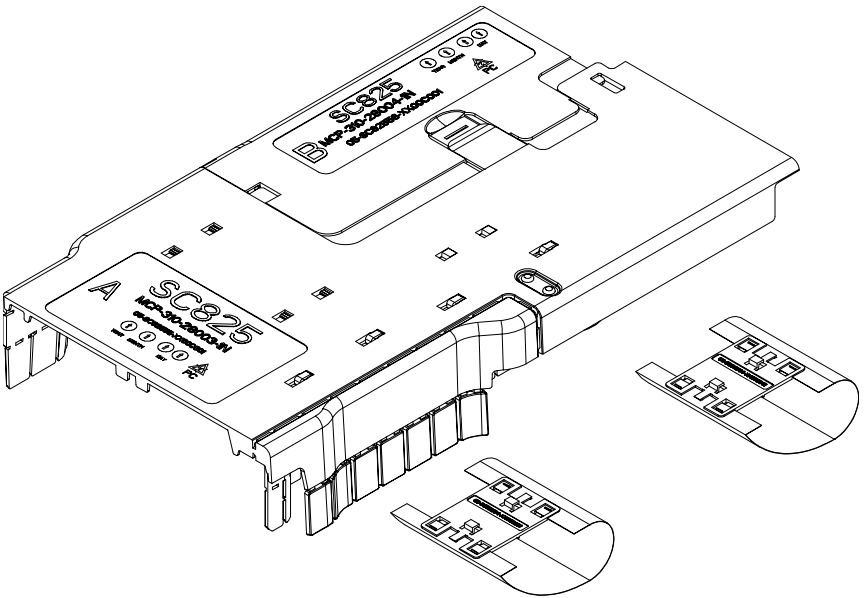


# SUPERMICRO<sup>®</sup>

## SC825 Air Shroud



## User's Guide

Revision 1.0

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**WARNING: HANDLING OF LEAD SOLDER MATERIALS USED IN THIS PRODUCT MAY EXPOSE YOU TO LEAD, A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.**

Manual Revision 1.0

Release Date: March 25, 2009

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# Preface

## About this Manual

This manual is written for professional system integrators, Information Technology professionals, service personnel and technicians. It provides information for the installation and use of Supermicro's SC825 air shroud. Installation and maintenance should be performed by experienced professionals only.

## Manual Organization

### Chapter 1: Introduction

The first chapter provides a checklist of the main components included with the SC825 air shroud and describes its main features.

### Chapter 2: System Safety

You should familiarize yourself with this chapter for a general overview of safety precautions that should be followed when installing and servicing the SC825 air shroud.

### Chapter 3: Configuration and Installation

Refer here for details on installing the SC825 air shroud on a computer system mainboard.

## Notes

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## Notes

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# Chapter 1

## Introduction

### 1-1 Overview

The SC825 air shroud is a configurable air shroud for system mainboards to enable maximum efficient air flow through the system. It can be configured to fit different sized Intel® Xeon™ DP 5500/5400/5100/5000 series system mainboards of the same general shape and size. The SC825 air shroud is optimized for use with Supermicro SC825/SC826/SC216/SC213 series chassis designs and for Supermicro X8Dxx/X7Dxx series mainboards. See [Chapter 3](#) for configuration details.

### 1-2 Product Checklist of Typical Components

The SC825 air shroud comes packaged with components and parts as shown in [Table 1-1](#):

**Table 1-1. SC825 Air Shroud Parts and Components**

Part Number	Description	Quantity
MCP-310-28001-0N	SC825/826/216/213 Intel DP plastic air shroud, supports up to 18 memory DIMM slots	
MCP-310-28003-1N	SC825/826/216/213 X8 air shroud component part A	1
MCP-310-28004-1N	SC825/826/216/213 X8 air shroud component part B	1
MCP-310-28005-1N	X8 air shroud universal component part C	1
MCP-310-28006-1N	X8 air shroud universal component part D, tear-drop Mylar module, 2.2" (55mm) wide	1
MCP-310-28007-1N	X8 air shroud universal component part E, tear-drop Mylar module, 3" (77mm) wide	2



**NOTE:** The default configuration is for parts A, B, C and D connected and with component part E (both pieces) in the accessory box separate.



**NOTE:** Each individual part for the SC825 air shroud is labeled with its component part letter for easy identification.

## 1-3 Features

The SC825 air shroud includes the following features:

- Main air shroud component
- Five detachable components for creating multiple configurations
- Breakable section for power cable management
- Clear plastic material construction for ease of viewing

## 1-4 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 chassis in the original Supermicro carton, using the original packaging material. If these are no longer available, be sure to pack the chassis securely, using packaging material to surround the chassis so that it does not shift within the carton and 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.



## 1-5 Contacting Supermicro

### Headquarters

Address: Super Micro Computer, Inc.  
980 Rock Ave.  
San Jose, CA 95131 U.S.A.

Tel: +1 (408) 503-8000

Fax: +1 (408) 503-8008

Email: marketing@supermicro.com (General Information)  
support@supermicro.com (Technical Support)

Web Site: [www.supermicro.com](http://www.supermicro.com)

### Europe

Address: Super Micro Computer B.V.  
Het Sterrenbeeld 28, 5215 ML  
's-Hertogenbosch, The Netherlands

Tel: +31 (0) 73-6400390

Fax: +31 (0) 73-6416525

Email: sales@supermicro.nl (General Information)  
support@supermicro.nl (Technical Support)  
rma@supermicro.nl (Customer Support)

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Address: Super Micro Computer, Inc.  
4F, No. 232-1, Liancheng Rd.  
Chung-Ho 235, Taipei County  
Taiwan, R.O.C.

