1511
DropEvents     0          0          0          0
Pkts           0          0          0          0
Octets         0          0          0          0
BroadcastPkts  0          0          0          0
MulticastPkts  0          0          0          0
CRCAlignError  0          0          0          0
UndersizePkts  0          0          0          0
OversizePkts   0          0          0          0
Fragments      0          0          0          0
Jabbers        0          0          0          0
Collisions     0          0          0          0
Utilization    0          0          0          0

s>top, q>uit
```

Figure 7-5 Display RMON History Statistic entry

The Local Management Interface can display only four buckets. To view more, use an SNMP-based management software program capable of RMON to access the RMON History Statistics.

The screen automatically updates at the set sampling interval.

- 3** Type **s** to stop the sampling interval.
- 4** Type **q** to return to the History Group menu.

Deleting an RMON History Control Group Entry

This option allows you to delete an RMON History Control Group entry.

To delete a History Control Group entry:

- 1** Type **d** from the RMON History Group menu.
- 2** Type the number of the History Control Group entry to be deleted at the command prompt.
- 3** Press return.
The History Control Group Entry to be deleted is displayed.
- 4** Type **y** to confirm the deletion, or **n** to cancel the deletion.

RMON Alarm Group

The Alarm Group periodically takes statistical samples from variables and compares them to previously configured thresholds.

The alarm table stores configuration entries, each of which defines a polling period and various threshold values.

- ▲ **Important!** The Alarm Group requires implementation of the Event Group. **You must create an Event Group entry before you can add an Alarm Group entry.** See “Add RMON Event Group Entry” on page 7-16 for instructions.

To access the RMON Alarm Group menu, type **a** from the RMON Parameter Menu. A screen similar to Figure 7-6 appears.

```

Asante IntraSwitch 5324 RMON Alarm Group Menu

<Cmd>          <Description>
p              Display RMON Alarm Group Entry.
a              Add RMON Alarm Group Entry.
d              Delete RMON Alarm Group Entry.
q              Return to Previous Menu

Command>
    
```

Figure 7-6 RMON Alarm Group Menu

Adding an RMON Alarm Group Entry

To add an Alarm Group Entry:

▲ **Important!** The Alarm Group requires implementation of the Event Group. You must have an Event Group entry created **BEFORE** you can add an Alarm Group entry. See “Add RMON Event Group Entry” on page 7-16 for instructions.

1 Type **a** from the RMON Alarm Group Menu. Command prompts, similar to those shown in Figure 7-7, appear one at a time on the screen.

Command Prompts

```
Please Enter Sampling Interval (sec) : 10
Please Enter Data Source (OBJ ID): 1.3.6.1.2.1.2.2.1.13.1
Please Enter Sampling Type (1) absoluteValue, (2) deltaValue: 2
(1) rising alarm. (2) falling alarm. (3) rising | falling alarm.
Please Enter Startup Alarm : 1
Please Enter Rising Threshold : 1000
Please Enter Falling Threshold : 500
Please Enter Rising Event Index : 1
Please Enter Falling Event Index : 1
Please Enter Owner String : Asante
```

Figure 7-7 Add RMON Alarm Group entry

2 Enter the information requested for each prompt, following the guidelines below.

Sampling Interval

Enter the number (in seconds) for which data is to be sampled.

This value can be set to any number of seconds between 1 and 3600 (1 hour).

- fallingAlarm** — if the first sample is less than or equal to the value set for the Falling Threshold (see “FallingThreshold” below), an alarm is generated.
- risingOrFallingAlarm** — sets both rising and falling alarms.

Rising Threshold

Enter the number of the threshold for the sampled statistic.

When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single event will be generated.

Falling Threshold

Enter the number of the threshold for the sampled statistic.

When the current sampled value is less than or equal to this threshold, and the value at the last sampling interval was greater than this threshold, a single event will be generated.

Rising Event Index

Enter the number of the Event entry that was created for this Alarm entry.

This number references the Event entry that is to be utilized when a rising threshold is crossed. If there is no corresponding entry in the eventTable, or if this value is zero, no associated event will be generated.

Falling Event Index

Enter the number of the Event entry that you created for this Alarm entry.

This number references the Event entry that is to be utilized when a rising threshold is crossed. If there is no corresponding entry in the eventTable, or if this value is zero, no associated event will be generated.

Owner String

Enter name of the person or entity who defined the entry.

3 Type **y** at the prompt to set the parameters.

Displaying an RMON Alarm Group Entry

To display information for a specific Alarm Group entry:

▲ **Important!** There must be at least one Alarm Group entry in the system in order to display information for an entry. To add an Alarm Group entry, see “Adding an RMON Alarm Group Entry” on page 7-10.

1 Type **p** from the RMON Alarm Group menu.

2 Enter the number of the Alarm Group entry to be displayed.

3 Press return.

A screen similar to Figure 7-9 appears.

