ACECOMPUTERS

PR-GDGFS1 Server

Technical Reference Guide

Revision 1.0

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INTRODUCTION

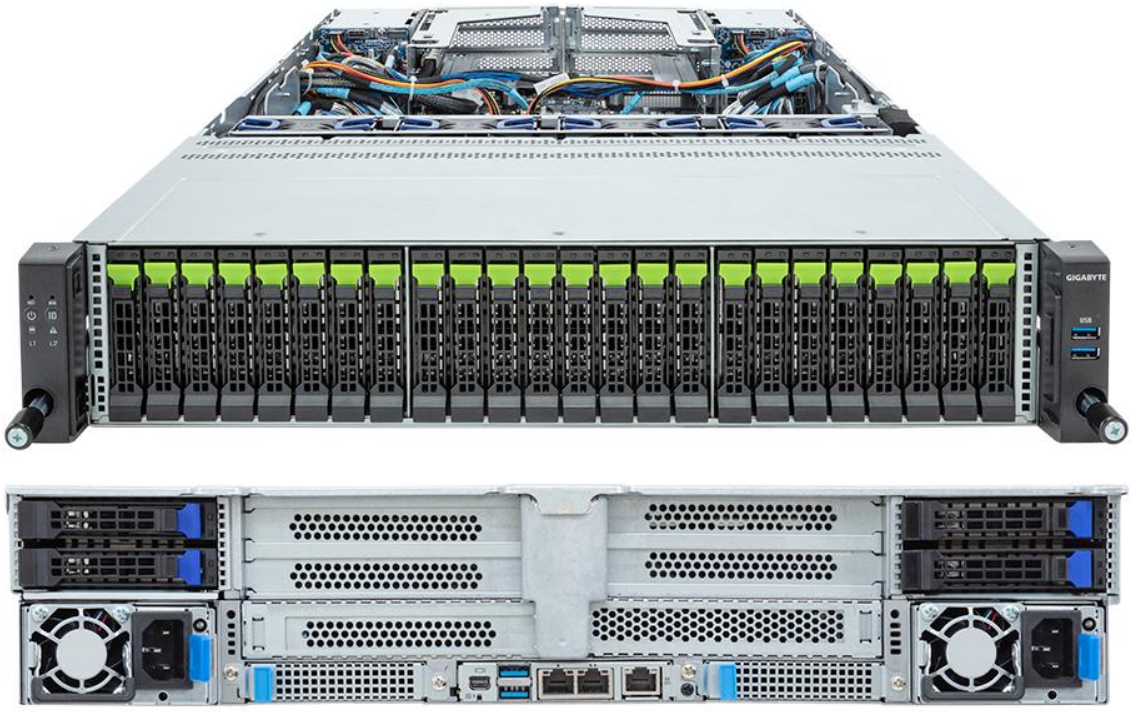
Audience

This manual is mainly written for professional system integrators, PC technicians, and end of life recycling facilities, with the exception of the Energy Management Section, which is written to provide additional guidance on standard energy settings and configurable energy settings for the end user.

Resources

If you have any questions regarding this manual or computer system, please contact our support team through Ace Computers Support page at support.acecomputers.com

This manual may be periodically updated without notice. Please check the Ace Computers website for possible updates to the manual revision level.



What is Energy Star?

Created by the Environmental Protection Agency (EPA) and the United States Department of Energy (DOE), the Energy Star program is a strict set of specifications that residential appliances and construction elements (washers, dryers, refrigerators, freezers, dishwashers, televisions, tablets, computers, monitors, water heaters, HVAC units, dehumidifiers, air cleaners and purifiers, lighting, insulation and more) must meet through evaluation and testing to achieve certification.

The Energy Star rating assures consumers that the product has been EPA and DOE certified to function as well or better than its peers, while saving money, energy and the environment due to its greater energy efficiency.

Benefits of Energy Star

- Increased Efficiency
- Reduced Energy Use
- Reduced Utility Bills
- Reduced Power Plant Emissions and Carbon Footprint
- Wide Selection, Rebates, and Convenience

ILLUSTRATED SYSTEM DISASSEMBLY/REASSEMBLY INSTRUCTIONS

Introduction

This section of the technical reference guide is intended to provide the following information:

- Information on parts requiring selective treatment per WEEE Directive
- Disassembly process for removal of external enclosure without tools
- Disassembly instructions, including required tools, as applicable
- Diagram and/or pictorial representation of all parts in the system

This section of the user manual is intended to provide guidance to end of life recyclers on the presence of materials and components that require selective treatment, per Article 15 of the EU WEEE Directive 2012/19/EU.

The provided information should also help direct recyclers to proper methods for removing parts and general product disassembly instructions. This Chapter also outlines specific substances, mixtures, and components that must be removed from any separately collected electronic waste component and shall be disposed or recovered in compliance with Directive 2008/98/EC.

Please note: All the illustrations in the below disassembly instructions are for demonstration only. The system and components shown in this section are a representative sample.

Replacement Parts

Refer to section "UPGRADES, SERVICE, AND REPAIR" for information on how to obtain replacement components for your server.

NOTE: While the components of this computer can be replaced by the end user, Ace Computers does not recommend that an end user without previous computer repair experience perform the upgrades and/or replacement of said components. Computer components are delicate and can easily be damaged. If you are uncertain about replacement or upgrade of your computers, the Ace Computers technical support team does offer "depot" services for on-site system repair and upgrade. Please contact the Ace Computers Technical Support team for additional information and pricing.

CAUTION: Always power off the system and unplug the power cord(s) before opening the side panel to access the internal components.

ATTENTION: Electrostatic discharge potential.