Tel: +886-(2) 8226-3990

Fax: +886-(2) 8226-3991

Web Site: [www.supermicro.com.tw](http://www.supermicro.com.tw)

Technical Support:

Email: support@supermicro.com.tw

Tel: +886-2-8228-1366, ext. 132 or 139

## Notes

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# Chapter 2

## System Safety

Please read and follow all safety precautions below before using your Supermicro product.

### 2-1 Electrical Safety Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the server from damage:

- Be aware of how to power on/off the enclosure power supplies and the individual blades as well as the room's emergency power-off switch, disconnection switch or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.
- Do not work alone when working with high voltage components.
- Power should always be disconnected from the blade module when removing or installing such system components as the mainboard, memory modules and processors.
- When working around exposed electrical circuits, another person who is familiar with the power-off controls should be nearby to switch off the power if necessary.
- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.
- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.
- The power supply power cords must include a grounding plug and must be plugged into grounded electrical outlets. Power input requires 110-240 VAC, depending upon your power supply module.
- Mainboard Battery: This battery must be replaced only with the same or an equivalent type recommended by the manufacturer (CR2032 Lithium 3V battery). Dispose of used batteries according to the manufacturer's instructions.



**WARNING:** There is a danger of explosion if the onboard battery is installed upside down, which will reverse its polarities.

- Mainboard replaceable soldered-in fuses: Self-resetting PTC (Positive Temperature Coefficient) fuses on the mainboard must be replaced by trained service technicians only. The new fuse must be the same or equivalent as the one replaced. Contact technical support for details and support.

## 2-2 General Safety Precautions

Follow these rules to ensure general safety:

- Keep the area around the server clean and free of clutter.
- Place the blade module cover and any system components that have been removed away from the system or on a table so that they won't accidentally be stepped on.
- While working on the system, do not wear loose clothing such as neckties and unbuttoned shirt sleeves, which can come into contact with electrical circuits or be pulled into a cooling fan.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.
- After accessing the inside of the system, replace the blade module's cover before installing it back into the blade enclosure.

## 2-3 Electrostatic Discharge Precautions

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards.

The following measures are generally sufficient to neutralize this difference **before** contact is made to protect your equipment from ESD:

- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling chips or modules, avoid touching their pins.
- Put the mainboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure the blade enclosure provides excellent conductivity between the power supplies, the blade modules and the mainboard.

## 2-4 Operating Precautions

Care must be taken to assure that the cover of the blade unit is in place when the blade is operating to assure proper cooling. Out of warranty damage to the blade can occur if this practice is not strictly followed.

Any drive carrier without a hard drive installed must remain fully installed in the drive bay when the blade module is operating to ensure proper airflow.

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# Chapter 3

## Configuration and Installation

### 3-1 Overview

This chapter covers the configuration and installation of the SC825 air shroud into a server or into a chassis. The main section (component part A) can be connected to other sections (component parts B, C, D and E) to make up to seven configurations (Configuration-1 through Configuration-7).

### 3-2 SC825 Air Shroud Components

Figure 3-1. SC825 Air Shroud Components

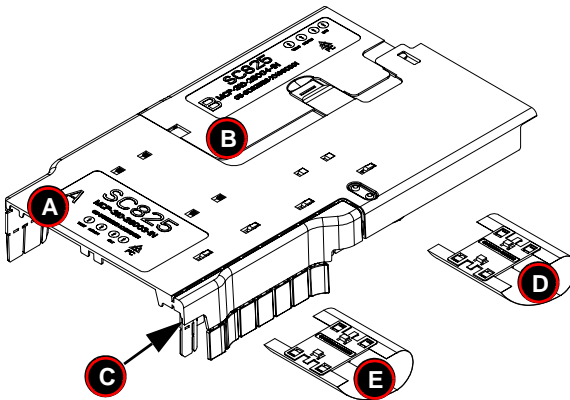


Table 3-1. SC825 Air Shroud Components

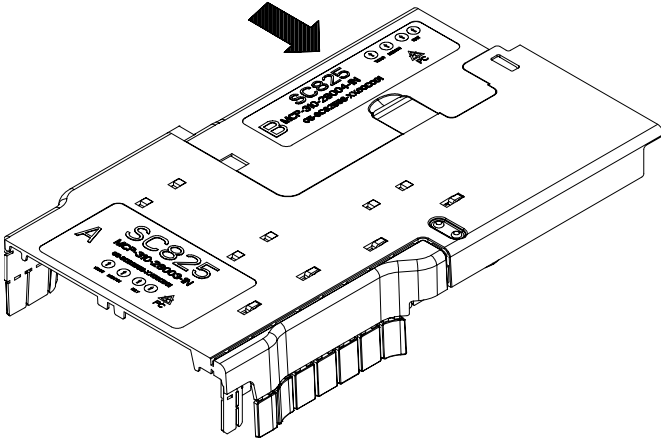
Item	Description
A	SC825/826/216/213 X8 air shroud component part A
B	SC825/826/216/213 X8 air shroud component part B
C	X8 air shroud universal component part C (not shown)
D	X8 air shroud universal component part D, tear-drop Mylar module 2.2" (55mm) wide
E	X8 air shroud universal component part E, tear-drop Mylar module 3" (77mm) wide

The SC825 air shroud comes with five detachable components (Figure 3-1 and Table 3-1). See below for details on these various components.

