

DIGITAL GIGAswitch/Ethernet System Installing Gigabit Ethernet Modules

Introduction

This document describes installation and configuration of the following I/O modules:

- **2-Port, Full-Duplex 1000BASE-X module:** 850 nM (SX) and 1300 nM (LX)



- **4-Port, Full-Duplex 1000BASE-SX module:** 850 nM (SX)



Installation Procedure

Overview

This document describes the following processes:

- Making Sure That You Have Enough Power Available
- Installing the Modules
- Installing the Cables
- Configuring Port Parameters Using the Web Agent

Making Sure That You Have Enough Power Available

Each power supply powers approximately three media cards. It takes two power supplies to power a full chassis. Using three power supplies ensures that the system has fault-tolerant, load-sharing power capabilities. The precise values are:

Power Consumption for Gigabit Modules

Device	Power Used
2-port gigabit module	35 W
4-port gigabit module	55 W

Select **Power System** from the left side of the web agent menu to determine how much power is currently available in your system.

Installing the Modules

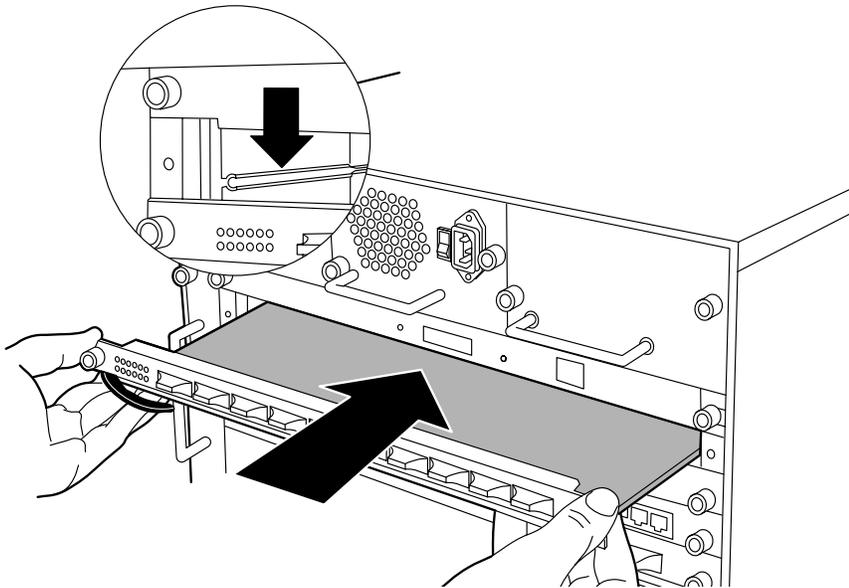
All I/O modules are hot swappable. You do not need to shut down the switch when adding I/O modules.

CAUTION

Static electricity can damage modules and electronic components. DIGITAL recommends using a grounded antistatic wrist strap and a grounded work surface when handling any modules.

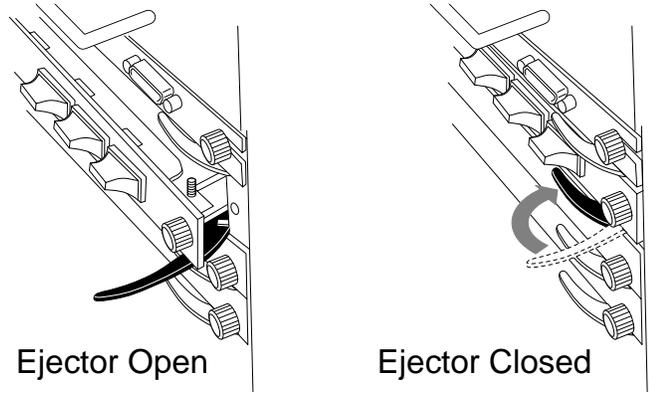
To install a module in the in the switch chassis:

Step	Action
1	Carefully remove the module from its box, leaving the module in its antistatic wrapping.
2	After taking appropriate antistatic precautions, carefully remove the module from the antistatic wrap. (Refer to the <i>DIGITAL GIGAswitch/Ethernet System Installation and Operation Guide</i> for more information on proper antistatic precautions).
3	Insert the module into the switch as shown below:



Step	Action
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4 Push the module all the way into the switch chassis, then use the ejectors to lock the module into the switch backplane as shown below.



5 Tighten the black captive screws on the module.

As the module powers on, the LEDs should function as described in the *DIGITAL GIGAswitch/Ethernet System Installation and Operation Guide*. In general, you will observe the following on a properly functioning module:

LED	Normal Behavior
Module Status ◀	Solid green, indicating normal operation.
TX and RX	Solid green, flashing yellow intermittently to indicate traffic.
Port	Solid green, indicating link integrity. Inactive port LEDs will go off.
HD/FD	Solid green, indicating full-duplex operation.

Contact your DIGITAL service representative if your module fails to function properly.

Installing the Cables

Install appropriate cables for your network configuration. The GIGAswitch/Ethernet system uses fiber cables with SC-type connectors. Refer to the *DIGITAL GIGAswitch/Ethernet Installation and Operation Guide* for more information about cable types and configurations.