Your computer's internal components are highly susceptible to risk of damage from electrostatic discharge (static electricity, which occurs naturally on your body due to friction). To avoid damaging your equipment, always earth yourself to your computer system before opening the computer's chassis or handling any internal component(s).

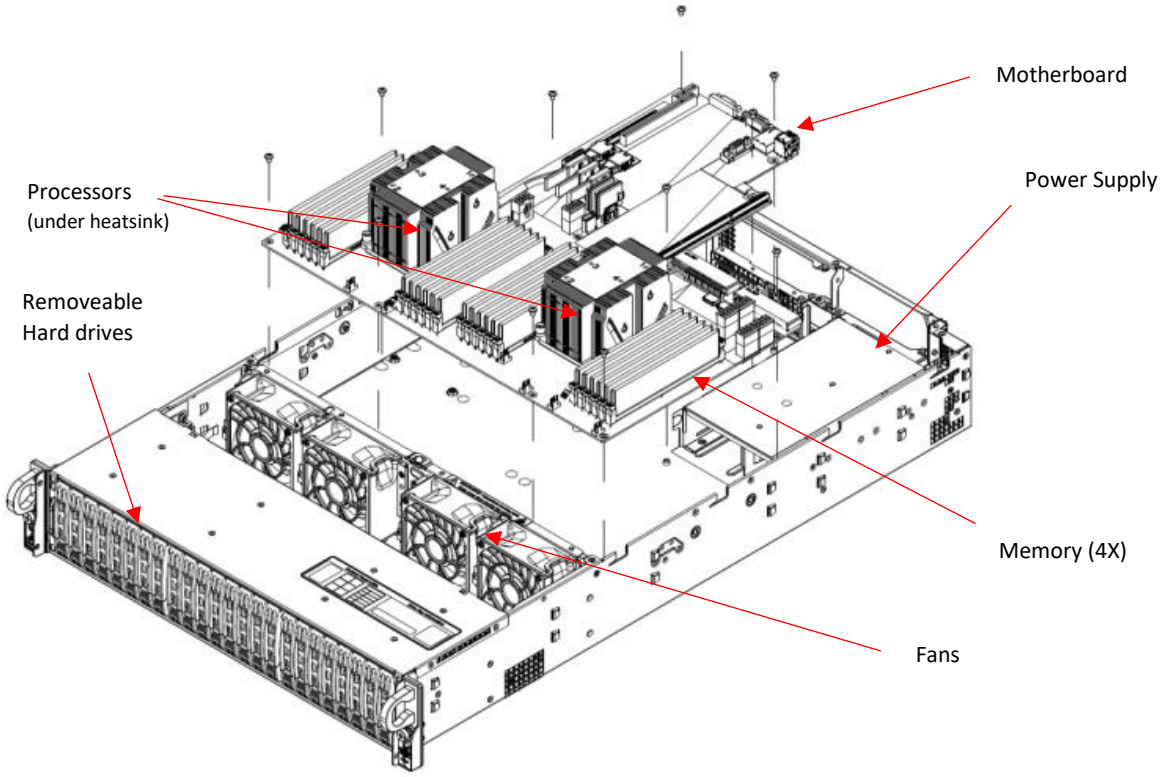
NOTE: Disposal of WEEE Directive 2012/19/EU components are addressed for all included Annex VII listed components. Please be sure to properly recycle or otherwise handle these components according to mandatory treatment measures. Ace Computers assures that the information is available for seven years following the end of production of the product. Additional information can be made available by contacting Ace Computers at support@acecomputers.com

Representative Component Layout

Please note: All the illustrations in the below disassembly instructions are for demonstration only. The system and components shown in this section are a representative sample.

CAUTION: Always power off the system and unplug the power cord(s) first before disassembling the system!

Representative Server Component Layout

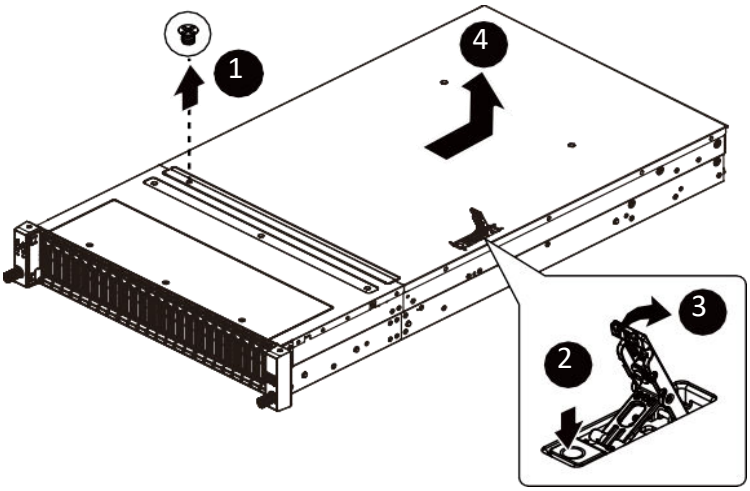


Removing and Installing the Chassis Cover

Before you remove or install the system cover make sure the system is not turned on or connected to AC power.

Follow these instructions to remove the chassis cover:

1. Remove the screw securing the chassis cover.
2. Unlock the plastic handle and pull the grip handle to open the panel cover.
3. Slide the cover to the rear of the system and then remove the cover in the direction indicated by the arrow.
4. To reinstall the chassis cover follow steps 1-4 in reverse order.



