

# 1000SX Module and 1000LX Module for 500 Series Switches

*User Guide*



**intel**®

# **1000SX Module and 1000LX Module for 500 Series Switches**

*User Guide*

715236-001

**Year 2000 capable**

An Intel product, when used in accordance with associated documentation, is “Year 2000 Capable” when, upon installation, it accurately stores, displays, processes, provides, and/or receives data from, into, and between the twentieth and twenty-first centuries, including leap year calculations, provided that all other technology used in combination with said product properly exchanges date data with it.

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**First edition      October 1998**

**715236-001**

# 1

## Quick Start

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Warning for 1000SX

This product contains fiber-optic ports. For Optical Safety, never look directly at the fiber TX laser port and fiber cable ends when they are powered-up.

CLASS 1  
LASER PRODUCT

Warning for 1000LX

This product contains fiber-optic ports. For Optical Safety, never look directly at the fiber TX laser port and fiber cable ends when they are powered-up.

CLASS 1  
LASER PRODUCT

Peak Power 3mW, Time Base 100s  
 $1261\text{nm} < \lambda < 1360\text{nm}$   
IEC 825-2:1993

Naming in this Quick Start This Quick Start covers two products:

- 1000SX Module for 500 Series Switches
- 1000LX Module for 500 Series Switches

To differentiate these modules from other modules in the text, we shall refer to both these modules as '1000Base Module'.

Installing the module

Follow these instructions to install a 1000Base Module in your Intel® Express 500 Series Switch:

**Warning** These modules are not designed to be installed in, or removed from, the switch while it is in operation. You must turn off the switch before installing or removing the module. Failure to do this may result in the module not being able to communicate with the switch.

- 1 Ensure that your working area is static-free before opening the bag containing the module.

Electrostatic Sensitive Device



Do not handle the printed circuit board unless the working area is static-free!

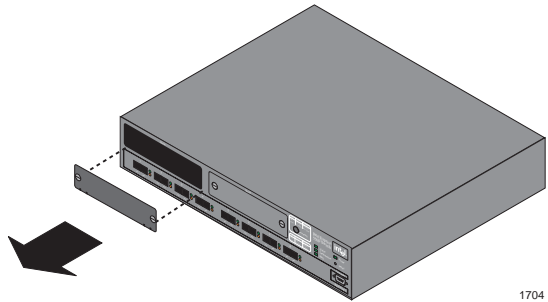
0887

- 2 Turn off the switch.

- 3 Remove the plate covering expansion slot A, unless the switch is in or to be used in a stack with redundancy.

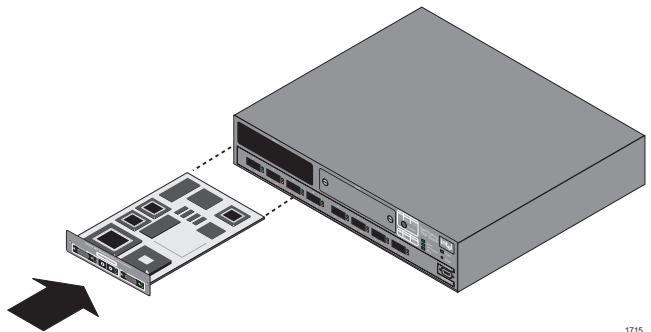
**Note** For a stack with redundancy, install the module on the same side of the switch as the Matrix Module it is to be connected to. When possible, do not install the module in the same switch as a Matrix Module. This prevents having a single point of failure.

When using this module in stand-alone mode, do not install it in the same switch as a Stack Interface Module, Matrix Module or another 1000Base Module in stack mode.



1704

- 4 Insert the 1000Base Module into the slot. Place your thumbs just beneath the screws on the front panel of the module and push it in until it clicks. Secure the module using the retaining screws.



1715

- 5 Turn on the switch.

Configure and cable the module

Configure the module using Intel Device View and cable up using stacking cables in the Stack Interface Module sockets and a fiber optic cable with SC connectors in the RX and TX sockets. Verify the links using the LEDs. For full configuration and cabling details, see Chapter 3.

# 2

## 1000SX and 1000LX Modules

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### Naming in this User Guide

This User Guide covers two products:

- 1000SX Module for 500 Series Switches
- 1000LX Module for 500 Series Switches

To differentiate these modules from other modules in the text, we shall refer to both these modules as '1000Base Module'.

### When to use the module

The 1000Base Module can only be used with Intel 500 Series Switches. It provides a high-speed link between the switch or group of switches containing this module and another device, switch or group of switches.