Guidelines for Cable Distances

The following guidelines are based on IEEE 802.3z Draft Document, version 3.2:

NOTE

These figures describe maximum link distances only. When building half-duplex networks using Ethernet repeaters, you must also consider maximum network diameter, which is not discussed in this document.

Maximum Fiber Link Distances for Gigabit Links

Fiber Cable Description		Maximum Cable Length
1300 nm	50 micron multimode	550 m
	62.5 micron multimode	440 m
	Singlemode fiber	3 km
850 nm	50 micron multimode	550 m
	62.5 micron multimode	260 m

Configuring Port Parameters Using the Web Agent

You can set the following attributes on gigabit ports:

Gigabit Port Settable Attributes

Attribute	Purpose
Enable/Disable	Determines whether or not the port is able to pass traffic.
Port Name	A user-assigned name for this port (possibly a drop name or the name of the station or other device connected to the port).
Flow Control Mode	Determines if IEEE 802.3x pause control is used on this port. The pause mechanism allows the port to stop a sending station from sending more packets if the receiving port's buffers are full. This helps prevent lost or dropped packets.

To configure ports on a gigabit module:

Step	Action
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- From the menu on the left side of the browser window, select **Modules & Ports**. A list of modules in the switch displays.

Module Information						
Slot	Model Number	Type	Ports	Switch Ports	Buffer Management	Name
<input type="checkbox"/> 1	DGBGL-AA	Switch Control Processor	1	1	Module 1	<input type="text" value="Module 1"/>
<input type="checkbox"/> 2	DGBGL-AA	Gigabit	2	2	Module 2	<input type="text" value="Module 2"/>
<input type="checkbox"/> 3	DGBGL-AA	Fast Ethernet	20	20	Module 3	<input type="text" value="Module 3"/>
<input type="checkbox"/> 5	DGBGL-AA	Gigabit	2	2	Module 5	<input type="text" value="Module 5"/>
<input type="checkbox"/> 6	DGBGL-AA	Fast Ethernet	20	20	Module 6	<input type="text" value="Module 6"/>

- On the module you want to configure, click on the number of ports listed in the ports column (2 or 4 for gigabit modules). The Port Information form displays.

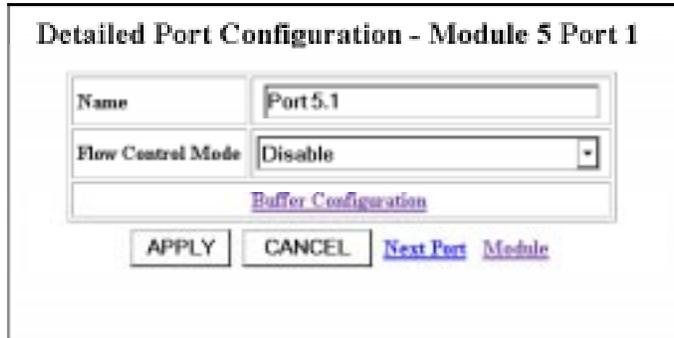
Port Configuration - Module 2								
Port	Name	Enable	Status	Type	Connector	Auto Negotiation Mode	Speed State	Duplex State
2.1	Port 2.1	<input checked="" type="checkbox"/>	Link Failure	Gigabit	Fiber SC	Disabled	1 Gb/s	Full Duplex
2.2	Port 2.2	<input checked="" type="checkbox"/>	Link Failure	Gigabit	Fiber SC	Disabled	1 Gb/s	Full Duplex

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[Modules](#)
[All Module Ports Configuration](#)

- To enable or disable a port:
 - Click the box in the Enable column to enable a port, or click to uncheck Enable if you want to disable the port.
 - Click **Apply** to perform the operation. **Cancel** returns the display to the current switch settings.

Step	Action
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4 To set additional parameters, click on the port name in the **Name** column. The Detailed Port Configuration window displays.



- 5 Set the port name by typing a port name in the **Name** field.
- 6 If you want this port to use flow control to prevent buffer overflows, set Flow Control Mode to **enable** using the drop-down list. Disable this feature only when flow control is causing congestion in other areas of the network.
- 7 To apply the settings to the port, click **Apply**. **Cancel** returns the display to the current switch settings.

Using the All Module Ports Configuration Screen

The All Module Ports Configuration screen lets you apply the same parameter settings to all ports in a module using a single command. To do this:

Step	Action
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- 1 Select **All Module Ports Configuration** from the Port Configuration screen.
- 2 Set port parameters as described in Configuring Port Parameters Using the Web Agent on page 4.
- 3 Click **Apply** to apply the changes to all ports on the module.

For More Information

Refer to the *DIGITAL GIGAswitch/Ethernet System Installation and Operation Guide* for advanced module configuration options. This guide also provides safety, product specification, and regulatory compliance information. The guide is available in online format on the DIGITAL GIGAswitch/Ethernet System Information Library CD. This information is also available on the DIGITAL Network Products Home Page on the World Wide Web at:

- North America:** <http://www.networks.digital.com>
- Europe:** <http://www.networks.europe.digital.com>
- Asia Pacific:** <http://www.networks.digital.com.au>