Disposal:

Selective Treatment /Special Handling Per Annex VII, Directive 2012/19/EU: None

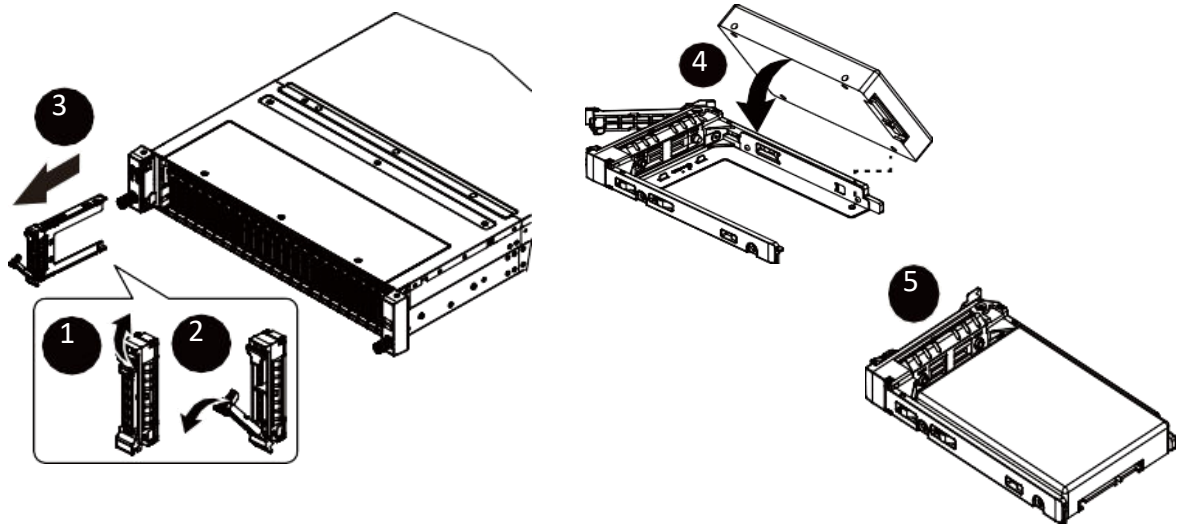
Removing and Installing the Hard Disk Drive

Read the following guidelines before you begin to install the hard disk drive:

- Take note of the HDD tray orientation before sliding it out.
- The tray will not fit back into the bay if it is inserted incorrectly.
- Make sure that the hard disk drive is connected to the connector on the backplane.

Follow these instructions to install a 2.5" hard disk drive:

1. Press the release button.
2. Extend the locking lever.
3. Pull the locking lever in the direction indicated to remove the HDD tray.
4. Align the hard disk drive with the positioning stud on the HDD tray.
5. Slide the hard disk drive into the HDD tray.
6. Reinsert the HDD tray into the slot and close the locking lever.



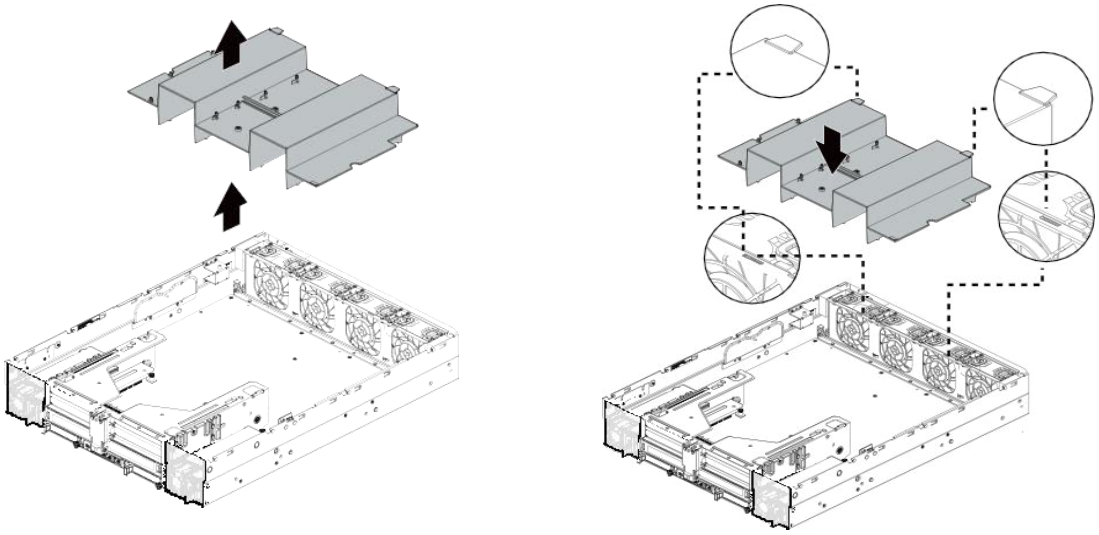
Disposal:

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: The HDD contains a printed circuit board of greater than 10 sq. cm and must be removed from the device and must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Removing and Installing the Fan Duct

Follow these instructions to remove the fan duct:

1. Lift up to remove the fan duct.
2. To reinstall the fan duct, align the fan duct with the guiding groove. Push down the fan duct until it is firmly seated on the system.



Removing and Installing the Heat Sink

Read the following guidelines before you begin to install the heat sink:

- Always turn off the computer and unplug the power cord from the power outlet before removing or installing the heat sink to prevent hardware damage.
- Disconnect all telecommunication cables from their ports.
- Place the system unit on a flat and stable surface.
- Open the system according to the instructions.