```
There are 1 entries in the Alarm Control Group

Which Alarm Control Entry : 1

The parameter of this RMON Alarm Control entry is :

Alarm Sampling Interval (sec) : 10
Alarm Variable : { 1. 3. 6. 1. 2. 1. 2. 2. 1. 13. 1. 0 }
Alarm Sample Type : deltaValue
Alarm Start Up : rising alarm
Alarm Rising Threshold : 10
Alarm Falling Threshold : 5
Alarm Rising Event Index : 1
Alarm Falling Event Index : 10
Owner String : Asante

Hit any key to continue...
```

Figure 7-9 Display RMON Alarm Group entry

△ **Note:** For a description of each parameter, see page 7-10 to 7-12.

Deleting an RMON Alarm Group Entry

This option allows you to delete an Alarm Group entry.

To delete an Alarm Group entry:

- 1** Type **d** from the RMON Alarm Group menu.
- 2** Type the number of the Alarm Group entry to be deleted at the command prompt.
- 3** Press return.
The Alarm Group entry to be deleted is displayed.
- 4** Type **y** to confirm the deletion, or **n** to cancel.

RMON Event Group

The Event Group controls the generation and notification of events from the device. It provides a list of all the events (activities) created by the monitor.

▲ **Important!** An Event Group entry is associated with an Alarm Group entry.

An Alarm Group entry determines when an alarm should occur; the associated Event Group entry determines the action to occur when the alarm is triggered.

To access the RMON Event Group menu, type **e** from the RMON Parameter Menu. A screen similar to Figure 7-10 appears.

```
Asante IntraSwitch 5324 RMON Event Group Menu
<Cmd>          <Description>
p              Display RMON Event Group Entry.
a              Add RMON Event Group Entry.
d              Delete RMON Event Group Entry.
l              Display RMON Event Group Entry Log.
q              Return to Previous Menu

Command>
```

Figure 7-10 RMON Event Group Menu

Adding an RMON Event Group Entry

This option allows you to add an Event Group entry.

To add an Event Group Entry:

- 1 Type **a** from the RMON Event Group Menu.
Command prompts, similar to those shown in Figure 7-11, appear one at a time on the screen.

Command Prompts

```
Event Description : Rising Event
(1) NONE. (2) LOG. (3) TRAP. (4) LOG and TRAP.
Event Type : 4
Trap Community String : private
Please Enter Owner String : Asante

The parameter of this RMON Event entry is :

Event Description : Rising Event
Event Type : LOG and TRAP
Event Community String : private
Event Last Time Sent : 04:35:38
Event Owner String : Asante

Are you sure you want to set these parameters? (y/N)
```

Figure 7-11 Add RMON Event Group entry

- 2 Enter the information requested for each prompt, following the guidelines below.

Event Description

Enter a description of the event.

Event Type

Enter the type of event to occur upon a threshold violation.

Options are:

- none** — no action is taken.
- log** — records the alarm in the RMON Event Group Entry Log.
- trap** — sends a trap to the SNMP trap receiver (specified in the SNMP parameters menu).
- log and trap** — records the alarm and sends a trap to the SNMP trap receiver.

Displaying an RMON Event Group Entry

Event Community String

Enter the octet string of the SNMP community to receive the event.

Event Owner String

Enter the name of the person who created this entry.

- 3 Type **y** at the prompt to set the parameters, or type **n** to cancel.

Displaying an RMON Event Group Entry

To display an Event Group entry:

- ▲ **Important!** There must be at least one Event Group entry in the system in order to display information for an entry. To add an Event Group entry, see “Adding an RMON Event Group Entry” on page 7-16.

- 1 Type **p** from the RMON Event Group menu.
- 2 Enter the number of the RMON Event Group entry to be displayed.
- 3 Press return.
A screen similar to Figure 7-12 appears.

```
There are 4 entries in the Event Group
Which Event Entry : 1
The parameter of this RMON Event entry is :
Event Description : Rising Event
Event Type : LOG and TRAP
Event Community String : private
Event Last Time Sent : 00:00:00
Event Owner String : Asante
Hit any key to continue...
```

Figure 7-12 Display RMON Event Group entry

- △ **Note:** For a description of each parameter, see page 7-16 to 7-17.

Displaying the RMON Event Group Entry Log

This option allows you to display a log of recorded events that have occurred.

- ▲ **Important!** Only events with an Event Type of **Log** or **Log and Trap** are displayed.

To display the RMON Event Group Entry log:

1 Type **1** from the RMON Event Group menu.

2 Type the number of the Event Group entry for which you want to view information.

The log of events for that entry is displayed, similar to Figure 7-13.

```
There are 2 entries in the Event Group
Which Event Entry : 1

      The Log of Event Entry : 1

Log Entry : 1
  Log Time : 00:04:23
  Log Description : IntraSwitch 5324 Rising Event Log.