# Introduction

## Two modes

This module operates in two modes.

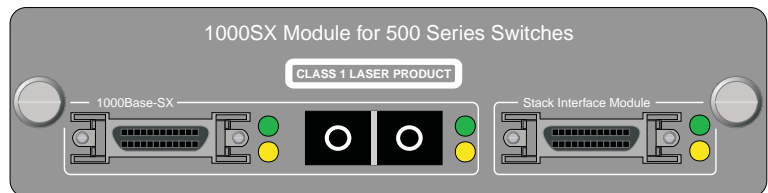
- **Stack mode (default setting):**  
Used when the switch containing this module is connected to a group of switches (or stack) via a Matrix Module. The two Stack Interface Module (SIM) connectors enable the module to be integrated into the group of switches (even a stack with redundancy). The fiber optic SC connector provides the high-speed link between the group of switches (or stack) and another stack or device.
- **Stand-alone mode:**  
Used to provide a high-speed link between the switch and another device via the fiber optic SC connector.

## Installing the module

To install the module, follow the instructions in Chapter 1.

## View of the 1000SX front panel

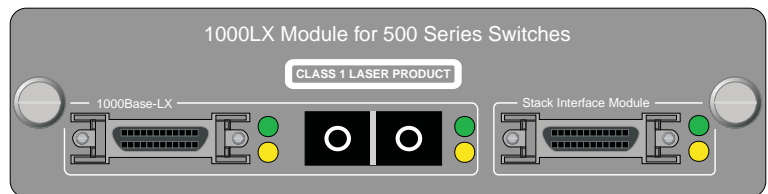
The front panel of the 1000SX Module is shown below:



1711

## View of the 1000LX front panel

The front panel of the 1000LX Module is shown below:



1744

## Module LEDs

### Understanding the LEDs

The 1000Base Module has three connectors. Each connector has two LED indicators:

<b>Status</b>	<b>Indicates</b>
No lights	Port enabled, no link.
Green, solid	Link.
Green, blinking	Link with data traffic.
Green, solid and Orange, solid	Port disabled by a fault.
Orange, solid	Port disabled by management; backup in redundancy (no redundancy with 510T).

**Note** The green LED for the 1000Base-SX/1000Base-LX SIM connector remains solid when there is a link with data activity. Data activity on this link is shown by the blinking, green LED next to the SC connector (RX and TX sockets).



# 3

## Configure the module and connect the cables

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### Introduction

The configuration and cabling of the 1000Base Module are very closely linked. Only after both processes are complete will the switch function properly.

**Note** When the module mode is changed, the configuration is automatically saved and Intel® Device View resets the switch.

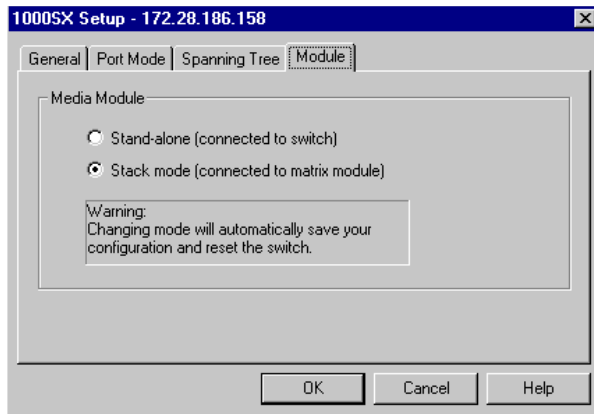
## Configuring the Module

To change the module mode using Intel Device View

The default setting for the Module Mode is Stack Mode. With the switch containing the 1000Base Module displayed in the Device View window:

**Warning** Changing mode causes Intel Device View to save the switch configuration and reset the switch.

- 1 Right-click the 1000Base-SX/1000Base-LX port on the module and select `Port Setup`.
- 2 Click the `Module` tab.



- 3 Select the correct mode.
- 4 Click `OK`. The configuration is saved and the switch reset.

To change the port settings using Intel Device View

The 1000Base Module default port settings are — Port Enabled, Spanning Tree Disabled and Auto-negotiation Enabled. To change these settings:

- 1 Right-click the 1000Base-SX/1000Base-LX port on the module and select `Port Setup`.
- 2 Click the `Port Mode` tab.
- 3 Set the port settings.
- 4 Click `OK`.

# Cabling the Module

## Introduction

The cable connections to the module depend on the mode in which the module is to be used.