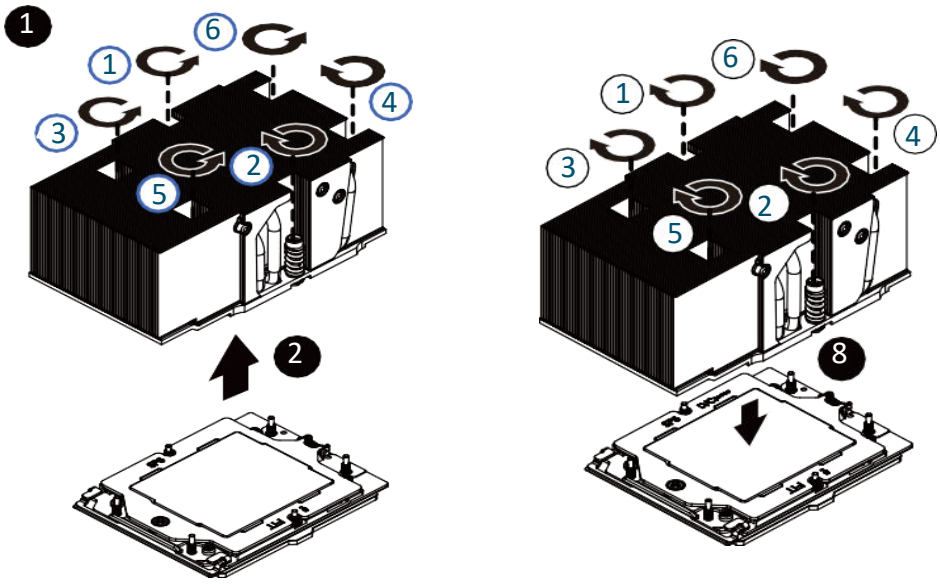
WARNING!

Failure to turn off the server before you start installing components may cause serious damage. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

Follow these instructions to install the heat sink:

1. Loosen the screws securing the heat sink in place in reverse order (6➔5➔4➔3➔2➔1).
2. Lift and remove the heat sink from the system.
3. To install the heat sink, reverse steps 1-2 while ensuring that you tighten the captive screws in sequential order (1➔2➔3➔4➔5➔6) as seen in the image below.

Remember: reverse order 6➔5➔4➔3➔2➔1



Removing and Installing the CPU

Read the following guidelines before you begin to install the CPU:

- Make sure that the motherboard supports the CPU.
- Always turn off the computer and unplug the power cord from the power outlet before installing the CPU to prevent hardware damage.
- Unplug all cables from the power outlets.
- Disconnect all telecommunication cables from their ports.
- Place the system unit on a flat and stable surface.
- Open the system according to the instructions.

WARNING!

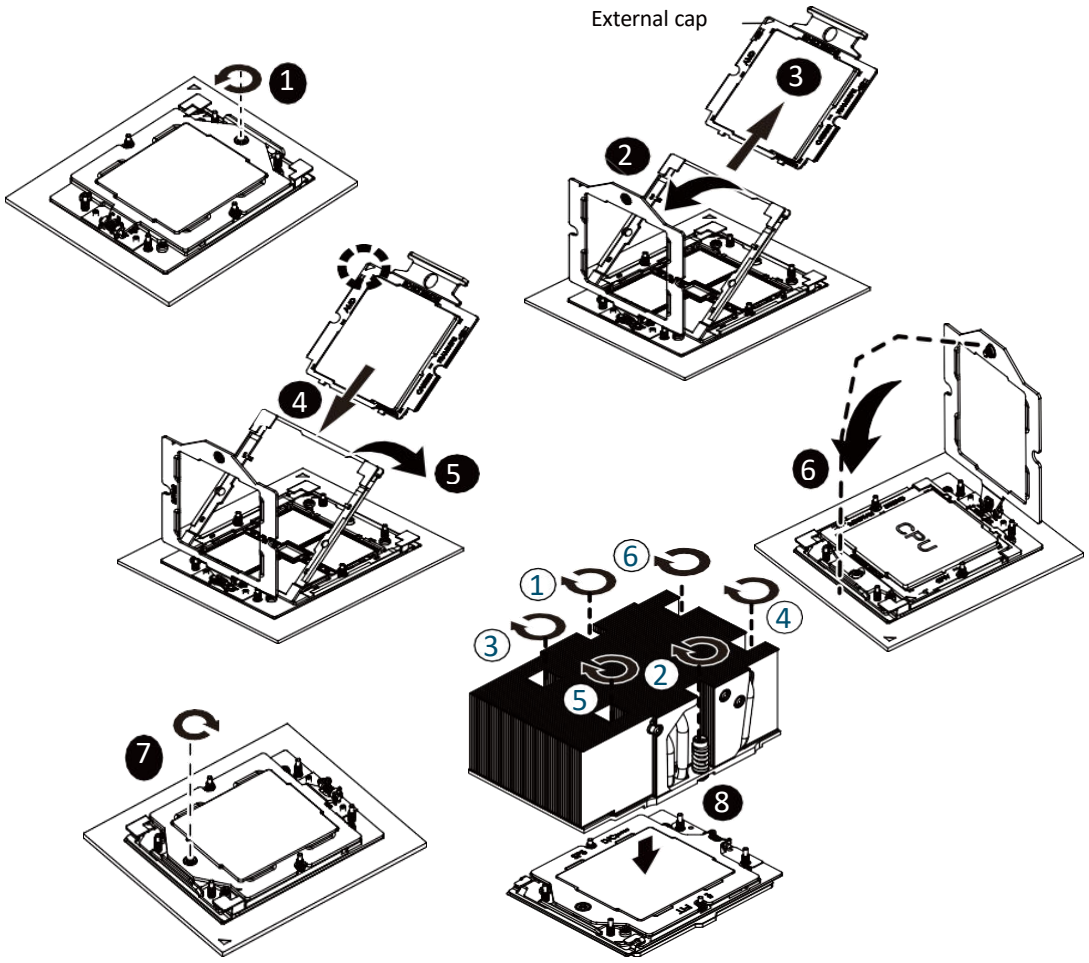
Failure to properly turn off the server before you start installing components may cause serious damage. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

Disposal:

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: The processor must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Follow these instructions to install the CPU:

1. Loosen the three captive screws securing the CPU cover.
2. Flip open the CPU cover.
3. Remove the CPU carrier from the CPU frame using the handle on the CPU carrier.
4. Using the handle on the CPU carrier insert the new CPU carrier with CPU installed into the CPU frame.
   NOTE: Ensure the CPU is installed in the CPU carrier in the correct orientation, with the triangle on the CPU aligned to the top left corner of the CPU carrier.
5. Flip the CPU frame with CPU installed into place in the CPU socket.
6. Flip the CPU cover into place over the CPU socket.
7. Tighten the CPU cover screw to secure the CPU cover in place.
8. Repeat steps 1-7 for the second CPU.
9. To remove the CPUs, follow steps 1-7 in reverse order.