End of Log Table !!
Press any key to continue!!
```

Figure 7-13 Display RMON Event Group entry log

- △ **Note:** If there are no events recorded for the entry, the message “End of Log Table!!” is displayed. Press **ctrl-c** to continue.

Deleting an RMON Event Group Entry

Deleting an RMON Event Group Entry

This option allows you to delete an Event Group entry.

To delete an Event Group entry:

- 1** Type **d** from the RMON Event Group menu.
- 2** Type the number of the Event Group entry to be deleted at the command prompt.
- 3** Press return.
The Event Group entry to be deleted is displayed.
- 4** Type **y** to confirm the deletion, or **n** to cancel.

Troubleshooting

This section provides some diagnostic tips for troubleshooting problems with your network and the IntraSwitch 5308FL.

LED Indicators

The following table describes some possible errors and solutions for troubleshooting problems via the IntraSwitch 5308FL's LEDs.

Table A-1 Troubleshooting Tips

LED Error Type/Cause	Solution (Options or Steps)
Power LED does not come on when the power cord is connected to an outlet	
<ul style="list-style-type: none"> <input type="checkbox"/> AC power source is not operational. <input type="checkbox"/> Power cord not connected/faulty. <input type="checkbox"/> Internal power supply has failed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Check the AC power source. <input type="checkbox"/> Connect/replace the power cord. <input type="checkbox"/> If configured, ensure redundant DC power supply is connected and is operating (schedule time to return unit for repair).
Data LED for the port never comes on	
<ul style="list-style-type: none"> <input type="checkbox"/> Cable connection is broken or faulty. <input type="checkbox"/> Equipment to which the port is connected is not operating. 	<ul style="list-style-type: none"> <input type="checkbox"/> Make sure the LINK LED is on; if the LINK LED is off, replace cable. <input type="checkbox"/> Make sure the device to which the port is connected is operating properly.

LED Error Type/Cause	Solution (Options or Steps)
Max Util (maximum utilization) LED for the port never blinks (steady light)	
<ul style="list-style-type: none"> <input type="checkbox"/> Port is overloaded. 	<ul style="list-style-type: none"> <input type="checkbox"/> Check the port statistics for the amount of traffic, errors, etc. being transmitted on the port.
Link LED for the port goes off	
<ul style="list-style-type: none"> <input type="checkbox"/> Cable connection is broken. <input type="checkbox"/> Network station to which the port is connected has been powered off. <input type="checkbox"/> Wrong type of cable is connected between the port and the equipment. 	<ul style="list-style-type: none"> <input type="checkbox"/> Make sure connectors are seated correctly in the equipment at both ends of the cable. Check the continuity of the wires in the cable and the pin assignments on the RJ-45 connectors. <input type="checkbox"/> Make sure the station to which the port is connected is plugged in and powered on. <input type="checkbox"/> Make sure the correct type of cable is connected to the port (refer to "Connecting to the Network" on page 2-6).

Supported MIBs

The IntraSwitch 5308FL supports the following MIBs (Management Information Bases):

- RMON (RFC 1757)
- MIB II (RFC 1213)
- Bridge MIB (RFC 1493)

This section describes each supported MIB and its groups.

RMON (RFC 1757)

The IntraSwitch 5308FL supports four groups of Remote Network Monitoring (RMON) MIB objects.

- Statistics
- History Group
- Alarm Group
- Event Group

△ **Note:** RMON is a standard for monitoring and reporting network activity using remote network monitoring devices (referred to as “monitors” or “probes.”) RMON is designed to supplement the management information obtained and used by SNMP. For more information, refer to RFC 1757.

Statistics

The Statistics group contains statistics measured by the probe for each monitored interface on the device. These statistics take the form of free-running counters that start from zero when a valid entry is created.

The statistics group lists Ethernet statistic types (e.g., multicasts, fragments, collisions) and supplies a numerical counter of occurrences.

History Group

The History group records periodic statistical samples from the collision domain and stores them in an SNMP table for later retrieval.

The History group allows the manager to set a timer to record samples of Ethernet statistics. It allows baselining of network activity over time.

Once samples are taken, the sample data is stored in an entry in a media-specific table. Each such entry defines one sample and is associated with the historyControl entry that caused the sample to be taken. The only media-specific table defined is the etherHistoryTable for Ethernet networks.

