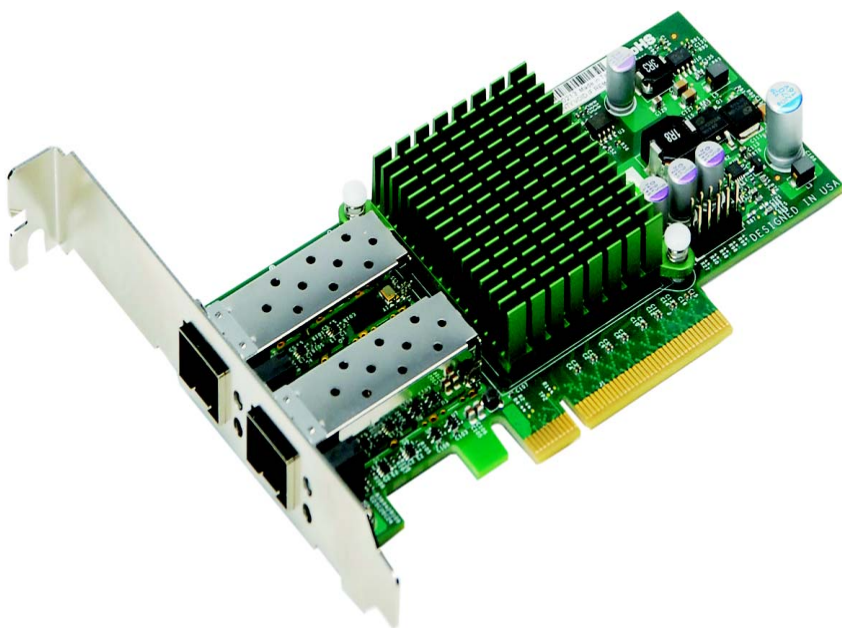


# SUPERMICRO®

## AOC-STGN-i2S Add-on Card



## User's Manual

Revision 1.0

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Manual Revision 1.0

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# Introduction

## Overview

This manual is written for system integrators, PC technicians and knowledgeable PC users who intend to integrate Supermicro's AOC-STGN-i2S add-on card.

## Product Features

The AOC-STGN-i2S offers the following features:

- Intel® 82599ES 10 GbE Controller
- Low-profile standard form factor
- PCI-E x8 Gen. 2 (5 GT/s)
- Intel QuickData Technology: DMA engine that enhances data acceleration and lowers CPU usage
- Direct Cache Access (DCA) to avoid cache misses
- Tx/Rx IP, SCTP, TCP and UDP checksum offloading capabilities (IPv4, IPv6)
- Supports Virtualization features such as VMDq, Next-generation VMDq (64 queues per port) and PC-SIG SR-IOV implementation
- Preboot Execution Environment (PXE) support
- Simple Network Management Protocol (SNMP) and Remote Network Monitoring (RMON) statistic counters
- iSCSI boot
- Intel PROSet Utility for Windows Device Manager
- ROHS compliant 6/6

## Supported Operating Systems

The AOC-STGN-i2S supports the following Operating Systems (OS):

- Windows 2008/2003/2000
- Linux
- VMWare ESX Server

## Required Cables

The AOC-STGN-i2S requires the following cables:

- SFP+ direct attached twin axial cabling, up to 10 meters.
- Dual LC Fiber-optic connections SR, up to 300 meters.

## **An Important Note to Users**

All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

## **Returning Merchandise for Service**

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online at

<http://www.supermicro.com/support/rma/>

Whenever possible, repack the add-on card in the original Supermicro box, using the original packaging materials. If these are no longer available, be sure to pack the add-on card in an anti-static bag and inside the box. Make sure that there is enough packaging material surrounding the add-on card so that it does not become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

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## Notes

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## Notes



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# Chapter 1

## Safety Guidelines

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

### 1-1 ESD Safety Guidelines

*Electric Static Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.*

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing a component from the antistatic bag.
- Handle the add-on card by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the card and peripherals back into their antistatic bags when not in use.