- Lock the CPU by using a Torx T20 screwdriver to tighten screw.
- When installing the heatsink to CPU, use a Torx T20 screwdriver to tighten 6 captive nuts in sequence as 1-6.
- The screw tightening torque: 13.5 ± 0.5 kgf-cm.
- To ensure the system operates properly, make sure the heatsink is seated on the processor firmly.

Removing and Installing Memory

Read the following guidelines before you begin to install the memory:
•Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
•Always turn off the server and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
•A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

Type and number of fastenings: Two (2) latches per memory module.

Tools required: None.

Procedure:

Step 1: Ensure the server is off, unplugged, and any potential energy is dissipated.

Step 2: Remove the panel from the chassis as indicated in the “Chassis Cover” section above.

Step 3: Remove the fan shroud from the chassis as indicated in the “Fan Duct” section above.

Step 4: After locating the memory, press both release tabs on the ends of the memory module to unlock the carriage. Use gentle, even force, on either side of the memory module to remove from the memory slot.

Step 5: Repeat Step 4 for each piece of memory in the system.

Reinstallation:

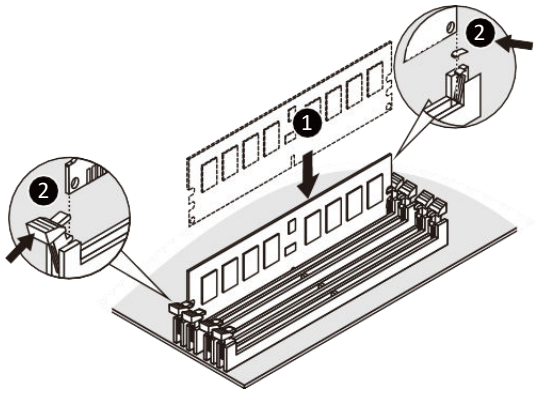
Step 5: Using the graphic, to install new or additional memory, open the latch, and gently push down, with equal pressure distribution on both sides of the memory module. Ensure the memory is fully engaged, then reengage the latch to secure the memory in place.

Disposal:

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: The memory module is a printed circuit board of greater than 10 sq. cm and must be removed from the device and must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Follow these instructions to install a memory module:

1. Insert the DIMM memory module vertically into the slot and push it down.
2. Close the plastic clip at both edges of the slots to lock the memory module.
3. Reverse the installation steps when you want to remove the module.



Processor and Memory Module Matrix Table

Memory Q'ty for each CPU	CPU0												CPU1											
	F0	E0	D0	C0	B0	A0	G0	H0	I0	J0	K0	L0	R0	Q0	P0	O0	N0	M0	S0	T0	U0	V0	W0	X0
1 DIMM						v												v						
2 DIMM						v	v											v	v					
4 DIMM				v		v	v		v							v		v	v		v			
6 DIMM				v	v	v	v	v	v							v	v	v	v	v	v			
8 DIMM		v		v	v	v	v	v	v		v			v		v	v	v	v	v	v		v	
10 DIMM		v	v	v	v	v	v	v	v	v	v			v	v	v	v	v	v	v	v	v	v	
12 DIMM	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v

Memory Population Table

EPYC Memory Speed based on DIMM Population (One DIMM per Channel)

DIMM Type	DIMM Population	Max EPYC 9004 DDR5 Frequency (MT/s)
	DIMM 0	
RDIMM	1R (1 Rank)	4800
	2R (2 Ranks)	4800
	2S2R (4 Ranks)	4800

