



AOC-SGP-i2



User's Guide

Revision 1.1

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User's Guide Revision 1.1

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## Preface

### About this User's Guide

This user's guide is written for system integrators, PC technicians, and knowledgeable PC users. It provides information for the installation and use of the AOC-SGP-i2 add-on card.

### About this Add-on Card

With the AOC-SGP-i2, Supermicro has extended the boundaries of Ethernet technology to create the most compact, cost-effective, and feature-packed 2-port Ethernet controller in the market, allowing it to fit into the smallest spaces in a dense server system. With an ultra-small footprint and rich in power-management features, the AOC-SGP-i2 represents the next step in the evolution of gigabit Ethernet networking for enterprise and data center environments.

### An Important Note to the User

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 user's guide.

### 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 the add-on card to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and the shipping package is 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, You can also request a RMA authorization online (<http://www.supermicro.com/RmaForm/>).

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

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

## Conventions Used in the User's Guide

Pay special attention to the following symbols for proper system installation and to prevent damage to the system or injury to yourself:



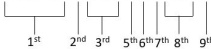
**Warning:** Important information given to ensure proper system installation or to prevent damage to the components or injury to yourself.



**Note:** Additional information given to differentiate between various models or provides information for correct system setup.

## Naming Convention for Standard Network Adaptors

### AOC-ATG-i2T2SM



| Character | Representation                                       | Options   |
|-----------|--|---|
| 1st       | Product Family                                       | AOC: Add On Card  |
| 2nd       | Form Factor  | S: Standard, P: Proprietary, C: MicroLP, M: Super IO Module (SIOM), MH: SIOM Hybrid<br>A: Advanced IO Module (AIOM), AH: AIOM Hybrid  |
| 3rd       | Product Type/Speed                                   | G: GbE (1Gb/s), TG: 10GbE (10Gb/s), 25G: 25GbE (25Gb/s), 40G: 40GbE (40Gb/s), 50G: 50GbE (50Gb/s), 100G: 100GbE (100Gb/s), IBE: EDR IB (100Gb/s), HFI: Host Fabric Interface                          |
| 4th       | Chipset Model (Optional)                             | N: Niantec (82599), P: Powerville (i350), S: Sageville (X550), F: Fortville (XL710/X710), L: Lewisburg (PCH)  |
| 5th       | Chipset Manufacturer                                 | i: Intel, m: Mellanox, b: Broadcom  |
| 6th       | Number of Ports                                      | 1: 1 port, 2: 2 ports, 4: 4 ports, 8: 8 ports   |
| 7th       | Connector Type (Optional)                            | S: SFP/SFP+/SFP28, T: 10GBase-T, Q: QSFP+, C: QSFP28  |
| 8th       | 2 <sup>nd</sup> Controller/Connector Type (Optional) | G: 1x GbE RJ45, 2G: GbE 2x RJ45, S: 1x 10G SFP+, T: 10GBase-T, 2T: 2x 10GBase-T, 2S: 2x SFP+  |
| 9th       | Bracket  | For SIOM – Non-M: swappable bracket for Storage systems, M: Internal bracket for Twin systems.<br>For AIOM – Non-M: 1U height bracket for Edge systems, M: 0.5U height bracket for all other systems. |

