

Intel® Server System SR1680MV Quick Start User's Guide

Thank you for buying an Intel® Server System. The following information will help you assemble your Intel® Server System SR1680MV and install components.

This guide and other supporting documents are located on the web at <http://support.intel.com/support/motherboards/server/SR1680MV/>.

If you are not familiar with ESD (Electrostatic Discharge) procedures used during system integration, please see the Intel® Server System SR1680MV Service Guide, available on the Intel® Server Resource CD or at <http://support.intel.com/support/motherboards/server/SR1680MV/>.

Read all cautions and warnings first before starting your server system integration.



Minimum Hardware Requirements

To avoid integration difficulties and possible board damage, your system must meet the following minimum requirements:

- Processor: Intel® Xeon® processor 5500 series.
- Memory Type: Minimum of one 512-MB, 240-pin DDR3 800/1066/1333-MT/s DIMMs.
- Hard Disk Drives: SATA
- Rack Mount Kit (EIA 310-D compliant)

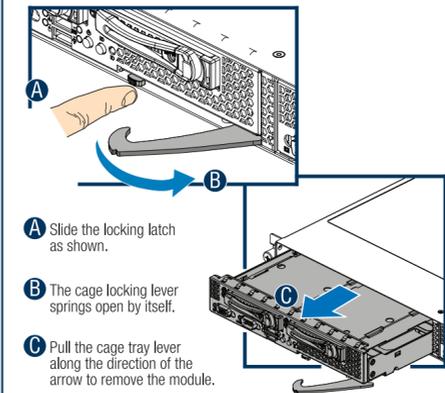
For a complete list of compatible processors, heatsinks, and memory, see <http://support.intel.com/support/motherboards/server/SR1680MV/>

1 Preparing the Chassis

Observe normal ESD (Electrostatic Discharge) procedures.

Place your Intel® Server Chassis on a flat anti-static surface to perform the following integration procedures. Observe ESD procedures before reaching inside to make server board connections or install components.

2 Remove MLB Cage Module



IMPORTANT!

Before proceeding further, check your Intel® Server System for disconnected or loose cables and components that may have occurred during shipping.

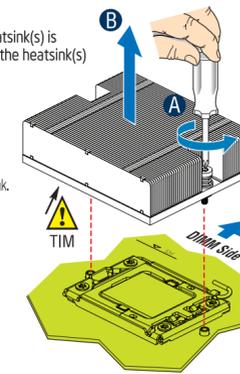
3 Removing Heatsink(s)

IMPORTANT NOTE: In default system configuration, the heatsink(s) is not installed in the server system. Find the heatsink(s) from another package.

- A The heatsink is attached to the server board/processor socket with captive fasteners.
- Using a #2 Phillips* screwdriver, loosen two captive fasteners located on the heatsink.

CAUTION: The heatsink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. Use gloves to avoid sharp edges.

- B Lift the heatsink straight up.



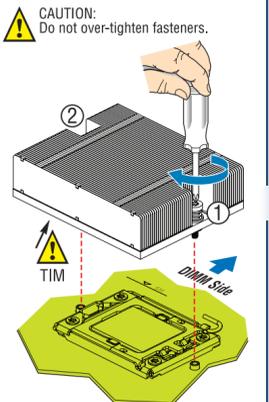
5 Install Heatsink(s)

IMPORTANT NOTE: This Intel® Server Chassis requires passive heatsinks.

CAUTION: The heatsink has thermal interface material (TIM) on the underside of it. Use caution so that you do not damage the thermal interface material. Use gloves to avoid sharp edges.

- A Remove the protective film on the TIM if present.
- B Align heatsink fins to the front and back of the chassis for correct airflow. Airflow goes from front-to-back of chassis.
- C Using a #2 Phillips* screwdriver, loosely screw each fastener diagonally, according to the numbers shown.
- D Gradually and equally tighten each fastener again in the same order as performed in step C until each is firmly tightened.

Note: Heatsink styles may vary.



4 Install the Processor(s)

Read all Cautions before proceeding.

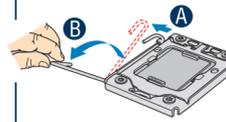
- CAUTION:** When opening a socket, DO NOT TOUCH the gold socket wires.
- CAUTION:** When unpacking a processor, hold by the edges only to avoid touching the gold contact wires.

NOTE: If you are only using one processor on your server board, install the processor on the CPU socket labeled "CPU 1" on the server board.