Alarm Group

The Alarm group periodically takes statistical samples from variables and compares them to previously configured thresholds. The alarm table stores configuration entries, each of which defines a polling period and various threshold values.

If a monitored variable exceeds a threshold value, the switch generates an event. No more events are generated for that threshold until the opposite threshold is exceeded.

You can limit the generation of events via the MIB. When sampling a delta value, you can increase the precision of the sample by taking the sample twice per period and comparing the sum of the latest two samples to the threshold. This allows the switch to detect threshold crossings that span the sampling boundary. This does not require any special configuration of the threshold value.

This group requires the implementation of the Event Group.

Event Group

The Event group controls the generation and notification of events from the switch.

Each entry in the eventTable describes the event's parameters that can be triggered. The switch generates an event when an associated condition is present in the MIB. The event can trigger a related function in the MIB.

Each eventEntry can specify that, when an event occurs, a log entry and an SNMP trap message is created for the event. The community for the SNMP trap message is contained in the associated eventCommunity object. The condition that triggers the event determines the enterprise and specific trap fields of the trap. If the eventTable is triggered by a condition specified elsewhere, the enterprise and specific trap fields must be specified for traps generated for that condition.

Data related to the control of the generation and notification of events from the selected device.

MIB II (RFC 1213)

The IntraSwitch 5308FL supports the following MIB II groups:

System Group

The System group collects information about the switch and the network.

This group contains the following: a description of the system, the name of the organization or enterprise, the system up time, the contact person for the system, the system's name and location, and services for the system.

Interface Group

The Interface group collects information about the interface for the system.

This group contains the following: fields that describe the network interfaces and list the system's physical address, description, type, size, bandwidth, operational status, uptime at last change, out queue length, MIB definitions, administrative status of the system, and various input and output data.

Address Trans Group

The Address Translation group collects information about the capability to translate physical and network IP addresses.

This group contains the following items: interface index, physical address, and network address for the MIB.

IP Group

The IP group contains information about the Internet Protocol functions for the selected network object.

This group contains the following items: fields for forwarding and the default time-to-live for the system. Fields for monitoring input and output data, reassembles and fragments are also displayed.

IP Address Table

The IP Address Table group contains fields for the Internet Protocol address, interface, net mask, broadcast address and maximum reassembly size for the system.

IP Routing Table

The IP Routing Table group collects the system's destination Internet Protocol address, interface, primary and alternate routing metrics, next hop, and the following data for route: type, discovery, age, and mask. MIB definitions are also included. (IP routing is a function of the Internet Protocol that directs outgoing message packets to the correct destination nodes.)

IP Address Translation Table

The IP Address Translation Table group contains fields for interface, physical address, IP address and translation type for the system.

ICMP Group

The ICMP (Internet Control Message Protocol) group contains information for monitoring input and output data for ICMP.

TCP Group

The TCP group contains information that relates to Transmission Control Protocol, such as algorithm, minimum and maximum for retransmission time-outs, monitoring connections, failures, established resets, input and output data, and retransmitted segments.

TCP Connection Table

The TCP Connection Table group contains data about each TCP connection, with a field for the state of the connection and fields for the local IP address, local port, remote IP address and remote port.

UDP Group

The UDP group contains data about the User Datagram Protocol, which is used for connectionless transport services. This group contains the following items: fields for monitoring input and output data related to UDP.

UDP Listener Table