## Networking Adapter List

| Model           | Type       | Form Factor | Controller                                 | Connection                                 | Dimension<br>(w/o Brackets) (L x H) | Power<br>(W) |
|-----------------|------------|-------------|--|--|-------------------------------------|--------------|
| AOC-MGP-i2      | GbE        | SIOM        | Intel® i350 AM2                            | 2 RJ45 (1Gb/port)                          | 3.622" (92mm) x 3.428" (87.08mm)    | 3.7          |
| AOC-MGP-i4      | GbE        | SIOM        | Intel® i350 AM4                            | 4 RJ45 (1Gb/port)                          | 3.622" (92mm) x 3.428" (87.08mm)    | 4.4          |
| AOC-MTGN-i2S    | 10GbE      | SIOM        | Intel® 82599ES                             | 2 SFP+ (10Gb/port)                         | 3.622" (92mm) x 3.428" (87.08mm)    | 7.2          |
| AOC-MTG-i4S     | 10GbE      | SIOM        | Intel® XL710-BM1                           | 4 SFP+ (10Gb/port)                         | 3.622" (92mm) x 3.428" (87.08mm)    | 7            |
| AOC-MTG-b2T     | 10GbE      | SIOM        | Broadcom® BCM57416                         | 2 RJ45 (10GBase-T)                         | 3.622" (92mm) x 3.428" (87.08mm)    | 11           |
| AOC-MTG-i2T     | 10GbE      | SIOM        | Intel® X550-AT2                            | 2 RJ45 (10GBase-T)                         | 3.622" (92mm) x 3.428" (87.08mm)    | 13           |
| AOC-MTG-i4T     | 10GbE      | SIOM        | 2x Intel® X550-AT2                         | 4 RJ45 (10GBase-T)                         | 3.622" (92mm) x 3.428" (87.08mm)    | 26           |
| AOC-MHIBF-m1Q2G | FDR IB GbE | SIOM        | Mellanox® ConnectX-3 Pro Intel® i350       | 1 QSFP (56Gb/port)<br>2 RJ45 (1Gb/port)    | 3.622" (92mm) x 3.428" (87.08mm)    | 9            |
| AOC-MHIBF-m2Q2G | FDR IB GbE | SIOM        | Mellanox® ConnectX-3 Pro Intel® i350       | 2 QSFP (56Gb/port)<br>2 RJ45 (1Gb/port)    | 3.622" (92mm) x 3.428" (87.08mm)    | 11           |
| AOC-MHIBE-m1CG  | EDR IB GbE | SIOM        | Mellanox® ConnectX-4 VPI Intel® i210       | 1 QSFP28 (100Gb/port)<br>1 RJ45 (1Gb/port) | 3.622" (92mm) x 3.428" (87.08mm)    | 19           |
| AOC-MH25G-b2S2G | 25GbE      | SIOM        | Broadcom® BCM57414 Intel® i350             | 2 SFP28 (25Gb/port)<br>2 RJ45 (1Gb/port)   | 3.622" (92mm) x 3.428" (87.08mm)    | 9            |
| AOC-MH25G-m2S2T | 25GbE      | SIOM        | Mellanox® ConnectX-4 LX EN Intel® X550-AT2 | 2 SFP28 (25Gb/port)<br>2 RJ45 (10GBase-T)  | 3.622" (92mm) x 3.428" (87.08mm)    | 25           |
| AOC-M25G-m4S    | 25GbE      | SIOM        | Mellanox® ConnectX-4 LX EN                 | 4 SFP28 (25Gb/port)                        | 3.622" (92mm) x 3.428" (87.08mm)    | 20           |
| AOC-M25G-i2S    | 25GbE      | SIOM        | Intel® XXV710                              | 2 SFP28 (25Gb/port)                        | 3.622" (92mm) x 3.428" (87.08mm)    | 11.8         |
| AOC-MHFI-11C    | Omni-Path  | SIOM        | Intel® OP HFI A SiC (Wolf River WFR-B)     | 1 QSFP28 (100Gb/port)                      | 3.622" (92mm) x 3.428" (87.08mm)    | 15           |