3DS RDIMM	2S4R (8 Ranks)	4800
	2S8R (16 ranks)	4800

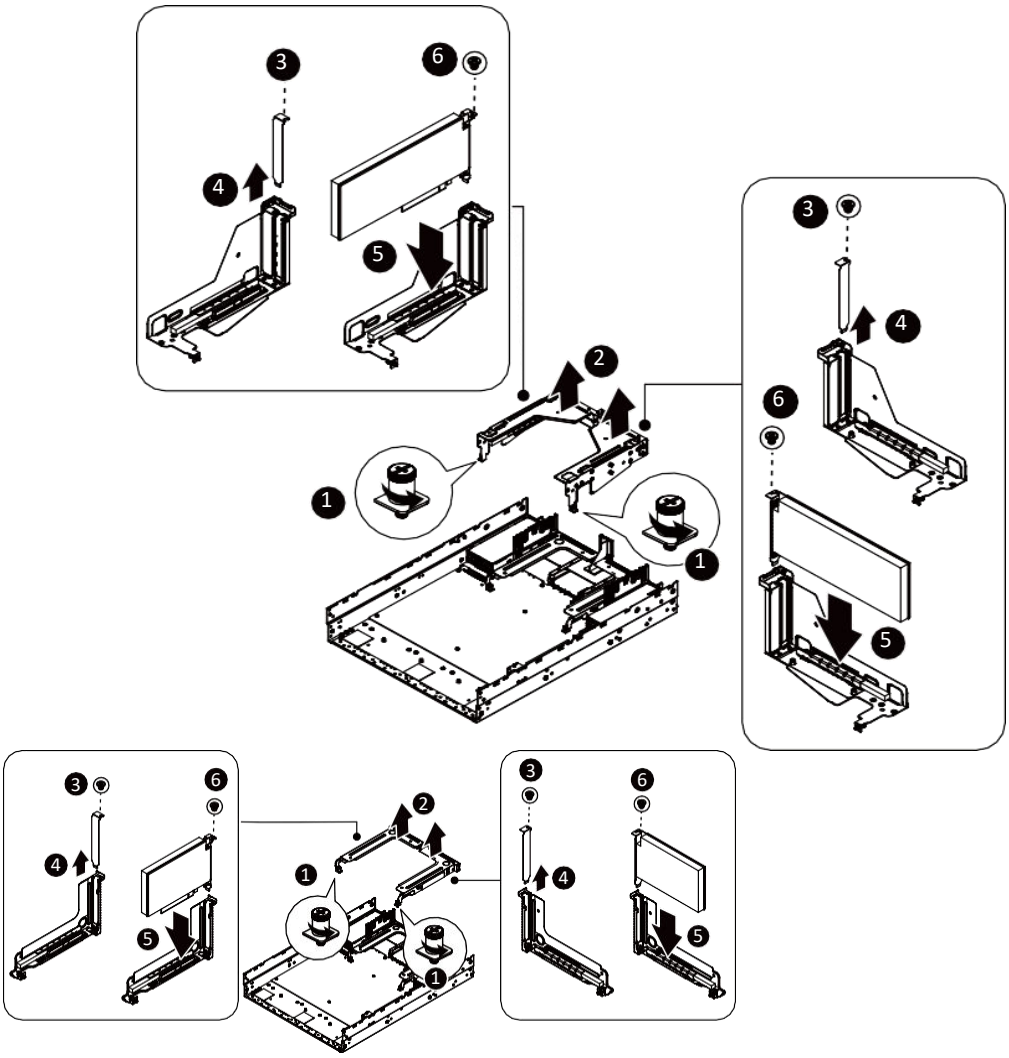
Removing and Installing the PCIe Card

- Voltages can be present within the server whenever an AC power source is connected. This voltage is present even when the main power switch is in the off position. Ensure that the system is powered off and all power sources have been disconnected from the server prior to installing a PCIe card.
- Failure to observe these warnings could result in personal injury or damage to equipment.

- The PCIe riser assembly does not include a riser card or any cabling as standard. To install a PCIe card, a riser card must be installed.

Follow these instructions to install a PCIe card:

1. Loosen the two thumbnail screws securing the riser bracket inside the system.
2. Lift up the riser bracket out of system.
3. Remove the screw securing the slot cover from riser bracket.
4. Orient the PCIe card with the riser guide slot and push in the direction of the arrow until the PCIe card sits in the PCIe card connector.
   NOTE: Some riser brackets allow for single or multiple PCIe cards. Repeat steps 3-4 as necessary.
5. Secure the PCIe card with the screw.
6. Repeat steps 1-2 to install the PCIe card into the system.



Disposal:

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Graphics, add on expansion cards, PCIe, and mezzanine cards can contain a printed circuit board of greater than 10 sq. cm and must be removed from the device and must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

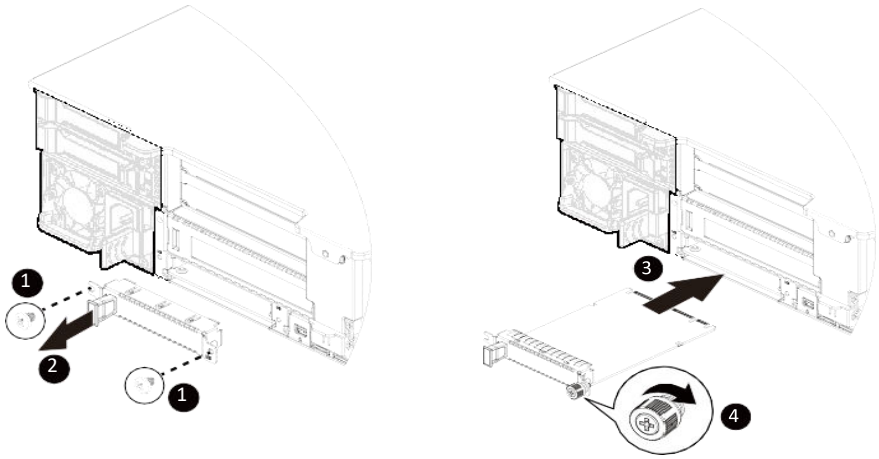
Installing the Mezzanine Card

Installing the OCP 3.0 Mezzanine Card

1. Use of the following type of OCP 3.0 NIC is recommended:
   OCP 3.0 SFF with pull tab
   OCP 3.0 SFF with ejector latch
2. Save the black M3 screws in the event that you need to re-install the cover.

Follow these instructions to install an OCP 3.0 Mezzanine card:

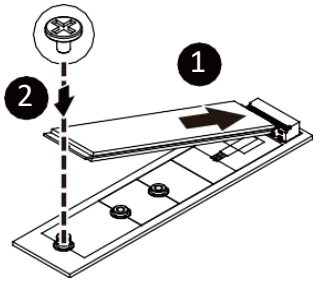
1. Remove the two screws securing the OCP 3.0 card slot cover.
2. Remove the slot cover from the system.
3. Insert the OCP 3.0 card into the card slot ensuring that the card is firmly connected to the connector on the motherboard.
4. Tighten the thumbnail screw to secure the OCP 3.0 card in place.
5. Reverse steps 3-4 to replace the OCP 3.0 card.



Installing the M.2 Device and Heat Sink

CAUTION
The position of the stand-off screw will depend on the size of the M.2 device. The stand-off screw is pre-installed for 22110 cards as standard. Refer to the size of the M.2 device and change the position of the stand-off screw accordingly.