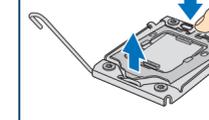
- A Open the Socket Lever

- A Push the lever handle down and away from the socket to release it.
- B Rotate the lever open all the way.



- B Open the Load Plate

- A Push the rear tab with your fingertip to bring the front end of the load plate up slightly.
- B Open the load plate as shown.

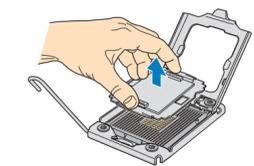


- C Remove the Socket Protective Cover

- A Grasp the socket protective cover by the two tabs and carefully lift straight up.

CAUTION: To avoid damage, DO NOT DROP the cover onto the socket wires or components.

Save the protective cover for future use.



- D Remove the Processor Protective Cover

- A Take the processor out of the box and remove the protective shipping cover.



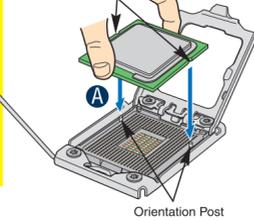
- E Install the Processor

CAUTION: The underside of the processor has components that may damage the socket wires if installed improperly. Processor must align correctly with the socket opening before installation. DO NOT DROP processor into the socket!



- A Orient the processor with the socket socket such that the orientation notches on the processor align with the two orientation posts on the socket.

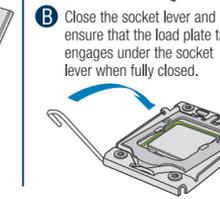
Install the processor as shown.



- F Close Load Plate and Socket Lever

- A Close the load plate all the way as shown.

- B Close the socket lever and ensure that the load plate tab engages under the socket lever when fully closed.

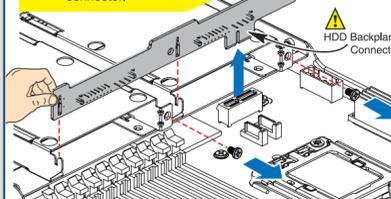


8 Replace HDD Backplane

IMPORTANT NOTE: If you do not install a device at this location, install the optical device bay filler panel below. This is required to maintain proper system cooling.

- A Loosen the two securing screws on the backplane.
- B Lift the backplane up from HDD cage.

CAUTION: Place the HDD backplane upside down to avoid damage to the HDD backplane connector.



6 Install Memory DIMMs

Memory Configurations and Population Order:

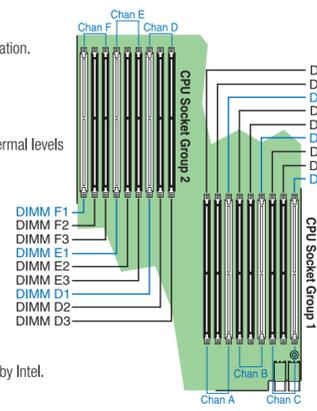
For best performance, it is recommended to base on Memory Population Configuration.

In a single-processor configuration, always populate A1 DIMM first. In a dual-processor configuration, always populate A1 DIMM first for CPU 1 and D1 DIMM first for CPU2.

Note: DIMM Blanks are installed on the designated slots to maintain adequate thermal levels in default system configuration. Make sure these slots are not empty.

Note: For additional memory configurations, see the Service Guide on the Intel® Server Resource CD that accompanied your Intel® Server System SR1680MV, or go to <http://support.intel.com/support/motherboards/server/SR1680MV/>

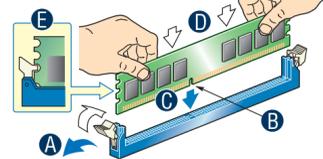
Memory sizing and configuration is supported only for qualified DIMMs approved by Intel. You can find a list of validated memory at the Intel® Server Configurator Tool: <http://serverconfigurator.intel.com/default.aspx>



To Install DIMMs:

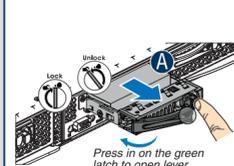
CAUTION: Avoid touching contacts when handling or installing DIMMs.

- A Open both DIMM socket levers.
- B Note location of alignment notch.
- C Insert DIMM making sure the connector edge of the DIMM aligns correctly with the slot.
- D Push down firmly on the DIMM until it snaps into place and both levers close.
- E **IMPORTANT!** Visually check that each latch is fully closed and correctly engaged with each DIMM edge slot.