### 1-2 General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer.
- Disconnect the power cable before installing or removing any cables from the system.
- Make sure that the add-on card is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

### 1-3 An Important Note to Users

All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

## Notes

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# Chapter 2

## Connectors, Jumpers and Indicators

### 2-1 Front Connectors and Pin Definitions

Connectors are used to attach the add-on card to the system's mainboard.

Figure 2-1. AOC-STGN-i2S Add-on Card Front Connectors and Jumpers

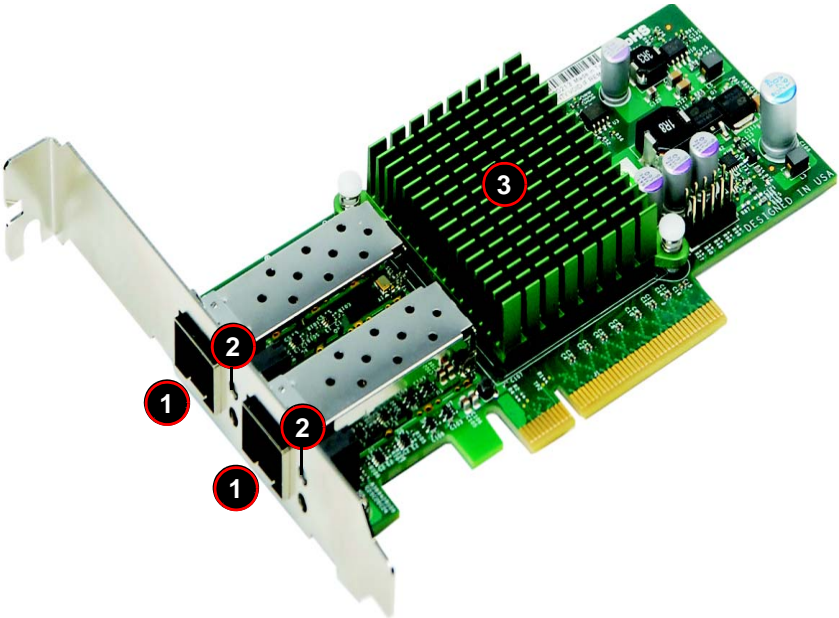


Table 2-1 lists the add-on card's front connectors.

Table 2-1. Front Connectors and Pin Definitions

Number	Description
1	LAN Connector Ports
2	LAN Port LEDs
3	Intel 82599ES

## LAN Ports

LAN ports allow the Add-on card to connect a maximum of two network cables (SFP+ connectors). Each LAN port provides up to 10-gigabits per second connection speed and require SFP+ DAC twin axial cables up to 10 meters. The ports are designated Port 1 and Port 2.

## LAN Port LEDs

Each LAN port has two corresponding, dual-color LED's which indicate activity (ACT) and connection speed (LNK). See [Section 2-2](#) for further details.

## 2-2 LED Indicators

Figure 2-2. LED Indicators

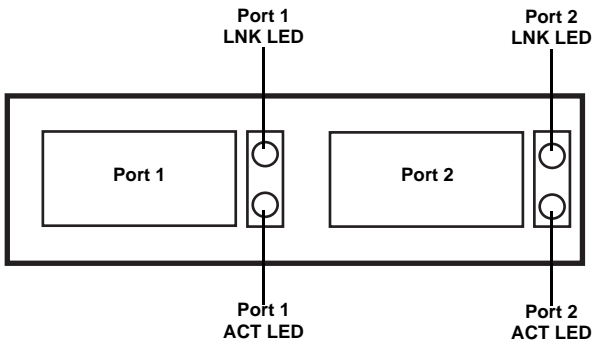


Figure 2-2 displays LED indicators on the AOC-STGN-i2S add-on card. These dual-color LEDs are described below in [Table 2-2](#).