These components can be used to create seven configurations for use in Intel Xeon DP 5500/5400/5100/5000 series systems. The SC825 air shroud is optimized for use with Supermicro X8Dxx and X7Dxx series mainboards. See Section 3-4 for further details on configurations.

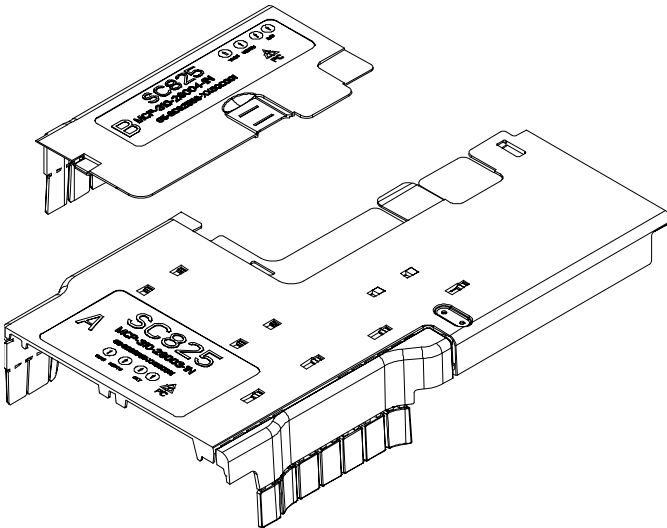
## Component Part B

Figure 3-2. Moving Component Part B



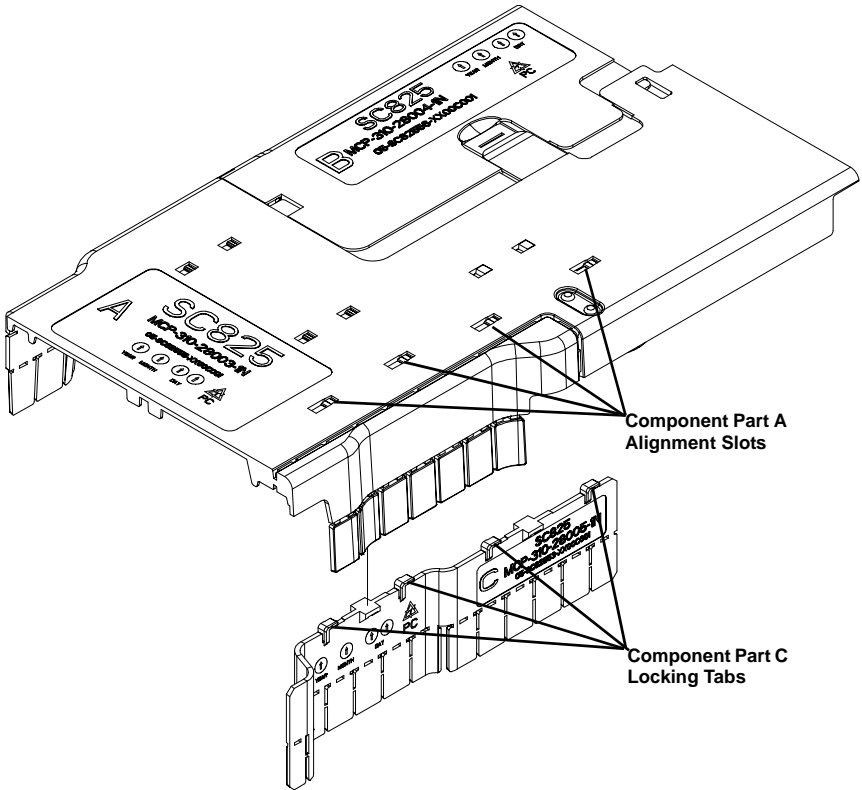
The SC825 air shroud's component part B can be moved in and out to resize the air shroud's size to fit the mainboard (Figure 3-2). It may also be removed (Figure 3-3) if required.

Figure 3-3. Component Part B Removed



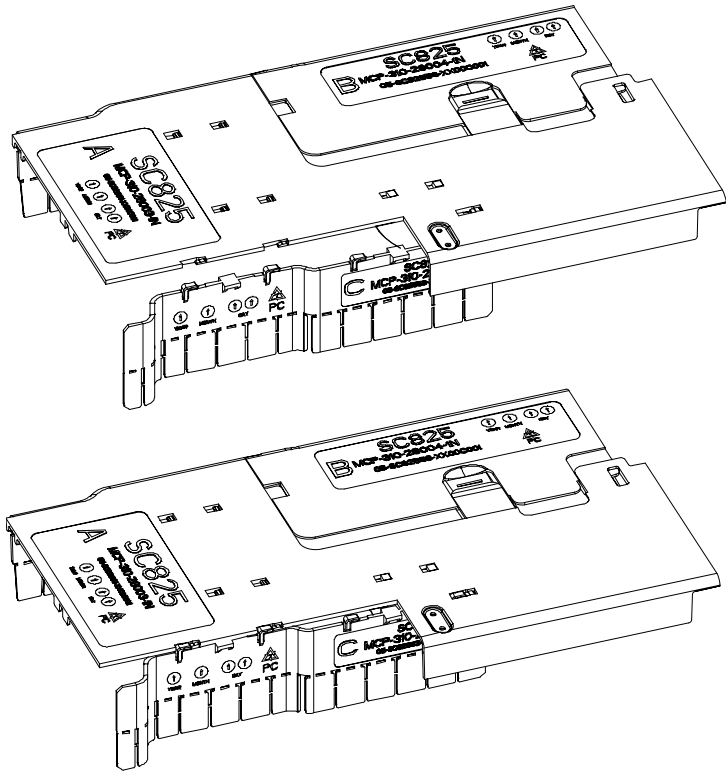
## Component Part C

Figure 3-4. Component Part C



The SC825 air shroud's component part C (Figure 3-4) can be mounted on the inside of component part A. It is attached and secured by placing locking tabs on its top into alignment slots provided on component part A, as shown in Figure 3-5.