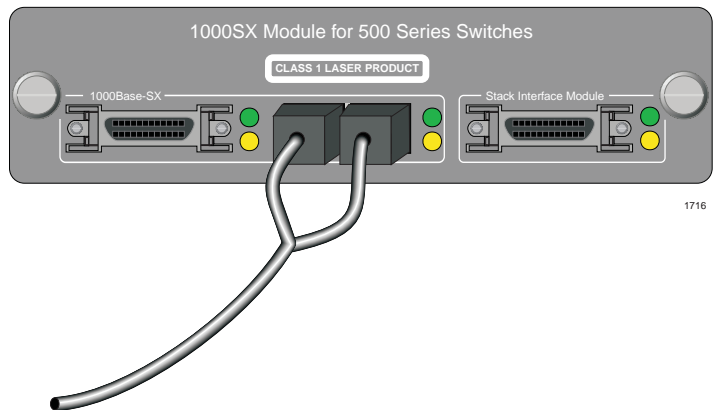
## Stand-alone Mode

### Cabling for a single switch

Follow these instructions to provide a high-speed (1000Base-SX/1000Base-LX) link between the switch containing the 1000Base Module and another switch, device or group of switches:

**Warning** When used in stand-alone mode, this module must not be installed in a switch containing a Stack Interface Module, a Matrix Module or a 1000Base Module set in stack mode.

- 1 Plug the SC connectors on the optic fiber cable into the RX and TX sockets on the 1000Base-SX/1000Base-LX connector.



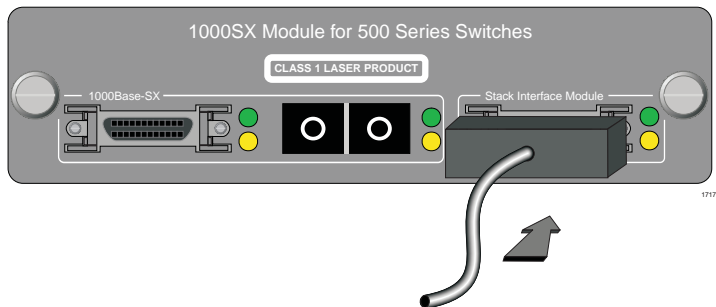
- 2 Plug the other end of the cable into a device and check the LEDs on the 1000Base Module to verify the link. For information on the LEDs, see Chapter 2.

## Stack Mode

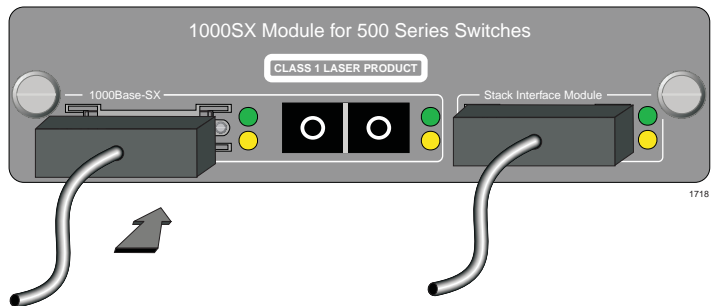
Cabling to a Matrix Module in a group of switches

The 1000Base Module is installed in a different switch from the Matrix Module, so the cabling process is in two parts; the switch containing the 1000Base Module must be connected to the group, then the high-speed link between this group and another group or device is established.

- 1 Plug the Stacking Cable (Intel Order Code: ES500SC) into the Stack Interface Module connector on the 1000Base Module, and secure it using the latches on the connector.

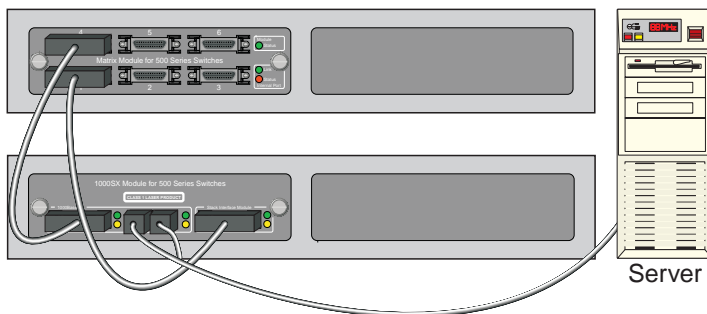


- 2 Plug the other end of the Stacking Cable into the Matrix Module, and secure it using the latches on the connector.
- 3 Plug a second Stacking Cable into the 1000Base-SX/1000Base-LX SIM connector on the 1000Base Module, and secure it using the latches on the connector.



- 4 Plug the other end of the Stacking Cable in to the Matrix Module, and secure it using the latches on the connector.