The UDP Listener Table group contains data about the User (or Un-numbered) Datagram Protocol agent for the system. This group contains the following items: fields that list the local IP address and local port for each listener.

SNMP Group

The SNMP group contains data related to the protocol used to manage and monitor nodes on a network.

This group contains the following: field for listing for authentication traps for the system and fields for monitoring input and output data used by SNMP to manage and monitor nodes on a network.

Supported MIBs

Bridge MIB (1493)

The IntraSwitch 5308FL supports the following Bridge MIB group:

Base Port

The Base Port group enables and disables ports.

Technical Specifications

Network Management Platforms Supported

- SNMP-compatible management software
- HTTP management software
- Telnet software

LEDs

- 100Mbps operation
- Maximum Utilization
- Full Duplex/Collision
- Data
- Link
- Power

Connectors

- RS-232 (DB-9, female)
- ST (10Base-T)
- RJ-45 (10/100Base-TX)
- MII (Media Independent Interface)

Spanning Tree Support

- IEEE 802.1d

MAC Address Table Size

- 1024

Dimensions

- Width: 17.1 inches (434.3 mm)
- Height: 2.25 inches (57.2 mm)
- Depth: 14.5 inches (368.3 mm)

Technical Specifications

Weight

- 11 pounds (5 kg)

Power Specifications

- Voltage range: 100 to 240 VAC
- Frequency range: 60/50 Hz
- Maximum current: 1.6 A

Environmental Specifications

- Temperature: 0° to 45° C
- Relative Humidity: 5% to 85% non-condensing

Standards Compliance

- MIB II
- RMON (4 groups)
- BootP
- DHCP
- IEEE802.3u
- IEEE802.1d
- Safety: UL, CSA, VDE, TUV
- FCC Class B, CE Class B

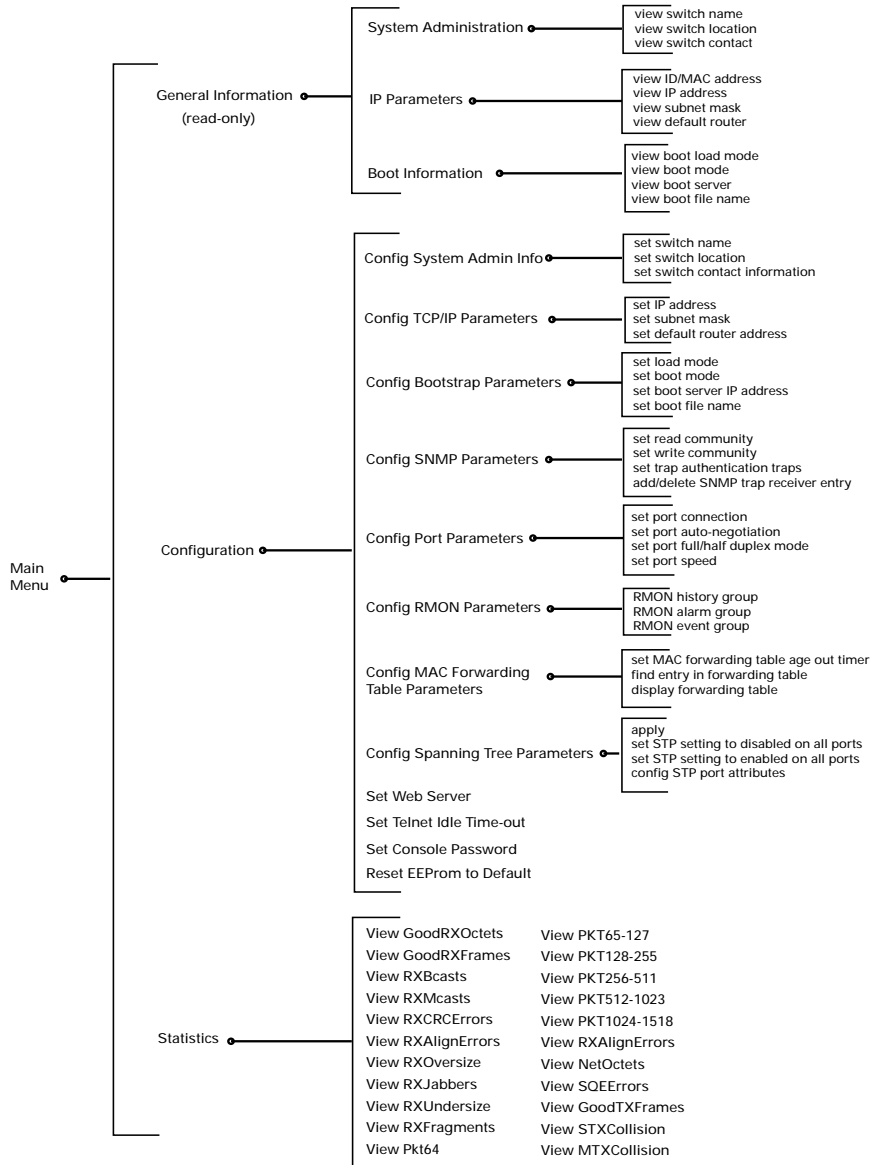
Mounting Options

- Rack Mounting: standard 19-inch rack
- Desktop/Free-standing

Redundant Power Supply

- Compatible with Asanté's RPSU 6000 (part number 99-00454-07) sold separately

Console Management Menu



Technical Support

To contact Asanté Technical Support:

Telephone:	(800) 622-7464
Fax:	(408) 432-6018
Fax-Back:	(800) 741-8607
Internet mail:	support@asante.com
World Wide Web site:	http://www.asante.com
Bulletin Board Service (BBS):	(408) 432-1416
ARA BBS (guest log in):	(408) 432-1416
AppleLink mail/BBS:	ASANTE
FTP Archive:	ftp.asante.com

Technical Support Hours

6:00 a.m. to 5:00 p.m. Pacific Standard Time, Monday-Friday

Index

Numerics

- 10/100TX MII module
 - connecting to the network 2-10
- 10/100TX port
 - connecting devices 2-9
 - default settings 1-11, 5-22
 - features 1-7
 - overview 1-3
 - switching capacity 1-6
- 100Base-FX MII module
 - connecting to the network 2-10
- 100Mbps LED 3-3
- 10Base-FL MII module
 - connecting to the network 2-10
- 10Base-FL ports
 - connecting devices 2-9
 - default settings 1-11, 5-22
 - features 1-7
 - overview 1-3
 - switching capacity 1-6
- 5324.10x file 5-17

A

- absolute value, RMON 7-11
- accessories, list of 1-8
- address
 - IP (Internet Protocol). *See* IP address
 - trans group, MIB II B-4
- addresses, viewing MAC table 5-27
- age out timer, MAC forwarding table
 - changing 5-29
 - viewing 5-28
- airflow requirements 2-2
- alarm
 - falling, RMON 7-12
 - group, RMON 7-9, 7-15
 - absolute value 7-11
 - adding entry 7-10
 - configuring 7-9
 - data source 7-11
 - deleting entry 7-14

alarm (continued)

- group, RMON (continued)
 - configuring (continued)
 - delta value 7-11
 - displaying entry 7-13
 - falling alarm 7-12
 - falling event index 7-12
 - falling threshold 7-12
 - object ID 7-11
 - rising alarm 7-11
 - rising event index 7-12
 - rising threshold 7-12
 - sampling interval 7-10
 - sampling type 7-11
 - startup alarm 7-11
 - rising, RMON 7-11
 - RMON group B-2
- assistance. *See* technical support
- authentication traps, enabling 5-20
- auto negotiation
 - changing 5-25
 - default setting 5-22
 - description 5-25
 - viewing 5-23
- automatic configuration. *See* bootp

B

- back panel view 1-2
- base port group, bridge MIB B-6
- bits per second 2-13
- boot
 - file name, viewing 5-15
 - mode, viewing 5-15
 - server, IP address, viewing 5-15
- bootp
 - requests, number of 2-12
 - using to assign IP address 2-12
- bootp-tftp setting 5-15, 6-4
- bridge
 - forward delay, viewing 5-31
 - hello time, viewing 5-31

- bridge (continued)
 - max age, viewing 5-31
 - MIB B-6
- browsers. *See* World Wide Web browsers
- buckets
 - granted (RMON) 7-6
 - requested (RMON) 7-5

C

- cables
 - connecting network devices 2-9
 - cross-over 2-9
 - diagram 2-11
 - fiber, connecting 2-10
 - for connecting devices 1-9
 - guidelines 2-9
 - RS-232 2-13
 - scenarios, diagram 2-11
 - straight-through 2-9
 - types A-2
- community string
 - changing 5-20
 - read, viewing 5-19
 - RMON event 7-17
 - write, viewing 5-19
- compliance, standards C-2
- configuration
 - bootp 2-12
 - console 2-13
 - menu
 - description 5-7
 - password, default 5-7
 - overview 1-5
 - settings, default 1-11