Figure 3-5. Installing Component Part C

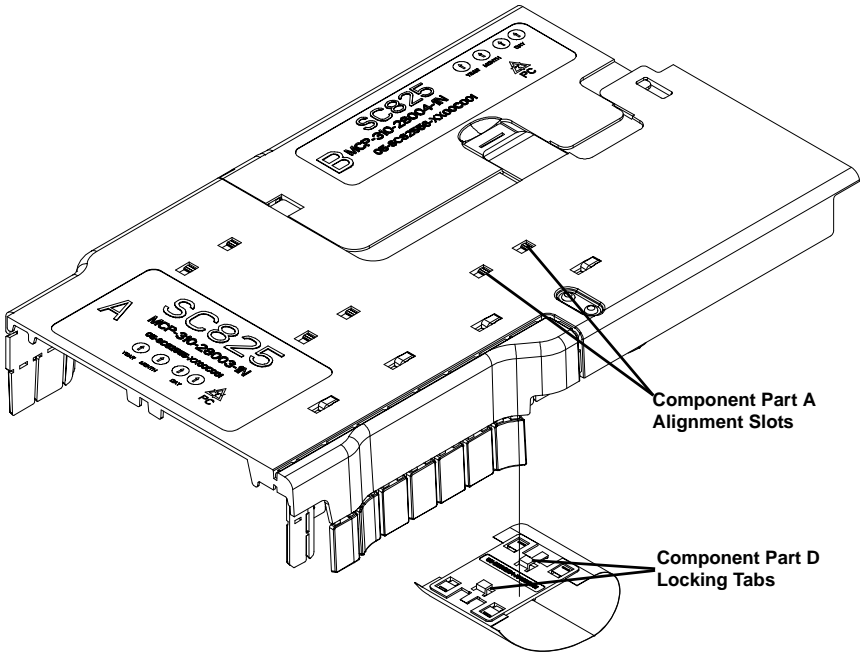


**NOTE:** The view in [Figure 3-5](#) has been modified in order to show the alignment slots more clearly.



## Component Part D

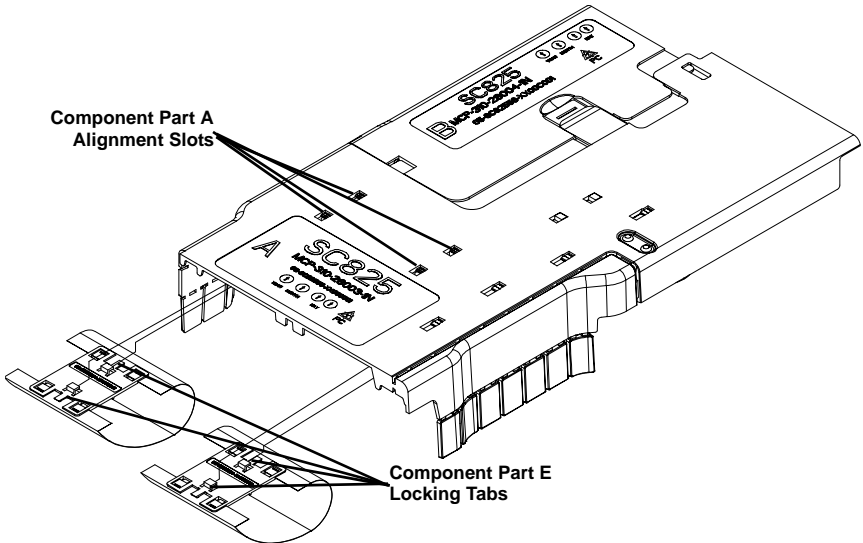
Figure 3-6. Component Part D



The SC825 air shroud's component part D (2.2" (55mm) wide tear-drop Mylar module), (Figure 3-6) can be mounted on the underside of component part A by inserting its locking tabs into the component part A alignment slots provided.

## Component Part E

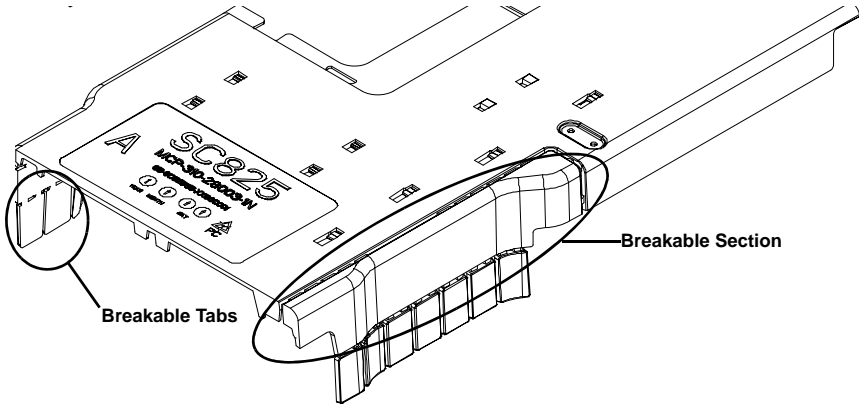
Figure 3-7. Component Part E – Two Parts



The SC825 air shroud's component part E (3" (77mm) wide tear-drop Mylar module), can be mounted on the underside of component part A by inserting its locking tabs into the aligned slots provided (Figure 3-7). You may install both parts provided, or only one.