- 5 Plug the SC connectors on the optic fiber cable into the RX and TX sockets, and connect the other end of the cable to a device.



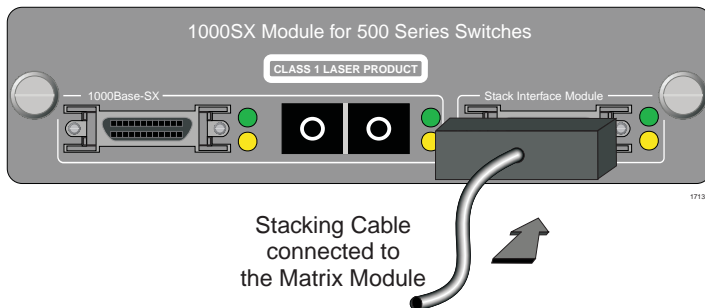
- 6 Check the LEDs on the 1000Base Module to verify the links. For more information on LEDs, see Chapter 2.

Cabling to a Matrix Module in a group of switches with redundancy

To provide total redundancy for the high-speed link, two 1000Base Modules are necessary. We recommend that you install these in different switches from the Matrix Modules.

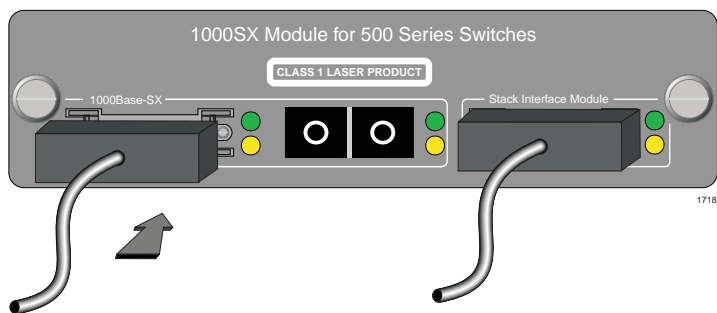
**Note** Redundancy is not possible with the 510T.

- 1 Connect the Matrix Modules to the Stack Interface Modules in the primary and secondary switches as described in the Matrix Module User Guide.
- 2 Plug a Stacking Cable (Intel Order Code: ES500SC) into the Stack Interface Module connector on the 1000Base Module, and secure it using the latches on the connector.



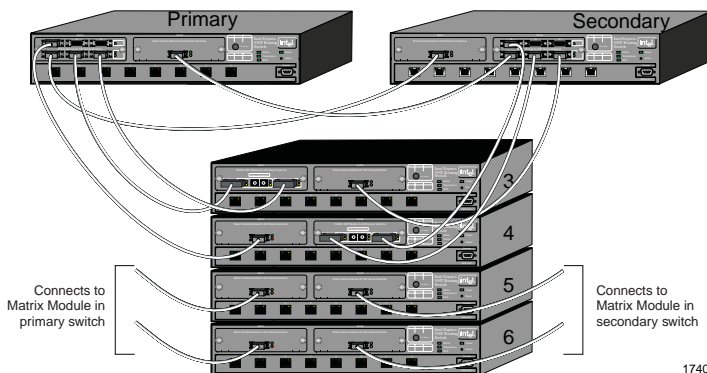


- 3 Plug the other end of the Stacking Cable into an empty port on the Matrix Module located on the same side of the switch (for example, both modules in Slot A), and secure it using the latches on the connector.
- 4 The Stack Interface Module in the other slot on this switch must be plugged into the same port number in the other Matrix Module (for example, both modules in slot B), and secured using the latches on the connector.
- 5 Plug a second Stacking Cable into the 1000Base-SX/1000Base-LX SIM connector on the 1000Base Module, and secure it using the latches on the connector.



- 6 Plug the other end of the Stacking Cable into an empty port on the Matrix Module located on the same side of the switch (both modules in Slot A), and secure it using the latches on the connector.

- 7 Repeat steps 2 through 6 for the second 1000Base Module, ensuring that the cabling from this 1000Base Module goes to the other Matrix Module.



- 8 Plug the SC connectors on the fiber optic cables into the RX and TX sockets, and connect the other end of the cables to a device or group of switches with redundancy.
- 9 Check the LEDs on the 1000Base Modules to verify the links. For more information on LEDs, see Chapter 2

## Link Aggregation with Two Modules

### Introduction

Two modules installed in a stack can be link aggregated to increase bandwidth between this stack and another device or stack.