| Model         | Type   | Form Factor | Interface | Controller           | Connection            | Dimension<br>(w/o Brackets) (L x H) | Power<br>(W) |
|---------------|--------|-------------|-----------|----------------------|-----------------------|-------------------------------------|--------------|
| AOC-SGP-i2    | QbE    | Standard LP | PCI-E x4  | Intel® i350 AM2      | 2 RJ45 (1Gb/port)     | 3.9" (99mm) x 2.73" (69mm)          | 3.5          |
| AOC-SGP-i4    | QbE    | Standard LP | PCI-E x4  | Intel® i350 AM4      | 4 RJ45 (1Gb/port)     | 3.9" (99mm) x 2.73" (69mm)          | 5            |
| AOC-STG-i2T   | 10GbE  | Standard LP | PCI-E x8  | Intel® X540-AT2      | 2 RJ45 (10GBase-T)    | 5.9" (150mm) x 2.73" (69mm)         | 13           |
| AOC-STGS-i1T  | 10GbE  | Standard LP | PCI-E x4  | Intel® X550-AT       | 1 RJ45 (10GBase-T)    | 5.9" (150mm) x 2.73" (69mm)         | 9            |
| AOC-STGS-i2T  | 10GbE  | Standard LP | PCI-E x4  | Intel® X550-AT2      | 2 RJ45 (10GBase-T)    | 5.9" (150mm) x 2.73" (69mm)         | 11           |
| AOC-STG-b2T   | 10GbE  | Standard LP | PCI-E x8  | Broadcom® BCM57416   | 2 RJ45 (10GBase-T)    | 5.6" (142mm) x 2.73" (69mm)         | 13.1         |
| AOC-STG-i4T   | 10GbE  | Standard LP | PCI-E x8  | Intel® XL710-BM1     | 4 RJ45 (10GBase-T)    | 5.9" (149mm) x 2.73" (69mm)         | 15.5         |
| AOC-STGN-i1S  | 10GbE  | Standard LP | PCI-E x8  | Intel® 82599EN       | 1 SFP+ (10Gb/port)    | 4.0" (102mm) x 2.73" (69mm)         | 10           |
| AOC-STGN-i2S  | 10GbE  | Standard LP | PCI-E x8  | Intel® 82599ES       | 2 SFP+ (10Gb/port)    | 4.0" (102mm) x 2.73" (69mm)         | 11.2         |
| AOC-STGF-i2S  | 10GbE  | Standard LP | PCI-E x8  | Intel® X710-BM2      | 2 SFP+ (10Gb/port)    | 5.19" (132mm) x 2.73" (69mm)        | 5.6          |
| AOC-STG-b4S   | 10GbE  | Standard LP | PCI-E x8  | Broadcom® BCM57840S  | 4 SFP+ (10Gb/port)    | 5.4" (137mm) x 2.73" (69mm)         | 14           |
| AOC-STG-i4S   | 10GbE  | Standard LP | PCI-E x8  | Intel® XL710-BM1     | 4 SFP+ (10Gb/port)    | 5.9" (150mm) x 2.73" (69mm)         | 8            |
| AOC-S25G-m2S  | 25GbE  | Standard LP | PCI-E x8  | Mellanox® CX-4 LX    | 2 SFP28 (25Gb/port)   | 5.6" (142mm) x 2.713" (69mm)        | 8.7          |
| AOC-S25G-b2S  | 25GbE  | Standard LP | PCI-E x8  | Broadcom® BCM57414   | 2 SFP28 (25Gb/port)   | 5.6" (142mm) x 2.713" (69mm)        | 5.2          |
| AOC-S25G-i2S  | 25GbE  | Standard LP | PCI-E x8  | Intel® XXV710        | 2 SFP28 (25Gb/port)   | 6.1" (155mm) x 2.713" (69mm)        | 7.2          |
| AOC-S40G-i1Q  | 40GbE  | Standard LP | PCI-E x8  | Intel® XL710-BM1     | 1 QSFP+ (40Gb/port)   | 5.9" (150mm) x 2.73" (69mm)         | 6.5          |
| AOC-S40G-i2Q  | 40GbE  | Standard LP | PCI-E x8  | Intel® XL710-BM2     | 2 QSFP+ (40Gb/port)   | 5.9" (150mm) x 2.73" (69mm)         | 7            |
| AOC-S100G-m2C | 100GbE | Standard LP | PCI-E x16 | Mellanox® CX-4 EN    | 2 QSFP28 (100Gb/port) | 6.6" (168mm) x 2.73" (69mm)         | 16.3         |
| AOC-S100G-b1C | 100GbE | Standard LP | PCI-E x16 | Broadcom® BCM57454   | 2 QSFP28 (100Gb/port) | 6.6" (168mm) x 2.73" (69mm)         | 17.8         |
| AOC-CGP-i2    | QbE    | MicroLP     | PCI-E x4  | Intel® i350 AM2      | 2 RJ45 (1Gb/port)     | 4.45" (113mm) x 1.54" (39mm)        | 4            |
| AOC-CTG-i1S   | 10GbE  | MicroLP     | PCI-E x8  | Intel® 82599EN       | 1 SFP+ (10Gb/port)    | 4.85" (123mm) x 1.54" (39mm)        | 10           |
| AOC-CTG-i2S   | 10GbE  | MicroLP     | PCI-E x8  | Intel® 82599ES       | 2 SFP+ (10Gb/port)    | 4.85" (123mm) x 1.54" (39mm)        | 11           |
| AOC-CTG-i2T   | 10GbE  | MicroLP     | PCI-E x8  | Intel® X540-AT2      | 2 RJ45 (10GBase-T)    | 4.8" (123mm) x 2.76" (77mm)         | 13           |
| AOC-CTGS-i2T  | 10GbE  | MicroLP     | PCI-E x4  | Intel® X550-AT2      | 2 RJ45 (10GBase-T)    | 4.45" (113mm) x 1.54" (39mm)        | 12           |
| AOC-C25G-m1S  | 25GbE  | MicroLP     | PCI-E x8  | Mellanox® CX-4 Lx EN | 1 SFP28 (28Gb/port)   | 4.45" (113mm) x 1.54" (39mm)        | 8.5          |

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# Chapter 1


## Overview

### 1-1 Overview

Congratulations on purchasing your add-on card from an acknowledged leader in the industry. Supermicro products are designed with the utmost attention to detail to provide you with the highest standards in quality and performance. For product support and updates, please refer to our website at <http://www.supermicro.com/products/nfo/networking.cfm#adapter>.