 - tasks, list of 5-3
 - terminal settings 2-13
- configure
 - bootstrap parameters menu 5-14
 - system administration information
 - menu 5-8, 5-10
 - TCP/IP parameters menu 5-12
- configuring for management 2-12, 2-13

- connecting IntraSwitch to network 2-9
- connectors, on the IntraSwitch C-1
- console
 - configuration 2-13
 - connection 4-4
 - management
 - configuration menu 5-7
 - logging into 5-7
 - overview 5-8
 - general information menu 5-6, 6-2
 - main menu 5-5
 - menu 5-5
 - overview 1-5, 5-2
 - password 5-36
 - statistics menu 5-39, 6-5
 - port, overview 1-3
- contact information
 - changing 5-11
 - viewing 5-10
- cooling requirements 2-2
- counters, statistics
 - overview 6-7
 - viewing 6-5
- cross-over cables 2-9
- current rating 2-2, C-2

D

- data
 - bits 2-13
 - LED
 - description 3-3
 - troubleshooting A-1
 - source, alarm group, RMON 7-5, 7-11
- default
 - configurations 1-11
 - gateway
 - changing 5-13
 - default setting 1-11
 - viewing 5-12
 - password, console 2-14
- delta value, RMON 7-11

- depth C-1
- desktop
 - installation 2-5
 - mounting specification C-2
- devices
 - connection, determining 5-23
 - speed of, determining 5-23
- diagnostic LEDs 3-4
- diagram
 - cabling scenarios 2-11
 - management options 4-3
- disabling ports 5-24
- duplex mode, default setting 5-22

E

- EEPROM, resetting 5-37
- emulator, terminal 2-13, 4-6
- enabling ports 5-24
- environment specifications C-2
- equipment
 - rack installation 2-4
 - required for installation 1-9
- errors. *See* troubleshooting
- event
 - community string, RMON 7-17
 - description, RMON 7-16
 - group, RMON
 - adding entry 7-16
 - configuring 7-15
 - deleting entry 7-19
 - displaying entry 7-17
 - entry log 7-18
 - index
 - falling, RMON 7-12
 - rising, RMON 7-12
 - logging, RMON 7-16
 - RMON group B-3
 - trap, RMON 7-16
 - type, RMON 7-16
- exiting submenus 5-5
- expansion ports. *See* MII expansion modules

F

- factory default
 - configurations 1-11
 - settings, resetting 5-37
- falling
 - alarm, RMON 7-12
 - event index, RMON 7-12
 - threshold (RMON alarm group) 7-12
- FDP/Col (full duplex/collision) LED 3-3
- features 1-7
- fiber cable 2-10
- flow control 2-13
- forwarding address table
 - age out timer, changing 5-29
 - displaying 5-28
 - finding an address 5-29
 - timer, viewing 5-28
 - viewing 5-27
- free-standing installation 2-5
- frequency range 2-2, C-2
- front panel
 - LEDs 3-2
 - view 1-2
- full duplex mode
 - changing 5-24
 - default settings 5-22
 - determining 5-23

G

- gateway, default
 - changing 5-13
 - default setting 1-11
 - viewing 5-12
- general information
 - menu
 - description 5-6
 - parameters, description 6-3
 - specifications C-1
 - viewing 6-2
- GoodRXFrames 6-7
- GoodRXOctets 6-7

GoodTXFrames 6-10
GoodTXOctets 6-9
granted buckets, RMON 7-6

H

half duplex mode
 changing 5-24
 defaults 5-22
 determining 5-23
height C-1
help. *See* technical support
history group, RMON 7-4, B-2
 adding entry 7-4
 configuring 7-4
 data source 7-5
 deleting entry 7-8
 displaying entry 7-6
 granted buckets 7-6
 interface 7-6
 requested buckets 7-5
 sampling interval 7-7
 static entry 7-7

HTTP server management. *See* Web browser
humidity 2-2, C-2

I

ICMP group, MIB II B-4
idle time-out, telnet, setting 5-34
IEEE 802.1d. *See* spanning tree
image file. *See* software
in-band management 4-2
 accessing 4-4
 connecting 4-6
installation
 airflow requirements 2-2
 cabling diagram 2-11
 connecting
 network devices 2-9
 power 2-8
 to network, diagram 2-11
 cooling requirements 2-2

installation (continued)
 desktop 2-5
 environmental requirements 2-2
 equipment rack 2-4
 guidelines 2-2
 managed setup 2-12
 MII expansion modules 2-6
 mounting options C-2
 desktop C-2
 equipment rack C-2
 overview of steps 2-3
 power requirements 2-2
 regulations 2-2
 tools and materials needed 1-9

interface

 group, MIB II B-3
 RMON 7-6
IntraSwitch 5308FL
 back panel view 1-2
 components, overview 1-3
 front panel view 1-2
 resetting 5-37

IP

 address
 assigning 2-12
 changing 5-13
 factory default setting 1-11
 table group, MIB II B-4
 translation table, MIB II B-4
 verifying assignment (ping) 2-12
 viewing 5-12
 group, MIB II B-4
 routing table group, MIB II B-4
ISwitch.cfg file 5-17

L

LEDs
 100Mbps 3-3
 data
 description 3-3
 troubleshooting A-1
 diagnostic 3-2, 3-4

- LEDs (continued)
 - FDP/COL 3-3
 - link
 - description 3-3
 - troubleshooting A-2
 - max util 3-3
 - overview 3-2
 - power
 - description 3-4
 - troubleshooting A-1
 - troubleshooting with A-1
 - utilization
 - description 3-3
 - troubleshooting A-2
- light emitting diodes. *See* LEDs
- link LED
 - description 3-3
 - troubleshooting A-2
- load mode
 - default setting 5-22
 - local, viewing 5-15
 - remote, viewing 5-15
- local
 - boot, executing 5-16
 - management interface *See* console management