### Prevent network loops

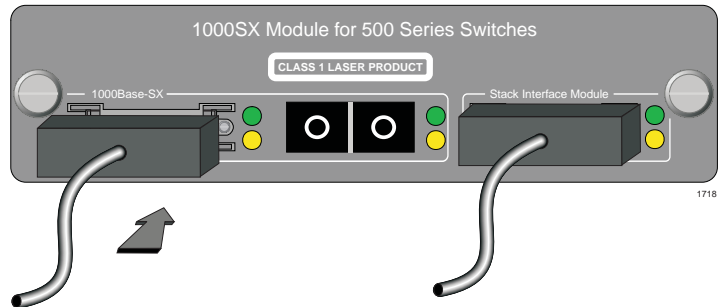
Link aggregation must be configured in Intel Device View to prevent a loop. When two modules are installed in a stack and connected to another single device or stack (without redundancy or link aggregation), then a loop may be created. Note that even with spanning tree enabled, a delay of 10 to 15 seconds may occur before the loop is discovered.

## Cabling to a Matrix Module

To accomplish successful link aggregation, the modules must be installed on the same side of separate switches (for example, both modules in Slot A).

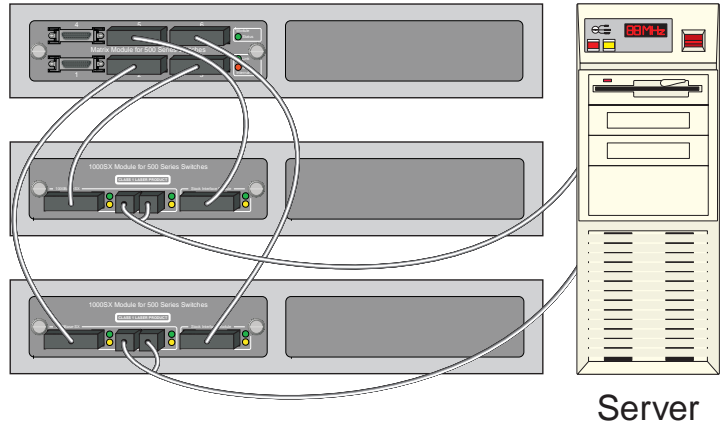
**Note** The 1000Base-SX/1000Base-LX SIM connectors on the 1000Base Modules must be connected to ports 2 and 3 on the Matrix Module for link aggregation to work.

- 1 Connect the Stack Interface Module port on the 1000Base Module to either ports 1, 4, 5, or 6. This connects the switch to the stack.
- 2 Plug a second Stacking Cable into the 1000Base-SX/1000Base-LX SIM connector on the 1000Base Module, and secure it using the latches on the connector.



- 3 Plug the other end of the Stacking Cable into either port 2 or 3 on the Matrix Module.

- Repeat steps 1 through 3 for the second 1000Base Module. Connect to a permissible vacant port (either 2 or 3).



- Plug the SC connectors on the fiber optic cables into the RX and TX sockets, and connect the other end of the cables to a device or group of switches.
- Check the LEDs on the 1000Base Modules to verify the links. For more information on LEDs, see Chapter 2



# 4

## Specifications

1000SX Physical  
specification

The 1000SX Module has the following specifications:

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<b>Number of ports:</b>	Three: 2 x Stack Interface Module and 1 x 1000Base-SX
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<b>Connector Types:</b>	
<b>Stack Interface Module</b>	26-position shielded plug
<b>1000Base-SX</b>	Duplex SC

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<b>Cable Types:</b>	
<b>Stack Interface Module</b>	Stacking Cable (ES500SC)
<b>1000Base-SX</b>	50 $\mu$ m multi-mode fiber (MMF) 62.5 $\mu$ m multi-mode fiber (MMF)

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<b>Link Lengths:</b>	
<b>Stack Interface Module</b>	1 meter (39 inches)
<b>1000Base-SX</b>	50 $\mu$ m MMF up to 550 m (1804 ft) 62.5 $\mu$ m MMF up to 275 m (902 ft)

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<b>Default Settings:</b>	Stack mode Auto-negotiation: enabled Spanning Tree: disabled
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<b>Dimensions</b>	Width: 149 mm (5.9 in.) Height: 37 mm (1.5 in.) Depth: 238 mm (9.4 in.)
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<b>Weight (approximate)</b>	0.235 kg (0.63 lb)
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1000LX Physical specification

The 1000LX Module has the following specifications:

<b>Number of ports:</b>	Three: 2 x Stack Interface Module and 1 x 1000Base-LX
<b>Connector Types:</b>	
<b>Stack Interface Module</b>	26-position shielded plug
<b>1000Base-LX</b>	Duplex SC
<b>Cable Types:</b>	
<b>Stack Interface Module</b>	Stacking Cable (ES500SC)
<b>1000Base-LX</b>	50 μm multi-mode fiber (MMF) 62.5 μm multi-mode fiber (MMF) 10.0 μm single-mode fiber (SMF)
<b>Link Lengths:</b>	
<b>Stack Interface Module</b>	1 meter (39 inches)
<b>1000Base-LX</b>	50 μm MMF up to 550 m (1804 ft)† 62.5 μm MMF up to 550 m (1804 ft)† 10 μm SMF up to 5000 m (16404 ft)
<b>Default Settings:</b>	Stack mode Auto-negotiation: enabled Spanning Tree: disabled
<b>Dimensions</b>	Width: 149 mm (5.9 in.) Height: 37 mm (1.5 in.) Depth: 238 mm (9.4 in.)
<b>Weight (approximate)</b>	0.235 kg (0.63 lb)

**Note** † To achieve these connections, a single-mode offset-launch mode-conditioning patch cord must be included on the TX cable (for full details, see IEEE 802.3z and the table below):

Description	62.5 μm MMF	50 μm MMF	Unit
Maximum insertion loss	0.5	0.5	dB
Coupled Power Ratio (CPR)	28<CPR<40	12<CPR<20	dB
Optical center offset between SMF and MMF	17<Offset<23	10<Offset<16	μm
Maximum angular offset	1	1	degree



# Limited Hardware Warranty

## Limited Hardware Warranty

Intel warrants to the original owner that the hardware product delivered in this package will be free from defects in material and workmanship for three (3) years following the latter of: (i) the date of purchase only if you register by returning the registration card as indicated thereon with proof of purchase; or (ii) the date of manufacture; or (iii) the registration date if by electronic means provided such registration occurs within thirty (30) days from purchase. This warranty does not cover the product if it is damaged in the process of being installed. Intel recommends that you have the company from whom you purchased this product install the product.

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This warranty does not cover replacement of products damaged by abuse, accident, misuse, neglect, alteration, repair, disaster, improper installation or improper testing. If the product is found to be otherwise defective, Intel, at its option, will replace or repair the product at no charge except as set forth below, provided that you deliver the product along with a return material authorization (RMA) number either to the company from whom you purchased it or to Intel (North America only). If you ship the product, you must assume the risk of damage or loss in transit. You must use the original container (or the equivalent) and pay the shipping charge. Intel may replace or repair the product with either new or remanufactured product or parts, and the returned product becomes Intel's property. Intel warrants the repaired or replaced product to be free from defects in material and workmanship for a period of the greater of: (i) ninety (90) days from the return shipping date; or (ii) the period of time remaining on the original three (3) year warranty.

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### Returning a Defective Product (RMA)

Before returning any product, contact an Intel Customer Support Group and obtain an RMA number by calling:

North America only: (916) 377-7000

Other locations: Return the product to the place of purchase.



If the Customer Support Group verifies that the product is defective, they will have the Return Material Authorization Department issue you an RMA number to place on the outer package of the product. Intel cannot accept any product without an RMA number on the package.

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## **Limited Hardware Warranty (Europe only)**

Intel warrants to the original owner that the hardware product delivered in this package will be free from defects in material and workmanship for three (3) years following the latter of: (i) the date of purchase only if you register by returning the registration card as indicated thereon with proof of purchase; or (ii) the date of manufacture; or (iii) the registration date if by electronic means provided such registration occurs within thirty (30) days from purchase. This warranty does not cover the product if it is damaged in the process of being installed. Intel recommends that you have the company from whom you purchased this product install the product.

INTEL RESERVES THE RIGHT TO FILL YOUR ORDER WITH A PRODUCT CONTAINING NEW OR REMANUFACTURED COMPONENTS. THE ABOVE WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF NONINFRINGEMENT OF INTELLECTUAL PROPERTY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY ARISING OUT OF ANY PROPOSAL, SPECIFICATION, SAMPLE OR OTHERWISE.

This warranty does not cover replacement of products damaged by abuse, accident, misuse, neglect, alteration, repair, disaster, improper installation or improper testing. If the product is found to be otherwise defective, Intel, at its option, will replace or repair the product at no charge except as set forth below, provided that you deliver the product along with a return material authorization (RMA) number either to (a) the company from whom you purchased it or (b) to Intel, North America only (if purchased in Europe you must deliver the product to "(a)"). If you ship the product, you must assume the risk of damage or loss in transit. You must use the original container (or the equivalent) and pay the shipping charge. Intel may replace or repair the product with either new or remanufactured product or parts, and the returned product becomes Intel's property. Intel warrants the repaired or replaced product to be free from defects in material and workmanship for a period of the greater of: (i) ninety (90) days from the return shipping date; or (ii) the period of time remaining on the original three (3) year warranty.