### 1-2 Key Features

The key features of this add-on card include the following:

- Low-Profile Standard Form Factor in 3.9-inch in Length
- PCI Express 2.1 (2.5GT/s or 5GT/s)
- Two RJ-45 ports
- Intel® I/O Acceleration Technology (I/O AT) supported
- Support of VMDq, Next-Generation VMDq, and PC-SIG SR-IOV for Virtualized Environments
- Jumbo Frame Support of up to 9.5KB
- IEEE 802.3az – Energy Efficient Ethernet (EEE)
- Low Power Consumption (4W Typical)
- iSCSI Remote Boot support
- Flexible I/O Virtualization and Quality of Service (QoS)
- PXE Boot Support
- RoHS compliant 6/6 



## 1-3 Specifications

### General

- Intel® i350 GbE controller
- Compact size low-profile standard form factor
- PCI-E 2.1 x4 (2.5GT/s or 5GT/s) interface
- Dual RJ-45 connectors
- Intel® PROSet Utility for Windows® Device Manager
- Intel® I/O Acceleration Technology (I/OAT)
- Power consumption: about 4W

### Ethernet Features

- IEEE 802.3 auto-negotiation for speed, duplex, and flow control
- IEEE 802.3x and 802.3z compliant flow control support
- Automatic cross-over detection function (MDI/MDI-X)
- 1Gb/s Ethernet IEEE 802.3, 802.3u, 802.3ab PHY specifications compliant
- IEEE 1588 protocol and 802.1AS implementation

### Power Management and Efficiency

- IEEE 802.3az – Energy Efficient Ethernet (EEE) which reduces power consumption of the PHY by about 50%
- DMA Coalescing reduces platform power consumption
- Active State Power Management (ASPM) support
- LAN disable function
- MAC Power Management controls

- Low Power Link Up – Link Speed Control
- Maximum power consumption: 4W

## **Virtualization Features**

- VM to VM Packet forwarding (Packet Loopback)
- Eight TX and RX queue pairs per port to support VMWare NetQueue and Microsoft VMQ
- Flexible Port Partitioning: 32 Virtual Functions
- PC-SIG SR-IOV implementation
- IEEE 802.1q VLAN support
- IEEE 802.1q advanced packet filtering

## **Performance Features**

- TCP/UDP, IPv4 and IPv6 checksum offloads to improve CPU usage
- Low Latency Interrupts
- Tx TCP segmentation offload (IPv4, IPv6) increases throughput and lowers processor usage
- Receive Side Scaling (RSS) for Windows environment, Scalable I/O for Linux environments
- Jumbo Frames support up to 9.5K Bytes
- Intelligent interrupt generation

## **Remote Boot Options**

- Preboot eXecution Environment (PXE) support
- iSCSI remote boot for Windows, Linux, and VMware

## OS Support

- Windows® XP SP3, Vista SP2, 7 SP1 2003 SP2, 2008 SP2, 2008 R2S
- RedHat EL 5.5, 6.0; SuSe SLES 10 SP3, 11 SP1
- FreeBSD 8.0
- VMware ESX 4.0, 4.1, 5.0
- Xen

## Cables Support

- RJ-45 Category-5/5e up to 100m


## Operating Conditions

- Operating temperature: 0°C to 55°C (32°F to 131°F)
- Storage temperature: -40°C to 70°C (-40°F to 158°F)

## Physical Dimensions

- Card PCB dimensions: 9.91cm (3.90in) x 6.90cm (2.73in) (L x H)
- Height of end brackets: standard – 12cm (4.725in), low-profile – 7.94cm (3.13in)

## Compliance/Environmental

- RoHS Compliant 6/6, Pb Free 

## Supported Platforms

- Motherboards with minimum PCI-E x4 slot
- Server Systems with low-profile or full-height PCI-E x4 expansion slot



**Note:** Please note that this product is only available as an integrated solution with Supermicro server systems. For the most current product information, visit: [www.supermicro.com](http://www.supermicro.com)