### 3-3 Removing Breakable Sections for Cabling

Figure 3-8. Removing the Breakable Section



Component part A for the SC825 air shroud has a breakable section that can be permanently removed to allow cabling access if required for your system. Also component parts A, B and C have breakable tabs that perform the same function. See [Figure 3-8](#) for details.

To remove, simply cut or break the tabs or section off from its attachments with a pair of scissors and discard them.

### 3-4 Configuring the SC825 Air Shroud

The SC825 air shroud is customizable into seven configurations for 2U Supermicro SC825/SC826/SC216/SC213 series chassis systems (see [Table 3-2](#)).

**Table 3-2. SC825 Air Shroud Configurations**

Configuration	Description
Configuration-1	Component parts A, B, C and for Intel Xeon DP 5500 12" x 13" form factor mainboards with 6 PCI slots and 12 memory DIMM slots (optimized for use with Supermicro X8Dxx series mainboards).
Configuration-2	Component parts A, B, C and for Intel Xeon DP 5500 12" x 13" form factor mainboards with 7 PCI slots and 12 memory DIMM slots (optimized for use with Supermicro X8Dxx series mainboards).
Configuration-3	Components parts A, B, D and E (x1) for Intel Xeon DP 5500 13.68" x 13" form factor mainboards with 18 memory DIMM slots (optimized for use with Supermicro X8Dxx+ series mainboards).
Configuration-4	Component parts A, B, C, D and E (x2) for Intel Xeon DP 5400/5100/5000 12' x 13" form factor mainboards with 6 PCI slots and 8/4 memory DIMM slots (optimized for use with X7Dxx series mainboards).
Configuration-5	Component parts A, B, C, D and E (x2) for Intel Xeon DP 5400/5100/5000 12' x 13" form factor mainboards with 7 PCI slots and 8/4 memory DIMM slots (optimized for use with X7Dxx series mainboards).
Configuration-6	Component parts A, C, D and E (x2) for Supermicro X7DxU UIO mainboards if low-profile add-on card(s) are installed.
Configuration-7	Components parts A, B, D and E (x2) for Intel Xeon DP 5400/5100/5000 13.68" x 13" form factor mainboards with 16 memory DIMM slots (optimized for use with X7Dxx+ series mainboards).

See the sections below for instruction on configuring the SC825 air shroud to these various configurations.

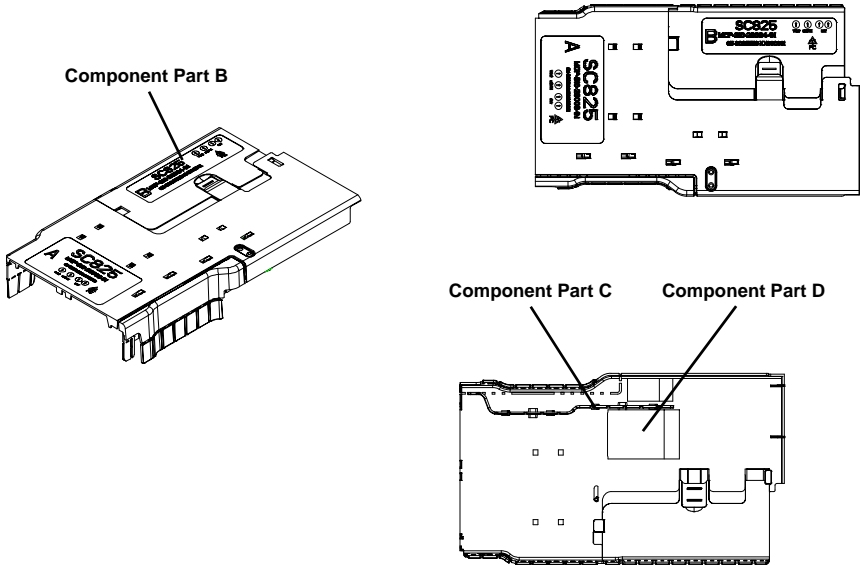


**NOTE:** The default configuration is Configuration-1 with parts A, B, C and D is already connected, and with component part E (x2) in the accessory box separate.

For purposes of this section's instructions assume that all parts are unconnected and assembly to one of the air shroud's configurations is required for use.