- location information
 - changing 5-11
 - viewing 5-10
- logging in, for management 5-7
- M**
- MAC address
 - finding 5-29
 - table
 - displaying 5-28
 - size 5-27, C-1
 - viewing 5-27
- main menu, description 5-5
- management
 - automatic configuration (bootp) 2-12
 - bootstrap parameters, viewing 5-14
 - management (continued)
 - configuration menu 5-7
 - logging into 5-7
 - overview of options 5-8
 - connections, overview 1-3
 - console (manual) 5-2, 5-5
 - general information menu 5-6
 - in-band 4-2
 - information bases. *See* MIBs
 - local 4-4
 - manual configuration (console) 2-13
 - menu tree D-1
 - operating information, viewing 6-2
 - options
 - console 4-4
 - overview 4-2, 4-3
 - telnet 4-6
 - out-of-band 4-2
 - overview 1-5
 - password, changing 5-36
 - platforms supported C-1
 - preparation for 2-12, 2-13
 - RMON 7-2
 - SNMP information, viewing 5-18
 - software, upgrading 5-17
 - spanning tree parameters, viewing 5-30
 - statistics, viewing 6-5
 - submenus
 - accessing 5-5
 - exiting 5-5
 - tasks, list of 5-3
 - TCP/IP information, changing 5-13
- materials needed, for installation 1-9
- max util (maximum utilization) LED 3-3
- maximum current C-2
- media independent interface. *See* MII expansion modules
- MIB II, groups
 - address trans group, definition B-4
 - ICMP, definition B-4
 - interface, definition B-3
 - IP address table, definition B-4

MIB II, groups (continued)

IP

address translation table, definition B-4

routing table, definition B-4

definition B-4

SNMP, definition B-5

supported B-3

system, definition B-3

TCP

connection table, definition B-5

definition B-5

UDP

listener table, definition B-5

definition B-5

MIBs (management information bases)

bridge B-6

MIB II B-3

RMON B-1

supported 1-5

MII expansion modules

connecting devices 2-10

default settings 1-11, 5-22

features of 1-7

installing 2-6

overview 1-3

monitoring the IntraSwitch 5308FL 3-2

mounting options C-2

desktop C-2

equipment rack C-2

MTXCollision 6-10

N

name information

changing 5-11

viewing 5-10

NetOctets 6-9

network, devices

connecting 2-9

connection, determining 5-23

speed of, determining 5-23

O

object ID, alarm group, RMON 7-11

operating information, viewing 6-2

out-of-band

baud, viewing 5-12

management 4-2

accessing 4-4

connecting 4-4

overview

configuration options 1-5

features 1-7

management

console 1-5

SNMP 1-5

telnet 1-5

Web browser 1-5

management options 1-5, 4-2

of IntraSwitch 5308FL 1-3

package contents 1-8

switching capacity 1-6

tools and materials 1-9

owner string (RMON) 7-6, 7-12

P

package contents 1-8

parameters

TCP/IP, default 5-12

EEProm, resetting 5-37

RMON 7-4

parity 2-13

password

changing 5-36

default 2-14, 5-36

entering 5-7

PC (personal computer), connecting to
the IntraSwitch 2-13

ping 2-12

Pkt

1024-1518 6-9

128-255 6-9

256-511 6-9

- Pkt (continued)
 - 512-1023 6-9
 - 64 6-8
 - 65-127 6-8
- placement options C-2
 - desktop C-2
 - equipment rack C-2
- port
 - 10/100TX
 - connecting devices 2-9
 - features of 1-7
 - 10Base-FL
 - connecting devices 2-9
 - features of 1-7
 - auto negotiation status
 - changing 5-25
 - viewing 5-23
 - cable guidelines 2-9
 - connection
 - changing 5-24
 - viewing 5-23
 - disable status, viewing 5-23
 - disabling 5-24
 - enable status, viewing 5-23
 - enabling 5-24
 - link
 - mode
 - changing 5-24
 - viewing 5-23
 - status, viewing 5-23
 - MII modules
 - connecting 2-10
 - installing 2-6
 - numbering of 5-22
 - speed
 - default 5-22
 - viewing 5-23
- power
 - connecting 2-8
 - indication of 3-4
 - LED 3-4
 - redundant supply (back up) 1-3, C-2
- power (continued)
 - requirements 2-2
 - specifications C-2
 - supply connector, overview 1-4
 - switch, overview 1-3
- powering on the IntraSwitch 2-8
- problems. *See* troubleshooting
- R**
 - rack-mounting 2-4
 - bracket 2-4
 - read community string
 - changing 5-20
 - viewing 5-19
 - receivers, of traps
 - adding 5-21
 - deleting 5-21
 - redundant power supply connector 1-3, C-2
 - regulations, installation 2-2
 - relative humidity 2-2
 - remote
 - boot, executing 5-16
 - monitoring. *See* RMON
 - requested buckets, RMON 7-5, 7-6
 - requirements
 - airflow 2-2
 - cooling 2-2
 - environmental 2-2
 - power 2-2
 - resets
 - and factory default settings 1-12
 - EEPROM 5-37
 - factory defaults 1-11
 - IntraSwitch 5308FL 5-37
 - RFC (request for comment)
 - 1213 (MIB II). *See* MIB II
 - 1493 (bridge MIB). *See* bridge MIB
 - 1757 (RMON). *See* RMON
 - rising
 - alarm, RMON 7-11
 - event index, RMON 7-12

rising (continued)
 threshold (RMON alarm group) 7-12

RMON

alarm group

 absolute value 7-11
 add entry 7-12
 adding entry 7-10
 configuring 7-9
 data source 7-11
 deleting entry 7-14
 delta value 7-11
 displaying entry 7-13

falling

 alarm 7-12
 event index 7-12