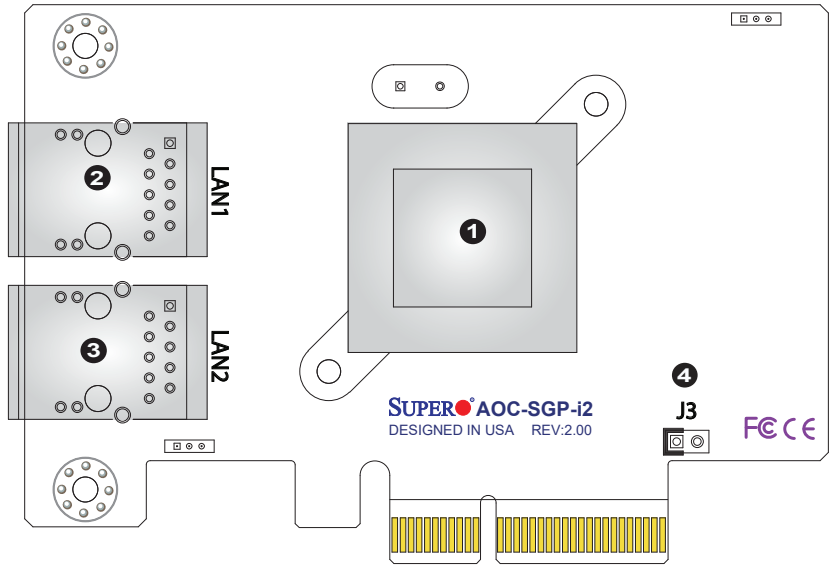
## Chapter 2

### Hardware Components

#### 2-1 Add-On Card Image and Layout



AOC-SGP-i2 Image



AOC-SGP-i2 Layout

## 2-2 Major Components

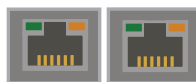
The following major components are installed on the AOC-SGP-i2:

|                               |                                     |
|-------------------------------|-------------------------------------|
| 1. Intel® I350 LAN Controller | 2. (RJ45) LAN Port 1 & LED          |
| 3. (RJ45) LAN Port 2 & LED    | 4. 3.3V Standby Power Enable Jumper |

## 2-3 Connectors: LAN Ports and LAN LED Indicators

### Ethernet Ports

Two Ethernet ports (LAN1/LAN2) are located on the add-on card. Plug the RJ45 type cables into LAN Port 1/LAN Port 2 to provide Ethernet connections. Refer to the add-on card layout on page 2-2 for the locations of the LAN ports.



### GLAN Port LEDs

Two LAN ports (LAN1/LAN2) are located on the add-on card. Each Ethernet LAN port has two LEDs. The LED on the right indicates activity; while the other LED on the left may be green, orange, or off to indicate the speeds of the connections. See the table on the right for more information.




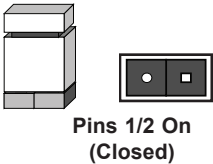
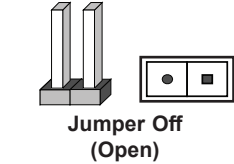
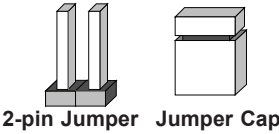
| GLAN Port LEDs |                  |                                    |
|----------------|------------------|------------------------------------|
| LED            | Color            | Definition                         |
| Activity       | Amber (Blinking) | LAN Active                         |
| Link           | Orange           | 1Gb/s Link Speed                   |
|                | Green            | 100Mb/s Link Speed                 |
|                | Off              | 10Mb/s Link Speed or No Connection |

## 2-4 Jumpers

### Explanation of Jumpers

To modify the operation of the add-on card, a jumper can be used to choose between optional settings. A jumper creates shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. See the add-on card layout on Page 2-1 for the jumper location.

 **Note:** On two-pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.



### 3.3V Standby Power Enable

The 3.3V Standby Power Enable jumper is located at J3 on the add-on card. Refer to the layout on Page 2-1 for the location of the jumper. Close Pins 1 & 2 to enable 3.3V Standby Power for Wake-on-LAN support. The default setting is **Enabled**.

| 3.3V Standby PWR Enable Jumper Settings |                          |
|---|--------------------------|
| Jumper setting Definition               |                          |
| On (1-2)                                | <b>Enabled</b> (default) |
| Off                                     | Disabled                 |

## Chapter 3

### Installation

#### 3-1 Static-Sensitive Devices

Electrostatic Discharge (ESD) can damage electronic components. To avoid damaging your add-on card, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

##### Precautions

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing the add-on card from the antistatic bag.
- Handle the add-on card by its edges only; do not touch its components, or peripheral chips.
- Put the add-on card back into the antistatic bags when not in use.
- For grounding purposes, make sure that your system chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the add-on card.