## Configuring for Configuration-1

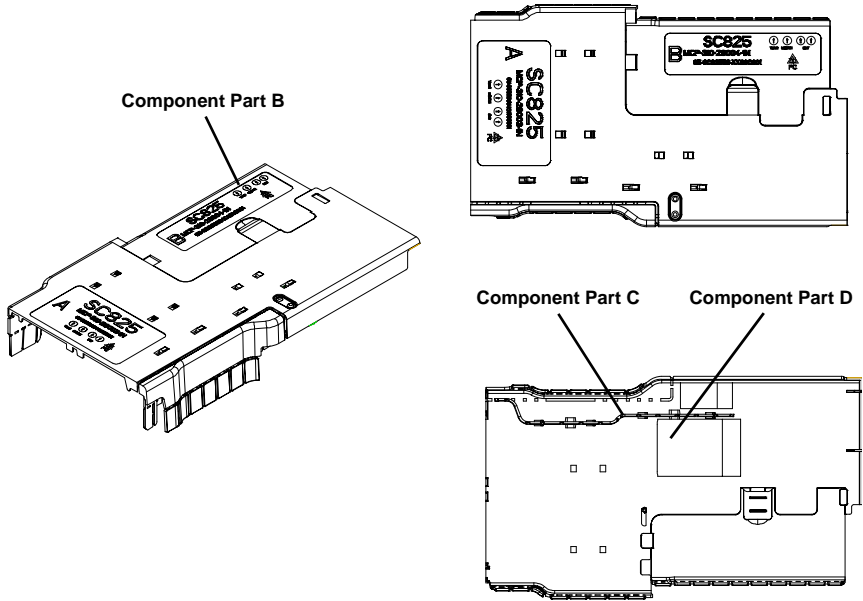
Figure 3-9. Configuration-1



To configure the SC825 air shroud for an Intel Xeon DP 5500 mainboard with 6 PCI add-on card slots, 12 memory DIMM slots and a 12" x 13" form factor, use Configuration-1. This configuration attaches component part B flush with the edge of component part A, and mounts component parts C and D to the underside of component part A (see [Figure 3-9](#)).

## Configuring for Configuration-2

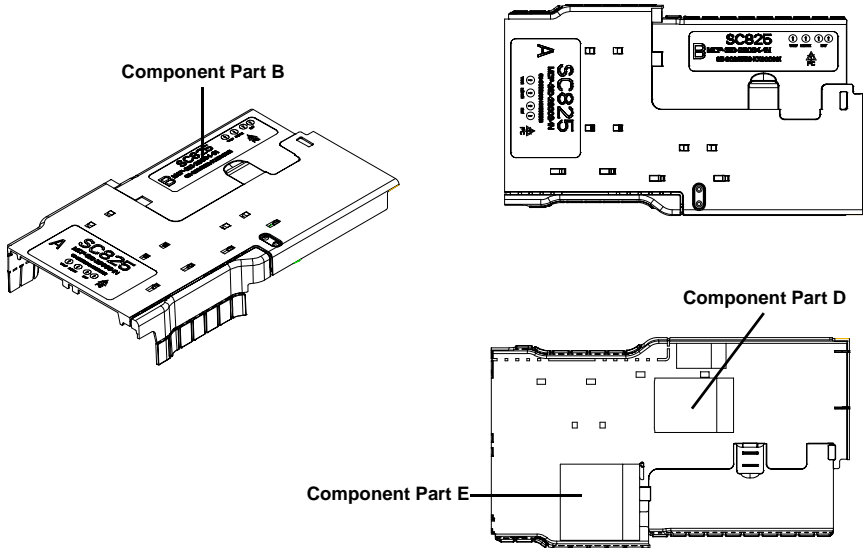
Figure 3-10. Configuration-2



To configure the SC825 air shroud for an Intel Xeon DP 5500 mainboard with 7 PCI add-on card slots, 12 memory DIMM slots and a 12" x 13" form factor, use Configuration-2. This configuration attaches component part B one slot deeper than the edge of component part A, and mounts component parts C and D to the underside of component part A (see [Figure 3-10](#)).

## Configuring for Configuration-3

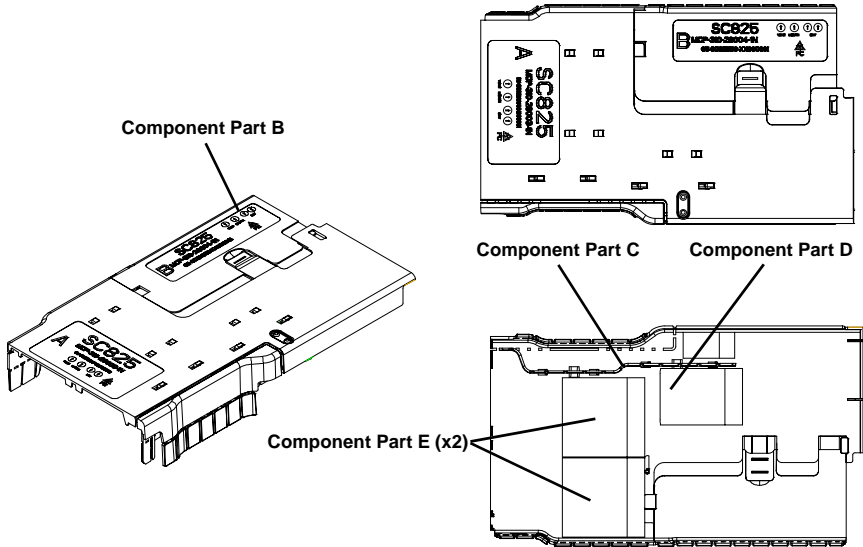
Figure 3-11. Configuration-3



To configure the SC825 air shroud for an Intel Xeon DP 5500 mainboard with a 13.68" x 13", 18 memory DIMM slots form factor, use Configuration-3. This configuration attaches component part B one slot deeper than the edge of component part A, and mounts component parts D and E (x1) to the underside of component part A (see [Figure 3-11](#)).