 threshold 7-12

object ID 7-11

rising

 alarm 7-11
 event index 7-12
 threshold 7-12

sampling

 interval 7-10
 type 7-11

startup alarm 7-11

benefits of 7-2

event group

 adding entry 7-16
 configuring 7-15
 deleting entry 7-19
 displaying entry 7-17
 entry log 7-18

event

 community string 7-17
 description 7-16
 logging 7-16
 trap 7-16
 type 7-16

groups

 alarm, definition B-2
 event, definition B-3
 history, definition B-2

RMON (continued)

groups (continued)

 statistics B-1
 supported B-1

history group

 adding entry 7-4
 configuring 7-4
 data source 7-5
 deleting entry 7-8
 displaying entry 7-6
 granted buckets 7-6
 interface 7-6
 requested buckets 7-5
 sampling interval 7-7
 static entry, displaying 7-7

management workstation 7-2

overview 7-2

parameters, configuring 7-3

probe 7-2

RPSU 6000 1-3, C-2

RS-232 cable 2-13

runtime. *See* software

RX

AlignErrors 6-8

Bcasts 6-7

CRC errors 6-7

Fragments 6-8

Jabbers 6-8

Mcasts 6-7

Oversize 6-8

Undersize 6-8

S

sampling

 interval, RMON 7-7
 type, alarm group, RMON 7-11

SC connector 2-10

server, boot, viewing 5-15

settings, default

 resetting 5-37
 viewing 1-11

Simple Network Management protocol. *See* SNMP

- SNMP
 - community strings, viewing 5-19
 - based management software 4-7
 - group, MIB II B-5
 - management, overview 1-5
- software
 - loading
 - locally 5-16
 - remotely 5-16
 - management 4-7
 - upgrading 5-17
- spanning tree
 - all ports
 - disabling 5-32
 - enabling 5-32
 - bridge max age 5-31
 - default setting 1-11
 - parameters
 - bridge forward delay, viewing 5-31
 - bridge hello time, viewing 5-31
 - bridge max age, viewing 5-31
 - switch ID, viewing 5-31
 - viewing 5-30
 - single port
 - disabling 5-32
 - enabling 5-32
- specifications
 - current rating 2-2
 - frequency range 2-2
 - humidity 2-2
 - list of C-1
 - temperature 2-2
 - voltage 2-2
- speed, switching 1-6
- SQErrors 6-9
- standards compliance C-2
- startup alarm, RMON 7-11
- statistics
 - counters, description 6-7
 - Good
 - RXFrames 6-7
 - RXOctets 6-7
- statistics (continued)
 - Good (continued)
 - TXFrames 6-10
 - TXOctets 6-9
 - MTXCollision 6-10
 - NetOctets 6-9
 - Pkt
 - 1024-1518 6-9
 - 128-255 6-9
 - 256-511 6-9
 - 512-1023 6-9
 - 64 6-8
 - 65-127 6-8
 - RMON group B-1
 - RX
 - AlignErrors 6-8
 - Bcasts 6-7
 - CRC errors 6-7
 - Fragments 6-8
 - Jabbers 6-8
 - Mcasts 6-7
 - Oversize 6-8
 - Undersize 6-8
 - SQErrors 6-9
 - STXCollision 6-10
 - viewing 6-5
- statistics menu, description 5-37
- stop bits 2-13
- store-and-forward switching mode 1-7
- STXCollision 6-10
- submenus
 - accessing 5-5
 - exiting 5-5
- subnet mask
 - changing 5-13
 - factory default 1-11
 - viewing 5-12
- support, technical E-1
- switch ID, spanning tree, viewing 5-31
- switching
 - capacity 1-6
 - mode 1-7

system

- administration information, viewing 5-10
- group, MIB II B-3

T

tasks, overview

- configuration 5-3
- management 5-3

TCP

- connection table, MIB II B-5
- group, MIB II B-5

TCP/IP, parameters 5-12

technical

specifications

- connectors C-1
- current rating 2-2, C-2
- depth C-1
- dimensions C-1
- environmental C-2
- frequency range 2-2, C-2
- height C-1
- humidity 2-2, C-2
- LEDs C-1
- MAC address table size C-1
- management platforms supported C-1
- mounting options C-2
- power C-2
- redundant power supply C-2
- spanning tree support C-1
- standards compliance C-2
- temperature C-2
- voltage 2-2, C-2
- weight C-2
- width C-1

support E-1

telnet 4-6

- connection 4-6
- idle time out 5-34
- management, overview 1-5
- sessions, number of 4-2

temperature 2-2, C-2

terminal

- connecting to IntraSwitch 2-13
- emulator 4-6
- settings 2-13

bits per second 2-13

- data bits 2-13
- flow control 2-13
- parity 2-13
- stop bits 2-13

tftp (trivial file transfer protocol)

- description 6-4
- viewing 5-15

threshold

- falling, RMON 7-12
- rising, RMON 7-12

tools and materials needed 1-9

trap

authentication

- enabling 5-20
- viewing 5-19

receivers

- adding 5-21
- deleting 5-21
- status of, viewing 5-19
- viewing 5-19

tree, management menu D-1

troubleshooting A-2

- cable connections A-1
- devices A-2
- diagnostic LEDs 3-4
- equipment A-1
- LEDs A-1
- overview A-1
- ports, overloading A-2
- power A-1

U

UDP

- group, MIB II B-5
- listener table, MIB II B-5

upgrading software 5-17

- utilization LED
 - description 3-3
 - troubleshooting A-2

V

- view, of the IntraSwitch 5308FL
 - back panel 1-2
 - front panel 1-2
- voltage range 2-2, C-2

W

- Web
 - browser management, overview 1-5
 - server management
 - disabling 5-35
 - enabling 5-35
- weight C-2
- width C-1
- workstation, connecting for management 2-13
- World Wide Web browsers, overview 1-5
 - See also* Web
- write community string
 - changing 5-20
 - viewing 5-19

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