Table 2-2. LAN Port LED Colors

LED	Color	Definition
LNK	Green	10 Gb link speed
	Yellow	1 Gb link speed
ACT	Blinking Green	Activity

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# Chapter 3

## Installation

### 3-1 Before Installation

Before installation, do the following

1. Power down the system.
2. Remove the power cord from the wall socket.
3. Use industry standard anti-static equipment (such as gloves or wrist strap) and/or an environment that prevents accidental electrostatic discharge.
4. Familiarize yourself with the server, motherboard, and/or chassis documentation.
5. Confirm that your operating system includes the latest updates and hotfixes.

### 3-2 Hardware Installation

To install the add-on card, do the following:

1. Remove the server cover and, if necessary, set aside any screws for later use.
2. Remove the add-on card slot cover. If the case requires a screw, place the screw aside for later use.
3. Position the add-on card in the slot directly over the connector and gently push down on both sides of the card until it slides into the PCI connector.
4. Secure the add-on card to the chassis. If required, use the screw that you previously removed.
5. Attach any necessary external cables to the add-on card .
6. Replace the chassis cover.
7. Plug the power cord into the wall socket and power up the system.

### 3-3 Windows 2003/2000 Installation

Use the following instructions to install the drivers to a supported Windows Operating Systems. The controller comes with a driver on the CD-ROM CDR-NIC.

1. Run the CDR-NIC.

If you do not have a product CD-ROM, then download drivers from the [Supernicro Support Website](#) and transfer them to your system.

2. The SUPERMICRO window appears.

Click on the computer icon next to the product model.



**NOTE:** If the FOUND NEW HARDWARE WIZARD screen is displayed on your system, click CANCEL.

3. Click on INSTALL DRIVERS AND SOFTWARE.
4. Follow the prompts to complete the installation.

## 3-4 Linux Installation

To install the driver to a Linux system do the following:

### Build a Binary RPM Package

1. Run `'rpmbuild -tb <filename.tar.gz>'`
2. Replace `<filename.tar.gz>` with the specific filename of the driver.



**NOTE:** For the build to work properly, the currently running kernel **MUST** match the version and configuration of the installed kernel sources. If you have just recompiled the kernel reboot the system now.

### Manually Build the Driver

1. Move the base driver tar file to the directory of your choice. For example,

```
/home/username/ixgbe
```

or

```
/usr/local/src/ixgbe.
```

2. Untar/unzip archive:

```
tar xzf ixgbe-x.x.x.tar.gz
```

3. Change to the driver *src* directory:

```
cd ixgbe-x.x.x/src/
```

4. Compile the driver module:

```
make install
```

The binary will be installed as:

```
/lib/modules/[KERNEL_VERSION]/kernel/drivers/net/ixgbe/  
ixgbe.[k]o
```

The install locations listed above are the default locations. They might not be correct for certain Linux distributions. For more information, see the *ldistrib.txt* file included in the driver tar.



**NOTE:** `IXGBE_NO_LRO` is a compile time flag. The user can enable it at compile time to remove support for LRO from the driver. The flag is used by adding `CFLAGS_EXTRA="--DIXGBE_NO_LRO"` to the make file when it's being compiled.

```
make CFLAGS_EXTRA="--DIXGBE_NO_LRO" install
```

5. Load the module:

For kernel 2.6.x, use the `modprobe` command:

```
modprobe ixgbe <parameter>=<value>
```

For 2.6 kernels, the `insmod` command can be used if the full path to the driver module is specified. For example:

```
insmod /lib/modules/<KERNEL_VERSION>/kernel/drivers/net/  
ixgbe/ixgbe.ko
```

In addition when using 2.6 based kernels make sure that older `ixgbe` drivers are removed from the kernel, before loading the new module. To do this, use:

```
rmmod ixgbe; modprobe ixgbe
```

6. Assign an IP address to the interface by entering the following, where `x` is the interface number:

```
ifconfig ethx <IP_address> netmask <netmask>
```

7. Verify that the interface works. Enter the following, where `<IP_address>` is the IP address for another machine on the same subnet as the interface that is being tested:

```
ping <IP_address>
```

## Notes



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