##### Unpacking

The add-on card is shipped in antistatic packaging to avoid static damage. When unpacking your component or your system, make sure that the person handling it is static protected.



**Note:** To avoid damaging your components and to ensure proper installation, be sure to always connect the power cord last, and always remove it before adding, removing or changing any hardware components.



## **3-2 Before Installation**

To install the add-on card properly, be sure to follow the instructions below.

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 follow the instructions listed on Page 3-1 to avoid damage caused by ESD.
4. Familiarize yourself with the server, motherboard, and/or chassis documentation.
5. Confirm that your operating system includes the latest updates and hotfixes.

## **3-3 Installing the Add-on Card**

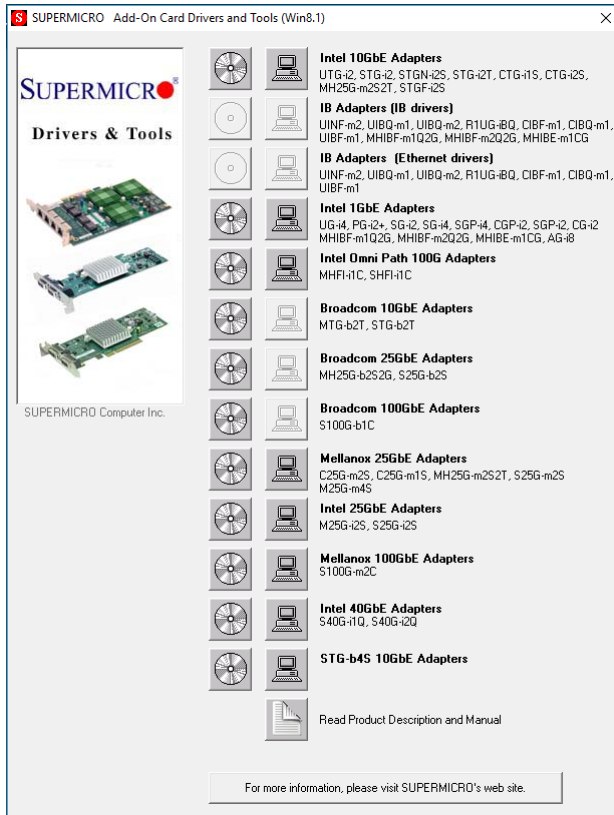
Follow the steps below to install the add-on card into your system.

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.

### 3-4 Installing the Windows Operating System

Follow the steps below to install the drivers needed for your Windows OS support. 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, download drivers from the Supermicro Support Website and then transfer them to your system.)
2. When the SUPERMICRO window appears, click on the computer icon next to the product model.



**Note:** If the *FOUND NEW HARDWARE WIZARD* screen displays on your system, click CANCEL.

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

## 3-5 Installing the Linux Operating System

Follow the steps below to install the driver to a Linux system.

### 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 current running kernel **MUST** match the version and configuration of the installed kernel sources. If you have just recompiled the kernel, reboot the system at this time.

## 3-6 Building the Driver Manually

Follow the instructions below to build the driver manually.

1. Move the base driver tar file to the directory of your choice. For example, use '/home/username/igb' or '/usr/local/src/igb'.

2. Untar/unzip the archive, where <x.x.x> is the version number for the driver tar file:

```
tar xzf igb-<x.x.x>.tar.gz
```

3. Change to the driver src directory, where <x.x.x> is the version number for the driver tar:

```
cd igb-<x.x.x>/src/
```

4. Compile the driver module:

```
# make install
```

The binary will be installed as:

```
/lib/modules/<KERNEL VERSION>/kernel/drivers/net/igb/igb.[k]o
```

The install location listed above is the default location. This may differ for various Linux distributions.

5. Load the module using either the insmod or modprobe command:

```
modprobe igb
```

```
insmod igb
```

Note that 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/igb/igb.ko
```

With 2.6 based kernels also make sure that older igb drivers are removed from the kernel, before loading the new module:

```
rmmod igb; modprobe igb
```

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

```
ifconfig eth<x> <IP_address>
```

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>
```

(Disclaimer Continued)

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