Follow these instructions to install the M.2 device:



1. Insert the M.2 SSD module into the slot.
2. Secure it with the screw, tightening as necessary to fasten the M.2 SSD module in place.

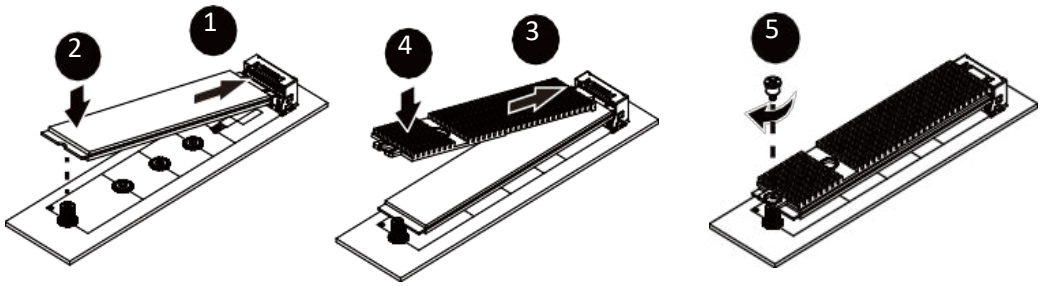
M.2 device with Heatsink

WARNING:
Please ensure a heatsink is attached to any M.2 device installed into the system. Installing an M.2 device without any heatsink may result in the system overheating or system performance being throttled.

•Please Go to for specific M.2 Slot location.
•To install/remove the M.2 module and Heatsink use a No. 1 Phillips-head screwdriver with a screw torque of 1.5 ± 0.2 kgf*cm

Follow these instructions to install the M.2 device and heat sink:

1. Insert the M.2 device into the M.2 connector.
2. Press down on the M.2 device.
3. Install the thermal pad of the M.2 device to the M.2 device.
4. Press down on the thermal pad.
5. Secure the M.2 device and its thermal pad to the motherboard with a single screw.
6. Reverse steps 1-2 to remove the M.2 device.



Disposal:

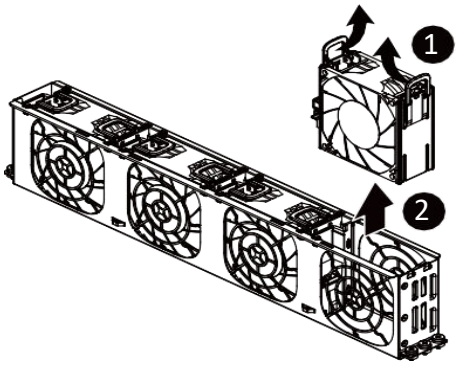
Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: The SSD can contain a printed circuit board of greater than 10 sq. cm and must be removed from the device and must be disposed of, or recovered, in compliance with the requirements of Directive 2008/98/EC.

Replacing the Fan Assembly

Voltages can be present within the server whenever an AC power source is connected. This voltage is present even when the main power switch is in the off position. Ensure that the system is powered-down and all power sources have been disconnected from the server prior to replacing a system fan.
Failure to observe these warnings could result in personal injury or damage to equipment.

Follow these instructions to replace a fan assembly:

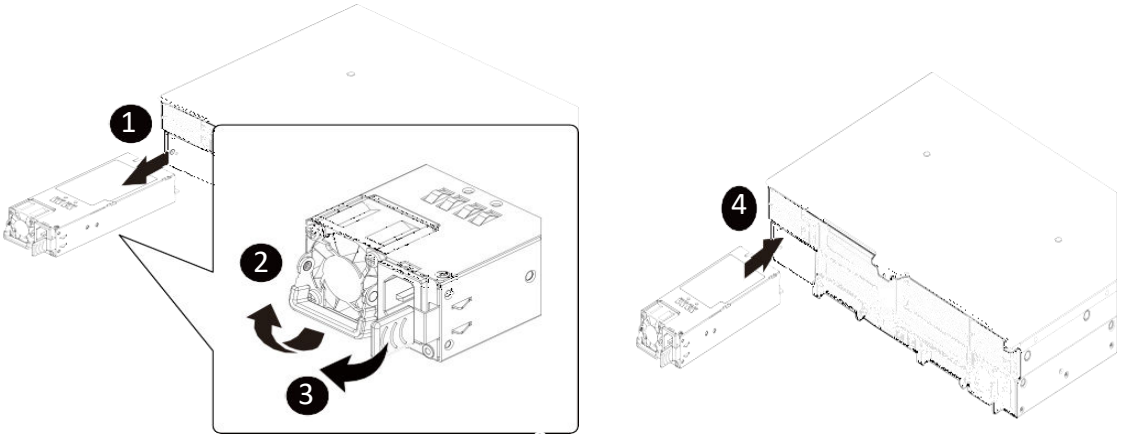
1. Flip the latches on the top of the fan outwards.
2. Using the latches, lift up the fan assembly from the chassis.
3. Reverse the previous steps to install the replacement fan assembly.



Removing and Installing the Power Supply

Follow these instructions to replace the power supply:

1. Flip up and then grasp the power supply handle.
2. Press the retaining clip on the right side of the power supply unit in the direction indicated.
3. Pull out the power supply unit using the handle.
4. Insert the replacement power supply unit firmly into the chassis. Connect the AC power cord to the replacement power supply.
5. Repeat steps 1-4 for replacement of the second power supply.



Battery

Handle used batteries carefully. Do not damage the battery in any way; a damaged battery may release hazardous materials into the environment. Do not discard a used battery in the garbage or a public landfill. Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Location: The battery is located on the motherboard, see illustration below.