This warranty gives you specific legal rights and you may have other rights which vary from state to state. All parts or components contained in this product are covered by Intel's limited warranty for this product; the product may contain fully tested, recycled parts, warranted as if new. For warranty information call one of the numbers below.

### **Returning a Defective Product (RMA)**

Before returning any product, contact an Intel Customer Support Group and obtain an RMA number by calling the non-toll free numbers below:

Country	Number	Language
France	+44 1793 404988	French
Germany	+44 1793 404777	German
Italy	+44 1793 404141	Italian
UK	+44 1793 404900	English

If the Customer Support Group verifies that the product is defective, they will have the Return Material Authorization Department issue you an RMA number to place on the outer package of the product. Intel cannot accept any product without an RMA number on the package.

#### LIMITATION OF LIABILITY AND REMEDIES

INTEL SHALL HAVE NO LIABILITY FOR ANY INDIRECT OR SPECULATIVE DAMAGES (INCLUDING, WITHOUT LIMITING THE FOREGOING, CONSEQUENTIAL, INCIDENTAL AND SPECIAL DAMAGES) ARISING FROM THE USE OF OR INABILITY TO USE THIS PRODUCT, WHETHER ARISING OUT OF CONTRACT, NEGLIGENCE, TORT, OR UNDER ANY WARRANTY, IRRESPECTIVE OF WHETHER INTEL HAS ADVANCE NOTICE OF THE POSSIBILITY OF ANY SUCH DAMAGES, INCLUDING, BUT NOT LIMITED TO LOSS OF USE, INFRINGEMENT OF INTELLECTUAL PROPERTY, BUSINESS INTERRUPTIONS, AND LOSS OF PROFITS, NOTWITHSTANDING THE FOREGOING, INTEL'S TOTAL LIABILITY FOR ALL CLAIMS UNDER THIS AGREEMENT SHALL NOT EXCEED THE PRICE PAID FOR THE PRODUCT. THESE LIMITATIONS ON POTENTIAL LIABILITIES WERE AN ESSENTIAL ELEMENT IN SETTING THE PRODUCT PRICE. INTEL NEITHER ASSUMES NOR AUTHORIZES ANYONE TO ASSUME FOR IT ANY OTHER LIABILITIES.

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**Software:** Software provided with the hardware product is not covered under the hardware warranty described above. See the applicable software license agreement which shipped with the hardware product for details on any software warranty.

This limited hardware warranty shall be governed by and construed in accordance with the laws of England and Wales. The courts of England shall have exclusive jurisdiction regarding any claim brought under this warranty.

## Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A 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 the user will be required to correct the interference at his own expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

## Manufacturer Declaration

Intel declares that the Express 500 Series Switches comply with the EU Directive 89/336/EEC, using the EMC standards EN55022 and EN50082-1. These products also meet EU Directives 74/23/EEC and 93/68/ and are certified by DEMKO to be compliant with EN 60950/A1/A2/A3 and by UL to be compliant with UL 1950 and CSA -C22.2 No. 950. These products have been tested and verified to meet CISPR 22 Class A requirements and are registered with VCCI Class 1 products.

## WARNING: Fiber-optic ports on 1000SX—Optical Safety



Never look directly at the fiber TX laser port and fiber cable ends when they are powered-up.

## WARNING: Fiber-optic ports on 1000LX—Optical Safety



Peak Power 3mW, Time Base 100s  
 $1261\text{nm} < \lambda < 1360\text{nm}$   
 IEC 825-2:1993

Never look directly at the fiber TX laser port and fiber cable ends when they are powered-up.

## WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

### WARNING

The system is designed to operate in a typical office environment. Choose a site that is:

- Clean and free of airborne particles (other than normal room dust).
- Well ventilated and away from sources of heat including direct sunlight.
- Away from sources of vibration or physical shock.
- Isolated from strong electromagnetic fields produced by electrical devices.
- In regions that are susceptible to electrical storms, we recommend you plug your system into a surge suppressor and disconnect telecommunication lines to your modem during an electrical storm.
- Provided with a properly grounded wall outlet.

Do not attempt to modify or use the supplied AC power cord if it is not the exact type required.