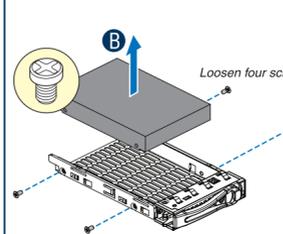


7 Install Hard Drives/Carriers

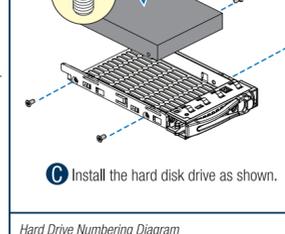
- A Remove the hard drive disk assembly by pressing in on the silver latch, pulling out on the black lever and sliding the hard drive disk assembly out.



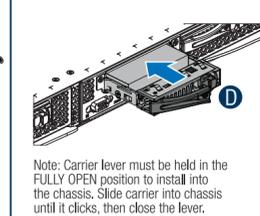
- B When the hard drive disk is existed, loosen four screws and remove the drive.



- C Attach with four screws.

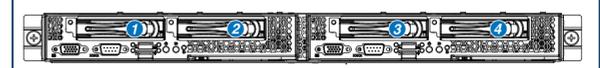


- D Install hard disk drive assembly into chassis opening.



Note: Carrier lever must be held in the FULLY OPEN position to install into the chassis. Slide carrier into chassis until it clicks, then close the lever.

Hard Drive Numbering Diagram



Drive 1 Primary

Repeat these steps for each installed hard drive disk

Warning

Read all caution and safety statements in this document before performing any of the instructions. Also see the Intel® Server Board and Server Chassis Safety Information document at: <http://support.intel.com/support/motherboards/server/sb/cs-010770.htm> for complete safety information.

Warning

Installation and service of this product to be performed only by qualified service personnel to avoid risk of injury from electrical shock or energy hazard.

Caution

Observe normal ESD (Electrostatic Discharge) procedures during system integration to avoid possible damage to server board and/or other components.

Tools Required



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9 Install Power Distribution Board (PDB)

To remove Power Supply

- A Pull down the handle to horizontal direction.
- B Press the retaining clip on the left side.
- C Simultaneously pull out the power supply by using its handle.

To replace PDB

Before remove the PDB, ensure remove all MLB modules and the power supply.

To remove MLB module, go to Step 2.

- A Remove the security screw.
- B Lift the cover upward.
- C Remove the PDB out from the top of the server system.
- D Reverse above steps to install the PDB.

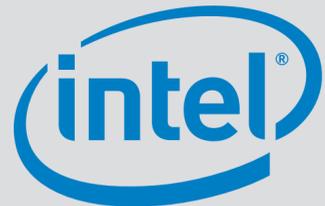
10 Install Fans

To Install Fan

- A Put the fan cable through fan cage as red dashed line shown.
- B Slide the Fan toward the fan cage to lock into place.
- C Connect Fan cable to Fan connector on the IO Board as shown.

Cable Routing

Connect the 6-pin system fan cables from the system fans to the corresponding system fan connectors on the IO boards.



11 Install Add-in Card (optional)

A. Remove the IO Board Module

CAUTION: When removing and installing IO board cage module, keep the handle of power supply in horizontal direction to avoid damage on it.

- A Remove the IO board module by pressing in on the latch, pulling out on the lever and sliding the IO board module out.
- B Slide the IO board module out through the back of the server system.

B. Remove the PCI-E cage

CAUTION: Place the PCI-E cage upside down to avoid damage to the riser card connector.

- A Grasp the PCI-E cage with both hands and lift straight up.

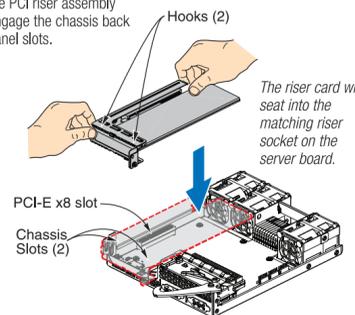
C. Install Add-in Card (optional)

- A Remove the screw as shown.
- B Remove the slot cover from the add-in card slot.
- C Insert add-in card until it seats in riser connector.
- D Secure the add-in card with screw as shown.

CAUTION: Observe normal ESD precautions when installing the add-in card.

D. Install Add-in Card Riser Assembly

- A Position riser card connector over the PCI-E x8 slot and align the two hooks in the PCI-E cage with the chassis back panel slots.
- B Press down uniformly until the two hooks on the rear of the PCI riser assembly engage the chassis back panel slots.