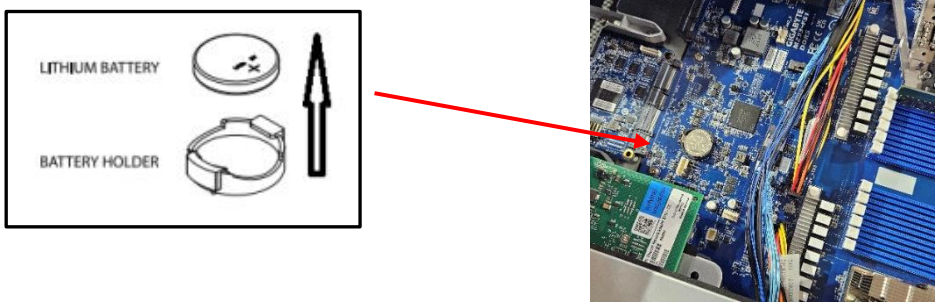
Type and number of fastenings: Interference snap fit (No tools required)

Procedure:

Step 1: Ensure the computer is off, unplugged, and any potential energy is dissipated.

Step 2: Remove the panel from the chassis as indicated in the “Chassis Cover” section of this manual.

Step 3: Gently push aside the small clamp that covers the edge of the battery. When the battery is released, lift it out of the holder.



Reinstallation

Step 4: Using a new CR 2032 battery, gently push aside the clamp covers and place the battery into the holder.

Be sure to place the battery with proper directionality, the positive contact should be facing up as noted in the pictorial diagram below.

Disposal:

Selective Treatment/ Special Handling Per Annex VII, Directive 2012/19/EU: A lithium metal battery resides on the motherboard. The battery must be removed separately from the motherboard and shall be disposed or recovered in compliance with Directive 2008/98/EC.

External Power Cable

Location: The inlet to the power cable is located on the externally facing portion of the power supply.

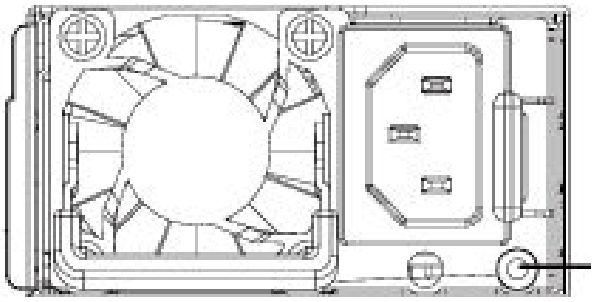
Type and number of fastenings: None, direct pressure connection method.

Tools required: None.

Procedure:

Step 1: Ensure your computer is powered down.

Step 2: Disconnect the external power cable from the main desktop assembly.



Reinstallation:

Step 3: Connect the external power cable from the rear of the chassis into the power supply connection point.

Disposal:

Selective Treatment/Special Handling Per Annex VII, Directive 2012/19/EU: Any external electrical cables must be removed separately and shall be disposed or recovered in compliance with Directive 2008/98/EC.

UPDATES

Utilization of the most up to date OS software version and patches will provide the best possible defenses against viruses and malware.

Periodic Update of Device Drivers

It is good practice to update device drivers. Although some components use utilities to indicate when an update is ready, that is not always the case for drivers. Device drivers play a crucial role in smooth functionality. We recommend visiting the manufacturer's website to get the latest stable drivers or reach out to Ace Computers support.

Firmware Updates

Access to the most current firmware is available to users for a minimum of 8 years after end of production, enabling product longevity, user security, and safety. Operating System (OS) updates are also available for a minimum of 8 years after end of production when OS is installed by Ace Computers.

Replacement Hard drives

Refer to the section below titled "Upgrade, Service, and Repair" for information on how to replace your hard drive in the event it was required to be destroyed after removing personal information.

UPGRADES, SERVICE, AND REPAIR

The following table is a list of all included hardware features, and a few hardware features that could be added as an upgrade option.

Note: all add on hardware features do not fall within the original scope of this product and void all certifications/regulatory compliance attestations.

Replacement and Repair Services are available for a minimum of five years from date of end of placement on the market, and often times if a direct replacement is not available an upgrade replacement can be found for several years beyond the initial 5-year mark, ensuring the longest possible utilization of your PC.

Hardware Features	Upgradeable	Replaceable
Power supplies		☑
Motherboard		☑
fans		☑
processors		☑
PCB assemblies (PCBs, expansion cards, daughterboards)		☑
Memory	☑	☑
Storage	☑	☑
Graphics	☑	☑
Cabling (cabling requirements may differ from base if upgraded components are utilized)		☑
External Power Connection Cable		☑
Battery		☑

The Ace Computers technical support team is ready and available to help in providing replacement parts, information on repair services, helping to identify compatible upgrades, provide “clear” or “purge” services, or to answer software questions.

Please have your serial number available for reference when contacting Ace Computers.

You can contact the team at support@acecomputers.com

- or-

call 877-223-2667

-or-

visit the support.acecomputers.com site online.

PRODUCT TAKE BACK, END OF LIFE PROCESSING, and E-WASTE PROGRAM

Nation Wide Take Back Services

If your server has reached its end of life or is no longer useable, Ace Computers is excited to offer a Nation-Wide take back service. We will work with you to get the product back and will ensure it is properly disposed of with a certified R2 electronics recycling facility.

Ace Computers has partnered with a local R2-certified electronics waste recycling facility near our HQ in Des Plaines, IL.

For additional information and steps to take regarding our Product Take-Back, End-of-Life Processing, and E-Waste Program, please visit our website at https://acecomputers.com/company/sustainability/ > EPEAT Take-Back/EOL/E-Waste Program Tab.

REVISION HISTORY

Release Date	Changes
2026.08.11	Initial Release