Ensure that the system is disconnected from its power source and from all telecommunications links, networks, or modems lines whenever the chassis cover is to be removed. Do not operate the system with the cover removed.

### AVERTISSEMENT

Le système a été conçu pour fonctionner dans un cadre de travail normal. L'emplacement choisi doit être:

- Propre et dépourvu de poussière en suspension (sauf la poussière normale).
- Bien aéré et loin des sources de chaleur, y compris du soleil direct.
- A l'abri des chocs et des sources de vibrations.
- Isolé de forts champs magnétiques géenérés par des appareils électriques.
- Dans les régions sujettes aux orages magnétiques il est recomandé de brancher votre système à un supresseur de surtension, et de débrancher toutes les lignes de télécommunications de votre modem durant un orage.
- Muni d'une prise murale correctement mise à la terre.

Ne pas utiliser ni modifier le câble d'alimentation C. A. fourni, s'il ne correspond pas exactement au type requis.

Assurez vous que le système soit débranché de son alimentation ainsi que de toutes les liaisons de télécommunication, des réseaux, et des lignes de modem avant d'enlever le capot. Ne pas utiliser le système quand le capot est enlevé.

### WARNUNG

Das System wurde für den Betrieb in einer normalen Büroumgebung entwickelt. Der entwickelt. Der Standort sollte:

- sauber und staubfrei sein (Hausstaub ausgenommen);
- gut gelüftet und keinen Heizquellen ausgesetzt sein (einschließlich direkter Sonneneinstrahlung);
- keinen Erschütterungen ausgesetzt sein;
- keine starken, von elektrischen Geräten erzeugten elektromagnetischen Felder aufweisen;
- in Regionen, in denen elektrische Stürme auftreten, mit einem Überspannungsschutzgerät verbunden sein; während eines elektrischen Sturms sollte keine Verbindung der Telekommunikationsleitungen mit dem Modem bestehen;
- mit einer geerdeten Wechselstromsteckdose ausgerüstet sein.

Versuchen Sie nicht, das mitgelieferte Netzkabel zu ändern oder zu verwenden, wenn es sich nicht um genau den erforderlichen Typ handelt.

Das System darf weder an eine Stromquelle angeschlossen sein noch eine Verbindung mit einer Telekommunikationseinrichtung, einem Netzwerk oder einer Modem-Leitung haben, wenn die Gehäuseabdeckung entfernt wird. Nehmen Sie das System nicht ohne die Abdeckung in Betrieb.

### **AVVERTENZA**

Il sistema è progettato per funzionare in un ambiente di lavoro tipico. Scegliere una postazione che sia:

- Pulita e libera da particelle in sospensione (a parte la normale polvere presente nell'ambiente).
- Ben ventilata e lontana da fonti di calore, compresa la luce solare diretta.
- Al riparo da urti e lontana da fonti di vibrazione.
- Isolata dai forti campi magnetici prodotti da dispositivi elettrici.
- In aree soggette a temporali, è consigliabile collegare il sistema ad un limitatore di corrente. In caso di temporali, scollegare le linee di comunicazione dal modem.
- Dotata di una presa a muro correttamente installata.

Non modificare o utilizzare il cavo di alimentazione in c. a. fornito dal produttore, se non corrisponde esattamente al tipo richiesto.

Prima di rimuovere il coperchio del telaio, assicurarsi che il sistema sia scollegato dall'alimentazione, da tutti i collegamenti di comunicazione, reti o linee di modem. Non avviare il sistema senza aver prima messo a posto il coperchio.

### **ADVERTENCIAS**

El sistema está diseñado para funcionar en un entorno de trabajo normal. Escoja un lugar:

- Limpio y libre de partículas en suspensión (salvo el polvo normal)
- Bien ventilado y alejado de fuentes de calor, incluida la luz solar directa.
- Alejado de fuentes de vibración.
- Aislado de campos electromagnéticos fuertes producidos por dispositivos eléctricos.
- En regiones con frecuentes tormentas eléctricas, se recomienda conectar su sistema a un eliminador de sobrevoltage y desconectar el módem de las líneas de telecomunicación durante las tormentas.
- Previsto de una toma de tierra correctamente instalada.

No intente modificar ni usar el cable de alimentación de corriente alterna, si no se corresponde exactamente con el tipo requerido.

Asegúrese de que cada vez que se quite la cubierta del chasis, el sistema haya sido desconectado de la red de alimentación y de todos los enlaces de telecomunicaciones, de red y de líneas de módem. No ponga en funcionamiento el sistema mientras la cubierta esté quitada.

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