E. Install IO Board Module with Add-in Card Riser Assembly

- A Insert the IO Board Module into the back of server system and push hard until it clicks into place.

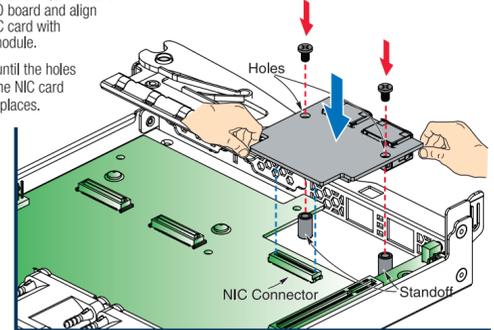
12 Install NIC Card

Before install the NIC card, remove Add-in card first.

To remove Add-in card, go to Step 11.

CAUTION: To prevent the damage ensure connectors and holes are locked in place.

- A Position the NIC connector on NIC card over the NIC connector on IO board and align the two holes in the NIC card with standoffs at IO board module.
- B Press down uniformly until the holes and NIC connector of the NIC card engage corresponding places.
- C Tighten two screws.

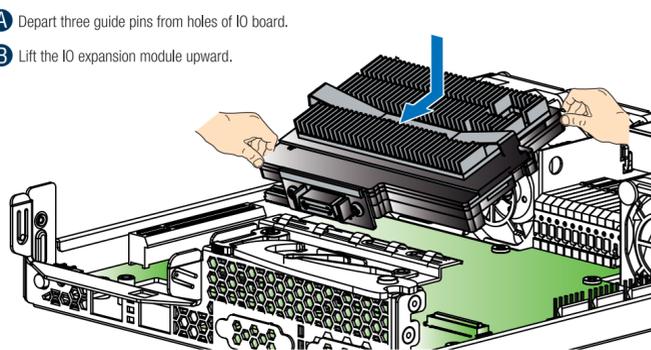


13 Install I/O Expansion Module (Optional)

Before install the I/O expansion module, remove Add-in card first.

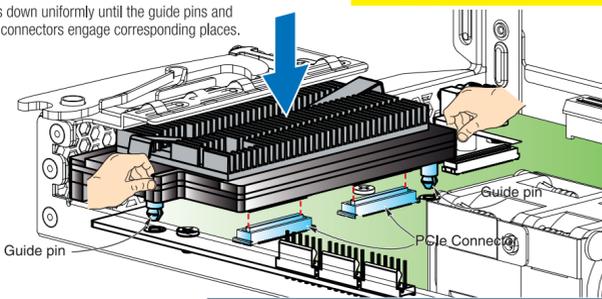
To remove Add-in card, go to Step 11.

- A Depart three guide pins from holes of IO board.
- B Lift the IO expansion module upward.



- C Position the PCIe connectors on the I/O expansion module over PCIe connectors on IO board and align three guide pins of the I/O expansion module with holes at IO board.
- D Press down uniformly until the guide pins and PCIe connectors engage corresponding places.

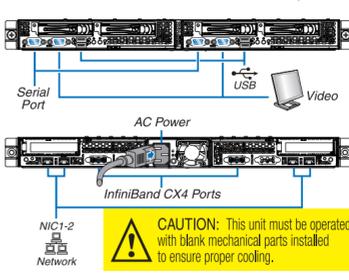
CAUTION: The heat sink on I/O Expansion Module is too heavy, ensure guide pins are locked in holes of IO board.



14 Finishing Up

Before installing your operating system, you must finish your system installation, make I/O connections, and plug in AC power.

1. Install the server into the rack using the instructions provided with the rack mounting kit.
2. Connect your USB keyboard/mouse, video and other I/O cables/devices as shown. Then connect the AC power cord.