## Configuring for Configuration-4

Figure 3-12. Configuration-4

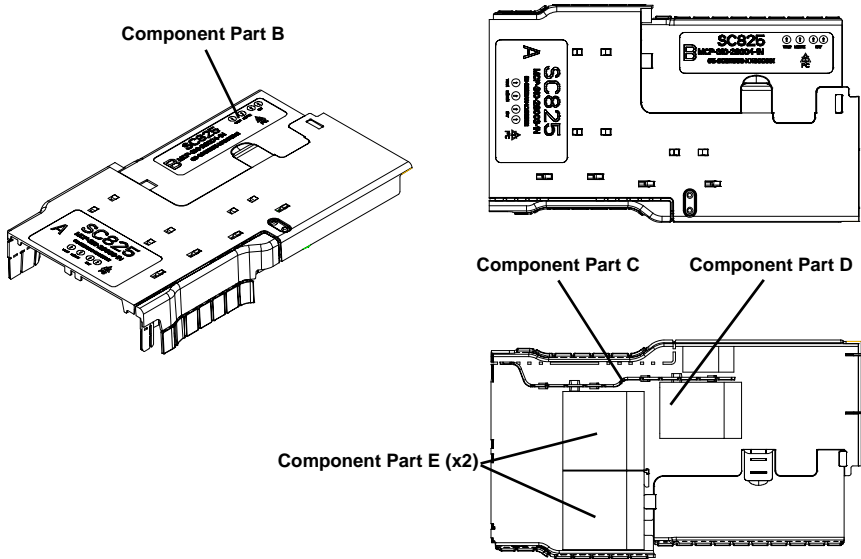


To configure the SC825 air shroud for an Intel Xeon DP 5400/5100/5000 mainboard with 6 PCI add-on card slots, 8/4 memory DIMM slots and a 12" x 13" form factor, use Configuration-4. This configuration attaches component part B flush with the outer edge of component part A, and mounts component parts C, D and E (x2) to the underside of component part A (see [Figure 3-12](#)).



## Configuring for Configuration-5

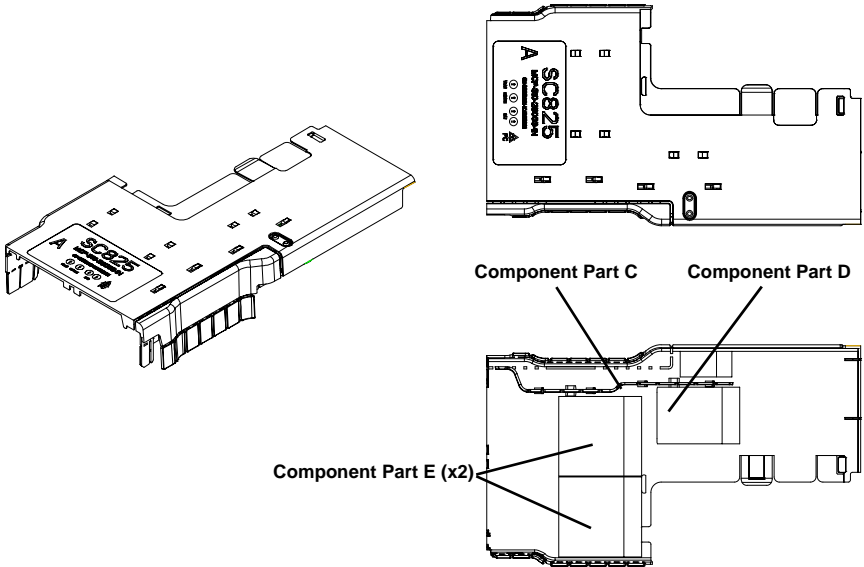
Figure 3-13. Configuration-5



To configure the SC825 air shroud for an Intel Xeon DP 5400/5100/5000 mainboard with 7 PCI add-on card slots, 8/4 memory DIMM slots and a 12" x 13" form factor, use Configuration-5. This configuration attaches component part B one slot deeper than the edge of component part A, and mounts component parts C, D and E (x2) to the underside of component part A (see [Figure 3-13](#)).

## Configuring for Configuration-6

Figure 3-14. Configuration-6



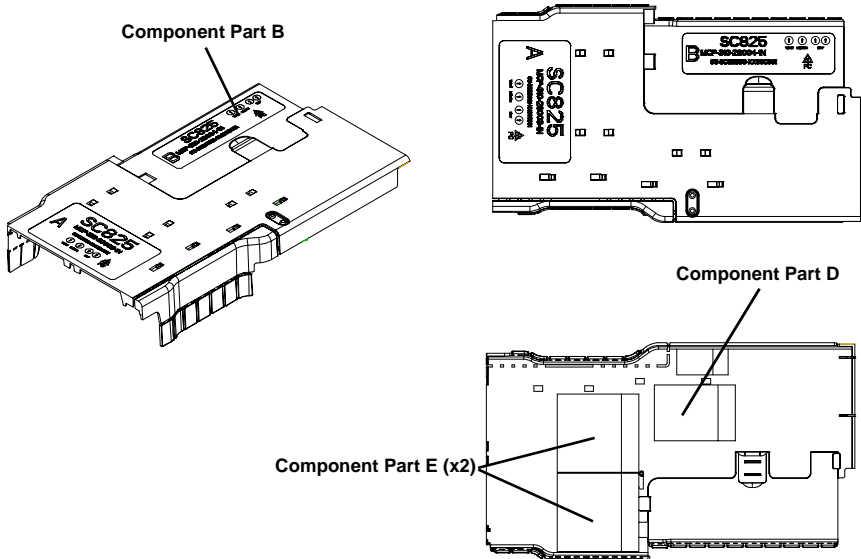
To configure the SC825 air shroud for an Supermicro X7DxU Intel Xeon DP 5400/5100/5000 UIO mainboard, use Configuration-6 if the low-profile add-on card(s) are installed. This configuration attaches component parts C, D and E (x2) to the underside of component part A (see [Figure 3-14](#)).