15 Software - BIOS, Drivers, and Operating System Installation

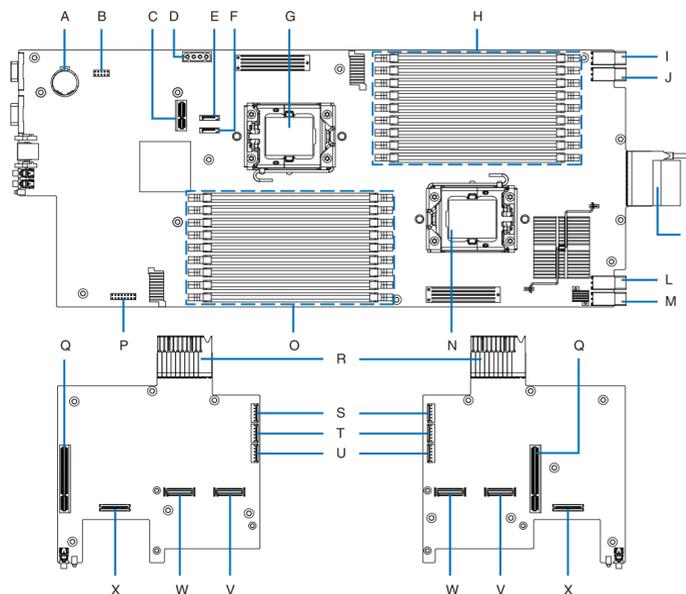
- A. Update the firmware: You can use the firmware package downloaded from website or Intel® Server Resource CD on a USB key.
- B. Configure your RAID Controller: If using a RAID card, use the instructions provided with the RAID controller. If using on-board RAID, you must activate RAID in the BIOS setup. See the Intel® Server SR1680MV Technical Product Specification for more information.
- C. Install your Operating System: Use the instructions provided with the RAID controller and with the operating system.
- D. Install Operating System Drivers: With the operating system running, insert the Intel® Server Resource CD. If using a Microsoft Windows® operating system, the Express Installer will autorun and allow you to select the appropriate drivers to install. On other operating systems, browse the CD folders to locate and install the driver files.

Reference

Intel® Server SR1680MV Board Component Layout

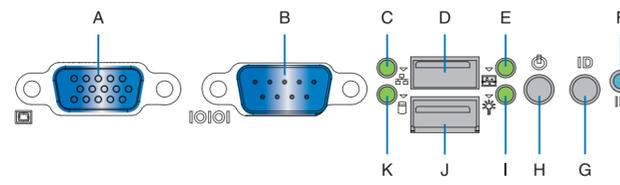
See your Intel® Server System SR1680MV Service Guide for expanded component and connection information.

- A. System Battery
- B. Functions Jumper
- C. HDD Backplane Connector
- D. SATA Power Connector
- E. SATA3 Connector
- F. SATA4 Connector
- G. Processor 2
- H. DIMM Socket Group 1
- I. MLB Power Connector 4
- J. MLB Power Connector 3
- K. MLB IO Connector
- L. MLB Power Connector 2
- M. MLB Power Connector 1
- N. Processor 1
- O. DIMM Socket Group 2
- P. MISC Jumper
- Q. PCI-E x8 Slots
- R. IO Board IO Connectors
- S. System Fan 1 Connectors
- T. System Fan 2 Connectors
- U. System Fan 3 Connectors
- V. PCI-E 2 Connectors
- W. PCI-E 1 Connectors
- X. IO Board NIC Connectors



Front Panel Controls and Indicators

- A. VGA Port
- B. Serial Port
- C. NIC LED
- D. Front USB Port
- E. System Health LED
- F. Front UID LED
- G. Front UID Button
- H. Power Button
- I. Power LED
- J. Front USB Port
- K. HDD Activity LED



Optional Accessories and Order Codes

Spare Main Board	FSR1680BRD
IO Board - LEFT	FSR1680LFT
IO Board - RIGHT	FSR1680RHT
10Gb Ethernet IO Module	AXX10GBIOMOD
InfiniBand IO Module	AXXBODFIOMOD
Fan Spare KIT	FSR1680FAN
1100W PSU	FSR1680PS
Power Distribution Backplane	FSR1680PDB
Riser Card	FSR1680RISER
Hot Swap HDD Carrier (2.5" Hotswap)	FSR1680HDDCAR
NIC board in IO cage	FSR1680NICBRD
HDD Hotswap Backplane	FSR1680BP
System Preventative Maintenance Kit	FSR1680PMKIT
North American power cable	FPWRACBLENA

A complete list of accessories and spares can be found at: <http://support.intel.com/support/motherboards/server/SR1680MV/>

Available Documents

Document Type	Content
Technical Product Specification	In-depth technical information
Spares and Configuration Guide	Supported accessories and spares list
Tested Hardware and Operating System List	Tested peripherals and operating systems list
Tested Memory List	Tested memory list
Tested Processors	Supported processors list
Software and Drivers	Up-to-date firmware, driver, and utility information
Service Guide	Guide for Technically Qualified Assemblers of Subassemblies/Products

These documents can be found at: <http://support.intel.com/support/motherboards/server/SR1680MV/>