**NOTE:** Component part B is detached from this configuration.

## Configuring for Configuration-7

Figure 3-15. Configuration-7



To configure the SC825 air shroud for an Intel Xeon DP 5400/5100/5000 mainboard with 16 memory DIMM slots and a 13.68" x 13" form factor, use Configuration-7. This configuration attaches component parts B one slot deeper than the edge of component part A, and mounts component parts D and E (x2) to the underside of component part A (see [Figure 3-15](#)).



**NOTE:** Component part C is detached from this configuration.

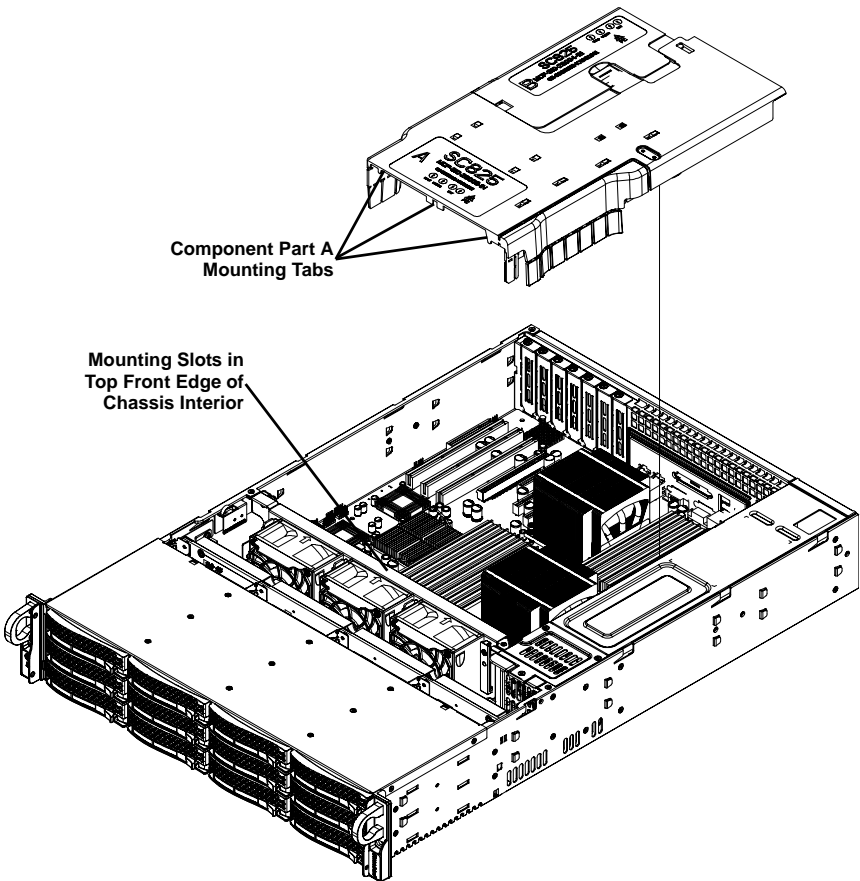
### 3-5 Installing the SC825 Air Shroud

To install the SC825 air shroud follow the procedure below. This procedure is the same for all configurations of the SC825 air shroud in 2U systems.

#### *Installing the SC825 Air Shroud in SC825/SC826/SC216/SC213 Chassis Systems*

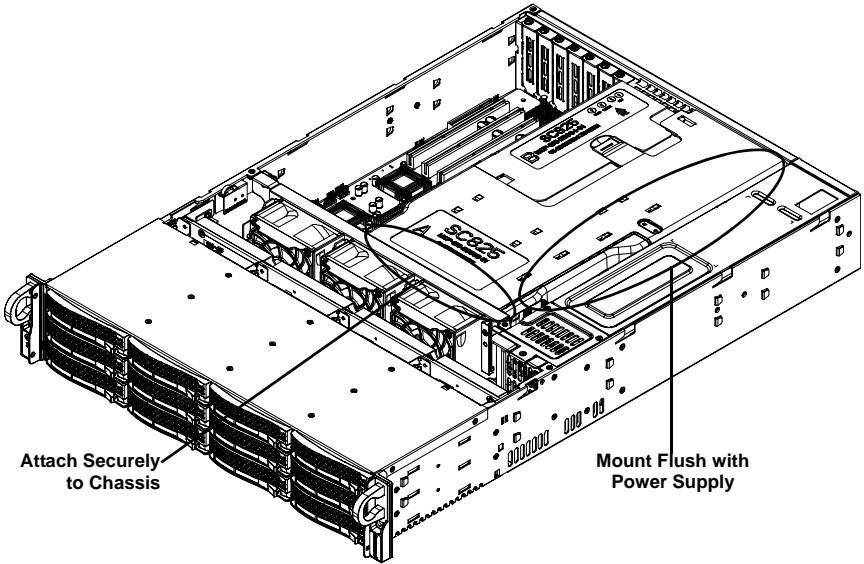
1. Configure the air shroud to fit in your system. See [Section 3-4](#) for details on configuring the air shroud.
2. Secure the forward edge of the SC825 to the forward part of the chassis interior so that the SC825 mounting tabs are locked in with the mounting slots of the chassis (see [Figure 3-16](#)).

**Figure 3-16. Inserting Air Shroud onto a System Mainboard**



3. Make sure the SC825 air shroud is mounted directly on the mainboard of its system so that the air shroud covers the system mainboard over the CPU's and memory slots (see [Figure 3-17](#)).

**Figure 3-17. Air Shroud Mounted in System**



**NOTE:** The air shroud should be mounted flush with the power supply housing if installing properly and that some cable is supposed to go under the air shroud.

4. Secure the top cover back on your system.

## Notes

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## Notes